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E-MEDIA

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Subject: E-MEDIA **Credits: 4**

SYLLABUS

The Process of Web Design

Internet Basic; Interface Design; Language of the Net; User Centered Design; What the Audience Needs; Text Formatting in HTML; Site Structure; Navigation in a web document

Page Designing

Home pages; Adding Search Features; Tables in HTML; Advanced Coding with HTML; Clarity and Order; Visual Balancing; Design Grids; Introduction to Dreamweaver Environment; Text formatting in Dreamweaver; Bandwidth; Future Scope; Graphics; Web Graphics file format; Using inline images in Dreamweaver

Site Elements

Site Genres; Site elements; Page Design Issues; Site Design Quality; Letters as Pictures; Tables and Borders in Dreamweaver; Content Structure and Visual Logic;

Visual Harmony

Cascading Style sheet; Frames and Framesets in Dreamweaver; Links and Anchoring within a document. Images on the Screen;

Multimedia and Publishing

Streaming media; HTML and graphics; Sounds and Moving images; Digital audio in Dreamweaver; Plugins for Digital Audio; Streaming Video in Dreamweaver; Embedded Video in a web page; Multimedia Strategies; Preparing Multimedia; Publishing your website; Uploading the web site.

Suggested Readings:

1. Web Design in a Nutshell, Jennifer Niederst Robbins, O'Reilly Media, Inc.
2. Designing Active Server Pages, Scott Mitchell, O'Reilly Media.
3. Design Basics Index, Jim Krause, David & Charles PLC.
4. Multimedia: the Complete Guide, DK Publishing

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CONTENT

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CONTENT

LESSON 1:
Internet Basics-2

Topics Covered

- What is Internet, Sample Internet connections, History of Internet, How big is the Internet, Connections, Surf up, Picking your resources, Book marking your resources, Searching the Internet, Advanced Search Technique,

Objectives

Upon completion of this lesson, you should be able to:

- Define Internet
- Connect to the Internet
- Start surfing the net
- Pick up your required resources
- Book mark your resources
- Learn search techniques of Internet

The Internet is a computer network made up of thousands of networks worldwide. No one knows exactly how many computers are connected to the Internet. It is certain, however, that these number in the millions.

No one is in charge of the Internet. There are organizations which develop technical aspects of this network and set standards for creating applications on it, but no governing body is in control. The Internet backbone, through which Internet traffic flows, is owned by private companies.

All computers on the Internet communicate with one another using the Transmission Control Protocol/Internet Protocol suite, abbreviated to TCP/IP. Computers on the Internet use a client/server architecture. This means that the remote server machine provides files and services to the user's local client machine. Software can be installed on a client computer to take advantage of the latest access technology.

An Internet user has access to a wide variety of services: electronic mail, file transfer, vast information resources, interest group membership, interactive collaboration, multimedia displays, real-time broadcasting, shopping opportunities, breaking news, and much more.

The Internet consists primarily of a variety of access protocols. Many of these protocols feature programs that allow users to search for and retrieve material made available by the protocol.

What is the Internet?

In essence the Internet is a term used to describe thousands of computers, spanning over 65 countries. Some people may liken this to a single entity, but this is not true. The Internet is transitory, ever changing, reshaping and remolding itself. Ordinarily a collection of thousands of computers world wide might not attract so much attention. However people are using this new medium in ways that simply was not possible a mere five years ago.

Here is a short list of things the Internet has been used for in the last few years.

- Two Chinese students in Beijing alert the world to a dying girl mysterious illness, thanks to the Internet. Doctors from around the world help the Chinese doctors diagnose and save her life.
- A man in New York, yearning for a fresh start explores the possibilities of living in Santa Cruz, without leaving his home.
- A boy in Canada learning how to use computers becomes a cyber pen-pal with a girl in Japan.
- From war torn Bosnia appeals for food and medical supplies issue forth via email and newsgroups.
- A man in Iowa locates a lost family member, now living in Brazil.
- A Judge calls the Internet "The single most important advancement to freedom of speech since the writing of the Declaration of Independence"
- A college student sent email to his/her parents asking for more money, corresponds via email with his/her professors and works on a project, collecting data from questionnaires sent out via email.

Just how were all these things made possible? The Internet. The single largest telecommunications system ever conceived by humankind.

There are four basic building blocks to the Internet, Hosts, Routers and Clients and Connections. Hosts and Clients are explained later in the chapter, but for now, be content to know that unless you have very special circumstances, in most cases your computer falls under the "Client" category. Data is sent from your computer in the form of a "packet". You can liken a packet to be similar to an envelope; it surrounds your data and contains both a return and destination address. Your computer handles the packets for you, it's all done in the background, without your knowledge.

A Router is a special device. Basically routers sit at key points on the Internet and act like traffic cops at an intersection of hundreds of streets. The Router basically reads the destination address on the packets being sent by your computer and then forwards the packet to the appropriate destination. In some cases your data will travel through several routers before reaching its ultimate destination.

Sample Internet Connections

Connections. This is a catch all term describing how you can connect from one point to another point. As an end user, your only concern is that the connection is good, but for a network engineer, this can mean several different types of technologies, including;

- Dial Up Phone Lines
- Fiber Optics
- ISDN
- Frame Relay
- Satellite Links

Fortunately, for this author and you, we do not need to know anything about the connection other than it exists.
Complex, and unbelievably intricate, the Internet is so vast most governments are still struggling to figure out how to integrate it into their lives. But how did it all start?

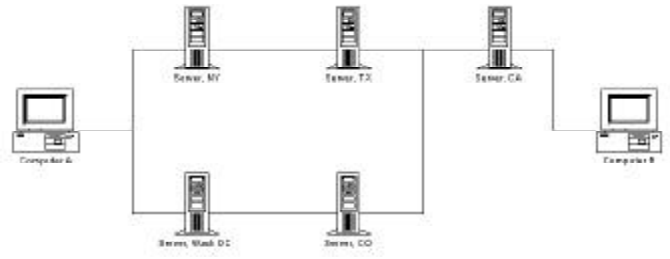
History of the Internet

In response to a need for secure computer to computer communications, DARPA, the Defense Advanced Research Projects Administration, commissioned a study in computer to computer technologies back in the early 1970's. From this beginning the Internet was born. During the next 20 years the Internet was used solely as a combination of military and academic network, linking computers first nationwide, then ultimately world wide. The idea behind the Internet is really very simple and can be conceptualized thusly;

Simple Connections

Two computers are connected via a single wire. In order for one computer to talk to the other, it sends a signal requesting permission to speak. If the other computer is busy, it replies with the equivalent of a "Please wait, I am busy" otherwise it replies, granting permission. Since both computers know what the other one is talking about, by virtue of the fact they are running similar software, the data can be passed from computer to computer.

In the previous example this is very straight forward and trivial. Now however, instead of a single wire, we replace the connection with the Internet, which can be many dozens of computers between the two computers wishing to talk.



Sample Internet Connections 2

Now the situation appears to be more complex, or is it? Computer A and Computer B wish to talk to each other, but there is nearly 3000 miles between them. Using the Internet, the number of places through which the data has to travel is really transparent to the user.

In effect, the link between Computer A and Computer B can take many paths. It can travel hundreds or even thousands of miles out of the way in order to reach the other computer. All you need to know is that it will get there.

As the 1980's progressed the face of computing changed significantly, and with it, the Internet. More and more commercial and personal computers were going on-line, until, they exceeded the number of the original users.

The 1990's signaled the start of the "connected" era, with the end of the cold war, and improvements in military communications, the original Military users of the Internet left for other communications systems. The Internet was left much as it is today, a collection of internationally based users and computers.

With improvements on the desktop, there arose a need for better graphics on the Internet. The Internet up to this point, had been largely a text only system.

The graphics capabilities implemented were called HTML, and a means was invented to allow users to view these HTML files in their graphic format. With the Internet largely in place, all that was needed was to invent the transmission mechanism. That mechanism was dubbed the World Wide Web, or Web for short.

How Big is the Internet?

It's difficult to judge the size of the Internet. People and systems are being added daily. However, it is estimated that in the United States alone, 27.5 million people are connected to the Internet.

There are over 150,000 unique domain names in the US alone.

Some of the largest Internet Search Engines have over 30 million web documents listed, with an annual growth rate exceeding 28%.

In the newsgroups there are over 15,000 distinct and different groups in which to exchange ideas and conversation.

There are 65 countries currently connected to the Internet.

Getting Started

Getting connected to the Internet is fairly simple, but there are a number of steps you need to take before hand.

The first requirement will be to locate an Internet Service Provider (ISP) in your area. This is a company through which you can access the Internet. Prices and features will vary, so calling around, shopping for the best price is recommended.

Typically, your local ISP will offer you a monthly package which will include; email and web access, download/upload capabilities, and newsgroups. If these terms don't seem to be familiar to you, do not be concerned. It will all be explained in this book. If your ISP doesn't offer all of these, then continue shopping!

Once you have found an ISP and signed their service agreement, next you will need to install some software on your computer. In many cases your ISP will help you with that installation. Below is a list of the software that your ISP will install. (note it's a generic list, you just need to be aware that these items are going to be put on your computer)

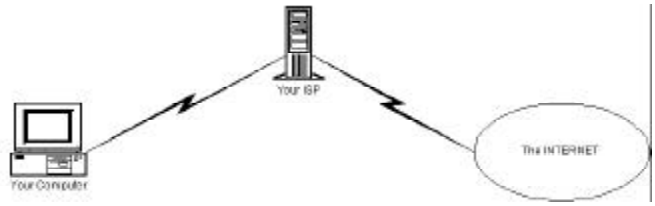
- Telecommunications Software, including Winsock, or other Internet protocol transceiver software.
- A World Wide Web Browser.
- An Email program.

Optionally your ISP may also install or give you;

- An FTP Program.
- A Newsgroup Reader

With all this software installed, you will be ready to access the Internet.

Once you are ready, it's now time to connect to the Internet. How is this accomplished? Well it's simple really. Your computer will dial a local number, which is provided by your ISP. Once you have logged into your ISP, you are connected to the Internet.



Sample Connections 2

Figure above shows a typical connection scenario, with your personal or work computer connecting to the Internet via your ISP's server. Your ISP may go through several connections with other servers before reaching the "main backbone" of the Internet, the exact route is not information needed by the typical user.

There are two classes of computers on the Internet, HOSTS and CLIENTS. Unless you have a permanent link to the Internet and your machine is always connected and on-line, then you are probably a client and not a host. As a client to the Internet, you should have the following abilities; (If you don't, talk to your Internet Service Provider)

- Send Email
- Upload/Download Files
- Access the World Wide Web

Email is the ability to write a message to someone, using a mail program, and use the Internet as a means of delivering that message. Email is not a free service. The cost of your email is covered in your service charge to your provider.

Contrary to popular opinion, and to the opinion of some "so-called" experts that have received nationwide TV airtime, email is NOT instantaneous. When you send a message to someone it leaves your computer and travels first to your Service Provider, from there your email may travel through several other HOST computers until it reaches its final destination. The time it takes to transit from one host to another varies depending upon how busy the network is at the time you sent it.

Upload/Download Files: Upload/Download are two different faces on the same coin. Basically it refers to moving a file, either from a host computer to your client computer or from your client computer to some host computer.

Access the World Wide Web. Representing the latest in Internet technology, the Web blends the best and not-so-best of the textual information with the graphical capabilities of today's desktop systems. On the Web you will find information relating to almost any conceivable topic. (This freedom of speech issue is what has sparked such controversy and resulted in the infamous Communications Decency Act, which was later overturned as unconstitutional by the courts.)

Surf's up!

You've made your first connection to your Internet Service provider, and now you are ready to begin surfing. The question is where do you start?

Most web browsers, when you invoke (run) them, will come up to a default webpage. That is, they will automatically take you to a specific place on the Internet, a place that's been pre-programmed by the browser company or your ISP, for you.

When you are surfing the web, you can choose from millions of websites to visit. Your browser has several ways of allowing you to do this.

Navigator has two distinct ways of allowing you to surf to any location, assuming you already know the URL you need.

There is the File|Open Location option from the main menu and there is the location window on the menu bar. All you need do in either spot is enter the URL you require and away you go.

Explorer has an address window, and the File|Open menu option to perform the same functions.

I-Comm has the File|Open menu option.

All of these perform virtually the same function. You enter the address of the location you wish to visit and the browser will take you there.

Picking your First Resources

The first step to insuring a more productive life on the Information Superhighway is picking some resources and bookmarking them. In order to locate a particular resource on the Internet you will need to know its address. An address can be considered the location of a resource, and all items, including you, have an address if they are on the Internet. Just as you have an email address which is different from everyone else, so too, can there be sites within sites, resources within resources.

Each type of resource has a slightly different format address and name, but the three most common addresses you will have to deal with are EMAIL, FTP and WWW addresses.

An email address goes to a specific person. i.e.

Joan Q. Public@anysite.com

The FTP address usually addresses a system as a whole unit. i.e.

ftp.anysite.com

The WWW address is similar to an FTP address in as much as it reaches out to a system, but it also specifies exactly where on the system to go. i.e.

http://www.anysite.com/mypage.html

While the addresses for FTP sites and Email addresses are simply called "addresses", a WWW address is called a URL or Universal Resource Locator. For a more detailed description of the term URL, see our glossary.

There are numerous resources on the net which everybody needs from time to time. The big problem is knowing which resource you need. While everyone has certain specific needs, there are a few common resources which everyone should use.

The first type of resource you should pick concerns searching the Internet. Basically there are two types of Search Engines, Web Crawlers and Directories.

Web Crawlers

A Web Crawler (sometimes called a spider) is an automated search engine. When someone submits a resource(website) to the search engines it sends a small, but powerful program back to the site of the submission which scans the site for more resources. If it finds additional resources, it catalogs them as well as the original resource. The advantage of this is you can find information in a site, even if the site is not dedicated to that specific type of information. For example, locating information on Airplanes in a site about NASA space activities. The main drawback to this type of search engine is the tendency to catalog too much information.

A couple of examples of the best crawlers are;

HotBot (**http://www.hotbot.com/**)

Infoseek (**http://ultra.infoseek.com/**)

Alta Vista (**http://www.altavista.digital.com/**)

Directories

Directories are the Yellow Pages of the Internet. They contain only that information which has been submitted to them. Here you will find vast listings of resources, but if the person submitting the information didn't include all of the description of his/her site, you may not find what you are looking for.

A couple of examples of Directories are;

YAHOO! (**http://www.yahoo.com**)

Linkstar (**http://www.linkstar.com/**)

InfoHiway (**http://www.infohiway.com/way/index.html**)

The directories may not be as up to date, but when you are looking for specific information, it's usually easier to try a directory first. If that fails to yield results, try one of the search engines.

Bookmarking Your Resources

Nearly all of the Internet web browsers available today have a feature which is like an automated address book. Some call it "Hot Listing", others call it "Book Marking". In any case, the effect is the same. Bookmarking allows you to grab a copy of a URL and store it so that you can easily go back to the site at a future time.

Below we have provided instructions for bookmarking using two popular Internet web browsers;

Navigator (Version 2.0/3.0)

- Go to the First Page of the Site.
- Click on the Menu Option labeled "BookMarks"
- Move the mouse pointer down to the option labeled "Add a Bookmark" and click on it.

Explorer (Version 3.0 or better)

- Go to the First Page of the Site.
- Click on "Favorites" in the button bar, then select "Add to Favorites".
- University home page
- Go to the First Page of the Site.
- Click on the "Hot Site" button, this opens the "Hot List" Dialog box.

Click on "Add" button, then press "Done" to close the dialog Box.

Navigator's BookMarks are added to the main menu, which has a limitation to the maximum number of elements. You will ultimately have a "More BookMarks..." entry at the bottom of the menu, which will take you to a another window where you can locate and manipulate your BookMarks. We will delve into Bookmark management in further detail in a later chapter.

We suggest that you take the time to bookmark the links provided above. These are some of the best places on the net for finding other web sites.

To use a bookmark, open either the Bookmark menu, or click on the Hot list and select the site you wish to go to. For I-Comm users, you need to click on the button marked "Goto". Navigator users will find themselves at the new site simply by selecting the option on the menu.

Searching the Internet

By now you should have several sites bookmarked. So what's the next step? Simple, now its time to start looking for information. We have several search engines bookmarked but that's only the first step.

What can you search for? Nearly everything! It would be improper to state that the Internet contains the sum total of all human knowledge, however its getting there very quickly.

Use one of your new BookMarks and surf over to one of the search engines. Here you will be presented with a webpage, which has a field in which you can enter terms to look for. All of these systems have a help section or FAQ clearly marked, so if you get into trouble, you can either hit your "back" button or try the site help file.

You begin your search by entering some sort of search criteria into an editable field on your screen, then pressing the search button.

Searching the Internet for some particular information can be both a frustrating experience and a rewarding one. Its best to start with a particular search engine or directory, looking for what you need. Remember that there is a considerable overlap between the contents of one engine and another, so you will find similar references among them.

Let's say we are looking for information on a 1977 Jeep CJ-5, perhaps a supplier of parts for that automobile. Going to a search engine like Yahoo, you can search their database, but the

real question becomes what keyword do you use? Yahoo allows only one keyword, or a phrase in their advanced search options.

Start by looking for "CJ-5", but in all likelihood, you won't find it. It's way too specific. You need to exercise care in picking search terms. For example, looking for items that weigh a "ton" will also return references to "Washington", "Alexander Hamilton" etc.

Having not found anything listed under CJ-5, or perhaps finding listings, but of the wrong type, widen your search by looking for "Jeep". Here you may find several dealers of Jeeps, perhaps even the parts supplier you need. You may also find someone's Homepage where they write about owning a jeep.

As you can see, the steps to finding your desired information are;

- Start Specific, (i.e. Search for "CJ-5".)
- Broaden your search if you don't find any reference. (i.e. Search for "Jeep")
- Broaden further if you still don't find anything. (i.e. Search for "Automotive")

Advanced Search Techniques

Searching for simple things like "Jeep" or "Washington" is very easy for most people. A problem arises however when you need to search for something specific, but requires more than one word.

Most Search Engines and Directories provide for advanced searching, but their methods vary from system to system. Primarily two types of advanced searches are supported, Phrase searches and Boolean Searches. Each of these types of searches have their strengths and weaknesses. Set up a couple of hypothetical items we want to search on and look at how we can accomplish them using the two techniques.

Phrase Searching

Perhaps the easiest of the advanced techniques, phrase searching allows you to search on multiple words for one topic. For example searching on information concerning Dr. Martin Luther King Jr., You might be inclined to search on Martin Luther King.

Looking over your results in a typical Search Engine, you would be surprised to discover that searching on Martin Luther King returned pages for Martin Luther King, BB King, Kings in general, the Christian reformation, Martin Landau. In other words the Search Engine took your three words; Martin, Luther, and King and assumed you were looking for web pages with references to any of these words in them.

If you want a Search Engine to do a phrase search you need to inform the search engine that the words you are looking for need to by grouped together. So don't search for Martin Luther King, instead search for "Martin Luther King". By enclosing the keywords within quotes you are basically informing the search engine that all three words have to be present on the page and in close proximity to one another.

Some Search Engines will allow phrase searching, others will not. When in doubt, look on the main page of the search engine for either a help file link or for their FAQ.

Boolean Searching

Named after an English mathematician, Boolean searching refers to a form of logic applied to the search. Basically a Boolean search requires some additional words to be used, for example searching on the words "Cancer" and "treatment". This type of search allows you to exclude websites which may be about Cancer, the constellation, or the horoscope sign.

Boolean Searches require using certain keywords, while these keywords may vary from search engine to search engine, the concepts are the same.

AND - Search on Term1 AND Term2

OR - Search on Term1 OR Term2

NOT - Search on Term1 but NOT Term2

An example of AND searching could be;

Washington **and** Lincoln - Look for webpages which contain both words "Washington" and "Lincoln".

Washington **or** Lincoln - Look for webpages which contain either the word "Washington" OR the word "Lincoln", or both.

Washington **not** Lincoln - Look for webpages which contain the word "Washington" and do not contain the word "Lincoln".

Some systems have the ability to group Boolean terms using parenthesis. i.e.;

(Washington and Lincoln) not Roosevelt - Look for webpages which contain the words "Washington" and "Lincoln" but do not contain the word "Roosevelt".

Washington and not George - Look for webpages which contain the word "Washington", and do not have the word "George" in them.

Boolean searching, given these simple, yet powerful, capabilities allows someone to quickly narrow their searches so that the results of a search may quickly pinpoint the information they need. The more terms you are able to add to the search specification, the finer the results you will have in the search engines.

LESSON 2:
INTERNET BASICS-2

Topics Covered

- Hypertext on the web, Pages on the web, Retrieving documents on the web, Anatomy of a URL, Web Browser, Plug ins, Web browser, The Toolbar, Specifying a Home page in Navigator, Specifying a home page, Saving an image from the web, Printing a page, Browsing the Internet, Navigator controls, Multimedia on the web.

Objectives

Upon completion of this lesson, you should be able to:

- Retrieve documents on the web
- Work on Web browser
- Specify a home page in Navigator
- Save images from the web
- Learn Navigating controls
- Know about multimedia on the web

The World Wide Web is a system of Internet servers that supports hypertext to access several Internet protocols on a single interface. The World Wide Web is often abbreviated as the Web, WWW, or W3.

The World Wide Web was developed in 1989 by Tim Berners-Lee of the European Particle Physics Lab (CERN) in Switzerland. The initial purpose of the Web was to use networked hypertext to facilitate communication among its members, who were located in several countries. Word was soon spread beyond CERN, and a rapid growth in the number of both developers and users ensued. In addition to hypertext, the Web began to incorporate graphics, video, and sound. In recent years, the use of the Web has now reached global proportions.

Almost every protocol type available on the Internet is accessible on the Web. Internet protocols are sets of rules that allow for intermachine communication on the Internet. The following major protocols are accessible on the Web:

- E-mail (Simple Mail Transport Protocol or SMTP)

  Distributes electronic messages and files to one or more electronic mailboxes
- Telnet (Telnet Protocol)

  Facilitates login to a computer host to execute commands
- FTP (File Transfer Protocol)

  Transfers text or binary files between an FTP server and client
- Usenet (Network News Transfer Protocol or NNTP)

  Distributes Usenet news articles derived from topical discussions on newsgroups
- HTTP (HyperText Transfer Protocol)

  Transmits hyptertext over networks. This is the protocol of the WWW.

Many other protocols are available on the Web. To name just one example, the Voice over Internet Protocol (VoIP) allows users to place a telephone call over the Web.

The World Wide Web provides a single interface for accessing all these protocols. This creates a convenient and user-friendly environment. It is no longer necessary to be conversant in these protocols within separate, command-level environments. The Web gathers together these protocols into a single system. Because of this feature, and because of the Web's ability to work with multimedia and advanced programming languages, the World Wide Web is the fastest-growing component of the Internet.

Hypertext: The Motion Of The Web

The operation of the Web relies primarily on hypertext as its means of information retrieval. HyperText is a document containing words that connect to other documents. These words are called links and are selectable by the user. A single hypertext document can contain links to many documents. In the context of the Web, words or graphics may serve as links to other documents, images, video, and sound. Links may or may not follow a logical path, as each connection is programmed by the creator of the source document. Overall, the WWW contains a complex virtual web of connections among a vast number of documents, graphics, videos, and sounds.

Producing hypertext for the Web is accomplished by creating documents with a language called HyperText Markup Language, or HTML. With HTML, tags are placed within the text to accomplish document formatting, visual features such as font size, italics and bold, and the creation of hypertext links. Graphics may also be incorporated into an HTML document. HTML is an evolving language, with new tags being added as each upgrade of the language is developed and released. The World Wide Web Consortium, led by Tim Berners-Lee, coordinates the efforts of standardizing HTML.

Pages On The Web

The World Wide Web consists of files, called pages or Web pages, containing information and links to resources throughout the Internet.

Web pages can be created by user activity. For example, if you visit a Web search engine and enter keywords on the topic of your choice, a page will be created containing the results of your search. In fact, an increasing amount of information found on the Web today is served from databases, creating temporary Web pages "on the fly" in response to user queries.

Access to Web pages may be accomplished by

- Entering an Internet address and retrieving a page directly
- Browsing through pages and selecting links to move from one page to another

- Searching through subject directories linked to organized collections of Web pages
- Entering a search statement at a search engine to retrieve pages on the topic of your choice

Retrieving Documents On The Web: The URL

URL stands for Uniform Resource Locator. The URL specifies the Internet address of a file stored on a host computer connected to the Internet. Every file on the Internet, no matter what its access protocol, has a unique URL. Web software programs use the URL to retrieve the file from the host computer and the directory in which it resides. This file is then displayed on the monitor connected to the user's local machine. URLs are translated into numeric addresses using the Internet Domain Name System (DNS). The numeric address is actually the "real" URL. Since numeric strings are difficult for humans to use, alphneumeric addresses are employed by end users. Once the translation is made, the Web server can send the requested page to the user's Web browser.

Anatomy of a URL

This is the format of the URL:

protocol://host/path/filename

For example, this is a URL on the home page of the House Committee on Agriculture of the U.S. House of Representatives:

http://www.house.gov/agriculture/schedule.htm

This URL is typical of addresses hosted in domains in the United States.

Structure of this URL

1. Protocol: http
2. Host computer name: www
3. Second-level domain name: house
4. Top-level domain name: gov
5. Directory name: agrictulture
6. File name: schedule.htm

Note how much information about the content of the file is present in this well-constructed URL. <> Other examples:

telnet://library.albany.edu - the University at Albany library text-based catalog ftp://ftp.uu.net/graphics/picasso - a file at an ftp site

Several top-level domains (TLDs) are common in the United States:

com - commercial enterprise

edu - educational institution

gov - U.S. government entity

mil - U.S. military entity

net - network access provder

org - usually nonprofit organizations

In addition, dozens of domain names have been assigned to identify and locate files stored on host computers in countries around the world. These are referred to as two-letter Internet country codes, and have been standardized by the International Standards Organization as ISO 3166. For example:

ch - Switzerland

de - Germany

jp - Japan

uk - United Kingdom

It had been proposed that new top-level domains be added to the existing domain names. The U.S. Government has formed the Internet Corporation for Assigned Names and Numbers (ICANN) to work out these and other issues relating to domain names.

How to Access The World Wide Web: Web Browsers

To access the World Wide Web, you must use a Web browser. A browser is a software program that allows users to access and navigate the World Wide Web. There are two types of browsers:

Graphical

Text, images, audio, and video are retrievable through a graphical software program such as Netscape Navigator and Internet Explorer. These browsers are available for both Windows-based and Macintosh computers. Navigation is accomplished by pointing and clicking with a mouse on highlighted words and graphics.

You can install a graphical browser such as Netscape Navigator in your Windows-based or Macintosh machine. Navigator is available for downloading on the Netscape Web site: http://home.netscape.com/. Microsoft's Internet Explorer is available from the Microsoft Web site: http://www.microsoft.com/. To use these programs to access the Web, you need an ethernet connection or a dialup connection known as a SLPP or PPP. The latter may be obtained from an Internet Service Provider. For more information, see How to Connect to the Internet.

Text

Lynx is a browser that provides access to the Web in text-only mode. Navigation is accomplished by highlighting emphasized words in the screen with the arrow up and down keys, and then pressing the forward arrow (or Enter) key to follow the link. This browser is available through your personal VAX or UNIX account on campus. For more information, see Guide to Using Lynx.

Extending the Browser: Plug-Ins

Software programs may be configured to a Web browser in order to enhance its capabilities. When the browser encounters a sound, image or video file, it hands off the data to other programs, called plug-ins, to run or display the file. Working in conjunction with plug-ins, browsers can offer a seamless multimedia experience. Many plug-ins are available for free.

File formats requiring plug-ins are known as MIME types. MIME stands for Multimedia Internet Mail Extension, and was originally developed to help e-mail software handle a variety of binary (non-ASCII) file attachments. The use of MIME has expanded to the Web. For example, the basic MIME type handled by Web browsers is text/html associated with the file extention .html.

A common plug-in utilized on the Web is the Adobe Acrobat Reader. The Acrobat Reader allows you to view documents created in Adobe's Portable Document Format. These documents are the MIME type application/pdf and are

associated with the file extension .pdf. When the Acrobat Reader has been configured to your browser, the program will open and display the file requested when you click on a hyperlinked file name with the suffix .pdf. The latest versions of the Acrobat Reader allow for the viewing of documents within the browser window.

Web browsers are often standardized with a small suite of plug-ins, especially for playing multimedia content. Additional plug-ins may be obtained at the browser's Web site, at special download sites on the Web, or from the Web sites of the companies that created the programs. The number of available plug-ins is increasing rapidly.

Once a plug-in is configured to your browser, it will automatically launch when you choose to access a file type that it uses.

Web Browsers

- A web browser is a software program used to access the World Wide Web.
- A browser (also known as client software) retrieves data from remote web servers and displays a web page.

- The two most popular browsers come from Netscape and Microsoft.

Browsers basically work the same way. Once you know one, you can easily learn the other.

Anatomy of a Web Browser: The Toolbar

The most useful buttons on your browser toolbar include:

Back-Returns you to the previous page.

Forward - Returns you to a page you have backed up from

Home -Takes you to a home page specified in the browser preferences. Reload or Refresh-Downloads the web page from the server again. Stop- Stops the browser from loading the current page.

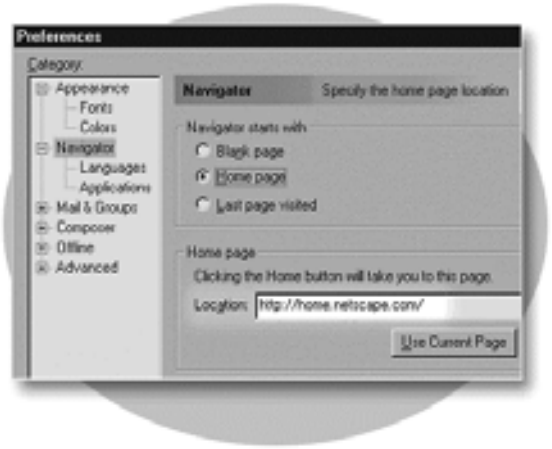
Print - Lets you make a hard copy of the current document or frame loaded in your browser.

More Web Browser Anatomy

Access indicator icon (upper right) - When animated, it tells you the browser is retrieving data. Status bar (lower left) - Reports on the progress of the data download.

Go menu - Lets you select a web page you have previously accessed.Text-only mode (Images button) -Prevents graphics from loading, providing a faster way to access web pages.

Specifying a Home Page in Navigator



On the browser Menu bar, click Options, select General Preferences, then select the Appearance tab.
In the Browser Starts With text-box, type the address of the web page you want as your start-up page. the box.

Click OK.

Specifying a Home Page in Explorer

Go to the web page you want to use as your start-up page.
On the browser menu bar, click View, select Options, then select the General tab.
In the address Text box, type in the address of the web page you want as your Start-up page. Click Use Current

Saving an Image from the Web

Move your cursor over the graphic
Windows users: Click the right mouse button. A pop-up box appears.Macintosh users: Click and hold the mouse button. A pop-up box appears.Save the image to your hard drive by selecting a Save option.

You can accept the current file name or rename the file. (Graphic files are usually in .gif or .jpg format.)

Printing a Web Page

Most browsers have a Print button on the toolbar that lets you print a web page.

Some web pages are divided into multiple sections called frames. You can only print one frame at a time.
To print a particular frame, first select it by clicking it.Then click the Print button or select Print Frame from the File menu.

Browsing the Web

Moving around and between web pages is known as **browsing** (or navigating, or sometimes “surfing the web”). You can browse web pages in several different ways.

Hyperlinks

Almost all web pages have hyperlinks. These links connect:

- One page to another part of the same page (useful if it is a really large page)
- One page to another page somewhere on the web
- A page to a file, such as a sound clip, video, a spreadsheet or a Word document

These links to other pages can be links to things stored anywhere on the internet. **Hypertext** links are indicated by underlined text highlighted in blue (usually). Hyperlinks are also frequently in the form of buttons, graphics or pictures.
To find hyperlinks on a page move your mouse pointer over the page and where there is a hyperlink the pointer will turn into a hand with a pointing finger.

In the example below, both the graphic and the underlined text link to the same page. You could click either to follow the link.

Mortgage mirth or misery?
Will that dream mansion break your bank? Try our mortgage calculator to find out what it costs per month.

Example of hyperlinks from BBC Online

As you surf around the web, Internet Explorer remembers where you have been. You will notice that hypertext links you previously selected are now coloured purple. Internet Explorer does this to remind you that you have already visited the page identified by this link.

Note: Sometimes website designers prevent Internet Explorer from re-colouring links in this way in order to preserve the colour scheme they have created for their website. In the example above for instance, the hypertext link **Mortgage mirth or misery?** is always black.

Navigation controls

The designer of a website will usually put a lot of thought into creating ways for you to move around the site. There is no set way for **navigation controls** to appear on web pages. However, as you browse websites, you will notice that some of the following controls are used regularly.

- **Navigation panels**

Often hyperlinks to the main sections of a website will be grouped into panels at the top or left-hand side of the web page. When you click links from these panels, the main body of the web page changes but the panel remains.

Site navigation panel

- **·List boxes**

Another commonly used device is the list box. You can select what area of the site you want to go to by clicking the down arrow on the list box and scrolling through the hyperlinks to the available areas. When you have selected an area, click the **Go** button next to the box (*SpeedKey*: **Return**).

Example of list box navigation

Note: In the example above, you can also use a list box to change which city the weather is displayed for. In this case, only that part of the web page would be affected. The rest would look the same.

- **Forms (text boxes and buttons)**

A form is a web page where you can enter information easily. Forms are used to collect information to enable you to search databases, send messages to the website owner, play games and so on.

Some forms may be very simple. For example, most websites have search engines, consisting of a text box for you to type search text into and a **Search** button for you to submit the request. Objects such as text boxes and buttons are called **controls**.

Other forms may be more complex, using several text boxes, list boxes, option buttons and so on, but they all work on the same principle: type the information into the boxes and press the button to send it.

- To move between controls use the mouse or press Tab
- To submit the form, click the button or press Return

- Multimedia content

Some websites may contain hyperlinks to sections with sound, video and animation. Depending on how the website is designed, you may be prompted to download a **plug-in** file to browse this kind of content. A **plug-in** is an application that extends Internet Explorer's features.

Multimedia on the Web

Sound, video, animation, and 3D interactive video are referred to as multimedia.Some multimedia, called streaming media, plays as soon as you access a web page.Others require that you download the multimedia file to your computer first. Multimedia files often requires that your browser use a plug-in program.

Plug-Ins

Plug-ins are small software programs that extend the capabilities of your browser by enabling it to play sounds and video clips or do other functions, such as automatically decompressing files that you download.

Plug-ins may come with your browser software or can be downloaded from websites.

Some plug-ins enable streaming audio or video, which lets you hear or view a multimedia file before it has completely downloaded to your computer.

Notes

LESSON 3:
Language Of The Internet

Topics Covered

- What is HTML, The components of HTML, A short history of HTML, Understanding Basic HTML, HTML editors, Name your document, Opening a document in a browser, Elements of a good web design.

Objectives

Upon completion of this lesson, you should be able to:

- Know the Internet & World Wide Web
- What is Web page?
- What is Home page?
- Learning the first steps in creating a website
- How to define web site goals
- Setting Goals & objectives
- How to plan for your website.

What is HTML?

- **H**-T-M-L are initials that stand for **H**yper**T**ext **M**arkup **L**anguage. Let us now break it down :
- **Hyper:** is the opposite of linear. Initially the computer programs had to move in a linear fashion. HTML does not hold to that pattern and allows the person viewing the World Wide Web page to go anywhere, any time they want.
- **Text:** is what you will use i.e english letters.
- **Mark up:** is what you will do. You will write in plain English and then mark up what you wrote.
- **Language**: the language is plain English.

In other words, HTML is not a programming language. Instead, HTML is used to define and classify different parts of your webpage according to their function –in other words indicating which part is the title of the document, which part is a subheading, which part is the name of the author and so on.

The Components of HTML

The HTML document is composed of the following components:

- Tags
- Attributes

Tags and attributes work together to identify different document parts & tell the browser how to display them.

Tags identify document parts by specifying that a chunk of information be displayed as a paragraph or that another chunk of information be displayed as a heading.

Attributes are optional parts of tags and modify or more thoroughly specify information in tags such as color, alignment, height, or width.

A short History of HTML and the World Wide Web

The evolution of HTML involved more than changes to the tags and attributes. You'll see that its variety of uses and resulting popularity have changed the nature of HTML from functional information resource to a marketing tool. HTML did not evolve as an entity on its own; it took the efforts of many people to bring the technology to what it is today.

Physicists at CERN (Centre European pour la Recherche Nucleaire) , a European particle physics laboratory, needed an easy way to share information over their network. In 1980, Tim Berners-Lee developed the initial program that allowed paes to links to one another. A decade later, development moved into the realm of text-only hypertext browsers, and the World wide web was born. In 1992, CERN maade the system and he software available to the rest of the world through the Internet.

At that time, the Internet was used primarily for academic research and so the fledgling Web was extended to other academic research centers and universities throughout the world, including the National Center for Supercomputing Applications (NCSA) at the University of Illinois at Urbana-Champaign. The World Wide Web (with a hyphen) was named in late 1990 by Berners –Lee.

Understanding Basic HTML Tools

For your first documents, you need only two basic tools: an HTML editor and a web browser.

- An HTML editor is the program you use to create and save your HTML documents.
- A Web Browser is the program you use to view and test your HTML documents.

HTML Editors

In general, the HTML editors fall into two categories:

1. Text- or code-based, which allow you to see the HTML code as you're creating documents.
2. WYSIWYG (What You See Is What You Get), which show the results of code, similar to the way it will appear in a browser, as you're formatting your document

Using the Text Editor to write an HTML document.

You will write the HTML document on the word processor, like Notepad, WordPad etc. When you are finished creating the HTML document, you'll then open the document in a browser, like Netscape Navigator. The browser will interpret the HTML commands for you and display the Web page.

Let's get into the programs you will use to write your HTML document. Keep this in mind: HTML documents must be text only. When you save an HTML document, you must save only the text, nothing else.

When you use NotePad, WordPad etc. the file is saved in text-only format without your doing any additional work.

The Word Processor

When you write to the word processor you will need to follow a few steps:

1. Write the page as you would any other document.
2. When you go to save the document , always choose **SAVE AS**.
3. When the SAVE AS box pops up, you will need to save the page in a specific format. Look at the SAVE AS dialogue box when it pops up: Usually at the bottom, you find where you will be able to change the file format.
4. If you have a PC, save your document as **ASCII TEXT DOS** or just **TEXT**. Either one will work.

NotePad, WordPad, and SimpleText already save in text-only format so if you use one of them as your word processor, you'll get the correct format simply by saving your document.

How To Name Your Document

What you name your document is very important. You must first give your document a name and then add a suffix to it. That's the way everything works in HTML. You give a name and then a suffix.

Follow this format to name your document:

1. Choose a name like abc.
2. Add a suffix. For all HTML documents, you will add either ".htm" or ".html".

".html" tells the computer that this file is an HTML document. When we get into graphics, you'll see a different suffix. All files used on the Web will follow the format of "name.suffix." Always.

Opening the Document in the Browser

Once you have your HTML document on the floppy disc or your hard drive, you'll need to open it up in the browser. It's easy enough. Follow the steps along.

1. Under the FILE menu at the very top left of this screen, you'll find OPEN…..

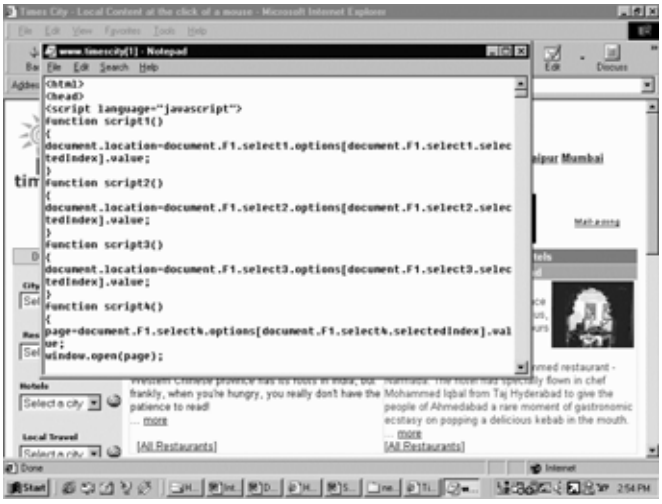
2. Click on it. The following dialog box appears in which you must type in the HTML filename & then click **OK**.

The browser will now display the file on the screen.

How to look at the source code of an HTML document from the browser window ?

Here's how you look at an HTML document (known as the "source code"):

1. When you find a page you like, click on VIEW at the top of the screen.
2. Choose DOCUMENT SOURCE from the menu. Sometimes it only reads SOURCE.
3. The HTML document will appear on the screen with the HTML source code.



Elements of a good Web page design

A good web page must include the following four processes:

1. Planning
2. Organizing
3. Creating
4. Testing

Planning Documents

HTML focused on making information easily available. The resulting World Wide Web and corporate intranets were primarily used to provide information to those who needed it. In this manner, HTML was visitor-centered, that means authors focused on determining what their audience wanted and then provided that information.

However, as Web Technologies became popular, they evolved into a marketing tool for millions of companies, organizations and individuals worldwide. Rather than strictly providing information, the purpose of many websites is now to tell the visitors what the company wants them to know, to persuade them to purchase a product or service, and to keep them coming back to more. As a result, HTML development has now shifted now to being simultaneously visitor-centered and author-centered. Now, you not only need to consider what your visitors want to know, you also need to consider what information your organization wants to provide.

Therefore before starting to produce the HTML documents, you need to do some planning. You need to determine what your visitors want and what your organization wants to provide.

What Do Your Visitors Want?

Whenever a visitor visits a website, he normally has a specific interest in that. So during the planning phase of a website, you must think about what visitors are expecting to see at your site. To know about this in detail, you can start with your customers needs. For Example, they might want a general information about you, your company, or our products and services. Or they might want information about the contact names, troubleshooting advice, safety information, prices, schedules, order forms and so on.

So the developer of a website must list out the vistors needs in the planning phase.

What Do You Want to Provide?

You must figure out what you want to include. For this you must take a look at the materials you already have in hand. For Example, marketing materials often include information about the company, products, and services suitable for use on a Website.

If you don't have access to marketing materials, ask yourself a few questions:

i. What do I want people to know about my organization? What is the corporate mission statement? What are my company's goals?

ii. What are my company's products or services? How do they help people use them?

iii. How do customers order our products?

iv. Is repair history or safety information so positive that I want to publicize it?

v. Can I include product specifications?

vi. Do I want to include information about employees? Do their skills and experience play a big role in how well our products are made or sold?

vii. Can I provide information that is more timely, useful or effective than other marketing materials such as brochures or pamphlets, provide?

After you answer these and any other questions that are helpful in your situation, you should be able to develop a list of what you want to provide.

Note: Getting a consensus before you start to build a website is always a good rule to follow.

Planning for Maintenance

Although maintaining your documents after you create them and throughout their existence on your site is a separate phase in the lifecycle of documents, you also need to include maintenance in the planning phase. This is particularly the case if you answer yes to any of the following questions:

- Will more than one person be involved in developing the content?
- Will more than one person play an active role in maintaining the site?
- Will your site include more than about 20 HTML documents?
- Will you frequently add or modify a significant number of pages- say more than 20-25 percent of the total number of documents.

Planning for Content Maintenance

If you depend on others for the content, you need to make arrangements at the outset for how you will obtain updates. Will content providers actually develop and update the Web pages, or will they simply send you new information via e-mail? You need to plan accordingly. Planning now how you will handle content revisions and updates will save out time and grief later.

Planning for Site Maintenance

Regardless of whether you or someone else will maintain the site you develop, you need to carefully document the development process and include the following information:

- The site's purpose and goals.
- The process where you determined content
- Who provides content?

Documenting the development process will help those who maintain the site to keep everything up-to-date.

Organizing your Documents

After you decide what information to include in your site, you need to determine how you will arrange individual HTML documents.

There are three types of Organization at your disposal:

- Hierarchical
- Linear
- Webbed

Creating Documents

Create a Master document

A master HTML document contains the necessary structure tags as well as general document format you want to use. When you create a master HTML document, you establish the look of the site before you start adding content. Include the elements that you want to appear on every page such as the following:

- The background
- Repeating images
- The corporate logo
- Icons
- Footer Information

Placing these elements in the master document will help you develop them only once, and not every time you start a new document.

Select Images

Determine which images or illustrations are available before you start developing individual pages. Having an idea of what images you want to include will help you determine page layout and you can avoid rearranging pages later.

Create Important Pages First

Websites, by nature, are always " under Construction". You'll find that you're constantly updating content, adding new pages, or removing pages. If you create a few of the important pages first, test them and publish them, you can eliminate the task of polishing many pages later. You can then add and modify pages as needed after you create an initial few.

Testing Documents

Testing an HTML document involves viewing your documents in multiple browsers with a variety of system settings. The purpose is to see how your documents will appear to your visitors, to check readability and usability and to root out any layout or formatting problems.

You'll want to test for those issues on your local computer before you publish your pages on the WWW or on the intranet. In doing so, you can get the general idea of what your visitor is likely to see.

Home Sweet Home Page

When you browse the World Wide Web you'll see the term **home page** often. Think of a home page as the starting point of a website. Like the table of contents of a book or magazine, the home page usually provides an overview of what you'll find at the website. A site can have one page, many pages or a few long ones. If there isn't a lot of information, the home page may be the only page. But usually you will find at least a few other pages.

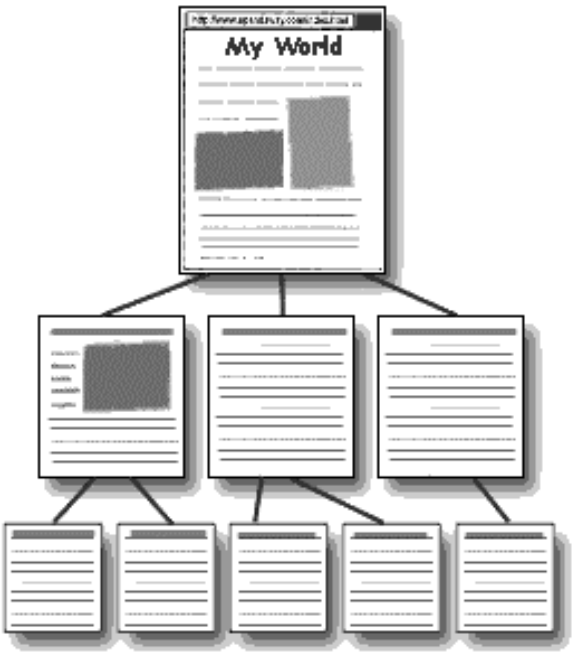
Web pages vary wildly in design and content, but many use a traditional magazine format. At the top of the page is a masthead or banner graphic, then a list of items, such as articles, often with a brief description. The items in the list usually link to other pages on the site, or to other sites. Sometimes these links are highlighted words in the body of the text, or are arranged in a list, like an index. They can also be a combination of both. A web page may also have images that link to other content.

How can you tell which text are links? Text links appear in a different color from the rest of the text—typically in blue and underlined. When you move your cursor over a text link or over a graphic link, it will change from an arrow to a hand. The hypertext words often hint at what you will link to.

When you return to a page with a link you've already visited, the hypertext words will often be in a different color, so you know you've already been there. But you can certainly go there again. Don't be surprised though, if the next time you visit a page it looks different and the information has changed. The Web is a dynamic medium. To encourage visitors to return to a site, some web publishers update pages often. That's what makes browsing the Web so exciting.

A Home (Page) of Your Own

In the 60s, people asked about your astrological sign. These days, they want to know your **URL**, since having a Web address is almost as important as a street address. Your website is an electronic meeting place for your family, friends and potentially, millions of people around the world. Building your digital domain is easier than you may think. Best of all, you may not have to spend a cent. The Web brims with all kinds of free services, from tools to help you build your site, to free graphics, animation and site hosting. All it takes is some time and creativity.



Page Design

Think of your **home page** as the starting point of your website. Like the table of contents of a book or magazine, the home page is the front door. Your site can have one or more pages, depending on how you design it. If there isn't a lot of information just yet, your site will most likely have only a home page. But the site is sure to grow over time.

While web pages vary dramatically in their design and content, most use a traditional magazine layout. At the top of the page is a **banner graphic**. Next comes a greeting and a short description of the site. Pictures, text, and links to other websites follow.

If the site has more than one page, there's typically a list of items-similar to an index-often with a brief description. The items in the list link to other pages on the website. Sometimes these links are highlighted words in the body of the text. It can also be a combination of both. Additionally, a web page may have images that link to other content. The structure of a site typically looks something like the diagram to the right.

Before you start building your site, do some planning. Think about whom the site is for and what you want to say. Next, gather up the material that you want to put on the site: write the copy, scan the photos, design or find the graphics. Draw a rough layout on a sheet of paper.

Some Tips

While there are no rules you have to follow, there are a few things to keep in mind:

- **Start simply.** If you are too ambitious at the beginning, you may never get the site off the ground. You can always add to your site later.
- **Less is better.** Most people don't like to read a lot of text online. Be brief and break long paragraphs into smaller chunks.
- **Use restraint.** Although you can use wild colors and images for the background of your pages, make sure your visitors can read the text easily.
- **Smaller is better.** Most people connect to the Internet with a dial-up account. Since it can take a long time to download large image files, keep the file sizes small. For tips how to do this, review our graphics article.
- **Have the rights.** Don't put any material on your site unless you are sure you can do it legally. Read Learn the Net's copyright article for more about this.

Assignments

1. Define Internet? Is World Wide Web different from Internet, or is it the same?
2. How big is the Internet?
3. Write methods to search the Internet?
4. What is hypertext?
5. Explain the components of an URL?
6. What is a web browser? What are the different kinds of browser?
7. How can you customize your browser according to your needs?
8. What are the commonly used plug ins for multimedia in the Internet?
9. What is HTML? Identify its components?
10. Give the names of some commonly used HTML editors?
11. What is home page?

Summary

This week, we tried to open ourselves to the Internet, that's the purpose of the Basics of Internet 1 –2, in this chapter, we learnt about the language of the web, where we look in to HTML. Know the intricacies of it and learn about home page, which will be our prime focus, as at the end of this course, you will be able to make your own personal home pages

LESSON 4:
The First Step-1

Topics Covered

- Introduction to Internet, World Wide Web, Defining Web Site Goals, Setting Goals & Objectives, Web site planning

Objectives

Upon completion of this lesson, you should be able to:

Know the Internet & World Wide Web

- What is Web page?
- What is Home page?
- Learning the first steps in creating a website
- How to define web site goals
- Setting Goals & objectives
- How to plan for your website.

The internet is a global network of interconnected computers. Rumours that it stared life as a sinister US military experiment may be somewhat exaggerated, although a computer network called ARPANET run by the US Defense Department from 1969 was a primary component of the super network which would eventually become the internet, and the US government was definitely interested in a network that could withstand nuclear attack. In fact the first talk about the internet can be traced back to 1962, when J.C.R Licklider of MIT wrote a number of memos about his ideas of a 'Galactic Network' linking computers worldwide.

(see www.isoc.org/internet/history.brief.html)

ARPANET aged rapidly under the weight of new technology and the volume of traffic it was managing. The National Science Foundation (NSF) finally came to the rescue, assigning five supercomputers to handle the ever-increasing load. In 1990 when ARPANET ended its reign, NSFNET took over.

Today, NSFNET is phasing itself out, with a variety of commercial and noncommercial networks taking up the cyberspace slack. New networks sponsored by local phone companies and regional providers are springing up around the globe, constantly expanding the scope of Internet traffic. In a short quarter of a century, the Internet has grown from just four-computers in the DoD's into an worldwide presence of incalculable importance.

So What is World Wide Web?

The world wide web is a user-friendly interface on the internet. It was developed by Tim Berners Lee (www.w3.org/people/Berners-Lee) in 1990-91, and caught on in 1993, when a freely available web browser called Mosaic,written by Marc Anderson and Eric Bina, started the 'Web Revolution'.(Mosaic went on to become Netscape Navigator and Andresson went to become very rich.) Berners Lee is sometime mistakenly credited with inventing the internet. But his actual achievement was perhaps more socially significant: he recognized that the internt was 'too much of a hassle for a non computer expert'

Berners Lee's idea was to create a set of agreed protocols and standards so that documents could be stored on Web Servers anywhere in the world., but could be brought up on a computer screen by anyone who wanted them, using a simple address. Central to Berners Lee's dream was the use of hyperlinks, so that Web pages would be full of highlighted words or phrases, which would be links to other relevant pages elsewhere.

This is precisely why the Web is exploding in popularity because of its simple, graphical nature and easy accessibility. Before 1989 only a relatively small community of individuals had the skill to understand and use the Internet. But when the Web was born, suddenly anyone could do it. Instead of cryptic commands, the Web employed simple point and-click techniques already used in standard online help screens. That is, you could click a visible link and "jump" to the referenced document regardless of its location.

What is a Web page?

Web page is simply a document written in the Web-formatting language, HTML. It can be one to many screens in length. Now a days that the commercial nature of the Web is being exploited, Web pages are also used to advertise products, companies, and services. Most corporations are scrambling to create a strong Web presence in an effort to lure even a small percentage of the Web citizenry to their goods.

What is a Home Page?

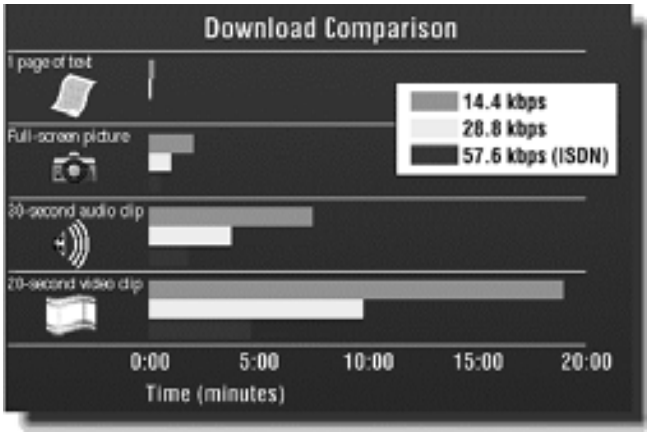
Some Web documents are described using the generic term home page. The most commonly referenced home page is the opening document to particular Web site, signifying the top of the site hierarchy and providing a generalized table of contents in the form of links. For e.g. the home page of University is (see figure below)

Surf The Web: Top Ten Tips

Despite the promise of high-speed broadband service, most people still access the Web with a dial-up account. Waiting for web pages to download can be frustrating, as is trying to find specific information in a sea of data. To make Web surfing a more satisfying and productive experience, we offer these tips:

· **Get a faster connection.**

If you are still using a 28.8 Kbps modem, it's time to upgrade. Most people these days access the Web at twice that speed-new modems offer access at 56 Kbps. Better yet, consider getting a high-speed service such as DSL or cable modem. It may cost a bit more, but it will greatly improve your satisfaction.



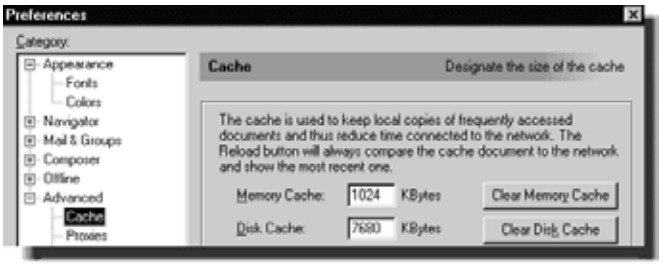
· **Use the Stop button.**

When you access a website, what you are actually doing is downloading digital files. You can see how the download is progressing by looking at the status bar located in the lower left-hand corner of your web browser. If you get tired of waiting, click the Stop button to view the files that have already downloaded. Then you can decide if you want to continue. If you do, click the Reload or Refresh button.

· **Increase your cache.**

Files you download are stored in a **cache** (pronounced like "cash") on your hard drive. That way when you return to a site, you don't have to download the files again from the **server**, just access them locally from your cache. After a while though, the cache becomes full. Your web browser automatically deletes old files as you continue to surf the Web. But if you visit many of the same sites regularly, you can speed up access by caching more of them. To do this, increase the size of your cache. 10 Mb is optimal.

If you use Netscape Navigator 4.0 or a later release, under the **Edit** menu, choose **Preferences**, then click on **Advanced**. Now click on **Cache**. In the appropriate box, increase the cache size.



With Explorer 5.0 or later, under the Tools menu, select Internet Options. Next, on the General tab, click on Settings. Use the slider to increase the cache

· **Save keystrokes by using Bookmarks or Favorites.**

Web addresses or URLs can be unwieldy. Worse, if you type them wrong, you get an error message. To avoid these problems, save the addresses of sites you want to revisit.

- **Use the Find feature of your web browser.**

Once you've accessed a web page, use the **Find** feature to quickly locate a particular term that interests. Why take the time to scroll through the entire document?

· **Pick two search engines and learn how they work.**

The difficulty of finding specific information is by far the biggest complaint we hear. Although dozens of search engines are available, pick two, then take the time to learn them well.

- **Choose your own home page.**

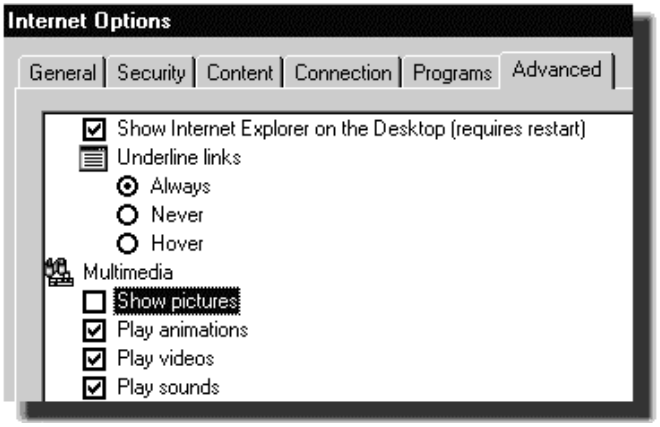
Both Netscape Navigator and Microsoft Internet Explorer set their respective sites as the default home page when you launch your web browser. If you want to begin your surfing by reading a daily newspaper or better yet, *Learn the Net*, why not start there first? Open a new window.

While you are downloading one web page, you can access another by opening a second browser window. With Navigator, go to the **File** menu and choose **New**, then **Navigator Window**. With Internet Explorer under the **File** menu select **New**, then **Window** . A word of caution: Although you can open multiple windows, this will slow down your computer, so don't go overboard. Remember to close the additional windows to free up disk space.

· **Surf during off-peak hours.**

Most commuters experience rush hour, when highways bog down with traffic. The same phenomenon happens on the Internet, usually in the late afternoon and early evening, when people log on to check e-mail, chat and play games. If you want to avoid the slowdown, go online in the morning or late at

night, when traffic is



lighter.

- **View sites in text-only mode.**

Sure, web designers spend a great amount of time creating wonderful graphics, but it can take quite a while to download large graphic files. To speed things up, turn off the images in your web browser.

With Internet Explorer 5.0 or later versions, under the Tools menu, select **Internet Options**, then click the Advanced tab. Now uncheck Show Pictures.

Thoughtful designers will include something called an **ALT tag**, a written description of the image. If you want to see a particular image, click on the tag with your right mouse button and select **View Image**. For Mac users, just hold down the mouse button over the graphic. You can also click the **Image** button in Navigator to load all the images.

The First Step In Creating Your Own Websites

Defining Web Page Goals

The first important step (that is often neglected) in the web site creation process, is to determine the purpose of your web site.

Too often a web site lacks the focus of a clear purpose and visitors are quickly confused and give up. Think about sites you visit and have moved on promptly. Despite technology related matters as the cause of your action, it's more likely than not, you clicked away because the site did not quickly and effectively, convey its purpose to you

It's an established fact that Internet surfers today are increasingly impatient and intolerable. Your visitor will not spend their precious time trying to figure out what your site is about (and more importantly, how it's going to of benefit to them - site's goals).

A web site with a well defined purpose stands out and a visitor should instantly recognize it without effort.

Clearly defining the purpose of your web site, before its creation, will ensure that your web site is optimized to achieve the required purpose. After all, you can only meet your goals when you know what they are.

For your part, you need to focus and understand why you are having this web site?
You might be trying to:

- provide a service
- sell a product
- present information on a topic
- make an announcement
- inform people about yourself
- create a forum that addresses a certain issue
- deliver news on a particular subject

Consider devoting a page to your site's purpose. Some sites do this through a mission statement or a dedicated page explaining the purpose of the site. It will effectively address why the site was created, what it's about and what it hopes to achieve for the user (site's goal). This is a very efficient method to combine two of your site's objectives

Having a clearly defined purpose will benefit you also when it comes time to submit your site to directories. They will ask you to provide a limited description of your site. You must be able to quote an effective, one-liner.

Don't ever mislead or trick people thinking your site is something it's not. This is a counter-productive measure that will not get you far and will likely backfire, one way or another.

Setting site goals and objectives

The success of any web site can only be measured on the goals of it. Having no goals will not mean your site is a failure but simply just an achievement! You may have made it your goal to have your own web site and that's fine but you're still going to have goals set for your site.

As with the site's intended purpose, we have to get focused and have a clear and complete understanding of what we want this site to achieve.

With any general goal-setting we undertake, there must be some variables to set on goals on. Therefore, our goals must be:

- Specific: Describes what you want to accomplish with as much detail as possible.
- Realistic: Goals you know you are actually capable of obtaining.
- Challenging: Takes energy and discipline to accomplish rewarding goals.
- Prioritized: Sets goals by time and importance into clearly specified target completion dates.
- Measurable: Describes your goal in terms that can clearly be evaluated

Writing down your goals creates the roadmap to your success. Although just the act of writing them down can set the process in motion, it is also extremely important to review your goals frequently. Remember, the more focused you are on your goals the more likely you are to accomplish them.

With respect to the development of your site, the principal question is:

What do you want this site to accomplish? (For you and your visitors/clients)

Every site will have different objectives while every site owner will have set different goals also. Any site will have varied reasons for existence. These could be:

- Product brand awareness
- To market detailed product information
- Providing product ordering information
- To sell a certain quota of a product within a given time period
- To target international communities
- Provide the latest new product or service information to customers
- Reduce distribution costs of promotional material
- Market yourself
- To make money from an online business

It's clear that a business orientated site will be more objective in its goals than a site of a personal nature but the site must have a reason for existing.

We also want a way of knowing if our site is performing its goal(s) as intended. It would be beneficial to the site's owner to get visitor feedback. A simple way is simply ask or gauge from visitors through a feedback form or a survey.

We also suggested in determining site purpose study, to dedicate a page in the form of a mission statement. If you decide to do this, you can list your site goals and objectives here also. That way, your visitors will clearly know what your site is trying to do for them!

Website Content Ddevelopment

What type of content is your intended target audience expecting to find? You should already have a good idea of who your target audience is. The site is being created to fill its purpose and interact with people that will have some interest in the theme of the site.

How can we now develop our website's content to benefit our targeted audience?

We have to place ourselves in their shoes and ask, "what will I come to this site for?" We must:

- figure out the psychology of our likely visitors to make our site appeal
- provide useful content our visitors may want and even expect
- think of ways we can keep our visitors at our site and how we can entice them back again

We also have to:

- make a good first impression
- establish need, honesty and reliability
- make our content (information) clear and concise
- provide good organization so our visitors can find information easily
- make our site interesting

By understanding the make-up of our visitor, knowing how we can appeal to their needs and interests in an effective way and by creating a good first impression through a confirmation of their expectations, you stand a much higher chance of success as determined by the goals of the site.

You might find it hard to get started on your content process so the best way to kick things off is to see what is already out there on the web. We are only interested in sites of similar nature as your intended theme so search for potential competing sites for ideas.

I stress you don't copy information you find but get ideas on how these sites offer their content. Principally of interest, we want to:

- study what they offer
- see how they layout their content
- analyze site structure (navigation of pages)
- notice ways they engage their audience

note outbound links to other complementary sites

Be objective while researching sites and always think, "how can I expand on this and make my site better". Be critical but honest and open-minded when researching other sites. Act like you are a web surfer looking for information this site is offering. Did they (the site):

- make a good first impression with you?
- better inform you with their content?
- address and answer your needs?
- use clear and simple language that was understandable?
- convey honesty and friendliness?
- make it easy for you to find what you were looking for?
- offer reasons to return to the site again?

These are just some of the more important checks you should carry out when evaluating these sites.

Understand no single approach is right so collectively make notes of things you liked, disliked and more importantly, how you can improve on these ideas. You will quickly form ideas on what you should be offering with your own site when carrying out this type of research.

Gather ideas attained from other sites and integrate them with your own ideas to develop content for your site. Be original, informative and helpful and your site will be a winner.

Web Page Content

Before you attempt to write the content of a web page, you should first understand the purpose of your page. Don't make people guess what it's about. Conveying its purpose in a descriptive title at the start of the page is a good idea.

Decide what you want on the page and then write a draft copy. It might help if you act like you are writing for a speech or as if you were talking to somebody about what's on your page.

Don't worry too much at this stage what and how much text you write as you'll likely need to edit later to keep only relevant text and discard anything non-essential. You should aim for 200 to 500 words in your web page.

You have to ensure the document is clear so that it may be more easily understood. Using clear and simple language

promotes effective communication and benefits people whose native language differs from your own.

You should also appreciate your document is a standalone page on the web (but within the context of you web site). People may search for information exactly what your page is about. A web surfer might enter your site through this page but we have to use specific keywords within your text to match with a related search query.

By keeping your page focused on one topic and using the selected keyword or keyphrase within your text, your page stands a better chance of being ranked higher in search engines for that specific query.

There are lots of theories and opinions regarding 'page optimization' through use of keywords. We will likely explore this important area elsewhere but you have to understand its importance. We are principally writing for our human readers so we must still produce a well written, well edited web page document.

You should also understand the web page's relationship with the rest of your site. How does this page relate with other pages if somebody enters your site through any page other than your home page? You may have to consider some page navigation links within the pages if it forms a series etc (like much the planning section you are reading here).

The visitor entering via a web page within your site will not first see your home page. Commonly only your home page will convey the meaning of your web site so you should add some context within your pages to address the theme of your web site in general.

Some of the many considerations in writing quality and effective content for your web pages are:

- **Simplicity** - always strive for simplicity in your content. Readers should grasp your message immediately through use of easy to understand wording. Web readers scan pages so provide easily digestible chunks (sentences/paragraphs) of text.
- **Benefits** - always focus on the benefits for your reader. People are only interested in what's in it for them so you must clearly convey the reader's benefits through use of lists and well constructed bolded headlines.
- **Linkage** - support your text with links to other pages (within your own site or elsewhere) for further details.
- **Personality** - try and write in a friendly manner while maintaining a professional appearance. Convey empathy in your writing by making you text less impersonal. By making your content interesting and 'connecting' with your reader, you visitor will better understand, enjoy and respond to your content.

Writing quality and effective web content is a skilled job. You can ably do this yourself by reading more on the web, learning by common mistakes and practicing writing yourself. You can read more web content writing tips here to further your understanding of good web writing principles.

The following section takes a first look at web design styling considerations and how to present content information to your audience.

Web design style and web site styling

Web site style is defined through page layout, design and personalization of your site's web pages.

This section takes a first look at web design styling considerations and how to present content information to your audience.

We need to blend in with our target audience so once they arrive, they will feel right at home. Styling is really the combination of determining audience and content considerations. Now we know what our visitors are expecting when they arrive at our site, how are we going to present our site to them? In the need to envisage design thoughts for our site, we should appreciate:

- simplicity is king; always.
- web surfers are most comfortable with standard design techniques that they are used to.

When writing web page content, the document usually becomes part of a larger collection. It's important that the site follows a common structure so all documents are available in a logical place. Bear in mind each individual document will likely have its own structural considerations.

The style of a document helps a reader to browse through it, in order to find the information they are looking for. All documents should share the same style (i.e. all your pages should be of uniform design throughout the site). This makes it easier to understand any particular document, and to jump to related information.

Using the same template to create all documents will ensure each element is used for the same function in all documents. This also helps maintaining the documents in the long term because all documents share the same markup (page coding) style.

Once your visitor has made a decision to stay, draw their attention to what you feel they should see first; in other words, guide them through your site. Styling is personal but you must make it appealing to your target audience for effective results.

It's beneficial to surf around to get ideas from other sites on how they present site content to their audience. It's best to research sites of similar nature as your own as the content will be comparable. Remember, your site must have its own unique identity which is why you can't copy exact content and design from other sites.

As previously mentioned in this series, no one single approach is right. All web sites should reflect their own personality in the theme they are projecting. Styling is personal to the site owner and by being creative and working within accepted design considerations mentioned above, your site will be working to the full potential of its goals.

Next we look at web design budgetary considerations. Knowing how much capital (money) you can commit to with the start up of your site, will determine what is possible to get online.

Lesson 4 – Assignment

1) Trace the history of Internet and World Wide Web?
2) Define the goals of your personal home page?
3) What's the objective of your personal home page?

Summary

This lesson gave you a brief history of Internet and World Wide Web. Then we moved on to setting your websites goals and objective. Finally we ended the lesson with the checklist for the planning for your website. I hope you understood the topics covered. Before we go the next lesson, following are the reference books & websites for this lesson, if you intend to learn more.

http://www.learnthenet.com

http://www.techsoup.org/

Notes

LESSON 5:
The First Step–2

Topics Covered

- Planning for the website, knowing your audience, specifying site/page design critique, computer lab with introduction to HTML, your first web page.

Objectives

Upon completion of this lesson, you should be able to:

- Planning for your home page?
- Knowing your audience.
- Specifying your site/page design
- Introduction to HTML
- Saving and viewing HTML pages
- HTML tags
- Your first web page

Keys of Building Web Sites

Planning a Web site is a two-part process: first you gather your development partners, analyze your needs and goals, and work through the development process outlined here to refine your plans. The second part is creating a site specification document that details what you intend to do and why, what technology and content you'll need, how long the process will take, what you will spend to do it, and how you will assess the results of your efforts. The site specification document is crucial to creating a successful site, as it is both the blueprint for your process and the touchstone you'll use to keep the project focused on your agreed goals and deliverables

Planning

Web sites are developed by groups of people to meet the needs of other groups of people. Unfortunately, Web projects are often approached as a "technology problem," and projects are colored from the beginning by enthusiasms for particular Web techniques or browser plug-ins (Flash, digital media, XML, databases, etc.), not by real human or business needs. People are the key to successful Web projects. To create a substantial site you'll need content experts, writers, information architects, graphic designers, technical experts, and a producer or committee chair responsible for seeing the project to completion. If your site is successful it will have to be genuinely useful to your target audience, meeting their needs and expectations without being too hard to use.

Although the people who will actually use your site will determine whether the project is a success, ironically, those very users are the people least likely to be present and involved when your site is designed and built. Remember that the site development team should always function as an active, committed advocate for the users and their needs. Experienced committee warriors may be skeptical here: these are fine sentiments, but can you really do this in the face of management pressures, budget limitations, and divergent stakeholder interests? Yes, you can - because you have no choice if you really want your Web project to succeed. If you listen only to management directives, keep the process sealed tightly within your development team, and dictate to imagined users what the team imagines is best for them, be prepared for failure. Involve real users, listen and respond to what they say, test your designs with them, and keep the site easy to use, and the project will be a success

Know Your Audience

The next step is to identify the potential readers of your Web site so that you can structure the site design to meet their needs and expectations. The knowledge, background, interests, and needs of users will vary from tentative novices who need a carefully structured introduction to expert "power users" who may chafe at anything that seems to patronize them or delay their access to information.

A well-designed system should be able to accommodate a range of users' skills and interests. For example, if the goal of your Web site is to deliver internal corporate information, human resources documents, or other information formerly published in paper manuals, your audience will range from those who will visit the site many times every day to those who refer only occasionally to the site.

Site/Page Design Critiques

Each member of a site development team will bring different goals, preferences, and skills to the project. Once the team has reached agreement on the mission and goals of the project, consensus on the overall design approach for the Web site needs to be established. The goal at this stage is to identify potential successful models in other Web sites and to begin to see the design problem from the site user's point of view. Unfortunately, production teams rarely include members of the target audience for the Web site. And it is often difficult for team members who are not already experienced site designers to articulate their specific preferences, except in reference to existing sites. Group critiques are a great way to explore what makes a Web site successful, because everyone on the team sees each site from a user's point of view. Have each team member bring a list of a few favorite sites to the critique, and ask them to introduce their sites and comment on the successful elements of each design. In this way you will learn one another's design sensibilities and begin to build consensus on the experience that your audience will have when they visit the finished site.

Content Inventory

Once you have an idea of your Web site's mission and general structure, you can begin to assess the content you will need to realize your plans. Building an inventory or database of existing and needed content will force you to take a hard look at your existing content resources and to make a detailed outline of your needs. Once you know where you are short on content you

can concentrate on those deficits and avoid wasting time on areas with existing resources that are ready to use. A clear grasp of your needs will also help you develop a realistic schedule and budget for the project. Content development is the hardest, most time-consuming part of any Web site development project. Starting early with a firm plan in hand will help ensure that you won't be caught later with a well-structured but empty Web site.

Developing a Site Specification

The site specification is the planning team's concise statement of core goals, values, and intent, to provide the ultimate policy direction for everything that comes next. Designing a substantial Web site is a costly and time-consuming process. When you're up to your neck in the daily challenges of building the site, it can be surprisingly easy to forget why you are doing what you are, to lose sight of your original priorities, and to not know on any given day whether the detailed decisions you are making actually support those overall goals and objectives. A well-written site specification is a powerful daily tool for judging the effectiveness of a development effort. It provides the team with a compass to keep the development process focused on the ultimate purposes of the site. As such, it quickly becomes a daily reference point to settle disputes, to judge the potential utility of new ideas as they arise, to measure progress, and to keep the development team focused on the ultimate goals.

At minimum, a good site specification should define the content scope, budget, schedule, and technical aspects of the Web site. The best site specifications are very short and to the point, and are often just outlines or bullet lists of the major design or technical features planned. The finished site specification should contain the goals statement from the planning phase, as well as the structural details of the site.

Goals and Strategies

- What is the mission of your organization?
- How will creating a Web site support your mission?
- What are your two or three most important goals for the site?
- Who is the primary audience for the Web site?
- What do you want the audience to think or do after having visited your site?
- What Web-related strategies will you use to achieve those goals?
- How will you measure the success of your site?
- How will you adequately maintain the finished site?
- Production issues
- How many pages will the site contain? What is the maximum acceptable count under this budget?
- What special technical or functional requirements are needed?
- What is the budget for the site?
- What is the production schedule for the site, including intermediate milestones and dates?
- Who are the people or vendors on the development team and what are their responsibilities?

These are big questions, and the broad conceptual issues are too often dismissed as committees push toward starting the "real work" of designing and building a Web site. However, if you cannot confidently answer all of these questions, then no amount of design or production effort can guarantee a useful result.

Avoiding "scope creep"

The site specification defines the scope of your project - that is, what and how much you need to do, the budget, and the development schedule. "Scope creep" is the most prevalent cause of Web project failures. In badly planned projects, scope creep is the gradual but inexorable process by which previously unplanned "features" are added, content and features are padded to mollify each stakeholder group, major changes in content or site structure during site construction are made, and more content or interactive functionality than you originally agreed to create is stuffed in. No single overcommitment is fatal, but the slow, steady accumulation of additions and changes is often enough to blow budgets, ruin schedules, and bury what might have been an elegant original plan under megabytes of muddle and confusion.

Don't leap into building a Web site before you understand what you want to accomplish and before you have developed a solid and realistic site specification for creating your Web site. The more carefully you plan, the better off you will be when you begin to build your site.

One excellent way to keep a tight rein on the overall scope of the site content is to specify a maximum page count in the site specification. Although a page count is hardly infallible as a guide (after all, Web pages can be arbitrarily long), it serves as a constant reminder to everyone involved of the project's intended scope. If the page count goes up, make it a rule to revisit the budget implications automatically - the cold realities of budgets and schedules will often cool the enthusiasm to stuff in "just one more page." A good way to keep a lid on scope creep is to treat the page count as a "zero sum game." If someone wants to add pages, it's up to them to nominate other pages to remove or to obtain a corresponding increase in the budget and schedule to account for the increased work involved.

Changes and refinements can be a good thing, as long as everyone is realistic about the impact of potential changes on the budget and schedule of a project. Any substantial change to the planned content, design, or technical aspects of a site must be tightly coupled with a revision of the budget and schedule of the project. People are often reluctant to discuss budgets or deadlines frankly and will often agree to substantial changes or additions to a development plan rather than face an awkward conversation with a client or fellow team member. But this acquiescence merely postpones the inevitable damage of not dealing with scope changes rationally.

The firm integration of schedule, budget, and scope is the only way to keep a Web project from becoming unhinged from the real constraints of time, money, and the ultimate quality of the result. A little bravery and honesty up front can save you much grief later. Make the plan carefully, and then stick to it.

Internet Business Ideas

What Internet Business would you like to create and promote?

The Internet is a wonderful medium for business. You have the entire world as your market, you can operate from anywhere within it and if you choose your product or service carefully, you have low operating costs. Once you start thinking along these lines and particularly compared to 'real world' costs and limitations, you'll begin to understand how there's nothing like it. So think objectively how you can become a success in this remarkable opportunity.

The creation of your own web site should be built on a theme or topic that appeals to you passionately or that you are very knowledgeable about. Whilst you can start an Internet business site on any conceivable topic, one that fits the above criteria will yield more enjoyment and/or success. I have listed some web site starter ideas below to stimulate your thinking process.

- Cooking With everyone in a hurry these days, provide a resource to address people's busy lifestyles in food management, planning and recipes etc. How do you do it successfully?
- Computer :Computing and the Internet are opening up to different generations now, target the right market with tutorials and resources and you could be on to something big!
- Crafts**:**Share your unique way of craft-making or interest about your favorite craft.
- Culture**:**From or have some involvement in an unique culture? Be the leading knowledge on it!
- Entertainment**:**Your local area may benefit from an informative entertainment site, special events in your town or surrounding areas, etc.
- Exercise**:** We are all probably guilty of not doing enough of it, or done correctly; could your program or expertise benefit others in some way?
- Fashion**:**A fashion guru or got your finger of the fashion pulse? Be a fashion source!
- Gardening**:**A real green fingers? Tell the world your love or special interest and share some of your gardening secrets, a very popular but difficult subject to master! Be the answer!
- Handy Work**:**Maybe you can offer great tips for fixing things around the house. Who couldn't use your expert experience?
- Interior Decorating •Some are good at it, most are not; make it simple for the mass that are not, provide tips, tutorials and resources from your hard earned experience)
- Men's Issues (have a large circle of friends? What problems come up all the time [other than women!], address these problems in your own site and you could be onto a winner.
- Movies **:**Enjoy going to the movies? Or now with home entertainment the buzz, share your knowledge or expertise in this area.
- Music **:**Music lovers will adore you for building a resource site for music lyrics, musical instruments and where to get them, music reading tips, etc... this is a big area.
- Office Organization**:** You'll find that people who run a busy office are always looking for ways to improve the office atmosphere. You can show how to organize, prepare paperwork, manage and distribute work load, etc.
- Parenting Tips**:**First time parents need all the help they can get, how can your parenting experience help them?
- Pets **:**Exotic breeds, training, care etc.
- Problem solver**:**Who doesn't have a problem? The greatest success can be providing an answer to people's problems. Think about the people's problems around you and how you could address their needs.
- Retirement**:**It's a growing [no pun intended] area. How should we prepare for it, what do need to know. Provide information about successful retirement, best retirement locations in the world, money management, etc.
- School Work helper**:**Be an inspiration to many who might need your expert help!
- Special Interest**:**Perhaps you're a huge fan of a certain collectible item and would like to provide a list of resources about the item.
- Sports **:**Who doesn't like some sports? Be a knowledge king or queen in your passionate field. Sharing help, knowledge and resources in your field of interest could be a help to thousands?
- Time management**:**Lead a busy lifestyle but have it under control? Share your secrets and help others, help themselves; this is an area that is getting more important in life.
- Volunteer **:**Your free time will be valuable to your organization. You can a site for your favorite organization and help fulfill it's purpose on the Net. Web-Designz gives special consideration to such groups.
- Women's Issues**:**Have a large circle of friends? What problems come up all the time [other than men!], address these problems in your own site and you could be onto a winner. And the list goes on...

Computer Lab

Let's Get Started

At first here are the basic requirements, what you need:

1. A browser like Netscape Navigator, Microsoft Internet Explorer, or Opera. If you're looking at this page, you obviously have one. I would also suggest using a browser that supports images. If you surf with LYNX or CELLO, or another text-only browser, then try upgrading to one of the browsers noted above. Each name is linked to the download site for that browser.
2. A word processor. If you have access to Windows "Notepad" or "WordPad" programs or the MAC "Simple Text" program, use that to get started.

What is HTML?

H-T-M-L are initials that stand for **H**yper**T**ext **M**arkup **L**anguage (computer people love initials and acronyms - you'll be talking acronyms ASAP). Let me break it down for you:

- **Hyper** is the opposite of linear. It used to be that computer programs had to move in a linear fashion. This before this,

this before this, and so on. HTML does not hold to that pattern and allows the person viewing the World Wide Web page to go anywhere, any time they want.

- **Text** is what you will use. Real, honest to goodness English letters.
- **Mark up** is what you will do. You will write in plain English and then mark up what you wrote. More to come on that in the next Primer.
- **Language** because they needed something that started with "L" to finish HTML and Hypertext Markup *Louie* didn't flow correctly. Because it's a language, really — but the language is plain English.

Beginning to Write

You will write the HTML document on the word processor, or Notepad, WordPad, or Simple Text. When you are finished creating the HTML document, you'll then open the document in a browser, like Netscape Navigator. The browser will interpret the HTML commands for you and display the Web page.
Let's get into the programs you will use to write your HTML document. Keep this in mind: HTML documents must be text only. When you save an HTML document, you must save only the text, nothing else.

Creating a new html Document

Creation of an HTML document is carried out in much the same way as you create any plain text document. The steps involved are:

Open the Text editor.

Start the new document. (If you are using Windows or Macintosh, choose File —> New. If you are using Unix, type vi or pico to start the editor.
Enter the HTML code and text you want to include.
Save the document. If you are using Windows or Macintosh, choose File—> Save or File—> Save As.

Saving an html document

If you are not using text-only editor such as Notepad or TeachText, verify that the file type is set to Text or ASCII (or HTML, if that's an option). If you are using word-processing programs to create HTML documents, save your documents as HTML, Text Only, ASCII, DOS Text, or Text with Line Breaks depending on the word processor you are using.
Name the file with an htm or html extension.
Use only letters, numbers, hyphens (-), underscores (_), and periods (.) in your filename. Many browsers also accept spaces in the file names; however avoid using spaces as spaces often make creating of links difficult.
Save the document and the rest of the documents and files associated with a particular project in one folder. This will make using links, images and other advanced effects easier.

Viewing an html document

Viewing of the HTML documents that you create is as simple as opening them from your local hard-drive in your browser. The steps involved are:
Choose File © Open, and type the local file name or browse your hard drive until you find the file you want to open. Your particular menu commands might be File—> Open Page or File—> Open File both are same.
Select the file, and click OK to open it in your browser.

Tags and attributes

HTML is made up of Tags and Attributes, which work together to identify document parts and tell browsers how to display them. Tags distinguish between information that is to be displayed as paragraph or heading etc.
Attributes are optional parts of Tags, which specify information in Tags, such as color, alignment, height, width etc.

HTML Tags

HTML works in a very simple, very logical, format. It reads like you do, top to bottom, left to right. That's important to remember. HTML is written with TEXT. What you use to set certain sections apart as bigger text, smaller text, bold text, underlined text, is a series of tags.

Think of tags as commands. Let's say you want a line of text to be bold. You will put a tag at the exact point you want the bold lettering to start and another tag where you want the bold lettering to stop. If you want just a word to be italic, you will place a start italic tag at the beginning of the word and an end italic tag at the end of the word. Is this making sense so far?

Your First Exercise-writing Your First Page

You will start every page with this tag: <HTML>
That makes sense. You are denoting that this is an HTML document.

Your next tags will always be these: <TITLE> and </TITLE>
see the very top of this page? I mean way up top. Above the file -edit-view menus. The colored bar up there. Right now it reads "basic html: Tags" that's the title of the page and that's what you are denoting here. Whatever you put between these two tags will show up in the title bar way at the top.

Finally, you'll end every page you write with this tag: </HTML>
Get it? You started the page with HTML and you will end the page with /HTML. That makes sense again

Example of basic HTML document Structure...

```
<html>
<head><title>Title goes here</title></head>
<body>Body goes here</body>
</html>
```

Note: Extra spaces and line breaks (blank lines) will be ignored when the HTML is interpreted... so add them if you wish to do so.
Whatever falls between the TITLE tags will be the title of the document, when the page is viewed it is usually found in the title bar at the top of the screen. (On Windows Machines, this is to the left of the maximize/minimize buttons at the very top of the window.)
[**Note:** You may NOT use other tags within the TITLE tags (Example: You cannot have the code read: <title>title goes here</title>.]
Example of how titles are viewed...
In Microsoft Internet Explorer...

Whatever you place between the BODY tags will fall into the major area of the document window, and therefore it is the largest part of your HTML document.

Try it Yourself!

Try typing this:

```
<html>
<head><title>Title goes here</title></head>
<body>Body goes here</body>
</html>
```

Now follow the instruction regarding saving and opening HTML files. Check the result.

Notes

LESSON 6:
Site Development Process

Topics Covered

- Site definition and planning, checklist for site production, site marketing, Site Tracking, evaluation, and maintenance.

Objectives

Upon completion of this lesson, you should be able to:

- Build your home page production checklist.
- How to market your site?
- Tracking and evaluating your web site.
- Web site maintenance
- More common HTML tags: heading, horizontal rules lines.

The Site Development Process

Every significant Web project poses unique challenges, but the overall process of developing a complex Web site generally follows six major stages:

1. Site definition and planning
2. Information architecture
3. Site design
4. Site construction
5. Site marketing
6. Tracking, evaluation, and maintenance

Developing a large Web site is a process that may have far-reaching budgetary, personnel, and public relations consequences for an organization, both during the development of the site and long after its successful deployment. Too many Web sites begin life as ad hoc efforts, created by small interest groups working in isolation from their peers elsewhere in the organization and without fully considering the site's goals within the context of the organization's overall mission. The result of poorly planned, hasty development efforts often is an "orphan site," starved of resources and attention.

As you consider the development process outlined below, note that the construction of the pages that make up the Web site is one of the last things that takes place in a well-designed project. Consider each step in the process, and its impact on your developing site specification plan. Think before you act, and make sure you have the organizational backing, budget, and personnel resources you'll need to make the project a success.

Site Definition and Planning

This initial stage is where you define your goals and objectives for the Web site and begin to collect and analyze the information you'll need to justify the budget and resources required. This is also the time to define the scope of the site content, the interactive functionality and technology support required, and the depth and breadth of information resources that you will need to fill out the site and meet your reader's expectations. If you are contracting out the production of the Web site, you will also need to interview and select a site design firm. Ideally, your site designers should be involved as soon as possible in the planning discussions.

Site Production Checklist

Not every site will require consideration of every item below. Developers within corporations or other large enterprises can often count on substantial in-house technology support when creating new Web sites. If you are on your own as an individual or small business, you may need to contract with various technology and design vendors to assemble everything you'll need to create a substantial content site or small e-commerce site.

Production

- Will your site production team be composed of in-house people, outside contractors, or a mix of the two?
- Who will manage the process?
- Who are your primary content experts?
- Who will be the liaison to any outside contractors?
- Who will function long-term as the Webmaster or senior site editor?

Technology

- What browsers and operating systems should your site support?
    - Windows, Macintosh, UNIX, Linux
    - Netscape Navigator, Internet Explorer; minimum version supported
- Network bandwidth of average site visitors
    - Internal audience or largely external audience?
    - Ethernet or high-speed connections typical of corporate offices
    - ISDN, or DSL medium-speed connections typical of suburban homes
    - Modem connections for rural, international, or poorer audiences
- How will readers reach the support personnel?
    - Email messages from readers
    - Chat rooms, forums, help desks, or phone support
- Database support?
    - User log-ins required to enter any site areas?
    - Questionnaires required?
    - Search and retrieval from databases needed?
- Audiovisual content
    - Video or audio productions?

Budgeting

- Salaries and benefits for short-term development staff and long-term editorial and support staff
    - Hardware and software for in-house development team members
    - Staff training in Web use, database, Web marketing, and Web design
- Outsourcing fees
    - Site design and development
    - Technical consulting
    - Database development
    - Site marketing
- Ongoing personnel support for site
    - Site editor or Webmaster
    - Ongoing server and technical support
    - Database maintenance and support
    - New content development and updating

Appoint a Site Editor

A site that is "everyone's responsibility" can quickly become an orphan. A maintenance plan should specify who is responsible for the content of each page in the site. To maintain consistent editorial, graphic design, and management policies you'll also need one person to act as the editor of the overall Web site. The site editor's duties will vary according to how you choose to maintain your site. Some editors do all the work of maintaining site content, relieving their coworkers of the need to deal directly with Web page editing. Other editors coordinate and edit the work of many contributors who work directly on the site pages. If multiple people contribute to site maintenance, the site editor may choose to edit pages after they are created and posted to avoid becoming a bottleneck in the communications process. However, high-profile public pages or pages that contain very important content should be vetted by the editor before public posting.

In addition to ensuring editorial quality, a site editor must also ensure that the content of the site reflects the policies of the enterprise, is consistent with local appropriate use policies, and does not contain material that violates copyright laws. Many people who post pictures, cartoons, music files, or written material copied from other sites on their own sites do not understand copyrights and the legal risks in using copyrighted materials inappropriately. A site editor is often an institution's first line of defense against an expensive lawsuit over the misuse of protected material.

Site Mmarketing

Your Web site should be an integral part of all marketing campaigns and corporate communications programs, and the URL for your site should appear on every piece of correspondence and marketing collateral your organization generates.

If your Web site is aimed primarily at local audiences you must look beyond getting listed in standard Web indexes, such as Yahoo and Infoseek, URL and publicize your URL where local residents or businesses will encounter it. Local libraries (and schools, where the content is relevant) are often the key to publicizing a new Web site within a localized geographic area.

You may also find opportunities to cross-promote your site with affiliated businesses, professional organizations, broadcast or print media, visitor or local information agencies, real estate and relocation services, Internet access providers, and local city or town directory sites. Your organization could also feature local nonprofit charitable or school events on your Web site. The cost in server space is usually trivial, and highly publicized local events featuring a Web page hosted within your site will boost local awareness of your Web presence. Site sponsorship might also interest local broadcast media as an interesting story angle.

Your home page URL should appear in all:

- Print advertisements
- Radio and television advertisements
- Lobby kiosks in high-traffic areas of your enterprise or in local libraries, schools, or other suitable venues
- Direct mail campaigns
- Business cards
- Stationery
- Bills and statements
- Product manuals and product packaging
- Response cards and warrantee cards
- Publications and promotional materials
- Press releases
- Posters and billboards
- Tracking, evaluation, and maintenance

An abundance of information about visitors to your site can be recorded with your Web server software. Even the simplest site logs track how many people (unique visitors) saw your site over a given time, how many pages were requested for viewing, and many other variables. By analyzing the server logs for your Web site you can develop quantitative data on the success of your site. The logs will tell you what pages were the most popular and what brands and versions of Web browser people used to view your site. Server logs can also give you information on the geographic location of your site readers. The usefulness of your site logs will depend on what you ask of the server and the people who maintain the server. Detailed logs are the key to quantifying the success of a Web site. Your Webmaster should archive all site logs for long-term analysis and should be prepared to add or change the information categories being logged as your needs and interests change.

A number of popular software packages are designed to produce easily readable site traffic reports, complete with data graphics and charts to aid in data analysis. As a service to customers, site hosting companies often offer reports from popular site analysis programs like WebTrends, often free of charge. Before contracting with an Internet Service Provider (ISP) for site hosting services, always ask about site analysis services. If your ISP or corporate Web site does not offer a good site traffic analysis package, ask whether the Webmaster can give you access to a monthly server log of your account.

Basic versions of traffic analysis programs like WebTrends cost about three hundred dollars, and you can run them on a personal computer if you can gain access to the raw Web server log from your ISP or corporate Webmaster.

Maintaining the Site

Don't abandon your site once the production "goes live" and the parties are over. The aesthetic and functional aspects of a large Web site need constant attention and grooming, particularly if a group of individuals shares responsibility for updating content. Someone will need to be responsible for coordinating and vetting the new content stream, maintaining the graphic and editorial standards, and assuring that the programming and linkages of all pages remain intact and functional. Links on the Web are perishable, and you'll need to check periodically that links to pages outside your immediate site are still working. Don't let your site go stale by starving it of resources just as you begin to develop an audience — if you disappoint them by not following through it will be doubly difficult to attract them back.

Backups and Asite Archives

The site editor should be sure that the Web site is regularly backed up onto a secure and reliable storage medium to ensure that a catastrophic hardware failure in your Web server does not wipe out your Web site. Most Web servers maintained by information technology professionals or commercial Web service providers are backed up at least once a day. If you don't know what your particular backup schedule is, ask your

ebmaster or Web services vendor. Human error is the most common reason you may want quick access to a backup copy of your Web site. Unfortunately, it's easy to accidentally overwrite an old file (or a whole directory of files) over a newer version on the Web server, to delete something important in error, or to inadvertently wipe out someone else's work when updating a Web site. A recent backup (ideally no more than twenty-four hours old) can often be a lifesaver in correcting a mistake.

If your site is successful, it will quickly become an important record of your enterprise's work, your accomplishments, and a valuable record of the "state of things" as the site evolves over time. Unfortunately, too little attention is paid to this aspect of Web sites, and we are collectively losing huge pieces of our history because no one thinks about preserving permanent records of a Web site. Unless your Web site is prohibitively large, your Web site editor could arrange to collect and store the files of the site periodically or contract with your Web service provider to set aside a backup version at regular intervals so that it can be stored for long-term use. We take for granted the "paper trail" of history left by conventional business and work practices. Without a plan for preserving our digital works, our collective history may vanish without a trace.

Computer Lab

Evaluation of Last Exercise

Your first web page using <HTML>,<HEAD>,<TITLE> & <BODY> tags.
Now we move on to other HTML tags.

More Common HTML tags

Headings...

Headings are some of the most important tags within the BODY of your HTML document. You will usually use a heading to tell what the following section of your page is about. The opening tag for a heading is <hy> and the closing tag is </hy> with *y* being the size of the heading... from 1 to 6. (1 being largest, and 6 being smallest)

Example of heading tags...

Bob fell over the chicken. [H1]

<h1>Bob fell over the chicken. [H1]</h1>

Bob fell over the chicken. [H2]

<h2>Bob fell over the chicken. [H2]</h2>

Bob fell over the chicken. [H3]

<h3>Bob fell over the chicken. [H3]</h3>

Bob fell over the chicken. [H4]

<h4>Bob fell over the chicken. [H4]</h4>

Bob fell over the chicken. [H5]

<h5>Bob fell over the chicken. [H5]</h5>

Bob fell over the chicken. [H6]

<h6>Bob fell over the chicken. [H6]</h6>

Horizontal Ruled Lines...

Horizontal Ruled Lines are used to separate different areas of a web page. The tag for a horizontal ruled line is <hr>. The horizontal ruled line DOES NOT have a closing tag. You may also add certain attributes to the <hr> tag, such as WIDTH=n (for fixed pixel width) or WIDTH=n% for a certain percentage of the screen wide, SIZE=n to make the line a certain pixel amount thick, and NOSHADE to turn the line's shading off. A plain <hr> with no attributes will make the line the full width of the screen.

Example of horizontal ruled lines...

<hr width=50>

<hr width=50%>

<hr size=7>

<hr noshade>
You may also use several attributes within one tag...

<hr width=50% size=10 noshade>

Try it Yourself! – 2

Try typing this:

```
<html>
<head><title>Title goes here</title></head>
<body>
<h1>Body goes here</h1>
<hr>
<h3>Headings are kewl!</h3>
</body>
</html>
```

Check the result

Assignment

1. Trace the history of Internet and World Wide Web?
2. Define the goals of your personal home page?
3. What's the objective of your personal home page?
4. Plan for your personal home page?
5. Specify your site/page design, try to visualize them
6. Develop your website specification list?
7. What is HTML? Why learn it?
8. What are basic HTML tags?
9. Develop your first web page?
10. Build a site production checklist for your website?
11. Write a web page using heading tag?
12. Write a WebPages using horizontal ruler tag?

Notes

LESSON 7:
Interface Design Issues

Topics Covered

- Web page design versus conventional document design, Guidelines for Web document design & Style, More readings, More common tags in HTML and Text formatting tags.

Objectives

Upon completion of this lesson, you should be able to:

- Differentiate between conventional document design & Web page design
- Check the guidelines for Web Document design
- Write more common HMTL tags like paragraph
- Format your webpage with text formatting tags.

Users of web documents don't just look at information, they interact with it in novel ways that have no precedents in paper document design. The graphic user interface (gui) of a computer system comprises the interaction metaphors, images, and concepts used to convey function and meaning on the computer screen. It also includes the detailed visual characteristics of every component of the graphic interface and the functional sequence of interactions over time that produce the characteristic look and feel of web pages and hypertext linked relations. Graphic design and visual "signature" graphics are not used simply to enliven web pages - graphics are integral to the user's experience with your site. In interactive documents graphic design cannot be separated from issues of interface design.

Web page design versus conventional document

Design

Concepts about structuring information today stem largely from the organization of printed books and periodicals and the library indexing and catalog systems that developed around printed information. The "interface standards" of books in the English-speaking world are well established and widely agreed-upon, and detailed instructions for creating books may be found in such guides as The Chicago Manual of Style. Every feature of the book, from the contents page to the index, has evolved over the centuries, and readers of early books faced some of the same organizational problems that users of hypermedia documents confront today. Gutenberg's Bible of 1456 is often cited as the first modern book, yet even after the explosive growth of publishing that followed Gutenberg's invention of printing with movable type, more than a century passed before page numbering, indexes, tables of contents, and even title pages became expected and necessary features of books. Web documents are undergoing a similar evolution and standardization.

Design Precedents in Print

Although networked interactive hypermedia documents pose novel challenges to information designers, most of the guidance needed to design, create, assemble, edit, and organize multiple forms of media does not differ radically from current practice in print media. Most Web documents can be made to conform to The Chicago Manual of Style conventions for editorial style and text organization. Much of what an organization needs to know about creating clear, comprehensive, and consistent internal publishing standards is already available in such publishing guides as the Xerox Publishing Standards: A Manual of Style and Design. Don't get so lost in the novelty of Web pages that basic standards of editorial and graphic design are tossed aside.

Guidelines for Web Document Style & Design

The following items are offered for consideration when designing Web documents. These are only general guidelines - you should decide whether they are appropriate for a given situation.

Contextual Information

- Clearly identify the host institution and author
- Clearly identify dates (e.g., origin, expiration, last update)
- Provide details of the copyright status of materials
- Provide background information about the server/host organization
- Place local resources in the context of other relevant data
- Clearly identify:

Which information is local;

h. Which is mirrored (replicated) from another site; and

i. which is a link to another site

Accessibility

- Make it accessible from several entry points
- Have URLs approximating natural language
- Have reasonably short URLs
- Make sure it displays well in different browsers
- Serve it from a fast computer on a fast network link (ideally)
- Have it available 24 hours/day, 7 days/week, all year
- Keep it in one location (try not to move it to another server or directory)

Structure & Organization

- Structure your information to take advantage of the hypertext environment; that is, don't put everything on one page, break it into pieces that can logically stand on their own and link to them.
- Don't have "dead" links

- Don't use "click here" for links
- Don't have links to documents lacking information (under construction)
- Don't contain superseded or out-of-date information
- Label links well (make them descriptive and accurate)
- Strive for high "scan ability" - the ability to scan a page and quickly see what is available from it

Format & Editing

- Be thankful for anything you can cut
- Create a document that is legible and well-formatted on many of the most widely used clients
- Design esthetically and professionally
- Make appropriate use of upper and lower case characters
- Make minimal use of all upper case characters, underlines, and "blink"
- Spell accurately and use good grammar
- Create and maintain a consistent look and feel

HTML Markup

- Tag according to HTML standard specifications and draft standards as much as possible; if proprietary tags are used, use only ones that have no harmful consequences for other Web browsers.
- Tag legibly (i.e., tags all in uppercase contrast well with mixed-case document text)
- Use blank lines to segregate logical document components for HTML readability

Images

- Use images that directly relate to the topic of the page
- Use image processing techniques for minimizing image file size.
- Use small images (thumbnails) linked to larger versions when appropriate so the user can decide whether to wait for the larger image to download.
- Use the ALT attribute of the IMG tag for those who choose not to load images and for non-graphical browsers.
- Use the WIDTH and HEIGHT attributes of the IMG tag so that the browsers that support these attributes can display the text right away before the images are completely downloaded.

More Reading

Communication, Document Design and the World Wide Web

Carole Meyers
Delivered at the Annual Meeting of the College English Association, New Orleans, LA, April 1996.

Abstract
This paper describes an assignment used in a Technical Writing course. Instead of presenting a traditional technical report, students create World Wide Web pages using information gathered from the Internet. By asking them to master both their report topic and Hyper Text Markup Language, the assignment helps to accustom students to their social role as professional experts. Furthermore, the experience they gain in working with Web documents enhances their sensitivity toward the contextual nature of communication, allowing them to become more skilled communicators in other media.

Overview: From Text to Web

This paper describes an assignment involving the World Wide Web used in a Technical Writing class at the Georgia Institute of Technology. The course is intended to introduce students to professional communication, and it ideally serves to ease the transition from college to workplace writing. Traditionally, the course culminates in a technical report written by a group of four or so students. They identify and research a local problem or need and write a ten-page report proposing a solution. The assignment's goal is to provide students with both practice in designing a document that presents information persuasively and experience in speaking as an expert, a role that most Tech students will have quickly to assume once in the workplace. I use the same basic assignment but ask students to create World Wide Web pages.

The translation from paper to an electronic medium has a number of advantages. First and foremost, students are engaged by designing Web documents in a way they are not by a traditional print report. Keith Kilpatrick, a student last summer, noted that "Writing hypertext was more fun than writing a normal paper because we had more 'freedom' to express ourselves and convey our information." Second, the demands of designing for the Web are high. As I will discuss momentarily, designing good documents for the Web forces students not only to address significant technical issues but also to hone their skills in communication in order to entice the fickle Web user. Finally, the fact that the projects are accessible to friends and family in distant places, as well as to prospective employers, definitely encourages more thoughtful and polished work than that found in text reports. Just by virtue of being "published," even if they are never looked at by anyone outside of class, these documents become more significant in the eyes of their authors.

Web Weaving...

One of the challenges of using the WWW is that it takes significant time to understand both the nature of this network of distributed information and its implications. I try to accustom students to the Web by posting assignments on it and by including references to Internet and Web resources in our discussions of document design, graphics, correspondence, and job searches. In past quarters I have also required students to conduct a scavenger hunt for specific material on the Web, but as more and more students know the Web coming into my class, this more general introduction seems less necessary. It is a demonstration of the Web's phenomenal growth-measured at 364,000% per year-that in the year that I've used this assignment, we've moved from the Web being unfamiliar to most of the class to most students having a good working knowledge prior to the course.

Still, their knowledge is limited to how to work Netscape—most are unfamiliar with the Internet's origins in the military,

the relationship of the Web to older Internet devices like ftp, gopher, and WAIS, and the fiber-optic technology supporting the global network. Because this information is necessary to be an informed Web author, I have students read and summarize articles on the Internet, the WWW, and Hypertext Markup Language, or HTML. Right before we enter the computer classrooms, I spend a class or two lecturing on basic concepts like the client-server model and the ways that files are referenced on the WWW. This extensive introduction takes significant time—students work outside of class for about two weeks and I lecture in class for a day or two—but it greatly smooths the transition into the computer lab by equipping students with a knowledge base that they can use when authoring their own Web pages. When I didn't provide this extensive an introduction, I spent the first two weeks in the computer classroom running around answering very basic questions that revealed fundamental misconceptions about the Internet, the WWW, and HTML.

Once in the classroom, the first goal is to get them using HTML to create a Web page. To script HTML, you can use any text editor — a word processor will do nicely — but to ease our introduction, we use an HTML editor for the Macintosh called Web Weaver, which is shareware and freely available off the Net. Web Weaver provides an easy entrance into HTML because it operates like a word processor and has user friendly buttons that insert HTML commands in much the same way that Microsoft Word buttons format text. During the first two or three classes, I demonstrate some basic commands and then leave them to create their documents. To focus students' efforts, the first HTML assignment is due about ten days after we enter the lab, and for that I ask that they write a home page describing them and their interests. In preparation, I provide a list of interesting home pages to look at as well as printouts of my page and the code used to create it. Looking at other people's HTML code is one of the best ways to learn it, and it's easy to do because in Netscape the "View Source" command lets you see the source code of any page. I frequently start class with a "Site of the Day" that contains some interesting technique or trick so that students are exposed to a wide variety of approaches and so that they increase their technical knowledge gradually.

After about a week, students have completed the basic layout of their home page which they store on a floppy disk. To make that page accessible on the WWW, we put it up on a server using a file transfer program called Fetch. Surprisingly enough, this process, or rather the idea of this process, causes great difficulty. Fetch is an extremely user friendly program, down to the running dog that is its icon, and students pick it up quickly, but the concept of the server is a difficult one. Frequently I get questions like "How can my group members get access to my file?" When I respond, "Put it on the server and you'll all have access," that idea takes awhile to sink in. I can only surmise that the other means of storage commonly used are either proprietary — you store a file on your disk or your computer — or tangible — you store a file on the hard drive of Library Mac #33. Of course, the server is just a computer, like Library Mac #33, but it is intangible, never seen and contacted only over a network. Those even technical students have difficulty conceptualizing what a server is and where their files are indicates how deeply we think of information in terms of its physical representation, and in terms of the ownership of that representation. It is for some disturbing that files stored on a server accessible via the Web are never "my" files or "your" files because they can be easily replicated by any client who requests them. This type of disorientation illustrates one of the biggest challenges for teachers using the Internet and the WWW: while the technical skills may be relatively easy to pick up, conceptual adjustments occur only over time.

Designing for the WWW

Once students have a sense of the options available in HTML, I start to use more class time for group discussion on criteria for designing Web pages. There are both functional and aesthetic concerns to address. In terms of function, we first consider the multiple browsers currently present and what that means for the web designer. While for many people the WWW and Netscape are synonymous, there are in fact a wide variety of web browsers out there. Some, like Lynx, display only text and all have a different capability, which in turn necessitates varied design strategies. For example, the large images that make Netscape pages look so appealing will mean nothing to someone running the text-only Lynx. In addition, even the graphical Web browsers, such as Mosaic, Netscape, and Explorer, support different HTML commands. Netscape's version 1.1, for instance, introduced its own HTML extensions that vastly increased the ability to direct the appearance of pages but which are only supported by Netscape. Thus, a page with beautiful presentation in Netscape can be distinctly unappealing in Mosaic. Currently, most pages are designed for Netscape, which holds between 60 and 80% of the Web market. That market, however, is rapidly expanding and changing with the introduction of browsers by the big online service providers, America Online, CompuServe, Prodigy, and Internet Explorer, Microsoft Network's browser. A final complication is the fact that evens the same program functions slightly differently depending on what platform you are using — Macintosh, Windows, or Unix. For example, a page designed using Netscape for Windows doesn't look the same in Netscape for the Macintosh. (This is partly due to differences in the software images and partly due to differences in the way platforms and individual machines handle images.) Ideally, an instructor would have access to all three platforms in one room to illustrate the differences.

In addition to addressing these challenges, designers must remember that people connect to the Web in different ways, the lucky with fast direct network connections and the home user usually with a modem that transmits at 14.4 bits/second. It takes a 14.4 modem approximately nine minutes to download a 1 megabyte image file, a delay that for the Web designer means minimizing the use and size of images. But it is big, bright, clickable images that attract people to the Web in the first place. So, the designer has to compromise, taking advantage of the possibilities offered by the most advanced software and network connections, but constructing alternatives for users with more limited access. Studies of computer users reveal that for routine computing tasks, delays need to be less than 20

seconds or the user becomes distracted and frustrated, so we evaluate the loading times of pages against this benchmark and propose alternative designs for slow-loading pages.

The WWW itself is the best teacher of what's possible and desirable or undesirable in Web design. After a lecture on functional and aesthetic issues, we spend a class period or two examining various good and bad pages and discussing what we like or don't like about them. This exercise is essential for solidifying functional issues like clear navigation and uniform document appearance as well as aesthetic concerns like managing backgrounds with taste. At this point, it is also helpful to explore alternatives to big image maps and to discuss ways to construct aesthetically pleasing pages that are nonetheless manageable in terms of size.

Because Web design is such a complex business, it is ideal for introducing students to the multiple constraints that characterize professional communication. To encourage consideration of those constraints, the final project requires documents that are both aesthetically pleasing and functional when viewed by different browsers, in this case Netscape and Lynx. Throughout the course, we emphasize the need to design for various browsers by looking at the same page via Mosaic and Lynx as well as Netscape, and I encourage those with access to other browsers to check their pages there as well. If all acts of communication are situated, then the technical aspects of the WWW make every act even more deeply contextualized, dependent on platform, program, network, and more. If students can translate the sensitivity toward context they gain by working with the Web, then they can become more aware and skilled communicators in other media as well.

Another positive aspect about using this assignment as opposed to a print one is that the technical constraints of the Web force students to take the task more seriously than they might a text report. This is particularly so at Georgia Tech, where Technical Writing is a required course that students have little interest in taking and that they expect to be easy. Not only does introducing them to the Web make them more excited about the class, but also the technical aspects of the Web encourage them to devote more attention and energy than they would to a text document. Students perceive that the skills they gain here are marketable and therefore worthwhile, unlike most English classes, of course. Adena Fullard, a graduating senior, wrote "Other friends of mine have to write long proposals (blah!). This [assignment] was fun, interesting and will be helpful in the real world of computer technology." Of course, the real world requires skills in communication as well as computers and in fact, Adena has done more than learn a few HTML tags this quarter. In mastering the technical limitations of the medium, students are forced to pay attention to basic concepts like audience and purpose, as well as visual design elements like color theory. In short, they have to take communication seriously and in so doing them significantly advance their abilities as communicators.

Designing a Graphical User Interface

by Leslie Cortes, MD
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Whether you aspire to develop the next big software hit or simply create computer applications for your personal and office use, your applications will need effective user interfaces to fulfill their potential. Designing such an interface is part discipline (following platform conventions and good design principles), part science (usability testing) and part art (creating screen layouts that are informative, intuitive and visually pleasing).

Tax preparation software illustrates the principles behind effective user interfaces better than almost any other type of application. Tax preparation is a one-time task, practically all the users are new to the program, and none of them will want or have time to read a manual. Despite this, millions of taxpayers, including many barely computer literate ones, manage to prepare their own tax returns on home computers. How is this possible?

The answer: functionality and interface. If functionality is what a program actually does, then interface is how the user interacts with the program, perceives how the program does its work. Concealing the details of a complex technology behind a good task-oriented interface is not a new concept. One does not have to understand the inner workings of an automobile to drive one, or how an ICU monitor works to run a strip.

Although pure text interfaces are still appropriate for some applications, nowadays most Windows and Mac programmers use the more popular and versatile graphical user interfaces (GUI). The hallmark of GUI programming lies in its graphical control features, such as toolbar buttons or icons. Unlike pure text interfaces which accept only keystroke commands, GUIs allow for a variety of input devices (such as a mouse or penlight) for the user to manipulate text and images as visually displayed. Web pages like this one employ a graphical interface, for example, by using image maps to help users navigate the site.

4. User-centered Design

In early days of computing, a good software program was one that worked. A great program was one that worked and expended the fewest computing resources. Creating a program was an engineering process, delivering a working solution given the programming constraints imposed by the last decade's computing environment. Computer programmers designed programs for use by other computer professionals and not the general public, so a generic interface permitting expeditious user input was the order of the day. The point of contact between the general population and the computer was not the software application but some output or printed report, such as a bank statement or lab results.

But in today's world, in which computer resources are abundant and computer users are usually non-programmers and computer neophytes, a good program is one that not only works but is also easy to learn. And a great program is one that works and is so user-friendly it does not even need to be learned! With this shift to non-programmers who need computers to perform many essential functions, the focus of software development has extended beyond the traditional

problem-centered task to center upon these users' needs.

From a user's perspective, the secret behind successful software is that it makes sense. To create sensible software, user-centered designers involve users throughout the development process. Unlike problem-centered programming, which first and foremost focuses on the task, user-centered designers begin by observing how users confront present manual and automated methods. Their goal is to understand users' work tasks, their mental models of those tasks, and the tools already familiar to them. Programming can then incorporate selected task-solving behaviors. An important component of this process is repeated cycles of user testing and refinement prior to releasing the software.

Most clinician-developers do not have a staff of developers, professional designers and usability testers. In fact, most clinicians develop applications by and for themselves, or for a small target audience such as their office staff. For individual developers, is the distinction between a problem-centered versus user-centered design rhetorical? The answer depends on how much you enjoy training new staffers, undoing their mistakes, and answering questions that result from their not understanding how your programs work. If your goal is to write applications that even a new staffer can use correctly without much training or supervision, you might shift your software development approach from problem-centered to user-centered: critically evaluate and discuss how the tasks are presently performed, decide what aspects should be mirrored by the interface, program the tasks with that interface as part of the blueprint, then allow the future users to finalize your work with comments and suggestions.

Affordances, Metaphors, and Manipulations

Real world objects have physical features, and some of those features lend themselves to human manipulation. The ways in which a particular object can be used are its affordances (afford = is for). A mouse button, for example, has one affordance: it can be depressed to produce a mouse button click. Its affordance is obvious; a button has no handle that can be pulled, so there isn't much chance a user would try to pull it.

The mouse itself, on the other hand, is an object with multiple affordances. While clearly fitting the human grasp it is not intuitively obvious that one must move it across a surface to perform its function - a fact warmly portrayed by futuristic Star Fleet engineer Mr. Scott as he first encounters a 20th century mouse in Star Trek IV - The Voyage Home. The mouse is easy to use, but only after all its affordances have been taught or discovered.

Successful developers exploit a user's knowledge of the affordances of real world objects to create visually meaningful and intuitive environments by using metaphors and analogies. The Macintosh trash can is a classic example. To discard real documents we throw them in the trash. To recover something tossed into the trash, we empty the trash can and pick through its contents. Further, in the real world we deal with objects using direct manipulation. We do not ask a trash can to empty itself, but we pick it up and empty it. Direct manipulation environments are achievable with GUIs using metaphors and analogies. Such design improves the user's interface dramatically, because they are more intuitively learned and retained than command environments, such as menus and buttons.

Study your users carefully. Look for metaphors that make sense to them. Create analogies to the affordances of the real world objects when it is helpful. Explore the direct manipulation techniques such as drag-and-drop mouse gestures that your platform supports. In this regard I find painting, drawing and image processing programs more illustrative (sic) than tax preparation software.

Ten Principles for Good GUI Design

1. The user must be able to anticipate a widget's behavior from its visual properties. Widgets in this context refer to visual controls such as buttons, menus, check boxes, scroll bars, and rulers. So let's call this the Principle of Consistency at the Widget Level. This principle stresses that every widget in your application should behave consistently. If one button responds to a single mouse click then every button should respond to a single click. In software development environments such as Delphi you can create your own widgets. If your application requires a new widget that behaves differently from a common or closely related widget, anticipate the confusion and give your new widget a distinctive appearance. Use metaphor affordances whenever possible to make your widget's appearance tell the user how that widget behaves.
2. The user must be able to anticipate the behavior of your program using knowledge gained from other programs. This is the Principle of Consistency at the Platform Level. Consistancy is important not only to visual elements like widgets but to abstractions such as mouse gestures, accelerator keys, placement of menus, and icons and toolbar glyphs. There are plenty of decisions regarding GUIs that are arbitrary and platform-specific. Obtain a good GUI application design guide for your target platform, and follow it. If you feel compelled to improve upon conventions, you will more than likely undo your "improvements" after users complain about them. If you are doing cross-platform development, maintain consistency with the host platform. Maintaining consistency with the host platform trumps achieving consistency of your application across platforms. Your users will change applications on the same platform far more frequently than they will run your application on different platforms.
3. View every user warning and error dialog that your program generates as an opportunity to improve your interface. Good GUI interfaces rarely need or use warnings and error dialogs. Exceptions include those that signal hardware problems such as a disk failure or lost modem connection, or warnings that ask the user's permission to perform an irreversible and potentially erroneous step. Otherwise, error dialogs in GUI interfaces represent interface design flaws. Prevent, don't complain about, user errors. The most common flaws arise from improperly formatted user input and inappropriate task sequencing. Design your program interface to help your users enter appropriate data. If your program requires

formatted data (dates, currency, alphanumeric only, or a particular numeric range) use bounded input widgets that appropriately limit the user's input choices. If a certain program step cannot be legitimately performed until your user completes other steps, disable the dependent step until all its dependencies are satisfied. Most GUI environments dim disabled widgets to signal that the widget cannot be selected. Use disabled widgets to limit user actions to those that are valid.

4. Provide adequate user feedback. Like the Consistency Principle, the Principle of User Feedback applies to widgets and to program activity. Widgets often provide visual feedback; click a button, and it briefly suggests it has been depressed. Click a check box and its new appearance alerts the user it has been selected or deselected. If you create your own widgets, be sure to provide users with visual feedback for each affordance. User feedback at the program level requires that users know whether a step is in progress or completed. Change the cursor (the Mac wristwatch or the Window hourglass) to indicate brief delays, and use progress bars to indicate progress of longer tasks. Design every screen in your application so a novice user can easily tell what steps, especially critical steps, have been performed.
5. Create a safe environment for exploration. Humans are born explorers. Great interfaces invite and reward exploration, and offer the novice both the thrill of discovery and the satisfaction of unassisted accomplishment. Some interfaces encourage users to explore unfamiliar features, others do not. By allowing users to undo or redo, you encourage them to explore your application without fear of corrupting the database. Undo/Redo capabilities also eliminate the need for dialogs requesting permission to perform a seemingly erroneous function. A good interface makes a user feel competent, while poor interfaces leaves the same user feeling incompetent.
6. Strive to make your application self-evident. Good applications have comprehensive manuals and online help materials explaining program features and how to use them to solve real world problems. Great applications are those whose novice users rarely need to refer to the manuals or online help. The difference between good and great is often the degree to which the application and its interface are self-evident. From your choice of labels and widget captions to the arrangement of widgets on the screen, every interface design decision you make needs to be tested by users. Your goal is to create an interface that needs no explanation. A pharmacy management system interface need not be self-evident to a newspaper editor, but it should be to every pharmacist.
7. Use sound, color, animation and multimedia clips sparingly. Sound, color, animation and multimedia presentations are appropriate for education or entertainment, but effective use in other applications is difficult. Most platforms have written conventions that describe the appropriate use of sound, color and animation. Follow them, and remember never to use color or sound as the sole means of communicating with the user (many users are colorblind or hearing-impaired). Remember that these components must pass the same usability tests as all other application features: include them only if they improve your users' ability to accomplish tasks. Returning to our example, tax programs may use multimedia clips to extend the utility of the software as part of their online educational strategy, for interested users seeking added tax information. They are a software asset because these clips are under user control and independent to the task of completing the tax forms.
8. Help users customize and preserve their preferred work environment. If your application will be installed and operated by a single user, preserving the work environment may be as simple as creating a few registry entries such as the window's latest size and position. However, applications designed for multiple users or installed on different computers must address additional issues. Most common among these are video issues — both hardware-specific involving the display (screen size, video resolution and color depth) and user-specific such as poor visual accommodation and acuity or colorblindness. Keep in mind that regardless of programming, the characteristics of the user's display will affect your application's appearance; your full-screen interface may look fine on a 14-inch VGA display, but will those 8-point Times-Roman labels and captions be legible on a 17-inch display at a resolution of 1152x864? One popular solution to any hardware irregularities or user preferences is to permit the user to tailor the basic interface. Common user-tailored details include fonts, toolbar location and appearance, menu entries, and (especially important for users with impairments) color and sound. It is helpful to give users a way to choose among several predefined schemes, and always include a way to return to the default color or sound scheme. If multiple users take turns using your application at a single workstation, consider recording preferences as user-specific profiles rather than as a single description of the application's appearance the last time it was run.
9. Avoid modal behaviors. Programs using modal behavior force the user to perform tasks in a specific order or otherwise modify the user's expected responses. Modal behaviors generally feel uncomfortable to the user because they restrict more intuitive or natural responses, but if consciously and thoughtfully applied they can be used to advantage. For example, "Wizard" type tools simplify complex tasks by modal behavior. Warnings and error messages are also typically modal, forcing users to first address a critical issue before returning to the task. Modality in this latter context is necessary but interrupts the user's concentration and goal-oriented behavior, and so is another reason to avoid unnecessary warning and error messages (see Principles 3 and 5 above). The best modal behaviors are subtle but not hidden, and come forth naturally as a consequence of the metaphor.

   In a typical painting program, for example, selecting a widget generally alters the subsequent function of the program and therefore results in modal behavior. Pick the brush widget, and you are ready to paint. Pick the letter stencil widget, and you type some text. Pick a shape widget, and you then draw

that shape. This rarely causes confusion because the modal behavior is based on a real world analogy; we already know that by selecting a drawing instrument we are limiting the color, texture and line thickness that will appear on our paper. Good interfaces reveal the palette selection at a glance, and change the cursor to provide additional visual feedback once a selection is made.So if your application absolutely requires modal behavior, bind that behavior to a strong metaphor and give your user visual feedback so the mode is natural and obvious.

10. Design your interface so that your users can accomplish their tasks while being minimally aware of the interface itself. We could call this the Principle of Transparency. Interface transparency occurs when the user's attention is drawn away from the interface and naturally directed at the task itself. It is the product of several factors, including a screen layout that puts both tools and information where the user expected them to be; icons and labels that are meaningful to the user; and metaphors (including gestures) that are easy for users to recognize, learn, remember, and perform. Choosing good metaphors and adhering to the above principles are an important start, but the most direct way to insure a transparent interface is to perform user testing throughout the program's creation.

    Following these 10 principles should help you create more effective, user-friendly interfaces while avoiding many design errors. Unfortunately, following sound design principles cannot alone guarantee success. It is entirely possible to create completely unworkable interfaces while strictly adhering to the rules. I know, because I have written a few of these, too.

Computer Lab

Other Common Tags And Text Formatting In Html

Paragraphs...

You will often use paragraphs in HTML, just as you do when you write stories. The opening tag for a paragraph is , and the closing tag is . The closing tag for a paragraph is not always needed, but I recommend using it anyway.

Example of a paragraph...

Bob starts to chase the chicken around. Bob trips over a string and goes flying into the pig's mud pit! eww! What a pity!

Bob starts to chase the chicken around. Bob trips over a string and goes flying into the pig's mud pit! eww! What a pity!

Text Formatting Properties...

If you had an entire web page without formatted text, it would look rather dull and boring. This is why we use text formatting tags. Some common text formatting tags are and for bold, and for italics, <u> and </u> for underlined, and <tt> and </tt> for typewriter. The and tags also come in handy.

Example of font tags...

Bob is a Cool Guy isn't he?

Bob is a Cool Guy isn't he?

The Line Break...

When your HTML document is viewed, normally the text will do a word-wrap at the end of a line. If you want to have the text BREAK (go to another line) you will use the <br> tag. This tag has no closing tag.

Example WITHOUT line Break...

Sentence One. Sentence Two. Sentence Three.

Sentence One.
Sentence Two.
Sentence Three.

Example WITH line Break...

Sentence One.
Sentence Two.
Sentence Three.

Sentence One.
Sentence Two.
Sentence Three.

Font Size Commands

Maybe you'd like a little more control over your text size. Well, here it is. The <FONT SIZE> commands. Heading commands are great for right at the top of the page, but these font commands are going to end up as the workhorses of your pages.

There are twelve (12) font size commands available to you:

+6 through +1 and -1 through -6.

As you've probably guessed, +6 is the largest (it's huge); -6 is the smallest (it's a little too small). Here are a few of them in action. There's no need to show all of them. You'll get the idea of their relative sizes. Follow this pattern to place one on your page.

<FONT SIZE="+3">This is +3</FONT>

<FONT SIZE="+1">This is +1</FONT>

<FONT SIZE="-1">This is -1</FONT>

<FONT SIZE="-6">This is -6</FONT>

Notice that this first command, <FONT SIZE="—"> is actually doing two things:

1. It's asking for a new font size...
2. then offering a number to denote the font size.

This is what I like to call a command inside of a command. The technical HTML term is an "attribute". When you have that, you denote the attribute with an equal sign and enclose it within quotation marks. Look above. See the equal sign and the plus or minus number in quotes? That's what I'm talking about.

Also notice that the end command for a <FONT SIZE="—"> tag only requires </FONT>. I should tell you now that there are two other attributes you can use inside the FONT tag: COLOR and FACE (these both have tutorials unto themselves. Take a look). But even if you use all three inside a FONT tag, you still only need one </FONT>.

Remember that an attribute is inside of a tag. When you use an end command, you are closing the tag, not the attribute. So you only need the one end tag, like above.

Centering Text

Since you've already done some writing you've no doubt noticed that the text that appeared in the browser window was justified to the left of the screen. That's what's known as the default. It just happens without your specifying any particular justification.

Notice that this text is centered on the page. It's done by surrounding the text you want centered with simple <CENTER> and </CENTER> commands.

Here's what it looks like:

<CENTER>

All text in here will be centered

</CENTER>

Text To The Right

Can you get text to the right? Sure. It's done by setting the text aside as a paragraph unto itself. I'm going to use the <P> command, but now I'm going to alter it. I'm going to add an attribute to it.

Here's the format:

<P ALIGN="right">Text in here is pushed to the right</P>

See how I added the ALIGN="right" attribute to the <P> command? Okay, but you also have to remember that if you add an attribute to a single tag like the <P> tag, or the <BR> tag (yes, there are attributes for BR), then you'll need to use an end tag. See the </P> up there?

If you're just using <P> to create a new paragraph, then it can sit all by its lonesome. But the moment you add an attribute=, you need to use the end tag.

Try it Yourself!-3

```
<html>
<head><title>Title goes here</title></head>
<body>
<h1 align=right>Body goes here</h1>
<hr>
<h3 align=center>Headings are kewl!</h3>
<p><b>Bold text is fun!</b><br>
<u>Underline is kewl too!</u></p>
</body>
</html>
```

Add all the other tags you learnt in this lesson, and check the result

Notes

LESSON 8:
INTERFACE DESIGN ISSUES-2

Topics Covered

- Making your web pages freestanding, what every web page needs, Accessibility and Fallback, Accessibility guidelines, Managing links and images in HTML

Objectives

Upon completion of this lesson, you should be able to:

- Make your WebPages freestanding
- Check accessibility for a website.
- Follow the Accessibility guidelines
- Making hyperlinks in your Web page using HTML codes
- Managing images in a web page using HTML codes

Make your web pages freestanding

World Wide Web pages differ from books and other documents in one crucial respect: hypertext links allow users to access a single Web page with no preamble. For this reason Web pages need to be more independent than pages in a book. For example, the headers and footers of Web pages should be more informative and elaborate than those on printed pages. It would be absurd to repeat the copyright information, author, and date of a book at the bottom of every printed page, but individual Web pages often need to provide such information because a single Web page may be the only part of a site that some users will see. This problem of making documents freestanding is not unique to Web pages. Journals, magazines, and most newspapers repeat the date, volume number, and issue number at the top or bottom of each printed page because they know that readers often rip out articles or photocopy pages and will need that information to be able to trace the source of the material.

Given the difficulties inherent in creating Web sites that are both easy to use and full of complex content, the best design strategy is to apply a few fundamental document design principles consistently in every Web page you create. The basic elements of a document aren't complicated and have almost nothing to do with Internet technology. It's like a high school journalism class: who, what, when, and where.

Who

Who is speaking? This question is so basic, and the information is so often taken for granted, that authors frequently overlook the most fundamental piece of information a reader needs to assess the provenance of a Web document. Whether the page originates from an individual author or an institution, always tell the reader who created it. The flood of Web sites propagating incorrect or intentionally misleading material on the Florida vote problems of the 2000 American presidential election offers a vivid example of how "information" of no known origin and of dubious authenticity can quickly cloud legitimate inquiry and discussion.

What

All documents need clear titles to capture the reader's attention, but for several reasons peculiar to the Web this basic editorial element is especially crucial. The document title is often the first thing browsers of World Wide Web documents see as the page comes up. In pages with lots of graphics the title may be the only thing the user sees for several seconds as the graphics download onto the page. In addition, the page title will become the text of a browser "bookmark" if the user chooses to add your page to his or her list of URLs ("Universal Resource Locator," the formal term for Web addresses). A misleading or ambiguous title or one that contains technical gibberish will not help users remember why they bookmarked your page.

When

Timeliness is an important element in evaluating the worth of a document. We take information about the age of most paper documents for granted: newspapers, magazines, and virtually all office correspondence is dated. Date every Web page, and change the date whenever the document is updated. This is especially important in long or complex online documents that are updated regularly but may not look different enough to signal a change in content to occasional readers. Corporate information, personnel manuals, product information, and other technical documents delivered as Web pages should always carry version numbers or revision dates. Remember that many readers prefer to print long documents from the Web. If you don't include revision dates your audience may not be able to assess whether the version they have in hand is current.

Where

The Web is an odd "place" that has huge informational dimensions but few explicit cues to the place of origin of a document. Click on a Web link, and you could be connected to a Web server in Sydney, Chicago, or Rome — anywhere, in fact, with an Internet connection. Unless you are well versed in parsing URLs it can be hard to tell where a page originates. This is the *World Wide* Web, after all, and the question of where a document comes from is sometimes inseparable from whom the document comes from. Always tell the reader where you are from, with (if relevant) your corporate or institutional affiliations.

Incorporating the "home" URL on at least the main pages of your site is an easy way to maintain the connection to where a page originated. Once the reader has saved the page as a text file or printed the page onto paper, this connection may be lost. Although newer versions of the most common Web browsers allow users to include the URL automatically in anything they print, many people never take advantage of this optional feature. Too many of us have stacks of printed Web pages with no easy way of locating the Web sites where they originated.

Every Web page needs:

- An informative title (which also becomes the text of any bookmark to the page)
- The creator's identity (author or institution)
- A creation or revision date
- At least one link to a local home page or menu page

The "home page" URL on the major menu pages in your site

Include these basic elements and you will have traveled 90 percent of the way toward providing your readers with an understandable Web user interface.

Accessibility

One of the defining principles of the Web is that it should provide all people, regardless of physical or technological readiness, with access to information. Since the Web took off as a visual medium, the goals of design have been at odds with the goals of accessibility. When designers began to use large images, proprietary media formats, and complex page layouts to produce well-designed documents, the Web became a better-looking place, but those users who require clean HTML for access were shut out from many pages. Today, the course of Web design is shifting back to its original purpose. HTML has matured to offer more visual controls, so designers have more tools at hand to create structured and navigable Web sites without resorting to hacks and workarounds. Around the world, initiatives are under way to mandate that disabled users have equal access to Internet resources, including the guidelines issued by the Web Accessibility Initiative (WAI) of the World Wide Web Consortium (W3C) and, in the United States, the amendments to Section 508 of the Rehabilitation Act of 1973. The result is that Web interface design is intricately tied to accessibility design. It is the responsibility of Web designers to understand and support the needs of disabled users.

Alternates and Fallbacks

The underlying principle of Web accessibility guidelines is simple: if you provide information in any medium besides plain text, you should always provide an alternate, or *fallback*, version. The notion of fallbacks is at the core of the language of the Web, allowing rich and varied content to transform gracefully under different conditions. It also lies behind the injunction that no content should become outdated and inaccessible because of the progress of technology. To meet these goals, HTML includes methods for providing fallbacks for some types of nontext content.

As an example, one of the beauties of the Web and HTML is the ability to build in "alternate" text descriptions so that users without graphics capabilities can understand the function of graphics on your pages. Blind users using specially designed software will hear (via synthesized speech) the alternate messages you supply along with your graphics ("ALT" attributes in HTML) and so will not completely miss the content of your pictures and graphic navigation buttons. Users with text-only browsers or those who have turned off image display will see the alternate text in place of the visual content. If you use graphic menu systems for navigation, these text-based alternate menus are an especially important aid to users who cannot see your graphics (see Graphics, Accessibility). If you use graphics like single-pixel GIFs as spacers in your page layout, always be sure to include a blank ALT statement in the spacer image source tag (ALT=""). The blank ALT statement hides the graphic from text-only browsers and from browsers that read text aloud for visually impaired users:

<IMG SRC="pixel.gif" HEIGHT="1" WIDTH ="1" ALT="" HSPACE="5">

You should also include alternates as part of your page design for users who cannot access your primary content. For example, provide an equivalent text-only navigation menu for visually impaired users who cannot use your graphical menus. Or if you have video of a lecture or presentation on your site, include a text transcript or subtitles so that deaf users can have access to the materials.

www.organicgardening.com

Style Sheets

Your content can be made more accessible if you use Cascading Style Sheets (CSS) to style your pages. With CSS-styled pages, users can easily apply personalized formatting to Web documents. A page designed using red text against a green background, for example, presents a problem for users with red-green color blindness: the contrast between text and background may not be great enough for the text to be distinguishable. If the colors are set via a style sheet, users can set their browser preferences to override your settings and can apply their own style sheet to the page instead. With CSS-styled

pages, the user can transform Web content into a format that addresses their requirements for accessibility.

Accessibility Gguidelines

All professionally designed Web sites or intranet sites should meet at least the minimum standards for accessibility as defined by the World Wide Web Consortium guidelines. The W3C Web site contains extensive information on the details of how to make your site reasonably accessible to blind, deaf, or other disabled users. Until recently Web designers faced difficulties in implementing many of the W3C accessibility suggestions because the most popular versions of the major Web browsers either did not implement newer technology standards like Cascading Style Sheets or implemented them inconsistently. Now that both Netscape Navigator 6 and Internet Explorer 5 are almost completely compatible with W3C standards, however, the reasons for not using CSS and other tools to increase the accessibility of Web information to disabled readers are disappearing.

Graceful Degradation

We all hope that every reader will arrive using the latest version of a major Web browser and that their computers will be state-of-the-art models using fast connections to the Internet. The reality is almost always less than ideal. You don't need to design your Web site exclusively for the lowest common denominator of current computing and network technology, but you do need to consider what your site will look like to those readers who do not have the best equipment, current software, or good Internet connections. The problems here are aggravated by the fact that Web site developers generally have much better equipment than the average Web site reader. Don't design for *your* machine, design for your average reader.

Always check your page designs on typically sized display screens (800 x 600 pixels) to be sure that all major navigation and content areas fit well within the horizontal area of the screen. Usually that will limit your page layouts to no more than 760 pixels in width. Many users with slow modem connections routinely turn off the image display in their browser. Try turning off graphics in your Web browser and look at your pages - are they still intelligible and navigable? Do you use ALT statements for every graphic? Do you use blank ALT statements (ALT="") to hide irrelevant graphics or spacer graphics from text-only browsers?

Do not produce Web sites that depend on one browser technology or browser plug-in ("This site is optimized for Internet Explorer 5.5 and Macromedia Flash 5"). Such notes on the home page of a corporate or enterprise Web site look sophomoric and will drive away most adult users. Design for everyone using major browsers released in the two previous years. If you must depend on proprietary browser plug-ins, try to position the material that is dependent on the plug-in deeper within the site, where presumably the reader will already have made a commitment to your content and may not mind the bother of having to download a plug-in to see special features. Once readers have a clearer sense of what they might gain by bothering to download a browser plug-in, they can make an informed decision.

More Reading

Accessibility Online

Why It's an Issue Nonprofits Should Make a Priority

Author: Jayne Cravens

Source: Knowbility.Org

Why Is Accessibility on the Internet Important?

- Would you construct a building for your organization that was not accessible for someone using a wheelchair?
- Would your agency have a promotional event at a club that excluded certain people from attending?
- Would you produce a brochure with a color scheme that rendered it unreadable to those with color vision impairments?
- Would you want to build a Web site that some potential clients, customers, staff, press representatives or others would not be able to access?
- Most everyone would reply to the questions above with a resounding "no." And, yet, people with disabilities are often locked out of Web sites because their needs are not considered when web sites are designed.
- More than 49 million Americans have some type of disability. U.S. Census data indicates that one in every five Americans has a disability. As our society grows proportionally older, the need for disability access will increase along with these numbers. You might want to consider YOURSELF "temporarily enabled."

Internet User Scenarios to Consider

- A sight-impaired person may use a Web browser that reads content on a Web page aloud, and this software is often "confused" by image maps, frames, java scripts and other Web design elements that have not been properly configured for them.

- A deaf person requires a text version of audio information that is available on a web site to be able to use the site as designed.
- Some people cannot perceive certain colors correctly, and may not be able to see light-colored type on colored backgrounds.
- Someone with limited hand movement may not be able to hold down more than one key on their keyboard at once. Well designed Web menus provide alternative navigation methods.

Just as buildings are designed to facilitate wheelchair navigation through halls and doorways, there are ways to accommodate access for many more users to your company's online communications. If you construct a building, it's easier and cheaper to put in access for people with disabilities during the initial construction than to add it on later. The same is true of Web sites!

Many environmental barriers to people with disabilities can be removed by making minor modifications or adjustments. The same is true of Web sites!

Designing a web site to be accessible to people using assistive technologies and others with disabilities is very simple and costs nothing if it is done as you build your Web site. Making accommodations on your Web site for the greatest number of users increases the availability and usefulness of those materials. If systems are flexible enough to meet the needs and preferences of the broadest range of users of computers and telecommunications equipment, regardless of age or disability, your potential audience is immediately increased by millions of users.

Tools Created For One Group Can Serve Everyone

- Wheelchair ramps were created for people in wheel chairs and walkers or for those who cannot otherwise use steps easily because of an impairment. However, they are also used by people pushing strollers, people with young children, mail carriers pushing bins of mail, and many others.
- Closed captioning on TV was created for people with hearing impairments. However, it's also used by people learning English or learning to read, and by bars and restaurants with television displays, allowing customers to follow the broadcast despite the noise of a crowd or a band.
- Large bathroom stalls were created for people in wheelchairs. However, they are also used by parents with children, or people who need to be assisted by another person.
- The lesson here is clear: the computer tools you develop with accessibility in mind will probably serve a much broader audience. For instance, many of the suggestions we make here will give HTML authors more control over pages and will often shorten page download times for all users. They will also allow users browsing the web via their cell phones to access your site.

It's About Alternatives, Not What You "Can't" Do

Some designers initially think that making a Web site accessible is going to mean curbing creativity and fun in designs. Not so! Curricula on accessible web site design does not discourage particular design elements. Rather, they provide alternative ways to achieve effects and allows even more people to have access to your work. Making an accessible site does not limit your creativity; in fact, many web sites that have won awards for their designs are also fully accessible.

Computer Lab

HTML

Managing Links And Images

Anchored Links

Without Links, the World Wide Web wouldn't be a web at all! To add a link... you will use the opening tag and closing tag. Whatever appears between these two tags will become underlined and colored, and if you click on the underlined text it will send the browser to the location within the quotes.

Example of a link...

Visit Dave's Site!

Visit Dave's Site!

If you are just linking to a page in the same directory as your current page, you don't need the domain, just the page name. If you have a page called contactme.html, you can use the code Contact Me.

Note: Although Links are usually used to send people to other web pages, you may also use it to send email to a specific address by using a location of mailto:user@host.

Example of a Mailto: Link...

Send email to the Author [Dave]!

Send email to the Author [Dave]!

If you want a link to open in a new window, add target="_blank" the end of the anchor tag, e.g. NeonLollipops.com.

Example of a link opening in a new window...
Visit NeonLollipops.com.

In-line Images...

You may also add images (pictures) to your web page, as long as the image is in the .gif or .jpg (or .jpeg) file formats. You will not be able to use .bmp format files! The basic tag for in-line images in <img src="*location*">. It is also recommended to add HEIGHT and WIDTH attributes to the IMG tag, which will allow the image to take proper proportions on a browser that is not currently viewing images. It is also recommended to use the ALT="what picture is" to tell a person what a picture is in case it is still loading or they are not viewing images. (The IMG tag has no closing tag!)

Example of a basic in-line image...

<img src="http://www.davesite.com/graphx/davesmll.gif" WIDTH=200 HEIGHT=50 ALT="Dave's Site">

If your image is in the same directory as your HTML file, just use the image name. If your file is welcome.jpg, you can use <img src="welcome.jpg"> Then add the appropriate height, width, and alt attributes as mentioned above.

Combining Links and Images...
Many times you may want to have an image that is linked, so that if someone clicks the image, the person will be taken to another page. This is rather simple- you just need to place the IMG tag within the A HREF tags. *(<img src="location_of_image">)* You may also use the ALIGN tags with images!

Example of a linked image...

<img src="http://www.davesite.com/graphx/davesmll.gif" align=right>

Try it Yourself! – 4

```
<html>
<head><title>Title goes here</title></head>
<body>
<h1 align=right>Body goes here</h1>
<hr>
<h3 align=center>Headings are kewl!</h3>
<p><b>I can use text links... Visit <a href="http://
www.davesite.com/">Dave's Site</a>!</b><hr width=50>
and Image Links... <a href="http://www.davesite.com/
"><img src="http://www.davesite.com/graphx/
davesmll.gif"></a></p>
</body>
</html>
```

MANIPULATING IMAGES

Placement On The Page

First let's worry about placing the image somewhere on the page. The default is justified to the left. If you write an image tag on a page, the image will pop up hard left.

If you want to have an image placed in the center of the page, you might be able to guess at this point that you'd use the <CENTER> and </CENTER> commands.

But how do we get the image to the right of the page? Well, how did we get text to the right? By adding the attribute ALIGN="—" to the <P> command, right? Could it be we do the same thing here? Why yes, it could.

Here's the format:

<IMG ALIGN="right" SRC="image.gif">

Here's what you get using "sally.gif" in place of "image.gif":

Aligning Text With Images

Images don't always stand alone. You will often want text alongside them. Here you will ALIGN text along the top, the middle, or the bottom. Again, you'll use the ALIGN="—" attribute with one of these three: "top", "middle", or "bottom".

Images don't always stand alone. You will often want text alongside them. Here you will ALIGN text along the top, the middle, or the bottom. Again, you'll use the ALIGN="—" attribute with one of these three: "top", "middle", or "bottom".

Here are the formats:
<IMG ALIGN="top" SRC="sally.gif"> text text text
<IMG ALIGN="middle" SRC="sally.gif"> text text text
<IMG ALIGN="bottom" SRC="sally.gif"> text text text
And here's what it all looks like:
This is text ALIGN="top"
This is text ALIGN="middle"

This is text ALIGN="bottom"

You may notice that using the top, middle, and bottom attributes only allows for one line of text and then the rest jumps down below the image.

Here's the trick to solving that. Don't use the top, middle, or bottom attribute unless you only want one line of text. If you want text to wrap around the image, use ALIGN="left" and ALIGN="right".

Even if the image is already to the left, use the ALIGN="left" attribute anyway. It allows the text to wrap around the image fully. Try it, it's quite a clever little deal.

Two At Once?

But what if you want only one line of text to come out of the middle of the image, and you want the image aligned to the right? Can you use two ALIGN="—" attributes in the same image? No.

You set the text coming out of the middle using the ALIGN="middle" attribute in the IMG tag. Then you set the image and its text to the right by surrounding the two items with the <P ALIGN="right"> and </P> commands.

Are you starting to see how a tag does only one thing? If you want two effects placed on one item, you're going to have to use two different sets of tags.

Changing Image Size

To begin this discussion, let me state that images on a computer are not like photographs. Computer images are made up of a lot of little colored dots. They're known as picture elements or "pixels" for short. So, just remember that during this part of the Primer, numbers refer to pixels rather than inches, or centimeters, or whatever. When I say pixels, I'm talking little colored dots.

Every image is made up of pixels. The more pixels per inch the image has the better, and more detailed, the image will appear. Of course, that also means the image will take up a whole lot more bytes on your hard drive. You're going to find that most images on the Web are 72 and 100 pixels per inch. Yes, there are other settings, but 72-100 is a good trade-off between loss of detail and bytes required.

Okay, so every image is made of pixels. This means that you can also denote an image by number of pixels. For example, the "sally.gif" image is 97 pixels high by 64 pixels wide. How do I know that? I have an expensive graphics program that tells me so. How would you know? Without a specific program, you wouldn't. You'll have to play around with the numbers in these commands a little bit, but it's easy to do.

You might also want to open the image by itself in the Netscape Navigator browser window. Do that by choosing OPEN FILE under the FILE menu. When the picture pops up,

look at the title bar along the very top. The height and width should be there.

Of course, you can also go out onto the Web and surf around for a shareware graphics program. My personal favorite is PaintShop Pro. You get it for free for 30 days and then it's like $80 or so to get it for good.

Here's what you do. Denote to the image command how many pixels high by how many pixels wide you want. The "sally.gif" image is 64X97 pixels. If I want the image to appear smaller, I will ask for the pixels to be smaller, say 30X55. If I want it bigger, I would set the pixels larger, say 100X250. Just remember form. If you make the image smaller or larger, you must keep the same general square, rectangle, or whatever, form.

Of course, if I want to, I can totally distort the picture.

Here's the coding:

<IMG HEIGHT="##" WIDTH="##" SRC="image.gif">

Notice the HEIGHT and WIDTH attributes nestled right where the ALIGN command went before. You will replace the "##" with a number of pixels for height and width. Here are the three examples:

This is normal size:

This is 30X55:

This is 100X250:

This is 100X23:

Notes

LESSON 9:
USER CENTERED INTERFACE DESIGN

Topics Covered

- User centered design, clear navigation aids, Non dead-end pages, Design Integrity and stability, Simplicity and consistency, Feedback and Dialog, Navigation – Button Bars, Writing Clean codes in HTML, List in HTML

Objectives

Upon completion of this lesson, you should be able to:

- Build a user centered design.
- Understand and use clear navigation aids.
- Maintain Integrity and stability in the Web page
- Build websites with proper Navigation
- Write clean codes in HTML
- Using list in HTML

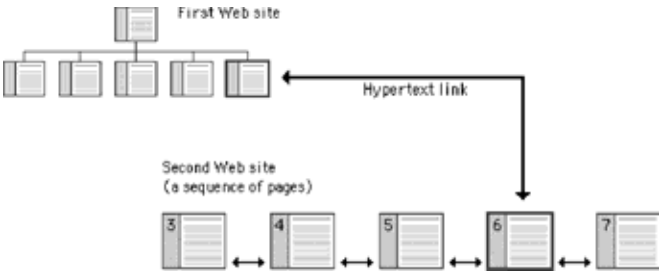
User-centered Ddesign

Graphic user interfaces were designed to give people control over their personal computers. Users now expect a level of design sophistication from all graphic interfaces, including Web pages. The goal is to provide for the needs of all your potential users, adapting Web technology to their expectations and never requiring readers to conform to an interface that places unnecessary obstacles in their paths.

This is where your research on the needs and demographics of the target audience is crucial. It's impossible to design for an unknown person whose needs you don't understand. Create sample scenarios with different types of users seeking information from your site. Would an experienced user seeking a specific piece of information be helped or hindered by your home page design? Would a casual reader be intimidated by a complex menu scheme? Testing your designs and getting feedback from a variety of users is the best way to see whether your design ideas are giving them what they want from your site.

Clear Navigation Aids

Most user interactions with Web pages involve navigating hypertext links between documents. The main interface problem in Web sites is the lack of a sense of where you are within the local organization of information:



Clear, consistent icons, graphic identity schemes, and graphic or text-based overview and summary screens can give the user confidence that they can find what they are looking for without wasting time.

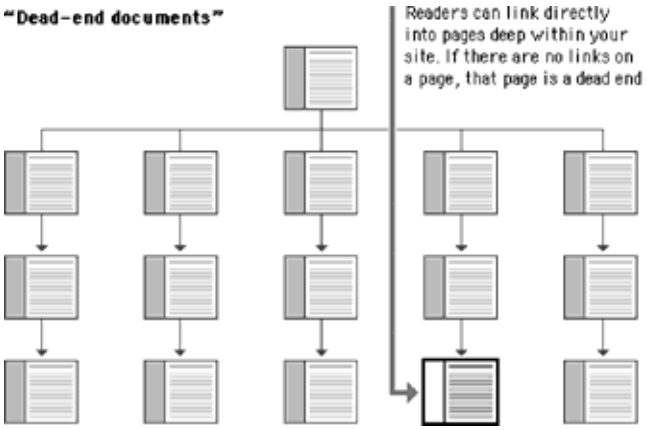
Users should always be able to return easily to your home page and to other major navigation points in the site. These basic links should be present and in consistent locations on every page. Graphic buttons will provide basic navigation links and create a graphic identity that tells users they are within the site domain. In this site, for example, the graphic header appears on every page:

www.fastcompany.com

The button bar is efficient (offering multiple choices in a small space) and predictable (it is always there, at the top of every page), and it provides a consistent graphic identity throughout the site.

No Ddead-end Pages

Web pages often appear with no preamble: readers can make or follow links directly to subsection pages buried deep in the hierarchy of Web sites. They may never see your home page or other introductory site information. If your subsection pages do not contain links to the home page or to local menu pages, the reader will be locked out from the rest of the Web site:



Make sure all pages in your site have *at minimum* a link back to the main "home" page or, better yet, a home page link along with links to the other sections of the site.

Direct Aaccess

Users want to get information in the fewest possible steps. This means that you must design an efficient hierarchy of information to minimize steps through menu pages. Studies have shown that users prefer menus that present at least five to seven links and that they prefer a few very dense screens of choices to many layers of simplified menus. The following table demonstrates that you do not need many levels of menus to incorporate lots of choices:

Number of nested menus	5	7	8	10
1	5	7	8	10
2	25	49	64	100
3	125	343	512	1000

Design your site hierarchy so that real content is only a click or two away from the main menu pages of your site.

Bandwidth and Interaction

Users will not tolerate long delays. Research has shown that for most computing tasks the threshold of frustration is about ten seconds. Web page designs that are not well "tuned" to the network access speed of typical users will only frustrate them. If your users are primarily general public browsers "surfing" the Web via dial-up modem connections, it is foolish to put huge bitmap graphics on your pages — the average modem user will not be patient enough to wait while your graphics download over the phone line. If, however, you are building a university or corporate intranet site where most users will access the Web server at Ethernet speeds or better, you can be much more ambitious in the use of graphics and multimedia. Many home computer users can now use high-speed DSL (digital subscriber line) or cable modems to access the Web. However, industry observers expect that it will be at least another five years before Web designers can count on most home users having access to high-speed Web connections. In general, be conservative with Web graphics. Even users with high-speed connections appreciate a fast-loading page.

Simplicity and consistency

Users are not impressed with complexity that seems gratuitous, especially those users who may be depending on the site for timely and accurate work-related information. Your interface metaphors should be simple, familiar, and logical — if you need a metaphor for information design, choose a genre familiar to readers of documents, such as a book or a library. Highly unusual, "creative" navigation and home page metaphors always fail because they impose an unfamiliar, unpredictable interface burden on the user.

Tab-based navigation; users know what to do without having to decode the metaphor

www.amazon.com

The user interface for your Web site should follow the general navigation and layout conventions of major Web sites because your users will already be used to those conventions. Users spend most of their time on sites other than yours, so avoid highly unusual interfaces if you wish to attract and keep a large audience.

The best information designs are never noticed. An excellent model of interface design is the Adobe Corporation Web site. Graphic headers act as navigation aids and are consistently applied across every page in the site. Once you know where the standard links are on the page header graphics, the interface becomes almost invisible and navigation is easy:

For maximum functionality and legibility, your page and site design should be built on a consistent pattern of modular units that all share the same basic layout grids, graphic themes, editorial conventions, and hierarchies of organization. The goal is to be consistent and predictable; your users should feel comfortable exploring your site and confident that they can find what they need. The graphic identity of a series of pages in a Web site provides visual cues to the continuity of information. The header menu graphics present on every page of the Adobe site create a consistent user interface and corporate identity:

www.adobe.com/type

Even if your site design does not employ navigation graphics, a consistent approach to the layout of titles, subtitles, page footers, and navigation links to your home page or related pages will reinforce the reader's sense of context within the site. To preserve the effect of a "seamless" system of pages you may wish to bring important information into your site and adapt it to your page layout scheme rather than using links to send the reader away from your site (be sure there are no copyright restrictions on copying the information into your site).

Design integrity and stability

To convince your users that what you have to offer is accurate and reliable, you will need to design your Web site as carefully as you would any other type of corporate communication, using the same high editorial and design standards. A site that looks sloppily built, with poor visual design and low editorial standards, will not inspire confidence.

Functional stability in any Web design means keeping the interactive elements of the site working reliably. Functional stability has two components: getting things right the first time as you design the site, and then keeping things functioning smoothly over time. Good Web sites are inherently interactive, with lots of links to local pages within the site as well as links to other sites on the Web. As you create your design you will need to check frequently that all of your links work properly. Information changes quickly on the Web, both in your site and in everyone else's. After the site is established you will need to check that your links are still working properly and that the content they supply remains relevant.

Feedback and dialog

Your Web design should offer constant visual and functional confirmation of the user's whereabouts and options, via graphic design, navigation buttons, or uniformly placed hypertext links. Feedback also means being prepared to respond to your users' inquiries and comments. Well-designed Web sites provide direct links to the Web site editor or Webmaster responsible for running the site. Planning for this ongoing relationship with users of your site is vital to the long-term success of the enterprise.

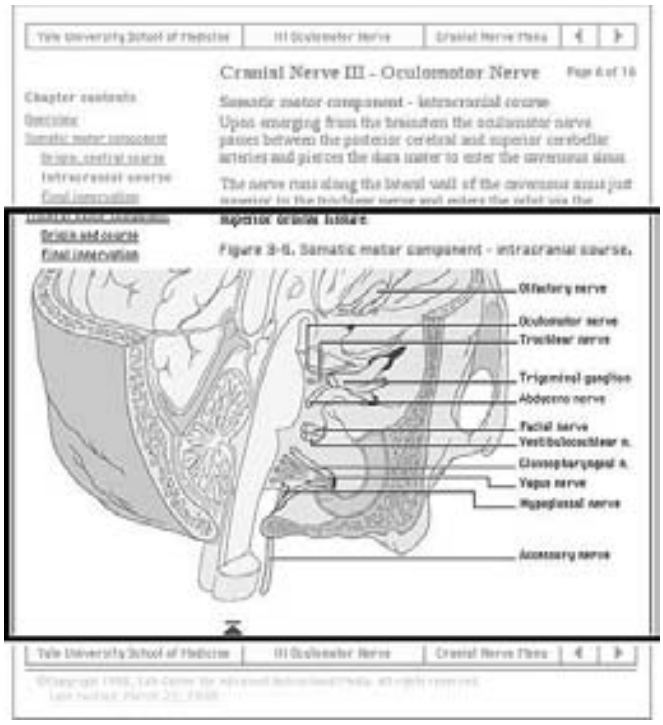
NAVIGATION

A rich set of graphic navigation and interactivity links within your Web pages will pull users' attention down the page, weaning them from the general-purpose browser links and drawing them further into your content. By providing your own consistent and predictable set of navigation buttons you also give the user a sense of your site's organization and make the logic and order of your site visually explicit. In this example the rich graphics and many links offered by the Salon technology and business page immediately draw the reader into the site:

www.salon.com

Provide context or lose the reader

Readers need a sense of context, of their place within an organization of information. In paper documents this sense of "where you are" is a mixture of graphic and editorial organizational cues supplied by the graphic design of the book, the organization of the text, and the physical sensation of the book as an object. Electronic documents provide none of the physical cues we take for granted in assessing information. When we see a Web hypertext link on the page we have few cues to where we will be led, how much information is at the other end of the link, and exactly how the linked information relates to the current page. Even the view of individual Web pages is restricted for many users. Most Web pages don't fit completely on a standard office display monitor (800 x 600 pixels), and so there is almost always a part of the page that the user cannot see:

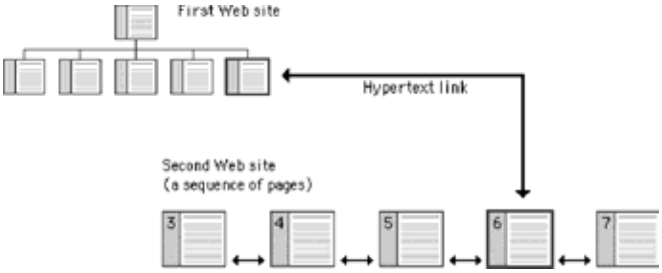


Web pages need to give the user explicit cues to the context and organization of information because only a small portion of any site (less than a page) is visible at one time:

As the Web page designer it is up to you to provide these functional and context cues.

"Going back" and going to the previous page

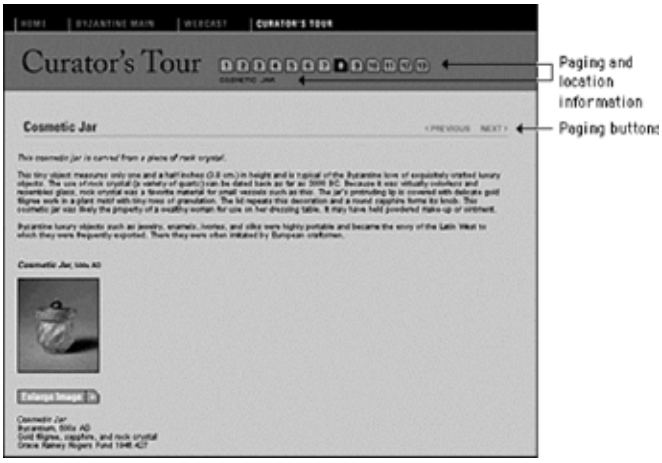
All hypertext systems share a common feature that has no direct precedent in print media: going "back" through a series of links you have previously visited is not the same as paging "back" through the preceding pages of an ordered sequence of pages. When users click on a hypertext link in a Web document they often are transported from one Web site to another, perhaps even from one country to another. Once made, the hypertext link is bidirectional; you can "go back" to the Web site you just left by clicking on the "Back" button of the viewer. Having hit the "Back" button, you can move to the new Web site again by hitting the "Forward" button:



Button Bars

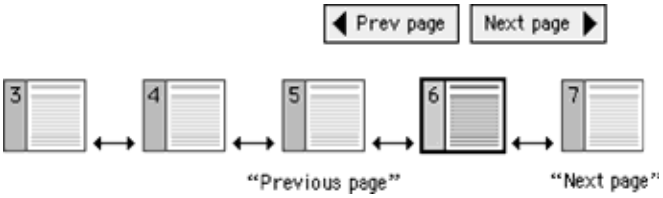
For the information designer hypertext links are a mixed blessing. The radical shifts in context that links create can easily confuse Web users, who need organized cues and interface elements if they are to follow and understand hypertext links from one Web page to another. This is particularly true when users need to be able to follow (or at least recognize) an ordered sequence of documents. Notice in the diagram above that although the user has entered the second Web site at page 6, the site is an ordered sequence of pages.

If the standard Web browser "Back" and "Forward" buttons are augmented with "Next Page" and "Previous Page" buttons built into the page, the user will have interface tools to navigate through the information in your site in the sequence you intended. Button bars can also display location information much as running chapter headers do in printed books:

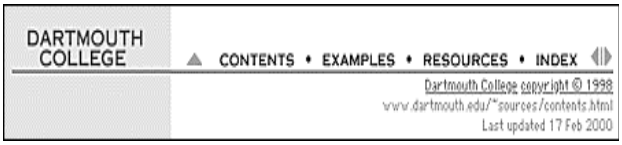


www.demusart.com

Unlike the "Back" and "Forward" buttons, whose functions are relative only to the pages you have seen most recently, "Next Page" and "Previous Page" buttons in a document are fixed links you provide to associated documents. By providing paging buttons and links to local home pages and contents pages you give users the tools to understand how you have organized your Web site information, even if they have not entered your Web of pages through a home page or contents page. The buttons don't prevent people from reading the information in whatever order they choose, but they do allow readers to follow the sequence of pages you have laid out:



Button bars are also the most logical place for links back to your home page or to other menu pages related to the current page. A button bar can be built with text-based links or a series of individual button graphics at the top or bottom of the page:



Computer Lab

Clean Code...

Clean code means that your HTML coding follows all specifications, I personally don't use true clean code, but very close to it. Here are a few ways to keep your code clean:

· **Don't type special characters into your code, instead type their escape code...** many characters should NEVER be typed directly into HTML code... for example the "<", ">", the "©", "&", and the " itself. Instead, type &**escape_code**; (Ampersand, Escape Code for Character, then a semicolon). For these 5 characters, here are the escape codes...

- For the < type <
- For the > type >
- For the © type ©
- For the & type &
- For the " type "

Use quotes around values in attributes... For example, if you want a horizontal rule that is half of the screen width, type <hr width="50%"> rather than <hr width=50%>, or if you want one that is size 5 type <hr size="5"> rather than <hr size=5>. Isn't it ironic that I don't? <g>

Don't overlap tags... Overlapping occurs when **Tag A** starts, **Tag B** starts, **Tag A** closes, then **Tag B** closes. This will cause errors in sensitive browsers. For Example, it will not render correctly in Navigator 4.0 Beta1, Netscape purposefully built into the browser so developers could catch errors. Examples:

Wrong Way (Overlaps):
This is Bold and One Font Size Bigger
Right Way (Doesn't Overlap):
This is Bold and One Font Size Bigger

Wrong Way (Overlaps):
This link is italicized
Right Way (Doesn't Overlap):
This link is italicized

The Comment Tag...

If you are writing an HTML document, sometimes you may want to put little reminders to yourself with your code so that you will be able to interpret your coding better. A comment will not appear in a web browser when the page is displayed... it is only visible when the source code is viewed. You start commented text with <!— and end it with —>.

Try it Yourself! – 6

```
<html>
<head><title>TITLE HERE</title></head>
<body>
<!— No One Will see this really long comment I have typed right here unless they decide to view the source. —>
This page Copyright &copy; 1998 Little Joe's Pages &amp; davesite.com.
</body>
</html>
```

Check the result

LIST

The UNORDERED LIST...

The Unnumbered List is the first of the three types of lists. This is probably the most common list you will use.
Example of an Unordered List...

- pencils
- pens
- erasers
- paper
- glue

Notice the Bullet Before each List Item. Now here is the HTML Code for the Unordered List Above...

```
<ul>
 <li>pencils
 <li>pens
<li>erasers
 <li>paper
 <li>glue
</ul>
```

The <ul> tag is the opening **U**nordered **L**ist Tag. Between these two tags you place **L**IST **I**TEMS, each one having an individual <li> opening tag. (If you want, you can use an optional closing tag, but it is not needed.) There is no limit to the number of List Items you may have in a single list.

The Ordered List...

The Ordered List, also known as the Numbered List, is very similar in structure to the unordered list, except each list item has a number in front of it, instead of a bullet. Also, the opening tag for the list is <ol> instead of <ul>, and the closing tag is instead of . List Items within the list still use the same tags.
Example of an Ordered List...

1. pencils
2. pens
3. erasers
4. paper
5. glue

Notice the Number Before each List Item. Now here is the HTML Code for the Ordered List Above...

```
<ol>
 <li>pencils
 <li>pens
 <li>erasers
 <li>paper
 <li>glue
</ol>
```

The Definition List...

I have never used this type of List, but it may be helpful to you. This type of list is a little more complicated, but still very easy to use. This list starts with the <dl> opening tag, and ends with the </dl> closing tag. This has another tag known as <dt> for **D**efinition **T**erm, and <dd> for **D**efinition **D**efinition. These two tags do not need closing tags.
Example of a Definition List...

alliance

A union, relationship, or connection by kinship, marriage, or common interest.

alligator

Large amphibious reptile with very sharp teeth, powerful jaws.

alliterate

To arrange or form words beginning with the same sound.

Now here is the HTML code for this Definition List...

```
<dl>
 <dt>alliance
 <dd>A union, relationship, or connection by kinship, marriage,
 or common interest.
 <dt>alligator
 <dd>Large amphibious reptile with very sharp teeth, powerful jaws.
 <dt>alliterate
 <dd>To arrange or form words beginning with the same sound.
</dl>
```

Try it Yourself!-7

```
<html>
<head><title>Title goes here</title></head>
<body bgcolor="#AABBCC">
<h1 align=right>Body goes here</h1>
<hr>
<center><h3>Headings are kewl!</h3></center>
<hr size=10>
<ul>
<li>pencils
<li>pens
<li>erasers
<li>paper
<li>glue
</ul>
</body>
</html>
```

Check the result

Assignment

1. Differentiate between a conventional document design & Web page design?
2. What are the things you should check, when you convert text for Web?
3. How can the paragraph tag be used?
4. What are text formatting tags in HTML?
5. Format the text in your personal Home page?
6. What are freestanding web pages?
7. What are the checklists for Accessibility for a website?
8. Add links in your personal homepage to your classmate's homepage?
9. Insert your and your friend's photos in your home page?
10. What are the various user centered designs?
11. Build the Navigation strategy for your personal home page?
12. Add list to your personal Home page?

Reference

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http://prometheus.cc.emory.edu/cfm/academic/CEA.html

http://sunsite.berkeley.edu/Web/guidelines.html

LESSON 10:
SITE DESIGN-1

Topics Covered

- Organizing Framework Information, Hierarchy of Importance, Extended Fonts and Navigation using HTML code.

Objectives

Upon completion of this lesson, you should be able to:

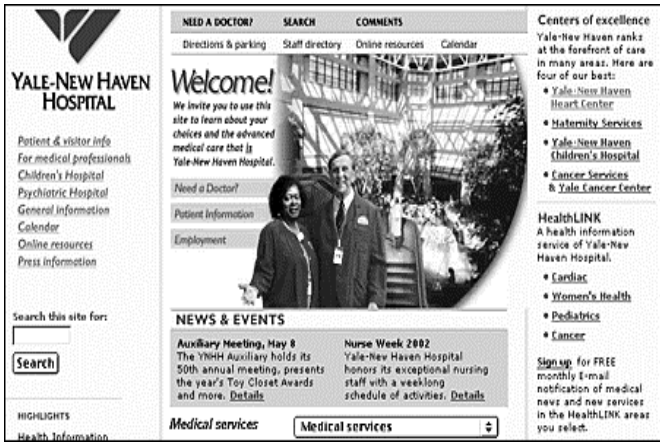
- Organize Information for your website
- Build a Hierarchy of Information.
- Use Extended Fonts using HTML code in the Web page
- Build Navigation within a document using HTML code.

In architecture as in all other operative arts, the end must direct the operation. The end is to build well. Well building hath three conditions. Commodity, firmness, and delight.
— Sir Henry Wotton, The Elements of Architecture

THE DESIGN OF THE SITE will determine its organizational framework. At this stage you will make the tactical design decisions about what your audience wants from you, what you wish to say, and how to arrange the content to best meet your audience's needs. Although people will notice the graphic design of your Web pages right away, the overall organization of the site will have the greatest impact on their experience.

The fundamental organizing principle in Web site design is meeting users' needs. Ask yourself what your audience wants, and center your site design on their needs. Many organizations and businesses make the mistake of using their Web sites primarily to describe their administrative organization, and only secondarily do they offer the services, products, and information the average user is seeking. Most readers won't care how your company or department is organized and will be put off if such inside information is all your site appears to offer. Talk to the people who make up your target audience, put yourself in their shoes, and make the items and services they want the most prominent items on the home page.

Notice, in the illustration below, how the major categories in the Yale–New Haven Hospital home page center on the needs and interests of various audiences, not on how the hospital is organized:



www.ynhh.com

Organizing Information

Our day-to-day professional and social lives rarely demand that we create detailed architectures of what we know and how those structures of information are linked. Yet without a solid and logical organizational foundation, your Web site will not function well even if your basic content is accurate, attractive, and well written. Cognitive psychologists have known for decades that most people can hold only about four to seven discrete chunks of information in short-term memory. The way people seek and use reference information also suggests that smaller, discrete units of information are more functional and easier to handle than long, undifferentiated tracts.

There are five basic steps in organizing your information:

1. Divide your content into logical units
2. Establish a hierarchy of importance among the units
3. Use the hierarchy to structure relations among units
4. Build a site that closely follows your information structure
5. Analyze the functional and aesthetic success of your system

Organizing Framework Information

Most information on the World Wide Web is gathered in short reference documents that are intended to be read no sequentially. This is particularly true of sites whose contents are mostly technical or administrative documents. Long before the Web was invented, technical writers discovered that readers appreciate short "chunks" of information that can be located and scanned quickly. This method for presenting information translates well to the Web for several reasons:

- Few Web users spend time reading long passages of text on-screen. Most users either save long documents to disk or print them for more comfortable reading.

- Discrete chunks of information lend themselves to Web links. The user of a Web link usually expects to find a specific unit of relevant information, not a book's worth of general content. But don't overly subdivide your information or you will frustrate your readers. One to two pages (as printed) of information is about the maximum size for a discrete chunk of information on the Web.
- Chunking can help organize and present information in a uniform format. This allows users not only to apply past experience with a site to future searches and explorations but also to predict how an unfamiliar section of a Web site will be organized.
- Concise chunks of information are better suited to the computer screen, which provides a limited view of long documents. Long Web pages tend to disorient readers; they require users to scroll long distances and to remember what is off-screen.

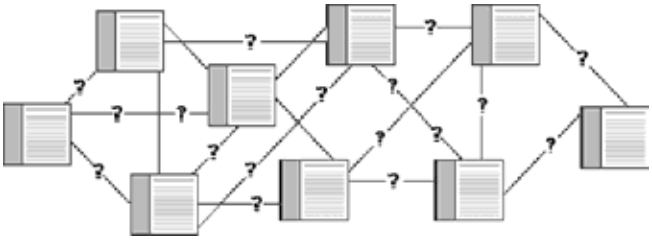
The concept of a chunk of information must be flexible and consistent with common sense, logical organization, and convenience. Let the nature of the content suggest how it should be subdivided and organized. At times it makes sense to provide long documents as a subdivided and linked set of Web pages. Although short Web documents are usually preferable, it often makes little sense to divide a long document arbitrarily, particularly if you want users to be able to print easily or save the entire document in one step.

Hierarchy of Iimportance

Hierarchical organization is virtually a necessity on the Web. Most sites depend on hierarchies, moving from the most general overview of the site (the home page), down through increasingly specific submenus and content pages. Chunks of information should be ranked in importance and organized by the interrelations among units. Once you have determined a logical set of priorities, you can build a hierarchy from the most important or general concepts down to the most specific or detailed topics.

Relations

When confronted with a new and complex information system, users build mental models. They use these models to assess relations among topics and to guess where to find things they haven't seen before. The success of the organization of your Web site will be determined largely by how well your system matches your users' expectations. A logical site organization allows users to make successful predictions about where to find things. Consistent methods of displaying information permit users to extend their knowledge from familiar pages to unfamiliar ones. If you mislead users with a structure that is neither logical nor predictable, they will be frustrated by the difficulties of getting around. You don't want your users' mental model of your Web site to look like this:

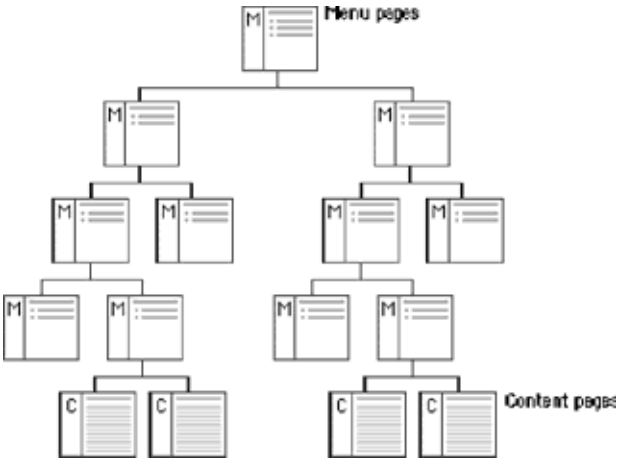


Function

Once you have created your site, analyze its functionality. Efficient Web site design is largely a matter of balancing the relation of menu, or home, pages with individual content pages. The goal is to build a hierarchy of menus and pages that feels natural to users and doesn't mislead them or interfere with their use of the site.

Web sites with too shallow a hierarchy depend on massive menu pages that can degenerate into a confusing "laundry list" of unrelated information:

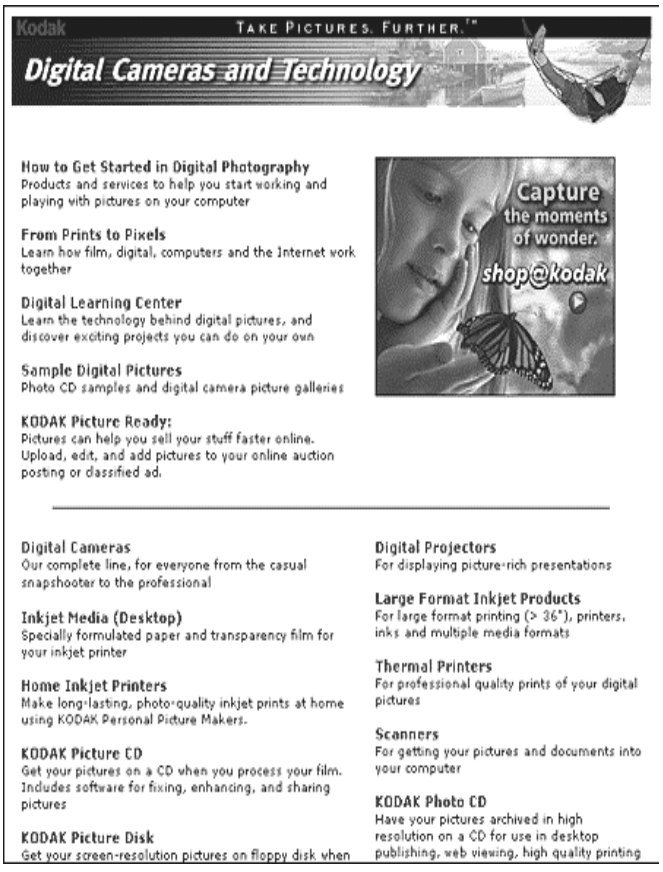
Menu schemes can also be too deep, burying information beneath too many layers of menus. Having to navigate through layers of nested menus before reaching real content is frustrating:



If your Web site is actively growing, the proper balance of menus and content pages is a moving target. Feedback from users (and analyzing your own use of the site) can help you decide if your menu scheme has outlived its usefulness or has weak areas. Complex document structures require deeper menu hierarchies, but users should never be forced into page after page of menus if direct access is possible. With a well-balanced, functional hierarchy you can offer users menus that provide quick access to information and reflect the organization of your site.

The most important step in planning your site is to organize your information. Thinking carefully about what you want to say and how you want to say it requires that you become intimately acquainted with your site content. Create outlines, chunk your information into sections and subsections, think about how the sections relate to one another, and create a table of contents. This exercise will help immensely when it comes time to build the individual pages of your site and may determine the eventual success of your Web site.

A well-organized table of contents can be a major navigation tool in your Web site. The table is more than a list of links — it gives the user an overview of the organization, extent, and narrative flow of your presentation:



Computer Lab

Extended Fonts...

The newest version of many browsers supports extended fonts, in which you can choose to have the document fonts be other than the normal one. This is accomplished by adding the **FACE="font_name"** attribute to the **<FONT>** tag. The most commonly supported fonts are Verdana, Arial, Helvetica, Impact, Comic Sans MS, and a few others. It is not recommended to make your page font dependent, because the older versions of many browsers don't yet support this feature.

Example of Extended Fonts...
Verdana
Verdana
Arial
Arial
Helvetica
Helvetica
Impact
Impact
Comic Sans MS
Comic Sans MS
Note: If you don't see one or more of the above fonts, then your browser probably doesn't support the extended fonts.

Text Color...

You can change the color of the text by setting the **COLOR="font_color"** attribute in the **<FONT>** tag. The Color is usually set by using the hexadecimal system (#000000 black to #FFFFFF white) but can also be set in newer browsers by using the simple word of the color. (Red for Red, Blue for Blue, etc.)

Example of Text Color...
Hey I'm Blue!
Hey I'm blue!
Hey I'm green and in Impact Font!
Hey I'm green and in Impact Font!
Hey I'm red!
Hey I'm red!

Try it Yourself! – 8

Try typing this:
<html>
<head><title>Fonts and Colors Are Cool</title>
</head>
<body>
Hey I'm Yellow Text...
Change my color!
Hey I'm Purple Change My Color!
This page Copyright © 1997 Little Joe's Pages & davesite.com.
</body>
</html>

Check the Rresult

Navigation Within a Document...

Wouldn't it be nice to be able to click a link and move to another area within the same page? Well you can. You will use the normal anchor tag (**<A HREF>**) except instead of placing another page in the quotes, we will use a named portion of the document, which begins with a #. To name the part of the document, go to the area you want to name, and place text, then to call a link to that place from somewhere else in the document, use text Example:

```
<a href="#section2">Go To Section 2</a><br>
blah<br>
blah<br>
blah<br>
blah<br>
blah<br>
blah<br>
<a name="section2">Welcome To Section 2!</a>
```

Go To Section 2

blah
blah
blah
blah
blah
blah

Welcome To Section 2!

Once you have the section named, you can even call it from other documents... for example, if you named a section in index.html called section2, you could call it from bookmarks.html using <a href="index.html#section2">.

Try it Yourself! – 9

In the Box below, type the following HTML code, then click "Check it Out!" The HTML document you made will be displayed in your browser. You may wish to change the words within the tags just to try it out.

Try typing this:

```
<html>
<head><title>Navigation is Cool</title>
</head>
<body>
<a name="section1">This Is Section One</a><hr>
<a href="#section2">Click Here to Go to Section 2!</
a><br><br><br><br><br><br><br><br><br><br>
<a name="section2">This Is Section Two</a><hr>
<a href="#section3">Click Here to Go to Section 3!</
a><br><br><br><br><br><br><br><br><br><br>
<a name="section3">This Is Section Three</a><hr>
<a href="#section1">Click Here to Go to Section 1!</
a><br><br><br><br><br><br><br><br><br><br>
This page Copyright &copy; 1997 Little Joe's Pages &amp;
davesite.com.
<a href="http://www.davesite.com/webstation/html/
chap09.shtml">Back to The Tutorial!</a>
</body>
</html>
```

Notes

LESSON 11:
SITE DESIGN-2

Topics Covered

- Who is your target audience, Categorization, Identifying Content, Adding Visitor Value, Content is the King, Graphics constraints for Web, Picking up the right Graphic film format, Putting Borders for Images in HTML document, Using Background Color in HTML

Objectives

Upon completion of this lesson, you should be able to:

- Identify your target audience
- Understand the important of Identifying Content
- Use the right content for right kind of Audience
- Pick the right graphic file format for Web
- Add Border to your images using HTML
- Use Background color

Who Is Your Target Audience?

Any form of communication requires at least two people. While the internet is a great medium for communicating, it differs from other traditional forms of media like print, radio or television because of one main reason - people are coming to visit your website ON PURPOSE.

Think about that for a moment. When you see advertising in the newspaper, hear it on radio or see it on television, it's interrupting something else, like reading, or listening to music or watching a movie. Most people "tune out" ads. But, when they visit a website, it's a different story altogether.

The people who come to your site are there for a reason. They've either sought you out or found a link to your site interesting enough that they clicked on it. Now they've landed on your virtual doorstep and it's up to you to invite them in.

People who visit your website on purpose have a purpose. They are your target audience - the ones who have the disposable income to keep you in business. They are the most important people on the internet. How much do you know about them? The better you know your target audience, the better you can use the internet to benefit your business.

If you know your audience, you can...

- choose the right colours and layout for your website
- develop site content that meets your audience's needs
- use language on your site that appeals to your audience's emotions
- create services that your audience wants
- get better search engine positioning under keywords and phrases that your audience would search for products or services like yours with
- exceed your visitors' expectations and crush your competition

Maybe the last point is a little exaggerated, but you get the point. Many companies put sites online that seem to have no purpose and are trying to appeal to everyone. You'll do better if you maintain focus and appeal to the people who need and want your services. From your domain name to the colours and language you use online, the knowledge of your target audience is essential to your online success.

Breaking down this target audience into several groups helps you to work out whether your planned content matches up against the needs of the audience.

Categorisation

Try to divide the people who will use your site into different categories. Begin with any obvious groupings, then divide those further. The trick is to divide your audience into types that will need slightly different things from your site.

Depending on the topic of the site, different ways of dividing your audience might be useful. Some general examples are:

- Experience with the site's topic
- Experience with the Web in general
- Disability (blind, deaf, can't type, can't use mouse, etc.)
- Nationality or location (Europe, North America, Asia, etc.)
- Language
- Disposable income
- Political beliefs
- Sex
- Age

What to Consider

Not all the categories I suggested above are useful for every site. In general, you should probably pick three or four important ways to divide users and work with those.

There are two main reasons for considering a certain division irrelevant:

- because it doesn't make any difference
- because your site isn't intended for that type of user

Consider a site which provides a technical reference to a computer programming language.

Based on the first point above, you would not generally need to differentiate based on the sex, age, political beliefs, or disposable income of your users. They will all want the same content regardless of these factors, so those categories can safely be ignored.

As an example of the second point, your site might be designed for experienced programmers and you are not going to include content for novices, so that division might also seem irrelevant.

However, when you exclude users like this, you should be sure to keep it in mind during the design process. Your final site should inform users of these categories that they are not catered for here, and preferably give some suggestions as to where they might go instead; if you like, you could consider this as one small piece of content for those users. (In the example site, this might result as a link in the front page such as 'This is an advanced resource. Beginning programmers should check out The X Tutorial instead.')

Example types of users

We'll take another example: a site including cake recipes.

The basic site audience is:

- People who want to bake cakes
- This can usefully be divided into the following (overlapping) types:
- Experienced cooks
- Inexperienced cooks
- People from the same local region as you (i.e. those who live in Britain)
- People from elsewhere in the world

Some other common ways to divide users are not helpful in this case; for example, it doesn't make much difference whether users of that site are male or female, or whether they are rich or poor.

Identifying Content

Although creating a website can be easy, there's more to it than first meets the eye. Your first task, before investing any time or money, should be to determine the primary reason you want to be on the Internet and to identify the audience you want to reach. The content, as well as the scope and quality of design should be driven by the answers to these questions. Do your homework!

Your purpose may be as general as to let the world know you exist by posting the online equivalent of a brochure, display ad or newsletter. Or it may be as specific as increasing sales by selling your products online. Obviously, the latter increases the scope of work. Be sure that your development objectives are consistent with the resources you have available to create and maintain a site. If not, reassess your short-term and long-term objectives, and adjust them accordingly.

The next step is to create a profile of your target audience and design a site that's responsive to their needs and interests. Select content by thinking from the perspective of your visitors. How can you add value to their online experience? How can you make your website different than an electronic version of a printed page? In other words, how can you add useful interactivity?

Adding Visitor Value

Let's say you're the owner of a bookstore. The Web offers a natural extension of your business, not only to generate sales but to provide service to loyal customers. These are people who frequent the author events you host and who ask your staff for reading recommendations. You know that many of them have computers because they buy computer books. Based on the knowledge of your customers, what should you include on your website?

The Web is a powerful medium that offers many ways to enhance your business or organization, especially if you add interactivity to your content mix. Consider creating forums where customers can post exchange with one another and chat rooms where they discuss literature, sort of a virtual book club.

The site of ad agency TBWA is an excellent example. It not only showcases the firm's portfolio, it conducts online focus groups and opinion surveys. Adding information-based value is really the key. The more you can add, the more successful your cyberventure will be

Content is King

Once you've decided what you and your audience want, it's time to prepare the content. This involves more than adding HTML code to documents you may already have. Here are some general guidelines that we will discuss in more detail in later articles.

- The home page should draw your audience in, not overwhelm them with information. Keep the layout simple and the text brief. Add graphics to communicate your image.
- Reproducing existing brochures or other documents on the Web usually doesn't work well. People have short attention spans and don't particularly like to read copious mounts of text on a computer screen. Use only the most compelling information. Add headings and bold text, where appropriate, to make reading easier. Try to limit the length of a web page to three screens.
- If you must include lengthy documents, break them up into sections with headings. Create an index or table of contents at the top of the page, with links to each section. If you want to provide access to a lot of documents, add a search feature or provide them as PDF files that can be easily downloaded for reading off-line.
- Use graphics to enhance the site, but minimize graphics file sizes whenever possible. Include only those images that add value. Not every photo needs to be in color; not every catalog item needs a picture; not every picture needs to be full screen.
- A layout that looks good when viewed in your favorite web browser may look different to people accessing the site from an online service such as AOL. Check your web page by viewing it in a number of browsers, including Internet Explorer, Netscape Navigator and AOL's.
- Consider adding links to related websites to expand information. Be sure to send courtesy notices to webmasters at the sites you link to.
- If you have the time to respond, encourage feedback via e-mail. You will get invaluable information from your audience.
- Measure traffic to your site. Track viewers' paths through your web pages, so you can adjust your content accordingly.

More Reading

Back to the User: Creating User-Focused Websites
By Tammy Sachs

We've all come a long way. That being said, when we observe target users trying out Web sites in our consumer lab, some common problems persist. This article summarizes five key lessons learned from listening to and observing all kinds of users (from teens to seniors to doctors) try out all kinds of Web sites at various stages of development. Our goal: to provide some overarching guidelines about bringing a customer voice to site design.

Lesson 1: If you want to know what people want, ask them.

Many marketers-even of well-established brands-forget the basics of marketing and usability research and treat the World Wide Web like the Wild Wild West, not exploring up front:

- Who will be using the site-customers, prospects, investors, etc.
- How these users speak and think
- What content and features drive their interest
- The relationship between the on- and off-line experience

Over the years, we have conducted post-launch research for many organizations that launched their sites without conducting any marketing or usability research-a treacherous process known as "Launch and Learn." The outcome: costly revisions implemented after alienating and frustrating untold numbers of customers and prospects.

We have also worked with many organizations that first expose target users to their Web sites in usability testing-after considerable time, money, and emotional investment has been made in a particular site architecture, feature set, and look and feel. This often occurs right before launch when there is little chance for user feedback to be integrated-and at great cost. Sound familiar?

To fast track the development process and infuse initial design ideas with a user mindset, we suggest conducting a few carefully constructed focus groups at the very outset. These are some of the questions we've found that focus group research can help answer:

- How to create a "front door" that will successfully "invite in" each of your various audiences (customers and prospects; doctors and patients, etc.)
- How to "bucket" the main content areas and label them intuitively
- What the site can do to reinforce a brand's strengths and overcome its shortcomings (e.g. beef up customer service, offer products there is no room for in your stores)
- What features and content are worth building or acquiring

If done well, focus groups should generate insights that help designers build a robust prototype of the site that comes pretty close to nailing what users want. It is at this point that a site is ready for usability testing.

Lesson 2: If you want to know if they can use your site, watch them do it.

Many marketers launch sites without knowing if anyone other than their developers can use the site to:

- Buy a car
- Build a stock portfolio
- Send a gift
- Find out about a drug or disease
- Get the right cell phone plan

Despite all the progress we've made on the Web, how many of us still today experience:

- Error messages that don't help us
- Registration processes we can't complete
- Products we can't find

Purchase paths that don't lead to a sale

Either these sites have not done usability testing or the testing they've done has not accomplished its goal-to make sure the people who use the site can easily and successfully do what they came to do.

The following are tips for how to conduct usability testing that ensures that your users can-and want to-use your site.

- Interview people who would actually use your site. If you want to know if a gift finder service works, there is no substitute for observing the folks that would choose to use it.
- Start early-before you've built out the entire site.
- Even if you use a slide show, show test participants screens on a computer, not paper. We believe strongly that all of us react differently to a computer screen than we do to a printed page. Test in the medium you ultimately will use.
- Give people tasks to do that let you see them travel the key pathways you want to make sure are successful.
- Word the tasks so they don't use the language of the site.
- Don't just observe people as they are trying out a path: ask them what they are thinking. If queried at the very moment they click on a particular button, test participants can tell you exactly what was going through their mind—and offer invaluable help about how to fix navigation, labels, etc.
- Iterate. After the fourth person tells you they don't know what a key label means, change it. Modify the prototype based on their collective feedback and try a new label with the next four people. Iterative design and testing makes the best use of research dollars and accelerates development.
- Document your findings on video. Reviewing tapes of the user experience is very helpful to developers. Integrating video clips of real users into your presentations to management provides powerful support for your recommendations.

Lesson 3: Your homepage is a 30 second window of opportunity. Don't be shy.

Many homepages are so cluttered that it is difficult for site visitors to figure out basic information such as what the site is all about and who it serves. One of the things people tell us about Google is that the sheer simplicity of the homepage gives users the impression that their search will be successful.

While your homepage may need to contain a great deal more information than Google's, there is a lesson to be learned from their approach.

We've found that if you're lucky, users will stick around and try to figure out your homepage for about 30 seconds. Therefore, their first impressions are critical. Users should immediately be able to:

- Understand what you offer and feel like they've come to the right place
- Select the path that is right for them-HMO plan member, HR Director, online banking customer, loan applicant
- Identify the range of activities they can do-get recipes, shop, download forms, chat, etc.
- Intuit what is most important from where you've placed content.
- We find that users consistently correlate where you place "stuff" on the homepage with its importance:
- Left, center, and above the fold = important.
- Below the fold = unimportant.
- Anything with a logo or ad-like visual, next to a banner or on the far right of the page = advertising which = "ignore" me.

Just like with a newspaper, we as Web site users have been trained to select "in" some information and select "out" others-and we've created strategies for navigating lots of information. It is critical in laying out your homepage not only to eliminate what is extraneous (or can be introduced later) but to put the most important content and functionality in the high rent district!

Lesson 4: People don't read, don't make them.

We figure about 10% of the population at most are true "readers." You occasionally encounter them in usability testing. They read every instruction, caption, copy point, etc. They make informed decisions about what button to click on and what path to take. It is important to note that they are a very small segment of Web users. The rest of us:

Click first, read or think later

- Go directly to a bolded word, icon, or button that looks about right
- Skip over directions, help pages, or text that gets in the way of where we think we want to go
- Take a lot of inadvertent pathways and need an easy way to get back on track
- In order for your site to succeed, it is important to design for the "non-reader":
- Any words, instructions or data crucial to a user's success should be embedded in a visual icon so it can't be missed.
- People will tend to fill in the first field they see even if it isn't for them. So, if you have two alternate paths, try presenting them side-by-side vs. one after the other. This will protect non-readers from filling out a field that is not intended for them.
- If a task requires several steps, number them so users can easily track where they are and what to do next.
- Don't tell them anything until they need to know it.
- Many users are very literal so make sure your words cannot be misinterpreted (e.g. "Click *anywhere* to begin"; "Buy *now*.")
- Provide enough information up front (e.g. article summary, product overview) so users can quickly assess if they want to take a path—but not so much detail that they have to wade through lots of copy before getting to other options
- Use hyperlinks effectively so users control their pathway—and the level of detail they seek. The beauty of the Web is its "non-linearity."

Most importantly, when designing your interface, consider that non-readers will not always take the path you intended for them. So, save them from the garden path. Your overall site architecture should be consistent with a clear breadcrumb trail that lets them easily and intuitively get back on track.

Lesson 5: Search and You Shall Find... Hopefully!

In many a usability lab, you give a user a task to find or buy something and the first thing they do is to search for the Search box. That is, if they can't immediately find what they want on your homepage and, for some, even before they've given it a shot, they start typing what they want in your search box.

As such, Search is probably one of the most critical things to get right on your site. Here are some guidelines we've developed based on what users have told and shown us about what makes or breaks the Search function.

- If a search fails, offer tips on how to get better results-or point users to a path that keeps the dialogue going (e.g. a way to email you and tell you what they are looking for.) Witness the search term function Google added for misspellings: "Did you mean...?". Even if none of the choices they provide help you, this feature builds good will and encourages the user to try again.
- Make sure that the Browse and Search functions are clearly separated and mutually exclusive-or users will think they can browse and then refine their choices by searching within the category they've chosen
- Lose the Boolean logic-only statisticians want to define their search with strings. Offer a way to get a pop-up window that shows users how to enter words in the search box to optimize results-e.g. Chicago-style pizza in Los Angeles-and doesn't require them to leave the page they are on.
- There are many ways to define a label or word-rug vs. carpet, PDA vs. handheld, sofa vs. couch. Any way you say it should get results.
- Offer Advanced Search only after Basic Search has failed. Limit the options you offer so it isn't too advanced for the user.
- Make sure people can search on the dimensions that are most important. Focus groups are a good place to learn what criteria are most important to search on (e.g. for sweaters, which criteria are key: color, fiber, price, size, style or all of the above?)

- This isn't English class. All of us spellers, the good, the bad and the terrible, should still be able to get the results we seek.
- Make it clear what universe they are searching-your site or the entire Web.

As much as people love the Web for the access it offers to a huge database in cyberspace, most people will tell you that their Search experience is, on the whole, a very frustrating one. And, what is worse, when Search fails the user, they often equate the fact that they can't find something with the perception that you don't offer it.

The silver lining here is that you can truly differentiate your site and build a relationship with users by offering a Search function that provides them with the results they seek.

What we've seen consistently over time is that companies-small and large-who bring target users into the development process at key junctures get tremendous payback for their investment. The result:

- Sites that build lasting customer relationships
- Sites that "beat" the competition by being first in market to identify and address unmet needs with new features and content
- An accelerated development process

Most importantly, having users provide information about their needs, expectations, language and logic enables developers to think like users-vs. copywriters, graphic designers or programmers-and, in so doing, create powerful user-driven site experiences.

Computer Lab

Why Graphics?

Images can make your HTML document more compelling than text alone If you only put text in this document, the document would seem quite dull. On the other hand, a few well-placed graphics can break up the text, making it seem more readable, and make the document more visually appealing.

Images can often convey your message better than text alone. Remember the saying, "a picture is worth a thousand words?"

inline images—that lets you convey your message better and create a more visually attractive Web page.

Image Constraints

The following points have to be considered while adding images to your document:

Graphics files are slow to download. The average user with a 14.4KBps modem can wait several seconds or even several minutes while a graphics file downloads.

Search engines don't know what to do with images. Search engines such as AltaVista and Excite can't index your images. Thus, if you depend heavily on images, your Web page isn't as likely to be hit upon by these search engines' users.

Many users don't have graphical browsers. Thousands of people are still using Lynx, for example, which is a UNIX-based, text-only browser. In addition, Internet Explorer and Netscape users might disable inline images in order to open Web pages faster.

Images aren't always internationalized. Because HTML documents published on the Web have a worldwide audience, internationalized images might be important.

Color images aren't always portable. A color image that looks good on your computer might not look quite as good on another user's computer. Thus, you need to pay particular attention to how you use colors in an image.

Picking The Right Graphics File Format

There are many file formats which you can use to store images like; GIF, JPEG, PCX, PNG, WMF, and so on. When creating images for use in an HTML document, always use those file formats that most browsers understand for ex: GIF or JPEG.

Each file format has different properties. While one file format downloads faster, for example, the other format maintains more image detail. Some of them are:

Colors

GIF supports 256 colors. JPEG supports 16.7 million colors. Thus, if color depth is not important or you're using a limited number of colors in an image, you can be comfortable using GIF. On the other hand, if you want to maintain a photographic-quality color depth, then you might consider using JPEG.

Loss

Lossy compression schemes cause an image to lose detail when the graphics program saves it. That is how these schemes compress the file so much. Lossless compression schemes, on the other hand, don't cause an image to lose any detail at all. Table describes each file format's compression scheme.

Compression Scheme

Format	Scheme	Description
GIF	Lossless	GIF compresses without losing any detail. Thus, if you're concerned more with maintaining detail than download speed, use GIF.
PNG	Lossless	PNG also compresses without losing any detail. PNG is a good alternative to GIF, except that it's not directly supported by most Web browsers.
JPEG	Lossy	JPEG causes an image to lose detail when saved. If you're concerned more with file size than with detail, however, use JPEG.

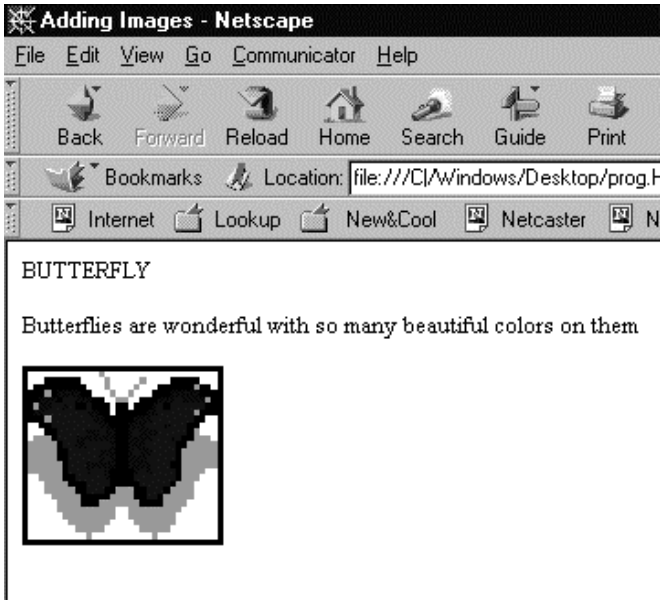
Browser Support

While including images you should always try to stick with those file formats that are directly supported by the most popular browsers. These formats include GIF and JPEG. PNG is not yet supported by a majority of the Web browsers.

Controlling The Border

You control the border around an image with the BORDER= attribute. In most browsers by default, the border is visible only on images that are used as links. To turn the border off for all images, add the BORDER=" 0 " attribute to the <IMG> tag, resulting in a complete image tag:

<IMG SRC=" butterfl.gif " ALT="butterfly image" HEIGHT="92" WIDTH="104" BORDER="3">



Likewise, you can increase the border width around an image by increasing the value in the BORDER= attribute:

Creating Thumbnails

A thumbnail is a smaller version of an image, but it is also a link to the larger version. Thumbnails can also link to multimedia applets or to other content that is time-consuming to download or not universally accessible.

To add a thumbnail image, start by having both images-the thumbnail and the larger version-available. Make a thumbnail by starting with the full-size version. Then, use your image-editing software to resize or resample the image to a much smaller size-as small as possible while still retaining the gist of the image. Save this second image under a different name. Then follow these steps:

1. Include the thumbnail image in your document as you'd include any other image. For example, the code might look like this:

   <IMG SRC="photo-thumbnail.jpg" HEIGHT="78" WIDTH="193" ALIGN="RIGHT" BORDER=1 ALT="Thumbnail of Original Photo">

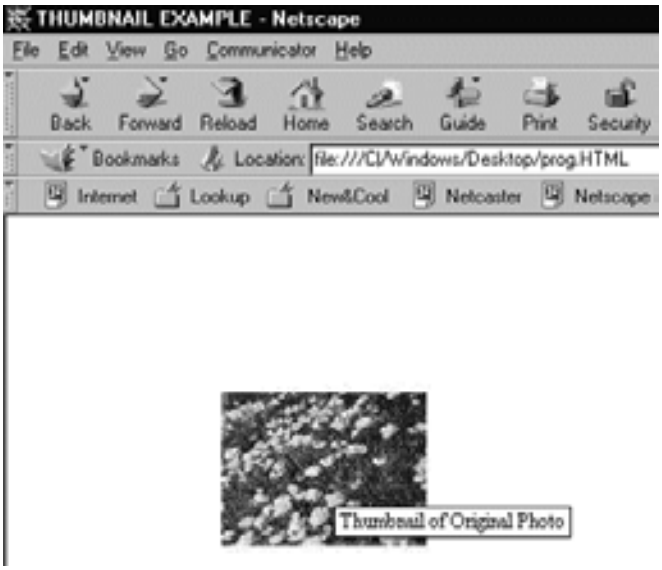
2. Add a link from the thumbnail to the larger image.

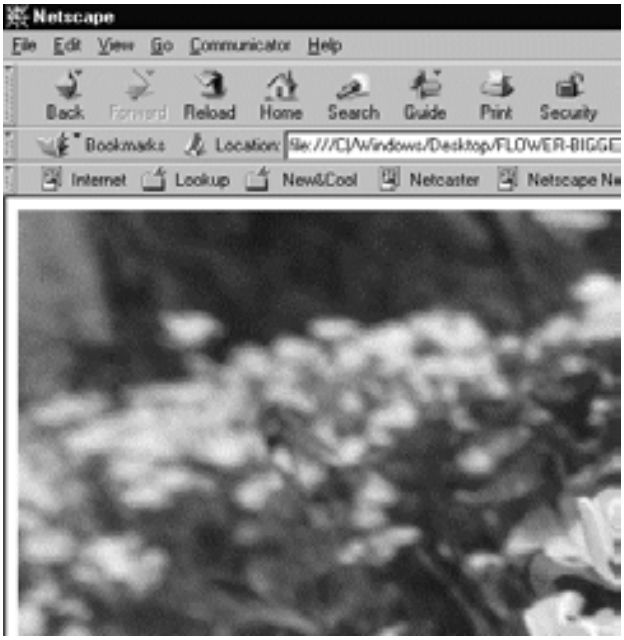
   <A HREF="photo.jpg"><IMG SRC="photo-thumbnail.jpg" HEIGHT="78" WIDTH="193" ALIGN="RIGHT" BORDER="1" ALT="Thumbnail of Original Photo"></A>

If you set the border to 0, be sure that the supporting text or other cues in the HTML document make it clear that the image is, in fact, a link to a larger photograph. Alternatively, do as we did and simply set BORDER=1 to make clear that an image is a link

Although you can achieve the same visual effect in your document by using the original image and setting a smaller display size with the HEIGHT= and WIDTH= attributes, this technique defeats the purpose of thumbnails. Even if you reset the display size with HEIGHT= and WIDTH=, the entire (full-size) image will have to be downloaded to your computer. The trick to effective thumbnails is to reduce both the dimensions and the actual file size to the smallest possible value so the page will load quickly.

```
<HTML>
<HEAD>
<TITLE>THUMBNAIL EXAMPLE</TITLE>
</HEAD>
<BODY>
<A HREF="FLOWER-BIGGER.jpg"><IMG
SRC="flower.jpg"
ALIGN="TOP" BORDER="0" ALT="Thumbnail of
Original Photo"></A>
</BODY>
</HTML>
```





Using Background Images

Most browsers support background images, the patterns or images behind the text in HTML documents. As a rule, background images are tiled throughout the available space, meaning that they are multiple copies of one image placed side by side to fill the screen.
Tiling offers two main advantages.

First, you can produce a seamless background, meaning that the casual viewer cannot see where individual images start and stop.

Second, you can develop more visually interesting backgrounds by ensuring that background images tile either horizontally or vertically. For example, an image that Is only 10 pixels high and 1280 pixels wide is as wide or wider than any browser window is likely to be. Therefore, the image will repeat vertically, but not horizontally. This can produce a vertical band.

The magic number 1280 ensures that no browser can be wider than the image. If you use a narrower image, you might have an attractive image when viewed at 800 x 600 resolution, but with two vertical bands (on the left and near the right) at 1024 x 768 resolution, for example.

Similarly, you can use a tall image to produce a tiled horizontal band. Pay careful attention to making the image taller than your page could possibly be; otherwise, the background will repeat. A good technique is also to make the image fade into the background color of the document.
If you use background images in your document and the color of the image does not adequately contrast with the text color, reset your document colors. You might also want to set the colors to complement your background image.

To add a background image, use the attributes in Table in the opening <BODY> tag.

Tag	Use
BACKGROUND="..."	Uses URL to identify an image for the background of an HTML document.
BGPROPERTIES=FIXED	Sets the background image as nontiled, nonscrolling for use with lnternet Explorer.

To specify a background image, add the background= attribute to your opening <body> tag.

<Body background=”imageback.jpg”>

You can use style sheets to include background images behind individual page elements, rather than placing a background image behind the entire page.

If you have a background image that you want to use as a watermark of sorts for your pages-and if your visitors will use internet explorer-add the bgproperties-fixed attribute. This attribute prevents the image from tiling throughout the background. The full code for the <body> tag is:

<Body background=”imageback.jpg” bgproperties-fixed>

LESSON 12:
SITE DESIGN-2

Topics Covered

- Site structure, Basic Information structures, Creating Site Diagrams,Site File & Directory structures, Advanced HTML cod, Adding Tables in web document.

Objectives

Upon completion of this lesson, you should be able to:

- Define Site Structures
- Identify Structural Theme you want to use for your website
- Choose between sequences, Hierarchies and webs
- Use Advanced HTML code : create tables in web document.

Site Structure

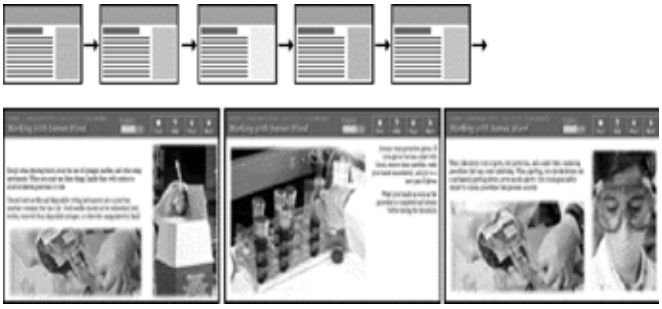
If you are interested in the World Wide Web you can hardly escape references to hypertext and hypermedia. The computer press is full of fuzzy thinking about how Web-based information can somehow "link everything to everything." The implication is that with the Web you can dispense with one of the most challenging aspects of presenting information — putting it into a logical order and creating an interesting and understandable resource for readers. But if your idea of how one section of your site relates to other areas is hazy, if you have no comprehensive narrative or clear sense of organization, your readers will know it soon enough, and most will leave in pursuit of material that is better organized.

Basic Information Structures

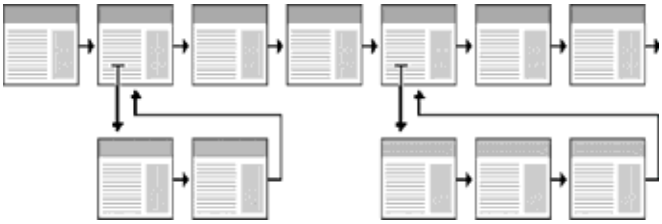
Web sites are built around basic structural themes. These fundamental architectures govern the navigational interface of the Web site and mold the user's mental models of how the information is organized. Three essential structures can be used to build a Web site: sequences, hierarchies, and webs.

Sequences

The simplest way to organize information is to place it in a sequence. Sequential ordering may be chronological, a logical series of topics progressing from the general to the specific, or alphabetical, as in indexes, encyclopedias, and glossaries. Straight sequences are the most appropriate organization for training sites, for example, in which the reader is expected to go through a fixed set of material and the only links are those that support the linear navigation path:



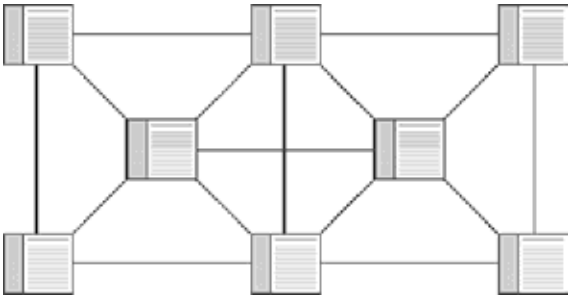
More complex Web sites may still be organized as a logical sequence, but each page in the main sequence may have links to one or more pages of digressions, parenthetical information, or information on other Web sites:



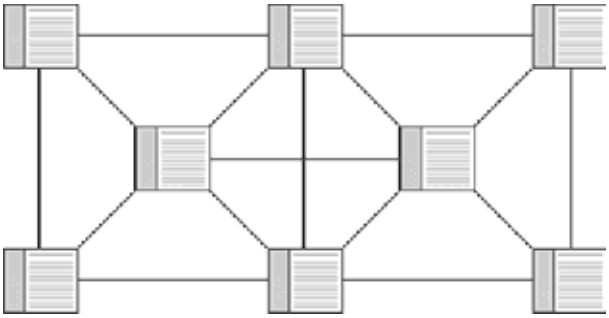
Hierarchies

Information hierarchies are the best way to organize most complex bodies of information. Because Web sites are usually organized around a single home page, hierarchical schemes are particularly suited to Web site organization. Hierarchical diagrams are very familiar in corporate and institutional life, so most users find this structure easy to understand. A hierarchical organization also imposes a useful discipline on your own analytical approach to your content, because hierarchies are practical only with well-organized material.

Webs



Weblike organizational structures pose few restrictions on the pattern of information use. In this structure the goal is often to mimic associative thought and the free flow of ideas, allowing users to follow their interests in a unique, heuristic, idiosyncratic pattern. This organizational pattern develops with dense links both to information elsewhere in the site and to information at other sites. Although the goal of this organization is to exploit the Web's power of linkage and association to the fullest, weblike structures can just as easily propagate confusion. Ironically, associative organizational schemes are often the most impractical structure for Web sites because they are so hard for the user to understand and predict. Webs work best for small sites dominated by lists of links and for sites aimed at highly educated or experienced users looking for further education or enrichment and not for a basic understanding of a topic.



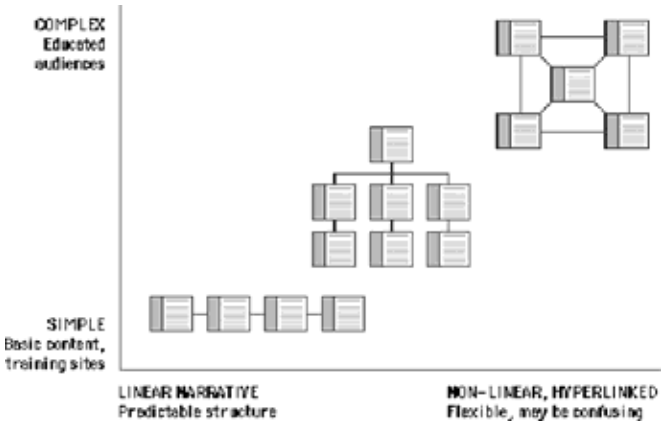
Creating site diagrams

Site planning with a team is often easier if you base your major structural planning and decisions on a shared master site diagram that all members of the group can work with. The site diagram should evolve as the plan evolves and can act as the core planning document as changes are proposed and made in the diagram. Site diagrams are excellent for planning both the broad scope of the site and the details of where each piece of content, navigation, or interactive functionality will appear. In well-equipped Web projects the team meetings often center on a computer and data projector showing Web pages or PowerPoint graphics. Although there is no substitute for looking at actual Web pages, ironically, this reliance on data projection is a severe limitation in explaining complex Web site structures to a team. No matter how good your data projector is, you can show only one Web page at a time in a Web browser, and no current data projector can match the resolution, size, or flexibility (you can write on it) of a large paper diagram. For major planning meetings we often print at least one very large color diagram of the site organization, so that everyone can see the "big picture" as it develops from meeting to meeting. The site diagram dominates the middle of the conference table, becoming a tactile, malleable representation of the plan as it evolves. Everyone is free to make notes on it or suggest improvements in the site structure, and the revised diagram becomes the official result of the meeting.

Site file and directory structures

Site diagrams are also useful when your project moves from planning to actual Web page production. As the new site is built up in a directory on the Web server, the site diagram is often the first place programmers look to gain an understanding of how the site files should be subdivided into directories ("folders") on the server.

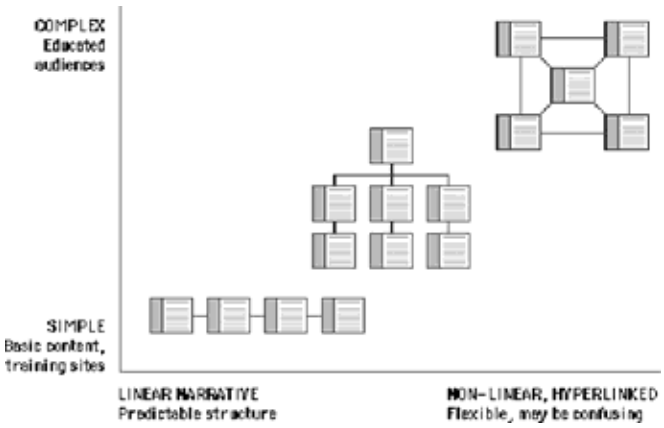
The pattern of directories and subdirectories of the site files should mirror the major content divisions and structures as shown on the site diagram:



As the site directories and subdirectories are organized on the server, information on the exact names used for major directories and files should be added to the site diagram, so that everyone on the team has a ready current reference to the naming conventions and file locations in the site.

Summary

Most complex Web sites share aspects of all three types of information structures. Except in sites that rigorously enforce a sequence of pages, users are likely to use your site in a free-form weblike manner, just as they would a reference book. But the nonlinear usage patterns typical of Web surfers do not absolve you of the need to organize your thinking and present it within a clear, consistent structure that complements your design goals. The chart below summarizes the three basic organization patterns against the "linearity" of the narrative and the complexity of the content:



Computer Lab

Enhance A Web Page Using Advanced Html

Code

HTML tables which are grids made up of rows & columns Tables are used when you want information to be portrayed more effectively than described in paragraphs. Tables serve two functions. Firstly, they help present complex data in a presentable form. Secondly, you can use the tables to incorporate more sophisticated design elements into webpages.

Why use Tables in HTML?

HTML Tables mark up data that should be organized in a table structure, instead of in paragraphs or other block-level structures. With tables, you can present data organized in rows & columns. Lets say, we have the following data of the marks obtained by a student of class X in different subjects.

Subject	Maximum Marks	Marks Obtained
Mathematics	100	80
Physics	200	150
Chemistry	100	70

It's a good illustration of the concept of a Table and we can use it to define the following terms related to Tables:

- A Table's rows are the horizontal lines of data. The above table has 4 rows.
- The columns are the vertical lines of data. There are 3 columns in this table.
- Each piece of data is at the intersection of a row & a column and these intersections are called cells. Since there are 4 rows & 3 columns, this table has 4x3=12 cells.
- The first three cells in the first row show labels for the type of information in each column. These special cells are called headings.

Tables are sometimes used for general page layout, for example, to organize paragraphs into columns.

Creation of Basic Tables

To create a Table in HTML, you'll use the table element. The table element starts with the <TABLE> tag and ends with the </TABLE> tag. You'll need to understand the rules of what elements should appear between these two tags.

Basic Table Tags

Here is the list of Table tag with its description

Tag	Usage
<TABLE>	Marks the Table within HTML document
<TR>	Marks a row within a table. The closing tag is optional
<TD>	Marks a cell (table data) within a row. The closing tag is optional
<TH>	Marks a heading cell within a row. The closing tag is optional

Steps to be followed For Adding Information To Table Rows & Columns

Follow The Steps As Outlined Here To Build A Table & Add Information Into It.

1. Start With A Functional Html Document Containing The Appropriate Structure Tags.
2. Add The <Table> Tags Where You Want The Table Boundaries To Appear.

<Table>

</Table>

3. Add <Tr> Tags Between The Boundaries Noted Above For Each Row. Lets Say, We Add Four <Tr> Tags, One For Each Row.

<TABLE>
<TR>
</TR>
<TR>
</TR>
<TR>
</TR
<TR>
</TR>

</Table>

4. Add <th> tags in the first row where you want to include table headings. Lets say we add three <th> tags. You can include some spaces or tabs to set off the table heading (and data) tags so that you can easily see which text is associated with each row and cell.

```
<TABLE>
<TR>
<TH> </TH>
<TH> </TH>
<TH> </TH>
</TR>
<TR>
</TR>
<TR>
</TR
<TR>
</TR>
</TABLE>
```

5. Add <td> tags to create individual cells in which to include information. Lets say, the sample table here contains 9 data cells.

```
<TABLE>
<TR>
<TH> </TH>
<TH> </TH>
<TH> </TH>
</TR>
<TR>
<TD> </TD>
<TD> </TD>
<TD> </TD>
</TR>
<TR>
<TD> </TD>
<TD> </TD>
<TD> </TD>
</TR
<TR>
<TD> </TD>
<TD> </TD>
<TD> </TD>
</TR>
</TABLE>
```

6. Add the content for each cell. Place the table heading information between the <th> tags and enter data between <TD> TAGS.

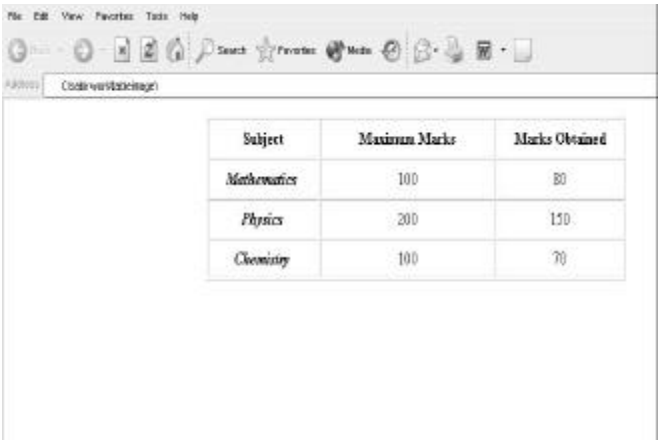
```
<TABLE>
<TR>
<TH> SUBJECT </TH>
<TH> MAXIMUM MARKS </TH>
<TH> MARKS OBTAINED </TH>
</TR>
<TR>
<TD> MATHEMATICS </TD>
<TD>100 </TD>
<TD> 80 </TD>
</TR>
<TR>
<TD> PHYSICS </TD>
<TD> 200 </TD>
<TD> 150 </TD>
</TR
<TR>
<TD> CHEMISTRY </TD>
<TD>100</TD>
<TD>70</TD>
</TR>
</TABLE>
```

The complete html code is the following

```
<HTML>
<HEAD> <TITLE> TABLES IN HTML </TITLE> </
HEAD>
<BODY>
<H2> TABLES IN HTML </H2>
<TABLE>
<TR>
<TH> SUBJECT </TH>
<TH> MAXIMUM MARKS </TH>
<TH> MARKS OBTAINED </TH>
</TR>
<TR>
<TD> MATHEMATICS </TD>
<TD>100 </TD>
<TD> 80 </TD>
</TR>
<TR>
<TD> PHYSICS </TD>
<TD> 200 </TD>
<TD> 150 </TD>
</TR
<TR>
<TD> CHEMISTRY </TD>
<TD>100</TD>
<TD>70</TD>
```

```
</TR>
</TABLE>
</BODY>
</HTML>
```

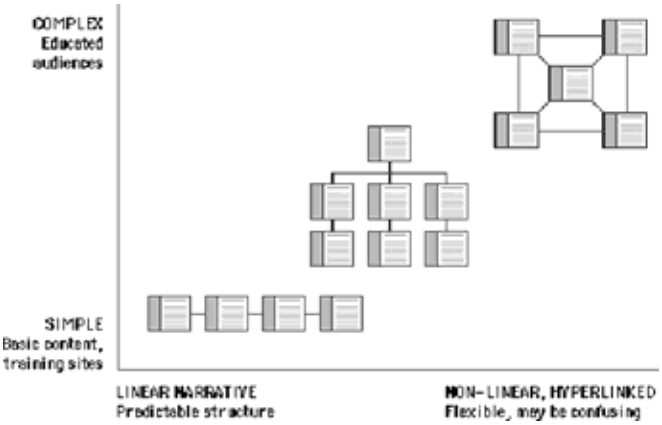
The above code when seen in the browser window looks like



Subject	Maximum Marks	Marks Obtained
Mathematics	100	80
Physics	200	150
Chemistry	100	70

Assignment

1. Build a Hierarchy of relations and functions for your website?
2. Try using extended fonts and Text color in your personal homepage?
3. Add Navigation within your personal Home page?



4. Identify the audience for your personal home page?
5. What should be the content for your home page?
6. Differentiate usage of graphics for Desktop Publishing and Web?
7. Add Background color to your personal home page?
8. What are site structures?
9. Identify which site structure to use for your personal home page?
10. Add tables in your home page?

Reference

www.webstyleguide.com

http://www.w3.org/MarkUp/Guide/Advanced.html

http://www.learnthenet.com/english/html/43idcont.htm

http://www.digital-web.com/articles/creating_user_focused_websites/

http://www.leafdigital.com/class/lessons/content/2.htm

http://www.davesite.com/webstation/html/chap08.shtml

http://www.davesite.com/webstation/html/chap09.shtm

Notes

LESSON 13:
ADVANCED HMTL

Topics Covered

Site design themes, Site Genres like Training, Web based Training application, and Teaching, Continuing education, Adding Rows and columns using HTML code, Deleting Rows and Columns.

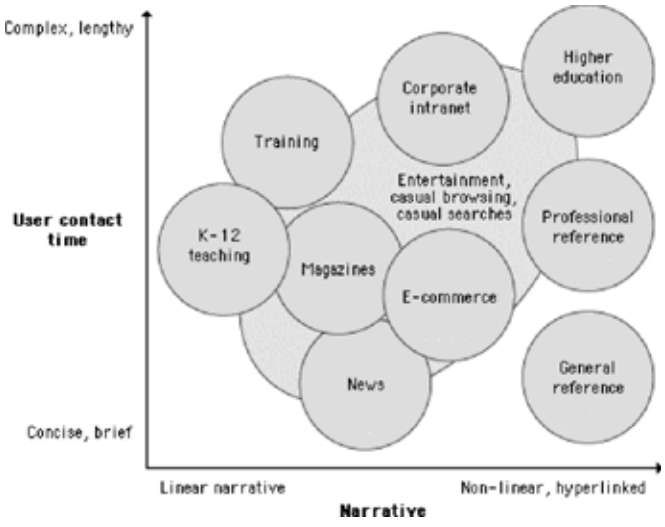
Objectives

Upon completion of this lesson, you should be able to:

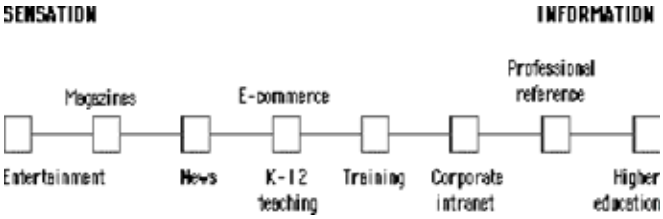
- Define Site design themes
- Identify different Site genres.
- Teaching and Education Sites
- Continuing Education
- Add rows and columns in a web document using HTML code
- Delete rows and columns

Site Ddesign Themes

All presentations of information are governed by parameters determined by the objectives, the practical logistics of the chosen medium, and the audience. The figure below plots major themes for information delivery against two fundamental variables - the linearity of the structure of your presentation and the length of the typical user's contact time:



Some general modes of Web use are more structured and depend on audiences who arrive knowing what they wish to accomplish without the need for site-supplied motivation. Corporate intranets, training sites, educational sites, reference sites, and many well-known news and information sites benefit from audiences that know what to expect at a particular site and arrive there with a specific goal in mind. E-commerce and entertainment sites have a complex dual mission to balance: to motivate casual browsers to spend time in the site and become customers as well as to provide fast access to products and information to experienced users.



Naive designers and clients eager to do almost anything to attract attention to a Web site consistently make the mistake of maximizing immediate graphic impact over all other possible attributes of a site design. They have the misguided notion that if you constantly hit the reader between the eyes with a huge, noisy graphic or Flash animation, you will sustain their attention. Sometimes this does work — for about ten to fifteen seconds. "Eye candy" is a quick blast of visual sweets, but you can't build a Web site on a moment's attention. Most readers quickly tire of blaring animated graphics and the long downloads, plug-in compatibility irritations, and distracting stimuli that complicate such sites. A successful site requires real, sustained engagement, and you get that only by offering both sophisticated visual stimuli and a site that is structured to meet the needs of its audience quickly and effectively.

Training

Web-based training applications tend to be linear in design and typically present few opportunities to digress from the central flow of the presentation. Don't confuse readers or confound your own expectations by offering many links away from the central message. Restricting links to the "Next" and "Previous" paging functions guarantees that everyone will see the same core presentation and allows you to predict users' contact time more accurately. Most training presentations assume a contact time of less than one hour or are broken up into sessions of an hour or less. Tell your readers how long the session will last, and warn them not to digress from the required material if they are to receive credit for the training. Training applications typically require a user log-in and often present forms-based quiz questions in true-false or multiple-choice formats. User registration data and scores are typically stored in a database linked to the Web site.

info.med.yale.edu/hhmi

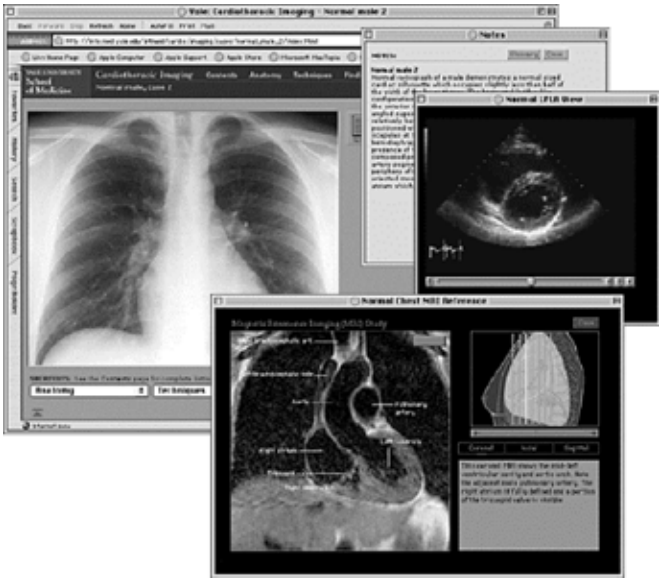
Teaching

Good teaching applications are also built around a strong central narrative, but they typically offer more opportunities to pursue interesting digressions from the main themes of the Web site. The information presented is usually more sophisticated and in-depth than in training applications. Links are the most powerful aspect of the Web, but they can also be a distraction that may prevent visitors from getting through the presentation. If you wish to provide links to other Web-based resources beyond your local site, you might consider grouping the links on a separate page away from the main body of the material. Often readers will want to print material from a teaching site and read it later from paper. Make this easy for them by providing a "printing" version that consolidates many separate pages into one long page.

www.dartmouth.edu/~chelab

Continuing Education

The audiences for heuristic, self-directed learning will chafe at design strategies that are too restrictive or linear. The typical corporate or academic user of such sites is usually fairly knowledgeable in the subject area. The Web is an ideal medium for "just in time" training, where users pick just the specific topic where they need education. Flexible, interactive, nonlinear design structures are ideal for these readers because it is difficult to predict exactly which topics will most interest them. The design must permit fast access to a wide range of topics and is typically dense with links to related material within the local site and beyond on the World Wide Web. Text-based lists of links work well here for tables of contents and indexes because they load fast and are full of information, but well-designed graphics and illustrations are also needed so that this easily bored audience will stay involved with the material. Contact times are unpredictable but are often shorter than for training or teaching sites because the readers are usually under time pressure. Easy printing options are another must for this audience.



info.med.yale.edu/intmed/cardio/imaging

Computer Lab

Adding & Removing Rows & Columns

Once you create a table, you can easily add or delete rows & columns to it.

Adding Rows

Lets say we want to add a row to the above created table. To add a row to your table, insert additional <TR> and <TD> tags where you want new row to appear. For example, we add a new row at the bottom of this table like this:

<TABLE>

<TR>

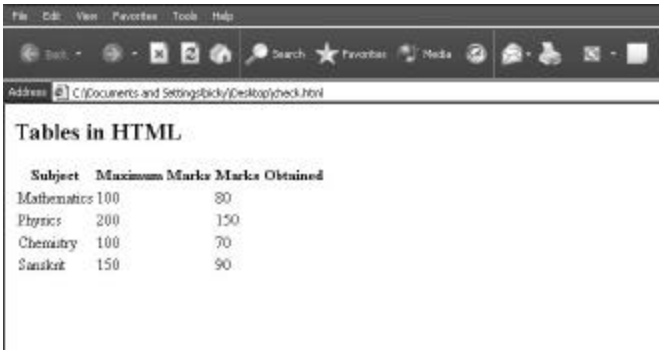
<TH> Subject </TH>

<TH> Maximum Marks </TH>

<TH> Marks Obtained </TH>

```
</TR>
<TR>
<TD> Mathematics </TD>
<TD>100 </TD>
<TD> 80 </TD>
</TR>
<TR>
<TD> Physics </TD>
<TD> 200 </TD>
<TD> 150 </TD>
</TR
<TR>
<TD> Chemistry </TD>
<TD>100</TD>
<TD>70</TD>
</TR>
<TR>
<TD> Sanskrit </TD>
<TD> 150 </TD>
<TD> 90 </TD>
</TR>
</TABLE>
```

The resulting table looks like this:



Adding columns

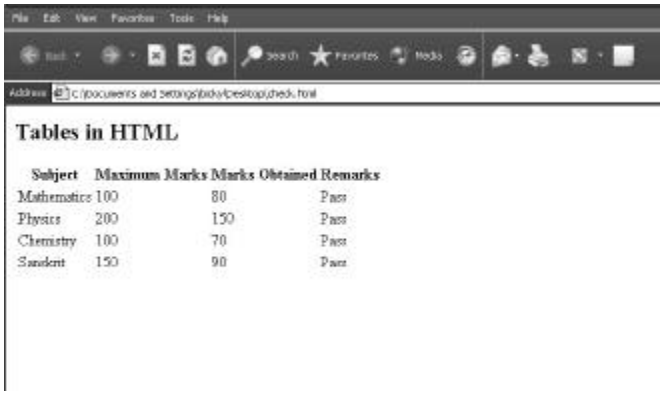
In order to add one column to the table, you must add one cell to each row. The general process is

- Add those many number of cells to each row, as you want the number of columns to be inserted.
- You must insert the <TD> tags where you want the new column to appear, either to the left or right or somewhere in between.

For example, lets say we add one new column to the extreme right of the table by adding <TH> tags to the topmost row and <TD> tags to each of the rest of the rows.

```
<TABLE>
<TR>
<TH> Subject </TH>
<TH> Maximum Marks </TH>
<TH> Marks Obtained </TH>
<TH> Remarks <TH>
</TR>
<TR>
<TD> Mathematics </TD>
<TD>100 </TD>
<TD> 80 </TD>
<TD> Pass </TD>
 </TR>
<TR>
<TD> Physics </TD>
<TD> 200 </TD>
<TD> 150 </TD>
<TD> Pass </TD>
</TR
<TR>
<TD> Chemistry </TD>
<TD>100</TD>
<TD>70</TD>
<TD> Pass </TD>
</TR>
<TR>
<TD> Sanskrit </TD>
<TD> 150 </TD>
<TD> 90 </TD>
<TD> Pass </TD>
</TR>
</TABLE>
```

The resulting table looks like:



Deleting Rows & Columns

For deleting a row or column, you must delete all the tags associated with that row or column.

- When deleting a row, make sure to delete the <TD> tags and <TR> tags that enclose it.
- When deleting a column, make sure to delete the <TH> tags as well as the <TD> tags from each row.

Here is an illustration of the deletion of the last row we had added in the previous table.

```
<TABLE>
<TR>
<TH> Subject </TH>
<TH> Maximum Marks </TH>
<TH> Marks Obtained </TH>
</TR>
<TR>
<TD> Mathematics </TD>
<TD>100 </TD>
<TD> 80 </TD>
</TR>
<TR>
<TD> Physics </TD>
<TD> 200 </TD>
<TD> 150 </TD>
</TR
<TR>
<TD> Chemistry </TD>
<TD>100</TD>
<TD>70</TD>
</TR>
<TR>
<TD> Sanskrit </TD>
<TD> 150 </TD>
<TD> 90 </TD>
</TR>
</TABLE>
```

So here, we have deleted the <TR> and <TD> contents which helps in deleting the complete row within the <TR> & </TR> tags.

Similarly to delete the column we had inserted last from the table, we delete each <TD> element from each row.

```
<TABLE>
<TR>
<TH> Subject </TH>
<TH> Maximum Marks </TH>
<TH> Marks Obtained </TH>
<TH> Remarks <TH>
</TR>
<TR>
<TD> Mathematics </TD>
<TD>100 </TD>
<TD> 80 </TD>
<TD> Pass </TD>
</TR>
<TR>
<TD> Physics </TD>
<TD> 200 </TD>
<TD> 150 </TD>
<TD> Pass </TD>
</TR
<TR>
<TD> Chemistry </TD>
<TD>100</TD>
<TD>70</TD>
<TD> Pass </TD>
</TR>
<TR>
<TD> Sanskrit </TD>
<TD> 150 </TD>
<TD> 90 </TD>
<TD> Pass </TD>
</TR>
</TABLE>
```

Notes

LESSON 14:
SITE GENRES-1

Topics Covered

- Entertainment and magazine sites, News sites & E-commerce site, Formatting Tables – Creating Table Border and Border color, Background color in Tables.

Objectives

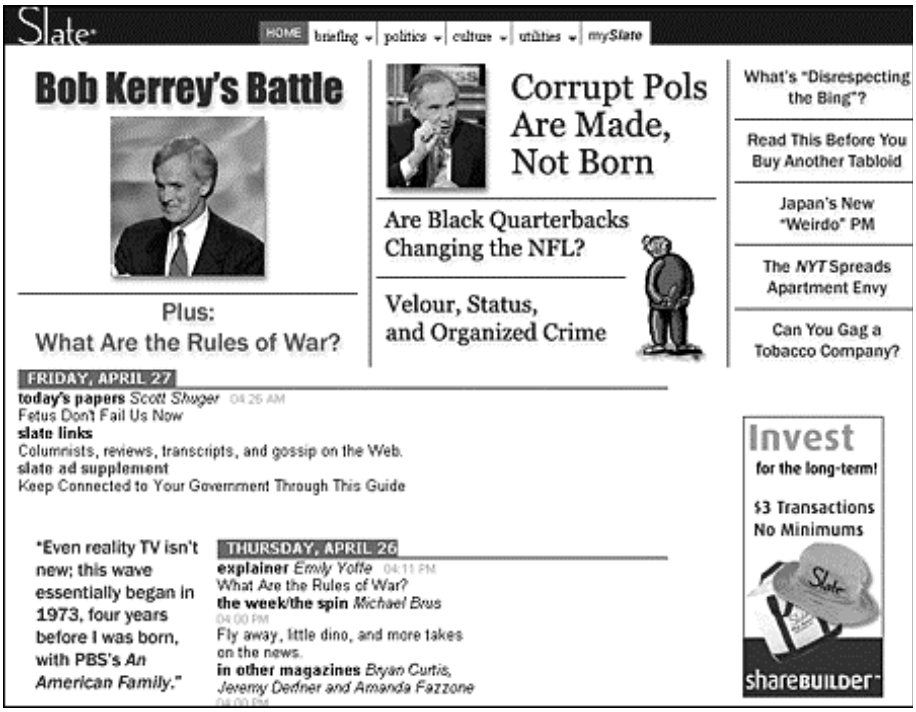
Upon completion of this lesson, you should be able to:

- Identify Entertainment and Magazine sites.
- Know about News sites & E-commerce sites.
- Format Tables - Create Table Border and set border color.
- Apply Background color in Tables.

Entertainment and Magazine Sites

Unlike the sites covered thus far, entertainment sites usually cater to an audience whose interests and motivations are usually much less focused. This audience needs to be grabbed immediately by compelling graphic and text presentations, or they'll simply hop somewhere else in search of stimulation. As in any other design genre, what is "compelling" depends entirely on the audience's expectations. Slate's sophisticated mix of political commentary and social criticism depends heavily on clever, well-written headlines and teasers.

The well-designed home page presentation is derived entirely from presentation styles used in political and current affairs



magazines, because that's exactly the audience Slate is seeking.

News sites

News sites have largely adapted the existing design genres of print newspapers and magazines to the smaller format of the Web. Virtually all of the design conventions used on the *New York Times* Web site derive from well-established print precedents, although ironically, the *New York Times*'s louder, more colorful Web presence owes more to the exaggerated visual hierarchies of *USA Today* than to the *Times*'s conservative print conventions.

E-commerce

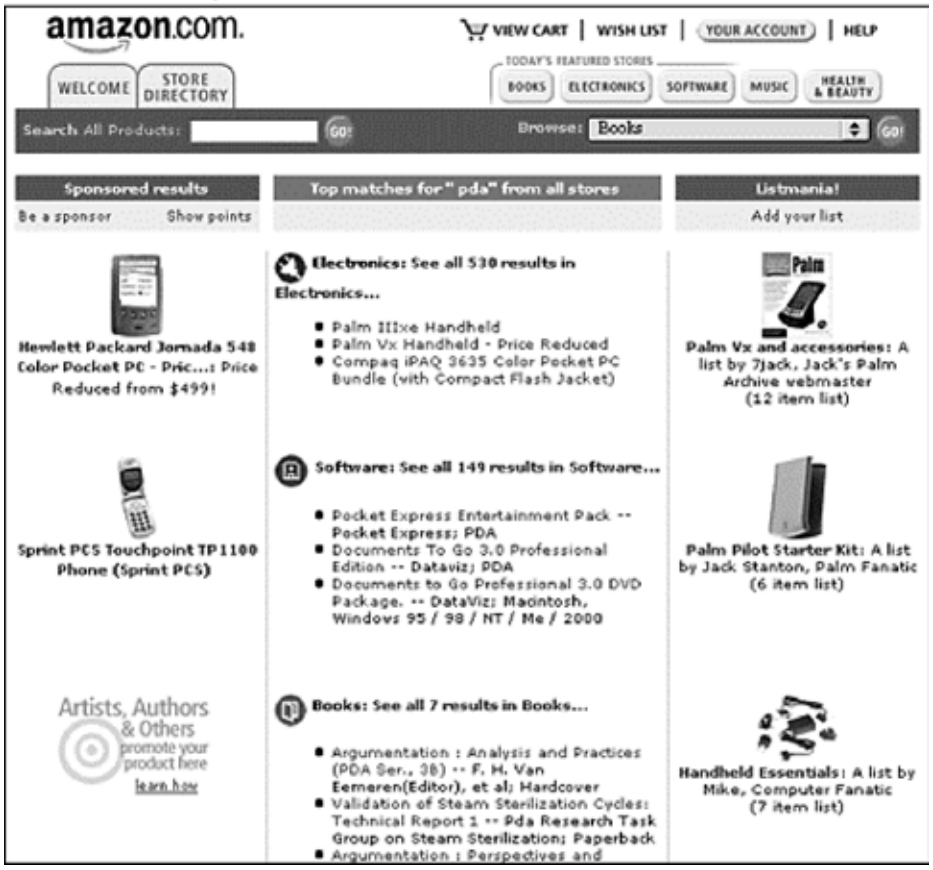
In e-commerce sites the crucial design parameters are efficient navigation and search, along with speed to the final "place order" button. During the "dot-com" market bubble many new e-commerce sites spent fortunes of their investors' money on elaborate Macromedia Flash or digital video presentations and quickly failed - some went bankrupt before the site was launched. Meanwhile, the Web's most successful commerce sites kept things technically simple and basic. Amazon, eBay, Yahoo!, and other successful Web

commerce sites use remarkably spare page design schemes and simple text- or tab-based navigation systems. Another area where e-commerce sites often fail is in providing search engines that are smart enough to "degrade gracefully" when there is no exact match to a request. If a shopper types in "PDA" and the inventory fails to turn up any products by that exact name, the search engine should default to a list of "personal digital assistants" made by various manufacturers.

Amazon has experimented with various tab systems as the site has grown, but the choice of tabs as a navigation system was wise - tabs are one of the few real-world graphic navigation metaphors to have translated to the screen. Tabs work with only about eight or fewer choices, however. As tabs multiply, their sheer number creates confusion.

Amazon's order processing screens are also a model of navigation design for Web commerce. Most well-designed order screens are short and deal with topics one at a time (review items in "shopping cart," provide shipping address, add credit card information, and so on) on screens that don't require scrolling. But this forces the order process to take place over multiple screens, which could become tedious if not for the "you are here" progress icons at the top of the screen. The lesson here is clear: all e-commerce processes involve some tedium for the buyer. Yet if you provide information on the user's current position, the slow series of screens becomes less of a problem because the user knows what to expect.

Search results for "pda"



Progress icons tell you where you are in the process, and where you still have to go

Computer Lab

Formatting Tables

Tables can be formatted to improve the overall appearance. Like you can

1. Add borders
2. Include background colors
3. Adjust cell spacing and cell padding
4. Adjust cell alignment
5. Specify cell size
6. Specify table alignment

Creating Table Borders

Table Borders are the lines that enclose tables and clearly separate rows, columns and cells. To specify Table borders, you use an attribute and a number, measured in pixels, that tell the browsers the width of the border.

BORDER Attributes	Use
BORDER = n	Specifies a table border width, which is measured in pixels. The larger the number, the wider the border. BORDER= 0 removes borders, the default setting.
BORDERCOLOR = "#rrggbb"	Specifies a color for the table border as #rrggbb number or name.

Follow the steps as given below to create a table border and specify its color:

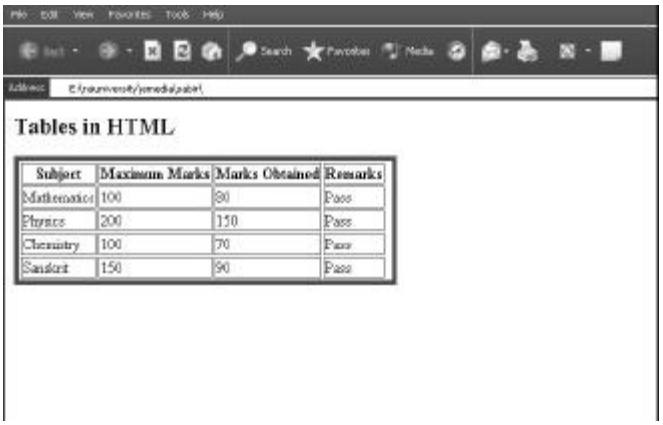
1. Add the BORDER= attribute to the opening table tag:

   <TABLE **BORDER**=5>

2. Specify the Border color by using the BORDERCOLOR= attribute and either an RGB value or the color name.

   <TABLE **BORDER**=5 **BORDERCOLOR**= "#FF0000">

   See the resulting Table, how it looks:

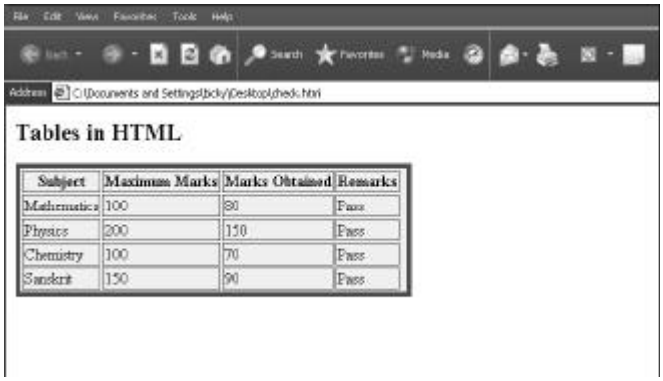


Including a Table Background Color

You can specify the background color for the table cells. This Background color appears only at the background of the cells and not on the border of the Table. The Table Background color attribute is BGCOLOR= "#rrggbb" and is used in the opening <TABLE> tag, like this:

<TABLE **BGCOLOR**= #CCFFFF">

The resulting Table will look like this:



While adding a background color to the table cells, you must take care of the following:

1. The background color should be light if the text color is dark & vice versa.
2. The chosen color should be aesthetically pleasing.
3. The resulting HTML document should be viewed in a few different browsers.

Notes

LESSON 15:
ADVANCED HTML-2

Topics Covered

- Computer Lab: Adjusting Cell alignment, specifying a cell size, Cell spacing and padding, Specifying Table Alignment & Width, and Adding Frames – an introduction.

Objectives

Upon completion of this lesson, you should be able to:

- Adjust Cell alignment
- Specify you own cell size and spacing.
- Align Tables according to the Web page.
- Add Frames to your web page – An Introduction.

Adjusting Cell Alignment

Cell alignment refers to the horizontal and vertical alignment of the cell contents. For most of the browser, the default setting of the cell alignment is:

- Table Headings are horizontally and vertically centred in the cell.
- Table Contents are left aligned horizontally and centred vertically in the cell.

Here is the Description of Cell Alignment Attributes

Attribute	Use
ALIGN = n	Specifies the horizontal alignment of cell contents as LEFT, CENTER or RIGHT
VALIGN = n	Specifies the vertical alignment of cell contents as TOP, MIDDLE, BOTTOM or BASELINE.

To set the alignment attributes, you must use them in any <TR> , <TD>, or <TH> tags.

<TR ALIGN= RIGHT>

or

<TD VALIGN= TOP>

or

<TH ALIGN= CENTER VALIGN= MIDDLE>

Specifying Cell Size

The Cell Size can be specified in two ways:

1. As a percentage of the browser window.
2. As a fixed size in the number of pixels.

For example, a cell size which has been set to 50% of the browser window will be wider or narrower depending upon the screen resolution and on the size of the browser window. In such a case the size of the Cell will be relative to the size of the browser window.

While if the cell size has been set to a fixed number of pixels, lets say, 200 pixels, then it will be exactly that wide in the browsers regardless of the resolution and size of the browser window.

Here is a description of the TABLE Width and Text Wrap attributes

Table Width Attribute	**Usage**
WIDTH= "n"	Specifies the width of a cell in either pixels or as a percentage of table width.
NOWRAP	Prohibits text wrapping within the cell, thus requiring all text to appear on one line.

Again use these attributes with the <TH> or <TD> tags to control the TABLE WIDTH and text wrap.

Cell Spacing and Cell Padding

Cell spacing is the spacing between the cells & ***Cell padding*** is the spacing between cell contents and cell borders.

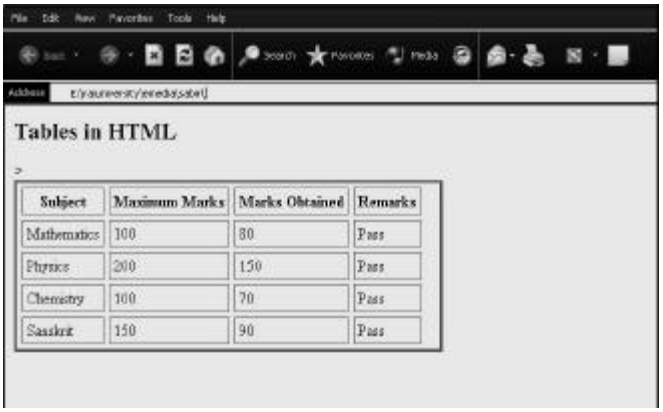
Here is the description of the Cell Spacing & Cell Padding attributes:

Attribute	**Usage**
CELLSPACING= n	Specifies, in pixels, the space between cells.
CELLPADDING= n	Specifies, in pixels, the space between cell contents and cell borders.

Adding more space within and between cells with these attributes will help improve the readability and appearance of the Table.

These attributes are again included within the <TABLE> tag like this:

<TABLE CELLSPACING= 5 CELLPADDING = 4 BORDER= 3>



The complete source code for the above table which includes the CELLSPACING & CELLPADDING attributes of the TABLE tag is here:

<HTML>

<HEAD> <TITLE> Tables in HTML </TITLE> </ HEAD>

<BODY>

<h2> Tables in HTML </h2>

<TABLE CELLSPACING= 5 CELLPADDING = 4 BORDER= 3 BGCOLOR= "#CCFFFF" >

<TR>

<TH> Subject </TH>

<TH> Maximum Marks </TH>

<TH> Marks Obtained </TH>

<TH> Remarks <TH>

</TR>

<TR>

<TD> Mathematics </TD>

<TD>100 </TD>

<TD> 80 </TD>

<TD>Pass </TD>

</TR>

<TR>

<TD> Physics </TD>

<TD> 200 </TD>

<TD> 150 </TD>

<TD>Pass</TD>

</TR

<TR>

<TD> Chemistry </TD>

<TD>100</TD>

<TD>70</TD>

<TD>Pass</TD>

</TR>

<TR>

<TD> Sanskrit </TD>

<TD> 150 </TD>

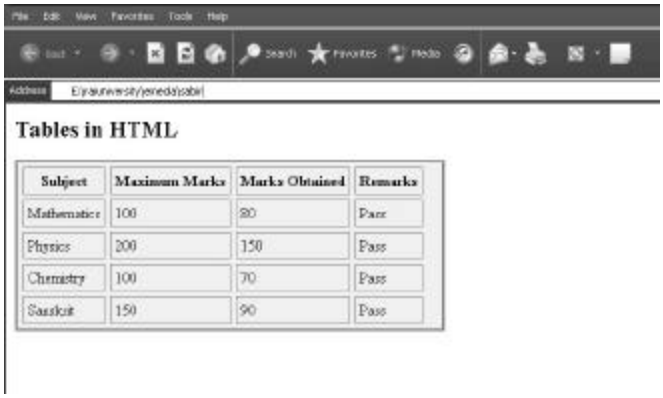
<TD> 90 </TD>

<TD>Pass </TD>

</TR>

</TABLE></BODY>

</HTML>



Specifying Table Alignment & Width

Table width, alignment and text wrap settings specify how the table fits into the HTML document.

These attributes along with their description is provided here:

Attribute	Usage
WIDTH= n	Specifies table width in pixels or as a percentage of the window width.
ALIGN= "…"	Specifies table alignment as LEFT, CENTER, RIGHT.

Again these attributes should be used as shown below:

<TABLE **WIDTH**=70% **ALIGN**= "RIGHT">

Lets say we use the following source code with WIDTH and ALIGN attributes to TABLE as given below:

<HTML>

<HEAD> <TITLE> Tables in HTML </TITLE> </ HEAD>

<BODY>

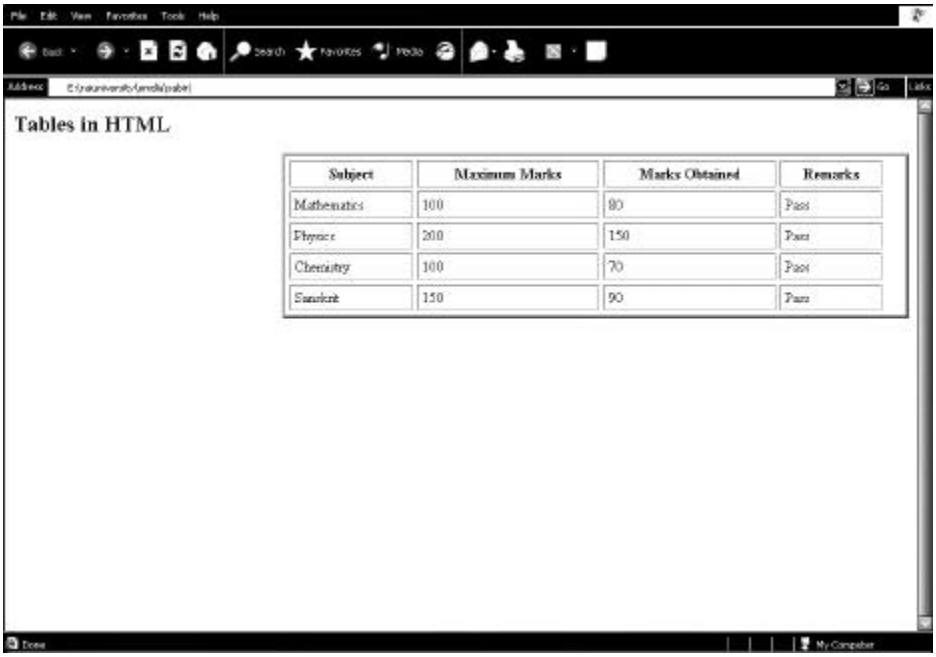
<h2> Tables in HTML </h2>

<TABLE WIDTH=70% ALIGN= "RIGHT" CELLSPACING= 5 CELLPADDING = 4 BORDER= 3 BGCOLOR= "#CCFFFF" >

```
<TR>
<TH> Subject </TH>
<TH> Maximum Marks </TH>
<TH> Marks Obtained </TH>
<TH> Remarks <TH>
</TR>
<TR>
<TD> Mathematics </TD>
<TD>100 </TD>
<TD> 80 </TD>
<TD>Pass </TD>
</TR>
<TR>
<TD> Physics </TD>
<TD> 200 </TD>
<TD> 150 </TD>
<TD>Pass</TD>
</TR
<TR>
<TD> Chemistry </TD>
<TD>100</TD>
<TD>70</TD>
<TD>Pass</TD>
</TR>
<TR>
<TD> Sanskrit </TD>
<TD> 150 </TD>
<TD> 90 </TD>
<TD>Pass </TD>
</TR>
</TABLE>

</BODY>
</HTML>
```

The resulting Table will appear like this:



Adding Frames

Frame is a feature in HTML which allows a single browser window to be divided into multiple sections, each with an independent HTML page loaded inside it, and these HTML pages can interact with each other. Each page loaded within each section of the frames window is a separate HTML document. Subdividing browser window can dramatically improve both the appearance and the usability of the site. For example, because frames group information, visitors can more easily find what they want.

6.1 Advantages of using Frames

Frames widely supported by a number of browsers, offer a number of advantages, both to users and developers.

1. Frames are widely used on the Internet and are perceived as a hallmark of a technically sophisticated site.
2. Frames can be implemented to accommodate older browsers that can't actually display frames, so you can also serve all visitors to your site.
3. Frames reduce downloading time. Visitors can download only the content pages- and not static elements such as logos and navigation menus.
4. Frames improve site usability. Navigation remains visible as content changes in a separate frame.
5. As the frames separate content from navigation elements and structural elements, you can easily and quickly update pages and provide new content More about Frames in HTML in the Next Chapter

Assignment

1. What are site genres?
2. Add new rows and columns to your already developed web document
3. Add Borders to the tables of your webpage?
4. Keeping care of the overall look of the page, apply table border color and background color?
5. Adjust new cell alignment for your webpage?
6. What is cell padding, explain with example?
7. What are frames in HTML? What are the advantages?

Notes

LESSON 16:
ROUNDING UP HTML

Topics Covered

- Site elements, Different kinds of Home pages, Graphics or Text, Master Page layout Grids, Evaluation of HTML, Evaluation Test –Theoretical and Lab Exercise

Objectives

Upon completion of this lesson, you should be able to:

- Identify different layouts for Home pages
- Define Splash Screens
- Choose between Graphics or Text for your home page
- Design Master page layout Grid
- Final roundup of HTML

Site Elements

Web sites vary enormously in their style, content, organization, and purpose, but all Web sites that are designed primarily to act as information resources share certain characteristics.

Home pages

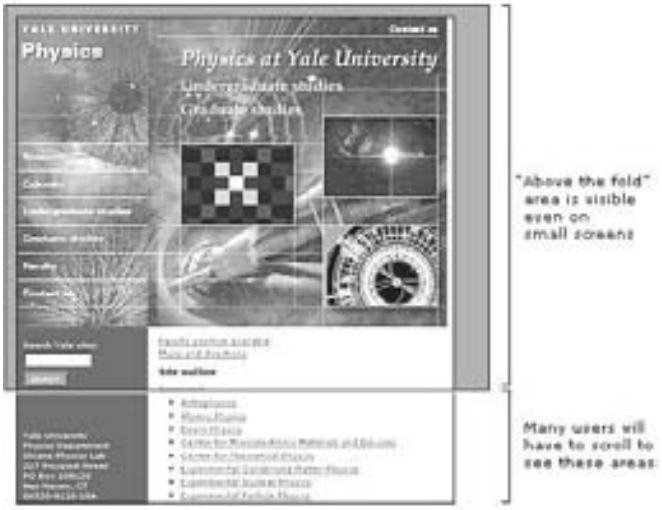
All Web sites are organized around a home page that acts as a logical point of entry into the system of Web pages in a site. In hierarchical organizations, the home page sits at the top of the chart, and all pages in the Web site should contain a direct link back to the home page. The World Wide Web URL for a home page is the Web "address" that points users to the Web site. In many cases, home page addresses are used more than home and business street addresses.

The thirty square inches at the top of a home page comprise the most visible area of the Web site. Most readers will be looking at your site on a seventeen- to nineteen-inch monitor, and the top four or five vertical inches are all that is sure to be visible on their screens. The best visual metaphor here is to a newspaper page - position matters. It's nice to be on the front page, but stories "above the fold" are much more visible than those below. In sites designed for efficient navigation the density of links at the top of the home page should be maximal — you'll never get a better chance to offer your readers exactly what they want in the first page they see:

Home pages perform a variety of functions. Some designs primarily take advantage of the high visibility of the home page; it's the most visited page of your site and is therefore ideal for posting news and information. The high visibility of the home page also makes it the ideal place to put a menu of links or table of contents for the site. Navigation schemes in sites that use the home page for news and menu listings are often centered on the home page, using it as the "home base" for most navigation through the site. Other home page designs use the home page as the first opportunity to steer audiences into subtopic or special interest areas of the site. The following are the most common home page design strategies:

Menu home pages

Menu-like lists of links dominated the design of most home pages in the first few years of the Web, and this remains the most common type of home page. Menu-style pages need not be dominated by plain lists of text-based HTML links — graphic imagemaps are often more space efficient, packing the maximal number of links into every square inch of the page. Sophisticated designs combine graphic imagemaps and blocks of text-based links. Text links offer less visual impact but are much easier to change on short notice.



News oriented home pages

The home pages of such organizations as the *New York Times* and CNN (Cable News Network) are obvious examples here, but many organizations take advantage of the high visibility of their home pages to make announcements to both employees and the larger Web audience. Live information makes a home page more attractive and more likely to generate repeat visits. Many home page designs reserve one or more areas for late-breaking news, calendar events, or alert messages. If you choose this approach, standardize the location and nature of the news areas within a general page framework that remains stable over time. Readers will be disoriented if your home page changes too much from week to week.

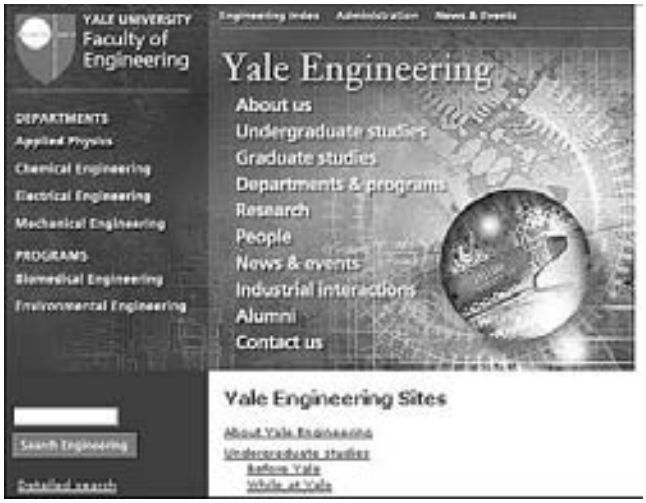
Path-based home pages

Large Web sites offer so much information to so many audiences that it can be impossible to represent the depth and breadth of the site content in a single home page. In addition, readers often come to a Web site with specific interests or goals in mind. In such cases it is often advantageous to use the home page to split the audience immediately into interest groups and to offer them specific, more relevant information in menu pages deeper within the site.

Splash screens

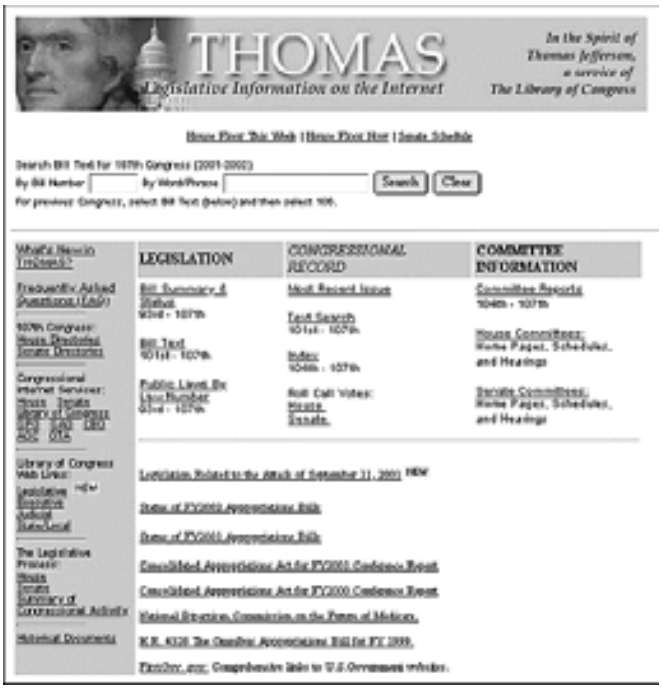
Splash screens, or site covers, are the most controversial of all site elements. For many readers, site covers are simply an additional and annoying mouse click between them and the content they are seeking. Such readers would like to be presented with a site index at the start rather than a splash screen with pretty graphics or spiffy animations. The key is to assess your audience and then choose the entry that seems most appropriate.

Consider the function of your site. Is your typical visitor there for a single visit or will they visit often? An online tool such as a calendar or search engine should not have a purely aesthetic site cover, because visitors may visit the site several times a day. An elegant but nonfunctional cover on such a site will soon become tedious. Of course, visitors who do not wish to enter through the front door can simply bookmark an internal page of your site, such as the table of contents. But if you find yourself **repeatedly making this argument** for using a splash screen, you may wish to adapt or even remove your cover to better accommodate your audience.



The success of splash screens depends enormously on the expectations of the site visitor. If you were to visit a site about a poet you would enter with different expectations than you would when visiting a site about carpal tunnel syndrome. Visitors to a site about poetry may not simply be out Web foraging but may instead be looking for an experience, for art, for entertainment. A mysterious, enigmatic, aesthetically pleasing facade might just entice such visitors in.

One of these four basic schemes may dominate the home page design, but increasingly home pages are a complex amalgam of all strategies. The library of congress's thomas home page mixes images, menu lists, and special interest sections:



Graphics or text?

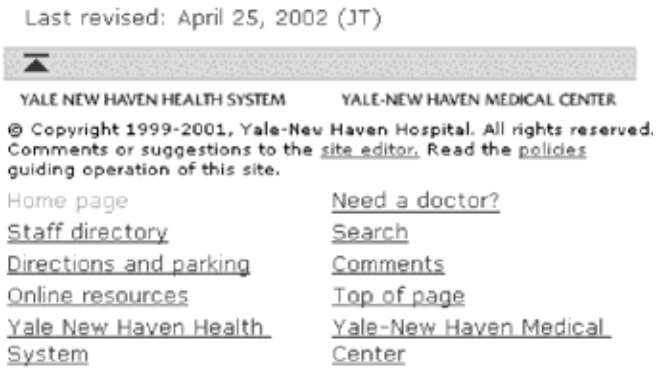
The primary layout decision you will make about your home page is how heavily you will use graphics on the page. Most corporate, institutional, and education home pages display at least a small graphic banner across the top of the home page, and in commercial sites the trend is rapidly moving toward complex mixtures of links embedded in graphic imagemaps and links in text that emulate the look and functions of CD-ROM multimedia title pages or print magazines. Although strong graphics can be effective at grabbing a browser's attention, large graphic menus impose long loading times for pages, especially for users linking to the Internet via modems or slow network connections. Even if the user is accessing your Web site at Ethernet speeds, graphic menus may still load many times slower than text-based lists of links.

This dichotomy between slow-loading but attractive graphics-based home pages and fast-loading but prosaic text-based home pages also reflects the need to address multiple audiences with different expectations. The goals for most Web sites are to transmit internal information (to students, employees, and clients) and to communicate with potential clients and the general Web-browsing public. The Guggenheim Museum has opted for a graphic home page design, but the layout is carefully designed to stay within the dimensions of the average office monitor. Because the graphic area is moderately sized, the page loads reasonably quickly for a graphic menu:

The relatively plain, mostly text-based home page for the World Wide Web Consortium offers an efficient ratio of links per kilobyte of page size, but at some cost in pure visual appeal. The page is fast-loading and well designed for its audience of Web specialists but would not attract the average browser through presentation alone:

The best way to meet the needs of both casual browsers and highly targeted frequent users is to present alternative views of your Web site. One approach is to make a visually attractive main home page aimed at the general audience of Web browsers but also to offer a more text-oriented alternate home page that emphasizes rapid access to information via detailed text menus. Another approach is to use a graphic banner at the top of the home page, followed by a set of text-based links. The home page for *The Atlantic Online* reflects this dual approach, with a moderate-sized graphic image topping a well-organized set of text links:

Many Web users who access the Internet via modems choose not to load graphics and thus will not see menu links embedded in image map graphics. If you choose to depend on links embedded in image maps, it is crucial to provide alternative text-based links that will remain visible even if readers have chosen to turn off the display of graphics. Many sites provide these text-based links in small sizes below the page footer, where they are accessible but do not disrupt the overall design of the page:



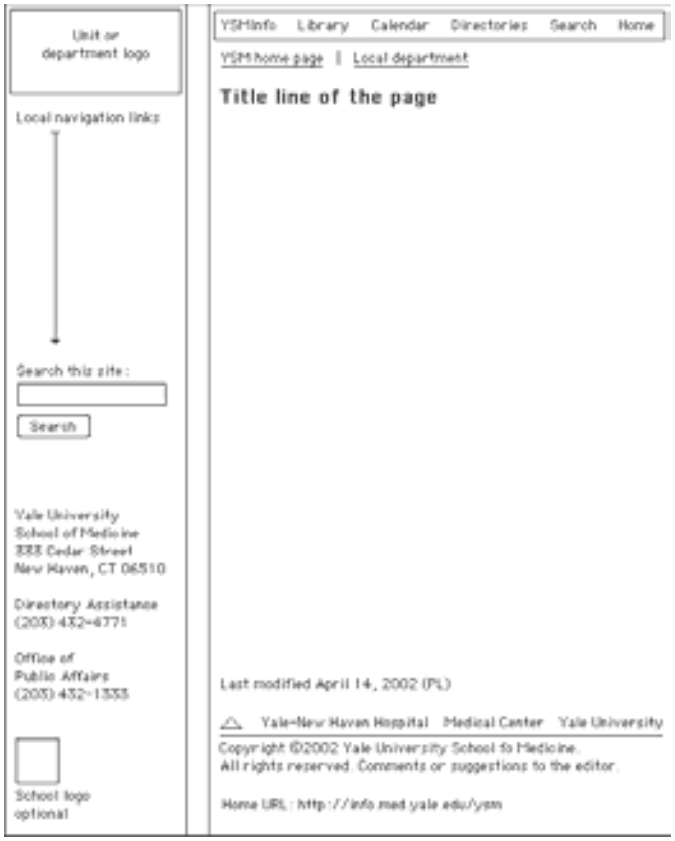
The master page layout grid

The home page usually gets the most attention in the beginning of a Web site design project. Your home page is important, but remember- it is inherently singular. Don't let the design of the home page dominate your site design strategies. When designing a large Web site it's much more important to concentrate on the standard layout grid that all the internal pages of the site will share. After all, you'll have only one home page, but you could easily have thousands of internal pages as the site grows. If you make a mistake on the home page you only have one page to fix. If you make a mistake in creating the basic internal page grid you could soon have thousands of pages to fix. The overall success of the Web site will depend more on a strong, logical page grid than on the appeal of the site's home page. The details of page layout grids are discussed in the following chapters, but we raise the issue of page grids here because it is a crucial design decision when creating a Web

site. Think about it: if you tire of your home page, you have only one page to change. Make a big mistake with your page grid and you could end up with thousands of poorly designed pages.

Constructing a layout grid usually begins by analyzing the content structure you have worked out and deciding what (besides the all-important home page link) you will need for the most general navigation purposes. Here you are trying to establish what links will be present and generally useful on every page of your Web site. If you work in a corporation or any sizeable government or nonprofit enterprise you must also consider how your particular site fits into the larger context of the other Web sites in your enterprise. Does your enterprise already have an established and successful Web design format that you can adopt? If not, carefully consider what links, logos, and other graphic and functional elements reflecting your place in the larger enterprise should be present on all of your pages. The goal is to establish a logical and consistent approach to where basic graphic identity elements, navigation links, and other essential information appear on every page within your site. Terminology is also crucial here: choose your words carefully for links and titles, and solicit comments and feedback from fellow team members and site users. A misleading or confusing label or phrase can ruin the functionality of a link.

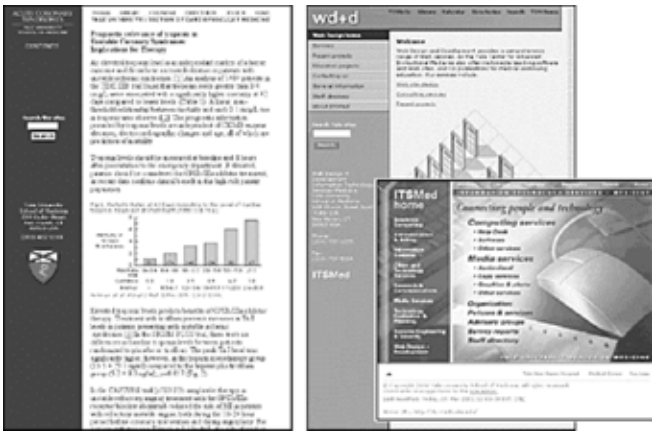
A page grid establishes the number, location, and terminology of all major page links and page graphic elements:



Note that so far we have not discussed specific graphic elements in relation to the page grid. A page grid can be used to enforce a very rigid, visually consistent identity scheme by incorporating information on the exact graphics, logos, fonts, colors, and wording of page elements:

Illustration: Complex Yale-New Haven Hospital intranet interface layout grid (large graphic, opens in new window)

However, a page grid is also a great way to allow a variety of visual approaches to site design within an enterprise while maintaining a reasonably consistent navigational interface for the user. All three of these pages, though they use a variety of colors and graphic schemes, share the same underlying page grid that specifies the position and wording of major navigation links and other page elements:



info.med.yale.edu, its.med.yale.edu/wdd, and its.med.yale.edu

After establishing the internal page grid you can build the site home page on the same underlying grid, so that readers who come to your site are immediately introduced to the page grid, identity graphics, and navigation scheme that is used throughout the site. The home page grid does not have to be identical to the internal page grid; home pages must provide a much wider range of content and navigation elements than the average internal page. For this reason home pages are often much wider to fill the screen and more graphic than the average internal page:

Computer Lab

Rounding Up HTML

All this four weeks, we have covered all aspects of HTML which includes Fundamentals to the Advanced HTML; we will cover the Frames and Style Sheets using Dreamweaver. This is the best time to evaluate ourselves. So, today we will round up HTML and its elements.

The evaluation test will consists of a Class test and Lab exercise. I would rather like you to practice and go through the following aspects of HTML:

- ELEMents Of A Web Page
- Overview Of Html
- Creating A New Html Document
- Saving An Html Document
- Viewing An Html Document
- Tags And Attributes
- Basic Html Document Components
- Body Text

Lab Exercise

Give final touches to your personal home pages and add the following elements to it:

- A Brief Biography
- Your Hobbies listed in an ordered list
- Your best friends listed in an unordered list
- Photographs of yourselves and Family with aligned Text
- Use Horizontal Rulers to divide sections of your home page
- Add links to your favorite websites

Summary

This lesson is aimed at differentiating the different layout plans of home pages designed for a particular audience. There is also Evaluation Test -1, where we evaluate ourselves both theoretically and hands on in the lab. We follow up with the final touches of our personal home pages.

Notes

LESSON 17:
ROUNDING UP HTML-2

Topics Covered

- Menus and sub sites, Site guides – Table of contents or site Index, site maps, Searching features in websites, Rounding Up HTML – 2

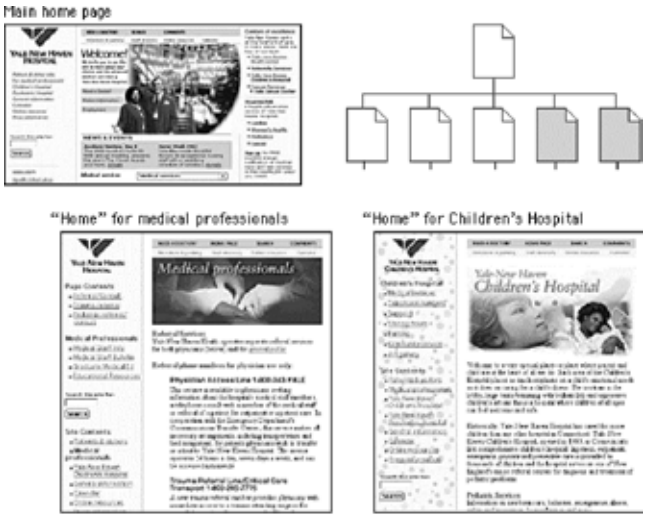
Objectives

Upon completion of this lesson, you should be able to:

- Define Menus and sub sites
- Create site guides using either Table of contents or site index.
- Create Site maps.
- Searching features
- Evaluation Test - 2

Menus and Sub sites

Unless your site is small you will probably need a number of submenu pages that users enter from a general category listing on your home page. In complex sites with multiple topic areas it is not practical to burden the home page with dozens of links - the page grows too long to load in a timely manner, and its sheer complexity may be off-putting to many users. Providing a submenu page for each topic will create a mini-home page for each section of the site. For specialized, detailed submenus you could even encourage frequent users to link there directly. In this way the submenus will become alternate home pages in "subsites" oriented to a specific audience. Be sure to include a basic set of links to other sections of the site on each subsite home page, and always include a link back to your main organization home page.



Although these internal pages are nominally submenus of the home page, in fact they function more as alternate home pages for special audiences.

Site Gguides

Unlike print media, where the physical heft and dimensions of a book or magazine give instant cues to the amount of information to expect, Web sites often give few explicit indications of the depth and extent of the content available. This is especially true when the home page does not provide an extensive listing of internal site links. Although search facilities offer users quick access to your content, they are no substitute for a clear, well-organized exposition of your site's contents. Even the best search engines are relatively stupid and have only the most primitive means of assessing the priority, relevance, and interrelations of the information resources you offer in your Web site.

Tables of contents or site indexes

Tables of contents and keyword indexes of the information in your Web site are an easy way to give readers a clear sense of the extent, organization, and context of your site content. Tables of contents and indexes are familiar print conventions; readers understand them and will appreciate the overviews, perspectives, and efficient navigation they afford. The main difference between Web-based indexes and their print counterparts is that a Web site index need not be as extensive or detailed as a book index because you can always use a search engine to find every obscure reference to a keyword. A Web site index should point to the most relevant and useful occurrences of a keyword and ignore minor references (those will turn up in a keyword search anyway).

Site maps

Site maps give the reader an overview of the site contents. Site maps come in two varieties: graphic diagrams that literally use

the "map" metaphor and organized list links to major pages within the site.

The form of graphic site maps varies from hierarchical branching diagrams to geographic metaphors, but they all share the same limitations:

- Graphic maps of large or complex Web sites are at best simple metaphors that convey only the approximate outlines of the site content. Computer screens offer limited space, so site map graphics tend to oversimplify and exaggerate hierarchies of information. The results are seldom worth the time and expense involved in making the graphic, unless you mean to convey only the broadest outlines of the site structure. Unless your Web site deals with information that is inherently spatial (a set of maps, for instance), text-based tables of contents or indexes will always be more efficient and informative.
- Graphic site maps are often complex graphic files, which are harder to change as your site evolves.
- Graphic site maps are inherently large graphics and are slow to download.

Site maps based on carefully organized text links of major menus and submenu pages and major page titles are much more informative than graphic maps and can easily be updated as your site matures. Most effective text site maps are really just expanded tables of contents. As such they are instantly familiar and understood by the vast majority of the readers in your audience. Bitstream's site map is a particularly well designed example of this type:

"What's new?" pages

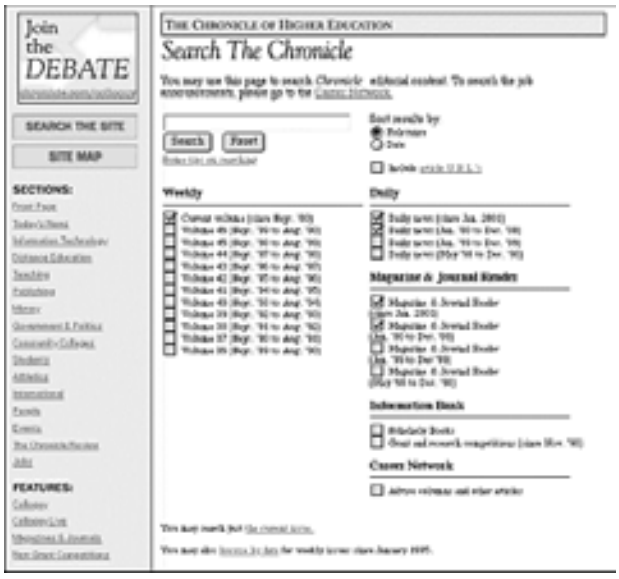
Many Web sites need to be updated frequently so that the information they present doesn't become stale. But the presence of new information may not be obvious to readers unless you make a systematic effort to inform them. If items that appear on your home page menu are updated, you could place a "new" graphic next to each updated item. If, however, your site is complex, with many levels of information spread over dozens (or hundreds) of pages, you might consider making a "What's New" page designed specifically to inform users of updated information throughout the site.

Every Web page in a corporate or institutional site should carry a revision date that is changed each time the page is updated so that users can be sure they have the latest version. Many readers print pages from the Web. Without a revision date, your readers have no way of telling whether the page they printed is current or outdated.

Search Features

Search facilities are a necessity for large sites and are convenient even for smaller sites that contain long documents. Sites that are updated frequently also require a good search engine, because your menus and site index will probably not keep pace with every change you make in the content pages of the site. But search engines are no substitute for a carefully organized browsing structure of menus and submenus. The two systems, browsing by menu and searching by keyword, complement each other -neither system alone is adequate. Keyword searches give the reader specific links to follow but with no overview of the nature and extent of your content and no feel for how you have organized the information. Menus and tables of contents are great for broad overviews, but if your readers are looking for a specific piece of information not mentioned in the contents, they may miss what you have to offer.

The search software you use will often dictate the user interface for searching. If you update your content frequently, be sure that your search engine's indexing is done at least daily. Also be sure that your readers understand exactly what content is being searched: the entire Web site or just a subsection? If your site is complex you may wish to offer readers a pop-up menu that lists the areas of your site and allows them to limit their search to a specific area. And make sure that the results page also matches the graphic design of the site.



Computer Lab

Rounding Up Html

All this four weeks, we have covered all aspects of HTML which includes Fundamentals to the Advanced HTML; we will cover the Frames and Style Sheets using Dreamweaver. This is the best time to evaluate ourselves. So, today we will round up HTML and its elements.

The evaluation test – 2 will consist of a Class test and Lab exercise. I would rather like you to practice and go through the following aspects of HTML:

- Elemens of a good website desing
- Why graphics?
- Image constraints
- Ways of anchoring links
- Inserting email links from your page
- Activating an image
- Tables in html
- Frames – an introduction

Lab Exercise

Give final touches to your personal home pages and add the following elements to it:

- Add anchoring links within your web site
- Insert email link to your friends in your personal home page
- Use Inline Image as links
- Add table formatting your personal detail
- Use appropriate background color to your tables
- Use Cell padding and Table alignment

Summary

This lesson gave you the idea about Menus and sub sites, Site guides like Table of contents and site index. It also taught you about site maps, searching features in a websites. Finally we round up HTML completely with the Evaluation Test – 2.

Notes

LESSON 18:
SITE ELEMENTS

Topics Covered

- FAQ pages, Bibliographies and appendixes, custom server error pages, contact information and user feedback, Introduction to Dreamweaver work area, The Toolbox.

Objectives

Upon completion of this lesson, you should be able to:

- Identify FAQ pages and what thy area all about.
- Create Bibliographies and appendixes
- Understand user feedback forms
- Identify the functionalities of Dreamweaver work environment
- Identify The Dream weaver's toolbox

FAQ Pages

The Web and other Internet-based media have evolved a unique institution, the FAQ or "frequently asked questions" page, where the most commonly asked questions from users are listed along with answers. FAQ pages are ideal for Web sites designed to provide support and information to a working group within an institution or to a professional or trade group that maintains a central office staff. Most questions from new users have been asked and answered many times before. A well-designed FAQ page can improve users' understanding of the information and services offered and reduce demands on your support staff.

Bibliographies And Appendixes

The concept of "documents" in electronic environments like the Web is flexible, and the economics and logistics of digital publishing make it possible to provide information without the costs associated with printing paper documents. Making a report available to colleagues on paper usually means printing a copy for each person, so costs and practicality dictate that paper reports be concise and with limited supporting material. Bibliographies, glossaries, or appendixes that might be too bulky to load into a task force report or committee recommendations document can instead be placed in a Web site, making the information available to colleagues as needed.

Custom Server Error Pages

Most Web users are familiar with the "404 error, file not found" screens that pop up on the screen when a Web server is unable to locate a page. The file may be missing because the author has moved or deleted it, or the reader may simply have typed or copied the URL of the page incorrectly. One mark of a really polished Web site is custom-designed and useful error and server message pages. Most standard error screens are generic, ugly, and uninformative. A well-designed error screen should be consistent with the graphic look and feel of the rest of the Web site. The page should offer some likely explanations for the error, suggest alternatives, and provide links to the local home page, site index, or search page:

Contact information and user feedback

The Web is a bidirectional medium - people expect to be able to send you comments, questions, and suggestions. Always provide at least one link to an email address in a prominent location in your site. You can request user information and feedback using Web page forms and then use a database to store and analyze their input.

The logistical and support staff implications of creating a popular Web site are often overlooked until a crisis develops. Rolling out a new, heavily trafficked Web site is like suddenly adding a second front door to your enterprise. Who will greet the people who come flooding in? Who will answer their questions about your organization and its products and services? Who will collect and analyze the information you receive from your readers? Before you add this functionality to your Web pages, be sure you have an infrastructure in place to handle the fruits of your success.

Street Addresses, Phone Numbers, Fax Numbers

It is amazing how often site developers forget that not all communication with the organization goes through the Web site. Even if you have a great Web site, people will still want to call you, send you mail and express packages, and fax you documents. Your home page should include the same contact information you provide on your stationery, marketing materials, and business cards. If your home page design doesn't allow adequate space for this information, at least provide a link to another page with contact information.

Maps, Travel Directions, Parking Information

Your Web site is an ideal place to make travel information available to clients, visitors, vendors - anyone who needs to find your organization. Graphic maps, text-based directions, local hotel information, and even internal floor plans can ensure that your visitors will be able to reach you easily and efficiently.

Computer Lab

Dreamweaver

Dreamweaver is considered a WYSIWYG (what-you-see-is-what-you-get) program because of its visual interface. What sets Dreamweaver apart from many other design tools is its tag editing features. For this reason Dreamweaver is usually the preferred tool for developers who are proficient in HTML.

In addition to always having an HTML code window just a click away, Dreamweaver also has a built in tag editor, an option to use an external HTML editor, and when elements are copied to the clipboard, they are copied in HTML format.

Take a guided tour of Dreamweaver

Before you get started, watch the Guided Tour movies to familiarize yourself with the Web development process and with Dreamweaver features.

1. In Dreamweaver, choose Help > Guided Tour.
2. Click a movie title.
3. Close the movie when you finish.

The Dreamweaver work area

Let's start with a brief overview of the Dreamweaver work area.

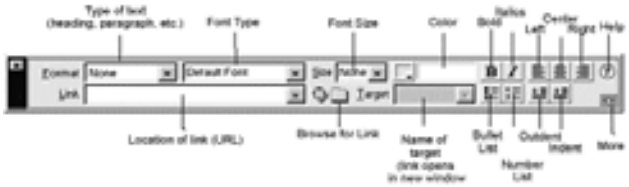
- If you haven't already launched Dreamweaver, double-click the Dreamweaver icon to launch it.

The Dreamweaver work area accommodates different styles of working and levels of expertise. When you launch Dreamweaver, the following work area items open:

Toolbars

Dreamweaver has 3 primary toolbars: Objects, Properties and Launcher. The Objects Toolbar allows you to insert objects with the click of a mouse. The Properties Toolbar is the most important of them all. It is used to specify attributes on the selected object. The Launcher Toolbar opens different palettes.

The Properties Toolbar



This is the toolbar you will use most often. This is where you specify attributes for the object you are working with. An object is anything HTML element. Text is an object, as is a graphic, a list, a table and a form. Options on the toolbar change according to the active object. The figure above is the default if no object is selected. As you can see, most of the default options have to do with the presentation of text.

When the 'More' arrow on the lower right corner is selected, the Toolbar doubles in size, with some advanced options.

With no objects selected, there are no advanced options.

Here we show the toolbar with an image selected. As you can tell, the options have all changed. There are fields for width and height dimensions, links, vertical space, horizontal space,

alignment, maps ... These are all Advanced Options that will be

explained later in ttutorial.

The Objects Toolbar

The Objects toolbar is where you can easily insert many HTML objects. With this toolbar you can insert images, tables, horizontal rules, layers, applets, active x, plugins, Flash, Shockwave and rollovers.

You can also toggle the items in this toolbar by clicking on the arrow near the top. This brings up a sub-menu where you can change to Forms, Head, and Invisibles. With Forms you can add standard form objects. With the Head Objects, you can define your meta tags and other information that appears in the <HEAD> container. With the Invisible Objects you can add anchors, comments, scripts and more.

Unless you author with a large monitor, I recommend you keep this toolbar closed to avoid clutter in your work area. I've found the more workspace I have, the easier it is to work and the better the results.

The Launcher

This is an easy way to launch certain palettes and windows within Dreamweaver. You should note that this toolbar also resides in the lower right corner of the Dreamweaver window without the text descriptions. I recommend that you learn what the icons mean, then remove this toolbar from your workspace.

Site - This is where you can manage your site.

Library - Here you can keep a collection of objects just by dragging them into the window. You can also maintain templates here.

Styles - Here you can specify and apply Style Sheets

Behaviors - Here you can define and apply Javascript Behaviors

Timeline - Here you can control Dynamic HTML animations

HTML - Here you can view and edit the source code of the document

Assignment

1. What are FAQ pages?
2. What should be there in the contact information?
3. Why is User feedback important?
4. What is Dreamweaver?

Notes

LESSON 19:
PAGE DESIGN-1

Topics Covered

- Clarity and Vitality, How can you trust in your website, Page Design Tips, Menu commands in Dreamweaver, Preferences setting in Dreamweaver.

Objectives

Upon completion of this lesson, you should be able to:

- Create the look and feel of Websites
- Create Trust in your website
- Get some page tips
- Identify Menu commands in Dreamweaver
- Set Preferences in Dreamweaver

Clarity-vitality... The Look And Feel Of Websites

As we surf the web, we are somewhat awed by the myriad expressions of design which are evident (we shall not discuss the sites which are, quite simply, *not* designed). We come across clean, crisp, and beautiful sites which convey a lot of information in an easy to navigate manner. Then there are the sites, which are cluttered, discordant and somewhat confusing. Still others which are zany and dynamic, 'happening' sites where colours, concepts, visuals, text, coalesce and flow in harmony. Sites designed by people from all around the world. From designers who experiment with a new medium and absorb it as part of their portfolio of services, to the new genre of web masters and designers who live and breathe the WWW.

(We shall not go into the merits of frames, navigation bars on the left, right, centre, top, bottom et al or whether a page scrolls endlessly or not).

It is quite evident today, that some designers advocate clarity and order in design, while others lay emphasis on visual vitality. At Iris, we believe that good design achieves a comfortable blend of the two-a fresh appealing look, with a clear emphatic message.

There is no universal rule for designing and creating effective websites. The medium is evolving and so is its design. The key is appropriateness. Are the graphics and design appropriate for the tone and content of the message, the intention of the sender, the requirements of the medium, the needs, desires, and orientation of the receiver? Some messages need to lay emphasis on clarity, others on vitality and still others, on a blend of the two.

Subjectivity and aesthetics come easily to many artists and designers. But, analyzing a message and its purpose requires objectivity-the ability to evaluate whether the design is exciting and strong, clear or beautiful, and, at the same time, whether it is really the most effective way of saying what needs to be said to those we need to reach.

So often, the messages we send out are enveloped in a clutter of noise. Noise, in communication theory, is anything that reduces and interferes with the comprehension of the message by the recipients. It can be wavy lines on the TV screen, static on the radio, broken links or a slow page on the Internet. In graphics it can be a confusion of elements with inadequate organization, or illegible type, or a picture that conveys the wrong impression, or a presentation that is too plain or too much like others that it fails to get noticed and read. One must remember that the role of design is to be noticed and communicate information to the receiver.

Browsing through the web reveals a wide range of designs that work very well. In the best sites, the graphics enhance rather that obscure the clarity of the message content of the site. Beauty and utility are both vital facets of communication design. It is appearance that makes a message noticed, read, enjoyed, believed and remembered. Where as the graphic look establishes that crucial first impression.

How to create trust in your website

'As the internet develops and matures, its success will largely depend on gaining and maintaining the trust of visitors' (Cheskin Research, January 1999)

There's an active debate over what constitutes trust online, mostly prompted by the fact that startup e-commerce companies realize they're losing sales because no one trusts them – only 10 per cent of respondents to the Cheskin e-commerce trust survey felt that there was little or no risk when purchasing on the web.

Part of a reason why trust is such an issue with consumers is because of the unfamiliar and insecure online environment.

The good news is that charities have always operated on trust and so have a head start on many online traders. One story quoted by Michael Johnston in *The Fundraiser's Guide to the Internet*, for example, tells of a Greenpeace donor to who had not made an online transaction before, but did trust the Greenpeace name enough to assume it would be alright this time.

The bad news is that for established charities, this head start is very easy to lose online, and for smaller or newer charities, it's difficult to gain. While some methods of building trust are obvious, for example offering guarantees of privacy and security, others are less so. The basics of these are outlined below.

Trustworthiness is about experience over time

'Trust is understood by most consumers to be a dynamic process – it deepens or retreats based on experience', reports a Cheskin Research study on eCommerce. 'The trusting process begins when an individual perceives indications that a firm may be worthy of trust'.

These indications might come through its manners, professionalism and sensitivity. Over time, the Cheskin study reports, these become 'character traits' such as dependability, reliability and honesty.

It follows that once a charity has a creditable site, the times it can persuade visitors to return, the higher the levels of trust that will be generated.

Trustworthiness is about good site design

The clarity and integrity of navigation, as well as being features of a 'good experience' online (see separate section >>), also help create an atmosphere of security and trust in the site.

Cheskin Research separate the attributes of navigation 'trustworthiness' into:

- Navigation clarity - the terminologies for navigation and content are apparent for the user to differentiate
- Navigation access - navigation placement is consistent, persistent and easy to find
- Navigation reinforcement - prompts, guides, tutorials and instructions aid and inform the user to perform a transaction or search.

Cheskin also highlight the importance of good, solid page design. A site should resemble other trusted sites, should look 'crafted' rather than thrown together, and visuals and layout should clearly convey a site's idea and purpose.

Trustworthiness is about your confidence and honesty

The web is an open medium, and users expect your site to be open. Have confidence in your site. Don't be afraid to link it to others you feel might be of use to your visitors – you'll be doing users a service by filtering through a lot of the rubbish, and they might well return to your site as a 'gateway' site. It also gives a sense of a shared cause and community. Besides this, as Nielsen points out, it's naive to expect that people won't look at other sources for their information anyway.

It's also about transparency. If there are failings with your site or service, don't gloss over them, let your users know onsite that you're aware of the problems and are trying to fix them.

Trustworthiness Is About Fulfillment

Cheskin advise that if you quickly and efficiently deliver users what you promise – whether this is merchandise or a particular on-line service – this will increase their confidence in your services. If you don't deliver, then you risk creating a fatal rift. Part of this fulfilment is related to the information you provide. If it's inaccurate, out of date or too shallow, you're not fulfilling your expected role as a provider of information.

Trustworthiness Is About Persistent Branding

Make sure your logo appears on every page, advises Cheskin. This not only helps navigation and establishes the identity of your site, it also creates an online identity for your charity, and gives your name an emotional resonance.

Page Design Tips

Regardless of how advanced you are at using HTML code, images, and animations, in order to take advantage of these useful tools you must pay careful attention to how you layout your web pages. That being said, it is equally important that you realize that there is much more to effective page layout than simply creating a nice looking page. The following tips will help you make the most out of your images, and allow you to create logically organized, user-friendly web pages.

Keep Important Sections Above the Fold

One of the keys to successful web page design is keeping all important text and images above the fold. All significant information should be accessible to users without scrolling down the page, and should be organized in a logical, easy to follow manner. For example, at Host Search, our most important function is our search function, which is available to users on the first page, above the fold. Information that needs to be kept above the fold includes the name of the site, the site logo, and any sections of content or pages that you wish to promote to users. Remember, this is the part of your site that your users will see first, so plan carefully because in the Internet world, first impressions really do last a lifetime.

Make Sure Text is Readable

In many web sites today, the combination of text and images is extremely common, and a good way to get the most out of each space on your web page. That being said, it is extremely important to make certain that all text which is combined with images is readable by users. Perhaps the best way to achieve this goal is to use contrasting text and image colors, and to blur the background image. By blurring the background image, you are in effect drawing attention to the clear part of the image, which is the text, thus getting the most out of both the image and the text. In addition, this tactic also helps to reduce the size of these combined images, allowing your page to load faster.

Create Grid Layers

When designing your page, it is a good idea to create your page all at once, and save it as a single file. Although the file will end up being rather large, it will give you a good idea of the look and feel of the page. After you have your page laid out, create a new upper-most layer using a graphics program, and set it to low opacity. Next, draw blocks on that layer using a color to mark the edges of the images on the page. Using these blocks as a guide, you can then make changes to the images below. The layer of sblocks will help you keep your page consistent, and are extremely useful for dynamic pages.

Avoid Wide Text Columns

When designing your web pages, it is a good idea to avoid wide, margin-to-margin text blocks, which take up a lot of space and can put off readers. Instead, lay out longer text stories in narrow vertical columns. Also try to avoid putting long vertical columns side by side, as it will make the reader scroll up and down the page.

Use Sub-categories

In order to avoid large text blocks, break up text into smaller sub-categories. This will assure that your pages are more aesthetically pleasing, and more reader-friendly. Sub-categories also allow readers to select certain portions of content that they are interested in, rather than making them sift through large text blocks.

Computer Lab

Dreamweaver

Menu Commands

Dreamweaver has many of the standard menus as other programs: File, Edit, View, Insert, Modify, Text, Commands, Window and Help. Just about everything in the program can be accessed via a menu command.

The File Menu

Under the file menu you can manage your documents, by saving, opening, creating new documents, etc. There are also many unique commands specific to Dreamweaver.

Import/Export - You can import XML into a template, export editable regions (of a template) as XML, and export CSS styles. More import/export features can be added by using plugins.

Convert - You can convert your document to 3.0 browser compatible or you can convert tables to layers.

Preview in Browser - You can check your document in your browser of choice. You can also define browsers here. When you get comfortable working in Dreamweaver, you'll find yourself checking your work in the browser often. The shortcut keys are F12 for the primary browser and Command (CTRL for PC) F12 for the secondary browser.

Check Links - Here you can make sure all the links within the current document are intact. You can also check links sitewide. The shortcut keys are Command (CTRL) F7 for the open document or Command F8 for the entire site.

Check Target Browsers - You can use this feature to check the compatibility of your document with a browser of your choice. Dreamweaver will check the HTML in your document for compliance with the browser you choose, and will generate an HTML report showing errors.

Recent Documents - There is always a list of the last few documents you worked on with Dreamweaver. You can easily re-open the document by selecting its name from the File Menu.

The Edit Menu

Undo/Redo - Here you can undo or redo a previous action. Shortcut keys are Command (CTRL) Z for undo and Command (CTRL) Y for redo.

Cut/Copy - Places the selected item on the clipboard. If Cut is selected, the item is removed from the document. Any object can be copied to the clipboard, including HTML elements (forms, tables). Shortcut keys are Command (CTRL) X for Cut, or Command (CTRL) C for copy.

Paste - Pastes an item from the clipboard. The shortcut key is Command (CTRL) V.

Paste as Text - This is useful when the clipboard contains HTML or other code Dreamweaver would recognize. If you want to display the code in the document, select this option. By default, Dreamweaver will paste the code into the source of the document and it will be applied immediately.

Launch External Editor - This is where you can launch the HTML editor of your choice, whether it be BBEdit, Simpletext, Homesite or Notepad. The default editor is specified in Preferences.

Preferences - Here is where you specify application preferences, such as editors, HTML, and more. We will be discussing the Preferences dialog in detail in the next section.

Find/Find Next/Replace - This is where Dreamweaver will look for a specific string of text (you define). This is a powerful feature when working with large sites. We will be discussing this feature in more detail later.

The View Menu

Here you can change aspects of how your workspace is displayed.

Head Contents - With this selected, a toolbar appears at the top of your document just below the menus. Here you can quickly add or modify elements that belong in the <HEAD> of the HTML document, such as Meta Tags, Javascripts and Styles.

You can learn more about the <HEAD> of an document here.

Invisible Elements - These are elements that cannot be seen on the page, such as Styles, Comments, Hidden Fields, etc. Dreamweaver will use a symbol to show that an object is present (see below). If View | Invisible Objects are selected, they will be displayed in your workspace like the icon below.

Rulers/Grids - You can turn rulers and grids on and off. You can also specify which unit to measure by. Pixels is recommended.

Layer/Table/Frame Borders - By default, Dreamweaver has an outline border for all these elements. You may turn them off here.

The Insert Menu

This is where you insert objects to your page. You can insert images, tables, horizontal rules, layers, active x, plugins, Flash, Shockwave, rollovers, forms, form objects, anchors, columns, scripts, line breaks, non breaking space, server side includes and <HEAD> elements.

We will be discussing many of these in more detail later in the tutorial.

Modify

This is where you modify certain elements of the page, such as Tables, Frames and more. We will be discussing these in more detail as we start creating documents.

Text

This is where text can be formatted. Many of these same commands are mirrored on the Properties Palette while working with text. We'll also be discussing this in more detail as we work more with documents.

Commands

This is where you'll find some Dreamweaver specific commands.

Clean up HTML - Here you can remove redundant and empty tags, non-Dreamweaver tags or specific tags. This feature comes in handy when working with a document either created by

someone else or by another WYSIWYG code generating program that inserts proprietary tags.

Apply Source Formatting - Here you can apply HTML formatting settings to the document.

Set Color Scheme - Here you can choose from pre-set color schemes within Dreamweaver.

Sort Table - Here you can sort elements within a table.

Format Table - Here you will find more advanced table formatting options.

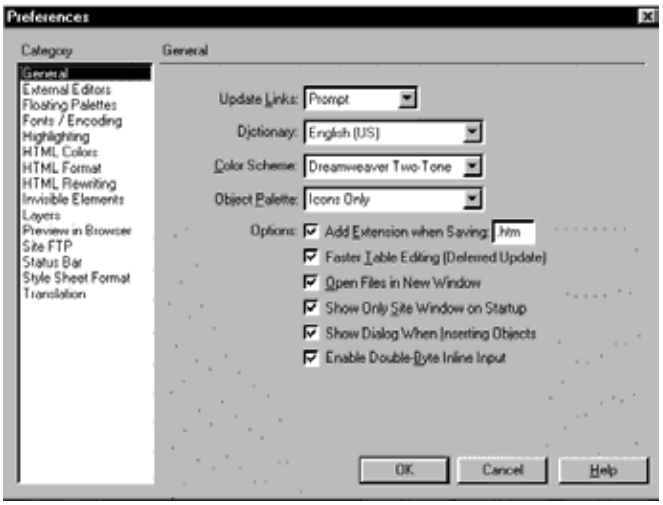
Window

Here is where you can open toolbars and palettes, such as Properties and Site Files. You can also hide the palettes or arrange them. There is also a list of documents currently open within the program. This makes it easier to work with more than one document at a time.

Help

We hope you won't need this ;)

Preferences



This is where you set your application preferences. We recommend you change these settings before doing any serious work in Dreamweaver. It'll make your work easier in the long run. We're not going to cover every single option within this dialog box. Most of the options are self explanatory. We'll take a deeper look at just a few of the most important options.

General - We recommend you have 'Show Site Window Only On Startup.' The site window is where it all begins within Dreamweaver. This is where you should manage all your files. It's also easy for first-timers to close the application inadvertently when closing a document. When the Site Window is open, the application remains open.

We also recommend that you make sure the 'Add Extension When Saving' box checked. You can use either .htm or .html. Some browsers will not recognize an HTML document without the extension. It's quite easy for Mac users to leave the extension off, since they don't require it to open the file.

External Editors - Here is where you specify which HTML editor to use when modifying the code. Dreamweaver bundles with BBEdit for the Mac and Homesite for the PC. These are the two strongest tag editors out there, so we recommend these for managing the code. If you want something lighter weight, you can use Simpletext or Notepad, depending on your platform.

To specify which program, just click on the browse button and navigate to the application file. Once you've found it, double click and that's it.

You can also specify an image editor. You can use Photoshop, or an image optimizer such as Image Ready or Fireworks. We recommend the latter. This makes it easier to optimize your images on the fly. Simply bring them into Dreamweaver, select them, and click on Edit. They can then be optimized in your program of choice, with little interruption.

HTML Format - For those who want their code just so, this is where you specify how Dreamweaver will handle it. We all have our preferences, a tab here, a space there. If you communicate your preferences correctly to Dreamweaver, it will feel like it was handcoded when you bring it into your favorite editor.

HTML Rewriting - Dreamweaver can fix mistakes, but it can also be wrong on occasion. If you feel you know more than Dreamweaver, tell it so right here. It can prompt you when it finds a mistake, or it can ignore the mistake entirely. I've found Dreamweaver to be fairly accurate when reporting mistakes, so I have it prompt me when it finds one.

Invisible Elements - As mentioned above, Dreamweaver can show you invisible elements with that pretty yellow icon. Here is where you specify which ones it shows you. It might not be necessary for it to show you each line break. Personally I like to know everything that's there. But it's up to you to decide.

Preview in Browser - As already mentioned, this can be defined from the File Menu. Here is another place where you can specify which browsers are primary and secondary.

Site FTP - Yes, you can even upload your site using Dreamweaver. This is where you set your communication preferences for the FTP client, such as a Firewall, if you have one. You can also define how long to wait for timeouts, etc.

Status Bar - I've found this is to be a useful feature. What I check most is the download time of different modems. Dreamweaver will display the size of the page and the download time for the page and all it's elements in the status bar. You just have to specify the modem speed, which depends on your audience.

You should browse through the rest of the Preferences. Everyone's different, so some might be more important to you than the average user. Now that you're finished, let's start working.

LESSON 20:
PAGE DESIGN-2

Topics Covered

- Designing Effectively, Design Tips, Site Management in Dreamweaver, Site Maps, Working with Site Maps

Objectives

Upon completion of this lesson, you should be able to:

- Balance Artistic design with practical functionality.
- Build a consistent website design
- Manage Website HTML codes through Site Manager in Dreamweaver
- Understand the utility of Site Maps

Designing Effectively

Now that you know what web design and related terms mean, lets get down to the real thing: Designing Effectively How to balance artistic design with practicality and functionality.

Use of Graphics and Content

Unless your website is all about graphics, how to make them, edit them or just a bunch of links to graphics websites, I suggest you use graphics sparingly, especially the flashing, twirling kind. They not only detract readers from the content, but they also take ages to load. You do not want your readers to leave your website because your graphically attractive page does not seem to load fast enough. Then again, too much text is boring. So mix and match the graphics and text on your page, having enough white space so that the page is not plain annoying.

Layout and Design

While designing, keep in mind that poor layout and design will make your pages unreadable and difficult to keep your visitors on your website for long. Some of the things that make a poor design and layout:

3. Text that is too small to read
4. Color combinations of text and background that make the text hard to read
5. Large graphic files that take forever to load
6. Multiple things that blink
7. Unclear navigation; over complex navigation
8. Paragraphs of type in all caps, bold, and italic all at once
9. Graphics that don't fit on the screen (assuming a screen of 640x460 pixels)
10. Animations that never stop
11. Complicated frames, too many frames, unnecessary scroll bars in frames
12. Cluttered, not enough alignment of elements

Some of the things that make a webpage stand out from the crowd:

13. Stay away from bad design features listed above.
14. Background does not interrupt the text
15. Navigation buttons and bars are easy to understand and use
16. Good use of graphic elements (photos, subheads, pull quotes) to break up large areas of text
17. A large site has an index or site map
18. Link colors coordinate with page color
19. Every graphic link has a matching text link
20. Animated graphics turn off by themselves
21. Pages download quickly
22. All pages have the immediate visual impact within 640 x 460 pixels

Planning

Most of the time, all it takes to design your website effectively is a little planning. When designing a website, it needs to be clean, uncluttered, attractive and easy for users to read and find what they need. Begin with a webdesign plan:

24. what colors do you want to use?
25. Are these colors complimentary?
26. What items - text, images, data - do you want to put in your pages?
27. What layout do you want? Look at other websites and then decide.

Site Design Tips

When developing the look and feel of your web site, perhaps the most important thing to keep in mind is consistency. A consistent web site not only lets users know where they are, but can also help to establish brand awareness, and allows for continuity regardless of who is working on your site at any given time. The following easy-to-follow tips have been designed to make sure your site gets started down the road to web success!

Consistency: The Key to Web Success

The most important aspect of web site design is without a doubt establishing consistency. In order to successfully establish consistency within your web site, try using database templates to create a common look and feel for your site. Although database templates are not the answer for all web sites, and may not be practical for smaller sites, it is extremely important for all pages in your site to share common elements, and exhibit a high degree of page-to-page consistency. The advantage of database templates is that they are extremely easy to create, and make your site consistent regardless of changes in personnel. Database templates also allow you to make changes to your site much more easily, and allow you to change certain elements without recreating the entire page from scratch.

If you are creating a smaller site, you will have a bit more leeway to work with, however you should still aim to maximize consistency. Consistency can help give your site a more professional look and feel, and also makes for easy navigation.

Logos

Another important aspect of site design is the placement of company logos or other symbols of your site that will be used to create brand awareness. By placing logos in a common position on all your web pages, users will be able to easily determine that they are at your site. Many sites still do not recognize the importance of this, however if you follow this simple rule of thumb, your site will have a much greater chance of establishing itself among users.

Use Common Images

In the Internet business, speed is king, and you can help to decrease the loading time of your web site by using common images on your pages. If you use common images, your site will load faster because the images which have already appeared on a previous page will be loaded from browser caches, rather than from the server itself. This decreases the number of files to be loaded from the server, and thus decreases loading time. If you must change images from page to page, try to use common elements from other pages in order to decrease loading time. This tactic is especially useful for title bars, which can be broken up into individual images. When a new page is loaded, the elements from the old page are loaded from the cache, leaving only the new elements to be loaded.

Prioritize Site Content

Another useful tip which can help make your site design more effective is to prioritize all content and images. By doing so, you will be able to attract the user's attention to the important aspects of your site, and thus ensure that the things you want to be seen are seen first. Once you have prioritized your site, make sure to place the most important sections near the top of your page, and make them larger in size

By following these four simple tips, you will not only help make your site more professional in appearance, but will also help to decrease loading time, and establish brand awareness among your users. Site design is an enormous task, and requires a great deal of though and planning, however, these simple tips will help put you on the right track to establishing a successful Internet presence.

Computer Lab

Dreamweaver

Site Management

Site management is an essential part of a Webmaster's job description. Far from static designs, the Web site is not like a magazine advertisement that you're finished with as soon as you send the file to the printer. Publishing your Web site pages on the Internet is really just the first step in an ongoing-often day-to-day-management task. Dreamweaver includes an integrated but separate window known as the Site window to handle all your Web management needs. With the Site window, you can do the following:

- Transfer files to your remote site from your local development site and back again
- Issue system commands to enable CGI programs on the server
- Monitor your Web site for broken links and orphaned files
- Check a file in or out during team Web development

Site Management with Dreamweaver

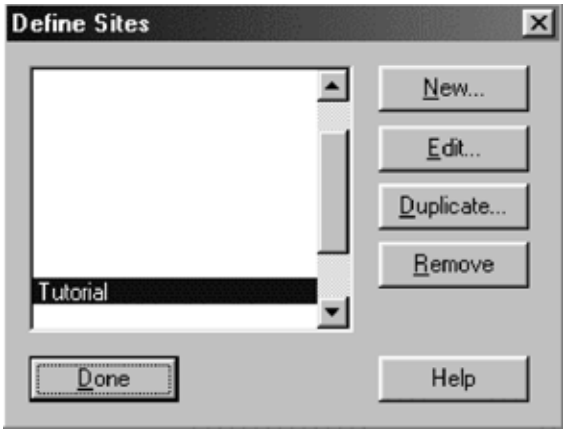
At the simplest level, site management means transferring your files from the local drive to a publishing server. To help the Dreamweaver developer cope with these issues and avoid the type of frustration they can produce, a useful site management tool is included within Dreamweaver: the Site window. Its key features include the following:

- A quick, visual view of the elements of your site on your local and remote directories
- Fast drag-and-drop functionality for transferring files with dependent file support
- Site management check-in and check-out tools for groups working on files within the same web site
- A Link Checker that helps you identify broken or unused objects being posted to your site
- A Site Map that enables you to both visualize your Web site structure and alter it

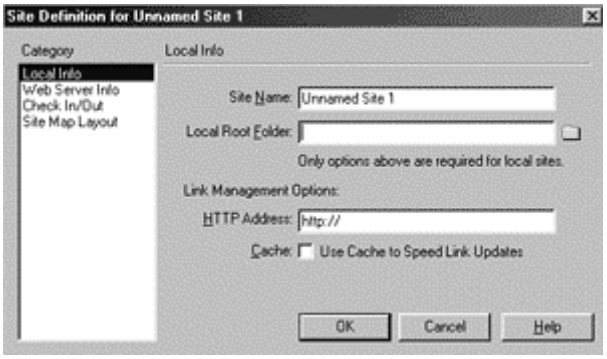
To begin managing your site, simply select 'Site Files' from the Window Menu (or hit F5).

This is where you add and modify files and directories on your site. You can also upload your files via FTP, generate a site map, and change links sitewide.

Before you begin, you must first define the site. You do this in the Pop-up window in the toolbar (in the screen shot it says 'tutorial'). Select define sites, which will bring up the following dialog box:



You may define as many sites as you like and they can be accessed via the popup menu. Since you most likely don't have any sites already, press the 'New' button. Now you'll see the following dialog box:



Here you give the site a name, define the local path, the remote path and choose whether you want to use Cache to speed link updates (recommended).

You can also specify your FTP server, Web Server, configure your site map, and specify whether you would like to Check Files In and Out. The latter is usually only relevant when other people (a team) are working within the same site.

So now that you have defined your site, you will notice that all the of the files and folders within the directory you chose are in the site window.

We recommend you add and modify files through this window. You'll understand why shortly.

A great way to create your site is by using Context menus. Context menus are activated either by right-clicking (PC) or CTRL-click (Mac). With Context Menus, one can add, rename or delete files and folders as well as check browsers and links. All of the context menu commands are also offered through the File Menu.

To add a file using the context menus, simply select 'New File'. Dreamweaver will not only create the file, but will also add the necessary HTML tags in order to be a valid HTML file.

When beginning a project, we recommend adding the necessary files and folders first. This can be done quickly using the context menus. First create the home page file ('index.html') in the root directory. Then create folders for subsequent pages and sections, and a folder for images and support files.

A typical business site might be organized like this (folders are in [ ] brackets):

[about]
[contact]
[images]
[links]
[services]
index.html

Once the appropriate folders have been created, create a file inside each one of them, including graphics. To do this, simply highlight the folder, access the Context menu and select 'New File.' This will place the file inside the folder selected. For now, there's no need to modify the files. You can leave them as is. Make sure each folder has an 'index.html' file.
So what's the benefit of creating/moving files within the Site Files window? There are several benefits. First of all, Dreamweaver will immediately add the file/folder to it's site cache, which will make it easier to change and update links.

If a file is moved outside of Dreamweaver, links will not be updated. Sometimes Dreamweaver will detect links as being absolute local rather than relative. When this happens, everything will work fine locally, but when placed online, the links will all be pointing to file:///(something).

Also, when a new file is created, Dreamweaver adds necessary tags for it to be a valid HTML document. Dreamweaver adds the following:

```
<html>
<head>
<title>Untitled Document</title>
<meta http-equiv="Content-Type" content="text/html;
charset=iso-8859-1">
</head>
<body bgcolor="#FFFFFF">
</body>
</html>
```

If files are created in the Finder or Explorer, all the tags except for <html> must be added.

Files can be moved throughout the site in two different ways.

1. Drag and Drop - Click on the file and drag it over a folder. When that folder is highlighted, release the mouse button.
2. Cut and Paste - Select a File, hit CTRL (Command) X, or go to the Edit Menu and select 'Cut'. Find the folder you would like to move the file, select it and either hit CTRL (Command) V or go to the Edit Menu and select 'paste.'

Files can also be copied by using the Copy and Paste feature. Select a file, hit CTRL (Command) C or go to the Edit Menu and select 'Copy'. Find the folder you would like to move the file and then hit CTRL (Command) V.

Files can also be copied within the same folder by Copying and Pasting. Dreamweaver will add 'Copy of' to the beginning of the file name. This can be useful when you wish to use the same look and feel as another file. Simply copy the file, rename it, then modify it.

Only one file can be pasted from the clipboard at a time. If you wish to copy and paste the same file multiple times, you must re-copy it for every paste.

When a file is moved, Dreamweaver will check its site cache for links to that file. If there are links to that file, you will be shown a list of pages linking to it. You can easily change the links by pressing the Update button. This is the largest advantage of moving files within Dreamweaver.

We also recommend that if files be deleted, you delete them within Dreamweaver. To delete a file or folder, simply select it and either use the Context Menu and select 'Delete' or hit the delete key on your keyboard. Dreamweaver will then check the site cache to see if there are any other files within the site pointing to the file you are planning to delete. If there are, you will be informed that links will be broken by continuing. You will be given the option to continue with the delete or cancel. If you do not get a warning dialog box, you may safely delete the file.

Dreamweaver can also generate a complete map of your site. This is done by either going to the Window menu and selecting 'Site Map' or by clicking on the sitemap icon in the toolbar.

Working with the Site Map

A Web site consists primarily of pages linked to other pages, which in turn can be linked to more pages. The more complex the site, the more difficult it becomes to comprehend-or remember-the entire structure when looking at just a directory listing.

With Dreamweaver, you can easily view your entire Web site and its links as a hierarchical tree using the Site Map feature. Not only do problems such as broken links jump out at you-after all, they're depicted in red-but also the Site Map can give you a much needed overview of the entire site. Poor site design can lead to visitors getting "lost" or frustrated with the number of links it takes to get to an important page. Dreamweaver's Site Map gives you a visual reference and enables you to create the structure for entire sites in a point-and-click environment.

The site map is useful in many ways.

It's a different perspective of your site. By viewing your site map, you can see how a visitor would navigate throughout your site.

It's another way to manage files and links. Since the map is structured by the way files are linked, you can easily change the link from one file to another. Select the linked file, access the context menu, and select 'Change Link.' You will then be prompted for a new file to link to. You can also remove or hide links in this manner.

You can generate a graphic to either put online or for your own reference. To generate a graphic, simply go to the File Menu and select 'Save Site Map As'. You will then be prompted for a filename. Site maps can be saved as either a Bitmap (BMP) or a PNG file.

The Site Map is a graphical representation of your site, with all its Web pages symbolized by icons, as shown in Figure 7-10. The Site Map resembles both an organizational chart and a flow chart. The Web site's home page is shown at the top of the chart. A link from one page to another is represented by a connecting line with an arrowhead. Any document, other than the home page, that is linked to additional pages indicates these pages with a plus or minus symbol in Windows systems and a right or down arrow in Macintosh systems. By default, Dreamweaver displays your Site Map only two levels deep. Selecting the plus/minus (arrow) symbols shows and hides the view of the linked pages on deeper levels.

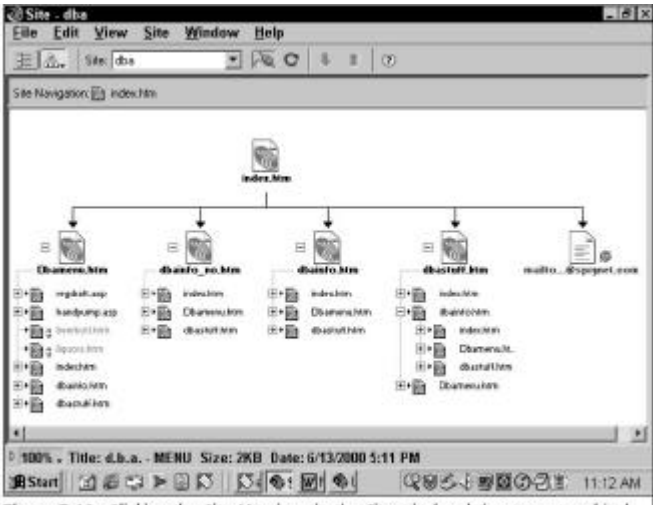


Figure 7-10: Clicking the Site Map icon in the Site window brings up a graphical representation of your site.

Notes

LESSON 21:
SITE DESIGN QUALITY

Topics Covered

- Site Design (Quality), Style Guide - Giving a Voice, Page Layout and Design, Dreamweaver : Understanding how HTML work, Setting Page properties

Objectives

Upon completion of this lesson, you should be able to:

- Add Quality in site designing
- Check for General guidelines in style Guide
- Page layout and Design
- Understand how HTML works in Dreamweaver
- Set Page Properties according to your requirement.

Site Design: Designing in Quality

Quality isn't something you apply to a finished web site like wood sealer on a new deck: a good site has quality designed in and built in.

Any particular site will have its own unique scale and meaning for "quality", because quality is a measurement of a complex relationship of goals, purposes, audience needs, execution of design, and other issues specific to that site. I can't define web site quality in such a way that it maps to all web sites or reflects the views of all customers, but I can say that certain attitudes and decisions on the parts of web building teams will have a noticeable positive effect on the perceived quality of any web site.

While the following points are not the express responsibility of quality assurance, QA does speak for the user, and should stand in for the user during decisions that will have a strong effect on the user experience. Quality assurance should work to get the site going in a good direction from the get-go.

Form an Empowered Team

A site requires resources to create and maintain, and your team should be your most valuable resources. Use job descriptions that make sense, and use job descriptions that are appropriate to the task.

Here are a couple of good articles on finding and keeping good web teams:

- http://www.hotwired.com/webmonkey/98/22/index0a.html
- http://www.hotwired.com/webmonkey/98/01/index0a.html

Decide on - and agree to - a plan

Any company doing business on the web should have a **mission statement**, or **statement of direction**. It is very difficult to map out future work and strategies without a clear message from on high about where the company intends to go. One of these statements will provide some stability from which the web site can springboard forward.

Every serious web site must have some explicit **goals** describing just what the site is about - what's the purpose of the site? who is the site's audience? How will success be measured?

The best intentions and a cool design aren't going to sustain your development and production processes if you are missing a concrete statement of your goals for the site and what it should do. Without a clear direction and goals, a web site cannot deliver a consistent, steady message to customers; hardly a platform for quality.

Identify and understand your customers

Unless you're building a vanity home page, even more important than having a product to sell or a story to tell is having somebody to sell or tell it to. You must define who your audience is; if possible, gather feedback and involve your audience in your design process.

Architect your information space for the user

Information architecture describes the organization of your information - whether it happens to be the products you sell or the articles you make available - and the way your site is structured to facilitate access to this information. Will your information be accessed through a search function, or through a table of contents? Will users routinely need to click through several levels of information to get to what they want to see?

Study your audience's interaction with your site's information space, and design the presentation of the information to accommodate the users' modes of interaction. Make it easy to find stuff.

Define the Requirements and Specifications

Requirements detail the objectives for a web site project; requirements describe what the web site is supposed to *do*, what functions should be created, what tasks the user should be able to accomplish. **Specifications** explain how the requirements are supposed be implemented and completed. These two kinds of instructions are essential to the successful completion of any web site project

Document your standards and styles

Standards are essential to the quality of any site: standards tell coders and writers what the acceptable ranges of performance are. Standards allow you to set a definition of "quality" for your site, give you a landmark to measure performance against, and give you a measure you can refine as you better learn what your users need and what your team can provide.

Style is the way your site presents its unique way of looking at things; style is the "voice" your site uses to address its audience. If your site needs a specific voice and tone in order to fulfill its relationship with the user correctly, then codify and document the elements of style that comprise this voice

Some General Comments on Style Guides

Anything that goes into making your web site distinctive should be analyzed, understood and documented, because one

of the keys to maintaining a successful site is the ability to reproduce that which makes it successful in the first place. If your audience loves your site because of its "sassy" attitude, find out what goes into making it sassy. If your audience trusts your site because it speaks with authority, look at what creates its aura of authority.

Every successful site has some fundamental product, message, service or function that appeals to its audience; successful sites package their information in a style that reflects their own special voice, sense of community, relationship to their audience, design imperatives - in short, a site's style is its *personality*.

Successful web sites have identities created through the style and voice of their content, and these identities will benefit from a consistency of presentation. The best way to achieve this consistency is with a style guide. And of course, formal style guides provide benchmarks for the site's quality team to test against.

The hidden danger in designing style guides is the potential for conflating content with interface. For many sites, content is the product or message of the site, so content should be presented in such a way as to maximize the impact. But sites also have an infrastructure with navigation schemes and purely functional elements - don't monkey with navigation unless you *know* your audience can handle the deviations from familiar standards.

Creating a "Voice"

A great site finds a voice that speaks to its specific audience in exactly the right tone; a great site creates a style guide to help its writers and content providers maintain this consistency of presentation.

A style guide doesn't have to be complicated; the authors simply decide on certain goals for content, and agree to some consistent rules for grammar and word choice. For example, if your voice is best served by using the word "website" instead of the words "web site", make it official. If the content team decides that end punctuation rightfully belongs outside closing quotes, so be it. If your content is purposefully irreverent, specify the limits, if any, to the degree of irreverence allowed. The point is to decide on a shared approach to style, and to implement this approach in a consistent manner.

A good example of a style guide for a particular voice is the book Wired Style: Principles of English Usage in the Digital Age. While this book describes well the making of Wired Magazine's distinctive voice and attitude, it is much less useful as a primer for web style precisely because it documents Wired's style: A web site's style guide must come from the teams and corporate culture that created it, so adopting an external style will hurt the site's purpose for being. I appreciate Wired's iconoclastic approach to voice, but I think they do a disservice by not explicitly differentiating between content and site infrastructure:

...we encourage you to do the following: Welcome inconsistency, especially in the interest of voice and cadence. Treat the institutions and players in your world with a dose of irreverence. Play with grammar and syntax. Appreciate unruliness.
(page 96)

In your style guide, keep content voice distinct from any voice you have for navigation and other infrastructure elements; your content is too valuable to create barriers blocking your audience from accessing it.

Page Layout and Design

Just as voice plays a role in defining a site's identity, so too does the "look and feel" of the pages and divisions of your site. Most pages combine content with functional, branding and navigation elements. The most common page layout on the web is probably the "navigation on the left, content on the right" theme made famous by C|NET.

Usability analysis teaches that "typical" users are easily confounded by certain common design pitfalls; to be fair, some of these pitfalls are due to the limits of HTML as a layout language, or to the unclear boundaries between the page being viewed and the browser application that displays it. Every designer must make some key decisions on the layout of pages, the inclusion and placement of navigation and branding elements, the appearance of text on the pages, and the order in which pages should be viewed; the designer's challenge is to make decisions that result in an appropriate experience for the target audience.

Designers must develop a style guide for the look and feel that they want: if a set of font faces is used for a specific category of element, document it. If the navigation scheme requires a specific color combination, document exactly which colors belong in which circumstances. A formal style guide that specifies how the pages are to look provides a benchmark for quality control to test against; even more importantly, though, a formal style guide provides a baseline that quality *assurance* can work with to suggest improvements.

More Online Examples

Here are some examples of style guides that discuss design considerations and the reasons behind making certain decisions; please note that these are exit links, pointing at external web sites**.**

Web Style Manual from Yale University School of Medicine's Center for Advanced Instructional Media (C/AIM)

According to the authors Patrick Lynch and Sarah Horton, this very strong site was created "to approach Web page and site design as a challenge that combines traditional editorial approaches to documents with graphic design, user interface design, information design, and the technical authoring skills required to optimize the HTML code, graphics, and text within Web pages."

(http://wwwwseast2.usec.sun.com/styleguide/)Sun Microsystem's Guide to Web Style

From the authors: "This is a cookbook for helping people create better web pages. The guidelines presented here represent the opinions and preferences of a small group of people within Sun who have created some web pages, and have looked at many more. We've drawn from our own observations, opinions and judgements about what makes web pages better or worse, as well as extrapolating from the existing body of usability and user interface design literature." (The above URL is no longer valid, and I haven't found a replacement.)

Webmonkey's "The Foundations of Web Design"

Author Jeffrey Veen: "...we've learned a tremendous amount about how to do what we do. It seemed only natural to collect and rigorously evaluate our principles for Web design."

Computer Lab

Dreamweaver

Understanding How Html Works

In a perfect world, you could lay out the most complex Website with a visual authoring tool and never have to see the HTML, much less code in it. Dreamweaver takes you a long way toward this goal-in fact, you can create many types of Web pages using only Dreamweaver's Document window. As your pages become more complex, however, you will probably need to tweak your HTML just a tad.

The HTML page is divided into two primary sections: the <head> and the <body>. Information relating to the entire document goes in the <head> section: the title, description, keywords, and any language subroutines that may be called from within the <body>. The content of the Web page is found in the <body> section. All the text, graphics, embedded animations, Java applets, and other elements of the page are found between the opening <body> and the closing </body> tags. When you start a new document in Dreamweaver, the basic format is already laid out for you. Here below we show you the code from a Dreamweaver blank Web page.

The HTML for a New Dreamweaver Page

<html>

<head>

<title>Untitled Document</title>

<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">

</head>

<body bgcolor="#FFFFFF" text="#000000">

</body>

</html>

Notice how the <head>...</head> pair is separate from the <body>...</body> pair, and that both are contained within the <html>...</html> tags. Also notice that the <body> tag has two additional elements:

bgcolor="#FFFFFF"

and

text="#000000"

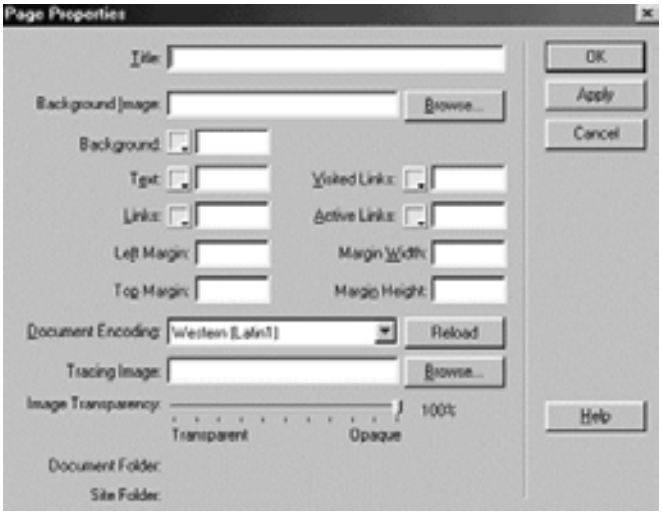
These types of elements are known as *attributes*. Attributes modify the basic tag and either can be equal to a value or can stand alone; in this example, the first attribute, bgcolor, is set to a hexadecimal number that represents the color white and the second, text, is set to the hexadecimal value for black. Thus, this attribute sets the background color of the body—the page—to white and the default text color to black. Not every tag has attributes, but when they do, the attributes are specific. One last note about an HTML page: You are free to use carriage returns, spaces, and tabs as needed to make your code more readable. The interpreting browser ignores all but the included tags and text to create your page. Some minor, browser-specific differences in interpretation of these elements are pointed out throughout the book, but by and large, you can indent or space your code as you desire.

When you first start Dreamweaver, your default Web page is untitled, with no background image but a plain white background. You can change all these properties and more through Dreamweaver's Page Properties dialog box.

Page Properties

Now it's time to begin working on your first page. Before you begin with the page it's best to define properties of the page, such as Colors and the Title. This can be done with the Page Properties dialog.

The Page Properties can be found in the Modify menu, or with the keyboard shortcut Command-J or CTRL-J.



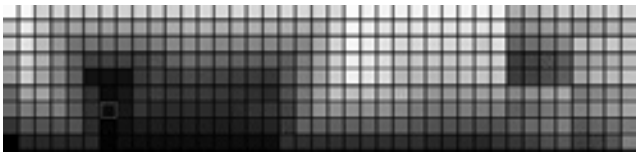
The key areas of the Page Properties dialog box are as follows:

Page Property	Description
Title	The title of your Web page. The name you enter here appears in the browser's title bar when your page is viewed. Search engine spiders also read the title as one of the important indexing clues.
Background Image	The file name of the graphic you want in the page background. Either type in the path directly or pick a file by clicking the Browse (Choose) button. You can embed the graphic of your choice in the background of your page; if the image is smaller than your content requires, the browser tiles the image to fill out the page. Specifying a background image overrides any selection in the Background color field.
Background	Click this color swatch to change the background color of The Web page. Select one of the browser-safe colors from the pop-up menu, or enter its name or hexadecimal representation (for example, "#FFFFFF") directly into the text box.
Text	Click this color swatch to control the color of default text.
Links	Click this color swatch to modify the color of any text designated as a link, or the border around an image link.
Visited Links	Click this color swatch to select the color that linked text changes to after a visitor to your Web page has selected that link and then returned to your page.
Active Links	Click this color swatch to choose the color to which linked text changes briefly when a user selects the link.
Left Margin, Top Margin, Margin Width, Margin Height	Enter values here to change the default margin settings used by browsers. The Left and Top Margin settings are used by Microsoft, whereas Margin Width and Margin Height are used by Netscape.
Document Encoding	The character set in which you want your Web page to be displayed. Choose one from the drop-down list. The default is Western (Latin 1).
Tracing Image	Selects an image to use as a layout guide.
Image Transparency	Sets the degree of transparency for the tracing image.

The title is what appears on the top of the browser bar

In the 'Background Image' field you can specify a tiling image to use for your background.

One can specify a Background color in the 'Background' field. This number must be a hexadecimal value or one of the standard colors. If you are unsure about the hexadecimal value, you can pick from Dreamweaver's Web Safe Color Palette.



You can also specify colors for Text, Links, Visited Links and Active Links in the corresponding fields.

The Left Margin, Top Margin, Margin Width and Margin Height fields are all used to determine how far the body of the page is from the edge of the browser. This must be a number in pixels.

As you can tell if you use 0 for all your margins, there no spacing between the edges of the browser window and your content.

The Document Encoding field is where you select the Character Set for your page. If your page is in English you should leave this at the default - Western (Latin1).

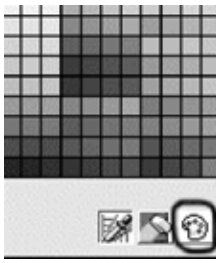
Dreamweaver handles Hexadecimal values and HTML standard color names:

- Black
- Maroon
- Green
- Olive
- Navy
- Purple
- Teal
- Gray
- Silver
- Red
- Lime
- Yellow
- Blue
- Fuchsia
- Aqua
- White

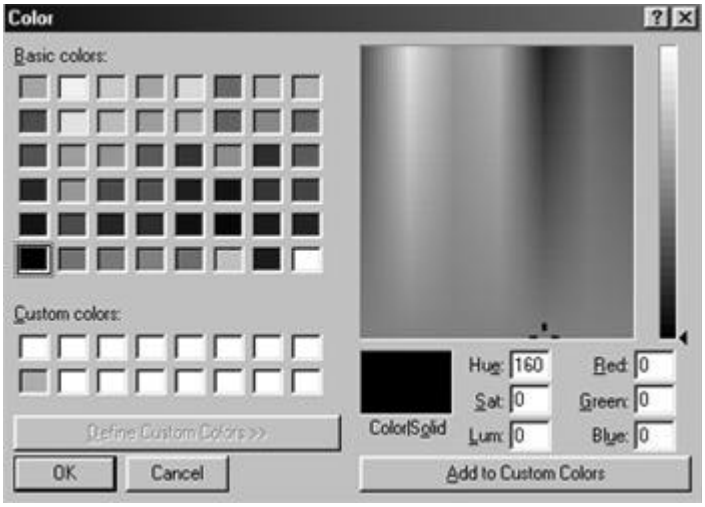
Dreamweaver also offers many of its own built-in tools to allow color selection to be much easier. These can be accessed from many places within the program by clicking on this button: 

This brings up the standard palette as well as a color picker. The color picker can be used to pick a color from elsewhere on the screen, including other open windows. All one must do is click on a color and that will become the active color for the element selected.

There are other tools available, such as the Color Dialog. This can be accessed from the Text Menu by choosing Color. It can also be accessed from the Color Palette:



Click on the circled icon to access the Color Dialog Box.



From this dialog one can choose from all the colors in the bar (most of them are web safe). RGB values can also be entered. This is useful when working with graphics programs such as Photoshop or Fireworks.

These colors can also be added to the 'Custom Colors' so that they may be used again. To do this simply select an empty (white) box under Custom colors, choose your color and click on the 'Add to Custom Colors' button. This color can now be used from the Color Dialog anytime.

Assignment

1. Write the means to create trust in your website?
2. Check the Menu commands of Dreamweaver?
3. Select the Preference options and check the current requirement in your system?
4. Why is consistency important in Site Designing?
5. What are the key features of Site management by Dreamweaver?
6. Create you home page file index.html using Dreamweaver?
7. What are site map? Explain why they are useful?
8. Start re conceptualizing your personal home page? Re structure its design planning?
9. Write the guidelines for Style guide?
10. Explain the elements of a basic HTML page by Dreamweaver?
11. What are the key areas of page properties?

Notes

LESSON 22:
CONNECTION REVISITED

Topics Covered

- Bandwidth: History to Future, What is Broadband Internet
- Dreamweaver: Adding text to webpage, Heading, Paragraph, the <br> tag.

Objectives

Upon completion of this lesson, you should be able to:

- Define Bandwidth
- The history to the future scope of Bandwidth
- Define Broadband
- Clear out misconceptions on Broadband connection
- Add Text to your webpage
- Add Heading and Edit Paragraphs in the webpage
- Use the <br> tag

Bandwidth

Bandwidth: "The amount of data that can be transmitted in a fixed amount of time. For digital devices, the bandwidth is usually expressed in bits per second(BPS) or bytes per second." (http://www.webopedia.com/)

Bandwidth has been in the news lately. You may have seen stories about "broadband Internet" services having difficulty catching on throughout the U.S. (http://www.washingtonpost.com/wp-dyn/articles/A45676-2002Jan14.html). The word "broadband" is used to describe Internet services which are faster than the normal dialup connection. So what exactly is "bandwidth" and why should you care? If you use the Internet, you may already know why you should care, but maybe a further explanation here is in order.

Bandwidth in History

In ancient times (around 1980), I first started using a modem (or acoustic coupler, as they were called in those days) to connect a terminal via a telephone line to a computer that was located in another building. The fact that you could do such a thing at all was remarkable. I'd dial the phone number, place the phone handset in the acoustic coupler (in ancient times, all phones had the same basic shape), and I'd be communicating with the remote computer at 300 bits per second. 300 bits per second allows about 30 characters to be transmitted every second. That's about 6 words per second or about 360 words per minute. While this rate was slower than my reading speed, it was still fast enough to work on computer programs, especially, since programming languages tend to use either short or abbreviated commands. You can imagine, my delight, however, when that 300 BPS modem was replaced with a 1200 BPS model.

Today, the Internet connection to my office operates at a transfer speed of 100 Megabits per second. That's 100 million bits per second - I'll do the math - that's 333,333 times faster than that 300 BPS modem. This means that I can now receive text faster than I can read it (and often do). But more significantly, I can pull up a web page and see a full-color photograph without having to wait all afternoon for that photograph to be transmitted. This gets us closer to why bandwidth is important.

Bandwidth to a "T"

Let's explore for an example, the letter "T". To transmit the computer representation of the letter T requires one byte which is eight bits (as in "bits per second"). But let's suppose that we want to send a black and white picture of the letter "T" that takes up a 100 by 100 pixel space on a computer screen (if your screen resolution is 800X600 imagine a square which is one-eight the width of your screen). That picture would require 10,000 bits to represent. Let's say we wanted to use a extremely varied color pallet to decorate our T. We would need 32 bit planes to represent all possible colors. That increases the size of our T representation to 320,000 bits.

Suppose we wanted to animate our T for 5 seconds at 30 frames (or individual pictures) per second. We are now up to 48 million bits of information for our one little T. To get this T movie across campus from one computer to another would theoretically take only one half of a second (that's theoretical because there are other factors which effect the actual speed that data can be transmitted on a computer network). What if we wanted to retrieve that "T" movie over that 300 BPS modem from 20 years ago? It would only take 44 hours (almost 2 days).

The example above makes it clear that the Internet as we know it today would not exist at a bandwidth of 300 bits per second. Even though our black and white picture of the T could be transferred in 33 seconds, a page full of black and white graphics would take much longer. The color picture of the T would transfer in about 17 minutes. But notice that the greatest leap comes between that color picture and the animated version we imagined above. In actuality, digital video technology employs clever compression and other methodology for minimizing the amount of bandwidth needed, however, to move beyond static pictures and text still requires a great leap in available bandwidth.

Bandwidth and Today's Internet

On campus, we have quite a bit of bandwidth at our disposal and yet it still seems that the Internet is sometimes kind of slow. Although our campus network operates at 100 Megabits per second, which is quite handy for moving information around campus, our connection to the Internet operates at only 45 megabits per second. We have two such connections, but the aggregate bandwidth is 90 megabits per second, still slower than the on-campus network. But all over the Internet, many web sites may be connected at an even slower speed. The time that it takes your browser to contact a remote server and retrieve a web page is dependent upon the lowest bandwidth connection between you and that server and how much

information is being transmitted across that connection (and remember that there are millions of users on the Internet transmitting millions of bits of information).

Most home Internet users still do so via a dialup modem. The fastest dialup modems are rated at 56 kilobits per second. For various reasons, it is unlikely that dialup modems will ever be much faster than 56 KBPS. This is 1700 times slower than our campus network. Still, at a theoretical 56 KBPS, it take only 14 minutes to transfer our imaginary "T" movie. This is a great improvement over 20 years ago, but still not very practical. But suppose you could have 384 KBPS available to you at home. That brings our movie down to under three minutes to transfer (assuming comparable bandwidth all the way to the source).

In actuality, the technical issues surrounding bandwidth and the operation of the Internet are much more complex, but our illustration above helps get a handle on why bandwidth matters where the Internet's development is concerned. To take the next leap, which is the integration of high-quality moving pictures and sound with Internet content, will require an across the board increase in available bandwidth, both within the core Internet network and to individual homes. To do so requires, requires a change in technology in home communications.

So how do I get my Bandwidth?

That change is coming, but it is coming slowly. It is coming so far as only two alternatives. Digital Subscriber Line (DSL) service from your local phone company can provide that 384 KBPS bandwidth or even greater, while replacing your old analog voice service. It allows you to talk on the phone and communicate with the Internet at the same time. Unfortunately, because of equipment limitations DSL is not available in all homes. Furthermore, it costs an average of $50 per month which is about twice what you'd pay for a typical analog phone line. The only hope of that cost coming down is competition, however, local phone companies are not known for inviting competition into their service areas (quite the opposite).

That leaves your local cable company as the only possible alternative for broadband service. My broadband cable service increased in price from about $50 per month to about $75 per month with no prior notification. My local cable company is notorious for bad customer service and they lived up to that reputation while I was trying to get my service disconnected. Luckily, I was eligible for DSL service and am marveling at the fact that I now consider Southwestern Bell to be one of the easiest companies to deal with. Still, if they decide to arbitrarily raise the price of the service, I have no third alternative to select.

The future of Bandwidth

Without that next quantum leap in bandwidth availability, the Internet remains a useful, but limited, information source. Just imagine digital video conferencing as easy to do as sending e-mail. Imagine posting movies of your kids on your personal web site instead of just still pictures. But don't stop there. Imagine a room in your house which can create a virtual environment and then create images of your family and friends within that environment so that you can have a virtual get-together with people conversing and coming and going as if the room were real. We're going to need a lot more bandwidth.

What On Earth Is? Broadband

Broadband: that's fast internet access, right? Wrong. Well, wrong as far as the true definition goes, which is why ISPs can call their paltry 128Kbps services 'broadband' in their ads and get away with it.

Strictly speaking, broadband has nothing to do with the internet and it's simply a term that refers to any high-bandwidth connection. Well, we say 'simply' but unless you have a degree in computer science, you're probably still none the wiser.

Bandwidth is a measure of how much data that can be transferred between two points at any one time. Writing has more bandwidth than speech, for example, since you can usually read a page in far less time than it takes to listen to someone read it aloud.

Similarly, a publisher looking to distribute the latest batch of Harry Potter books would opt for a high-bandwidth lorry (lots of copies in the back) over a low-bandwidth motorcycle courier (one copy in his satchel).

When it comes to computers, the introduction of kilobytes (KB) and megabytes (MB) starts to complicate things but the principles are the same.

A hard disk, for example, has much more bandwidth than a floppy disk drive, since it can transfer around 41,000 pages of Notepad text in one second (about 40MB, for those that are interested). A floppy disk drive, on the other hand, can only transfer around 500 pages (about 50KB) in the same amount of time.

Internet connections are much the same. An ordinary telephone line is slow at transferring data and, being low bandwidth, a dial-up modem connection is often called 'narrowband'. An ADSL-converted telephone line or cable TV fibre optic line, however, has lots of bandwidth, hence 'broadband'.

Here comes the 'but': An internet connection may have lots of bandwidth but that doesn't mean its users have access to it. Cable TV companies, for example, use most of their bandwidth for delivering TV programmes and the rest is then shared on a street-by-street basis for internet access.

That internet access might be fast (2Mbps with some ISPs) or it might be slow (128Kbps for others) but since both are delivered over a high-bandwidth connection, they're both technically broadband.

The science

We fibbed a bit when we explained how bandwidth applies to internet connections in order to keep things simple. When it comes to networking (an umbrella term under which all internet connections fall), broadband really refers to how many signals can be sent over a connection at the same time and that depends on the range of available frequencies.

A fibre optic cable TV connection typically has 750MHz of bandwidth, with each TV channel it carries requiring 6MHz a piece. In other words, a cable TV service is limited to around a 100 TV channels.

For internet access, cable TV companies usually devote one channel's worth of bandwidth for downloading and that gives

a speed of up to 36Mbps, to be shared between everyone connected to that particular bit of the network.

Less bandwidth is usually given over to uploads, since most people download more data than they upload. Typically, a broadband service downloads at 512Kbps and uploads at 128Kbps and most broadband services are therefore 'asymmetrical' networks.

The basics

Bandwidth isn't an easy concept, so here's a simple analogy. Outside your house, under the road, is a large pipe that carries hundreds of gallons of fresh water a second.

You, however, only have access to a fraction of that amount, since the pipes that connect your taps to it are narrow, but that's still ample for most households.

Similarly, broadband ISPs maintain a 'fat pipe' (no, really) that transfers dozens of megabytes of data each second - lots and lots of bandwidth, in other words. That bandwidth is then shared between the ISP's customers, who are usually allocated 512Kbps each.

Unfortunately, just as a main water supply couldn't maintain its pressure if every household it served turned all of their taps on at once, an ISP's fat pipe lacks the bandwidth to provide every customer's full allocation at the same time.

Fortunately, most internet tasks - web browsing, email and so on - are low bandwidth, which means there's always some spare capacity.

The system isn't foolproof though and if you spend all day, every day downloading enormous files, you're hogging bandwidth. Just imagine how you'd feel if your shower slowed to a drip while your neighbour turned on all of their taps to fill their swimming pool.

Computer Lab

Dreamweaver

Adding Text To Your Web Page

If content is king on the Web, then certainly style is queen- together they rule hand in hand. Entering, editing, and formatting text on a Web page is a major part of a Webmaster's job. Dreamweaver gives you the tools to make the task as clear-cut as possible. From headlines to comments, this chapter covers the essentials of working with basic text.

Starting with Headings

Text in Hypertext Markup Language (HTML) is primarily composed of headings and paragraphs. Headings separate and introduce major sections of the document, just as a newspaper uses headlines to announce a story and subheads to provide essential details. HTML has six levels of headings; the syntax for the heading tags is <h*n*>, where *n* is a number from 1 to 6. The largest heading is <h1> and the smallest is <h6>.

The sample headlines are shown below, it depict the basic headings as rendered through Dreamweaver and as compared to the default paragraph font size. As you can see, some headings are rendered in type smaller than that used for the default paragraph. Headings are usually displayed with a boldface attribute.

Figure 9-1: Standard HTML enables you to use up to six different size headings.

Two methods set text as a particular heading size in Dreamweaver. In both cases, you first need to select the text you want to affect. If you are styling a single line or paragraph as a heading, just position the cursor anywhere in the paragraph to select it. If you want to convert more than one paragraph, click and drag out your selection.

Once the text for the heading is selected, you can choose your heading level by selecting Text->Paragraph Format and then one of the Headings 1 through 6 from the submenu. Alternatively, you can make your selection from the Text Property Inspector. (If it's not already open, display the Property Inspector by selecting Window->Properties.) In the Text Property Inspector, open the Format drop-down List as shown below and choose one of the six headings.

You can convert any paragraph or line into a heading by using the Format options in the Text Property Inspector.

Working with Paragraphs

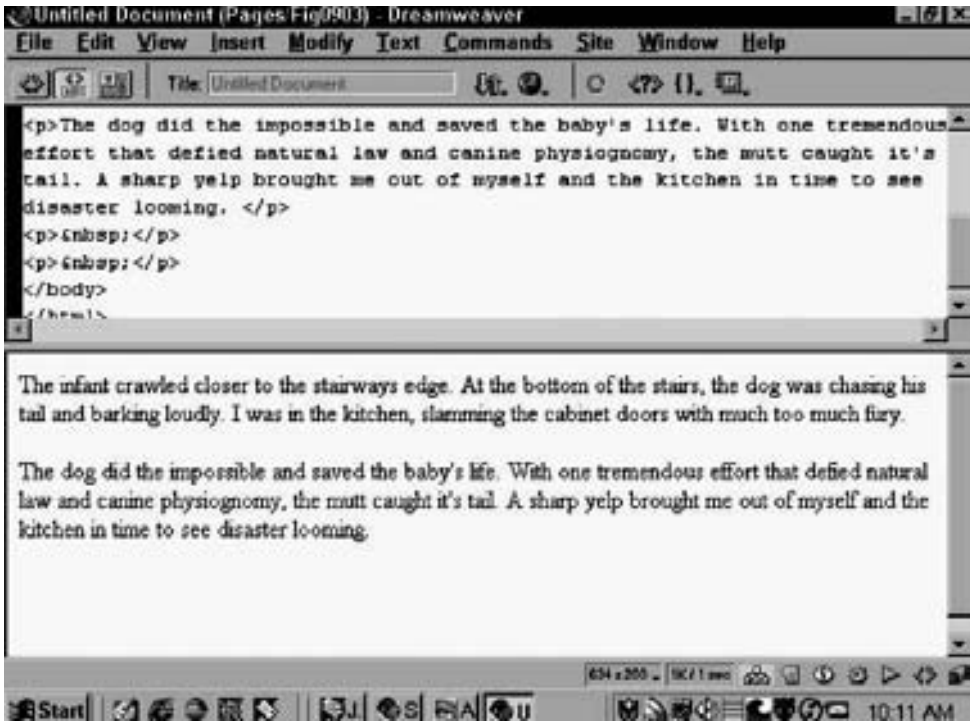
Usually the bulk of text on any Web page is composed of paragraphs. Paragraphs in HTML are denoted by the and pair of tags. When your Web page is processed, the browser formats everything between those two tags as one paragraph and renders it to fit the user's screen, word wrapping as needed at the margins. Any additional line breaks and unnecessary white space (beyond one space between words and between sentences) in the HTML code are ignored.

Dreamweaver starts a new paragraph every time you press Enter (Return) when composing text in the Document window. If you have the Code view or the Code Inspector open when you work, you can see that Dreamweaver inserts the following code with each new paragraph:

The code between the tags creates a non breaking space that enables the new line to be visible. You won't see the new line if you have just the paragraph tags with nothing (neither a character nor a character entity, such as) in between:

When you continue typing, Dreamweaver replaces the non breaking space with your input, unless you press Enter (Return) again.

The figure below illustrates two paragraphs with text and a third paragraph with the non breaking space still in place.



Dreamweaver automatically wraps any text inserted into the Document window. If you press Enter (Return) without entering text, Dreamweaver enters paragraph tags surrounding a non breaking space.

You can easily change text from most other formats, such as a heading, to paragraph format. First, select the text you want to alter. Then, in the Property Inspector, open the Format options drop-down list and choose Paragraph. You can also choose Text->Paragraph Format->Paragraph from the menu or use the keyboard shortcut Ctrl+Shift+P (Command+Shift+P).

All paragraphs are initially rendered on the page in the default font at the default size. The user can designate these defaults through the browser preferences, although most people don't bother to alter them. If you want to change the font name or the font size for selected paragraphs explicitly, use the techniques described in the upcoming section, "Styling Your Text."

Editing Paragraphs

By and large, the editing features of Dreamweaver are similar to other modern word processing programs—with one or two Web-oriented twists. Dreamweaver has Cut, Copy, and Paste options, as well as Undo and Redo commands. You can search for and replace any text on your Web page under construction and even check its spelling.

The "twists" come from the relationship between the Design and Code views of the Document window, which give Dreamweaver special functionality for copying and pasting text and code. Let's see how that works.

Inserting Text

You've already seen how you can position the cursor on the page and directly enter text. In this sense, Dreamweaver acts like a word processing program, rather than a page layout program. On a blank page, the cursor starts at the top-left corner of the page. Words automatically wrap to the next line when the text exceeds the right margin. Press Enter (Return) to end the current paragraph and start the next one.

Indenting text

In Dreamweaver, you cannot indent text as you can with a word processor. Tabs normally have no effect in HTML. To indent a paragraph's first line, one method uses non breaking spaces, which can be inserted with the keyboard shortcut Ctrl+Shift+spacebar (Command+Shift+spacebar). Non breaking spaces are an essential part of any Web designer's palette because they provide single-character spacing- often necessary to nudge an image or other object into alignment. You've already seen the code for a non breaking space- -that Dreamweaver inserts between the ... tag pair to make the line visible.

The <br> tag

As with headings, the paragraph tag falls among the class of HTML objects called *block elements*. As such, any text marked with the ... tag pair is always rendered with an extra line above and below the text, often called whitespace. To have a series of blank lines appear one after the other, use the break tag <br>. Multiple break tags may also be used to provide whitespace between elements. Break tags are used within block elements, such as headings and paragraphs, to provide a line break where the <br> is inserted. Dreamweaver provides two ways to insert a <br> tag: You can choose the Enter Line Break button from the Characters panel of the Objects panel or you can use the keyboard shortcut Shift+Enter (Shift+Return).

Figure below demonstrates the effect of the <br> tag. The menu items in Column A on the left are the result of using the <br> tag within a paragraph. In Column B on the right, paragraph tags alone are used. The <h1> heading is also split at the top (modified through style sheet selections) with a break tag to avoid the insertion of an unwanted line. By default, Dreamweaver marks <br> tags with a symbol: A gold shield

with the letters BR and the standard Enter/Return symbol. You can turn off this display feature by choosing Preferences->Invisible Elements and deselecting the Line Breaks checkbox.

Use break tags to wrap your lines without the additional line spacing brought about by <p> tags.

Notes

LESSON 23:
STREAMING MEDIA

Topics Covered

- E-video – Internet video and technology convergence, Steaming Media basics – Streaming, Buffering, Future possibilities, Styling up your text with preformatted text in Dreamweaver.

Objectives

Upon completion of this lesson, you should be able to:

- Define e-video
- Trace the technological convergence from VCR to the present e-video
- Define Streaming Media
- Understand different elements of Streaming media process.
- Styling up the text using preformatted text in Dreamweaver

E-video: Producing internet video as broadband technologies converge

Background

When Thomas Alva Edison invented the phonograph in 1877, he gave us the freedom to select and play music in our own home at our own convenience. It took another century until the VCR became widely available and we gained the ability to similarly select and play videos. But Edison's contribution wasn't just the invention of the phonograph, or the light-bulb, or even the 1,093 inventions for which he received a patent. He helped found an industry, the industry of electric power and analog appliances that transformed the twentieth century in both the home and the factory.

Now another industrial transformation is underway, the digital revolution. It can be traced to Tim Berners-Lee's creation of the graphical interface, which allowed the Internet to become a popular communication tool. As a result, within only six years the Internet had reached 80 million users. This is astonishing compared to past communication media successes.

The Internet had existed for decades mostly for scientific workers and the military. When in 1989, while working at the European Particle Physics Laboratory (CERN) in Geneva, Berners-Lee proposed a global hypertext system he called the World Wide Web. It could link more than just text—it could link graphics, sound, and video to create an entire hypermedia system. Instead of a single database, the basis for his World Wide Web would be the Internet, the vast network of networks around the world.

Over the next couple of years, Berners-Lee and his collaborators laid the groundwork for the Web, inventing and refining the HyperText Transfer Protocol (HTTP) for linking Web documents, the Hypertext Markup Language (HTML) for formatting Web documents, and the Universal Resource Locator (URL) system for addressing Web documents. These days, most of us reach the Web through commercial browsers, such as Netscape Navigator or Internet Explorer. The first contact most Internet users had with streaming data started with Progressive Network's RealAudio releasing its RealAudio Server and client programs. RealAudio started playing as soon as the user chose a selection. It was a cross-platform program that could be played from Windows, Unix, and Mac systems.

The first true streaming videos ran during 1994 over the experimental Mbone (Multicast Backbone) network. This protocol is a form of Internet Protocol (IP) multicasting, which replicates streaming videos to thousands of servers. Access to these events was initially confined to users with high-end Sun workstations. The primary media server distributed its signal to other repeater servers on the network.

Streaming media started with the Internet's first streaming player, RealAudio. In April 1995, it allowed listeners to hear audio as it was being downloaded. The first Internet streaming video player was Xing Technologies' StreamWorks, released in August 1995. It was based upon Motion Picture Expert Group (MPEG) compression and provided jerky "talking heads" images the size of a postage stamp. This was followed shortly by VDOLive from VDOnet Corp. In early 1997 Progressive Networks, renamed RealNetworks, released RealVideo along with an all-in-one audio-video player called RealPlayer.

As the use of streaming media has increased, competition for customers in the streaming media market has intensified. While RealNetworks has emerged as the clear leader as of 1999, rapid changes in compression-decompression (codec) standards offers many new challengers. Increasingly, however, the question is asked, How do Microsoft's Windows Media and other formats stack up against the RealNetworks?

Microsoft entered into the streaming video market in 1997 with its buyout of WebTV Networks and Vxtreme. Microsoft introduced its Active Streaming Format (ASF) in conjunction with the developing MPEG-4 standard. This protocol provides a standard method of synchronizing audio, video, and multimedia. Competition between ASF and RealNetworks' G2 emerged in 1999, as the World Wide Web Consortium (W3C) endorsed Synchronized Multimedia Integration Language (SMIL). SMIL provides a text-based tag markup format for streaming multimedia, freeing developers from proprietary formats and enabling multiple vendors to supply software tools. Other groups developed open standards with Java-based applets that didn't require preinstalled players in order to stream video.

Macromedia's Shockwave and Flash protocols first produced streaming animation. Authoring platforms for real-time delivery of animation during streaming videos have become available. They allow multimedia-style animation and interactive controls to be linked with broadcast-style audio and video.

Regardless of which vendor you choose, the equipment and software used in multimedia production is often on the cutting edge and not as fully developed as products in the more established computer desktop applications. As a result, there are often compatibility issues that must be resolved in making a set of software and hardware choices to complement your production system.

The actual making of the multimedia content involves the following five basic steps:

1. Preparing the content source material
2. Capturing the audio/video using a computer with a video capture card
3. Editing the video and saving the large uncompressed file
4. Compressing the video
5. Delivering the movie content over the Web

Each of these steps can be optimized toward improving the final client video. For example, optimizing computer capture hardware requires a balanced understanding of data-flow versus choke points within the PC capture process. A high speed Pentium III, with 256MB RAM, an 8.4GB (8 millisecond) hard drive, and wide-SCSI-3 bus can demonstrate up to 40Mbps throughput while capturing video. Unfortunately, many low-to-medium-priced capture cards provide a throughput of only 2 to 5Mbps (even after optimal configuration), producing a limiting choke point in your systems.

But even after heroic efforts on your part in optimizing the source video, the hardware and software, and the editing and compression process, there remains a significant barrier to delivering your video over the Web. This is the "last mile" connection to the client.

The Bandwidth Problem

The bandwidth of Internet communications has been steadily increasing due to the overall pressures to improve performance from users. The important point is that the infrastructure provided by the Internet has become widespread and has developed enough performance to allow rapid transmission of large volumes of data. Now it is becoming ready for video.

The problem with video, however, has been trying to push it over digital networks where it clogs and chokes the critical connections. The arrival of data compression has reduced the problem of transmitting video data to more manageable levels. The technology has only recently reached the point where video can be digitized and compressed to levels that allow reasonable quality of appearance following distribution over digital networks

The Bandwidth Solution

Yogi Berra once said, "Predictions can be tricky, especially when you're talking about the future." And looking forward is certainly more perilous than using hindsight to review history. However, the future of rapidly converging technology is not so complex and uncertain that a few reasonable predictions about certain aspects of streaming video as well as the future of the Internet can't be discerned.

Electronic Video, or "e-Video," includes all audio/video clips that are distributed and played over the Internet, either by direct download or streaming video. And it is streaming video that is the nexus of technology convergence because it is the improvement in bandwidth to deliver video that will prove decisive in reconciling competing technology standards. As this last stumbling block of bandwidth limitation is finally overcome, the television, cable, data, and telecommunication technologies will converge toward a compatible and coherent industry standard based on a one-to-one customized Internet commerce model.

Up to this point, video has involved moving very large files (3-40Mbps), and delivering such large data rates on the Internet seemed prohibitive. Consider that to expand the Internet bandwidth a factor of 10 times its current backbone would cost additional billions of dollars for construction of fiber, copper, or satellite equipment. Now consider the relatively small cost of an equivalent expansion of bandwidth improvement produced by software changes in data compression or by equipment upgrades, such as, optical multiplexing.

The ideal vision for broadband may be an end-to-end optical fiber network with fiber direct to the home. But this expensive and long-term option may be preempted by a combination of a near term breakthrough in compression technology and/or less expensive optical wave division multiplexing. Obviously, the data compression of streaming video compression-decompression (codec) standards will play a critical role in the form of required bandwidth reduction. This in turn will contribute to technology convergence.

Streaming Media Basics

Streaming Media is media (audio, video, or graphics) that is delivered as a stream of data, and played as it is received. It allows you to view large data files without long delays and minimal data loss as well as to view live events in real time.

Streaming

The process of streaming starts when a media file is broken into smaller pieces so it can be transferred and played as each of the pieces is received, rather than waiting for the whole file to be transferred before playback starts. (This is similar to receiving and reading a serialized novel, one chapter at a time, instead of waiting for the whole book to arrive before starting to read it.)

How quickly you can receive files is mostly a matter of your internet bandwidth (more information on bandwidth below). One of the features of RealPlayer is that it can select a data stream that best matches your available bandwidth (some media is streamed at more than one bandwidth) so the media stream provided matches the transfer/download speed available to you.

RealPlayer can also display media created in SMIL (Synchronized Multimedia Integration Language) protocol, which is used to better optimize the bandwidth of a presentation. SMIL presentations send different streams for each of the components of a presentation (for example: a video stream, audio stream, and text stream). Each stream has a different optimum bit-rate associated with it. The result is that a complex presentation can be streamed with a much lower bandwidth than if the whole presentation was limited to the format and bandwidth of the largest media type.

Bandwidth

The property that most affects your experience playing any type of Streaming Media over the Internet is bandwidth. Usually this means the maximum speed (Kbps) of your Internet connection, but it can also refer to capacity of the media server (how many data streams the server can provide), as well as other network constraints. If RealPlayer had to download data faster than your connection can handle, such as viewing a 256Kbps stream over a 56Kbps connection (you can see the bandwidth of any stream on your Status Display), the presentation would have to regularly pause to let the system catch up. To avoid this, a media provider can stream RealAudio and Real Video in multiple bandwidths at the same time, such as at 56Kbps **and** at 256Kbps. RealPlayer will choose the data stream with a bandwidth that best matches your Preferences. Of course a narrower, or lower bandwidth, data stream will be of lower quality, but it is less likely to be interrupted than a wider data stream.

Buffering

When media is being streamed, the bandwidth does not always remain constant. Often it will fall below what is required to stream the presentation smoothly. To avoid pauses due to delays or slow transmissions, RealPlayer will cache, or buffer, a portion of the media stream before beginning to play it. (This is indicated by "Loading xx%" appearing in the Status Display when you start playing a clip.) When the bandwidth through your connection is low, or data drops, RealPlayer takes data from the buffer. When bandwidth returns to normal, RealPlayer puts data into the buffer until the cache is refilled. When you attempt to view a high-bandwidth clip over a low-bandwidth connection, RealPlayer will attempt to create as large a buffer as possible before beginning playback.

Streaming Media vs. Recorded Media

Generally speaking, Streaming Media refers to media that is being presented on the Internet. The data stream originates on the Internet, is transferred by modem/data-line to your computer, is decoded by a Player, and is then viewed by a consumer. Recorded Media refers to data files that are directly accessible from your computer (on a hard drive or network drive) such as audio CD tracks on a CD, or .RM or .MP3 files.

Note: From a purely technical standpoint, media that is being played from a local drive (recorded media) is still being streamed to the Player software, but this process is much faster than media that is arriving from the Internet. For the purpose of this discussion, Streaming Media refers only to media that is arriving from the Internet.

On Demand vs. Live Steaming Media

On Demand Media: A media file that is available on the Internet and is streamed to your computer. Typically it is an audio or video clip that you can select and listen to from start to finish.

Live Streaming Media: An audio or video stream that is being data-cast live, and is available continuously. Typically these are Internet Radio or TV stations.

Dramweaver

Styling Your Text

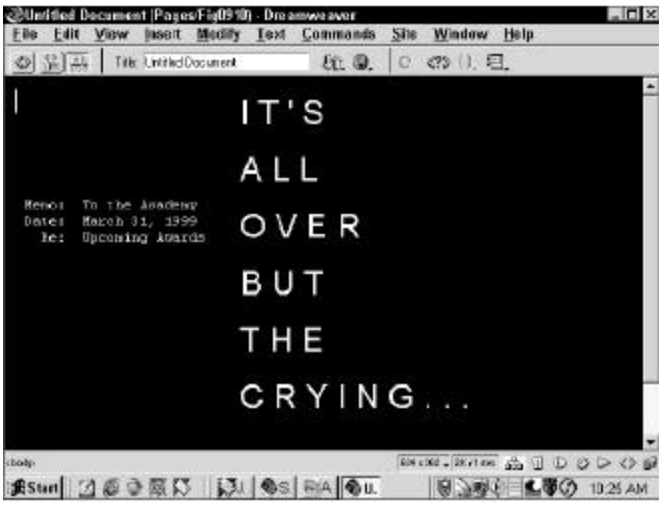
When the Internet was founded, its intended focus was to make scientific data widely accessible. Soon it became apparent that even raw data could benefit from being styled contextually, without detracting from the Internet's openness and universality. Over the short history of HTML, text styles have become increasingly important, and the World Wide Web Consortium (W3C) has sought to keep a balance between substance and style. Dreamweaver enables the Web designer to apply the most popular HTML styles directly through the program's menus and Property Inspector. Less prevalent styles can be inserted through the integrated text editors or by hand.

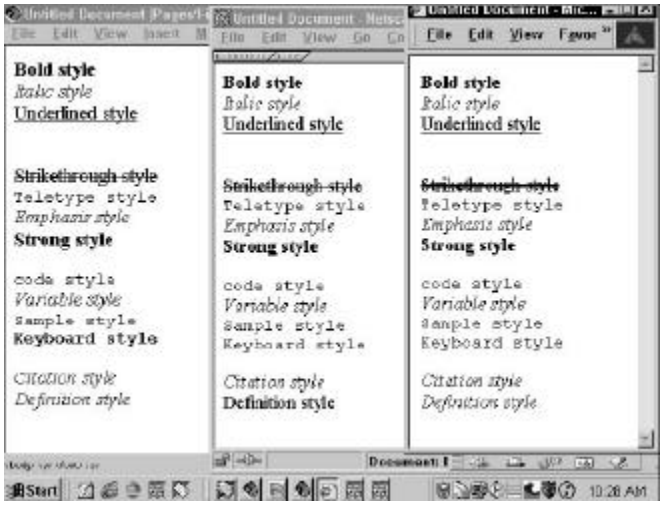
Working with preformatted text

Browsers ignore formatting niceties considered irrelevant to page content: tabs, extra line feeds, indents, and added white space. However, you can force browsers to read all the text, including white space, exactly as you have entered it. By applying the preformatted tag, <pre>, you tell the browser that it should keep any additional white space encountered within the text. By default, the <pre> tag also renders its content with a mono space font such as Courier. For these reasons, the <pre> tag was used to lay out text in columns in the early days of HTML, before tables were widely available.

You can apply the preformatted tag either through the Property Inspector or the menus. Before you use either technique, however, be sure to select the text or position the cursor where you want the preformatted text to begin. To use the Property Inspector, open the Format list box and choose Preformatted. To use the menus, choose Text->Paragraph Format->Preformatted.

The <pre> tag is a block element format, like the paragraph or the headings tags, rather than a style. This designation as a block element format has two important implications. First, you can't apply the <pre> tag to part of a line; when you use this tag, the entire paragraph is altered. Second, you can apply styles to preformatted text—this enables you to increase the size or alter the font, but at the same time maintain the white space feature made possible with the <pre> tag. All text in figure below uses the <pre> tag; the column on the left is the standard output with mono spaced font; the column on the right uses a different font in a larger size.





Preformatted text gives you full control over the line breaks, tabs, and other white space in your Web page.

HTML's logical styles are used to mark text relatively or within a particular context, rather than with a specific look. The eventual displayed appearance of logical styles is completely up to the viewer's browser. This is useful when you are working with documents from different sources—reports from different research laboratories around the country, for instance—and you want certain conformity of style. Logical styles are utilitarian; physical styles such as boldface and italic are decorative. Both types of styles have their uses in material published on today's Web.

All of Dreamweaver's styles are accessed by choosing Text->Style and selecting from the 13 available style name options. A checkmark appears next to the selected tags. Style tags can be nested (put inside one another), and you can mix logical and physical tags within a word, line, or document. You can have a bold, strikethrough, variable style; or you can have an underlined, cited style. (Both variable and cite are particular logical styles covered later in this section.) If, however, you are trying to achieve a particular look using logical styles, you should probably use the Cascading Style Sheets feature.

Take a look at Figure below for a comparison of how the styles are rendered in Dreamweaver, Internet Explorer 5.0, and Netscape Communicator 4.7. While the various renderings are mostly the same, notice the browser differences in the Definition styles and the difference in how the Keyboard style is rendered in Dreamweaver and either browser.

In this comparison chart, the various renderings of Dreamweaver style tags are from Dreamweaver, Netscape Communicator 4.7, and Internet Explorer 5.0 (from left to right).

Two of the three physical style tags—bold and italic—are both available from the Text Property Inspector and through keyboard shortcuts (Ctrl+B or Command+B, and Ctrl+I or Command+I, respectively). The Underline tag, <u>, is available only through the Text->Style menu. Underlining text on a Web page is generally discouraged in order to avoid confusion with links, which are typically displayed underlined.

Both physical and logical style tags are described below in the table

Style	***Tag***	***Description***
Bold	<i>	Text is rendered with an italic style.
Underline	<u>	Text is rendered underlined.
Strikethrough	<s>	Used primarily in edited documents to depict edited text. Usually rendered with a line through the text.
Teletype	<tt>	Used to represent an old-style typewriter. Rendered in a monospace font such as Courier.
Emphasis		Used to accentuate certain words relative to the surrounding text. Most often rendered in italic.
Strong Emphasis		Used to strongly accentuate certain words relative to the surrounding text. Most often rendered in boldface.
Code	<code>	Used to depict programming code, usually in a monospaced font.
Sample	<samp>	Used to display characters in a literal sequence, usually in a monospaced font.
Variables	<var>	Used to mark variables in programming code. Most often displayed in italics.
Keyboard	<kbd>	Used to indicate what should be user input. Often shown in a monospaced font, sometimes in boldface.
Citation	<cite>	Used to mark citations, references, and titles. Most often displayed in italic.
Definition	<dfn>	Used to denote the first, defining instance of a term. Usually displayed in italic.

LESSON 24:
HTML STYLES

Topics Covered

- Dreamweaver - using HTML styles, Applying HTML styles, Defining HTML styles

Objectives

Upon completion of this lesson, you should be able to:

- Start using HTML styles
- Apply HTML styles
- Define HTML styles

Computer Lab

Dreamweaver

Using Html Styles

In the world of Web design, consistency is a good thing. A site where headings, subheads, and body text are consistent from page to page is far easier for the visitor to quickly grasp than one where each page has its own style. Although the best approach for a consistently designed site may be the use of Cascading Style Sheets, that approach requires 4.0 and later browsers, and many clients are not willing to write off those potential Web visitors using older software.

To bridge the gap between old and new-and to make it easier to apply the same set of tags over and over again-Dreamweaver includes HTML Styles. HTML Styles are similar to CSS in that you define a custom style for text and give it any attributes you want: font name, size, color, format, and so on. Then you apply that style to either a selection or an entire block of text. The primary difference is that, with HTML Styles, Dreamweaver adds the necessary standard HTML tags, instead of CSS style declarations, to recreate your style. In other words, if you always set your legal disclaimers in Verdana at a –1 size in a deep red color, you can define your "legal" style once and apply it over and over again with one step, anywhere on the site.

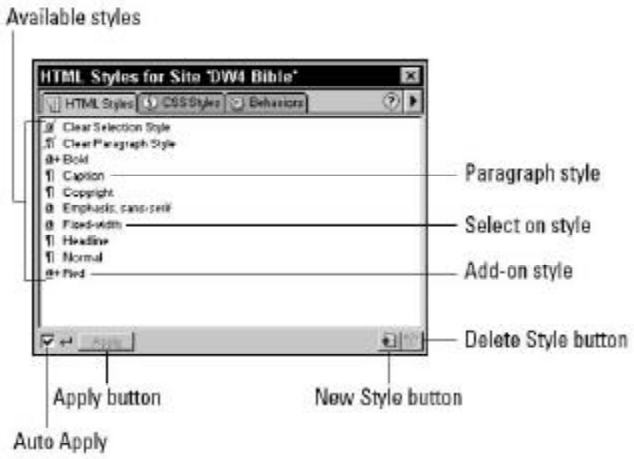
HTML Styles, however, are not a replacement for CSS styles, and you should keep in mind some important differences:

- Modifying a HTML Style definition affects only subsequent applications of the style. When a CSS style is altered, the change is immediately seen wherever the style has been applied on the current page as well as in all future applications.
- HTML Styles use standard text tags and cannot, therefore, create some of the special effects possible in CSS. For example, you could not create a HTML style that eliminates the underline from a link or changes the leading of a paragraph.
- Although defined HTML Styles are accessible from anywhere within a site, they are applied on a document-to-document basis, whereas with CSS, an external style sheet could be defined and linked to pages anywhere on your site.

Even with these differences, however, HTML Styles are an enhancement to a designer's workflow and extremely easy to use.

Applying HTML Styles

The HTML Styles panel, shown in Figure 9-12, displays all currently available styles as well as options for removing style formatting, editing existing styles, adding new styles, or removing styles from the panel.



Manage your standard formatting through the HTML Styles panel.

HTML Styles are divided into two distinct types: paragraph and selection styles. A paragraph style affects an entire block element, whether it is a single heading, a paragraph, or another block element such as a block quote. Paragraph styles are designated with a ¶ symbol in the HTML Styles panel. A paragraph style is applied to the entire current block element, whether the cursor has selected the text or is just within the block. A selection style, on the other hand, applies formatting only to selected text. Selection styles are marked in the HTML Styles panel with an underlined lowercased *a*, like this (a).

It's possible for both paragraph and selection styles to either clear the existing style before adding the new formatting or add the new formatting to the existing style. The default behavior is for existing formatting to be removed; if the style is to be added, a small plus sign (+) is shown in front of the style name.

To apply an HTML Style, follow these steps:

1. Open the HTML Styles panel in one of the following ways:

- Select Window->HTML Styles.
- Choose the HTML Styles button from either Launcher.
- Press the keyboard shortcut, Ctrl+F11 (Command+F11).

2. To apply a style to the currently selected text, choose any designated (a) HTML Style.

3. To apply a style to the current block element, choose any so-designated (¶) HTML Style.

It's easiest to always have the Auto Apply option selected, so that your choices immediately are applied; if this option is not selected, click the Apply button.

Defining HTML Styles

Naturally, the standard list of styles is just a jumping-off place for the HTML Styles panel. To get the most out the feature, you should design your own custom styles. Dreamweaver gives you a number of methods to define a style:

Style by Example-Create a new style from formatted text onscreen.

- **Modify an Existing Style—**Edit a standard or custom style to your liking. You can even duplicate the style first, so both old and new versions are available.
- **Build a New Style—**Select all the desired attributes for your selection or paragraph style and try it out right away on selected text.

You can remove all styling from a bit of text and keep the surrounding styling with the Clear Selection Style command.

All style definitions are managed in the Define HTML Style dialog box, shown in the figure below, how the dialog box is opened depends on which method you're using to create or modify your style.

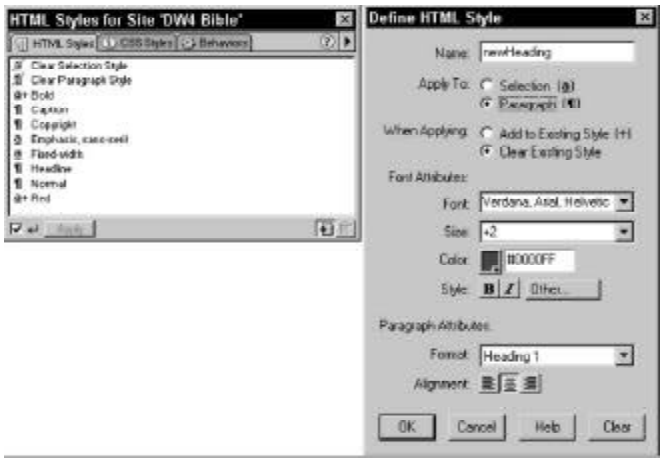
- To create a style from example, select tags you want to include in the style from the Document window or the Tag Selector and then choose the New Style button from the HTML Styles panel.
- To modify an existing style, double-click its name in the HTML Styles panel list.
- To create a new style built on an existing one, select the style and then, from the context-sensitive menu of the HTML Styles panel, select Duplicate.
- To create a style from the ground up, choose the New Style button on the HTML Styles panel.

To define an HTML Style, follow these steps:

1. Open the Define HTML Style dialog box using one of the previously described methods. Clear Paragraph style Clear Selection style
2. Enter a unique name for your style, if creating a new one.
3. Choose whether your style is to apply to a selection or a paragraph.
4. Select whether your style will add to the existing style or clear existing style.
5. Choose the desired font attributes:

- Font
- Size
- Color
- Style: Bold, Italic, or Bold-Italic

Other . . . (Additional Optional Styles): Underline, Strikethrough, Teletype, Emphasis, Strong, Code, Variable, Sample, Keyboard, Citation, Definition



Build or modify styles in the Define HTML Style dialog box.

6. If defining a paragraph style, select from the following attribute options:
   - Format: None, Heading 1 through Heading 6, or Preformatted
   - Alignment: Right, Center, Left.
7. Click OK when you're done.

Assignments

1. Define Bandwidth?
2. How can you get an Internet connection? Explain all possibilities?
3. What is Broadband connection? How effective is it over other connections?
4. What additional feature does Dream weaver gives in formatting paragraph?
5. How indenting text in paragraph works in Dream weaver?

6. What is <br> tag? Explain with examples What is Streaming media?
7. What is buffering in Streaming Media?
8. What is preformatted text?
9. What is text property inspector?
10. Why underlining text should be avoided in a web page?
11. What are the two distinct types of HTML styles?
12. How do your create your own HTML styles?

Notes

LESSON 25:
VISUAL HARMONY-1

Topics Covered

- Consistency, Page Dimension, Page Length
- Dreamweaver - Modifying Text format, Font color, Editing Font list, Text Alignment.

Objectives

Upon completion of this lesson, you should be able to:

- Relate Consistency to page design
- Know about Page Dimension and its elements
- Page length in relation to content
- Modifying Text in Dreamweaver
- Selecting font color
- Editing Font list in Dreamweaver
- Text alignment in paragraph

Consistency

Establish a layout grid and a style for handling your text and graphics, then apply it consistently to build rhythm and unity across the pages of your site. Repetition is not boring; it gives your site a consistent graphic identity that creates and then reinforces a distinct sense of "place" and makes your site memorable. A consistent approach to layout and navigation allows readers to adapt quickly to your design and to confidently predict the location of information and navigation controls across the pages of your site.

If you choose a graphic theme, use it throughout your Web site. The Bridgeman Art Library home page banner, below, sets the graphic theme for the site and introduces distinctive typography and a set of navigation buttons:

www.bridgeman.co.uk

Below is a banner at the top of an interior page in the Bridgeman Art Library site. Note how the typography and the navigation theme are carried over to the interior banners. There is no confusion about whose site you are navigating through:

www.bridgeman.co.uk

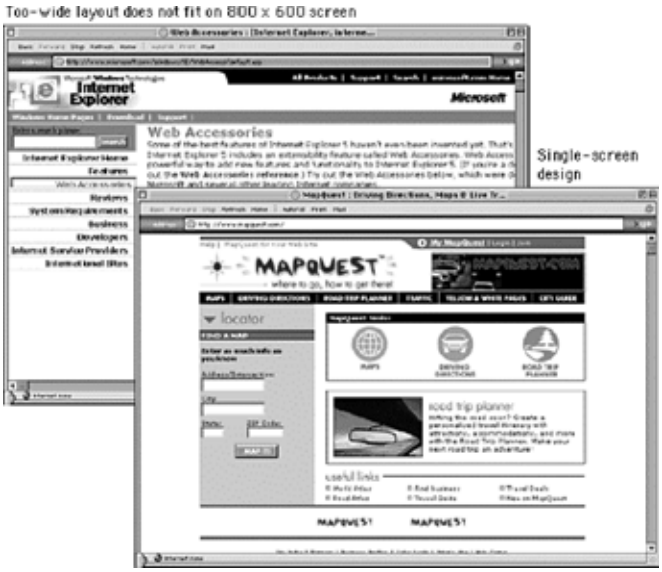
Page Ddimensions

Although Web pages and conventional print documents share many graphic, functional, and editorial similarities, the computer screen, not the printed page, is the primary delivery site for Web-based information, and the computer screen is very different from the printed page. Computer screens are typically smaller than most opened books or magazines. A common mistake in Web design is spreading the width of page graphics beyond the area most viewers can see on their seventeen- or nineteen-inch display screens:

Graphic safe areas

The "safe area" for Web page graphics is determined by two factors: the minimum screen size in common use and the width of paper used to print Web pages.

Most display screens used in academia and business are seventeen to nineteen inches (forty-three to forty-eight centimeters) in size, and most are set to display an 800 x 600-pixel screen. Web page graphics that exceed the width dimension of the most common display screens look amateurish and will inconvenience many readers by forcing them to scroll both horizontally and vertically to see the full page layout. It's bad enough to have to scroll in one (vertical) direction; having to scroll in two directions is intolerable.



www.microsoft.com and www.mapquest.com

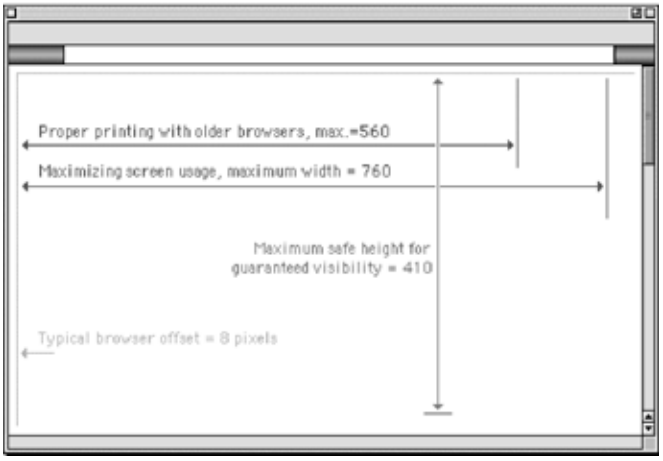
Even on small computer screens it is possible to display graphics that are too wide to print well on common letter-size, legal-size, or A4 paper widths. Current browser versions attempt to resolve printing problems by providing the option to scale the page contents to fit the standard paper width. However, many users are unaware of the "fit to page" option. Another problem is that wide pages that are scaled to fit are often illegible because the type has been scaled excessively. In many Web pages, however, printing is a secondary concern. Just be aware that your readers will either lose the right margin of your layout or produce a scaled document if they print wide pages in standard vertical print layout. Pages with lots of text should *always* be designed to print properly because most readers will print those pages to read them more comfortably. If the page layout is too wide readers will lose several words from each line of text down the right margin or have to contend with small type.

The graphic safe area dimensions for printing layouts and for page layouts designed to use the maximum width of 800 x 600 screens are shown below:

Graphic "safe area" dimensions for layouts designed to print well:
Maximum width = 560 pixels
Maximum height = 410 pixels (visible without scrolling)

Graphic "safe area" dimensions for layouts designed for 800 x 600 screens:
Maximum width = 760 pixels
Maximum height = 410 pixels (visible without scrolling)

GRAPHIC SAFE AREAS FOR 800 X 600 SCREENS

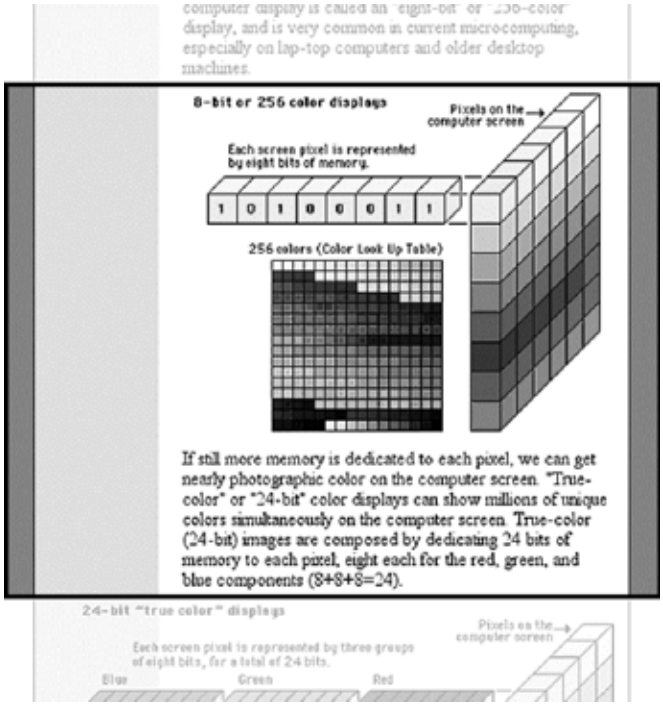


Page Length

Determining the proper length for any Web page requires balancing four factors:

1. The relation between page and screen size
2. The content of your documents
3. Whether the reader is expected to browse the content online or to print or download the documents for later reading
4. The bandwidth available to your audience

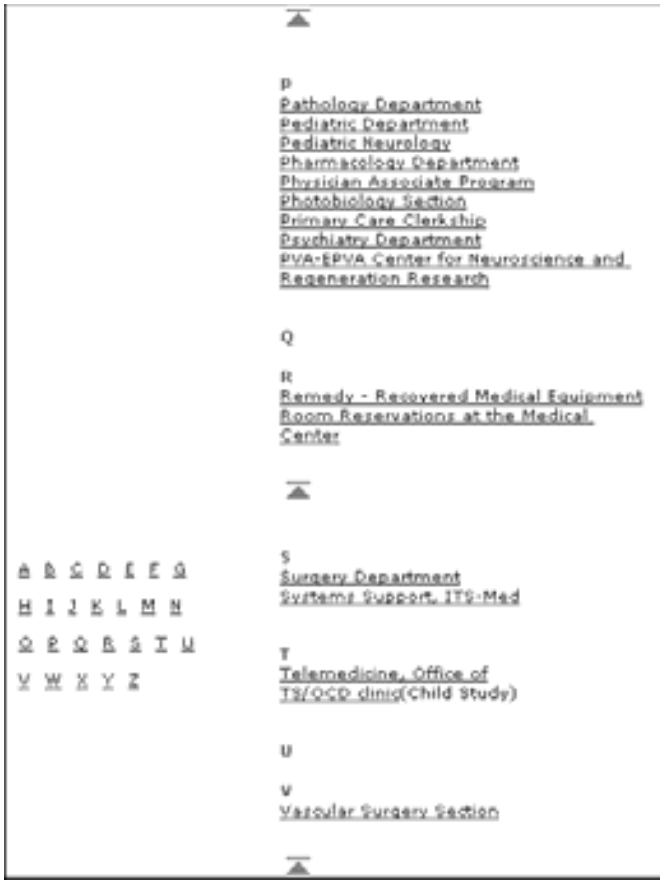
Researchers have noted the disorientation that results from scrolling on computer screens. The reader's loss of context is particularly troublesome when such basic navigational elements as document titles, site identifiers, and links to other site pages disappear off-screen while scrolling. This disorientation effect argues for the creation of navigational Web pages (especially home pages and menus) that contain no more than one or two screens' worth of information and that feature local navigational links at the beginning and end of the page layout. Long Web pages require the user to remember too much information that scrolls off the screen; users easily lose their sense of context when the navigational buttons or major links are not visible:



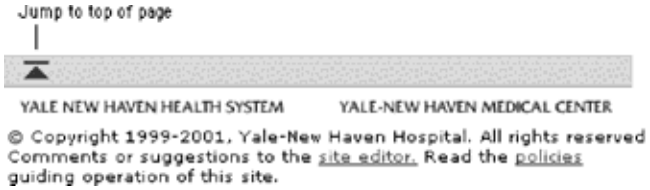
Scrolling

In long Web pages the user must depend on the vertical scroll bar slider (the sliding box within the scroll bar) to navigate. In some graphic interfaces the scroll bar slider is fixed in size and provides little indication of the document length relative to what's visible on the screen, so the reader gets no visual cue to page length. In very long Web pages small movements of the scroll bar can completely change the visual contents of the screen, leaving the reader no familiar landmarks to orient by. This gives the user no choice but to crawl downward with the scroll bar arrows or risk missing sections of the page.

Long Web pages do have their advantages, however. They are often easier for creators to organize and for users to download. Web site managers don't have to maintain as many links and pages with longer documents, and users don't need to download multiple files to collect information on a topic. Long pages are particularly useful for providing information that you don't expect users to read online (realistically, that means any document longer than two printed pages). You can make long pages friendlier by positioning "jump to top buttons" at regular intervals down the page. That way the user will never have to scroll far to find a navigation button that quickly brings him or her back to the top of the page.



All Web pages longer than two vertical screens should have a jump button at the foot of the page:



If a Web page is too long, however, or contains too many large graphics, the page can take too long for users with slow connections to download. Very large Web pages with many graphics may also overwhelm the RAM (random access memory) limitations of the user's Web browser, causing the browser to crash or causing the page to display and print improperly.

Content and Page Length

It makes sense to keep closely related information within the confines of a single Web page, particularly when you expect the user to print or save the text. Keeping the content in one place makes printing or saving easier. But more than four screens' worth of information forces the user to scroll so much that the utility of the online version of the page begins to deteriorate. Long pages often fail to take advantage of the linkages available in the Web medium.

If you wish to provide both a good online interface for a long document and easy printing or saving of its content:

- Divide the document into chunks of no more than one to two printed pages' worth of information, including inlined graphics or figures. Use the power of hypertext links to take advantage of the Web medium.
- Provide a link to a separate file that contains the full-length text combined as one page designed so the reader can print or save all the related information in one step. Don't forget to include the URL of the online version within the text of that page so users can find updates and correctly cite the source.

In general, you should favor shorter Web pages for:

- Home pages and menu or navigation pages elsewhere in your site
- Documents to be browsed and read online
- Pages with very large graphics

In general, longer documents are:

- Easier to maintain (content is in one piece, not in linked chunks)
- More like the structure of their paper counterparts (not chopped up)
- Easier for users to download and print

Computer Lab

Dreamweaver

Modifying Text Format

As a Web designer, you easily spend at least as much time adjusting your text as you do getting it into your Web pages. Luckily, Dreamweaver puts most of the tools you need for this task right at your fingertips. All the text-formatting options are available through the Text Property Inspector. Instead of hand-coding <font>, <blockquote>, and alignment tags, just select your text and click a button.

Adjusting font size

The six HTML heading types (H1 to H6) enable you to assign relative sizes to a line or to an entire paragraph. In addition, HTML gives you a finer degree of control through the size attribute of the font tag. In contrast to publishing environments, both traditional and desktop, font size is not specified in HTML with points. Rather, the <font> tag enables you to choose one of seven different explicit sizes that the browser can render (absolute sizing), or you can select one relative to the page's basic font. Figure below shows the default absolute and relative sizes, compared to a more page designer–friendly point chart (accomplished with Dreamweaver's Cascading Style Sheets features).

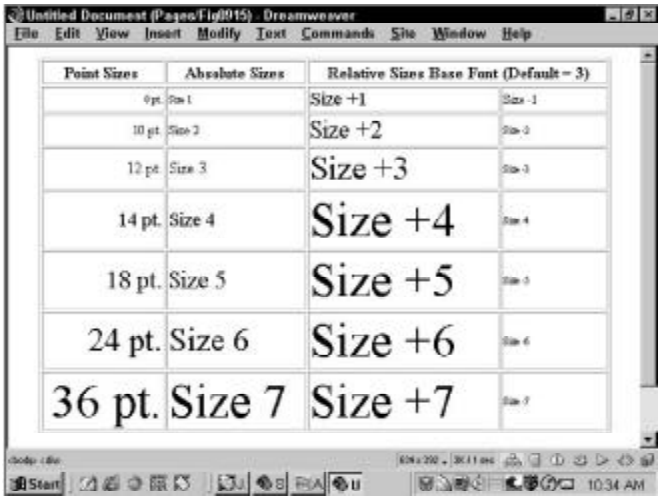
Which way should you go-absolute or relative?

Come designers think that relative sizing gives them more options. As you can see by the chart in Figure below, browsers are limited to displaying seven different sizes no matter what-unless you're using Cascading Style Sheets. Relative sizing does give you additional flexibility, though, because you can resize all the fonts in an entire Web page with one command. Absolute sizes, however, are more straightforward to use and can be

coded in Dreamweaver without any additional HTML programming. Once again, it's the designer's choice.

Absolute size

You can assign an absolute font size through either the Property Inspector or the menus. In both cases, you choose a value, 1 (smallest) through 7 (largest), to which you want to resize your text; you might note that this order is the reverse of the heading sizes, which range from H1 to H6, largest to smallest.



In this chart, you can see the relationships between the various font sizes in an HTML browser and as compared to "real-world" point sizes.

To use the Property Inspector to pick an absolute font size, follow these steps:

1) Select your text.
2) In the Property Inspector, open the Font Size drop-down list of options.
3) Choose a value from 1 to 7.

To pick an absolute font size from the menu, follow these steps:

1) Select your text.
2) Choose Text->Size and pick a value from 1 to 7, or Default (which is 3).

Relative size

To what exactly are relative font sizes relative? The default font size, of course. The advantage of relative font sizes is that you can alter a Web page's default font size with one command, the <basefont> tag. The tag takes the following form:

<basefont size=value>

where value is a number from 1 to 7. The <basefont> tag is usually placed immediately following the opening <body> tag. Dreamweaver does not support previewing the results of altering the <basefont> tag and the tag has to be entered by hand or through the external editor.

You can distinguish a relative font size from an absolute font size by the plus or minus sign that precedes the value. The relative sizes are plus or minus the current <basefont> size. Thus, a <font size=+1> is normally rendered with a size 4 font because the default <basefont> is 3. If you include the following line in your Web page:

<basefont size=5>

text marked with a is displayed with a size 6 font. Because browsers display only seven different size fonts with a <basefont size=5> setting—unless you're using Cascading Style Sheets—any relative size over won't display differently when previewed in a browser.

Relative font sizes can also be selected from either the Property Inspector or the menus. To use the Property Inspector to pick a relative font size, follow these steps:

1) Select your text or position the cursor where you want the new text size to begin.
2) In the Property Inspector, open the Font Size drop-down list of options.
3) To increase the size of your text, choose a value from +1 through +7.
4) To decrease the size of your text, choose a value from –1 to –7.

To pick a relative font size from the menus, follow these steps:

1) Select your text or position the cursor where you want the new text size to begin.
1) increase the size of your text, choose Text->Size Increase and pick a value from +1 to +7.
1) To reduce the size of your text, choose Text->Size Decrease and pick a value from –1 to –7.

Adding font color

Unless you assign a color to text on your Web page, the browser uses its own default, typically black. You can change the font color for the entire page by choosing Modify->Page Properties and selecting a new color from the Text Color swatch. You can also color any specific headings, words, or paragraphs that you have selected in Dreamweaver.

The tag goes to work again when you add color to selected elements of the page—this time, with the color attribute set to a particular value. HTML color is expressed in either a hexadecimal color number or a color name. The hexadecimal color number is based on the color's red-green-blue value and is written as follows:

#FFFFFF

The preceding represents the color white. You can also use standard color names instead of the hexadecimal color numbers. A sample color code line follows:

I'm GREEN with envy.

Dreamweaver understands both color names and hexadecimal color numbers, but its HTML code output is in hexadecimal color numbers only. Again, you have two ways to add color to your text in Dreamweaver. The Property Inspector displays a drop-down list of the browser-safe colors and also gives you an option to choose from a full-spectrum Color dialog box. If you

approach your coloring task via the menus, the Text->Color command takes you immediately to the Color dialog box.

To use the Property Inspector to color a range of text in Dreamweaver, follow these steps:

i. Select the text you want to color or position the cursor where you want the new text color to begin.

ii. From the Property Inspector, you can

a. Type a hexadecimal color number directly into the Font Color text box.

b. Type a color name directly into the Font Color text box.

c. Select the Font Color swatch to open the browser-safe color picker.

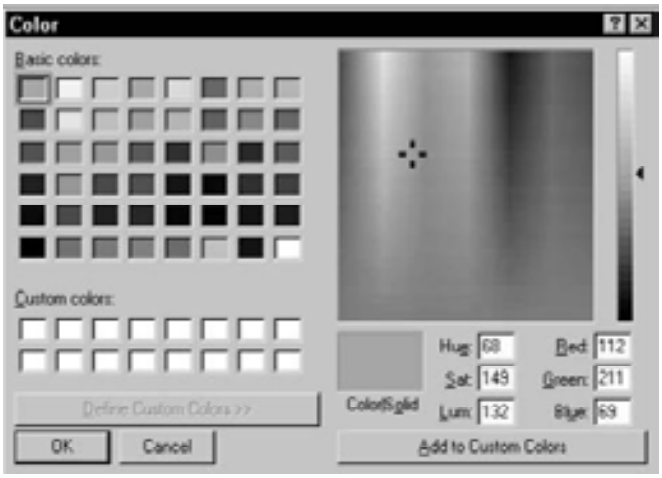
iii. If you chose to type a color name or number directly into the Font Color text box, press Tab or click the Document window to see the color applied.

iv. If you clicked the Font Color swatch, select your color from the browser-safe colors available. As you move your pointer over the color swatches, Dreamweaver displays the color in the corner and the color's hexadecimal number below.

v. For a wider color selection from the Color dialog box, select the Palette icon in the lower-right corner of the color swatch.

To access the full-spectrum color picker in Windows, follow these steps:

1. Select your text or position your cursor where you want the new text color to begin.
2. Choose Text->Color to open the Color dialog box, as shown in the figure below:
3. Select one of the 48 preset standard colors from the color swatches on the left of the Color dialog box, or use either of the following methods:
   - Select a color by moving the Hue/Saturation pointer and the Luminance pointer.
   - Enter decimal values directly into either the Red, Green, and Blue boxes or the Hue, Saturation, and Luminance boxes.
4. If you create a custom color, you can add it to your palette by selecting Add to Custom Colors. You can add up to 16 custom colors.
5. Click OK when you are finished.



Use the Color dialog box in Windows to choose a color for your font outside of the browser-safe palette.

Assigning a specific font

Along with size and color, you can also specify the typeface in which you want particular text to be rendered. Dreamweaver uses a special method for choosing font names for a range of selected text, due to HTML's unique way of handling fonts. Before you learn how to change a typeface in Dreamweaver, let's further examine how fonts in HTML work.

About HTML fonts

Page layout designers can incorporate as many different fonts as available to their own systems. Web layout designers, on the other hand, can use only those fonts on their viewers' systems. If you designate a paragraph to be in Bodoni Bold Condensed, for instance, and put it on the Web, the paragraph is displayed with that font only if that exact font name is on the user's system. Otherwise, the browser uses the default system font, which is often Times or Times New Roman. Fonts are specified with the tag, aided by the name attribute. Because a designer can never be certain of which fonts are on visitors' computers, HTML enables you to offer a number of options to the browser, as follows:

Swiss Maid Foundry

The browser encountering the preceding tag first looks for the Arial font to render the enclosed text. If Arial isn't there, the browser looks for the next font in the list, which in this case is Helvetica. Failing to find any of the specified fonts listed, the browser uses whichever font has been assigned to the category for the font- sans-serif in this case.

Selecting a font

The process for assigning a font name to a range of text is similar to that of assigning a font size or color. Instead of selecting one font name, however, you're usually selecting one font series. That series could contain three or more fonts, as previously explained. Font series are chosen from the Property Inspector or through a menu item. Dreamweaver enables you

to assign any font on your system—or even any font you can name-to a font series,

To assign a specific font series to your text, follow these steps:

1. Select the text or position your cursor where you want the new text font to begin.
2. From the Property Inspector, open the drop-down list of font names. You can also choose Text->Font from the menu bar. Your font list is displayed.
3. Select a font from the Font List. To return to the system font, choose Default Font from the list.

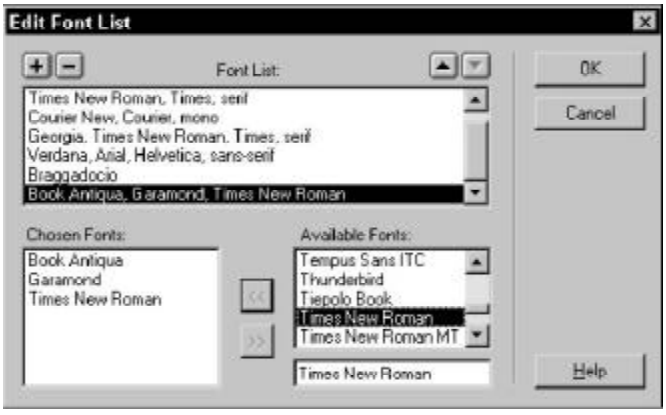
It's also possible to enter the font name or font series directly in the Property Inspector's Font drop-down list.

Editing the Font List

With the Edit Font List dialog box, Dreamweaver gives you a point-and-click interface for building your font lists. Once the Edit Font List dialog box is open, you can delete an existing font series, add a new one, or change the order of the list so your favorite ones are on top. Take a look at Figure below to see the sections of the Edit Font List dialog box: the current Font List, the Available Fonts on your system, and the Chosen Fonts. The Chosen Fonts are the individual fonts that you've selected to be incorporated into a font series.

Let's step through the process of constructing a new font series and adding it to the Font List:

1. To open the Edit Font List dialog box, either choose Edit Font List through the Font Name option arrow in the Property Inspector, or select Text->Font->Edit Font List.
2. If the Chosen Fonts box is not empty, clear the Chosen Fonts box by selecting the plus (+) button at the top of the dialog box. You can also scroll down to the bottom of the current Font List and select "(Add fonts in list below)."
3. Select a font from the Available Fonts list.



4. Click the << button to transfer the selected font to the Chosen Fonts list.
5. To remove a font you no longer want or have chosen in error, highlight it in the Chosen Fonts list and select the >> button.
6. Repeat Steps 3 through 5 until the Chosen Fonts list contains the alternative fonts desired.
7. If you want to add another, separate font series, repeat Steps 2 through 5.
8. Click OK when you are finished adding fonts.

To change the order in which font series are listed in the Font List, follow these steps:

1. In the Font List dialog box, select the font series that you want to move.
2. If you want to move the series higher up the list, select the up-arrow button at the top-right of the Font List. If you want to move the series lower down the list, select the down-arrow button.

To remove a font series from the current Font List, highlight it and select the minus(–) button at the top-left of the list. Remember, you need to have the fonts on your system to make them a part of your Font List. To add a font that's unavailable on your computer, type the name of the font into the text box below the Available Fonts list and press Enter (Return).

Aligning text

You can easily align text in Dreamweaver, just like in a traditional word processing program. HTML supports the alignment of text to the left or right margin, or in the center of the browser window. Like a word processing program, Dreamweaver aligns text one paragraph at a time. You can't left-align one word, center the next, and then right-align the third word in the same paragraph.

To align text, you can use one of three methods: a menu command, the Property Inspector, or a keyboard shortcut. To use the menus, choose Text->Alignment and then pick the alignment you prefer (Left, Right, or Center). Table below explains the Text Property Inspector's Alignment buttons and the associated keyboard shortcuts.

Table 9-8
Text Alignment Options in the Property Inspector

Button	*Alignment*	*Keyboard Shortcut*
	Left	Ctrl+Alt+L (Command+Option+L)
	Center	Ctrl+Alt+C (Command+Option+C)
	Right	Ctrl+Alt+R (Command+Option+R)

Indenting entire paragraphs

HTML offers a tag that enables you to indent whole paragraphs, such as inset quotations or name-and-address blocks. Not too surprisingly, the tag used is called the <blockquote> tag. Dreamweaver gives you instant access to the <blockquote> tag through the Indent and Outdent buttons

located on the Text Property Inspector, as shown in Figure below:

To indent one or more paragraphs, select them and click the Indent button in the Property Inspector. Paragraphs can be indented multiple times; each time you click the Indent button, another <blockquote>...</blockquote> tag pair is added.

You can't control how much space a single <blockquote> indents a paragraph- that characteristic is determined by the browser.

If you find that you have over-indented, you can use the Outdent button, which is also located on the Property Inspector. The Outdent button has no effect if your text is already at the left edge. You also have the option of indenting your paragraphs through the menus; choose Text->Indent or Text->Outdent.

Notes

LESSON 26:
IMAGES IN DREAMWEAVER

Topics Covered

- Design Grids for Web pages, Page layout, Frames
- Dreamweaver - Inserting Images, Web Graphic Format, Inline images, Modifying and Editing Images, Working with alignment options.

Objectives

Upon completion of this lesson, you should be able to:

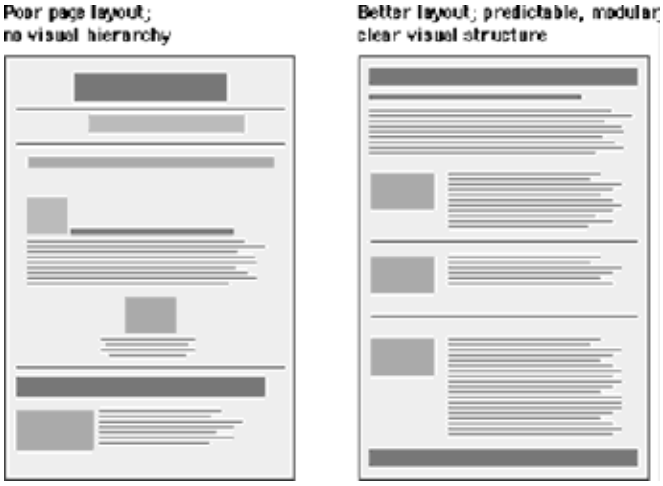
- Learn how grids brings order to a page
- Design for screen of Information.
- Use Frames aesthetically
- Insert images in Dreamweaver
- Know all the web graphic formats and where to use them
- Modify and edit images
- Align images according to design plans of web page.

Design Grids For Web Pages

Consistency and predictability are essential attributes of any well-designed information system. The design grids that underlie most well-designed paper publications are equally necessary in designing electronic documents and online publications, where the spatial relations among on-screen elements are constantly shifting in response to the user's input and system activity.

Grids bring order to the page

Current implementations of HyperText Markup Language do not allow the easy flexibility or control that graphic designers routinely expect from page layout software or multimedia authoring tools. Yet HTML can be used to create complex and highly functional information systems if it is used thoughtfully. When used inappropriately or inconsistently, the typographic controls and inlined graphics of Web pages can create a confusing visual jumble, without apparent hierarchy of importance. Haphazardly mixed graphics and text decrease usability and legibility, just as they do in paper pages. A balanced and consistently implemented design scheme will increase readers' confidence in your site.



No one design grid system is appropriate for all Web pages. Your first step is to establish a basic layout grid. With this graphic "backbone" you can determine how the major blocks of type and illustrations will regularly occur in your pages and set the placement and style guidelines for major screen titles, subtitles, and navigation links or buttons. To start, gather representative examples of your text, along with some graphics, scans, or other illustrative material, and experiment with various arrangements of the elements on the page. In larger projects it isn't possible to exactly predict how every combination of text and graphics will interact on the screen, but examine your Web layout "sketches" against both your most complex and your least complex pages.

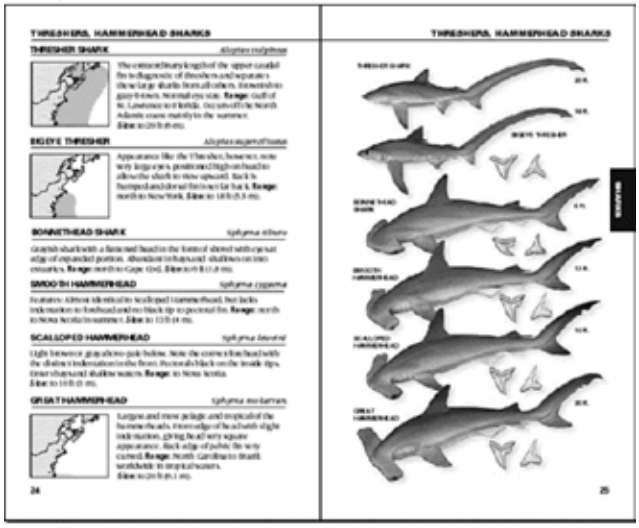
Your goal is to establish a consistent, logical screen layout, one that allows you to "plug in" text and graphics without having to stop and rethink your basic design approach on each new page. Without a firm underlying design grid, your project's page layout will be driven by the problems of the moment, and the overall design of your Web site will seem patchy and confusing.

Vertical stratification in Web pages

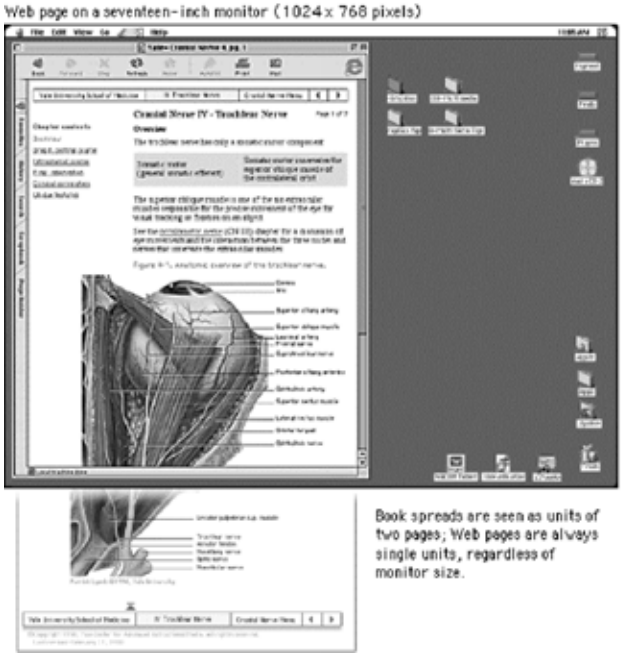
A Web page can be almost any length, but you've only got about forty-five square inches "above the fold" - at the top of your page - to capture the average reader, because that is all he or she will see as the page loads. One crucial difference between Web page design and print page design is that when readers turn a book or magazine page they see not only the whole next page but the whole two-page spread, all at the same time. In print design, therefore, the two-page spread is the fundamental graphic design unit.

Print design can achieve a design unity and density of information that Web page design cannot emulate. Regardless of how large the display screen is, the reader still sees one page at a time, and even a twenty-one-inch screen will display only as much information as is found in a small magazine spread:

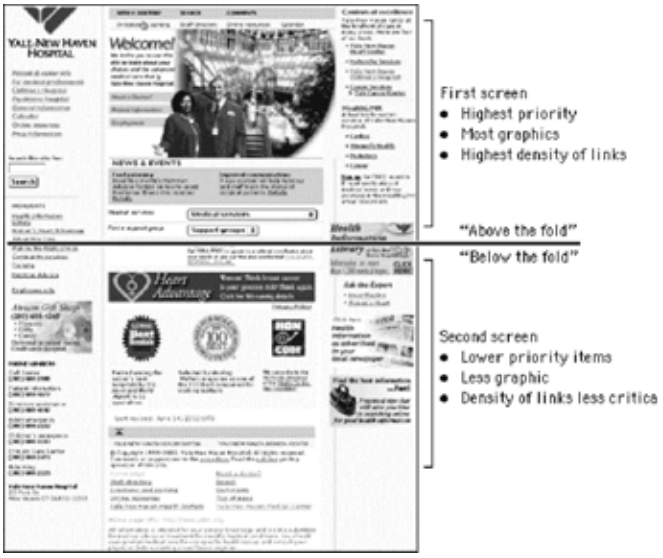
Book page spread



Web page on a seventeen-inch monitor (1024 x 768 pixels)



Book spreads are seen as units of two pages; Web pages are always single units, regardless of monitor size.



Page Layout

Laying out Web pages involves a bit of wizardry. HTML was designed by engineers and scientists who never envisioned it as a page layout tool. Their aim was to provide a way to describe structural information about a document, not a tool to determine a document's appearance. Once the real world started to work on the Web, graphic designers began adapting the primitive tools of HTML to produce documents that looked more like their print counterparts. The point was not to produce "jazzier" or "prettier" pages. The layout conventions of print documents have evolved over hundreds of years for concrete and practical reasons, and they offer many functional advantages over the simplistic, single-column page layout envisioned by the original designers of the World Wide Web.

Design for screens of information

Most Web page designs can be divided vertically into zones with different functions and varying levels of graphics and text complexity. As vertical scrolling progressively reveals the page, new content appears and the upper content disappears. A new graphic context is established each time the reader scrolls down the page. Web page layouts should thus be judged not by viewing the whole page as a unit but by dividing the page into visual and functional zones and judging the suitability of each screen of information. Notice the vertical structure of the home page reproduced below. The top screen of information is much denser with links because it is the only area that is sure to be visible to all users:

Summary of Section 508 Standards

- General
- Technical Standards
  - Software applications and operating systems
  - Web-based intranet and internet information and systems
  - Telecommunication products
  - Video and multimedia products
  - Self contained, closed products
  - Desktop and portable computers
- Functional Performance Criteria
- Information, Documentation, and Support

General (Subpart A)
The standards define the types of technology covered and set forth provisions that establish a minimum level of accessibility. The application section (1194.2) outlines the scope and coverage of the standards. The standards cover the full range of electronic and information technologies in the Federal sector, including those used for communication, duplication, computing, storage, presentation, control, transport and production. This includes computers, software, networks, peripherals and other types of electronic office equipment. The standards define *electronic and information technology*, in part, as "any equipment or interconnected system or subsystem of equipment, that is used in the creation, conversion, or duplication of data or information."

Subpart A also explains what is exempt (1194.3), defines terms (1194.4), and generally recognizes alternatives to what is required that provide equal or greater access (1194.5). Consistent with the law, the standards exempt systems used for military command, weaponry, intelligence, and cryptologic activities (but not routine business and administrative systems used for other defense-related purposes or by defense agencies or personnel). The standards also exempt "back office" equipment used only by service personnel for maintenance, repair, or similar purposes.

The standards cover technology procured by Federal agencies under contract with a private entity, but apply only to those products directly relevant to the contract and its deliverables. An exception clarifies that the standards do not apply to technology that is incidental to a Federal contract. Thus, those products that are not specified as part of a contract with a Federal agency would not have to comply with the standards. For example, a firm that produces a report for a Federal agency under a contract would not have to procure accessible computers and word processing software even if they were used exclusively for the contract; however, compliance would be required if such products were to become the property of the Federal agency as contract deliverables or if the Federal agency purchased the products to be used by the contractor as part of the project. If a Federal agency contracts with a firm to develop its web site, the standards would apply to the new web site for the agency but not to the firm's own web site.

Flexible design

The Web is a flexible medium designed to accommodate different types of users and a variety of display devices. Unlike a printed document, which is "fixed" in its medium, the look of a Web page depends on such elements as the display size, resolution, and color settings, the height and width of the browser window, software preferences such as link and background color settings, and available fonts. Indeed, there is no way to have complete control over the design of a Web page. The best approach, then, is to embrace the medium and design flexible pages that are legible and accessible to all users.

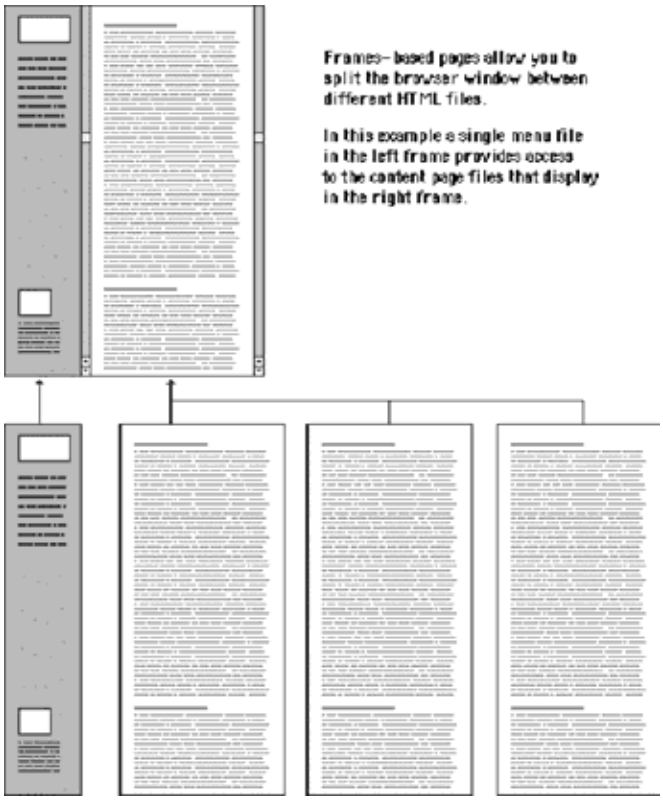
Layout with style sheets

One of the visual properties that Cascading Style Sheets are meant to describe is how elements are positioned on the page. Style sheet positioning allows designers to set margins, to position text and images on the page relative to one another, to hide and show elements, and to stack elements so they overlay one another. In theory, style sheet positioning should provide all the design control needed to lay out visually appealing and legible Web pages. In practice, however, browser inconsistencies have rendered style sheet positioning useless, at least for the time being. Though the W3C specifications for style sheet positioning contain most of the tools needed for good design, Microsoft and Netscape have done a particularly poor job of implementing them, so that properties such as borders and margins display quite differently from browser to browser. If you are creating a site for a diverse audience you should steer clear of style sheet positioning for now and design your pages using layout tables as described below. If standards compliance is a priority, use style sheet positioning for page layout, but keep your layouts simple and be ready to accept variability across browsers and platforms.

FRAMES

Frames are *meta*-documents that call and display multiple HTML documents in a single browser window. A frame document contains no BODY HTML tags, just the parameters for the frames and the URLs of the HTML documents designated to fill them. Frames-based pages do not function as an integrated unit, which is both good and bad. Frames are useful for certain content and greatly facilitate site maintenance. They provide a good way to maintain narrative and design consistency in your site; you can split the browser screen between site navigation and the material you wish to bring up with a link.

But frames also impose interface and design limitations. Frames can easily confuse readers who wish to print material on a page or bookmark a page for later reference or navigate using the browser's "Forward" and "Back" buttons. And screen space becomes an issue with frames; if you use frames to divide the browser screen, you will force many readers to scroll both horizontally and vertically to see the full contents of each frame. The current consensus among Web design and usability experts is that frames should be used only in the rare instances when their limited advantages clearly outweigh the many problems they can cause.



Frames-based pages allow you to split the browser window between different HTML files.

In this example a single menu file in the left frame provides access to the content page files that display in the right frame.

Flexibility

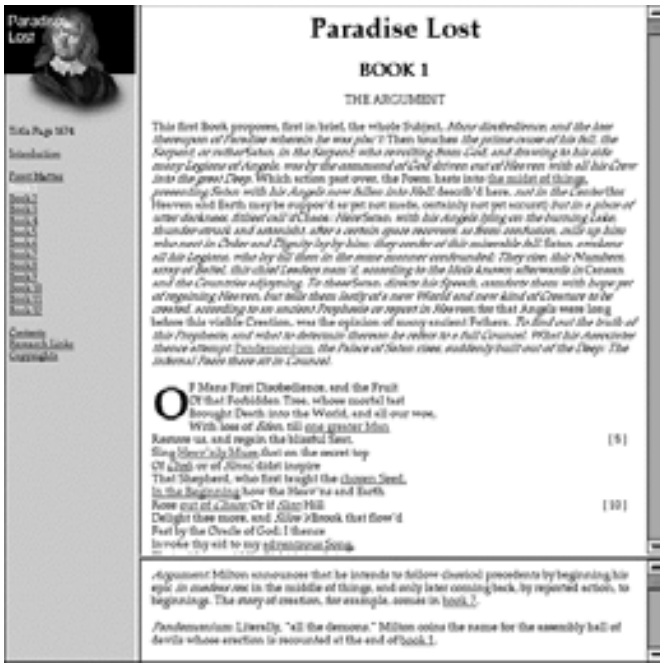
Frames are useful in a site whose contents are expected to change frequently. Because a frames-based site can be designed to have a single file for navigation, if you add or remove pages from the site you will have to modify only that one file. Our online Web Style Guide, for example, requires that a number of

files be changed if we add or delete a page because each page in the site has its own navigation. If we had used frames in our design, we would have had a single file for the section menu, and when we needed to add a page, only that file would have had to be changed to reflect the addition. As it is, when we add a page to a section we must edit each file in that section to add the new link.

Functionality

Frames can give a targeted area of your site a functional coherence. Say your site contains a collection of poems by Emily Dickinson. You could create a virtual "reading room" for her poetry using frames, with the leftmost frame providing the navigation links and the main frame at the right displaying the poems. Because most visitors linger in this area and would use the links you provide for navigation, the quirky navigation of the "Back" button would not be too intrusive.

You can also use frames to provide additional interactivity to your page. Frames allow you to put a page up on the user's screen and change its contents without rewriting the screen. The frames can interact; clicking a link in one frame can change the contents of the other. For example, a text with annotations in one frame can be linked to a footer frame, so that clicking on the text reference fills the footer frame with the corresponding note:



Aesthetics

Many page designers have avoided frames because of their prescribed borders and limited flexibility. Current versions of browser software, however, allow many more frame parameters to be defined. In fact, frame borders can now be set to zero. This allows you to design using the functionality of frames without requiring them to be visual and perhaps inharmonious elements on your page.

Frame Titles

The visual relationship between the content in frames is usually obvious for users who can see: for example, navigation links in the left frame, content in the right. Without the benefit of visual cues, however, blind users will have difficulty orienting themselves in a frames-based layout. As discussed above, there are many reasons to avoid a frames-based layout, but if you must use frames, be sure to include titles for FRAMESET tags and a NOFRAMES alternative to navigating your site.

```
<FRAMESET COLS="20%, 80%" TITLE="Web Style Guide">
<FRAME SRC="nav.html" TITLE="Navigation">
<FRAME SRC="chapter1.html" TITLE="Chapter 1: Process">
<NOFRAMES><A HREF="content.html" TITLE="Table of Contents">Web Style Guide Table of Contents</A>
</NOFRAMES>
</FRAMESET>
```

Computer Lab

Dreamweaver

Inserting Images

The Internet started as a text-based medium primarily used for sharing data among research scientists and among U.S. military commanders. Today, the Web is as visually appealing as any mass medium. Dreamweaver's power becomes even more apparent as you use its visual layout tools to incorporate background and foreground images into your Web page designs. Completely baffled by all the various image formats out there? This chapter opens with an overview of the key Web-oriented graphics formats, including PNG. Also, this chapter covers techniques for incorporating both background and foreground images-and modifying them using new methods available in Dreamweaver 4.

Web Graphic Formats

If you've worked in the computer graphics field, you know that virtually every platform-as well as every paint and graphics program-has its own proprietary file format for images. One of the critical factors in the Web's rapid, expansive growth is the use of cross-platform graphics. Regardless of the system you use to create your images, these versatile files ensure that the graphics can be viewed by all platforms.

You need to understand the uses and limitations of each of the formats so you can apply them successfully in Dreamweaver. Let's look at the fundamentals.

GIF

GIF, the Graphics Interchange Format, was developed by CompuServe in the late 1980s to address the problem of cross-platform compatibility. With GIF viewers available for every system from PC and Macintosh to Amiga and NeXT, the format became a natural choice for an inline (adjacent to text) image graphic. GIFs are bitmapped images, which means that each pixel is given or mapped to a specific color. You can have up to 256 colors for a GIF graphic. These images are generally used for illustrations, logos, or cartoons-anything that doesn't require thousands of colors for a smooth color blend, such as a photograph. With a proper graphics tool, you can reduce the number of colors in a GIF image to a minimum, thereby compressing the file and reducing download time.

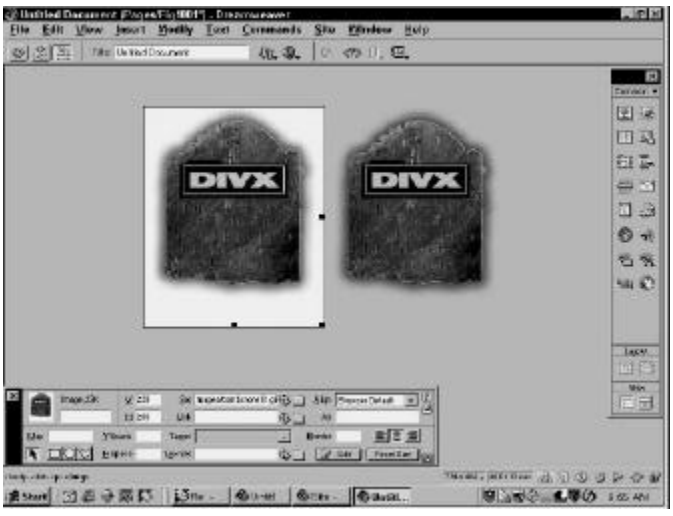
The GIF87a and GIF89a varieties

The GIF format has two varieties: "regular" (technically, GIF87a) and an enhanced version known as GIF89a. This improved GIF file brings three important attributes to the format. First, GIF89a supports transparency, in which one or more of the colors can become invisible. This property is necessary for creating non rectangular appearing images. Whenever you see a round or irregularly shaped logo or illustration on the Web, a rectangular frame is displayed as the image is loading- this is the actual size and shape of the graphic. The colors surrounding the irregularly shaped central image are set to transparent in a graphics-editing program (such as Fireworks or Adobe Photoshop) before the image is saved in GIF89a format.

Although the outer area of a graphic seems to disappear with GIF89a, you won't be able to overlap your Web images using this format without using layers. Figure below demonstrates this situation. In this figure, the same image is presented twice- one lacks transparency and one has transparency applied. The image on the left is saved as a standard GIF without transparency, and you can plainly see the shape of the full image. The image on the right was saved with the white background color made transparent, so the central figure seems to float on the background.

Interlacing capabilities of GIF89a

The second valuable attribute contributed by GIF89a format is *interlacing.* One of the most common complaints about graphics on the Web is lengthy download times. Interlacing won't speed up your GIF downloads, but it gives your Web page visitors something to view other than a blank screen. A graphic saved with the interlace feature turned on gives the appearance of "developing," like an instant picture, as the file is downloading. Use of this design option is up to you and your clients. Some folks swear by it; others can't abide it.



The same image, saved without GIF transparency (left) and with GIF transparency (right)

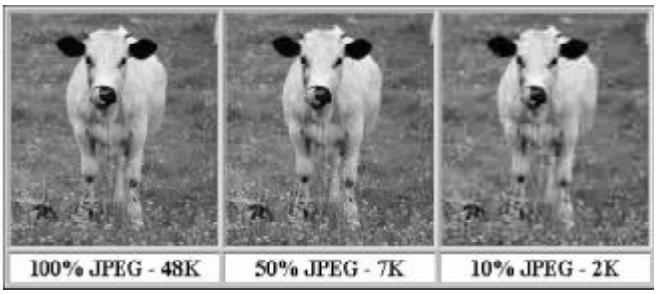
Animation capabilities of GIF89a

Animation is the final advantage offered by the GIF89a format. Certain software programs enable you to group your GIF files together into one large page-flipping file. With this capability, you can bring simple animation to your page without additional plug-ins or helper applications. Unfortunately, the trade-off is that the files get very big, very fast.

JPEG

The JPEG format was developed by the Joint Photographic Experts Group specifically to handle photographic images. JPEGs offer millions of colors at 24 bits of color information available per pixel, as opposed to the GIF format's 8-bit and 256 colors. To make JPEGs usable, the large amount of color information must be compressed, which is accomplished by removing what the algorithm considers redundant information. This is often referred to as *lossy* compression-in which pixels are lost-as opposed to *lossless* compression, a characteristic of GIF images.

The more compressed your JPEG file, the more degraded the image. When you first save a JPEG image, your graphics program asks you for the desired level of compression. As an example, take a look at the three pictures in figure below. Here you can compare the effects of JPEG compression ratios and resulting file sizes to the original image itself. As you can probably tell, JPEG does an excellent job of compression, with even the highest degree of compression having only a little visible impact. Keep in mind that each picture has its own reaction to compression.



JPEG compression can save your Web visitors substantial download time, with little loss of image quality.

With JPEGs, what is compressed for storage must be uncompressed for viewing. When a JPEG picture on your Web page is accessed by a visitor's browser, the image must first be downloaded to the browser and then uncompressed before it can be viewed. This dual process adds additional time to the Web-browsing process, but it is time well spent for photographic images. JPEGs, unlike GIFs, have neither transparency nor animation features.

A newer strand of JPEG called Progressive JPEG gives you the interlace option of the GIF format, however. Although not all browsers support the interlace feature of Progressive JPEG, they render the image regardless.

PNG

The latest entry into the Web graphics arena is the Portable Network Graphics format, or PNG. Combining the best of both worlds, PNG has lossless compression, like GIF, and is

capable of millions of colors, like JPEG. Moreover, PNG offers an interlace scheme that appears much more quickly than either GIF or JPEG, as well as transparency support that is far superior to both the other formats.

One valuable aspect of the PNG format enables the display of PNG pictures to appear more uniform across various computer platforms. Generally, graphics made on a PC look brighter on a Macintosh, and Mac-made images seem darker on a PC. PNG includes gamma correction capabilities that alter the image depending on the computer used by the viewer.

Using Inline Images

An *inline image* can appear directly next to text—literally in the same line. The capability to render inline images is one of the major innovations of the World Wide Web's transition from the Internet. This section covers all the basics of inserting inline images into Dreamweaver and modifying their attributes.

Inserting inline images

Dreamweaver can open and preview any graphic in a GIF, JPEG, or PNG format. With Dreamweaver, you have six methods for placing a graphic on your Web page:

- From the Objects panel, select the Insert Image button.
- From the menu bar, choose Insert->age.
- From the keyboard, press Ctrl+Alt+I (Command+Option+I).
- Point to an image file in the Site window using Dreamweaver's Point to File feature.
- Drag either the Insert Image button or an icon from your file manager (Explorer or Finder) to your page.
- Drag a *thumbnail* (a small version of an image) or filename from the Images category of the Assets panel onto your page. This capability is new in Dreamweaver 4 and is covered in detail in a following section.

The first four methods require that you first position the cursor at the point where you want the image to appear on the page; the drag-and-drop method enables you to place the image inline with any existing element.

For all but the method using the Assets panel, Dreamweaver opens the Select Image Source dialog box and asks you for the path or address to your image file. Remember that in HTML, all graphics are stored in separate files linked from your Web page. The image's address can be just a filename, a directory path and filename on your system, a directory path and filename on your remote system, or a full URL to a graphic on a completely separate Web server. You don't have to have the file immediately available to insert the code into your HTML.

In this Select Image Source dialog box, you can keep track of your image's location relative to your current Web page.

From the Select Image Source dialog box, you can browse to your image folder, and preview images before you load them. To enable this feature, make sure the Preview Images option is selected. Dreamweaver can preview GIF, JPEG, or PNG files.

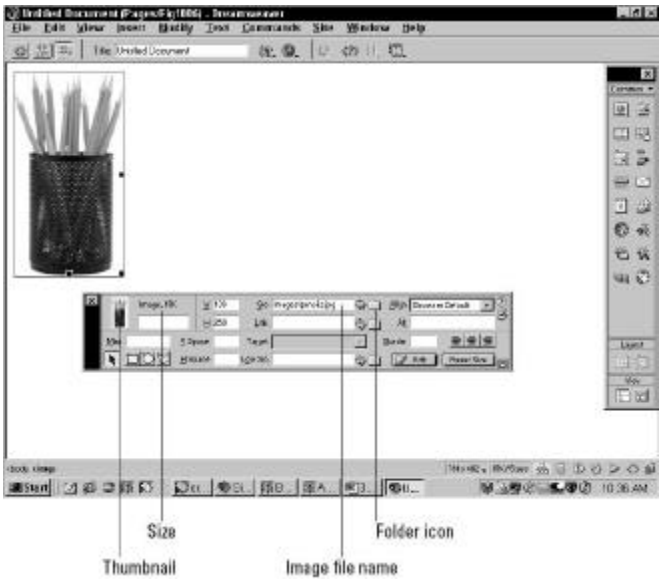
In the lower portion of the dialog box, the URL text box displays the format of the address Dreamweaver inserts into your code. Below the URL text box is the Relative To list box. Here you can choose to declare an image to be relative to the document you're working on (the default) or relative to the site root. (After you've saved your document, you see its name displayed beside the Relative To box.)

Modifying images

When you insert an image in Dreamweaver, the image tag, <img>, is inserted into your HTML code. The <img> tag takes several attributes, all of which can be entered through the Property Inspector. Code for a basic image looks like the following:

<img src="images/Collection01.gif" width="172" height="180">

Dreamweaver centralizes all of its image functions in the Property Inspector. The Image Property Inspector, shown in Figure below, displays a small thumbnail of the image as well as its file size. Dreamweaver automatically inserts the image filename in the Src text box (as the src attribute). To replace a currently selected image with another, click the folder icon next to the Src text box, or double-click the image itself. This sequence opens the Select Image Source dialog box. When you've selected the desired file, Dreamweaver automatically refreshes the page and corrects the code.



The Image Property Inspector gives you total control over the HTML code for every image.

With the Property Inspector open when you insert your image, you can begin to modify it immediately.

Editing the Image

Dreamweaver is a terrific Web authoring tool, but it's not a graphics editor. Quite often, after you've inserted an image into your Web page, you find that the picture needs to be altered in some way. Perhaps you need to crop part of the image or make the background transparent. Dreamweaver enables you to specify your primary graphics editor for each type of graphic in the File Types/Editors category of the Preferences.

Once you've picked an image editor, clicking the Edit button in the Property Inspector opens the application with the current image. After you've made the modifications, just save the file in your image editor and switch back to Dreamweaver. The new, modified graphic has already been included in the Web page.

Adjusting height and width

The width and height attributes are important: Browsers build Web pages faster when they know the size and shape of the included images. Dreamweaver reads these attributes when the image is first loaded. The width and height values are initially expressed in pixels and are automatically inserted as attributes in the HTML code.

Browsers can dynamically resize an image if its height and width on the page are different from the original image's dimensions. For example, you can load your primary logo on the home page and then use a smaller version of it on subsequent pages by inserting the same image with reduced height and width values. Because you're only loading the image once and the browser is resizing it, download time for your Web page can be significantly reduced.

You don't have to use pixels to enter your resizing measurements into Dreamweaver's Property Inspector. You can also use inches (in), picas (pc), points (pt), millimeters (mm), or centimeters (cm). The values must be entered without spaces between the number and the measurement abbreviation, as follows:

72pt

You can also combine measurement systems. Suppose, for example, you want to resize a picture's height to 2 inches and 5 centimeters. In the Property Inspector, you enter the following value in the H text box:

2in+5cm

Dreamweaver translates both inches and centimeters to their equivalent in pixels and then adds them together. The measurements are system-dependent; on the Macintosh, an inch equals 72 pixels and on Windows, an inch is 96 pixels. When you use values with a combined measurement system, you can only add values- you can't subtract them. When you press the Tab key or click outside of the height and width boxes, Dreamweaver converts your value to pixels.

Working with alignment options

Just like text, images can be aligned to the left, right, or center. In fact, images have much more flexibility than text in terms of alignment. In addition to the same horizontal alignment options, you can align your images vertically in nine different ways. You can even turn a picture into a floating image type, enabling text to wrap around it.

Horizontal alignment

When you change the horizontal alignment of a line-from left to center or from center to right-the entire paragraph moves. Any inline images that are part of that paragraph also move. Likewise, selecting one of a series of inline images in a row and realigning it horizontally causes all the images in the row to shift. In Dreamweaver, the horizontal alignment of an inline image is changed in exactly the same way you realign text, with alignment buttons found on the Property Inspector. As with text, buttons exist for Left, Center, and Right. Although these are very conveniently placed on the lower portion of the Graphics Property Inspector, the alignment attribute is actually written to the <p> or other block element enclosing the image.

Vertical alignment

Because you can place text next to an image-and images vary so greatly in size-HTML includes a variety of options for specifying just how image and text line up. As you can see from the chart in Figure below ,a wide range of possibilities is available. To change the vertical alignment of any graphic in Dreamweaver, open the Align drop-down list in the Image Property Inspector and choose one of the options.

Dreamweaver writes your choice into the align attribute of the <img> tag. The various vertical alignment options are listed in the following table, and you can see examples of each type of alignment in figure given below.

You can align text and images in one of nine different ways using the Align option box on the Image Property Inspector.

Vertical Alignment Option	*Result*
Browser Default	No alignment attribute is included in the <img> tag. Most browsers use the baseline as the alignment default.
Baseline	The bottom of the image is aligned with the baseline of the surrounding text.
Top	The top of the image is aligned with the top of the tallest object in the current line.
Middle	The middle of the image is aligned with the baseline of the current line.
Bottom	The bottom of the image is aligned with the baseline of the surrounding text.
Text Top	The top of the image is aligned with the tallest letter in the current line.
Absolute Middle	The middle of the image is aligned with the middle of the text or object in the current line.
Absolute Bottom	The bottom of the image is aligned with the descenders (as in y, g, p, and so forth) that fall below the current line.
Left	The image is aligned to the left edge of the browser or table cell, and all text in the current line flows around the right side of the image.
Right	The image is aligned to the right edge of the browser or table cell, and all text in the current line flows around the left side of the image.

The final two alignment options, Left and Right, are special cases; details about how to use their features are covered in the following section.

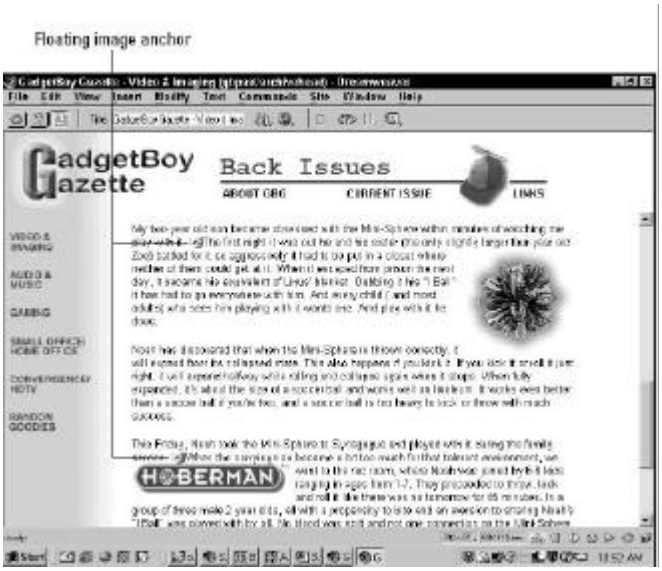
Wrapping text

Long a popular design option in conventional publishing, wrapping text around an image on a Web page is also supported by most, but not all, browsers. As noted in the preceding section, the Left and Right alignment options turn a picture into a floating image type, so called because the image can move depending on the amount of text and the size of the browser window.

Your text wraps around the image depending on where the floating image is placed (or anchored). If you have the feature enabled in the Invisibles pane of Preferences, Dreamweaver inserts a Floating Image Anchor symbol to mark the floating image's place. The Figure below shows two examples of text wrapping. In the top case, the Floating Image Anchor symbol is placed in the midst of the first paragraph, which causes the three paragraphs to flow around the right-aligned image. In the bottom case, the image is left-aligned.

The Floating Image Anchor is not just a static symbol. You can click and drag the anchor to a new location and cause the paragraph to wrap in a different fashion. Be careful though—if you delete the anchor, you also delete the image it represents.

You can also wrap a portion of the text around your left- or right-aligned picture and then force the remaining text to appear below the floating image. However, the HTML necessary to do this task cannot currently be inserted by Dreamweaver and must be coded by hand. You have to force an opening to appear by inserting a break tag, with a special clear attribute, where you want the text to break. This special <br> tag has three forms:



Aligning an image left or right enables text to wrap around your images.

<br clear=left>	Causes the line to break, and the following text moves down vertically until no floating images are on the left.
<br clear=right>	Causes the line to break, and the following text moves down vertically until no floating images are on the right.
<br clear=all>	Moves the text following the image down until no floating images are on either the left or the right.

LESSON 27:

Topics Covered

- Page Header and footers , Fixed verses flexible tables, General design considerations
- Dreamweaver - Putting pictures in background, Applying simple web animation, Including banner ads, Inserting rollover images

Objectives

Upon completion of this lesson, you should be able to:

- Understand why are page headers a site identity
- proper usage of fixed tables
- areas where flexible tables are used
- How to divide the webpage with horizontal rules
- apply a simple web animation
- include banner ads
- Insert rollover images

Page Headers And Footers

Many Web authors surrender to the giddy thrills of large home page graphics, forgetting that a Web page is not just a visual experience- it has to function efficiently to retain its appeal to the user. Remember that the page builds its graphic impact only gradually as it is downloaded to the user. The best measure of the efficiency of a page design is the number of options available for readers within the top four inches of the page. A big, bold graphic may tease casual Web surfers, but if it takes the average reader thirty seconds to download the top of your page, and there are few links to be seen until he or she scrolls down the page (causing even longer delays), then you may lose a big part of your audience before you offer them links to the rest of your site.

Page headers: Site identity

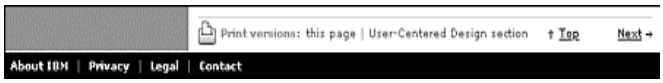
Careful graphic design will give your Web site a unique visual identity. A "signature" graphic and page layout allows the reader to grasp immediately the purpose of the document and its relation to other pages. Graphics used within headers can also signal the relatedness of a series of Web pages. Unlike designers of print documents, designers of Web systems can never be sure what other pages the reader has seen before linking to the current page. Sun Microsystems's many Web pages and subsites all include a signature header graphic that includes basic navigation links:

Even if you choose not to use graphics on your pages, the header area of every Web page should contain a prominent title at or near its top. Graphics placed above the title line should not be so large that they force the title and introductory text off the page on standard office-size display screens. In a related series of documents there may also be subtitles, section titles, or other text elements that convey the relation of the displayed document to others in the series. To be effective, these title elements must be standardized across all the pages in your site.

Page footers: Provenance

Every Web page should contain basic data about the origin and age of the page, but this repetitive and prosaic information does not need to be placed at the top of the page. Remember, too, that by the time readers have scrolled to the bottom of your Web page the navigation links you might have provided at the top may no longer be visible. Well-designed page footers offer the user a set of links to other pages in addition to essential data about the site.

The pages in the IBM Web site all carry a distinctive footer graphic with a consistent visual and functional identity:



Fixed Versus Flexible

The behavior of an HTML table depends largely on how its cells are defined. One "feature" of tables is that they try to be accommodating; they expand and collapse to accommodate their contents and to fit the dimensions of the viewer's browser window. In their most basic form, tables are not much more precise than plain text.

Example: Variable-width layout table (opens in new window)
Example: Fixed-width layout table (opens in new window)

It is possible to create flexible layout tables that resize gracefully without sacrificing the integrity of your design, but if you are turning to layout tables for precision you will need to use fixed-width layout tables.

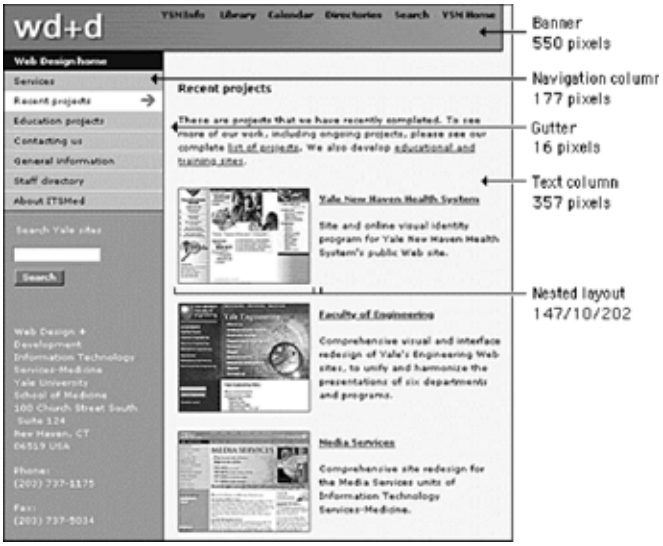
Use fixed-width tables for precise layouts

Putting content into a fixed-width table means that your page layout will be stable whatever the size of the user's screen or browser window. Designing in a stable environment means that you can fix the position of elements on the page and control typographic features such as line length and spacing. A downside of a controlled layout is that on large display screens a major portion of screen real estate goes unused. You can avoid the "wasteland" effect of a fixed layout by centering the table in the browser window or by designing a background graphic to fill the empty areas of the screen.

Layout centered within the browser window

Flush-left layout with background pattern on the right for balance

In a fixed-width table you must define cell widths with absolute values. This will keep the tables from expanding to fill the window. Then, to keep tables from collapsing when the browser window is too small to accommodate their dimensions, include an invisible image equal to the width of the cell in each table cell. These two techniques will force table cells to maintain their dimensions regardless of the size of the browser window.

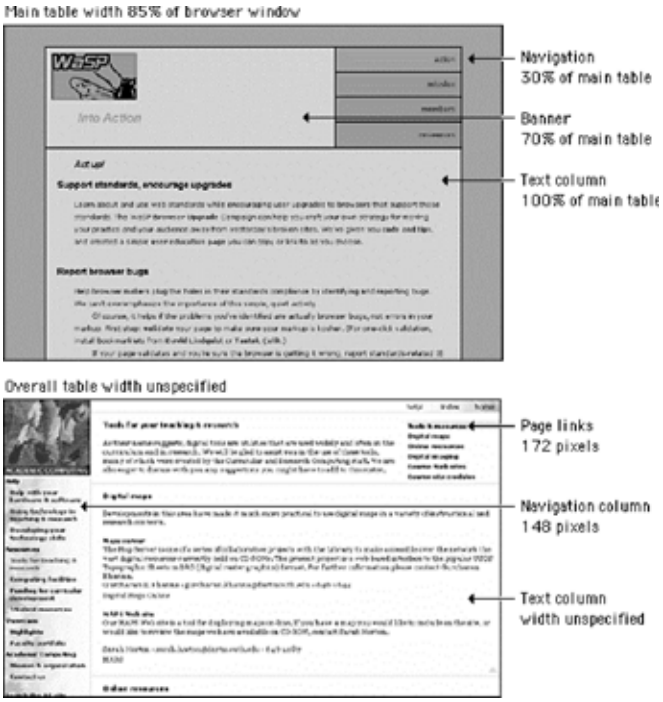


Use flexible tables for layouts that adapt

A popular viewpoint is that designers should embrace the nature of Web documents and create flexible layouts that adapt to different viewing conditions. To do this, you need to be willing to abandon control of aspects of your page design, notably line length. Flexible design is in many ways more challenging than fixed design because it requires a deep understanding of HTML and its implementation across platforms and browsers. It also requires that you think "outside the box" of your own configuration and come up with graphics and layouts that will still "work" under varying viewing conditions.

Tables are inherently flexible, so one approach to flexible design is to let table cells size themselves according to their contents and the size of the browser window. Another approach is to specify cell widths using percentage values; for example, set the left scan column width to 40 percent and the main text column width to 60 percent. That way the columns will resize when the window size is changed, but they will always maintain their

relative proportions regardless of the size of the browser window. You can also use a combination of fixed and unspecified table cell widths to create a flexible layout. Using this technique you specify in pixels the width of the columns that require absolute positioning - for example, a navigation column or gutter - and leave the remaining column, such as the text column, unspecified so that it adapts to fill the screen.



General Design Considerations

Understand The Medium

Readers experience Web pages in two ways: as a direct medium where pages are read online and as a delivery medium to access information that is downloaded into text files or printed onto paper. Your expectations about how readers will typically use your site should govern your page design decisions. Documents to be read online should be concise, with the amount of graphics carefully "tuned" to the bandwidth available to your mainstream audience. Documents that will most likely be printed and read offline should appear on one page, and the page width should be narrow enough to print easily on standard paper sizes.

Include fixed page elements

Each page should contain a title, an author, an institutional affiliation, a revision date, copyright information, and a link to the "home page" of your site. Web pages are often printed or saved to disk, and without this information there is no easy way to determine where the document originated. Think of each page in your site as a newspaper clipping, and make sure that the information required to determine its provenance is included.

Don't impose style

Don't set out to develop a "style" for your site, and be careful about simply importing the graphic elements of another Web site or print publication to "decorate" your pages. The graphic and editorial style of your Web site should evolve as a natural consequence of consistent and appropriate handling of your content and page layout.

Maximize prime real estate

In page layout the top of the page is always the most dominant location, but on Web pages the upper page is especially important, because the top four inches of the page are all that is visible on the typical display screen. Use this space efficiently and effectively.

Use subtle colors

Subtle pastel shades of colors typically found in nature make the best choices for background or minor elements. Avoid bold, highly saturated primary colors except in regions of maximum emphasis, and even there use them cautiously.

Beware of Graphic Embellishments

Horizontal rules, graphic bullets, icons, and other visual markers have their occasional uses, but apply each sparingly (if at all) to avoid a patchy and confusing layout. The same consideration applies to the larger sizes of type on Web pages. One reason professional graphic designers are so impatient with plain HTML is that the H1 and H2 header tags display in grotesquely large type on most Web browsers. The tools of graphic emphasis are powerful and should be used only in small doses for maximum effect. Overuse of graphic emphasis leads to a "clown's pants" effect in which everything is garish and nothing is emphasized.

Computer Lab

Dreamweaver

Putting Pictures In The Background

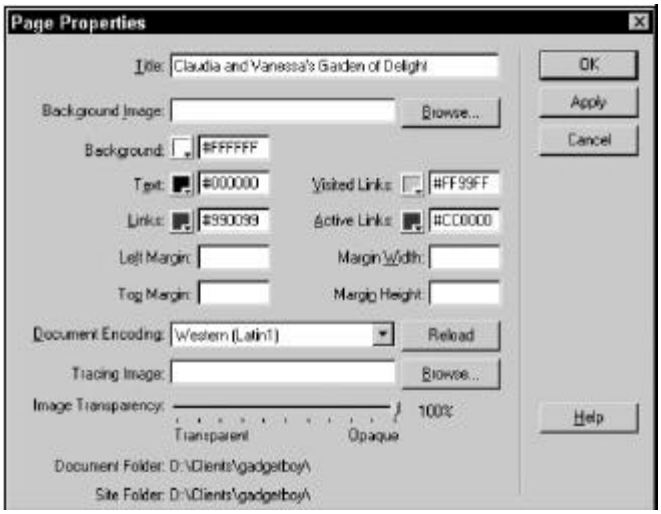
You can also have an image in the background of an HTML page. This section covers some of the basic techniques for incorporating a background image in your Dreamweaver page. **Note:**Remember, you add an image to your background in Dreamweaver by modifying the Page Properties. Either choose Modify->Page Properties or select Page Properties from the contextual menu that pops up when you right-click (Command+click) any open area on the Web page. In the Page Properties dialog box, select a graphic by choosing the Browse (Choose) button next to the Background Image text box. You can use any file format supported by Dreamweaver-GIF, JPEG, or PNG.

Two key differences exist between background images and the foreground inline images discussed in the preceding sections of this chapter. First and most obvious, all other text and graphics on the Web page are superimposed over your chosen background image. This capability can bring extra depth and texture to your work; unfortunately, you have to make sure the foreground text and images work well with the background.

Basically, you want to ascertain that enough contrast exists between foreground and background. You can set the default text and the various link colors through the Page Properties dialog box. When trying out a new background pattern, you should set up some dummy text and links. Then use the Apply

button on the Page Properties dialog box to test different color combinations. See Figure 10-9 for an example of this test at work.

The second distinguishing feature of background images is that the viewing browser completely fills either the browser window or the area behind the content of your Web page, whichever is larger. So, if you've created a splash page with only a 200×200 foreground logo, and you've incorporated an amazing 1,024×768 background that took you weeks to compose, no one can see the fruits of your labor in the background—unless they resize their browser window to 1,024×768. On the other hand, if your background image is smaller than either the browser window or what the Web page content needs to display, the browser and Dreamweaver repeat (or tile) your image to make up the difference.



If you're using a background image, be sure to check the default colors for text and links to make sure enough contrast exists between background and foreground.

Dividing the Web Page with Horizontal Rules

HTML includes a standard horizontal line that can divide your Web page into specific sections. The horizontal rule tag, <hr>, is a good tool for adding a little diversion to your page without adding download time. You can control the width (either absolutely or relative to the browser window), the height, the alignment, and the shading property of the rule. These horizontal rules appear on a line by themselves; you cannot place text or images on the same line as a horizontal rule.

To insert a horizontal rule in your Web page in Dreamweaver, follow these steps:

1. Place your cursor where you want the horizontal rule to appear.
2. From the Common pane of the Objects panel, select the Insert Horizontal Rule button or choose the Insert->Horizontal Rule command.

Dreamweaver inserts the horizontal rule and opens the Horizontal Rule Property Inspector, as shown in the figure below:

1) To change the width of the line, enter a value in the width (W) text box. You can insert either an absolute width in pixels or a relative value as a percentage of the screen.
   - To set a horizontal rule to an exact width, enter the measurement in pixels in the width (W) text box and press the Tab key. Then select pixels in the drop-down list.
   - To set a horizontal rule to a width relative to the browser window, enter the percentage amount in the width (W) text box and press Tab. Then select the percent sign (%) in the drop-down list.

The Horizontal Rule Property Inspector controls the width, height, and alignment for these HTML lines.

2) To change the height of the horizontal rule, type a pixel measurement in the height (H) text box.

   For both the width and height values, you can also enter a value in inches (in), picas (pc), points (pt), millimeters (mm), or centimeters (cm), just as with images. When you press Tab to leave the text box, Dreamweaver converts your entry to pixels.

3) To change the alignment from the default (centered), open the Align dropdown list and choose another alignment.
4) To disable the default "embossed" look for the rule, deselect the Shading checkbox.
5) If you intend to address (call) your horizontal rule in JavaScript or another application, you can give it a unique name. Type it into the unlabeled name text box located directly to the left of the H text box.

To modify any inserted horizontal rule, simply click it. (If the Property Inspector is not already open, you have to double-click the rule.) As a general practice, size your horizontal rules using the percentage option if you are using them to separate items on a full screen. If the horizontal rules are being used to divide items in a specifically sized table column or cell, use the pixel method.

Applying Simple Web Animation

Why include a section on animation in a chapter on inline images? On the Web, animations are, for the most part, inline images that move. Outside of the possibilities offered by Dynamic HTML. Web animations typically either are animated GIF files or are created with a program such as Flash that requires a plug-in. This section takes a brief look at the capabilities and uses of GIF animations.

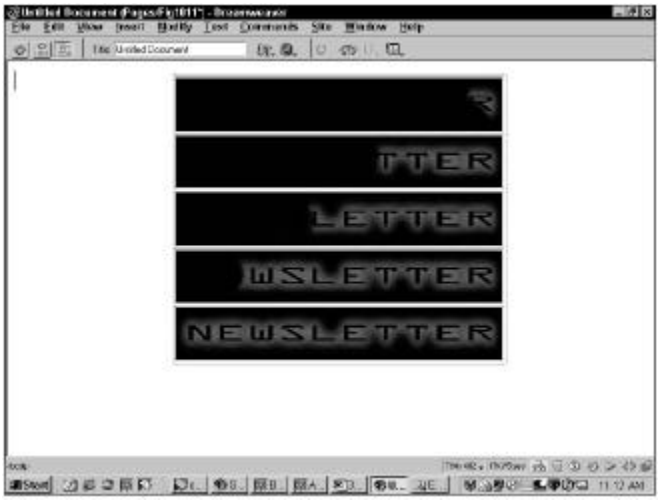
A GIF *animation* is a series of still GIF images flipped rapidly to create the illusion of motion. Because animation-creation programs compress all the frames of your animation into one file, a GIF animation is placed on a Web page in the same manner as a still graphic.

In Dreamweaver, click the Insert Image button in the Objects panel or choose Insert->Image and then select the file. Dreamweaver shows the first frame of your animation in the Document window. To play the animation, preview your Web page in any graphics-capable browser.

As you can imagine, GIF animations can quickly grow to be very large. The key to controlling file size is to think small: Keep your images as small as possible with a low bit-depth (number of colors) and use as few frames as possible.

To create your animation, use any graphics program to produce the separate frames. One excellent technique uses an image-processing program such as Adobe Photoshop and progressively applies a filter to the same image over a series of frames. Figure below shows the individual frames created with Photoshop's Lighting Effects filter. When animated, a spotlight appears to move across the word.

You need an animation program to compress the separate frames and build your animated GIF file. Many commercial programs, including Macromedia's Fireworks, can handle GIF animation. QuickTime Pro can turn individual files or any other kind of movie into an animated GIF, too. Most animation programs enable you to control the number of times an animation loops, the delay between frames, and how transparency is handled within each frame.



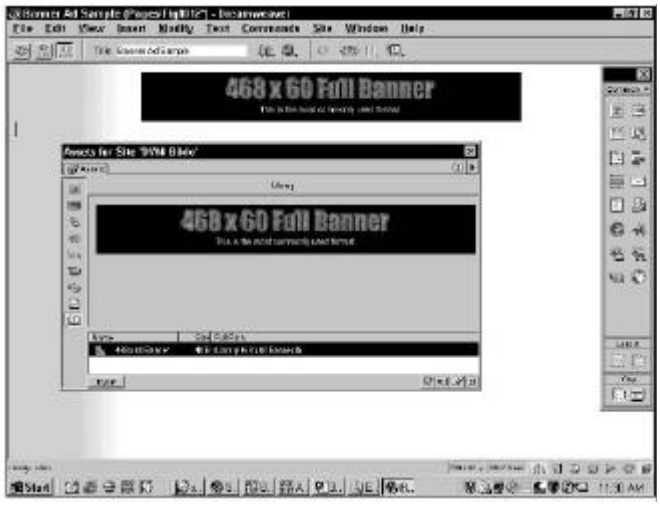
Five of twelve frames are compressed into one animated file.

Dreamweaver Technique: Including Banner Ads

Banner ads have become an essential aspect of the World Wide Web; for the Web to remain, for the most part, freely accessible, advertising is needed to support the costs. Banner ads have evolved into the de facto standard. Although numerous variations exist, a banner ad is typically an animated GIF of a particular width and height and under a specified file size.

File size for a banner ad is not as clearly determined, but it's just as important. The last thing a hosting site wants is for a large, too heavy banner to slow down the loading of its page. Usually a commercial site has an established maximum file size for a particular banner ad size. Generally banner ads are around 10K and no more than 12K. The lighter your banner ad, the faster it loads and-as a direct result- the more likely Web page visitors stick around to see it.

It's not unusual for an advertisement to come from an outside source, so a Web page designer often has to allow space for the ad without incorporating the actual ad. Some Web designers use special placeholder images. In Dreamweaver, placeholder ads can easily be maintained as a Library item and placed as needed from the Assets panel, as shown in Figure below, graphics such as these, you could also just insert a plain <img> tag-with no src parameter-using the Quick Tag Editor. When an <img> tag without a src is in the code, Dreamweaver displays a broken image icon that could then be resized to the proper banner ad dimensions in the Property Inspector.



Use the Library to store standard banner ad images for use as placeholders.

Inserting Rollover Images

Rollovers are among the most popular of all Web page effects. A *rollover* (also known as a *mouseover*) occurs when the user's pointer passes over an image and the image changes in some way. It may appear to glow or change color and/or shape; when the pointer moves away from the graphic, the image returns to its original form. The rollover indicates interactivity and attempts to engage the user with a little bit of flare.

Rollovers are usually accomplished with a combination of HTML and JavaScript. Dreamweaver was among the first Web authoring tools to automate the production of rollovers through its Swap Image and Swap Image Restore behaviors. Later versions of Dreamweaver make rollovers even easier with the Rollover Image object. With the Rollover Image object, if you can pick two images, you can make a rollover.

Technically speaking, a rollover is accomplished by manipulating an <img> tag's src attribute. You'll recall that the src attribute is responsible for providing the actual file name of the graphic to be displayed; it is, quite literally, the source of the image. A rollover changes the value of src from one image file to another. Swapping the src value is analogous to having a picture within a frame and changing the picture while keeping the frame.

Dreamweaver's Rollover Image object automatically changes the image back to its original source when the user moves the pointer off the image. Optionally, you can elect to preload the images with the selection of a checkbox. Preloading is a Web page technique that reads the intended file or files into the browser's memory before they are displayed. With preloading, the images appear on demand, without any download delay.

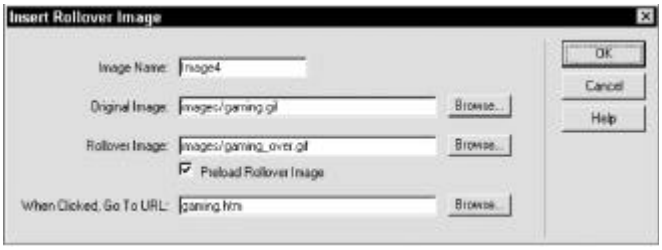
Rollovers are typically used for buttons that, when clicked, open another Web page. In fact, JavaScript requires that an image include a link before it can detect when a user's pointer moves over it. Dreamweaver automatically includes the minimum link necessary: the #target link. Although JavaScript recognizes this symbol as indicating a link, no action is taken if the image is clicked by the user; the #, by itself, is an empty link. You can, naturally, supply whatever link you want in the Rollover Image object.

To include a Rollover Image object in your Web page, follow these steps:

1) Place your cursor where you want the rollover image to appear and choose Insert->Rollover Image or select Insert Rollover Image from the Common panel of the Objects panel. You can also drag the Insert Rollover Image button to any existing location on the Web page.

   Dreamweaver opens the Insert Rollover Image dialog box shown in

2) If desired, you can enter a unique name for the image in the Image Name textbox, or you can leave the name automatically generated by Dreamweaver.
3) In the Original Image text box, enter the path and name of the graphic you want displayed when the user's mouse is not over the graphic. You can also choose the Browse (Choose) button to select the file. Press Tab when you're done.
4) In the Rollover Image text box, enter the path and name of the graphic you want displayed when the user's pointer is over the graphic. You can also choose the Browse (Choose) button to select the file.



The Rollover Image object makes rollover graphics quick and easy.

5) If desired, specify a link for the image by entering it in the When Clicked, Go To URL text box. If you are entering a path and file by hand, be sure to delete the initial target link, #. If you use the Browse (Choose) button to select your file, the target link is deleted for you.
6) To enable images to load only when they are required, deselect the Preload Images option. Generally, it is best to leave this option selected (the default) so that no delay occurs in the rollover appearing.
7) Click OK when you're finished.

Assignment

1. What are Graphic "safe" areas?
2. What are the four factors for determining page length according to content in Web page?
3. Explain with limitation of scrolling in a web document?
4. What is the difference between Absolute Font and Relative font size?
5. How do you add font color by HTML coding?

6. How can you edit the font list?
7. What is the usability of grids in a web page
8. What are frames and explain their functionality?
9. Difference between GIF87a and GIF89a?
10. What is the difference between Absolute Font and Relative font size?
11. How do you add font color by HTML coding?
12. How can you edit the font list?
13. What is the difference in usability of page headers and footers?
14. Identify the advantages of using flexible tables?
15. What is the background image and foreground inline images?
16. How does GIF image have the animated behavior?
17. What are the considerations for using a banner in a website?
18. What is a roll over image?

Notes

LESSON 28:
TYPOGRAPHY-1

Topics Covered

- Distinguishing graphic text and HTML text, An introduction to type, Letter as pictures, Dreamweaver Lab evaluation

Objectives

Upon completion of this lesson, you should be able to:

- Understand the basic of Typography
- Distinguish graphic text and HTML text
- An introduction to type
- Dreamweaver Lab evaluation

Typography

Typography exists to honor content.

Robert Bringhurst, The Elements of Typographic Style
TYPOGRAPHY is the balance and interplay of letterforms on the page, a verbal and visual equation that helps the reader understand the form and absorb the substance of the page content. Typography plays a dual role as both verbal and visual communication. As readers scan a page they are subconsciously aware of both functions: first they survey the overall graphic patterns of the page, then they parse the language, or read. Good typography establishes a visual hierarchy for rendering prose on the page by providing visual punctuation and graphic accents that help readers understand relations between prose and pictures, headlines and subordinate blocks of text.

Website Typography

Typography on the web is tricky, you need to distinguish between graphic text and HTML text.

Typography can be tricky on the web because you need to distinguish between graphic text and HTML text. HTML text can be controlled in terms of size, color, leading, and font (to some extent). Unfortunately line breaks are just about impossible to control in HTML text. This is for two reasons, one is that most text areas will "stretch" with the browser as it is widened or narrowed by the user. The second reason is that it is possible to place text into a table that does not stretch, but the different ways type is handled between Macintosh and Windows (and even between operating systems) makes it impossible to specifically control the line breaks in a block of text.

Although you can specify any font in HTML text you should normally choose between Arial, Verdana, Helvetica, or Times because for the text to display in the chosen font it must be installed on the user's system. These four are all likely to be installed.

If you do want to control font and line breaks you will need to treat type graphically. This is often used for navigation graphics, headlines or sub heads. Keep in mind though that any text that is specified as a graphic will not be searchable by the search engines and cannot be edited through WebTop (or other content management systems).

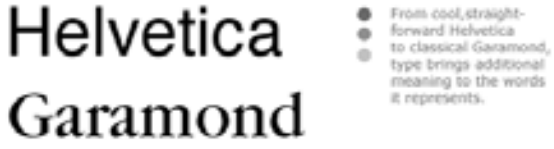
Tech note: precise control of graphic text. By duplicating the layers of type graphics and adjusting the layer opacity of the duplicated layer you can control the intensity of the type color. When creating small graphic type, adjust the point size by 0.1 increments until it looks best. (Sometimes reducing the size will improve the clarity of the type due to the relative juxtaposition of the pixels.) Keep all type layers unrendered so that they can be used later to create additional graphics consistently.

More Reading

Web Typography Tutorial by Nadav Savio

An Introduction to Type

Why should we care so much about this arcane art? Design is fundamentally about communication, and, for all the power of images, words remain at the core of how we communicate. Typography is the practice of visually representing words. Type conveys meaning, both in the obvious sense that words and sentences communicate, and in the subtler sense that the particular visual representation we use - the style, size, and so on - affects the message. While a computer might care only which ASCII codes are represented, we humans are affected by associations and visual relationships: To us, Helvetica means something different than Garamond.

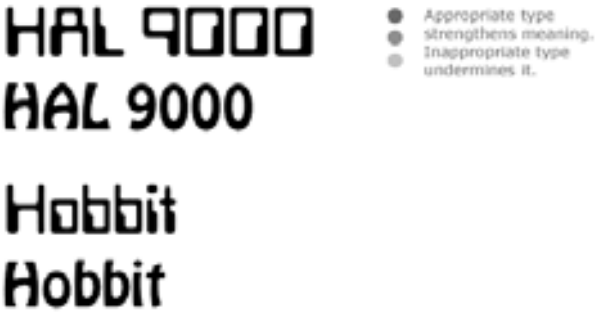


Type also affects communication in the straightforward sense of legibility. If I can't read your text, I certainly can't understand it, no matter how clever your writing may be. But legibility isn't just an algorithm to follow ("always use 66 characters per line" or "serif typefaces are more readable than sans-serif"). Legibility is subtly affected by the shape, spacing, and size of individual letters and words, and the arrangement of those words into lines on the page or screen.

All of the effort we put into our text - both in terms of content and presentation - has a direct effect on the meaning of the message we convey. This is one of the most basic precepts of typography. So, before we get into the specifics of displaying type, let's explore the relationship between type and meaning.

Associating Meaning with Type

When I say type affects meaning, what am I talking about? Why can't I just choose one of my favorite faces and be done with it? Well, I think an illustration is in order:

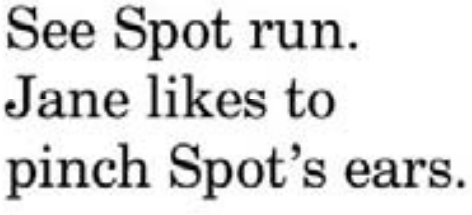


This example may be extreme, but the point is that your choice of typeface can either undercut your desired meaning or it can support and extend it. When we see "HAL 9000" set in Data 70 - a typeface designed in 1970 to look like futuristic computer output - the *idea* of HAL, the misguided computer from Kubrick's *2001: A Space Oddyssey*, is communicated both in the semantic meaning of the words and in the visual, associational

meaning of the letterforms. The visual and semantic meanings coincide, making each stronger. When we see the same words in the whimsical Art Nouveau face Hobo, our brains have to work to ignore the visual meaning conveyed by the typeface in order to comprehend the semantic meaning contained in the word. Of course, as with any "rule," there are times where you might want to intentionally force this conflicted reaction for effect.

What, then, makes one typeface communicate one thing and another typeface communicate some other thing? This is a difficult question, but the simple answer is that it does so in two ways: by association and through basic visual communication.

Associations have to do with our past experience: Where have we seen a given typeface before? What did it mean then? Schoolbook conveys a feeling of childhood innocence in large part because we've seen it before in grade-school primers and children's books:

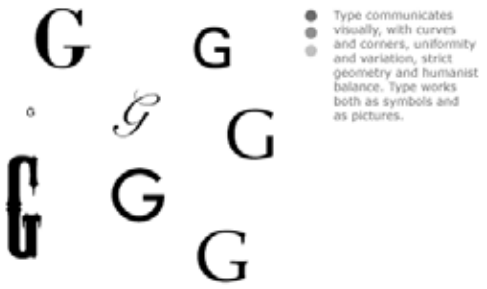


We similarly associate stencil faces with blueprints, construction sites, military lettering, and shipping crates. Associations also work in reverse: One of the complaints typographers have about Helvetica is that it's been used so often, in so many different circumstances, that it has ceased to have any associational meaning. Of course this sort of meaninglessness can be a meaning all its own, perfect for creating a sort of unstyled style.

The IBM logo is another interesting example of how type gains meaning. Many of us see this familiar logo and think the horizontal lines are there to convey the idea that IBM makes computers. But, as it turns out, the lines are there for very different reasons: They lighten up what would otherwise be a very heavy logo while suggesting the company's authority and reliability by evoking the anti-forgery lines of financial documents. In fact, they signify "computer" to us only because of their use in the logo of a huge, highly-visible computer company. As Paul Rand, the logo's designer, put it, "It's since been used to symbolize the computer industry, and that's only because it's been used by IBM. There's nothing inherent in horizontal lines or vertical lines that says 'computer' except what you read into it because of association with a good company." (Paul Rand, by Steven Heller, p. 156.)

Letters as Pictures

Unlike associational meaning, which is dependent on culture and history, visual communication comes into play on a basic human level. Hard edges evoke different emotional responses than soft edges. Ornamentation, such as elaborate serifs or uneven edges, will give a different feel than sparse, unadorned letterforms. Other differences abound, including shape, thickness, color, variation, symmetry, and so on.



Obviously, the differences among type faces are myriad. To get a grasp on all of these distinctions, it helps to name the different aspects of letterforms and typographic design.

Computer Lab

Dreamweaver

Class Exercise

As now, we have covered enough of Dreamweaver already; you must be working on your personal home page concurrently.

Today, we concentrate ourselves on applying the various techniques we learnt in Dreamweaver till now. Enhance your web site with all the elements we learnt till now, your evaluation will be done, with respect to the maximum usability and clutter free web design you create.

Your personal web site may be a portfolio website or contain general information about yourself and your family, friends etc.,

You are supposed to submit your webpage before the computer lab is over, your work will be evaluated.

LESSON 29
WEB LINKS AND DREAMWEAVER

Topics Covered

- Characteristics of type on the web, Content Structure and Visual logic,
- Dreamweaver - Establishing web links, understanding URLs, Hypertext, Pointing to a file, Adding an Email link, Navigating with anchors, moving within the same document, Targeting your links,

Objectives

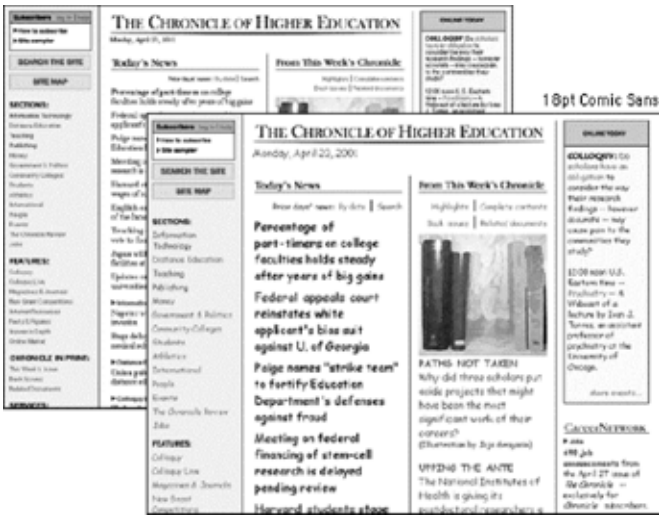
Upon completion of this lesson, you should be able to:

- Characteristic of type on the Web
- Understand Visual logic in Web designing
- Understand URLs
- Adding hyperlink to your website
- Use point to file icon
- Add email link
- Use anchors in your web document
- Anchors within a document
- Target your links

Characteristics of type on the Web

Although the basic rules of typography are much the same for both Web pages and conventional print documents, type on-screen and type printed on paper are different in crucial ways. The computer screen renders typefaces at a much lower resolution than is found in books, magazines, and even pages output from inexpensive printers. Most magazine and book typography is rendered at 1200 dots per inch (dpi) or greater, whereas computer screens rarely show more than about 85 dpi. Also, the useable area of typical computer screens is smaller than most magazine and book pages, limiting the information you can deliver on a Web page without scrolling.

But perhaps the most distinctive characteristic of Web typography is its variability. Web pages are built on the fly each time they are loaded into a Web browser. Each line of text, each headline, each unique font and type style is re-created by a complex interaction of the Web browser, the Web server, and the operating system of the reader's computer. The process is fraught with possibilities for the unexpected: a missing font, an out-of-date browser, or a peculiar set of font preferences designated by the reader. You should regard your Web page layouts and typography as *suggestions* of how your pages should be rendered -you'll never know exactly how they will look on the reader's screen.



Content structure and visual logic

The originators of HTML were scientists who wanted a standard means to share particle physics documents. They had little interest in the exact visual form of the document as seen on the computer screen. In fact, HTML was designed to enforce a clean separation of content structure and graphic design. The intent was to create a World Wide Web of pages that will display in every system and browser available, including browsers that "read" Web page text to visually impaired users and can be accurately interpreted by automated search and analysis engines.

In casting aside the graphic design and editorial management traditions of publishing, the original designers of the Web ignored human motivation. They were so concerned about making Web documents machine-friendly that they produced documents that only machines (or particle physicists) would want to read. In focusing solely on the structural logic of documents they ignored the need for the visual logic of sophisticated graphic design and typography.

For example, most graphic designers avoid using the standard heading tags in HTML (H1, H2, and so on) because they lack subtlety: in most Web browsers these tags make headlines look absurdly large (H1, H2) or ridiculously small (H4, H5, H6). But the header tags in HTML were not created with graphic design in mind. Their sole purpose is to designate a hierarchy of headline importance, so that both human readers and automated search engines can look at a document and easily determine its information structure. Only incidentally did browser designers create a visual hierarchy for HTML headers by assigning different type sizes and levels of boldness to each header element.

Computer Lab

Dreamweaver

Establishing Web Links

To me, links are the Web. Everything else about the medium can be replicated in another form, but without links, there would be no World Wide Web. As your Web design work becomes more sophisticated, you'll find more enhanced uses for links: sending mail, connecting to an FTP site—even downloading software. In this chapter, you learn how Dreamweaver helps you manage the various types of links, set anchors within documents to get smooth and accurate navigation, and establish targets for your URLs. But first, let's begin with an overview on Internet addresses to give you the full picture of the possibilities.

Understanding URLs

URL stands for Uniform Resource Locator. An awkward phrase, it nonetheless describes itself well—the URL's function is to provide a standard method for finding anything on the Internet. From Web pages to newsgroups to the smallest graphic on the most esoteric of pages, everything can be referenced through the URL system.

The URL can use up to six different parts, although all parts are not necessary for the URL to be read. Each part is separated by some combination of a slash, colon, and hash mark delimiter. When entered as an attribute's value, the entire URL is generally enclosed within quotes to ensure that the address is read as one unit. A generic URL using all the parts looks like the following:

method://server:port/path/file#anchor

Here's a real-world example that also uses every section:

http://www.idest.com:80/dreamweaver/index.htm# bible

In order of appearance in the body of an Internet address, left to right, the parts denote the following

The method used to access the resource. The method to address Web servers is the HyperText Transport Protocol (HTTP). Other methods are discussed later in this section.

The name of the server providing the resource. The server can either be a domain name (with or without the "www" prefix) or an Internet Protocol (IP) address, such as 199.227.52.143.

The port number to be used on the server. Most URLs do not include a port number, which is analogous to a telephone extension number on the server, because most servers use the defaults.

The directory path to the resource. Depending on where the resource (for example, the Web page) is located on the server, the following paths can be specified: no path (indicating that the resource is in the public root of the server), a single folder name, or a number of folders and subfolders.

The filename of the resource. If the filename is omitted, the Web browser looks for a default page, often named index.html or index.htm. The browser reacts differently depending on the type of file. For example, GIFs and JPEGs are displayed by themselves; executable files and archives (Zip, StuffIt, and so on) are downloaded.

The named anchor in the HTML document. This part is another optional section. The named anchor enables the Web designer to send the viewer to a particular section of an HTML page.

Because it is used to communicate with servers, the HTTP access method is far and away the most prevalent method on today's World Wide Web. In addition to the HTTP access method, other methods connect with other types of servers.

Table 11-1
Various Internet Access Methods and Protocols

Name	*Syntax*	*Usage*
File Transfer Protocol	ftp://	Links to an FTP server that is generally used for uploading and downloading files. The server can be accessed anonymously, or it may require a user name and password.
Gopher	gopher://as	Connects to a directory tree structure primarily used for disseminating all-text documents.
HyperText Transfer Protocol	http://	Used for connecting to a document available on a World Wide Web server.
JavaScript	javascript://	Executes a JavaScript function.
Mailto	mailto:	Opens an e-mail form with the recipient's address already filled in. These links are useful when embedded in your Web pages to provide visitors with an easy feedback method.
News	news://	Connects to the specified Usenet newsgroup. Newsgroups are public, theme-oriented message boards where anyone can post or reply to a message.
Telnet	telnet://	Enables users to log directly onto remote host computers and interact directly with the operating system software.

Part of the richness of today's Web browsers stems from their capability to connect with all the preceding (and additional) services.

Surfing the Web with Hypertext

Most often, you assign a link to a word or phrase on your page, an image such as a navigational button, or a section of graphic for an image map (a large graphic in which various parts are links). Once you have created the link, you have to preview it in a browser; links are not active in Dreamweaver's Document window.

Designate links in HTML through the anchor tag pair: <a> and . The anchor tag generally takes one main attribute—the hypertext reference, which is written as follows:

href="link name"

When you create a link in Dreamweaver, the anchor pair surrounds the text or object that is being linked. For example, if you link the phrase "Back to Home Page," it may look like the following:

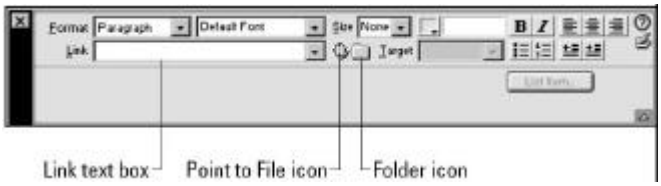
Back to Home Page

When you attach a link to an image, logo.gif, your code looks as follows:

<img src="images/logo.gif">

Creating a basic link in Dreamweaver is easy. Simply follow these steps:

1. Select the text, image, or object you want to establish as a link.
2. In the Property Inspector, enter the URL in the Link text box as shown in the figure below, You can use one of the following methods to do so:
    - Type the URL directly into the Link text box.
    - Select the folder icon to the right of the Link text box to open the Select File dialog box, where you can browse for the file.
    - Select the Point to File icon and drag your mouse to an existing page or link. This feature is explained later in this section.
    - Drag a link from the Assets panel onto a text or image selection.



Only a few restrictions exist for specifying linked URLs. Dreamweaver does not support any letters from the extended character set (also known as High ASCII), such as ¡, à, or ñ. Complete URLs must have fewer than a total of 255 characters. You should be cautious about using spaces in path names and, thus, URLs. Although most browsers can interpret the address, spaces are changed to a %20 symbol for proper Unix usage, which can make your URLs difficult to read.

Text links are most often rendered with a blue color and underlined. You can specify the document link color by choosing Modify->Page Properties and selecting the Link Color swatch. In Page Properties, you can also alter the color to which the links change after being selected (the Visited Link Color) and the color flashed when the link is clicked (the Active Link Color).

Pointing to a file

Dreamweaver has an alternative method of identifying a link-pointing to it. By using the Point to File icon on the Property Inspector, you can quickly fill in the Link text box by dragging your mouse to any existing named anchor or file visible in the Dreamweaver environment. The Point to File feature saves you from having to browse through folder after folder as you search for a file you can clearly see onscreen.

You can point to a file in another open Dreamweaver window or one in another frame in the same window. If your desired link is a named anchor located further down the page, Dreamweaver automatically scrolls to find it. You can even point to a named anchor in another page, and Dreamweaver enters the full syntax correctly.

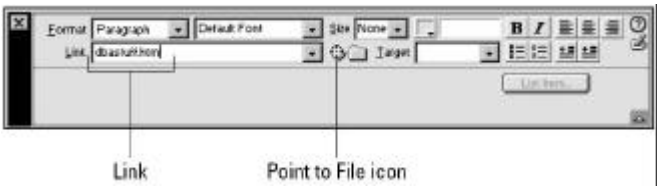
Perhaps one of the slickest applications of the Point to File icon is when it is used in tandem with the Site window. The Site window lists all the existing files in any given Web site, and when both it and the Document window are onscreen, you can quickly point to any file.

Perhaps one of the slickest applications of the Point to File icon is when it is used in tandem with the Site window. The Site window lists all the existing files in any given Web site, and when both it and the Document window are onscreen, you can quickly point to any file.

1. Select the text or the graphic that you'd want to make into a link.
2. In the Property Inspector, click and hold the Point to File icon located to the right of the Link text box.
3. Holding down the mouse button, drag the mouse until it is over an existing link or named anchor in the Document window or a file in the Site window.

As you drag the mouse, a line extends from the Point to File icon, and the reminder "Point to a file to make a link" appears in the Link text box.

1) When you locate the file you want to link to, release the mouse button. The filename with the accompanying path information is written into the Link text box as shown in the figure below:



The Point to File capability enables you to quickly insert a link to any onscreen page.

Adding an E-Mail Link

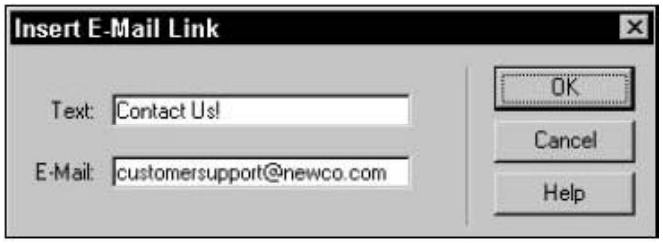
E-mail links are very common on the Web. Rather than opening a new Web page like a regular link, when an e-mail link is clicked, a window for sending a new e-mail message is displayed. The message window is already preaddressed to the recipient, making it convenient to use. All the user has to do is add a subject, enter a message, and select Send.

E-mail links no longer need be added by hand. Dreamweaver includes an object that streamlines the process. Just enter the text of the line, and the e-mail address and the link is ready. E-mail links, like other links, do not work in Dreamweaver when clicked and must be previewed in the browser.

To enter an e-mail link with the new object, follow these steps:

2) Position your cursor where you want the e-mail link to appear.
3) From the Common category of the Objects panel, select the Insert E-Mail Link button.

The Insert E-Mail Link dialog box, shown in the figure below:



The Insert E-Mail Link object creates links that make it simple for your Web page visitors to send an e-mail.

4) In the Insert E-Mail Link dialog box, enter the visible text for the link in the Text field.

5) Enter the e-mail address in the E-Mail field.

Click OK when you're done.

If you already have the text for the e-mail link in the document, you can also usethe Property Inspector to insert an e-mail link. Just highlight the text and in the Link field of the Property Inspector, enter the URL in this format:

mailto:name@company.com

Make sure that the URL is a valid e-mail address with the @ sign properly placed.

Navigating with Anchors

Whenever you normally link to an HTML page, through absolute or relative addressing, the browser displays the page from the top. Your Web visitors must scroll to any information rendered below the current screen. One HTML technique, however, links to a specific point anywhere on your page regardless of the display window's contents. This technique uses *named anchors.*

Using named anchors is a two-step process. First you place a named anchor somewhere on your Web page. This placement is coded in HTML as an anchor tag using the name attribute, with nothing in between the opening and closing tags. In HTML, named anchors look like the following:

```
<a name="bible"></a>
```

The second step includes a link to that named anchor from somewhere else on your Web page. If used, a named anchor is referenced in the final possible portion of an Internet address, designated by the hash mark (#), as follows:

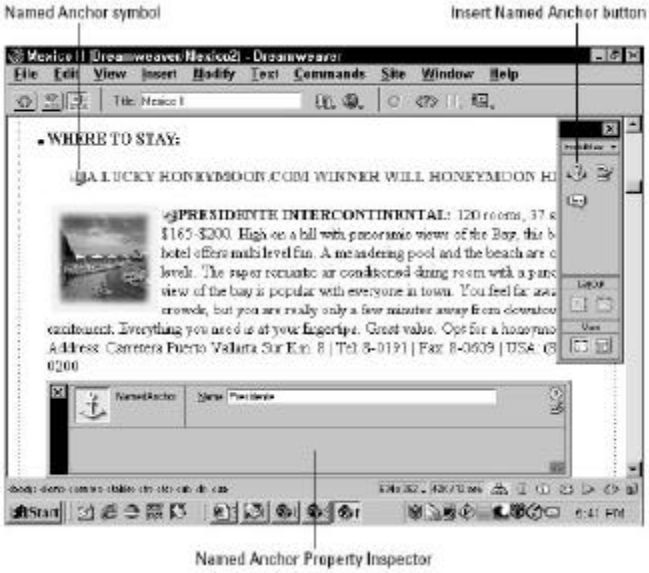
```
<a href="http://www.idest.com/dreamweaver/
index.htm#bible>
```

You can include any number of named anchors on the current page or another page. Named anchors are commonly used with a table of contents or index.

To insert a named anchor in Dreamweaver, follow these steps:

1. Place the cursor where you want the named anchor to appear.
2. Choose Insert->Named Anchor. You can also select the Insert Named Anchor button from the Invisibles category of the Objects panel. Or use the key shortcut Ctrl+Alt+A (Command+Option+A).
3. The Named Anchor dialog box opens. Type the anchor name into the text box.

When you press Enter (Return), Dreamweaver places a named anchor symbol in the current cursor location and opens the Named Anchor Property Inspector



The Named Anchor tag enables you to link to specific areas of a Web page.

4) To change an anchor's name, click the named anchor symbol within the page and alter the text in the Property Inspector.

Moving within the same document

One of the major advantages of using named anchors is the almost instantaneous response the viewer receives when they click them. The browser only needs to scroll to the particular place in the document because the entire page is loaded. For long text documents, this capability is an invaluable time-saver.

Once you have placed a named anchor-or all of them at once-in your document, you can link to these anchors. Follow these steps to create a link to a named anchor in the same document:

Select the text or image that you want to designate as a link.

In the Link text box of the Property Inspector, type a hash mark, #, followed by the exact anchor name.

For example:

#top

Remember, anchor names are case-sensitive and must be unique in each document.

In Dreamweaver, you can also use the Point to File icon to choose a named anchor link. If your named anchor is in the same document, just drag the Point to File icon to the named anchor symbol. When you release the mouse, the proper named anchor is inserted into the Link text box. If the named anchor is on the same page but off screen, Dreamweaver automatically scrolls the Document window as you approach the edge. In Windows, the closer you move to the edge, the faster Dreamweaver scrolls. Dreamweaver even returns the screen to your original location, with the new link at the top of the screen, after you release the mouse button. In long documents

with a table of contents or index linking to a number of named anchors, it's common practice—and a good idea—to place a link back to the top of the page after every screen or every topic. This technique enables your users to return to the menu quickly and pick another topic without having to manually scroll all the way back.

Targeting Your Links

Thus far, all of this chapter's links have had a similar effect: They open another Web page or section in your browser's window. What if you want to force the browser to open another window and load that new URL in the new window? HTML enables you to specify the target for your links.

Targets are most often used in conjunction with frames-that is, you can make a link in one frame open a file in another. Here, though, let's take a look at one of the HTML predefined targets useful in a situation where you want to load another URL into a new window.

To specify a new browser window as the target for a link in Dreamweaver, follow these steps:

1) Select the text or image you want to designate as your new link. In the Property Inspector, enter the URL into the Link text box. After you've entered a link, the target option becomes active.
2) Choose the option button next to the Target list box and select _blank from the drop-down list. You can also type it in the list box.

Dreamweaver inserts a _blank option in the Target list box, as shown in Figure Below. Now, when your link is activated, the browser spawns a new window and loads the referenced link into it. The user has both windows available.

You can force a user's browser to open a separate window to display a specific link with the Target command.

The _blank target is most often used when the originating Web page is acting as a jump station and has numerous links available. By keeping the original Web page open, the user can check out one site without losing the origin point.

You can even use the _blank target technique on named anchors in the same document, thereby emulating frames to some degree.

Notes

LESSON 30:
CASCADING STYLE SHEETS

Topics Covered

- Cascading style sheets, Advantages of CSS, How style sheet works
- Dreamweaver - creating list, bulleted list, Editing unordered list, Mastering Numbered lists, Editing ordered lists, Making definition list

Objectives

Upon completion of this lesson, you should be able to:

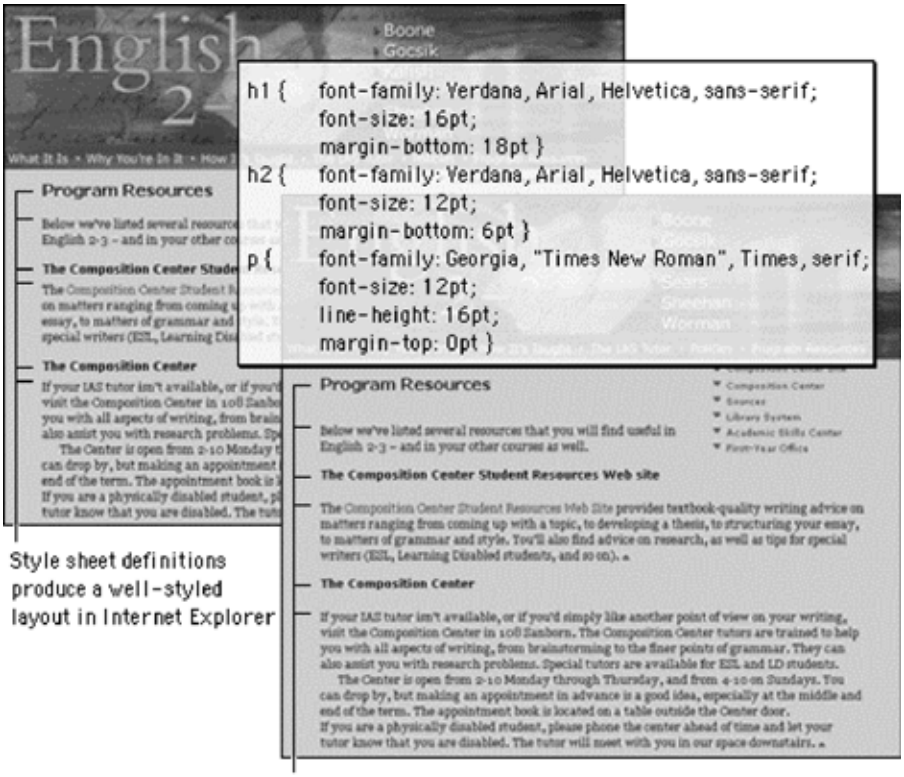
- Define Cascading Style sheets
- Note the advantages of using CSS
- Understand how CSS works
- Create list - ordered and unordered
- Use other numbering styles
- Make Definition lists

Cascading Style Sheets

This division between structural logic and visual logic is on its way to being reconciled through the use of Cascading Style Sheets (CSS). Style sheets provide control over the exact visual style of headers, paragraphs, lists, and other page elements. For example, if you prefer H3 headers to be set in 12-point Arial bold type, you can specify those details in a style sheet. In this way you can retain the logical use of HTML's structural tags without sacrificing graphic design flexibility.

At this writing, however, the major Web browsers offer inconsistent and incomplete CSS support. Although both Microsoft Internet Explorer version 3.0 and higher and Netscape Navigator version 4.0 and higher *support* CSS, their exact implementations of it differ. A most frustrating example of this is the margin property. Standard HTML headings float far above the paragraphs they describe. With style sheets authors can designate more suitable margins in a heading style declaration. Yet the Netscape browser *adds* the designated amount *to the standard margin*, whereas Explorer simply adds the margin defined in the style sheet. The upshot is that until the browsers offer a more consistent implementation of CSS, only a handful of properties can be used reliably.

So what do you do when you know the advantages of preserving the document structure but you want to design Web pages that are attractive and functional enough to capture and sustain an audience? You compromise. In the sites we create we use a grab bag of tricks to present as polished and sophisticated a page design as we can manage within the boundaries of "official" HTML. We use no proprietary HTML tags, such as those specific to Internet Explorer or Netscape Navigator. Our approach to typography emphasizes visual design over structural purity. Wherever possible, we use "plain vanilla" HTML to describe document structure and CSS to define visual layout. We do not strive for complete control and consistency for our pages but instead accept a certain degree of variability between platforms and browsers. Where CSS falls short, however, we dip into our grab bag of tricks rather than sacrifice visual integrity. We believe that this is the best compromise until everyone can shift over to a mature implementation of CSS and leave plain HTML behind.



Advantages of CSS

This book is not a manual on HTML, and covering the full design implications of Cascading Style Sheets is well beyond the scope of this chapter. If you are not using CSS to manage the graphic design of your Web site, however, you should at least be planning a transition to CSS technology within the next year.

Cascading Style Sheets offer Web designers two key advantages in managing complex Web sites:

- Separation of content and design. CSS gives site developers the best of both worlds: content markup that reflects the logical structure of the information and the freedom to specify exactly how each HTML tag will look.
- Efficient control over large document sets. The most powerful implementations of CSS will allow site designers to control the graphic "look and feel" of thousands of pages by modifying a single master style sheet document.

Style sheets provide greater typographic control with less code. Using plain HTML, you need to define the physical properties of an element such as the <H1> tag each time you use it.

<H1 ALIGN="center"><FONT FACE="Verdana, Helvetica, Arial, sans-serif" SIZE="6" COLOR="gray">Section heading</H1></FONT>

When you define these properties using CSS, that single definition, or *rule*, applies to every instance of the <H1> element in all documents that reference the style sheet.

H1 { text-align: center; font-size: 16pt; font-family: Verdana, Helvetica, Arial, sans-serif; color: gray }

In addition, style sheets offer more formatting options than plain HTML tags and extensions. For example, interline spacing, or *leading*, can be controlled using style sheets, as can such text properties as letterspacing and background color. And fortunately the text formatting properties are implemented well enough across browsers to be used with some consistency.

How style sheets work

Style sheets are not new. Every graphic Web browser (even back to Mosaic 1.0) has incorporated style sheets. It just wasn't possible to modify the fixed styles that browsers used to determine, for example, exactly how H1 headers look on the screen. The fundamental idea behind CSS is to let site authors and users determine the size, style, and layout details for each standard HTML tag.

If you have ever used the "styles" features of a page layout or word processing program, you will understand the basic idea behind CSS. The styles feature of a word processor is used to determine exactly how your titles, subheadings, and body copy will look, and then the copy is formatted when you apply a style to each element. Once all the copy has been styled, you can change the look of each occurrence of every element simply by changing the style information. CSS works in the same way, except that with CSS you can set up one master style sheet that will control the visual styling of every page in your site that is linked to the master style sheet:

Computer Lab

Dreamweaver

Creating Lists

Lists serve several different functions in all publications, including Web pages. A list can itemize a topic's points or catalog the properties of an object. A numbered list is helpful for giving step-by-step instructions. From a page designer's point of view, a list can break up the page and simultaneously draw the viewer's eye to key details.

Lists are an important alternative to the basic textual tools of paragraphs and headings. In this chapter, you study Dreamweaver's tools for designing and working with each of the three basic types of lists available under HTML:

- Unordered lists
- Ordered lists
- Definition lists

The various list types can also be combined to create outlines. Dreamweaver supplies a straightforward method for building these nested lists.

Creating Bulleted (Unordered) Lists

What word processing programs and layout artists refer to as bulleted lists are known in HTML as unordered lists. An unordered list is used when the sequence of the listed items is unimportant, as in a recipe's list of ingredients. Each unordered list item is set off by a leading character and the remainder of the line is indented. By default, the leading character is the bullet; in HTML, you also can specify two other symbols by conventional means and a custom bullet through Cascading Style Sheets (CSS).

You can either create the unordered list from scratch or convert existing text into the bulleted format. To begin an unordered

list from scratch, position the cursor where you want to start the list. Next, click the Unordered List button supplied conveniently on the Text Property Inspector or use the Text->List->Unordered List command.

An itemized list that doesn't need to be in any specific order is perfect for formatting as an unordered list.If you are changing existing text into a list, select the paragraphs first and then execute the Unordered List button or menu command.

Dreamweaver creates one list item for every paragraph. As you can see from the figure above, list items are generally rendered closer together than regular paragraphs. Unlike block elements such as paragraphs or headings, HTML doesn't insert additional lines above and space below each line of a list.

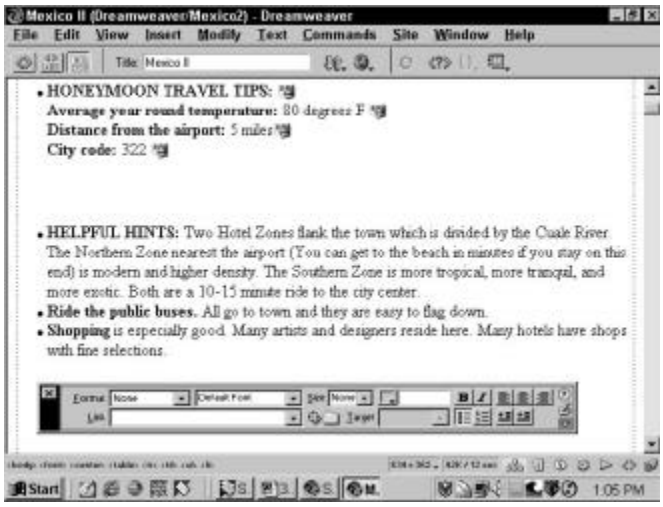
Editing unordered Lists

Once a series of paragraphs is formatted as an unordered list, you can easily add additional bulleted items. The basic editing techniques are the same for all types of lists:

- To continue adding items at the end of a list, simply press Enter (Return) to create each new paragraph. Another bullet is inserted.
- To insert an item within an unordered list, place your cursor at the end of the item above the desired position for the added item and press Enter (Return).
- List items can be copied or cut and pasted in a different place on the list. Place your cursor in front of the list item below where you want the repositioned item to appear and choose Edit->Paste.
- To end a bulleted list, you can press Enter (Return) twice or deselect the Unordered List button on the Text Property Inspector.

Using Other Bullet Symbols

Although HTML doesn't include a wide range of different symbols to use in an unordered list, you have a few options. Most browsers recognize three different bullet styles: bullet (the default), circle, and square. You can apply the style to the entire unordered list or to one list item at a time.



A list is indented if the text wraps around the screen or if you insert a line break.

Changing the overall style

To change the bullet style of the overall unordered list, follow these steps:

1. Position your cursor anywhere in an existing list.
2. If necessary, click the expander arrow on the Text Property Inspector to display the additional options. Click the List Item button.
3. In the List Properties dialog box that appears (see Figure 12-3), open the Style options list.
4. Select one of the four options:

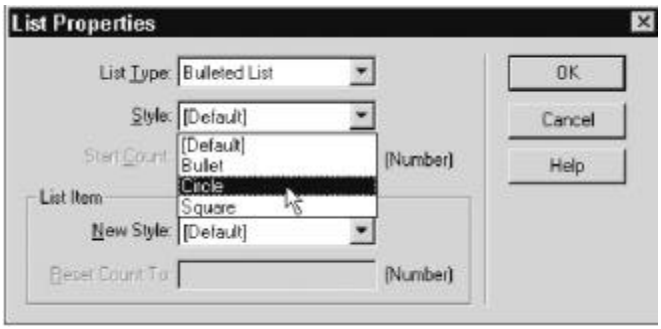
· **[Default]:** No style is listed, and the browser applies its default, usually rendered as a bullet.

· **Bullet:** A solid circle.

· **Circle:** An open circle.

· **Square:** A solid square

Click OK.



You can change the style of the entire list or just one list item through the List Properties dialog box.

When you try to change the style of just one list item, Dreamweaver alters all the successive list items as well. By default, list items don't specify a bullet style. Therefore, when a new style is inserted, all the following items adopt that style.

Mastering Numbered (Ordered) Lists

Ordered lists offer a slightly wider variety of built-in styles than unordered lists, but you cannot customize the leading character further. For instance, you cannot surround a character with parentheses or offset it with a dash. Once again, the browser is the final arbiter of how your list is viewed.

Many of the same techniques used with unordered lists work with ordered lists. To start a new numbered list in Dreamweaver, place your cursor where you want the new list to begin. Then, in the Text Property Inspector, select the Ordered List button or choose Text->List->Ordered List.

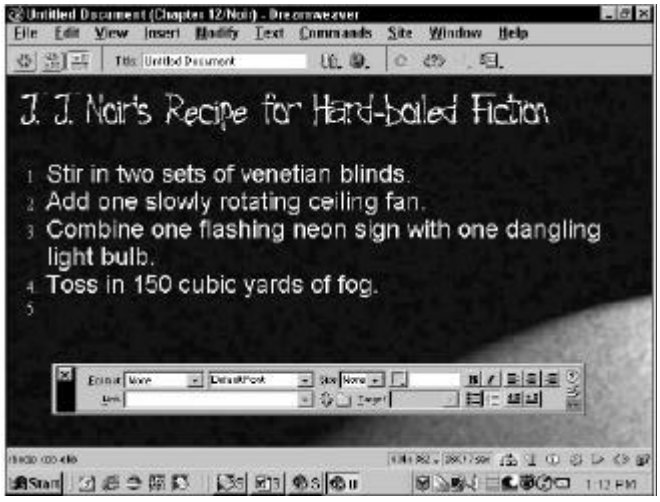
As with unordered lists, you can also convert existing paragraphs into a numbered list. First select your text and then select either the Ordered List button or the Text->List->Ordered List command.

Editing ordered lists

The HTML code for an ordered list is <ol>. Both <ol> and <ul> use the list item tag, <li>, to mark individual entries, and Dreamweaver handles the formatting identically:

```
<ol>
<li>Stir in two sets of venetian blinds.</li>
<li>Add one slowly rotating ceiling fan.</li>
<li>Combine one flashing neon sign with one dangling light bulb.</li>
<li>Toss in 150 cubic yards of fog.</li>
<li></li>
</ol>
```

The empty list item pair, <li>..., is displayed on the page as the next number in sequence.



Ordered lists are used on this page to create a numbered sequence.

Using other numbering styles

In all, you can apply five different numbering styles to your numbered lists:

- **Arabic numerals:** 1, 2, 3, and so forth (this is the default style)
- **Roman Small:** i, ii, iii, and so forth
- **Roman Large:** I, II, III, and so forth
- **Alphabet Small:** a, b, c, and so forth
- **Alphabet Large:** A, B, C, and so forth

Changing single list items

1. You can restyle your entire list all at once, or you can just change a single list item. To change the style of the entire ordered list, follow these steps:
2. Position your cursor anywhere in an existing list.
3. If necessary, click the expander arrow on the Text Property Inspector to display the additional options. Select the List Item button.

   The List Properties dialog box opens, with Numbered List showing as the List Type.
4. Open the drop-down list of Style options and choose any of the five preceding numbering types.
5. Click OK.

Altering single and subsequent items

As with unordered lists, when you modify the style of one ordered list item, all the subsequent items adopt that style. To alter the style of a single and all subsequent items, follow these steps:

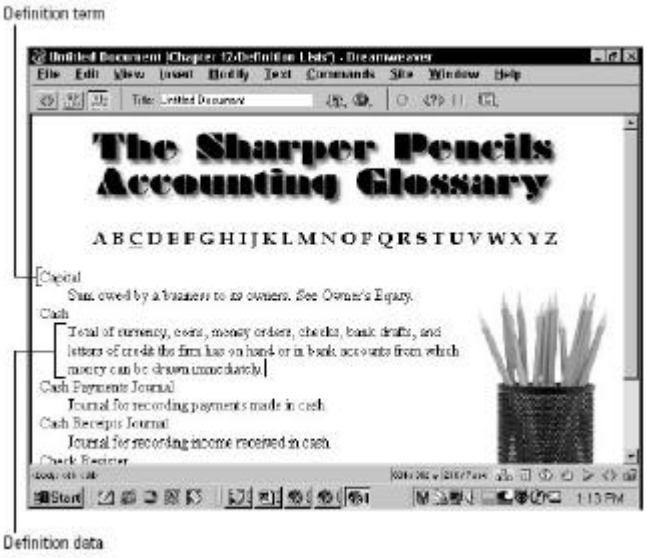
1. Select the item you wish to change.
2. In the expanded portion of the Text Property Inspector, select the List Item button.
3. In the List Properties dialog box from the List Item section, open the New Style list of options.
4. Select one of the five numbering options.

Although you can't automatically generate an outline with a different numbering system for each level, you can simulate this kind of outline with nested lists.

Making Definition Lists

A definition list is another list in HTML that doesn't use leading characters, such as bullets or numbers, in the list items. Definition lists are commonly used in glossaries or other types of documents in which you have a list of terms followed by their description or explanation.

Browsers generally render a definition list with the definition term flush left and the definition data indented, as shown in Figure below. As you can see, no additional styling is added. You can, however, format either the item or the definition with the Text->Style options.



Definition lists are ideal for glossaries or other situations in which you have a list of terms followed by their definition.

To begin your definition list in Dreamweaver, follow these steps:

1. Choose Text->List->Definition List.
2. Type in the definition term and press Enter (Return) when you are finished. Dreamweaver indents the line.
3. Type in the definition data and press Enter (Return) when you are finished.
4. Repeat Steps 2 and 3 until you have finished your definition list.
5. Press Enter (Return) twice to stop entering definition list items.

When you insert a definition list, Dreamweaver denotes it in code using the <dl>...</dl> tag pair. Definition terms are marked with a <dt> tag, and definition data uses the <dd> tag. A complete definition list looks like the following in HTML:

<dl>

<dt>Capital</dt>

<dd>Sum owed by a business to its owners. See Owner's Equity.</dd>

<dt>Cash</dt>

<dd>Total of currency, coins, money orders, checks, bank drafts, and letters

of credit the firm has on hand or in bank accounts from which money can be

drawn immediately.</dd>

<dt>Cash Payments Journal</dt>

<dd>Journal for recording payments made in cash.</dd>

</dl>

When originally proposed by the World Wide Web Consortium, the <dt> column was intended to take up only one-third of the browser window, but the latest, most common browsers don't follow this design specification.

Assignment

1. What is Typography?
2. What is URL? What is the background image and foreground inline images?
3. Breakup the body of HTTP addresses and explain each part?
4. How do you add an Email links in your web document using Dreamweaver?
5. What are Named Anchors, Explain with example?
6. What is a Cascading Style sheet?
7. Write the advantages of using CSS?
8. What are the basic types of list available with HTML?
9. What is a Definition List? Explain with examples?

Notes

LESSON 31:
CONTENT STRUCTURE AND LEGIBILITY

Topics Covered

- Alignment, Justification of headlines, White space, Indenting Paragraph
- Dreamweaver - Using Nested List, Using Graphical Bullets

Objectives

Upon completion of this lesson, you should be able to:

- Aligning text- Justified, Left Justified and others
- Use Correct line length
- White space
- Indent Paragraph
- Use nested list
- Use Graphical bullets in Dreamweaver

Alignment

Margins define the reading area of your page by separating the main text from the surrounding environment. Margins provide important visual relief in any document, but careful design of margins and other "white space" is particularly important in Web page design because Web content must coexist on the computer screen with the interface elements of the browser itself and with other windows, menus, and icons of the user interface.

Web content must share the screen with other user interface elements

Margins and space can be used to delineate the main text from the other page elements. And when used consistently, margins provide unity throughout a site by creating a consistent structure and look to the site pages. They also add visual interest by contrasting the positive space of the screen (text, graphics) from the negative (white) space.

Text blocks have different ways of sitting within margins. Left-justified, centered, right-justified, and justified text are the alignment options available on the Web.

Justified Text

Justified text is set flush with the left and right margins. Justified blocks of text create solid rectangles, and block headings are normally centered for a symmetrical, formal-looking document. In print, justification is achieved by adjusting the space between words and by using word hyphenation. Page layout programs use a hyphenation dictionary to check for and apply hyphenation at each line's end and then adjust word spacing throughout the line. But even with sophisticated page layout software, justified text blocks often suffer from poor spacing and excessive hyphenation and require manual refinement. This level of control is not even a remote possibility on Web pages. The most recent browser versions (and CSS) support justified text, but it is achieved by crude adjustments to word spacing. Fine adjustments are not possible on low-resolution computer displays and are impractical to implement in today's Web browsers. Also, Web browsers are unlikely to offer automatic hyphenation any time soon, another "must" for properly justified text. For the foreseeable future, the legibility of your Web documents will suffer if you set your text in justified format.

Justification and "rivers"

The relatively primitive text justification available today on the Web creates word-space problems that result in "rivers" of white space that seem to run down the page.

Centered and right-justified text blocks

Centered and right-justified text blocks are difficult to read. We read from left to right, anchoring our tracking across the page at the vertical line of the left margin. The ragged left margins produced by centering or right-justifying text make that scanning much harder, because your eye needs to search for the beginning of each new line.

Left-justified text

Left-justified text is the most legible option for Web pages because the left margin is even and predictable and the right margin is irregular. Unlike justified text, left justification requires no adjustment to word spacing; the inequities in spacing fall at the end of the lines. The resulting "ragged" right margin adds variety and interest to the page without interfering with legibility.

Justification of headlines

Titles and headings over left-justified body text should also be flush left. Centered headings pair well with justified text, but justified text should not be used on Web pages. Centered display type contrasts with the asymmetry of the ragged right margin of left-justified body text and produces an unbalanced page.

Until typographic options for Web pages become more sophisticated, we recommend that you use left-justified text blocks and headlines as the best solution for most layout situations.

Line length

Text on the computer screen is hard to read not only because of the low resolution of computer screens but also because the layout of most Web pages violates a fundamental rule of book and magazine typography: the lines of text on most Web pages are far too long for easy reading. Magazine and book columns are narrow for physiological reasons: at normal reading distances the eye's span of acute focus is only about three inches wide, so designers try to keep dense passages of text in columns not much wider than that comfortable eye span. Wider lines of text require readers to move their heads slightly or strain their eye muscles to track over the long lines of text. Readability suffers because on the long trip back to the left margin the reader may lose track of the next line.

You can use invisible tables (BORDER="0") to restrict the text line length to about fifty to seventy characters per line (see Page Design, Page layout). The exact character count is difficult to predict because of the way different browser software and operating systems display type sizes. In conventional print layouts, columns of thirty to forty characters per line are considered ideal.

In the end, the decision to restrict line length is a philosophical one. From a design standpoint, a measure that is comfortable for reading is good practice. One of the fundamental principles of the Web, however, is that users should be able to structure their own view. Users with a large monitor may not want their text blocks circumscribed if it means that a large portion of their screen goes unused. A low-vision user with fonts set large will not appreciate being forced to view long pages with short lines of text. So although leaving text free to fill the browser window may affect readability, following conventions may also affect the accessibility and legibility of your documents.

Fixed text block, large portion of the screen unused

Unrestricted text fills browser window, long lines of text

When designing a fixed-width layout, we typically use page layout tables with text cells no wider than about 365 pixels. If 12-point Times New Roman type is used, this cell width yields a line about fifty characters long, averaging about nine to ten words per line. We believe that this achieves the best balance between space efficiency and legibility. If you choose a flexible layout approach, use CSS leading controls to increase line spacing to 15 or 16 points (see White space). Additional line

spacing allows a somewhat longer line length without sacrificing legibility.

White Space

The vertical space in a text block is called leading, and it is the distance from one baseline of text to the next. Leading strongly affects the legibility of text blocks: too much leading makes it hard for the eye to locate the start of the next line, whereas too little leading confuses the lines of type, because the ascenders of one line get jumbled with the descenders of the line above. In plain HTML it is not possible to implement true leading, but CSS offers leading control (referred to as "line spacing" in CSS terminology). In print one general rule is to set the leading of text blocks at about 2 points above the size of the type. For example, 12-point type could be set with 14 points of leading. We suggest generous leading to compensate for longer line lengths and the lower resolution of the computer screen, for example, 12-point type with 14 to 16 points of leading.

Indenting Paragraphs

There are two major schools of thought on denoting paragraphs. The classic typographic method uses indents to signal the beginning of a new paragraph (as we have in this book). However, many technical, reference, and trade publications now use a blank line of white space to separate paragraphs. Indented paragraphs work especially well for longer blocks of prose, where the indents signal new paragraphs with minimal disruption to the flow of text. Blank line spacing between paragraphs, in contrast, makes a page easy to scan and provides extra white space for visual relief. Either approach is valid as long as the paragraph style is implemented consistently throughout the site.

To indent paragraphs without using CSS, you can insert several non-breaking space characters ( ) at the start of each paragraph. You can also use a transparent single-pixel GIF graphic as a spacer and adjust its horizontal spacing. If you are using CSS you can set the exact spacing for the indentation using the "text-indent" property of paragraphs.

     To indent paragraphs without using CSS, ...

<IMG SRC="pixel.gif" HEIGHT="1" WIDTH ="1" ALT="" HSPACE="8">To indent paragraphs without using CSS, ...

<P STYLE="text-indent: 8pt">To indent paragraphs without using CSS, ...

To separate paragraphs with blank lines you could put a paragraph tag (<P>) at the end of each paragraph. The paragraph tag adds a full blank line between paragraphs. To adjust the amount to an amount less or more than a full blank line you can use the CSS "margin" property, but beware of spacing inconsistencies between browsers. You can also use the line break tag (<BR>) followed by a transparent single-pixel GIF graphic as a spacer to control the space between paragraphs. As always when using a spacer graphic, be sure to include empty ALT text to hide the image from assistive technologies and text-only browsers:

<IMG SRC="pixel.gif" HEIGHT="1" WIDTH ="1" ALT="" VSPACE="2">

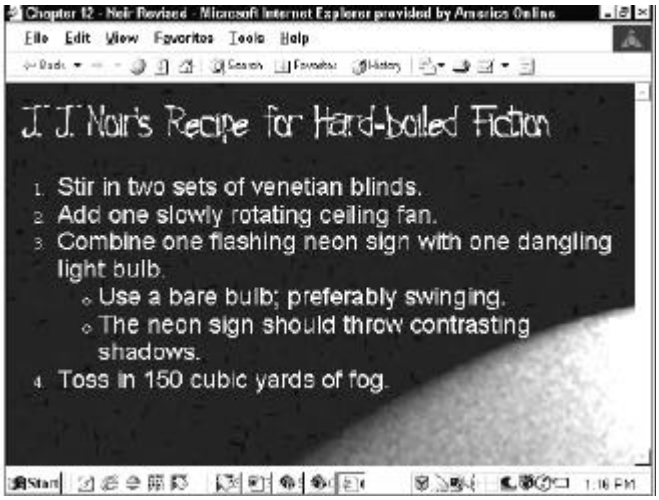
Computer Lab

Dreamweaver

Using Nested Lists

You can combine, or *nest*, lists in almost any fashion. For instance, you can mix an ordered and unordered list to create a numbered list with bulleted points. You can have one numbered list inside of another numbered list. You can also start with one numbering style such as Roman Large, switch to another style such as Alphabet Small, and then return to Roman Large to continue the sequence (as with an outline).

Dreamweaver offers an easy route for making nested lists. The Indent button in the Text Property Inspector-when used within a list-automatically creates a nested list. As an example, the ordered list in the figure given below has a couple of bulleted points (or unordered list items) inserted within it. Notice how the new items are indented one level.



Dreamweaver automatically generates the code necessary to build nested lists when you use the Indent button on the Property Inspector.

Follow these steps to create a nested list in Dreamweaver:

- Select the text in an existing list that you want to reformat with a different style
- In the Text Property Inspector, choose the Indent button. You can also select the Text->Indent command. Dreamweaver indents the selected text and creates a separate list in the HTML code with the original list's properties.
- Go to the List Properties dialog box and select another list type or style, as described in preceding sections.

To examine the origins of the term *nested list*, take a look at the code created for this list type by Dreamweaver:

Stir in two sets of venetian blinds.

Add one slowly rotating ceiling fan.

Combine one flashing neon sign with one dangling light bulb.

Use a bare bulb, preferably swinging.

The neon sign should throw contrasting shadows.

Toss in 150 cubic yards of fog.

Notice how the unordered tag pair, <ul>..., is completely contained between the ordered list items.

Dreamweaver Technique: Building Graphical Bullets

HTML unordered lists are functional and often useful, but they're not particularly decorative. A Web designer might very well want to spice up a bulleted list of items with graphics.

Substituting a graphical bullet for the HTML versions is practical and often desirable. Because a small, single image is used repeatedly, the impact on a Web page's size is negligible, and the image downloads quickly. You can include graphical bullets in two basic ways: inline and tables. Inline graphical bullets put the bullet image right next to the text, whereas the table technique keeps all the bullets in one column and the bullet items in another. Which technique you use depends on the length of the bulleted item. If your bulleted items are short enough so that they won't wrap, use the inline technique; on the other hand, if the text is likely or definitely wrapping from one line to the next, use the table technique.

To use graphic images as bullets in an inline technique, follow these steps:

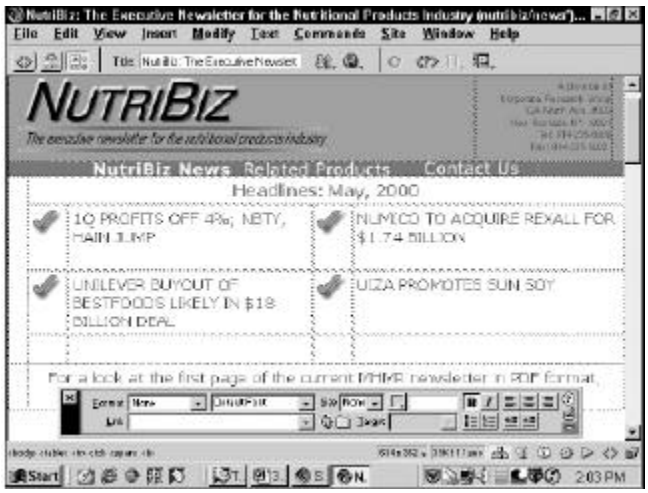
1. Create your image in a graphics editor such as Fireworks and save the file so that it is accessible to your local site.
2. If necessary, convert your unordered list to standard paragraph format by selecting the entire list and deselecting the Bullet button on the Property Inspector.
3. Choose Insert Image from the Objects palette and place the graphic button before the first line item.
4. Select the correct vertical alignment for the image from the Align list on the image Property Inspector. Although your alignment choice may vary according to the height of your text and your image, Absolute Middle works in many situations.
5. If necessary, add a nonbreaking space or two between the image and the list item by pressing Ctrl+Shift+spacebar (Control+Shift+spacebar).
6. Select the image and any added nonbreaking spaces.
7. Ctrl+drag (Control+drag) the selection to copy it to the beginning of the next
8. line item, as shown on the figure below:
9. Repeat Step 7 for each line item.

Copying your graphic bullets after you've set the alignment saves you many steps later.

If your text lines are too long, they wrap at the browser window and-here's the unsightly part-under the graphical bullet. To avoid this wrapping problem, use the table technique, detailed in the following steps:

1. Create your bullet in your favorite graphics program.
2. If necessary, convert your unordered list to standard paragraph format by selecting the entire list and deselecting the Bullet button on the Property Inspector.
3. Position your cursor above the first line item and choose the Insert Table object from the Objects palette.
4. In the Insert Table dialog box, set the Columns value to 2 and the Rows to the number of line items you have. If desired, turn off the borders by setting Border value to 0. Click OK when you're done. The table is inserted in the Document window.
5. Select the first column of the table by dragging down its length.
6. In the Property Inspector, set the Horiz (horizontal alignment) value to Right and the Vert (vertical alignment) to Top.
7. Select the second column by dragging down its length.
8. In the Property Inspector, set the Horiz (horizontal alignment) value to Left and the Vert (vertical alignment) to Top.
9. Select the Insert Image object and place your bullet image in the first column, first row.
10. Select the first line item and drag it into the second column, first row.
11. Copy the bullet image from the first cell and paste it into the first column for every remaining row.
12. Repeat Step 10 for each of the remaining line items, putting each on its own row.

You may find it necessary to adjust the vertical alignment on either the bullet or line item column to get the look you want.



Placing bullet items in a table enables you to keep an equal spacing with longer, wrapping lines.

Notes

LESSON 32:
CONTENT STRUCTURE-2

Topics Covered

- Typefaces, legibility on screen, Type size, Case, Emphasis
- Dreamweaver - Setting up Tables, HTML table fundamentals, Inserting tables in Dreamweaver, Modifying tables, Selecting cells

Objectives

Upon completion of this lesson, you should be able to:

- Understand features of typefaces
- Specify typefaces
- Choose correct type size
- Character case
- Emphasis
- Setting up Tables
- Insert Tables in Dreamweaver
- Modify tables

Typefaces

Each typeface has a unique tone that should produce a harmonious fit between the verbal and visual flow of your content. With the first versions of HTML, Web authors had no control over typefaces ("fonts" in personal computer terminology). Fonts were set by the browser, so pages were viewed in whatever font the user specified in his or her browser preferences. The more recent versions of HTML and CSS allow designers to specify the typeface. This is useful not only for aesthetic reasons but also because of the differing dimensions of typefaces. A layout that is carefully designed using one face may not format correctly in another.

In specifying typefaces you should choose from the resident default fonts for most operating systems. If you specify a font that is not on the user's machine, the browser will display your pages using the user-specified default font. Bear in mind, too, that users can set their browser preferences to ignore font tags and display all pages using their designated default font.

Legibility on screen

Some typefaces are more legible than others on the screen. A traditional typeface such as Times Roman is considered to be one of the most legible on paper, but at screen resolution its size is too small and its shapes look irregular. Screen legibility is most influenced by the x-height (the height of a lowercase "x") and the overall size of the typeface.

Adapted traditional typefaces

Times New Roman is a good example of a traditional typeface that has been adapted for use on computer screens. A serif typeface like Times New Roman (the default text face in most Web browsers) is about average in legibility on the computer screen, with a moderate x-height. Times New Roman is a good font to use in text-heavy documents that will probably be printed by readers rather than read from the screen. The compact letter size of Times New Roman also makes it a good choice if you need to pack a lot of words into a small space.

Designed for the Screen

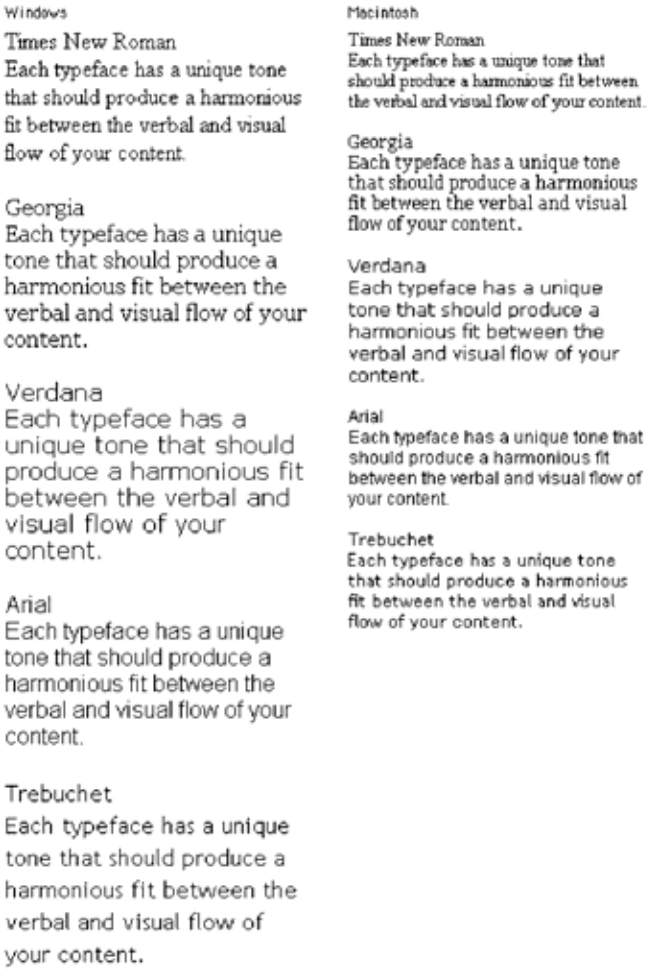
Typefaces such as Georgia and Verdana were designed specifically for legibility on the computer screen; they have exaggerated x-heights and are very large compared to more traditional typefaces in the same point size. These fonts offer excellent legibility for Web pages designed to be read directly from the screen. However, the exaggerated x-heights and heavy letterforms of these fonts look massive and clumsy when transferred to the high-resolution medium of paper.

Choosing Typefaces

The most conventional scheme for using typefaces is to use a serif face such as Times New Roman or Georgia for body text and a sans serif face such as Verdana or Arial as a contrast for headlines. We generally set our text-laden Web pages in Times New Roman because it produces a reasonable balance between density of information and overall legibility. Most readers expect a serif font for long blocks of text and find Times New Roman comfortable to read off-screen from paper printouts. Various studies purport to show that serif type is more legible than sans serif type and vice versa. You can truly judge type legibility only within the context of the situation - on the screen - as users will see your Web page.

You may use either a variation of the serif font or a contrasting sans serif face for the display type. It is safest to use a single typographic family and vary its weight and size for display type and emphasis. If you choose to combine serif and sans serif faces, select fonts that are compatible and don't use more than two typefaces (one serif, one sans serif) on a page.

The most useful fonts that ship with the Apple Macintosh and Microsoft Windows operating systems are reproduced here (we have omitted bitmap fonts and decorative or novelty typefaces):



Specifying Typefaces

The early versions of HTML did not allow designers to specify a typeface for Web documents. With version 3.2 came several new tags aimed at giving designers more control over the visual properties of elements, among them the FONT tag. Many of these have been "deprecated" by the World Wide Web Consortium, which means that they may be dropped from future versions of HTML. Although the added tags enable designers to create more elegant-looking pages, they also result in cumbersome code that is difficult to adapt and maintain. You *can* still use the FONT tag to set the type in your documents, but a better approach is to consolidate text formatting in style sheets.

You can specify any typeface for your Web pages, but many computers have only the default operating system fonts installed. If the typeface you specify is not available on the user's computer, the browser will switch to the default font (generally "Times New Roman" or "Times"). To increase the chances that the reader will see a typeface you are happy with, you can specify multiple fonts. The browser will check for the presence of each font (in the order given), so you can specify three or four alternates before the browser applies the default font, for example, "Verdana, Geneva, Arial, Helvetica." As a last-ditch effort you can end your font declaration with a generic font designation such as "sans serif." That way, if the browser cannot find any of the listed fonts, it will display the text in any available sans serif font.

```
P { font-family: "Times New Roman", Georgia, Times, serif }
```

Notice that multiword fonts like "Times New Roman" must appear within quotation marks.

A good way to make sure that your type settings are functioning correctly is to set your browser's default proportional font setting to something that is obviously different from your intended font. For example, set your browser's default font to Courier if you are not using Courier in your document. When you view your page, anything that appears in Courier must not be marked up properly.

Type Size

Setting the size of type is a matter of some controversy. The Web is supposed to be a universal medium where users of all kinds have equal access to information. As opposed to a printed medium, where the layout and type are fixed, Web pages should adapt to meet the needs of all comers, so that, for example, low-vision users can set the type of Web documents to display at a size that they find legible. But these adjustments can skew a page layout and send the designer, who diligently designed the page around a specific size of type, into paroxysms. And though variation thwarts the designer who worked to fashion the layout, it is undeniable that the low-vision user *ought* to be able to gain access to the content.

With the introduction of the FONT tag, designers also gained the ability to set the font size. With CSS, designers have many methods for setting type size, although, as with many other CSS properties, all are not fully supported. The W3C recommends that you let users set the base font size in their browser and that you set all variations using the "em" unit. An em in the Web context is the same as the font height, which makes it a relative unit and therefore flexible. For example, if the user-set default is 12-point, then a 2-em text indent would be 24-point, but if the user used the text zoom feature of the browser to change the size to 16-point, the indent would change to 32-point to reflect the larger type size.

```
P { font-family: Verdana, Arial, Helvetica, sans-serif; font-size: 1em; text-indent: 2em }
```

As you might imagine, this flexibility can send page layouts into disarray. If you try this approach, use a flexible page layout that will hold up to large type.

With a well-designed flexible layout, the design remains intact even when the text is enlarged

You can also use points to define your type sizes, but bear in mind that this carryover from the print medium has little meaning on a computer screen. Because monitors display at different resolutions, 12-point type on one screen could approximate 14-point type on another. This can be particularly problematic for small point sizes. For example, 6-point type is legible on a Windows display, where the default resolution is 96 ppi, but on a Macintosh, at 72 ppi, it is illegible.

Type that is small on a Windows machine can be totally illegible on a Macintosh

Still, points are familiar and, though variable, offer some means of declaring the relative size of type elements.

H1 { font-family: Verdana, Arial, Helvetica, sans-serif; font-size: 14 pt }
P { font-family: Georgia, “Times New Roman”, Times, serif; font-size: 12 pt }

Just remember that declaring your type in points does not mean that the point size you specify is what will actually display on the user's monitor. And because this unit is not “fixed” - that is, type set in points can be resized in the browser - this approach also requires an adaptable layout.

If the integrity of your layout depends on specific type sizes, the most dependable option right now - until there is better CSS support - is to use pixel units in your style declarations. Text defined using pixels will be the same size regardless of the browser's default font size and resolution settings.

P { font-family: Georgia, “Times New Roman”, serif; font-size: 12px }

Although this option does offer more stability, be aware that you may be shutting out those users who have good reasons for specifying different font settings.

Case

Whether you choose uppercase or lowercase letters has a strong effect on the legibility of your text. Indeed, words set in all uppercase letters should generally be avoided - except perhaps for short headings - because they are difficult to scan.

We read primarily by recognizing the overall shape of words, not by parsing each letter and then assembling a recognizable word:

Words formed with capital letters are monotonous rectangles that offer few distinctive shapes to catch the eye:

We recommend downstyle typing (capitalize only the first word and any proper nouns) for your headlines, subheads, and text. Downstyle is more legible because as we read we primarily scan the tops of words:

Notice how much harder it is to read the bottom half of the same sentence:

If you use initial capital letters in your headlines, you disrupt the reader's scanning of the word forms:

Emphasis

A Web page of solid body text is hard to scan for content structure and will not engage the eye. Adding display type to a document will provide landmarks to direct the reader through your content. Display type establishes an information structure and adds visual variety to draw the reader into your material.

The key to effective display type is the careful and economic use of typographic emphasis.

There are time-honored typographical devices for adding emphasis to a block of text, but be sure to use them sparingly. If you make everything bold, then nothing will stand out and it will seem as if you are shouting at your readers. A good rule of thumb when working with type is to add emphasis using one parameter at a time. If you want to draw attention to the section heads in your document, don't set them large, bold, and all caps. If you want them to be larger, increase their size by one measure. If you prefer bold, leave the heads the same size as your body text and make them bold. You will soon discover that only a small variation is required to establish visual contrast.

Italics

Italicized text attracts the eye because it contrasts in shape from body text. Use italics for convention - when listing book or periodical titles, for example - or within text for stressed or foreign words or phrases. Avoid setting large blocks of text in italics because the readability of italicized text, particularly at screen resolutions, is much lower than in comparably sized roman text.

Bold

Boldface text gives emphasis because it contrasts in color from the body text. Section subheads work well set in bold. Boldface text is readable on-screen, though large blocks of text set in bold lack contrast and therefore lose their effectiveness.

Underlined

Underlined text is a carryover from the days of the typewriter, when such options as italics and boldface were unavailable. In addition to its aesthetic shortcomings (too heavy, interferes with letter shapes), underlining has a special functional meaning in Web documents. Most readers have their browser preferences set to underline links. This default browser setting ensures that people with monochromatic monitors or people who are color-blind can identify links within text blocks. If you include underlined text on your Web page it will certainly be confused with a hypertext link.

Colored text

Although the use of color is another option for differentiating type, colored text, like underlining, has a special functional meaning in Web documents. You should avoid putting colored text within text blocks because readers will assume that the colored text is a hypertext link and click on it. Colored text does work well as a subtle means to distinguish section heads, however. Choose dark shades of color that contrast with the page background, and avoid using colors close to the default Web link colors of blue and violet.

Capital letters

Capitalized text is one of the most common and least effective methods for adding typographical emphasis. We recognize words in two ways, by parsing letter groups and by recognizing word shapes. Words or headlines set in all capital letters form rectangles with no distinctive shape. To read a block of text set In All Capital Letters We Must Parse The Letter Groups - Read The Text Letter By Letter - Which Is Uncomfortable And Significantly Slows Reading. As You Read The Following Paragraph, Notice How Tiring The Process Is:

The Design Of The Site Will Determine The Organizational Framework Of Your Web Site. At This Stage You Will Make The Essential Decisions About What Your Audience Wants From You, What You Wish To Say, And How To Arrange The Content To Best Meet Your Audience's Needs. Although People Will Instantly Notice The Graphic Design Of Your Web Pages, The Organization Of The Site Will Have The Greatest Impact On Their Experience.

Spacing and Indentation

One of the most effective and subtle ways to vary the visual contrast and relative importance of a piece of text is simply to isolate it or treat it differently from the surrounding text. If you want your major headers to stand out more without making them larger, add space before the header to separate it from any previous copy. Indentation is another effective means of distinguishing bulleted lists, quotations, or example text (such as the capitalization example above). HTML lists are automatically indented (too far, in our estimation), and you can use the BLOCKQUOTE tag to indent blocks of text. You can define your own indents using CSS.

Computer Lab

Dreamweaver

Setting Up Tables

Tables bring structure to a Web page. Whether used to align numbers in a spreadsheet or to arrange columns of text on a page, an HTML table brings a bit of order to otherwise free-flowing content. Initially, tables were implemented to present raw data in a more readable format. But it didn't take long for Web designers to take up tables as the most capable tool to control page layout.

Dreamweaver's implementation of tables reflects this current trend in Web page design. Drag-and-drop table sizing, easy organization of rows and columns, and instant table reformatting all help get the job done in the shortest time possible. Table editing features enable you to select and modify anything in a table from a single cell to multiple columns. Moreover, using Dreamweaver commands, you can sort your table in a variety of ways or completely reformat it.

Dreamweaver 4 introduces a new feature that takes table layout to the next level of ease-of-use and power. With the Layout view, designers are able to draw individual cells with a stroke of the mouse and Dreamweaver automatically creates a borderless, content-ready table. You can even add nested tables to maintain design integrity. While you still need to know the basics of table functionality to make the most out of this new tool, Layout view offers a fully backward-compatible technique for visually structuring your Web page.

HTML Table Fundamentals

A table is basically a grid that expands as you add text or images. Tables consist of three main components: rows, columns, and cells. *Rows* go across a table from left to right, and *columns* go up and down. A *cell* is the intersection of a row and a column; it's where you enter your information. Cells expand to fit whatever

they hold. If you have enabled the table border, your browser shows the outline of the table and all its cells.

In HTML, all the structure and all the data of a table are contained between the table tag pair, <table> and </table>. The <table> tag can take numerous attributes, determining a table's width and height (which can be given in absolute measurement or as a percentage of the screen) as well as the border, alignment on the page, and background color. You can also control the size of the spacing between cells and the amount of padding within cells.

HTML uses a strict hierarchy when describing a table. You can see this clearly in Listing given below, which shows the HTML generated from a default table in Dreamweaver.

Code for an HTML Table

```
<table border="1" width="75%">
<tr>
<td> </td>
<td> </td>
<td> </td>
</tr>
<tr>
<td> </td>
<td> </td>
<td> </td>
</tr>
<tr>
<td> </td>
<td> </td>
<td> </td>
</tr>
</table>
```

The   seen in the table code is HTML for a nonbreaking space. Dreamweaver inserts the code in each empty table cell because some browsers collapse the cell without it. Enter any text or image in the cell, and Dreamweaver automatically removes the   code.

Rows

After the opening <table> tag comes the first row tag <tr>. Within the current row, you can specify attributes for horizontal alignment or vertical alignment. In addition, browsers recognize row color as an added option.

Cells

Cells are marked in HTML with the <td>...</td> tag pair. No specific code exists for a column; rather, columns are seen as the number of cells within a row. For example, in Listing 1-1, notice the three sets of <td> tags between each <tr> pair. This means the table has three columns. A cell can span more than one row or column— in these cases, you see a rowspan=value or colspan=value attribute in the

<td> tag.

Cells can also be given horizontal or vertical alignment attributes; these attributes override any similar attributes specified by the table row. When you give a cell a particular width, all the cells in that column are affected. Width can be specified in either an absolute pixel measurement or as a percentage of the overall table.

Column/row headings

A special type of cell called a *table header* is used for column and row headings. Information in these cells is marked with a <th> tag and is generally rendered in boldface, centered within the cell.

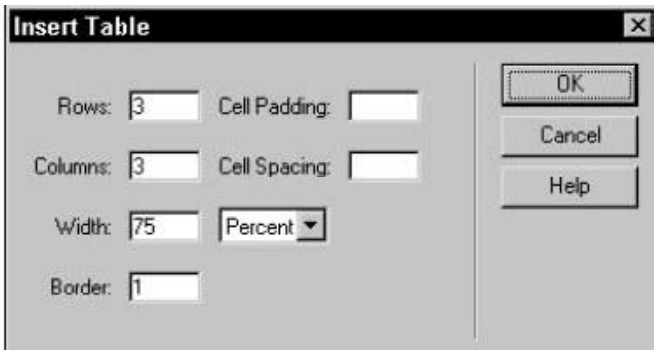
Inserting Tables in Dreamweaver

You can control almost all of a table's HTML features through Dreamweaver's point and- click interface. To insert a Dreamweaver table in the current cursor position, use one of the following three methods:

1. Select the Insert Table button on the Objects panel.
2. Choose Insert->Table from the menus.
3. Use the keyboard shortcut: Ctrl+Alt+T (Command+Option+T).

The Insert Table dialog box, shown in Figure below contains the following default values when it is first displayed:

Attribute	*Default*	*Description*
Rows	3	The number of horizontal rows.
Columns	3	The number of vertical columns.
Width	75%	Sets the preset width of the table. Available in a percentage of the containing element (screen, layer, or another table) or an absolute pixel size.
Border	1 pixel	The width of the border around each cell and the entire table.
Cell Padding	(Empty)	The space between a cell's border and its contents. Although not shown, Dreamweaver displays 1 pixel of cell padding unless a different value is entered.
Cell Spacing	(Empty)	The number of pixels between each cell. Although not shown, Dreamweaver displays 2 pixels of cell spacing unless a different value is entered.



If you aren't sure of the number of rows and/or columns you need, put in your best guess-you can add or delete rows or columns as necessary.

The default table is sized to take up 75 percent of the browser window. You can alter this percentage by changing the value in

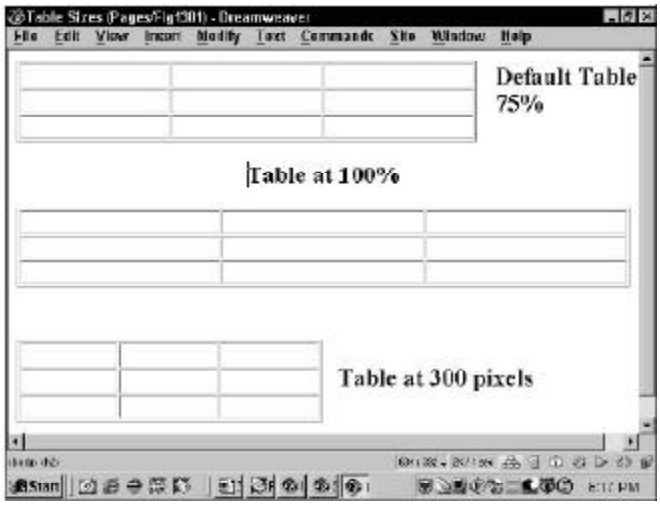
the Width text box. The table maintains this proportion as you add text or images, except in two situations:

- When an image is larger than the specified percentage
- When the nowrap attribute is used for the cell or table row and there is too much text to fit

In either case, the percentage set for the table is ignored, and the cell and table expand to accommodate the text or image

If you prefer to enter the table width as an absolute pixel value, as opposed to the relative percentage, type the number of pixels in the Width text box and select pixels in the drop-down list of width options.

Figure given below shows three tables: At the top is the default table with the width set to 75 percent. The middle table, set to 100 percent, will take up the full width of the browser window. The third table is fixed at 300 pixels—approximately half of a 640×480 window.



The width of a table can be relative to the browser window or set to an absolute width in pixels.

Modifying Tables

Most modifications to tables start in the Property Inspector. Dreamweaver helps you manage the basic table parameters-width, border, and alignment-and provides attributes for the other useful but more arcane features of a table, such as converting table width from pixels to percentage of the screen, and vice versa.

Selecting Table Elements

As with text or images, the first step in altering a table (or any of its elements) is selection. Dreamweaver simplifies the selection process, making it easy to change both the properties and the contents of entire tables, selected rows or columns, and even nonadjacent cells. You can change the font size and color of a row with a click or two of the mouse-instead of highlighting and modifying each individual cell.

In Dreamweaver, you can select the following elements of a table:

The entire table

- A single row
- Multiple rows, either adjacent or separate
- A single column
- Multiple columns, either adjacent or separate
- A single cell
- Multiple cells, either adjacent or separate

Once a table element is selected, you can modify its contents.

Selecting an Entire Table

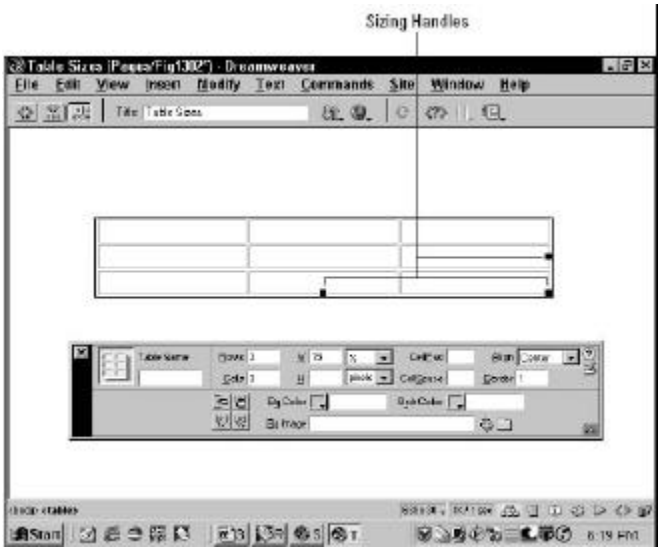
Several methods are available for selecting the entire table, whether you're a menu or mouse-oriented designer. To select the table via a menu, do one of the following:

- Choose Modify->Table->Select Table.
- With the cursor positioned in the table, choose Edit->Select All or use the keyboard shortcut, Ctrl+A (Command+A).
- Right-click (Control+click) inside a table to display the shortcut menu and choose Table->Select Table.
- To select an entire table with the mouse, use one of these techniques:
- Click the bottom or right border of the table. You can also click anywhere along the table border when the pointer becomes a four-sided arrow.
- Select the <table> tag in the Tag Selector.
- Click immediately to one side of the table and drag the mouse over the table.

However you select the table, the selected table is surrounded by a black border with sizing handles on the right, bottom, and bottom-right corner

Selecting a row or column

Altering rows or columns of table text without Dreamweaver is a major time consuming chore. Each cell has to be individually selected, and the changes applied. Dreamweaver has an intuitive method for selecting single or multiple columns and rows, comparable-and in some ways, superior-to major word processing programs.



A selected table can be identified by the black border outlining the table and the three sizing handles.

As with entire tables, you have several methods for selecting columns or rows. None of the techniques, however, use the menus; row and column selection is handled primarily with the mouse. In fact, you can select an entire row or column with one click.

The one-click method for selecting a single column or row requires that you position your pointer directly over the column or to the left of the row you want to choose. Move the pointer slowly toward the table-when the pointer becomes a single arrow, with the arrowhead pointing down for columns and to the right for rows, click the mouse. All the cells in the selected column or row are bounded with a black border. Any changes now made in the Property Inspector, such as a change in font size or color, affect the selected column or row.

You can select multiple, contiguous columns or rows by dragging the single arrow pointer across several columns or rows. To select a number of columns or rows that are not next to one another, use the Ctrl (Command) key. Press the Ctrl (Command) key while selecting each individual column, using the one-click method. (Not even Word 2000 can handle this degree of complex table selection.)

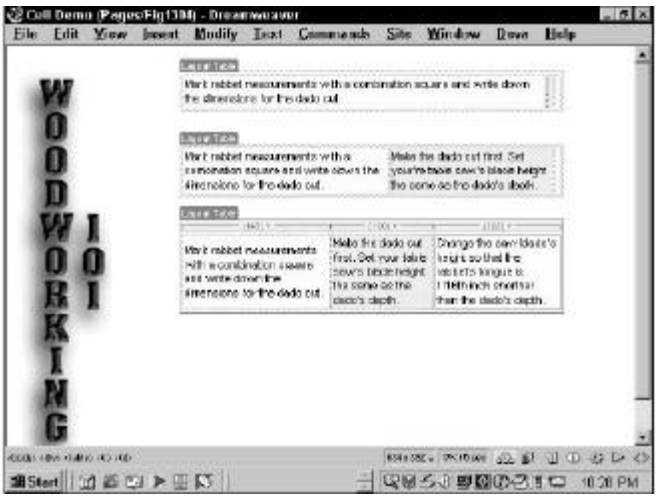
Selecting Cells

Sometimes you need to change the background color of just a few cells in a table, but not the entire row—or you might need to merge several cells to form one wide column span. In these situations, and many others, you can use Dreamweaver's cell selection capabilities. As with columns and rows, you can select multiple cells, whether they are adjacent to one another or separate.

Individual cells are generally selected by dragging the mouse across one or more cell boundaries. To select a single cell, click anywhere in the cell and drag the mouse into another cell. As you pass the border between the two cells, the initial cell is highlighted. If you continue dragging the mouse across another cell boundary, the second cell is selected, and so on. Note that you have to drag the mouse into another cell and not cross the table border onto the page; for example, to highlight the lower-right cell of a table, you need to drag the mouse up or to the left.

Editing a table's contents

Before you learn how to change a table's attributes, let's look at basic editing techniques. Editing text in Dreamweaver tables is slightly different from editing text outside of tables. When you begin to enter text into a table cell, the table borders expand to accommodate your new data, assuming no width has been set. The other cells appear to shrink, but they, too, expand once you start typing in text or inserting an image. Unless a cell's width is specified, the cell currently being edited expands or contracts and the other cells are forced to adjust their width. Figure given below shows the same table (with one row and three columns) in three different states. In the top table, only the first cell contains text; notice how the other cells have contracted. In the middle table, text has been entered into the second cell as well, and you can see how the first cell is now smaller. Finally, in the bottom table, all three cells contain text, and the other two cells have adjusted their width to compensate for the expanding third cell.

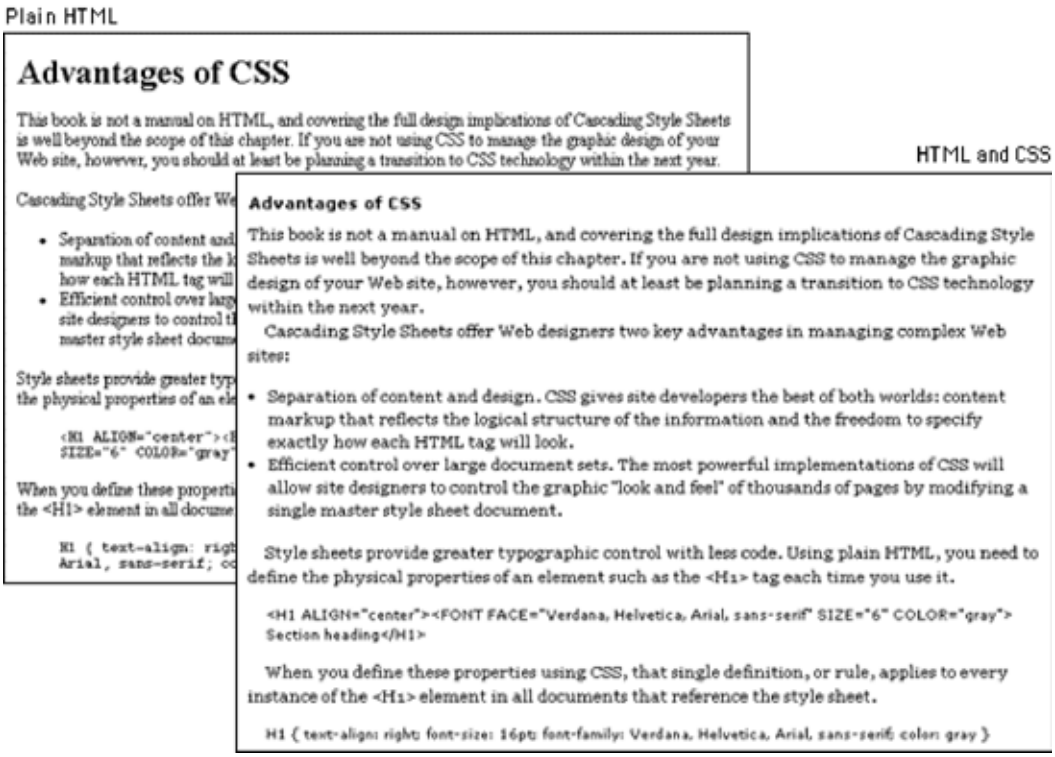


As text is entered into a cell, the cell expands; other cells contract, even if they already contain text.

LESSON 33:
TYPE GRAPHICS

Topics Covered

- Consistency, Cross platform issues, Accessibility, Type Graphics
- Dreamweaver - Working with table properties, Inserting rows and columns, Setting table borders and backgrounds, Merging and splitting cell



Objectives

Upon completion of this lesson, you should be able to:

- Check cross platform issues
- Add accessibility in typography
- Understand the significance of type graphics
- work with table properties
- set alignment in a table
- Insert rows and columns
- Delete rows and columns
- Set table borders and backgrounds
- Work with cell spacing and padding
- Merge and split cells

Consistency

As in traditional print publishing, high-quality Web sites adhere to established type style settings consistently throughout the site. Consistency gives polish to a site and encourages visitors to stay by creating an expectation about the structure of a text. If sloppy, inconsistent formatting confounds this expectation, you will confuse your readers and they may not return.

You should decide on such settings as fonts, inter-paragraph spacing, the size of subheads, and so on and then create a written style guide to help you maintain these settings as you develop the site. This step is especially critical for large sites that incorporate numerous pages.

If you choose to use CSS you will have powerful tools to maintain the consistency of styles throughout your site. This is particularly true if you opt to use a master style sheet for your whole site via the “Link” option in CSS (see Cascading Style Sheets).

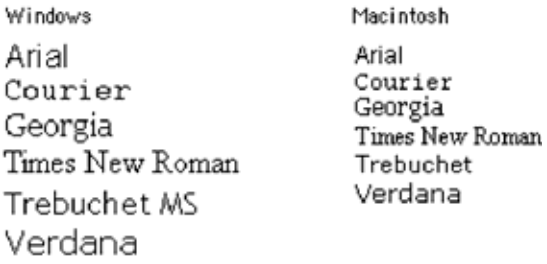
Example: Plain HTML page (opens in new window)

Example: Page with HTML and CSS (opens in new window)

Cross-platform Issues

Relative font sizes

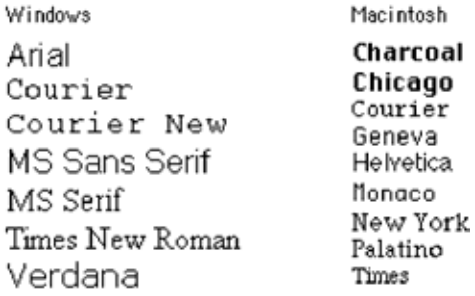
The Macintosh and Windows operating systems display type differently, even when the same typefaces are being used. In general, type displayed on Windows Web browsers will look 2 to 3 points larger than the equivalent face on the Macintosh. Thus a line of 12-point Times type on a Macintosh looks more like 14 points in Times New Roman on a Windows machine. This difference in font rendering can have a big impact on your page layouts. The following table shows the major Microsoft TrueType typefaces in their 12-point sizes, as displayed in both Windows and on a Macintosh.



If you don't have ready access to a machine with "the other" operating system and you use Netscape Navigator, you can use Netscape's "Preferences / Fonts" box to change the default text size from 12 to 14 (Mac users) or from 12 to 11 or 10 (Windows users). If you use Internet Explorer you can use the "Larger" or "Smaller" controls on the button bar to manipulate the default font size of the text.

Font faces

The basic fonts that come with Windows and the Macintosh operating system are listed below. If you are going to specify fonts for your Web documents, you should probably use the typefaces listed here, and you should always specify at least one typeface from each operating system (for example: "Arial, Geneva") to avoid having the browser render your pages in the default font:



Remember that many Macintosh users who have installed Microsoft Office or Microsoft's Internet Explorer Web browser will have "Windows" fonts installed on their systems. If you specify the fonts "Georgia, Times" in your font definitions, many Macintosh users will see their text set in Georgia, just as Windows users do.

Also note in the relative font sizes example on the preceding page that although "Trebuchet" and "Trebuchet MS" are basically the same typeface, the exact name you specify in the font list matters. If you want both Macintosh and Windows users to see the typeface Trebuchet, then use both names in your font declaration.

Accessibility

When considering type, the main accessibility issues are size and color. These attributes come into play for users who have vision disabilities such as low vision or color blindness. Vision-impaired users need to be able to transform text that they find illegible into a format that they can read. Low-vision users need to be able to increase the type size and set the text and page background colors for maximum contrast. Colorblind users also need control over text and background color. You need to pay attention to the following type and layout attributes to accommodate users with vision disabilities.

Scalable Text

Users cannot easily enlarge text that is set using absolute size values, for example, text sized using pixels (see Type size). To ensure scalability, use relative units such as the em unit to control the typography - type size, margins and indents, leading - on the page. Use text graphics sparingly, and always offer a text-only equivalent. Text rendered to graphic form is no longer text but image and cannot be manipulated - enlarged, colored - as plain text can.

Structural Markup

Text formatting done using presentation-style markup instead of style sheets limits users' ability to transform a layout to meet their needs. Some browsers have a feature that allows users to override author-defined style sheets with their own style sheet. This means that users can define a custom style sheet that meets their viewing needs. For example, a low-vision user might define a style sheet that renders all <P> text at 24 points, or a colorblind user might set the background to white and the text to black for maximum contrast. But these measures will not work, or will only work partially, on pages that are formatted using presentation markup. If text color is set using <FONT COLOR> and headings are set using <FONT SIZE> and <B> for emphasis, the user-defined style sheet will have nothing to apply itself to (no paragraph or heading tags). If you set presentation properties using style sheets, users who need to customize the page can do so.

Emphasis

If you use color alone to achieve typographic emphasis, users who cannot distinguish the colors will miss the emphasis. To emphasize text - for example, in headers or key phrases within text - so that it won't be overlooked, use bold formatting as well as color. (Indeed, colored text for anything that is not a link is a potential usability flaw that you might as well avoid altogether. See Colored text, above.) Also be sure that there is sufficient contrast between the background and text on your page. Although contrast is particularly important for vision-impaired users, all users will benefit from greater readability.

Adaptable Layouts

Most Web page layouts are not designed with large type in mind. For example, fixed layouts that limit the text column to a specified width are typically sized to accommodate 12-point type or smaller. Indeed, at large type sizes a fixed text column may contain only a few words, which makes the text awkward to read. For adaptable pages, use a flexible layout that transforms gracefully to accommodate larger type sizes. (For more on fixed and flexible layouts, see Page Design, Page layout.)

Type Graphics

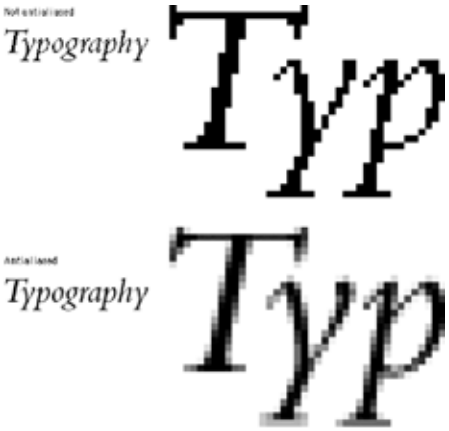
Typography cannot always be neatly separated from the graphics of your Web site. Graphic text can be tightly integrated with images in ways that are impossible in HTML text:

www.dartmouth.edu/~socy15

For aesthetic reasons you may choose to use graphical representations of type rather than manipulate HTML type. In either case you'll need to understand how to best render type within GIF (Graphics Interchange Format) and JPEG (Joint Photographic Experts Group) graphics.

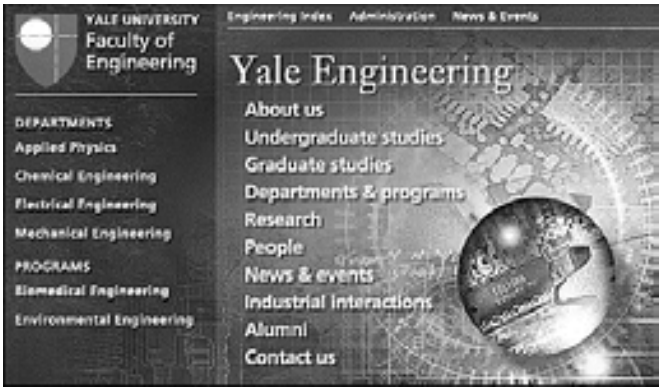
Anti-aliased Type

Antialiasing is a technique widely used in computer graphics to optimize the look of graphics and typography on the display screen. Antialiasing visually "smoothes" the shapes in graphics and type by inserting pixels of intermediate colors along boundary edges between colors. In typography, antialiasing removes the jagged edges of larger type characters. At normal viewing distances antialiasing gives the impression that the type is rendered at a higher resolution:



Creating Antialiased Type

Sophisticated image editing programs such as Adobe Photoshop will create antialiased type automatically, and these "paint" image editors are where most Web designers create their graphic typography. If, however, you have a complex arrangement of typography and graphics (say, for a home page banner), you may wish to work first in a drawing program such as Adobe Illustrator or Macromedia FreeHand. Drawing programs are better at laying out text and will let you edit the text up to the final rendering into a paint (GIF or JPEG) graphic to use on the Web page. Final rendering is usually done by importing the graphic into Photoshop, where all text will automatically become antialiased:

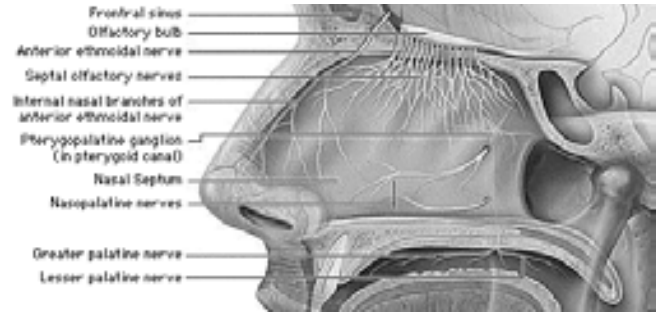


We often use graphic type within banner or navigational graphics, but we rarely use graphic type simply as a stylistic substitute for headlines or subheads within a Web page. Purely graphic typography cannot be searched and indexed along with the HTML-based text on a Web page. Your best option is to repeat the textual content of the graphic inside an ALT tag and hope that search engines will pick up that content, too. Finally, bear in mind that graphic type is far more difficult to edit or update than HTML text.

When not to use antialiasing

Antialiasing is great for large display type, but it is not suitable for small type sizes, especially type smaller than 10 points. The antialiasing reduces the legibility of small type, particularly when you import it into Photoshop from a drawing program like Adobe Illustrator. If you need to antialias small type sizes, do it in Photoshop:

For the anatomic illustration below we used non-antialiased 9-point Geneva (a Macintosh screen font) for the illustration labels:



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Working With Table Properties

The <table> tag has a large number of attributes, and most of them can be modified through Dreamweaver's Property Inspector. As with all objects, the table must be selected before it can be altered. Choose Modify->Table->Select Table or use one of the other selection techniques previously described. Once you've selected the table, if the Property Inspector is open, it presents the table properties as shown in the figure below, Otherwise, you can open the Table Property Inspector by choosing Window->Properties Inspector.

The expanded Table Property Inspector gives you control over all the table wide attributes.

Setting Alignment

Aligning a table in Dreamweaver goes beyond the expected left, right, and center options-you can also make a table into a free-floating object around which text can wrap to the left or right. With HTML, you can align a table using two different methods, and each gives you a different effect. Using the text alignment method (Text->Align) results in the conventional positioning (left, right, and center), and using the Table Property Inspector method enables you to wrap text around your realigned table. Figure given below compares some of the different results you get from aligning your table with the two methods.

To align your table without text wrapping, follow these steps:

1. Select your table using one of the methods described earlier.
2. In the Property Inspector, make sure the Align option is set to Default.
3. Select the Text->Align command and then choose one of the three options: Left, Center, or Right.

Dreamweaver surrounds your table code with a division tag pair, ... , with an align attribute set to your chosen value.

Tables can be centered, as well as aligned left or right—with or without text wrapping.

To align your table with text wrapping, making your table into a floating object, follow these steps:

1. Select the table.
2. In the Table Property Inspector, open the Align drop-down list and choose one of the four options:

Alignment Option	Result
Default	No alignment is written. Table aligns to the browser's default, usually left, with no text wrapping.
Left	Aligns the table to the left side of the browser window and wraps text around the right side.
Right	Aligns the table to the right side of the browser window and wraps text around the left side.
Center	The table aligns to the center of the browser window. Text does not wrap around either side. Note: This alignment option works only with 4.0 and above browsers.

Inserting Rows and Columns

The default Dreamweaver table configuration of three columns and three rows can be changed at any time. You can add rows or columns almost anywhere in a table, using various methods.

You have three methods for adding a single row:

Position the cursor in the last cell of the last row and press Tab to add a new row below the present one.

1. Choose Modify->Table->Insert Row to insert a new row above the current row.
2. Right-click (Control+click) to open the shortcut menu and select Table-> Insert Row. Rows added in this way are inserted above the current row.

You have two ways to add a new column to your table:

1. Choose Modify->Table->Insert Column to insert a new column to the left of the current column.
2. Right-click (Control+click) to open the shortcut menu and select Table-> Insert Column from the shortcut menu. The column is inserted to the left of the current column.

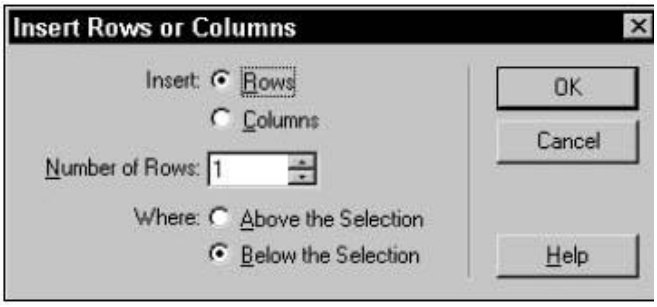
You can add multiple rows and columns in one of two different ways:

1. Increase the number of rows indicated in the Rows text box of the Table Property Inspector. All new rows added in this manner appear below the last table row. Similarly, you can increase the number of columns indicated in the Cols text box of the Table Property Inspector. Columns added in this way appear to the right of the last column.
2. Use the Insert Rows or Columns dialog box.

The Insert Rows or Columns feature enables you to include any number of rows or columns anywhere relative to your current cursor position.

To add multiple columns using the Insert Rows or Columns dialog box, follow these steps:

1. Open the Insert Rows or Columns dialog box by selecting Modify->Table->Insert Rows or Columns or by choosing Table->Insert Rows or Columns from the shortcut menu.



Use the Insert Rows or Columns feature to add several columns or rows simultaneously.

2. Select either Rows or Columns.
3. Enter the number of rows or columns you wish to insert—you can either type in a value or use the arrows to increase or decrease the number.
4. Select where you want the rows or columns to be inserted.
   - If you have selected the Rows option, you can insert the rows either Above or Below the Selection (the current row).
   - If you have selected the Columns options, you can insert the columns either Before or After the Current Column.
5. Click OK when you're finished.

Deleting Rows and Columns

When you want to delete a column or row, you can use either the shortcut menu or the Table Property Inspector. On the shortcut menu, you can remove the current column or row by choosing Delete Column or Delete Row, respectively. Using the Table Property Inspector, you can delete multiple columns and rows by reducing the numbers in the Cols or Rows text boxes. Columns are deleted from the right side of the table, and rows are removed from the bottom.

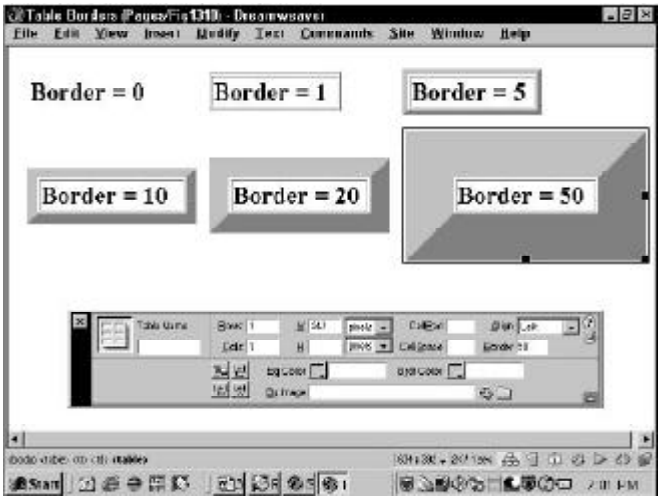
Setting Table Borders and Bbackgrounds

Borders are the solid outlines of the table itself. A border's width is measured in pixels; the default width is one pixel. This width can be altered in the Border field of the Table Property Inspector.

You can make the border invisible by specifying a border of 0 width. You can still resize your table by clicking and dragging the borders, even when the border is set to 0. When the View->Table Borders option is selected, Dreamweaver displays a thin dashed line to represent the border.

When the border is visible, you can also see each cell outlined. The width of the outline around the cells stays constant, regardless of the width of the border. However, you can control the amount of space between each cell with the CellSpace value in the Table Property Inspector,

To change the width of a border in Dreamweaver, select your table and enter a new value in the Border text box. With a wider border, you can see the default shading: The top and left side are a lighter shade, and the bottom and right sides are darker. This gives the table border a pseudo-3D appearance.



Changing the width of the border can give your table a 3D look.

Working With Cell Spacing and Cell Padding

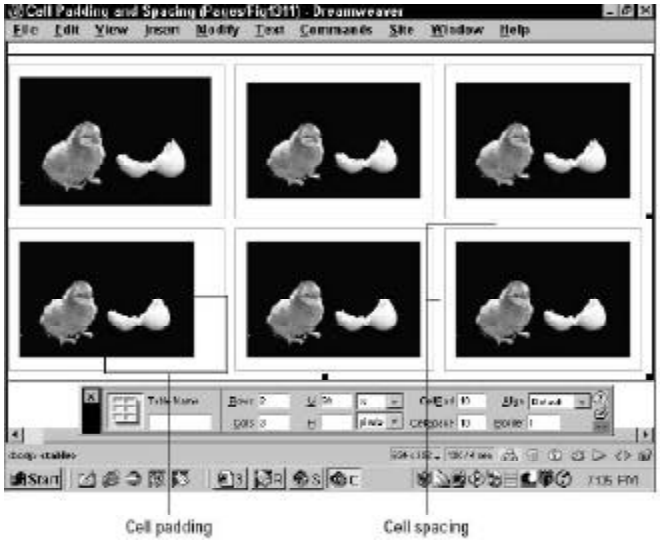
HTML gives you two methods to add white space in tables. *Cell spacing* controls the width between each cell, and *cell padding* controls the margins within each cell. These values can be set independently through the Table Property Inspector.

Merging and Splitting Cells

You have seen how cells in HTML tables can extend across (span) multiple columns or rows. By default, a cell spans one column or one row. Increasing a cell's span enables you to group any number of topics under one heading. You are effectively merging one cell with another to create a larger cell. Likewise, a cell can be split into multiple rows or columns.

Dreamweaver enables you to combine and divide cells in two different ways. If you're more comfortable with the concept of merging and splitting cells, you can use two handy buttons on the Property Inspector. If, on the other hand, you prefer the older method of increasing and decreasing row or column span, you can still access these commands through the main and shortcut menus.

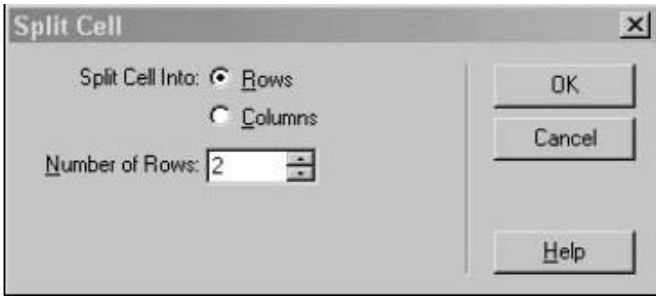
To combine two or more cells, first select the cells you want to merge. Then, from the Property Inspector, select the Merge Cells button or press the keyboard shortcut Ctrl+Alt+M (Command+Option+M); Windows users also have the option of just pressing M. If the Merge button is not available, multiple cells have not been selected.



You can add additional white space between each cell (cell spacing) or within each cell (cell padding).

To divide a cell, follow these steps:

1) Position your cursor in the cell to split.
2) From the Property Inspector, select the Split Cell button or press the keyboard shortcut, Ctrl+Alt+S (Command+Option+S).
3) The Split Cell dialog box appears



Use the Split Cell dialog box to divide cells horizontally or vertically.

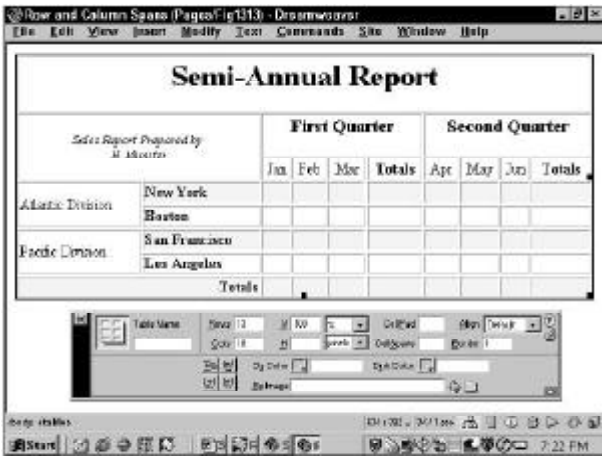
5) Select either the Rows or Columns option to decide whether the cell will be split horizontally or vertically.
6) Enter the Number of Rows or Columns in the text box or use the arrows to change the value.
7) Select OK when you're done.

Command	Description
Increase Row Span	Joins the current cell with the cell below it
Decrease Row Span	Separates two or more previously spanned cells from the bottom cell
Increase Column Span	Joins the current cell with the cell immediately to its right
Decrease Column Span	Separates two or more previously spanned cells from the right edge

Setting cell, column, and row properties

In addition to the overall table controls, Dreamweaver helps you set numerous properties for individual cells one at a time, by the column or by the row. When attributes overlap or conflict, such as different background colors for a cell in the same row and column, the more specific target wins out. The hierarchy, from most general to most specific, is as follows: tables, rows, columns, and cells.

You can call up the specific Property Inspector by selecting the cell, row, or column you want to modify. The Cell, Row, and Column Property Inspectors each affect similar attributes. The following sections explain how the attributes work in general and-if any differences exist-specifically in regard to the cell, column, or row.



This spreadsheet-like report was built using Dreamweaver's row- and column-spanning features.

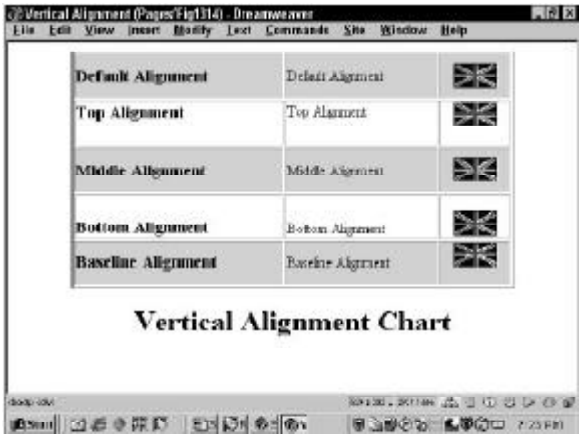
Horizontal Alignment

You can set the Horizontal Alignment attribute, align, to specify the default alignment, or Left, Right, or Center alignment, for the element in the cell, column, or row. This attribute can be overridden by setting the alignment for the individual line or image. Generally, Left is the default horizontal alignment for cells.

Vertical alignment

The HTML valign attribute determines whether the cell's contents are vertically aligned to the cell's top, middle, bottom, or along the baseline. Typically, browsers align cells vertically in the middle by default. Select the Vertical Alignment option arrow in the Cell, Column, or Row Properties dialog box to specify a different alignment.

Top, Middle, and Bottom vertical alignments work pretty much as you would expect. A Baseline vertical alignment displays text near the top of the cell and positions the text-regardless of font size-so that the baselines of all the text in the affected row, column, or cell are the same. You can see how images and text of various sizes are displayed under the various vertical alignment options in figure below:



You can vertically align text and images in several arrangements in a table cell, row, or column.

Cell wrap

Normal behavior for any cell is to automatically wrap text or a series of images within the cell's borders. You can turn off this automatic feature by selecting the No Wrap option in the Property Inspector for cell, column, or row.

Table header cells

Quite often in tables, a column or a row functions as the heading for that section of the table, labeling all the information in that particular section. Dreamweaver has an option for designating these cells: the Header option. Table header cells are usually rendered in boldface and centered in each cell. Figure given below shows an example of a table in which both the first row and first column are marked as table header cells.

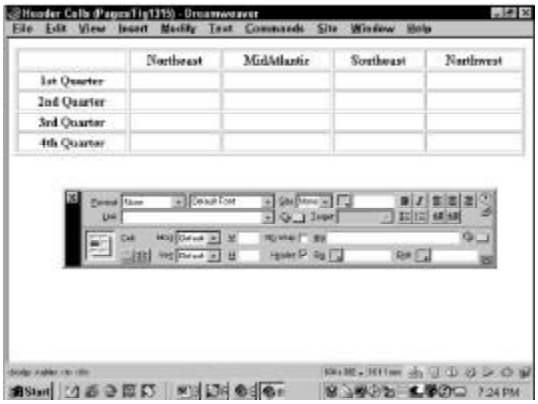


Table header cells are a good way to note a category's label-either for a row or a column, or both.

Assignments

1. What are the different methods of Indenting paragraph?
2. What is Nested list? How can be automatically revoked within Dreamweaver?
3. How do you build your own graphic bullets in Dreamweaver?
4. Write the HTML code for inserting table? What is   used for?
5. Explain the attributes connected with Table in HTML?
6. Build a checklist of cross platform issues for your website?
7. What is type graphics? Give two examples?
8. What alignments options Dreamweaver gives in Table Property Inspector window?
9. How cell splitting and merging works in Dreamweaver?
10. What is a Table header?

Notes

LESSON 34:
EDITORIAL

Topics Covered

- Introduction to Editorial style, Organizing your prose
- Dreamweaver – Designing with layout mode, Drawing cells and tables, Modifying layouts

Objectives

Upon completion of this lesson, you should be able to:

- Organize your prose
- Design with layout mode
- Draw cells and tables
- Modify layouts

Editorial Style

First we thought the PC was a calculator. Then we found out how to turn numbers into letters with ASCII - and we thought it was a typewriter. Then we discovered graphics, and we thought it was a television. With the World Wide Web, we've realized it's a brochure.
- Douglas Adams

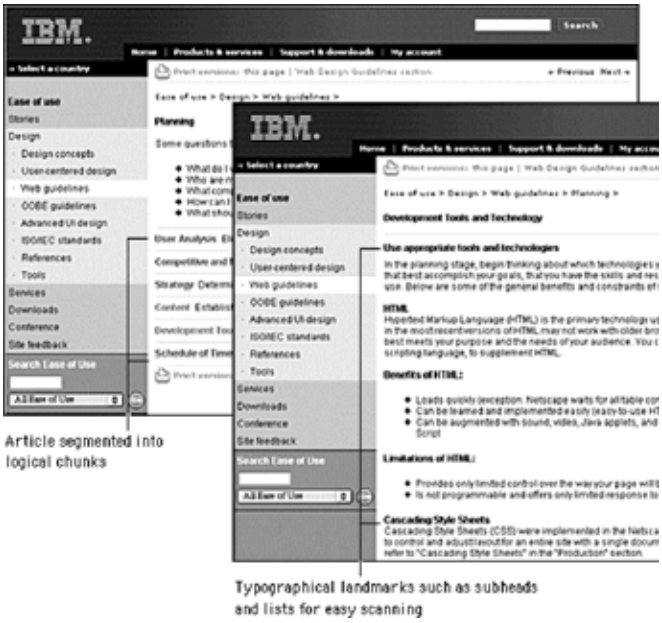
Among The Many Web

induced trends, the emergence of a new writing genre designed to accommodate the reading habits of Web users is especially notable. People read differently on the Web. One reason for this is that reading text on-screen is unpleasant. Given the low resolution of the computer screen and the clumsiness of the scrolling page, many readers scan onscreen and print pages for reading. Another reason is that Web reading is not a stationary activity. Users roam from page to page collecting salient bits of information from a variety of sources. They need to be able quickly to ascertain the contents of a page, get the information they are seeking, and move on. Also, because Web pages may be accessed directly without preamble, they must be more independent than print pages. Too many Web pages end up as isolated fragments of information, divorced from the larger context of their parent Web sites through the lack of essential links and the simpler failure to inform the reader properly of their contents.

One of the most obvious characteristics of Web writing is hypertext links. Web authors use hypertext links to create or supplement concepts: a list of related links can reinforce their content or even serve as the focus of their site. The problem posed by links has little to do with the Web but is rooted in the concept of hypertext: Can the quick juxtaposition of two separate but conceptually related pieces of information encourage a better understanding of the overall message? A collection of links cannot create or sustain an argument or deliver a collection of facts as efficiently or legibly as conventional linear prose. When there is no sustained narrative, readers are sent aimlessly wandering in their quest for information. Links also become a maintenance issue, because most Web pages are ephemeral. Broken links shake the reader's confidence in the validity and timeliness of content. Links should be used sparingly and as a reinforcement of, not a substitute for, content.

Organizing Your Prose

Documents written to be read online must be concise and structured for scanning. People tend to skim Web pages rather than read them word by word. Use headings, lists, and typographical emphasis for words or sections you wish to highlight; these are the elements that will grab the user's attention during a quick scan. Keep these elements clear and precise - use your page and section heads to describe the material. The "inverted pyramid" style used in journalism works well on Web pages, with the conclusion appearing at the beginning of a text. Place the important facts near the top of the first paragraph where users can find them quickly.



That said, keep in mind that much content is not well suited to the telegraphic style that works well for online documents. Web authors often cut so much out of their presentations that what remains would barely fill a printed pamphlet. Concise writing is always better, but don't "dumb down" what you have to say. You can assume that readers will print anything longer than half a page and read it offline. Simply make printing easy for your readers and you can use the Web to deliver content without cutting the heart out of what you have to say.

Another way to style online documents is to break up your information into logical "chunks" connected by hypertext links, but only where it makes sense (see Site Design, "Chunking" information). Don't break up a long document arbitrarily; users will have to download each segment and will have difficulty printing or saving the entire piece. The key to good chunking is

to divide your information into comprehensive segments. That way readers will have direct and complete access to the topics they are interested in without having to wade through irrelevant material or follow a series of links to get the whole picture.

Computer Lab

Dreamweaver

Designing With Layout Mode

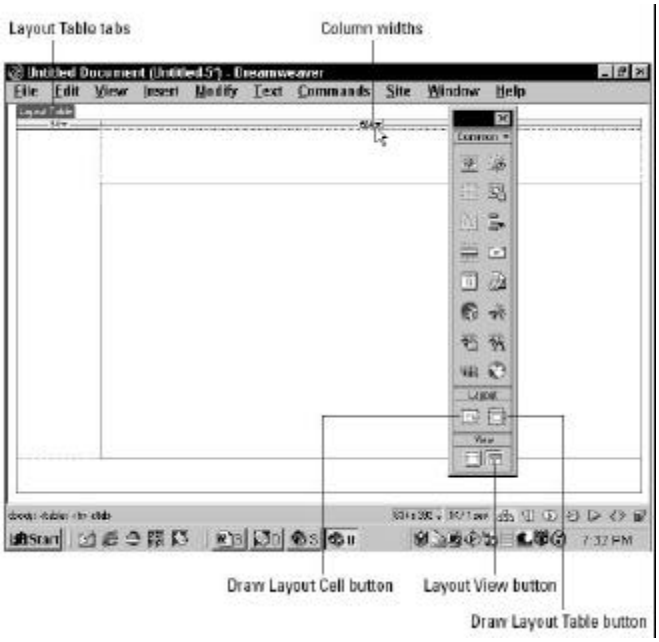
As discussed earlier in this chapter, experienced Web designers regard tables as one of their primary layout tools because, outside of Dynamic HTML's layers, tables are the only way for you to get close to positioning your page elements the way you want them to appear. It's a lot of work to do this with raw tables, but designers are a persistent group—and for good reason: Persistence has a big payoff.

Although they share the same underlying HTML structure, tables and cells created in Layout view differ from those created in Standard view in the following ways:

1. Borders are set to zero and, thus, turned off.
2. Cell padding and cell spacing are also set to zero to enable content to appear directly next to each other.
3. Layout tables optionally include a row for each column that holds a one pixel high transparent GIF image called a spacer.
4. Columns in a layout table are set to either a fixed pixel width or designed to automatically stretch to the full width of the page.

In addition to these physical differences, Layout view has a different appearance. Each layout table is marked with a tab and the column width is identified at the top of each column as shown in the figure below:

Dreamweaver puts the entrance to Layout view right up front on the Objects panel. At the bottom of the panel, two new areas have been added for Dreamweaver 4. To switch modes, click the Layout View button; to return to the traditional mode, select the Standard View button. If the Objects panel is not open, use the menu by choosing View->Table View->Layout View or the keyboard shortcut Ctrl+F6 (Command+F6). Once Layout view has been enabled, two buttons above the view modes become active: Draw Cell and Draw Table.



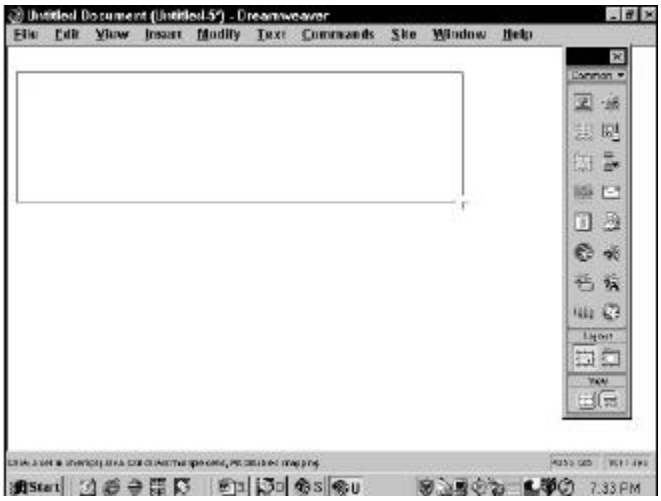
In Layout view, tables and columns are immediately identifiable and extremely flexible.

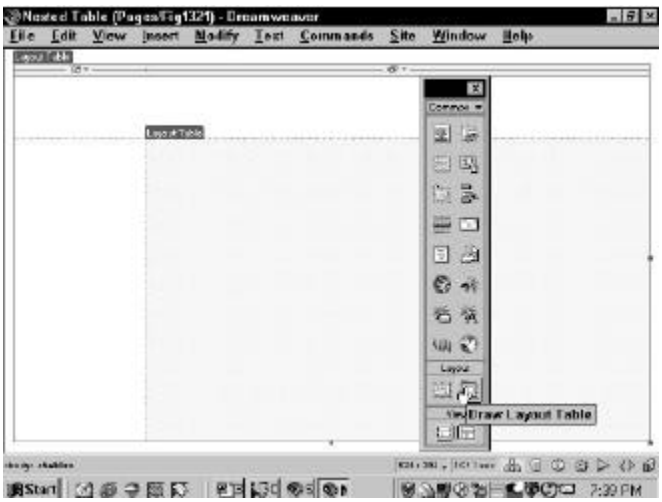
Drawing Cells and Tables

Although you can use the Layout view to modify the structure of existing pages, this mode is best when designing Web pages from the ground-up. The Draw Cell and Draw Table commands enable you to quickly layout the basic structure of your page by defining the key document areas. For example, with just four mouse moves in Layout view, I could design a page with sections for a logo, a navigation bar, a copyright notice, and a primary content area. Now I'm ready to fill out the design with graphics, text, and other assets.

Here's how it works:

1. On a blank page, choose the Layout View button from the bottom of the Objects panel. When you first enter Layout view, Dreamweaver displays a help screen to explain how the new feature works. After you get the hang of working in Layout view, feel free to select the Don't Show Me This Message Again option to prevent further appearances of the dialog box. Select the Draw Cell button, directly above the View modes. The cursor changes to a plus (+) sign. Although it may seem backwards, it's best to initially use the Draw Cells rather than Draw Table. Dreamweaver automatically creates the HTML table necessary to hold any cells you draw, resulting in less tables and tighter code. The Draw Table command is best used to make a nested table.
2. Move your cursor anywhere on the page and drag out a layout cell, as shown in figure.





Use the Draw Cell command to define the basic page structure in Layout view.

3. Repeat Step 3 until your layout is complete.

As indicated earlier, the Draw Table command is best suited for creating nested tables. A table is said to be nested when it is placed within an existing table. Nested tables are useful when a design requires that a number of elements, for example, a picture and a related caption, remain stationary in relation to one another while text on the page flows according to the size of the browser window.

To create a nested table in Layout view, follow these steps:

1. Choose the Layout View button on the Objects panel.

2. Select the Draw Layout Table button, also from the Objects panel.

3. When the cursor is over an area of the table unoccupied by a layout cell, the cursor changes to a plus (+) sign and a layout table can be dragged out. When not over a valid area, the cursor is shown as a slashed circle—the universal sign for "not allowed." The new layout table is inserted as shown below

4. To divide the nested layout table into multiple areas, choose the Draw Cell button to drag out new cells.

5. As with the Draw Cell command, the Draw Table command defaults to dragging one table at a time. To draw several tables in a row, select Ctrl (Command) while dragging out a layout table.

Nested tables are easily added with the Draw Layout Table command.

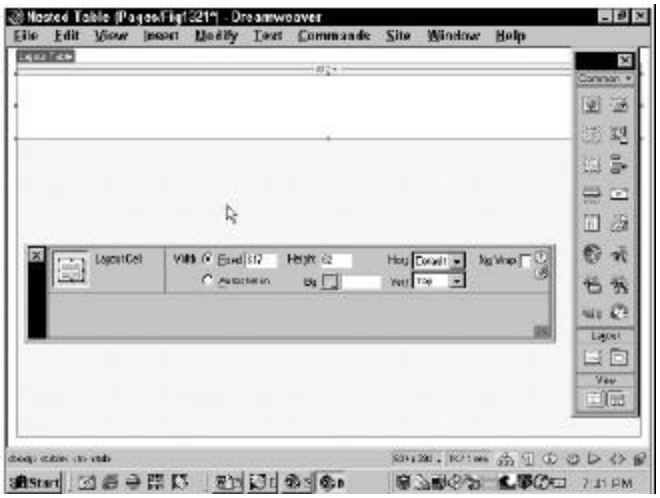
Modifying Layouts

Layout view is not only a boon for creating the initial page design, but it also makes the inevitable modifications more straightforward. Cells are positionable within a layout table much the same as layers on a page. However, one difference exists; cells, unlike layers, cannot overlap. Resizing layout cells and tables is also easier. Unlike in Standard view where any table or cell border is draggable, in Layout view cells and tables have sizing handles-much the same as a selected image.

To easily manipulate layout and cells, they have to be easily selectable. Dreamweaver handles that chore with colorful flair. Pass your cursor over any layout cell, when you pass the border of a cell it changes from blue to red. Click once on the red highlight and the cell is selected. A selected cell is notable by the eight sizing handles placed on its perimeter. Once a cell is selected, the Property Inspector displays the available attributes.

The Layout Cell Property Inspector offers six key attributes:

- **Width:** Enter a pixel value for a Fixed cell width or select the Autostretch option to enable the cell to grow as needed. (Autostretch is covered in the next section.) The width of each cell is shown on top of each column in Layout view. The column width property is an important one and is explained in greater detail later in this section.
- **Height:** Enter a pixel value for cell height. Percentages cannot be entered in Layout view.
- **Horz:** Select a horizontal alignment for the cell's content; the options are Default, Left, Center, and Right.
- **No Wrap:** When enabled, this option keeps content-text and images-from wrapping to the next line, which, if the column is in Autostretch mode, may alter the width of the cell.
- **Bg:** Choose a background color for the cell.
- **Vert:** Choose a vertical alignment for the cell's content; the options are Default, Top, Middle, Bottom, and Baseline.



Although similar to the standard Cell Property Inspector, the Layout Cell Property Inspector offers a different set of options.

To reshape or resize a layout cell, drag any one of the sizing handles on the cell's border into the unused area of a table. Likewise, you can drag a cell into any open table area, for example, any area of the table unoccupied by another cell.

Notes

LESSON 35:
FRAMES AND FRAMESETS

Topics Covered

- Online style, Prose style, Other stylistic consideration
- Dreamweaver - Using frames and framesets, columns and rows, Quick framesets with frames objects,

Objectives

Upon completion of this lesson, you should be able to:

- Online style
- Different types of prose style
- learn about other stylistic consideration
- Use frames and framesets - The basics
- Create frames and framesets
- Using the menus
- Create frame objects using quick framesets

Online Style

For most Web writing you should assume that your carefully crafted prose will not be read word by word. This is *not* the case, of course, for texts such as journal articles or teaching materials: in many cases these more complicated texts will be printed and read offline. But most online information is best presented using short segments of texts written in a clear, concise style and with ample use of editorial landmarks.

Prose Style

Our writing style example below explains the steps involved in creating a successful Web site. The first style is vague and verbose. The second is concise: we simply list the facts. It is this second writing style that is most suitable for Web documents. Most Web readers are looking for information, and they find it not by reading a Web page word by word but rather by scanning the page for relevant items.

Vague and verbose. You must read every word in this paragraph in order to understand the steps involved in creating Web sites:

Web site development is a complex process that involves many steps and tasks that range from budgeting to design and evaluation. First, you need to define the scope of your project and determine a budget for site development. Then you need to survey and map the structure of your information. The next step is to establish a look and feel for your site, and then comes the actual construction of your site. Once your site is finished you need to make sure people know that it's there and how to find it. Finally, you should spend time evaluating your site's effectiveness. As you embark on the process of developing a Web site, keep these steps in mind and make sure that you have the organizational backing, budget, and personnel you need to make the project a success.

Concise and factual. In this version, we turned the wordy explanation of the process into a concise list of steps to follow:

The process of developing a Web site generally follows these steps:

1. Site definition and budgeting
2. Information architecture
3. Site design
4. Site construction
5. Site marketing
6. Tracking and evaluation

Before beginning to develop a Web site, make sure you have the organizational backing, budget, and personnel you need to perform these steps successfully.

Other stylistic considerations

- Be frugal. Make sure that the text you present is worth something to the reader. Avoid empty chatter like welcome text or instructions on how to use the site. Users should be able to determine who you are by your navigation and page design, and your interface should be clear enough that it doesn't require instructions. Don't use the first paragraph of each page to tell users what information they'll find there. Instead, start with the information, written in the concise and factual prose style shown above.
- Stick to the point. Write in easily understood sentences. Steer clear of clever headings and catchy but meaningless phrases that users must think about and explore further to understand.
- Cultivate a voice. Web readers welcome a *measure* of individuality from their information sources. With so many competing sources, a unique voice may help distinguish your pages, but beware of going "over the top." When it comes to attitude, there is a fine line between engaging and annoying.
- Think globally. Remember that you are designing documents for the *World Wide* Web and that your audience may not understand conventions specific to your little corner of the world. For example, when including dates, use the international date format of day / month / year (e.g., 14 March 2001). Also, avoid metaphors and puns that may make sense only in the context of your language and culture.

Using Frames and Framesets

Frames constitute one of the Webmaster's major design tools. A *frame* is a Web page that is subdivided into both static and changing HTML pages. Not too long ago, the evolution of frames was right where Dynamic HTML is today in terms of general acceptance. The use of frames and framesets has become even more widespread over the last year or so, and the technology is now supported through every major browser version. It's safe to say that every Web designer today needs a working knowledge of frames to stay competitive

Each frame was truly an independent Web page and that you didn't have to use only Web pages on your own site—you could link to any page on the Internet. That was when I also realized the amount of work involved in establishing a frame Web site: Every page displayed on that site used multiple HTML pages.

Dreamweaver takes the head-pounding complexity out of coding and managing frames with a point-and-click interface. You get easy access to the commands for modifying the properties of the overall frame structure as well as each individual frame. This chapter gives you an overview of frames, as well as all the specifics you need for inserting and modifying frames and framesets. Special attention is given to defining the unique look of frames through borders, scroll bars, and margins.

Frames and Framesets: The Basics

It's best to think of frames in two major parts: the frameset, and the frames themselves. The frameset is the HTML document that defines the framing structure- the number of individual frames that make up a page, their initial size, and the shared attributes among all the frames. A frameset by itself is never displayed. Frames, on the other hand, are complete HTML documents that can be viewed and edited separately or together in the organization described by the frameset. A frameset takes the place of the <body> tags in an HTML document, where the content of a Web page is found. Here's what the HTML for a basic frameset looks like:

<frameset rows="50%,50%">

<frame src="top.html">

<frame src="bottom.html">

</frameset>

Notice that the content of a <frameset> tag consists entirely of <frame> tags, each one referring to a different Web page. The only other element that can be used inside of a <frameset> tag is another frameset> tag.

Columns and Rows

Framesets, much like tables, are made up of columns and rows. The columns and rows attributes (cols and rows) are lists of comma-separated values. The number of values indicates the number of either columns or rows, and the values themselves establish the size of the columns or rows. Thus, a <frameset> tag that looks like this:

<frameset cols="67,355,68">

denotes three columns of widths, 67, 355, and 68, respectively. And this frameset tag:

<frameset cols="270,232" rows="384,400">

declares that two columns exist with the specified widths (270 and 232) and two rows with the specified heights (384 and 400).

Sizing Frames

Column widths and row heights can be set as absolute measurements in pixels, or expressed as a percentage of the entire screen. HTML frames also support an attribute that assigns the size relative to the other columns or rows. In other words, the relative attribute (designated with an asterisk) assigns the balance of the remaining available screen space to a column or row. For example, the following frameset:

<frameset cols="80,*">

sets up two frames, one 80 pixels wide and the other as large as the browser window allows. This ensures that the first column will always be a constant size—making it perfect for a set of navigational buttons—while the second is as wide as possible.

The relative attribute can also be used proportionally. When preceded by an integer, as in n*, this attribute specifies that the frame is allocated *n* times the space it would have received otherwise. So frameset code like this:

<frameset rows="4*,*">

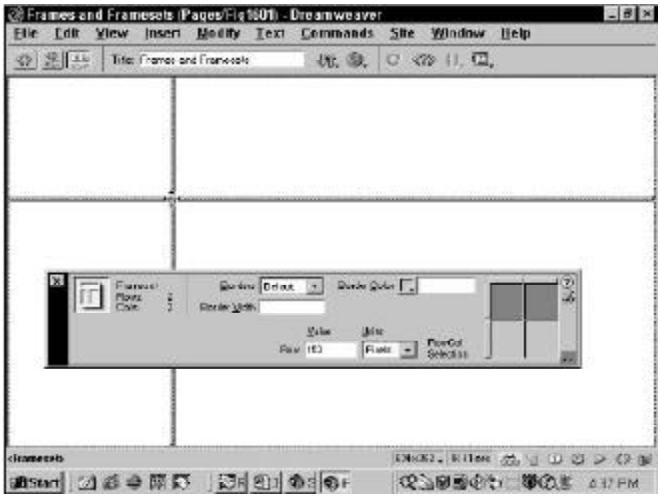
ensures that one row is proportionately four times the size of the other.

Creating a Frameset and Frames

Dreamweaver offers several ways to divide your Web page into frames and make your frameset. The first method uses the menus. Choose Modify->Frameset and, from the submenu, select the direction in which you would like to split the frame: left, right, up, or down. Left or right splits the frame in half vertically; up or down splits it horizontally in half.

You can also create a frameset visually, using the mouse. To create frames with this method, follow these steps:

1. Turn on the frame borders in your Dreamweaver Document window by selecting View->Visual Aids->Frame Borders. A 3-pixel-wide inner border appears along the edges of your Document window.
2. Position the cursor over any of the frame borders.
3. Press Alt (Option).
4. Drag the frame border into the Document window. Figure below shows a four frame frameset being created.



After you've enabled the frame borders, you can drag out your frameset structure with the mouse.

Dreamweaver initially assigns a temporary filename and an absolute pixel value to your HTML frameset code. Both can be modified later, if you wish.

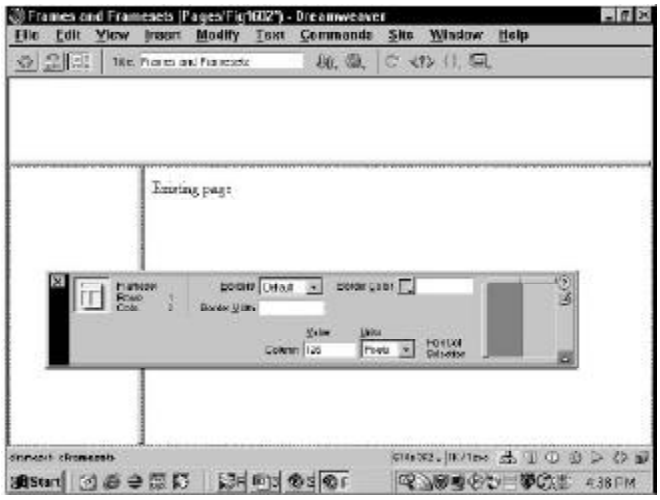
When the frameset is selected, Dreamweaver displays a black, dotted line along all the frame borders and within every frame. You can easily reposition any frameset border by clicking and dragging it. If you just want to move the border, make sure you don't press the Alt or Option key while dragging the border; this action creates additional frames.

Adding more Frames

You're not at all limited to your initial frame choices. In addition to being able to move them visually, you can also set the size through the Frameset Property Inspector, as described in the next section. Furthermore, you can continue to split either the entire frame or each column or row as needed. When you divide a column or row into one or more frames, you are actually nesting one frameset inside another.

Using the Menus

To split an existing frame using the menus, position the cursor in the frame you want to alter and choose Modify->Frameset>Split Frame Left, Right, Up, or Down. Figure 16-2 shows a two-row frameset in which the bottom row was split into two columns and then repositioned. The Frameset Property Inspector indicates that the inner frameset (2 columns, 1 row) is selected. The direction in the command (Left, Right, Up, and Down) indicates the frame the existing page will be placed in. For example, I selected Split Frame Right for Figure below, and the current page is placed in the right frame.



Use the Modify->Frameset menu option to split an existing frame into additional columns or rows and create a nested frameset.

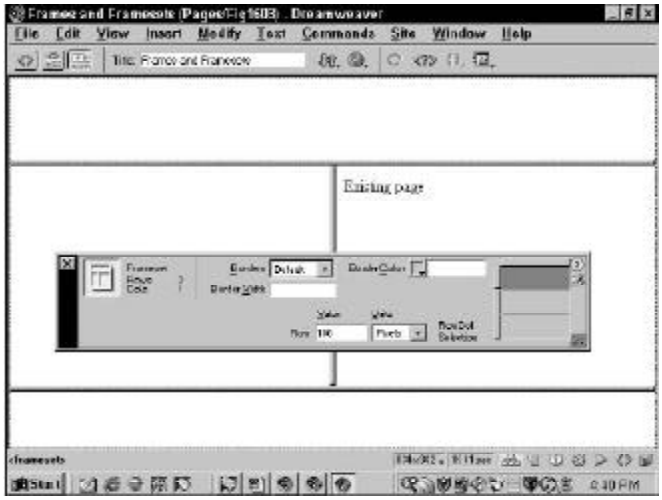
You can clearly see the "nested" nature of the code in this HTML fragment describing the frameset

```
<frameset rows="163,333" cols="784">
<frame src="file://Dev/UntitledFrame-34">
<frameset cols="115,663" rows="*">
<frame src="file://Dev/UntitledFrame-57">
<frame src="file://Dev/UntitledFrame-35">
</frameset>
</frameset>
```

Using the Mouse

When you need to create additional columns or rows that span the entire Web page, use the mouse method instead of the menus. Alt+drag (Option+drag) any of the current frame's borders that go across the entire page, such as one of the outer borders

Figure below shows a new row added along the bottom of our previous frame structure.

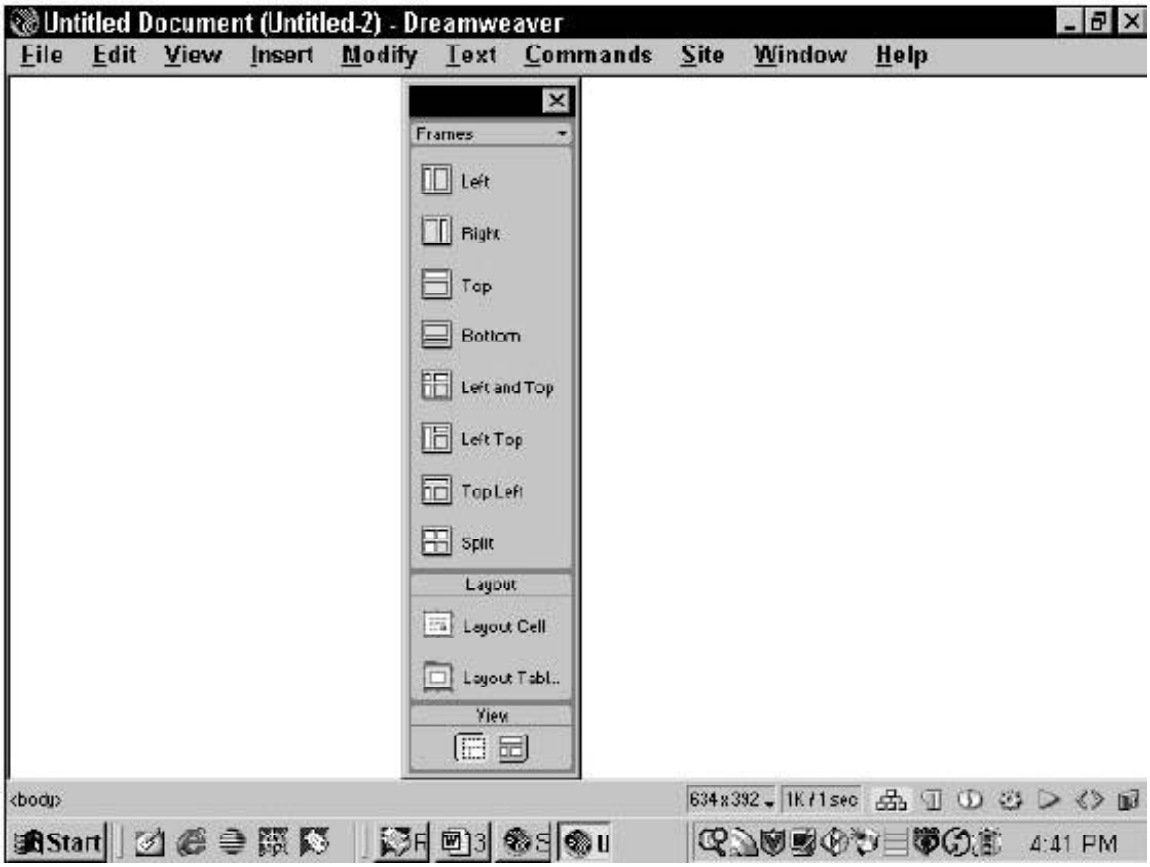


An additional frame row was added using the Alt+drag (Option+drag) method.

Quick Framesets with the Frames Objects

Dragging out your frameset in Dreamweaver is a clear-cut method of setting up the various frames. However, now matter how easy it is, it can still be a bit of a chore to create even simple framesets by clicking and dragging. To hasten the development workflow, Dreamweaver uses Frame objects, which can build a frameset with a single click.

Although a frame-based Web design could potentially be quite complex with numerous nested framesets, most of the sites using frames follow a more simple, general pattern. Dreamweaver offers eight of the most common frameset configurations in the Frames category of the Objects panel, shown in the figure below Choose one of the basic designs, and you're ready to tweak the frame sizes and begin filling in the content. It's a great combination of ease-of-use mixed with design flexibility.



The Frames category of the Objects panel holds eight of the most commonly used frameset configurations.

The Frames category is roughly organized from simplest framesets to most complex. You might notice that each of the icons on the panel shows an example frameset with one blue section. The placement of the color is quite significant. The blue indicates in which frame the current page will appear when the frameset is constructed. For example, if I had begun to construct my main content page, and then

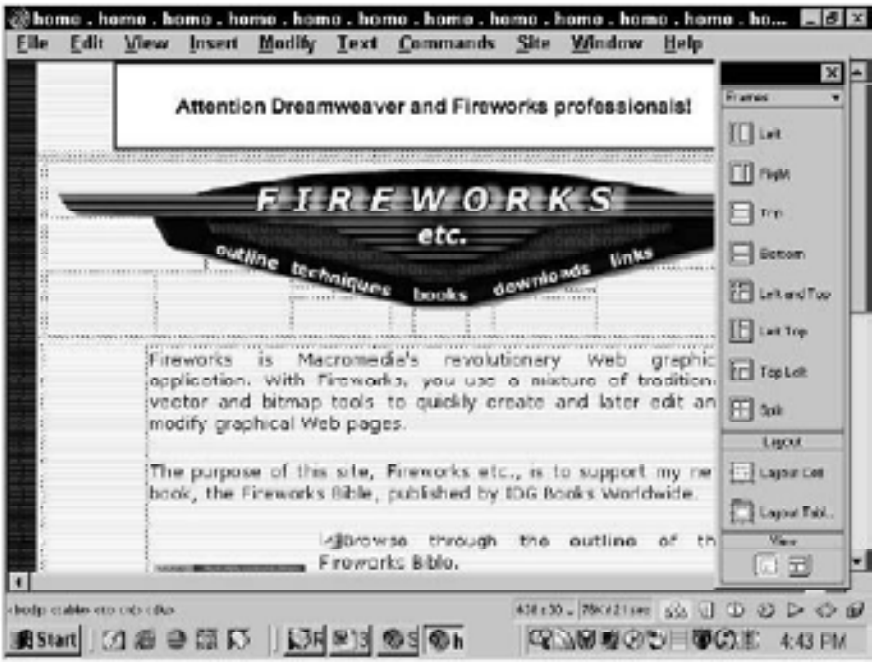
decided to turn it into a frameset with a separate navigation strip frame beneath it, I would choose the Bottom Frames object.

The next Figure provides a before-and-after example with the preframe content on the left and the same content after a Bottom Frame object has been applied.

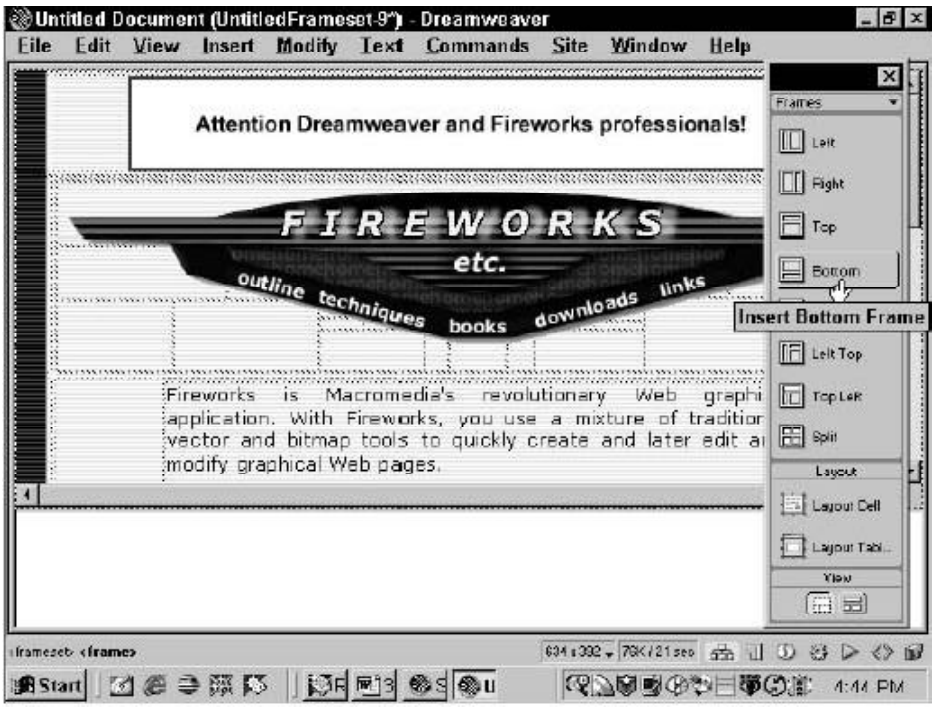
The eight different framesets available from the Frames category are:

- **Left:** Inserts a blank frame to the left of the current page.
- **Right:** Inserts a blank frame to the right of the current page.
- **Top:** Inserts a blank frame above the current page.
- **Bottom:** Inserts a blank frame below the current page.
- **Left and Top:** Makes a frameset with four frames where the current page is in the lower right.
- **Left Top:** Makes a frameset where the left spans the two rightmost frames; a nested frameset is used to create the right frames. The existing page is placed in the lower-right frame.
- **Top Left:** Makes a frameset where the top spans the lower two frames; the lower frames are created using a nested frameset. The existing page is placed in the lower-right frame.
- **Split:** Creates a frameset with four equal frames and moves the existing page to the lower right.

Using the Frames objects is quite literally a one-click operation. Just select the desired frameset, and Dreamweaver automatically turns on Frame Borders, if necessary, and creates and names the required frames. For all Frames objects, the existing page is moved to a frame where the scrolling option is set at Default, and the size is relative to the rest of the frameset. In other words, the existing page can be scrolled and expands to fill the content. For this reason, it's best to apply a Frames object to an existing page only if it is intended to be the primary content frame. Otherwise, it's better to select the Frames object while a blank page is open and then use the File->Open in Frame command to load any existing pages into the individual frames.



Before Bottom Frame object has been applied.



After Bottom Frame Object has been applied.

Existing content is incorporated in a new frameset when a Frames object is chosen.

LESSON 36:
FRAMES AND FRAMESETS–2

Topics Covered

- Titles and subtitles
- Dreamweaver - working with frameset property Inspector, Resizing frames in a frameset, Manipulating frameset borders, Modifying a frame, setting borders, Adding a scroll bar, Handling frameless borders

objectives

Upon completion of this lesson, you should be able to:

- Build consistent interface using titles and subtitles
- Work in frameset property
- Resize frames in a frameset
- Save frame and framesets.
- Add a scroll bar
- Handle frameless

Titles and Subtitles

Editorial landmarks like titles and headers are the fundamental human interface device in Web pages, just as they are in any print publication. A consistent approach to titles, headlines, and subheadings in your documents will help your readers navigate through a complex set of Web pages.

Text styles

The text styles we recommend:

Headline style: Bold, capitalize initial letters of words

- Document titles
- References to other Web sites
- Titles of documents mentioned in the text
- Proper names, product names, trade names

Down style: Bold, capitalize first word only

- Subheads
- References to other sections within the site
- Figure titles

Lists

Page titles

Web page titles are designated in the HTML document head section with the TITLE tag. The title is crucial for several reasons. Often the title is the first thing users with slow Internet connections will see; it also becomes the text for any bookmarks the reader makes to your pages. In addition, most search engines regard the page title as the primary descriptor of page content, so a descriptive title increases the chance that a page will appear as the result of a related search query.

The page title should:

- Incorporate the name of your company, organization, or Web site
- Form a concise, plainly worded reminder of the page contents
- Always consider what your page title will look like in a long list of bookmarks. Will the title remind the reader of what he or she found interesting about your pages?
- Text formatting for web documents

Some points about text formatting specific to the Web:

- Excessive markup. Beware of too much markup in your paragraphs. Too many links or too many styles of typeface will destroy the homogeneous, even “type color” that characterizes good typesetting.
- Link colors. If you are including links in the body of your text, choose custom link colors that closely match your text color. Reading from the screen is hard enough without struggling with distracting link colors scattered across the page.
- Use the best tool. Write your text in a good word processing program with spell-checking and search features. Transfer your text to HTML only after it has been proofread.
- Style sheets in word processors. Don’t use the word processor’s style sheets to produce “All capitals” or other formatting effects. You will lose those special formats when you convert to plain ASCII text for HTML use.
- Special characters. Don’t use the “smart quotes” feature. Avoid all special characters, such as bullets, ligatures, and typographer’s en and em dashes, that are not supported in standard HTML text. Consult a good HTML guidebook (we recommend several in the References) for the listing of special and international characters supported through HTML’s extended character formatting.
- No auto hyphens. Never use the automatic hyphenation feature of your word processor on text destined for the Web. This may add nonstandard “optional hyphen” characters that will not display properly in Web browsers.

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Computer Lab

Dreamweaver

Working with the Frameset Property Inspector

The Frameset Property Inspector manages those elements, such as the borders, hat are common to all the frames within a frameset; it also offers more precise sizing control over individual rows and columns than you can do visually. To access the Frameset Property Inspector, choose Window->Properties, if the Property Inspector is not already open, and then select any of the frame borders.

Resizing frames in a frameset

With HTML, when you want to specify the size of a frame, you work with the row or column in which the frame resides. Dreamweaver gives you two ways to alter a frame's size: by dragging the border or, to be more precise, by specifying a value in the Frameset Property Inspector

As shown in Figure below, Dreamweaver's Frameset Property Inspector contains a Row/Column selector to display the structure of the selected frameset. For each frameset, you select the tab along the top or left side of the Row/Column selector to choose the column or row you want to modify.

In the Frameset Property Inspector, you use the Row/Column Selector tabs to choose which frame you are going to resize.

Whether you need to modify just a row, a column, or both a row and a column depends on the location of the frame.

- If your frame spans the width of an entire page, select the corresponding tab on the left side of the Row/Column Selector.
- If your frame spans the height of an entire page, select the equivalent tab along the top of the Row/Column Selector.
- If your frame does not span either height or width, you need to select both its column and its row and modify the size of each in turn.

Once you have selected the row or column, follow these steps to specify its size:

To specify the size in pixels, enter a number in the Frameset Property Inspector's Value text box and select Pixels as the Units option.

1. To specify the size as a percentage of the screen, enter a number from 1 to 100 in the Value text box and select Percent as the Units option.
2. To specify a size relative to the other columns or rows, first select Relative as the Units option. Now you have two options:
    - To set the size to occupy the remainder of the screen, delete any number that may be entered in the Value text box; optionally, you can enter 1.
    - To scale the frame relative to the other rows or columns, type the scale factor in the Value text box. For example, if you want the frame to be twice the size of another relative frame, put a 2 in the Value text box.

Manipulating Frameset Borders

By default, Dreamweaver sets up your framesets so all the frames have gray borders that are 6 pixels wide. You can alter the border color, change the width, or eliminate the borders altogether. All of the border controls are handled through the Frameset Property Inspector.

If you are working with nested framesets, it's important that you select the outermost frameset before you begin making any modifications to the borders. You can tell that you've selected the outermost frameset by looking at the Dreamweaver Tag Selector; it shows only one <frameset> in bold. If you select an inner nested frameset, you see more than one <frameset> in the Tag Selector.

Eliminating Borders

When a frameset is first created, Dreamweaver leaves the borders display up to the browser's discretion. You can expressly turn the frameset borders on or off through the Frameset Property Inspector. To eliminate borders completely, enter a zero in the Border Width text box. Even if no width value is displayed, the default is a border 6 pixels wide. If you turn off the borders for your frameset, you can still work in Dreamweaver with View->Visual Aids->Frame Borders enabled, which gives you quick access to modifying the frameset. The borders are not displayed, however, when your Web page is previewed in a browser.

Border Aappearance Options

You can control the appearance of your borders to a limited degree. In the Borders drop-down list of options, choosing Yes causes browsers to draw the borders with a 3D appearance. Select No, and the frameset borders are drawn as a single color. Browsers generally interpret the three-dimensional look as the default option.

Saving a frameset and frames

As mentioned earlier, when you're working with frames, you're working with multiple HTML files. You must be careful to save

not only all the individual frames that make up your Web page but also the frameset itself.

Dreamweaver makes it easy to save framesets and included frames by providing several special commands. To save a frameset, choose File->Save Frameset to open the standard Save File dialog box. You can also save a copy of the current frameset by choosing File->ve Frameset As. You don't have to select the frameset border or position your cursor in any special place to activate these functions.

Saving each frame in the frameset can be a chore unless you choose File->Save All Frames. The first time this command is invoked, Dreamweaver cycles through each of the open frames and displays the Save File dialog box. Each subsequent time you choose File->Save All Frames, Dreamweaver automatically saves every updated file in the frameset.

To copy an individual frame, you must use the regular File->Save As command.

Closing a frameset

There's no real trick to closing a Dreamweaver frameset: just choose File->Close. If the frameset is your last open file, Dreamweaver asks if you'd like to quit the program (unless you've previously selected the Don't Ask Me Again option).

Modifying a Frame

What makes the whole concept of a Web page frameset work so well is the flexibility of each frame.

- You can design your page so that some frames are fixed in size while others are expandable.
- You can attach scroll bars to some frames and not others.
- Any frame can have its own background image, and yet all frames can appear as one seamless picture.
- Borders can be enabled-and colored-for one set of frames but left off for another set. Dreamweaver uses a Frame Property Inspector to specify most of a frame's attributes. Others are handled through devices already familiar to you, such as the Page Properties dialog box.

Page Properties

Each frame is its own HTML document, and as such, each frame can have independent page properties. To alter the page properties of a frame, position the cursor in the frame and then choose Modify'Page Properties. You can also use the keyboard shortcuts, Ctrl+J or Command+J. Or you can select Page Properties from the shortcut menu by right-clicking (Control+clicking) any open space on the frame's page.

From the Page Properties dialog box, you can assign a title, although it is not visible to the user unless the frame is viewed as a separate page. If you plan on using the individual frames as separate pages in your <noframes> content , it's good practice to title every page. You can also assign a background and the various link colors by selecting the appropriate color swatch or entering a color name into the correct text box.

Opening a Web page into a frame

You don't have to build all Web pages in frames from scratch. You can load an existing Web page into any frame. If you've selected a frame and the Frame Property Inspector is open, just type the link directly into the Src text box or choose the folder icon to browse for your file. Or you can position your cursor in a frame (without selecting the frame) and choose File->Open in Frame.

Setting Borders

You can generally set most border options adequately in the Frameset Property Inspector; you can also override some of those options, such as color, for each frame. These possibilities have practical limitations, however. To set borders from the Frame Property Inspector for a selected frame, you can make the borders three-dimensional by choosing Yes in the Borders drop-down option list, or use the monochrome setting by choosing No. Leaving the Borders option at Default gives control to the frameset settings. You can also change a frame's border color by choosing the Border Color swatch in a selected frame's Property Inspector.

Now, about those limitations: They come into play when you try to implement one of your border modifications. Because frames share common borders, it is difficult to isolate an individual frame and have the change affect just the selected frame. As an example, Figure below shows a frameset in which the borders are set to No for all frames except the one on the lower right. Notice how the left border of the lower right frame extends to the top, all the way over the upper frame. You have two possible workarounds for this problem. First, you can design your frames so that their borders do not touch, as in a multi-row frameset. Second, you can create a background image for a frame that includes a border design.

If you want to use isolated frame borders, you have to carefully plan your Web page frameset to avoid overlapping borders.

Adding scroll bars

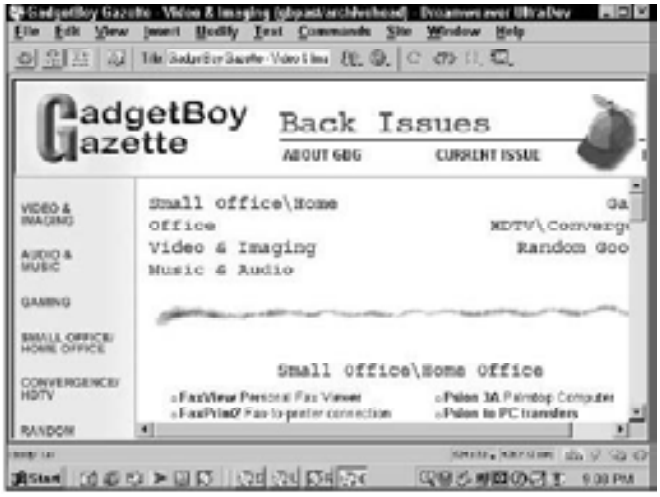
One of the features that has given frames the wide use they enjoy is the capability to enable or disable scroll bars for each frame. Scroll bars are used when the browser window is too small to display all the information in the Web page frame. The browser window size is completely user controlled, so the Web designer must apply the various scroll bar options on a frame-by-frame basis, depending on the look desired and the frame's content.

Four options are selectable from the Scroll drop-down list on the Frame PropertyInspector:

§ Default: Leaves the use of scroll bars up to the browser.

- **Yes:** Forces scroll bars to appear regardless of the amount of content.
- **No:** Disables scroll bars.
- **Auto:** Turns scroll bars on if the content of the frame extends horizontally or vertically beyond what the browser window can display.

Figure below uses an automatic vertical scroll bar in the lower frame; you can see it on the far right.



The top frame of the Web page has the scroll bars turned off, and the bottom-right frame has scroll bars enabled.

Resizing

By default, all frames are resizable by the user; that is, a visitor to your Web site can widen, narrow, lengthen, or shorten a frame by dragging the border to a new position. You can disable this resizing capability, however, on a frame-by-frame basis. In the Frame Property Inspector, select the No Resize option to turn off the resizing feature.

Setting Margins

Just as you can pad table cells with additional space to separate text and graphics, you can offset content in frames. Dreamweaver enables you to control the left/right margins and the top/bottom margins independently. By default, about 6 pixels of space are between the content and the left or right frame borders, and about 15 pixels of space are between the content and the top or bottom frame borders. You can increase or decrease these margins, but even if you set the values to zero, some room still exists between the borders and the content. To alter the left and right margins, change the value in the Frame Property Inspector's Margin Width text box; to change the top and bottom margins, enter a new value in the Margin Height text box. If you don't see the Margin Width and Height text boxes, select the Property Inspector expander arrow.

Handling Frameless Browsers

Not all of today's browsers support frames. Netscape began supporting frames in Navigator version 2.0; Microsoft didn't start until IE version 3.0—and a few of the earlier versions for both browsers are still in use, particularly among AOL users. Some less prevalent browsers also don't support frames. HTML has a built-in mechanism for working with browsers that are not frame-enabled: the <noframes>...</noframes> tag pair.

When you begin to construct any frameset, Dreamweaver automatically inserts a <noframes> area just below the closing </frameset> tag. If a browser is not frames-capable, it ignores the frameset and frame information and renders what is found in the <noframes> section.

What should you put into the <noframes> section? To ensure the widest possible audience, Webmasters typically insert links to a nonframe version of the site. The links can be as obvious or as discreet as you care to make them. Perhaps a more vital reason is that most of the search engine indexing systems (called *spiders*) don't work with frames. If your frameset is index.html and you want the spider to find the rest of your site, you need to have a descriptive text from your home page as well as a link to each page in the noframes content. Many Webmasters also include links to current versions of Netscape or Internet Explorer, to encourage their nonframe-capable visitors to upgrade.

Dreamweaver includes a facility for easily adding and modifying the <noframes> content. Choose Modify->Frameset->Edit NoFrames Content to open the NoFrames Content window. As you can see in Figure 16-13, this window is identical to the regular Dreamweaver Document window, with the exception of the "NoFrames Content" in the title bar. In this window, you have access to all the same objects and panels that you normally do. When you have finished editing your <noframe> content, choose Modify->Frameset->Edit NoFrames Content again to deselect the option and return to the frameset.

Through the Edit NoFrames Content command, Dreamweaver enables you to specify what's seen by visitors whose browsers are not frame-capable.

Assignments

1. How do you enable the layout view in Dreamweaver?
2. Write the steps in creating a nested table in layout view?
3. Describe few commonly used online style of prose?
4. What is Frame and Framesets? Write its basic HTML code?
5. How do you create Frame and Framesets in Dreamweaver? Explain the simplest method to do that?
6. What is Frame object in Dreamweaver? What is it used for?
7. What is Dreamweaver Tag Selector?
8. How do you build a Frameless Browser? Explain with each step?

Notes

LESSON 37:
GRAPHICS IN WEB PAGE

Topics Covered

- Graphics, Color displays, Pixels and color depth, Graphic files, Browser "safe" colors
- Dreamweaver - Including Flash and Shockwave movies in Dreamweaver projects, Designating Flash attributes, Creating Flash buttons and crafting templates

Objectives

Upon completion of this lesson, you should be able to:

- Use Color displays cleverly
- Define Pixels
- Relate color depth and graphic files
- Know the browser "safe" colors
- Include flash and shockwave movies in Dreamweaver
- Designate flash attributes
- Create flash buttons and craft templates

Graphics

We know that the tail must wag the dog,
for the horse is drawn by the cart;
But the Devil whoops, as he whooped of old:
"It's clever, but is it Art?"-Rudyard Kipling, "The Conundrum of the Workshops"

IN THIS CHAPTER we show you techniques to optimize the look and efficiency of your Web page graphics. Although electronic publishing frees you from the cost and limitations of color reproduction on paper, you will still need to make careful calculations (and a few compromises) if you wish to optimize your graphics and photographs for various display monitors and Internet access speeds.

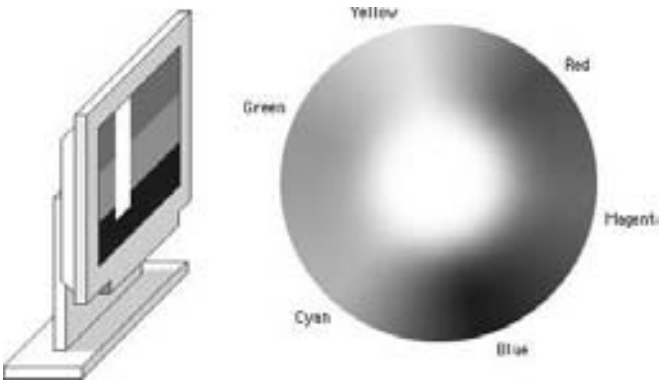
Color Displays

Color monitors for desktop microcomputers are based on cathode ray tubes (CRTs) or back-lighted flat-screen technologies. Because monitors transmit light, displays use the red-green-blue (RGB) additive color model. The RGB model is called "additive" because a combination of the three pure colors red, green, and blue "adds up" to white light:

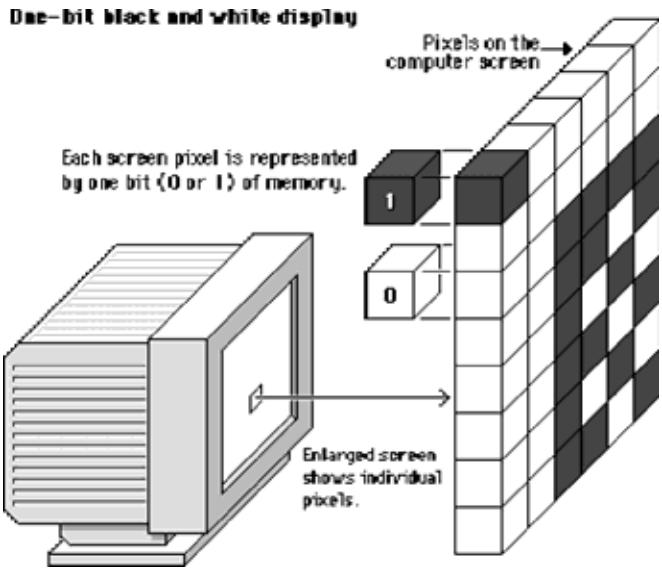
The computer's operating system organizes the display screen into a grid of *x* and *y* coordinates, like a checkerboard. Each little box on the screen is called a "pixel" (short for "picture element"). Current Macintosh and Windows displays are composed of these grids of pixels.

Pixels and color depth

To control the color of each pixel on the screen, the operating system must dedicate a small amount of memory to each pixel. In aggregate this memory dedicated to the display screen is often referred to as "video RAM" or "VRAM" (Video Random Access Memory). In the simplest form of black-and-white computer displays, a single bit of memory is assigned to each pixel. Because each memory bit is either positive or negative (0 or 1), a 1-bit display system can manage only two colors (black or white) for each pixel on the screen:

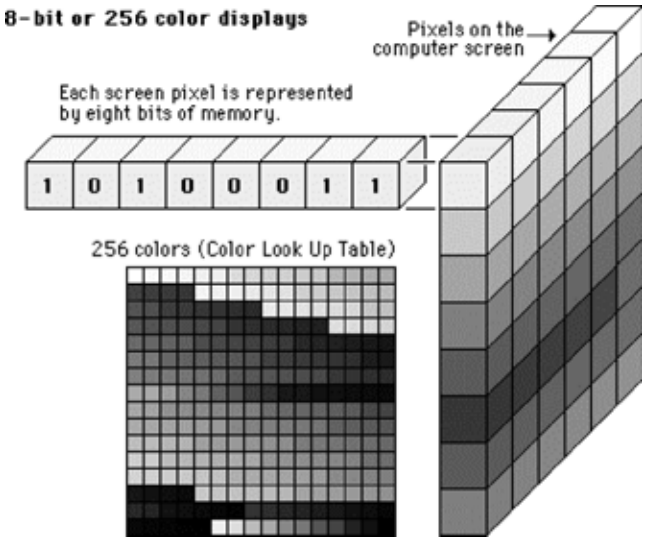


If more bits of memory are dedicated to each pixel in the display, more colors can be managed. When 8 bits of memory are dedicated to each pixel, each pixel could be one of 256 colors. (256 = 2 to the eighth power; in other words, 256 is the maximum number of unique combinations of zeros and ones you can make with 8 bits.) This kind of computer display is called an "8-bit" or "256-color" display, and is common on older laptop computers and desktop machines. Although the exact colors that an 8-bit screen can display are not fixed, there can never be more than 256 unique colors on the screen at once:

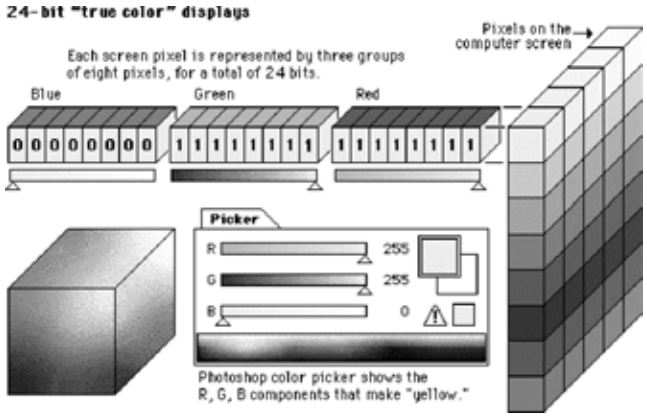


If still more memory is dedicated to each pixel, nearly photographic color is achievable on the computer screen. "True-color" or "24-bit" color displays can show millions of unique

colors simultaneously on the computer screen. True-color images are composed by dedicating 24 bits of memory to each pixel; 8 each for the red, green, and blue components (8 + 8 + 8 = 24):

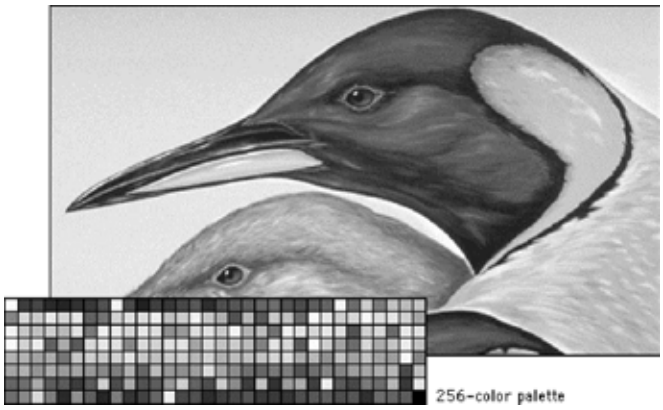


The amount of VRAM dedicated to each screen pixel in the display is commonly referred to as the "color depth" of the monitor. Most Macintosh and Windows microcomputers sold in recent years can easily display color depths in thousands (16-bit) or millions (24-bit) of simultaneous colors. To check your computer system for the range of color depths available to you, use the "Display" control panel (Windows) or the "Monitors" control panel (Macintosh):

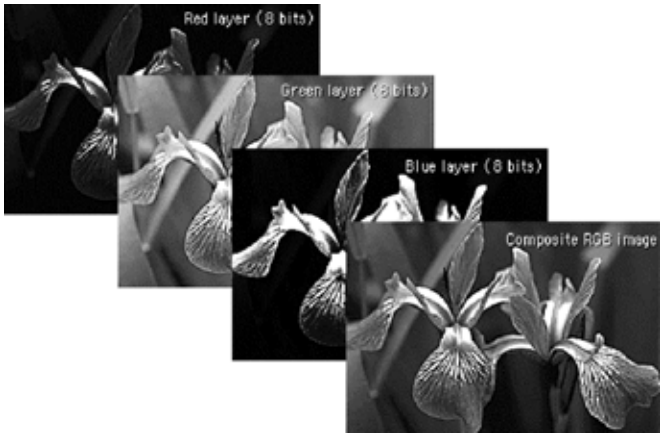


Color Depth and Graphics Files

The terminology and memory schemes used in color displays are directly analogous to those used to describe color depth in graphics files. In their uncompressed states, 8-bit, or 256-color, image files dedicate 8 bits to each color pixel in the image. In 8-bit images the 256 colors that make up the image are stored in an array called a "palette" or an "index." The color palette may also be referred to as a "color lookup table" (CLUT). As mentioned above, 8-bit images can never contain more than 256 unique colors:



True-color, or 24-bit, images are typically much larger than 8-bit images in their uncompressed state, because 24 bits of memory are dedicated to each pixel, typically arranged in three monochrome layers - red, green, and blue:



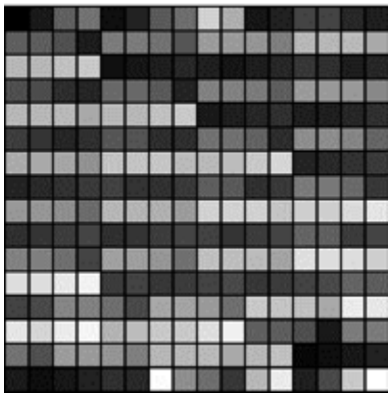
"Browser-safe" Colors

The color management system currently used by Web browser software is based on an 8-bit, 216-color (not 256) palette. The browser-safe color palette is a solution devised by Netscape to solve the problem of displaying color graphics in a similar way on many kinds of display screens, with browsers running under different operating systems (such as Macintosh, Windows, and UNIX). Because a majority of the Web audience years ago had 8-bit display screens, 256 colors was the upper limit for the color palette. But the various versions of the Windows operating system (which currently represent about 95 percent of the microcomputer market) reserve 40 colors for displaying such graphic interface elements as windows, menus, screen wallpaper, icons, and buttons, which leaves just 216 colors to display everything else. The 216 colors chosen by Netscape are identical in both the Macintosh and Windows system palettes. Although the browser-safe color scheme originated at Netscape, at present both of the dominant Web browsers (Netscape Navigator and

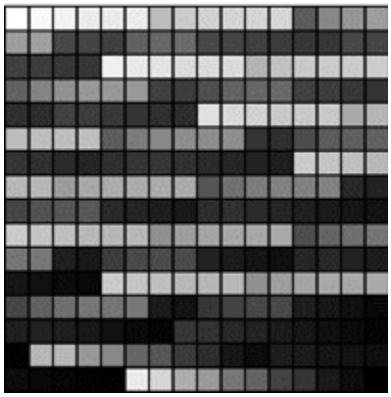
Microsoft Internet Explorer) use the same color management system.

Most Web users have computers and monitors set to "thousands" or "millions" of colors, so the importance of the so-called Web-safe palette has sharply diminished in the past few years. When the user has a monitor set to thousands or millions of colors *all* colors display properly, so there is no longer any need to restrict your color choices to the 216 Web-safe colors.

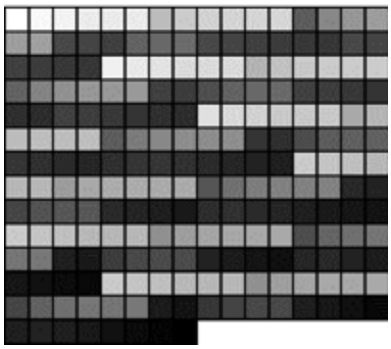
Windows
256 colors



Macintosh
256 colors



Browser-safe palette
216 colors



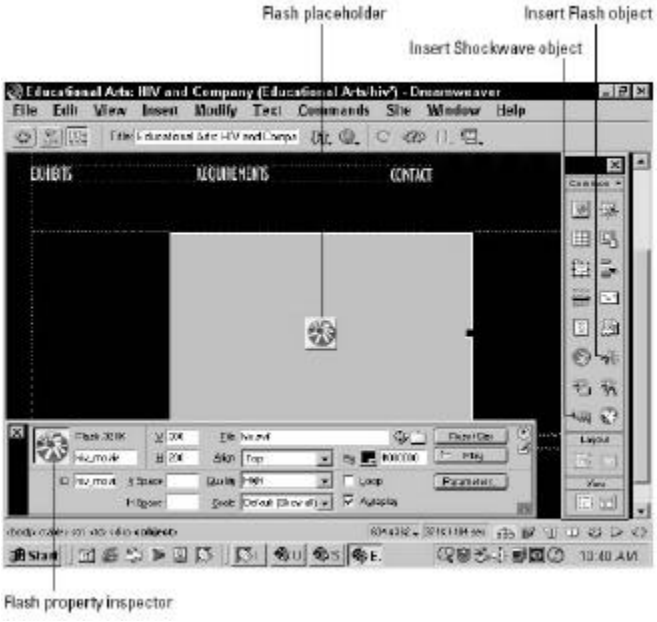
Computer Lab

Dreamweaver

Inserting Flash And Shockwave Elements

Including Flash and Shockwave Movies in Dreamweaver Projects

Dreamweaver makes it easy to bring Shockwave and Flash files into your Web pages. The Objects panel provides an object for each type of movie, both located in the Common category. Because Shockwave and Flash objects insert both an ActiveX control and a plug-in, Dreamweaver enables you to play the movie in the Document window. First it displays a plug-in placeholder icon



Dreamweaver includes many interface elements for working with Shockwave and Flash.

Before you can successfully include a Shockwave file, you need to know one small bit of information-the dimensions of your movie. Dreamweaver automatically reads the dimensions of your Flash file when you use the Insert Flash Movie object. Unfortunately, if you're incorporating a Shockwave movie, you still need to enter the dimensions by hand in the Shockwave Property Inspector. To check the width and height of your movie in Director, load your file and then choose Modify->Movie->Properties to open the Movie Properties dialog box.

To include either a Shockwave or Flash file in your Web page, follow these steps:

1. Position the cursor in the Document window at the point where you'd like the movie to appear.

2. Insert the movie using any of these methods:

- Choose Insert->Media->Shockwave or Insert->Media->Flash from the menus.
- In the Common category of the Objects panel, select either the Insert Shockwave or Insert Flash button.

- Drag the movie object from the Objects panel to any location in the Document window.

3. In the Select File dialog box, enter the path and the filename in the File Name text box or select the Browse (Choose) button to locate the file. Click OK. Dreamweaver inserts a small plug-in placeholder in the current cursor position, and the Property Inspector displays the appropriate information for Shockwave or Flash.
4. Preview the Flash or Shockwave movie in the Document window by selecting the Play button found in the Property Inspector. You can also choose View-> Plugins->Play.
5. End the preview of your file by selecting the Stop button in the Property

Inspector or selecting View->Plugins->Stop.

Designating Flash Attributes

Flash movies require the same basic parameters as their Shockwave counterparts-and Flash movies have a few additional optional ones as well. As it does for Shockwave files, Dreamweaver sets almost all the attributes for Flash movies through the Property Inspector. The major difference is that several more parameters are available.

To set or modify the attributes for a Flash file, follow these steps:

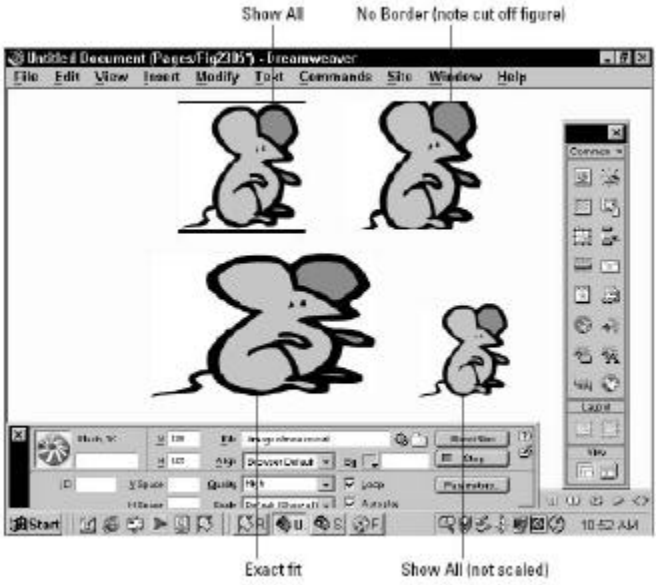
1. After your Flash movie has been inserted in the Document window, make sure it's selected. Dreamweaver automatically inserts the correct dimensions for our Flash movie.
2. Set any attributes in the Property Inspector as needed for your Flash movie.

Table 23-2
Property Inspector Options for Flash Objects

Flash Parameter	*Possible Values*	*Description*
Autoplay	Checked (default)	Enables the Flash movie to begin playing as soon as possible.
Loop	Checked (default)	If Loop is checked, the movie plays continuously; otherwise, it plays once.
Quality		Controls antialiasing during playback.
	High	Antialiasing is turned on. This can slow the playback frame rate considerably on slower computers.
	Low	No antialiasing is used; this setting is best for animations that must be played quickly.
	AutoHigh (default)	The animation begins in High (with antialiasing) and switches to Low if the host computer is too slow.
	AutoLow	Starts the animation in Low (no antialiasing) and then switches to High if the host machine is fast enough.
Scale		Scale determines how the movie fits into the dimensions as specified in the width and height text boxes
	ShowAll (default)	Displays the entire movie in the given dimensions while maintaining the file's original aspect ratio. Some of the background may be visible with this setting.
	ExactFit	Scales the movie precisely into the dimensions without regard for the aspect ratio. It is possible that the image could be distorted with this setting.
	NoBorder	Fits the movie into the given dimensions so that no borders are showing and maintains the original aspect ratio. Some of the movie may be cut off with this setting.

Setting the scale in Flash movies

Be careful with your setting for the Scale parameter, in order to avoid unexpected results. If you have to size a Flash movie out of its aspect ratio, the Flash player needs to know what to do with any extra room it has to fill. Figure below demonstrates the different results that the Scale attribute can provide. Only the figure in the lower right is at its proper dimensions. The gray box is the actual size of the authoring canvas.



Your setting for the Scale attribute determines how your movie is resized within the plug-in width and height measurements.

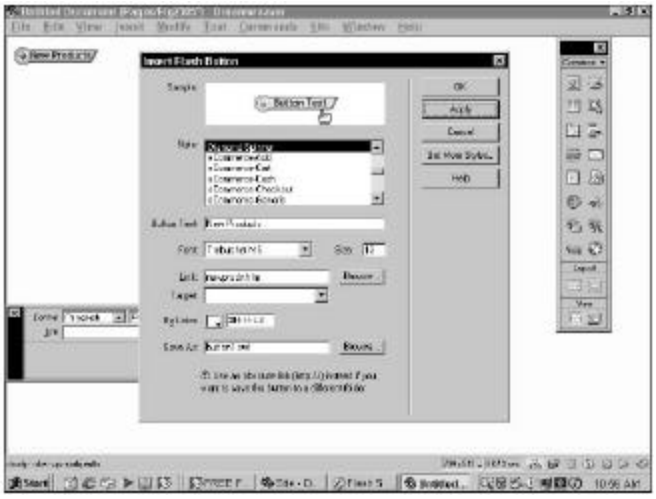
Creating Flash Buttons and Crafting Templates

The primary argument against using Flash has always been, "Not everyone has the Flash plug-in, so not everyone can see Flash movies." When Macromedia began promoting the 96.4 percent and above market penetration of the Flash Player, that argument started to fade". True, this almost universally installed base applies to the Flash 2 player—as of this writing, over 88 percent of browsers have Flash 4 players and almost 40 percent, Flash 5—but the basic ability to play back .swf files is all that's necessary to display simple animations and enable sounds. While Flash is often used to create standalone movies, cartoons, and interactive games, it is also capable of making excellent navigation aids. One feature of traditional user interfaces-audio

feedback, the "click" that one hears when a button has been chosen onscreen—has been long missing on the Web because of the lack of a universally available sound engine. With navigation buttons created in Flash, sound is very easy to incorporate, as are animation effects and smooth blends. Best of all, these effects are extremely low bandwidth and often weigh less on a page than a comparable animated GIF file, even without the sound.

Dreamweaver comes with 44 different Flash Button templates with additional styles available at the Macromedia Exchange. The buttons are primarily intended to be used as links to other Web pages although some are designed as VCR-like player controls. To insert a Flash Button, follow these steps:

1. Make sure that the current document has been previously saved. If you're working on a new document, Dreamweaver requires that you save it before adding a Flash Button.
2. Choose Insert Flash Button from the Common category of the Objects panel or select Insert >Interactive Images->Flash Button. The Insert Flash Button dialog box, shown in figure below:



Choose Apply to test typeface and text size variations when creating your Flash Button.

1. Select a button type from the Style list. The previews shown in the Sample area are live demonstrations and will play as designed when moused-over and/or clicked. There is, however, one exception: no sound is heard in preview; you'll have to preview the Flash Button in the browser to get the full effect.
2. If it's a navigation button, enter the custom text desired in the Button Text field. The Button Text field is physically limited to 50 characters, although for most practical purposes, your text will be shorter. Certain symbols, such as those in the Control group, ignore the text and font settings.
3. Select a typeface from the Font drop-down list. The fonts listed are TrueType fonts found on your system. Most of the button templates have a preselected font and text size. If the preselected font is not found on your system, a small alert appears at the bottom of the dialog box.
4. Enter the desired font size, in points, in the Size field.
5. If the button is to link to another page, enter the absolute or document relative URL in the Link field. Alternatively, you can choose the Browse button to locate the file. Flash movies don't handle site root–relative links correctly, so your link needs to either be absolute, such as www.idest.com/contact.htm, or document relative. Use document relative links only if the Flash Button is to be stored in the same folder as the page referenced.
6. If working in a frame-based site or you want the link to open in another page, select an option from the Target drop-down list. The standard system targets-_blank, _self, _parent, and _top-are always available. Additional frame names appear if the Flash Button is inserted in an existing frameset.
7. If the Flash Button is to be placed on a page or in a table with a background color other than white, select the Bg Color swatch to choose an appropriate background. Alternatively, the hexadecimal color number or standard color name may be entered directly into the Bg Color text field.
8. Enter a path and filename for the Flash Button file. If you like, you can use the suggested default name in the site root or select the Browse button to choose a different location.
9. Choose Apply to insert the button in the cursor location on the page.
10. Click OK when you're done.

Once your Flash Button is inserted, it can be modified on the page. Choose the Flash Button to activate the specific Property Inspector that, along with standard Flash object parameters, offers a couple of new controls: Edit and Reset Size. Selecting Edit reopens the Insert Flash Button dialog box and allows you to modify any of the settings. Use Reset Size if you have altered the dimensions of the Flash Button-by dragging one of the sizing handles or entering new values in the Width and/or Height fields-and want to return to the preset size.

LESSON 38:
FLASH COMPONENTS IN DREAMWEAVER

Topics Covered

- Dithering, Dithering done by browser, Screen resolution, Gamma
- Dreamweaver - working with flash text, Managing links, Macromedia flash player controls

Objectives

Upon completion of this lesson, you should be able to:

- Define Dithering
- Know how dithering is done by the browser
- Cope with browser safe colors
- Define screen resolution
- Work with flash text
- Manage links in Flash movies
- Use Macromedia flash player controls

Dithering

Full-color photographs may contain an almost infinite range of color values. Dithering is the most common means of reducing the color range of images down to the 256 (or fewer) colors seen in 8-bit GIF images.

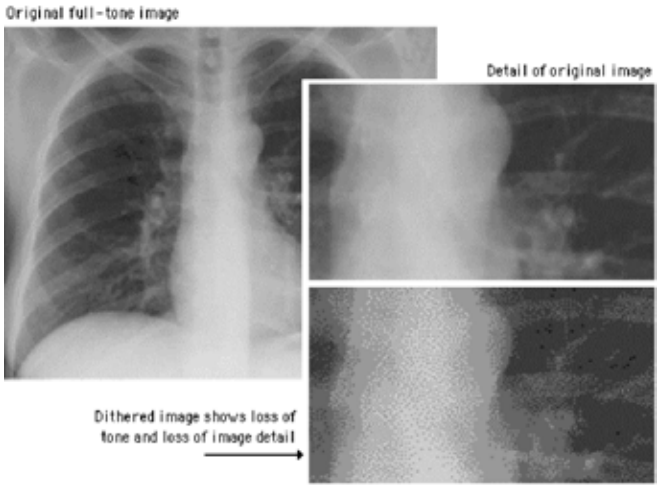
Dithering is the process of juxtaposing pixels of two colors to create the illusion that a third color is present. A simple example is an image with only black and white in the color palette. By combining black and white pixels in complex patterns a graphics program like Adobe Photoshop can create the illusion of gray values:

The same process softens the effect of reducing the number of colors in full-color images:

Original full-color photograph

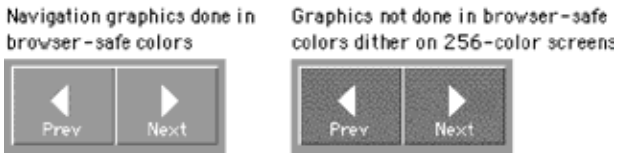
Dithered to 256 colors

Most images are dithered in a diffusion or randomized pattern to diminish the harsh transition from one color to another. But dithering also reduces the overall sharpness of an image, and it often introduces a noticeable grainy pattern in the image. This loss of image detail is especially apparent when full-color photos are dithered down to the 216-color browser-safe palette:



Dithering done by the Browser

If a reader of your Web site has his or her display monitor set to 256 colors (an increasingly rare occurrence these days), then the Web browser will display images using the 216-color browser-safe color palette. In this situation there is no way to force the browser to display a color outside the browser-safe palette. If any of your photographs, graphic design elements, or background colors use hues outside the browser-safe palette, the Web browser will automatically dither the displayed images into the browser-safe colors. The effect of using "unsafe" colors for your major graphic elements is that readers with 256-color displays will see a lot of heavily dithered images. This may be acceptable for some visual elements on the page, but if your basic navigation buttons and background graphics are dithered, parts of the page will be hard to read and the overall effect will be amateurish:



Coping with browser-safe colors

Now that the vast majority of Web users have more sophisticated display screens most designers choose to use GIF graphics with custom colors or full-color JPEG graphics and just accept that they will dither on some small percentage of display screens that are still set to 256 colors. One compromise is to mix navigation graphics done in browser-safe colors with full-color JPEG graphics. The full-color images will be dithered on 256-color screens, but the navigation buttons will look the same on all screens.

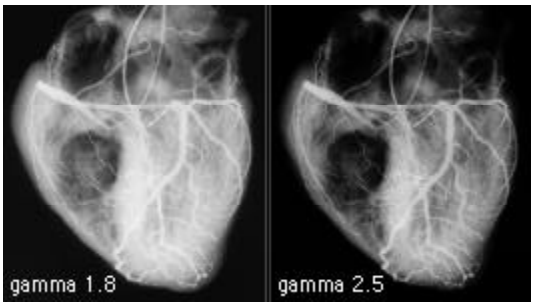
Screen Resolution

Screen resolution refers to the number of pixels a screen can display within a given area. Screen resolution is usually expressed in pixels per linear inch of screen. Most personal computer displays have resolutions that vary from 72 to 96 pixels per inch (ppi). The resolution of the display screen is dependent on how the monitor and display card are configured, but it's safe to assume that most users fall into the lower end of the range, or about 72 to 80 ppi.

Images destined for print can be created at various resolutions, but images for Web pages are always limited by the resolution of the computer screen. Thus a square GIF graphic of 72 by 72 pixels will be approximately one inch square on a 72-ppi display monitor. When you are creating graphics for Web pages you should always use the 1:1 display ratio (one pixel in the image equals one pixel on the screen), because this is how big the image will display on the Web page. Images that are too large should be reduced in size with a sophisticated image editor like Adobe's Photoshop to display at proper size at a resolution of 72 ppi.

Gamma

In computer imaging and display screens "gamma" refers to the degree of contrast between the midlevel gray values of an image. The technical explanations of gamma are irrelevant here - the visual effect of changing gamma values is easy to see. If you own a copy of Adobe ImageReady, open an image with an average range of colors and contrasts and use the "Image: Adjust: Gamma" control to change the gamma settings (see the ImageReady manual for details). Images will change noticeably with even minor changes in gamma settings. Gamma considerations are particularly important if you are displaying images with very long gray scales (such as medical diagnostic images and fine black-and-white photography) or images in which the exact color values are critical (such as works of art and clinical medical photographs):



The default gamma settings for Macintosh (1.8 target gamma) and Windows (2.2 target gamma) monitors are quite different, and this can lead to unpleasant surprises when you first see your images displayed on "the other" platform. Mac users will see darker and more contrasting images on Windows displays; Windows users will see flat and washed-out images on Mac displays. Most Web designers opt for a middle-ground solution, lightening images slightly if they work on the Macintosh; darkening slightly and adding a little contrast if they work in Windows.

Computer Lab

Dreamweaver

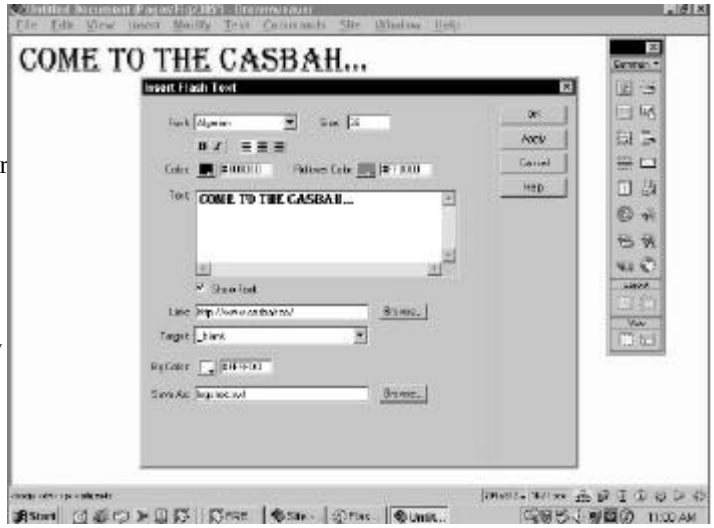
Working With Flash Text

The addition of Flash Text to Dreamweaver goes a long way toward solving one of the Web designer's most perplexing problems: how to achieve good-looking text that uses non-standard fonts. While standard HTML text allows font families-a series of fonts offered in hopes that one of them is installed on the user's system- few designers stray outside of tried and true options such as Arial, Helvetica, and Times New Roman for the majority of their content. This is especially grating to print designers coming to the Web who rely on typography as a primary design tool. The advent of Dynamic HTML promised to bring a wider selection of typefaces with so-called dynamic font technology, but lack of built-in cross-browser support for any one system dashed those hopes.

The Flash Text feature is especially useful for creating headings in a corporate approved typeface. Because it doesn't involve downloading a font resource as dynamic font technologies do, there is no concern about the misuse of copyrighted fonts. The only downside to Flash Text over a dynamic font technology is that unlike dynamically created fonts, Flash Text cannot be searched on a page. To overcome this limitation, Web designers can include key phrases in <meta> tags.

To use the Flash Text object, follow these steps:

1. Make sure your page has been saved before proceeding.
2. Choose Insert Flash Text from the Common category of the Objects panel or select Insert->Interactive Images->Flash Text. The Insert Flash Text dialog box appears, as shown in Figure below
3. Select the desired typeface from the Font drop-down list.
4. Enter the font size desired in the Size field.
5. Choose Bold and/or Italic styles for your text.
6. Select the alignment on the page: left, center, or right.
7. Select a basic color from the color swatch or enter a hexadecimal value or valid color name in the Color field.
8. If desired, choose a secondary color for the text to change to when the user moves his or her mouse over the Flash Text from the Rollover Color swatch.



Use the Insert Flash Text object to create headlines with a nonstandard or custom font.

9. Enter the desired text in the Text field. There's no real limit to the amount of text that can be entered other than practical considerations, and line returns are acceptable.
10. If you want to see the text in the default font in the Text field, disable the Show Font option.
11. If desired, enter an absolute or document relative URL in the Link field. As with Flash Buttons, site relative links are not available in Flash Text objects.
12. If you're working in a frame-based site or want the link to open in a new browser window, choose the appropriate Target from the drop-down list.
13. Optionally, choose a background color from the Bg Color swatch.
14. Enter a filename and path to store the object in the Save As field. Alternatively, select the Browse button to locate a folder. If you're using document relative links in the Flash Text object, be sure to store the object in the same folder as the current document.
15. Click Apply to preview what your button will look like in your document and then click OK when you're done.

As with Flash Buttons, you can resize a Flash Text object by dragging the resizing handles; press the Shift key while dragging to constrain the dimensions to their initial width and height ratio. Click Reset Size on the Property Inspector to restore the original dimensions. To edit a Flash Text object, choose Edit

from the Property Inspector; alternatively, you can double-click the object to open the Insert Flash

Text dialog Box Again.

When you create a Flash Text object, Dreamweaver makes a GIF representation for display during layout-you may notice some roughness in the lines, especially if you resize the object. You can, at any time, select Play from the Flash Text Property Inspector (or choose Preview in Browser) to see the true Flash object with its smooth vector shape.

Managing Links in Flash Movies with Dreamweaver

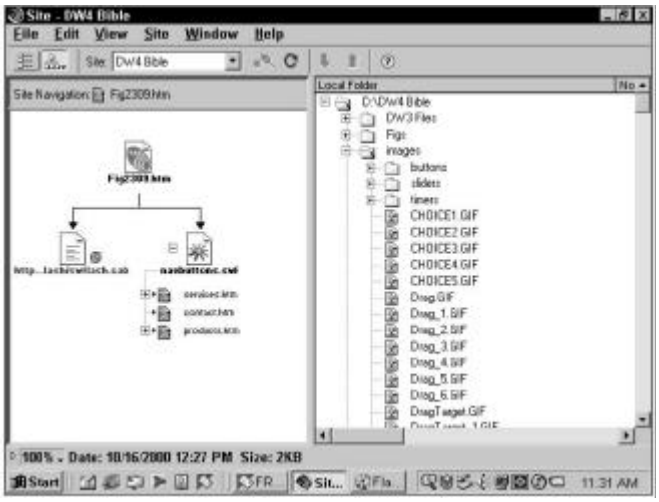
Many Web sites rely heavily on Flash movies, substituting movies for entire pages that would otherwise be created with HTML. Others take advantage of Flash's interactivity in their main navigation buttons. Adding links to buttons in Flash is easy, but embedding multiple URLs into multiple SWF files can make modifying a site's structure a nightmare, forcing you to re-create every SWF file in your site. Luckily, Dreamweaver comes to the rescue, with link management features that are SWF-savvy.

Dreamweaver extends its link management to include the links contained in Flash SWF movies. Edit links within a SWF file manually in the Site Map, or move SWF files in the Site Files view and let Dreamweaver clean up behind you.

Within the Site window, you can drag SWF files to new folders just as you would an HTML file. Unless your Update Links preference is set to Never, Dreamweaver will either modify the links in the SWF file accordingly or prompt you for permission to do so.

To modify the links in a SWF file manually, follow these steps:

1) Choose Window->Site Map to view the Site Map.
2) Choose View->Show Dependent Files (Site->Site Map View->Show Dependent Files) to include dependent files such as Flash movies in the Site Map.
3) Locate the SWF file that you want to modify. If it contains any links, a plus sign is shown next to its icon. Click the plus sign to expand a branch of links from the SWF file, as shown in Figure below
4) To change a link, select it and choose Site->Change Link (Site->Site Map iew->Change Link) or use the key shortcut Ctrl+L (Command+L). Alternatively, you can right-click (Control+click) the link and choose Change Link from the contextual menu. Dreamweaver displays a Select HTML File dialog box.
5) Select a new file by navigating to an HTML file or entering an URL. Click OK when you're done.



Dreamweaver's Site Map displays links contained in Flash SWF movies.

Just as with HTML files, you can also remove links from a SWF file by selecting the link and choosing Site->Remove Link (Site->Site Map View->Remove Link) or use the keyboard shortcut Ctrl+Shift+L (Command+Shift+L).

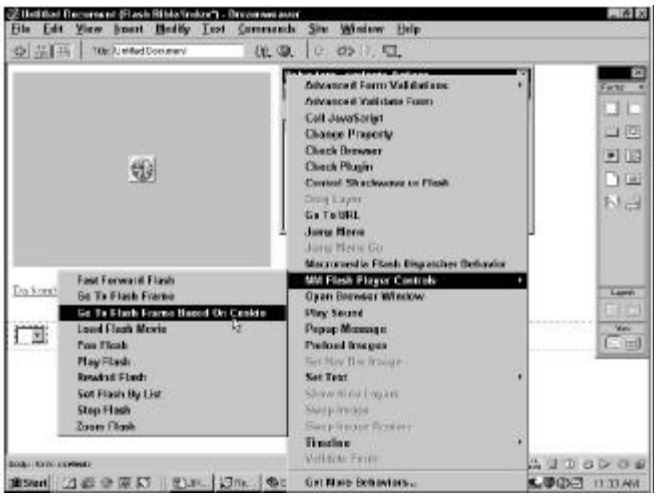
Macromedia Flash Player Controls

One method of engaging your Web page visitors is to give them more control over their viewing experience. Rather than just displaying a movie from beginning to end, allow the viewer to pause, rewind, and play the animation at will. Flash's vector-based nature even allows you to zoom in and out, without loss of image clarity. While all of this functionality is available through Flash ActionScripting, not all designs require the controls to be maintained within a Flash movie. The Flash Player Controls allow all of the common VCR-like functionality-and then some- to be assigned to HTML elements such as images or hotspots. When the JavaScript Integration Kit is installed, 10 different behaviors are grouped under the MM Flash Player Controls:

- Fast Forward Flash
- Go To Flash Frame
- Go To Flash Frame Based on Cookie
- Load Flash Movie
- Pan Flash
- Play Flash
- Rewind Flash
- Set Flash by List
- Stop Flash
- Zoom Flash

As with any other Dreamweaver behavior, the player controls must be assigned to a target: a text link, an image map hotspot, or a graphic with a link attached. Typically, such a graphic button would use a false link, such as # or javascript:; so that it may act as a trigger but not actually open a URL.

You must have at least one Flash movie in the page before the Flash Player Controls become available, as shown in figure below, Once activated, the user interfaces for the Flash Player Controls vary according to their function as detailed below. With the Play, Stop, Rewind Flash behaviors, you just pick the Flash movie you want to control from the drop-down list. All the other behaviors include this option as well so you can affect any movie on the page.



The Flash Player Controls become active once a Flash movie is present in the current Dreamweaver document.

To use the Flash Player Controls, follow these steps:

1. Insert at least one Flash movie by choosing an animation from the Assets panel or applying the Insert Flash object.
2. Enter a unique name in the ID field of the Flash Property Inspector for each movie. A distinct ID avoids browser compatibility problems; if one is not initially supplied, Dreamweaver offers to make one for you when any of the behaviors are applied.
3. Select the text link, hotspot, or image to trigger the behavior. If you'd like to apply the Set Flash by List behavior, select a form list object.
4. Choose Window->Behaviors to open the Behaviors panel, if necessary. Alternatively, you can select the Show Behavior icon from the Launcher or use the keyboard shortcut, Shift+F3.
5. Choose the Add button from the Behaviors panel and select the desired behavior under the MM Flash Player Controls heading. The chosen behavior's dialog box appears, similar to the one shown in figure below:

6. Select the parameters for your behavior.

- For the Play Flash, Rewind Flash, and Stop Flash behaviors, select the desired animation to affect from the Movie drop-down list.
- For the Fast Forward Flash behavior, select the desired animation to affect from the Movie drop-down list. In the first blank field, enter the desired value you want the movie to advance by. Select either Frames or Percent from the drop-down list. For example, to advance the movie by 5 percent each time the behavior is called, enter 5 in the first field and choose Percent from the list.
- For the Go To Flash Frame behavior, select the desired animation to affect from the Movie drop-down list and then enter the frame number to move to in the Go To Frame field.
- For the Go To Flash Frame Based on Cookie behavior, select the desired animation to affect from the Movie drop-down list, enter the name of the cookie to read in the Cookie Name field, enter the value to look for in the Cookie Value field, and then enter the frame number to advance to when the cookie name and value are read in the Go To Frame field.
- For the Load Flash Movie behavior, select the desired animation to you want to replace from the Replace Movie drop-down list. Enter the filename for the movie to load in the With Movie field or locate the movie by selecting the Browse button. Input the level to load the movie into in the Level field.

To replace an existing movie with the loaded movie, enter a level number that is currently occupied by another movie. To replace the original movie and unload every level, choose 0 for the Level. To begin playing the movie immediately, set the Play option to Yes; otherwise, set Play to No.

LESSON 39:
MULTIMEDIA IN DREAMWEAVER

Topics Covered

- Graphics and Network bandwidth, Graphics and intranets, Graphic file formats
- Dreamweaver - video on the web, The streaming media big three, Real Media, Quick time, Windows media

Objectives

Upon completion of this lesson, you should be able to:

- Limitation of graphics with respect to network bandwidth
- Relate Graphics and intranets
- Add video to your web page
- Know about the streaming media big three which includes
- Real Media
- Quick time
- Windows media

Graphics and Network Bandwidth

Many Web users currently access their Internet service providers via 56 kilobits per second (KBps) modems from their homes, offices, or remote work sites. At 56 KBps the actual download rate is only about 7 kilobytes (KB) per second (8 bits make a byte). This means that a modest 36 KB graphic on your Web page could take five seconds or longer to load into the reader's Web browser. Actual data transmission rates will vary depending on the user's modem, Web server speed, Internet connection, and other factors, but the overall point is clear: the more graphics you incorporate, the longer the reader will have to wait to see your page. A full-screen graphic menu on your home page plus background graphics could leave your modem-based readers twiddling their thumbs for a full minute or more, even if they have a state-of-the-art modem and a good Internet connection. Look at your watch (better yet, hold your breath) for a full minute, then decide whether you're willing to ask your users to wait this long when they visit your Web site.

A better strategy is to increase the graphics loading of your pages gradually, drawing users into your site with reasonable download times. As readers become more engaged with your content, they will be more willing to endure longer delays, especially if you give them notes about the size of graphics or warnings that particular pages are full of graphics and will take longer to download. At today's average modem speeds most pages designed for users dialing in from home should contain no more than 50 to 75 kilobytes of graphics.

Graphics and intranets

Luckily for graphic designers, many Web sites are created primarily for educational, organizational, and commercial users who access their local intranets and the larger World Wide Web from the school or office at Ethernet speeds or greater. Also, increasing numbers of home users now have access to higher-speed connections like DSL and cable modems. Graphics and page performance are also an issue for these users, but it makes little sense to restrict Web page graphics arbitrarily in the cause of "saving network bandwidth." The bandwidth gearheads always miss the point: graphics are what drew most people to the Web in the first place. If you've got the access speed, indulge!

Graphic file formats

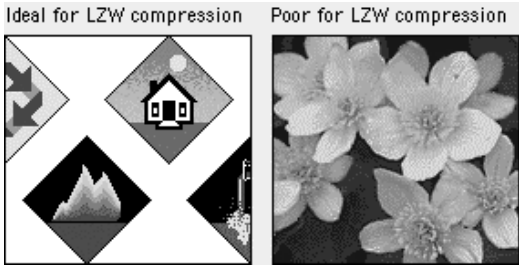
Because of the bandwidth issues surrounding networked delivery of information and because image files contain so much information, Web graphics are by necessity compressed. Different graphic file formats employ varying compression schemes, and some are designed to work better than others for certain types of graphics. The two primary Web file formats are GIF and JPEG. A third format, PNG, has been available since 1995 but has been little used because of poor browser support.

GIF files

The CompuServe Information Service popularized the Graphic Interchange Format in the 1980s as an efficient means to transmit images across data networks. In the early 1990s the original designers of the World Wide Web adopted GIF for its efficiency and widespread familiarity. The overwhelming majority of images on the Web are now in GIF format, and virtually all Web browsers that support graphics can display GIF files. GIF files incorporate a compression scheme to keep file sizes at a minimum, and they are limited to 8-bit (256 or fewer colors) color palettes. Several slight variants of the basic GIF format add support for transparent color and for the interlaced GIF graphics popularized by Netscape Navigator.

GIF file compression

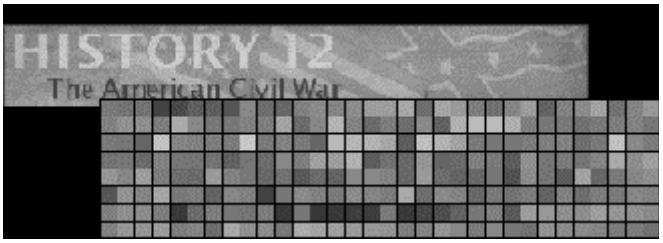
The GIF file format uses a relatively basic form of file compression (Lempel Zev Welch, or LZW) that squeezes out inefficiencies in the data storage without losing data or distorting the image. The LZW compression scheme is best at compressing images with large fields of homogeneous color. It is less efficient at compressing complicated pictures with many colors and complex textures:



Improving GIF compression

You can take advantage of the characteristics of LZW compression to improve its efficiency and thereby reduce the size of your GIF graphics. The strategy is to reduce the number of colors in your GIF image to the minimum number necessary and to remove stray colors that are not required to

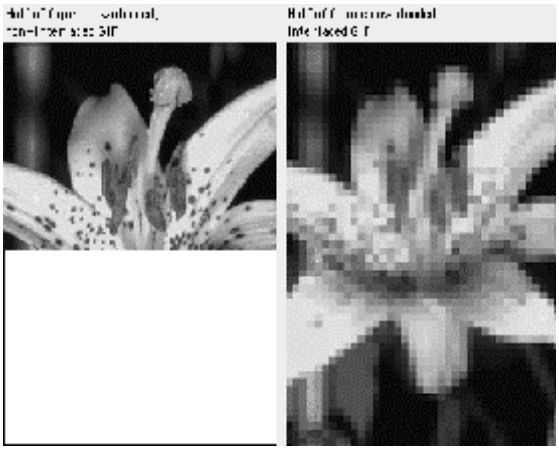
represent the image. A GIF graphic cannot have more than 256 colors but it can have fewer colors, down to the minimum of two (black and white). Images with fewer colors will compress more efficiently under LZW compression.



Interlaced GIF

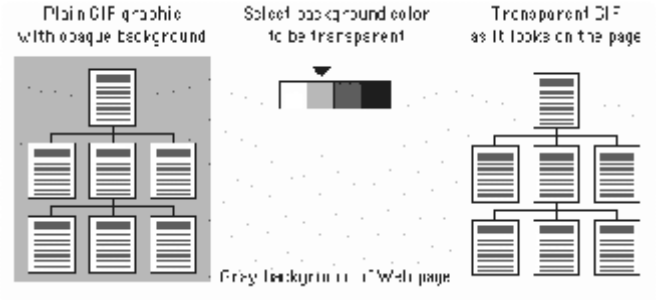
The conventional (non-interlaced) GIF graphic downloads one line of pixels at a time from top to bottom, and browsers display each line of the image as it gradually builds on the screen. In interlaced GIF files the image data is stored in a format that allows browsers that support interlaced GIFs to begin to build a low-resolution version of the full-sized GIF picture on the screen while the file is downloading. Many people find the "fuzzy-to-sharp" animated effect of interlacing visually appealing, but the most important benefit of interlacing is that it gives the reader a preview of the full area of the picture while the picture downloads into the browser.

Interlacing is best for larger GIF images such as illustrations and photographs. Interlacing is a poor choice for small GIF graphics such as navigation bars, buttons, and icons. These small graphics will load onto the screen much faster if you keep them in conventional (non-interlaced) GIF format. In general, interlacing has no significant effect on the file size of GIF graphics.

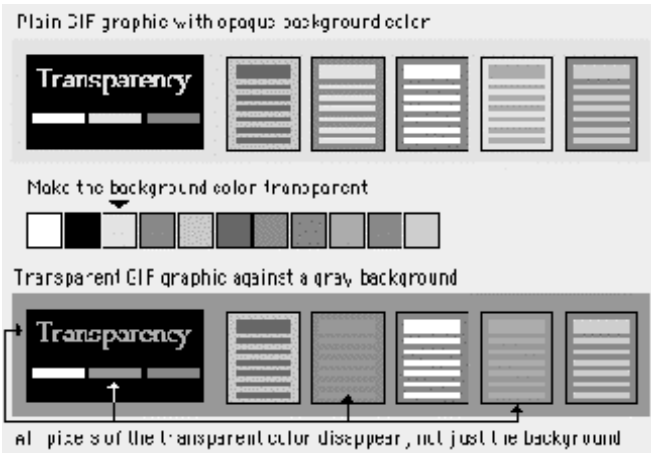


Transparent GIF

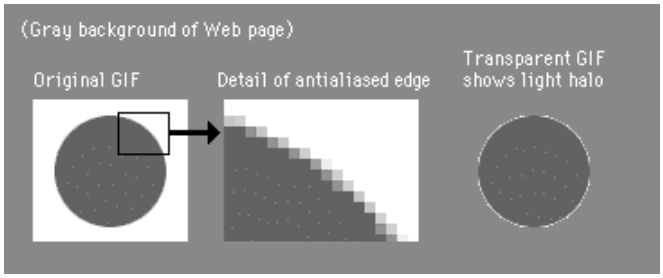
The GIF format allows you to pick colors from the color lookup table of the GIF to be transparent. You can use image-editing software like Photoshop (and many shareware utility programs) to select colors in a GIF graphic's color palette to become transparent. Usually the color selected for transparency is the background color in the graphic.



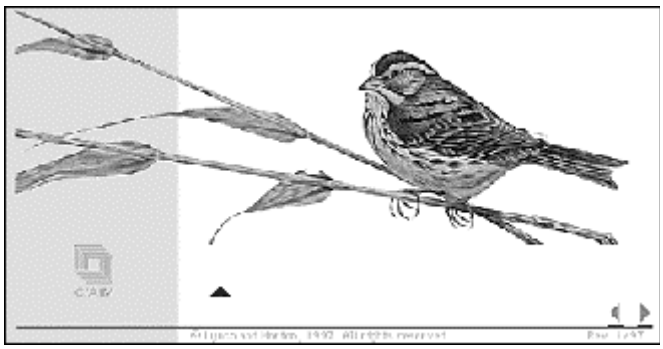
Unfortunately, the transparent property is not selective; if you make a color transparent, every pixel in the graphic that shares that particular color will become also transparent. This can cause unexpected results:



Adding transparency to a GIF graphic can produce disappointing results when the image contains antialiasing (see Typography, Antialiased type). If you use an image-editing program like Photoshop to create a shape set against a background color, Photoshop will smooth the shape by inserting pixels of intermediate colors along the shape's boundary edges. This smoothing, or antialiasing, improves the look of screen images by softening jagged edges. Trouble starts when you set the background color to transparent and then use the image on a Web page against a different background color. The antialiased pixels in the image will still correspond to the original background color. In the example below, when we change the background color from white to transparent (letting the gray Web page background show through), an ugly white halo appears around the graphic:



Transparency works best with simple diagrammatic graphics, but it can also work with complex shapes. The GIF graphic of the watercolor painting below (from the second edition of the online version of this guide) can run across the scan column and into the white background because we made the white background of the sparrow painting transparent. We avoided potential problems with a light halo around the leaves in the gray scan column area by retouching the painting to remove the white antialiased "halo" from the leaf edges:



info.med.yale.edu/caim/manual Animated GIF

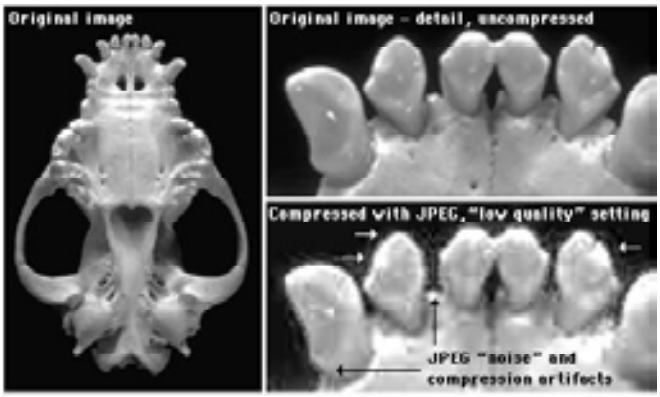
The GIF file format allows you to combine multiple GIF images into a single file to create animation. There are a number of drawbacks to this functionality, however. The GIF format applies no compression between frames, so if you are combining four 30-kilobyte images into a single animation, you will end up with a 120 KB GIF file to push through the wire. The load is lightened somewhat by the fact that animated GIF files stream to the user, so the frames load and play even before the entire file is downloaded. Another drawback of GIF animations is that they are an imposition and a potential distraction. Because there are no interface controls for this file format, GIF animations play whether you want them to or not. And if looping is enabled, the animations play again and again and again. GIF animations are rarely used in a meaningful way, and generally distract readers from the main content of the page. If you are using GIF animation as content — to illustrate a concept or technique where animation is really required — use the technique sparingly.

JPEG graphics

The other graphic file format commonly used on the Web to minimize graphics file sizes is the Joint Photographic Experts Group (JPEG) compression scheme. Unlike GIF graphics, JPEG images are full-color images (24 bit, or "true color").

JPEG images have generated tremendous interest among photographers, artists, graphic designers, medical imaging specialists, art historians, and other groups for whom image quality is paramount and where color fidelity cannot be compromised by dithering a graphic to 8-bit color. A newer form of JPEG file called "progressive JPEG" gives JPEG graphics the same gradually built display seen in interlaced GIFs . Like interlaced GIFs , progressive JPEG images often take longer to load onto the page than standard JPEGs, but they do offer the reader a quicker preview.

JPEG compression uses a sophisticated mathematical technique called a discrete cosine transformation to produce a sliding scale of graphics compression. You can choose the degree of compression you wish to apply to an image in JPEG format, but in doing so you also determine the image's quality. The more you squeeze a picture with JPEG compression, the more you degrade its quality. JPEG can achieve incredible compression ratios, squeezing graphics down to as much as one hundred times smaller than the original file. This is possible because the JPEG algorithm discards "unnecessary" data as it compresses the image, and it is thus called a "lossy" compression technique. Notice in the example below how increasing the JPEG compression progressively degrades the details of the image:



The checkered pattern and the dark "noise" pixels in the compressed image are classic JPEG compression artifacts.

Another example of JPEG compression is shown below. Note the extensive compression noise and distortion present in the bottom dolphin - the download time saved is not worth the degrading of the images.

Save your original uncompressed images!

Once an image is compressed using JPEG compression, data is lost and you cannot recover it from that image file. Always save an uncompressed original file of your graphics or photographs as backup.

JPEG image artifacts

The JPEG algorithm was optimized for compressing conventional pictorial photographs and is also good at handling complex illustrations. Photos and artwork with smooth color and tonal transitions and with few areas of harsh contrast or sharp edges are ideal for JPEG compression. Yet most page

design elements, diagrams, typography within images, and many illustrations are composed of hard-edged graphics and bright color boundaries that are seldom encountered in photographs. The illustration below shows what happens when you compress an interface graphic (shown in a) in GIF format (b, no compression artifacts) and JPEG compression (c, with JPEG compression "noise" around the text and borders):

When compressed with JPEG, diagrammatic images such as interface graphics show a noise pattern of compression artifacts around the edges of shapes and text (c, above). The JPEG algorithm is best at compressing smooth tonal transitions and cannot properly reproduce the harsh transitions at the edges of diagrammatic graphics.

PNG Graphics

Portable Network Graphic (PNG, pronounced "ping") is an image format developed by a consortium of graphic software developers as a nonproprietary alternative to the GIF image format. As mentioned earlier, CompuServe developed the GIF format, and GIF uses the proprietary LZW compression scheme owned by Unisys Corporation. Any graphics tool developer who makes software that saves in GIF format must pay a royalty to Unisys and CompuServe.

PNG graphics were designed specifically for use on Web pages, and they offer a range of attractive features that should eventually make PNG the most common graphic format. These features include a full range of color depths, support for sophisticated image transparency, better interlacing, and automatic corrections for display monitor gamma. PNG images can also hold a short text description of the image's content, which allows Internet search engines to search for images based on these embedded text descriptions. Unfortunately, the PNG graphic format is not yet widely supported, and the current implementation of PNG graphics in the major Web browsers does not fully support all of PNG's features. This should change over the next few years, but do not make a commitment to PNG graphics until you are sure that most of your audience is using browsers that support PNG.

Computer Lab

Dreamweaver

Adding Video to YOUR WEB PAGE

In a world accustomed to being entertained by moving images 50 feet high, it's hard to understand why people are thrilled to see a grainy, jerky, quarter-screen sized video on a Web page. And in truth, it's the promise of video on the Web, not the current state of it, that has folks excited. Many of the industry's major players, including Microsoft and Apple, are spending big bucks to bring that promise a little closer to reality.

QuickTime and RealVideo are the most popular formats on the Web, and both are cross-platform. Video can be downloaded to the user and then automatically played with a helper application, or it can be streamed to the user so that it plays while it's downloading.

Video on the Web

It may be hard for folks not involved in the technology of computers and the Internet to understand why the high-tech Web doesn't always include something as "low-tech" as video. After all, television has been around forever, right? The difficulties arise from the fundamental difference between the two

media: television and radio signals are analog, and computers are pure digital. Sure, you can convert an analog signal to a digital one-but that's just the beginning of the solution.

The amount of information stored on a regular (analog) VHS cassette is truly remarkable. Moving that amount of information about in the ones and zeros of the digital world is a formidable task. For example, storing the digital video stream from any digital video camcorder uses up storage space at the rate of about 1 gigabyte every five minutes, and that video is already compressed. Large file sizes also translate into enormous bandwidth problems when you are transmitting video over the Web.

To resolve this issue of megasized files, industry professionals and manufacturers have developed various strategies, or architectures, for the creation, storage, and playback of digital media. Each architecture has a different file format, and thus each requires the user to have a playback system—whether a plugin, ActiveX control, or Java applet—capable of handling that particular format.

In an effort to keep file sizes as small as possible, Web videos are often presented in very small dimensions. It's not uncommon to display a video at a puny 180 by 120 pixels. Furthermore, you'll notice a major difference between conventional and Web-based video in terms of quality. Television video displays at roughly 30 frames per second, film at 24 frames per second; but the best Web video rarely gets above 15 frames per second-virtually guaranteeing choppy motion in scenes with any action in them. Lossy compression also leads to artifacting-visible flaws introduced by the compression itself.

Given all the restrictions that video suffers on the Web, why use it at all? Simply because nothing else like it exists, and when you need video, you have to use video. Take heart, though. Advances are occurring at a rapid rate, both in the development of new video architectures and codecs and in new, higher-speed Internet delivery systems, such as cable modems and DSL phone lines. What you learn in this chapter enables you to include video in your Dreamweaver-built Web pages today and

gives you a good foundation for accommodating future enhancements.

The Streaming Media Big Three

Technologies-and the companies that create them-come and go on the Internet. Over the past few years, quite a few different streaming media solutions have presented themselves and then faded away, leaving us with the current "Big Three": RealMedia, QuickTime, and Windows Media. These three technologies together represent almost the entire streaming media market, and the vast majority of Internet users have at least one of the corresponding players; many have two or even all three.

RealMedia

RealNetworks released the first streaming media system-RealAudio-in 1995. Over the years, RealAudio has evolved into RealMedia and now supports video, images, text, Flash movies, and standard audio types such as AIFF and MP3. All of these media types can be combined into a single presentation using SMIL (Synchronized Multimedia Integration Language).

The three primary software components of RealMedia are as follows:

- **RealPlayer:** The client software for viewing RealMedia. RealPlayer Basic is free, and RealPlayer Pro offers the user more features for $30. Either one can view all RealMedia content. A user who enjoys streaming media could quite easily browse the Web with RealPlayer 8 because its many Web links and ads, as well as the Flash navigation elements that often surround presentations, offer the user a lot of choices. RealPlayer 8 is available at www.real.com/player.

RealPlayer 8's busy interface enables the user to forego a Web browser completely when browsing for streaming media.

- **RealProducer:** Encoding software that turns standard MPEG and QuickTime Video into RealMedia files, which have the filename extension .rm. Again, you can pay for a free RealProducer Basic and an enhanced Pro version, available at www.realnetworks.com/products/producer.
- **RealServer:** Server software for serving RealMedia over RTSP (Real-Time Streaming Protocol). You can still offer RealMedia to your users over the Web's regular HTTP without any special server software. RealServer Basic is limited to 10 users; to upgrade from that, you pay by the number of users. It's available at www.realnetworks.com/products/basicserverplus.

RealNetworks has led the way in cross-platform authoring and playback. Versions of RealPlayer are available for Windows, Macintosh, Unix, Linux, and OS/2, and versions of RealProducer for almost as many platforms. WebTV even plays RealAudio 3.0. By contrast, QuickTime is limited to Windows and Macintosh, and Microsoft's streaming video solution is basically Windows-only.

RealNetworks has also led the way in sheer numbers of eyeballs; for years they were the only option for large-scale streaming media sites. Even now, when they face the stiffest competition they've ever had, their market share is still about 55 percent. RealPlayer is included with major browsers, as well as with Windows, Mac OS and Red Hat Linux.

QuickTime

What "QuickTime" refers to is widely misunderstood. Some people confuse the video format QuickTime Video with QuickTime itself, but QuickTime Video is just one of the things a QuickTime movie might contain. Sometimes the high-profile QuickTime Player 4 is confused with QuickTime, but it is just one dependent application.

The best way to explain QuickTime is to say that it's a multimedia operating system, enabling applications such as CD-ROM titles to run on top of it and use the features it provides. These features include support for audio, video, images, 3D objects, MIDI music (including a software wavetable synthesizer) and—with QuickTime 4—streaming video, Flash movies, and MP3 audio. Once you have QuickTime 4 installed on your computer, suddenly Director can access digital video. Flash 4 can export complete QuickTime presentations, and otherwise pedestrian applications can suddenly play synthesized music.

With the inclusion of streaming video in QuickTime, Apple dressed up QuickTime 3's MoviePlayer with an eye-catching brushed aluminum look and changed its name to QuickTime Player 4. Apple positioned itself as a competitor to RealNetworks in the Web broadcasting field and now has almost 35 percent of the streaming market. QuickTime movies have a .mov filename extension.

Like RealMedia, QuickTime streaming has three main software components:

QuickTime and QuickTime Player: All the viewing goodness of QuickTime and QuickTime Player is free and is available for Macintosh and Windows at www.apple.com/quicktime. QuickTime is also included with all Macintosh computers and installed on Windows by CD-ROM titles. Just as they can with RealPlayer, users can spend more time in QuickTime Player and less in a browser because of the favorites storage and Flash navigation elements in many streaming presentations.

QuickTime Player has an uncluttered appearance that focuses the eye on the content.

- **QuickTime Pro and QuickTime Player Pro:** For about $30, Apple sells you a key code that unlocks the content creation features of QuickTime and turns it into QuickTime Pro, enabling QuickTime-dependent applications to create a vast range of QuickTime content. QuickTime Player becomes QuickTime Player Pro: a great piece of software that provides easy content conversion and cut-and-paste video compositing, although the interface is spartan and sometimes hides functionality.
- **QuickTime Streaming Server:** QuickTime Streaming Server delivers video over the Web using the standard RTSP, just like RealPlayer. Apple released QuickTime Streaming Server as open source software, and it is available completely free—no per stream charge, either—for Mac OS X, Darwin, and Linux. See www.apple.com/quicktime/products/qtss.

Windows Media

Microsoft has released a succession of media technologies over the years in an effort to gain some sort of foothold in content creation and delivery. The history of Microsoft multimedia is an incredible story of acquisitions, rebranding, orphaned technologies, and outright copying everybody else.

With Windows Media, however, Microsoft has gone all out, providing a solid-if unexciting-solution with lots of partners. Still, Windows Media's greatest asset is its automatic inclusion with every Windows PC, virtually guaranteeing it a huge installed base as time goes on. Windows Media files have filename extensions of .asf or .asx.

The software involved in Windows Media includes:

- **Windows Media Player:** The supercharged Windows Media Player (see Figure 24-3) received a complete face-lift for version 7-and with the new changeable skins feature, it's quite the literal face-lift. In addition to Web streaming, the Windows Media Player accesses many other media types including audio CDs, Internet radio, and portable devices. Currently only an earlier version, 6.3, is supported on the Macintosh. The Windows Media Player home page is at www.microsoft.com/windows/mediaplayer.

The Windows Media Player offers instant access to many media types as well as switchable skins.

- **Content creation and server software:** A directory of tools for working with Windows Media can be found at www.microsoft.com/windows/ windowsmedia. Most are from Microsoft themselves, and all are Windows-only.

Assignments

1. What is pixels and color depth?
2. What is color look up table?
3. What are "Browser safe" colors?
4. What is the difference between a flash object and a shockwave object?
5. What other parameters does flash object has besides the common with shockwave?
6. What is dithering?
7. How is Dithering done by the browser?
8. What is gamma?'
9. What is flash text used normally for in Dreamweaver project?
10. How Dreamweaver does extend its link management for flash swf files?
11. How graphics can be used in a intranet?
12. Write a short essay on usage of video in internet?
13. Which of the streaming media formats is most commonly used in the Internet?

LESSON 40:
IMAGING STRATEGIES

Topics Covered

- Imaging Strategies - Interface elements, Photographs as GIF; JPEGs, Vector Graphics, Archiving your web graphics, summary file formats.
- Dreamweaver - Working with video clip, linking to video, embedded video, and Playing video with Dreamweaver.

Objectives

Upon completion of this lesson, you should be able to:

- Know imaging strategies
- Understand vector graphics
- Archive your web site graphics
- Know the advantages of various file formats
- Work with video clip
- Link to video
- Use embedded video
- Play video using Dreamweaver

Imaging Strategies

Interface elements

Small page navigation graphics, buttons, and graphic design elements should be handled as non-interlaced GIF graphics. The most conservative approach would be to use colors from the 216-color browser ("Web safe") palette so that they never dither, even on 8-bit display screens. Or, if you choose to use a color scheme for your interface that is not restricted to the Web palette, check to see that the colors you choose default to acceptable alternatives on 8-bit displays.

Photographs as GIFs

When you convert a full-color image into an 8-bit (256-color) GIF file you could allow Photoshop to choose the 256 colors that best fit that particular image. This results in the optimal GIF image quality - often these images look almost as good as their full-color originals - but the creation of a custom color palette does have drawbacks. If the reader of your page has their monitor set to show only 256 colors at one time then the colors in your GIF images will appear distorted as the browser forces them to display using the 216-color browser palette. Forcing a GIF made from custom palette colors to display within the limited system palette colors can result in ugly distortions of the image. A Web browser running on an 8-bit display has no way to optimize your particular custom GIF colors - it forces the picture to display in the nearest equivalent colors in the browser palette. The result is often color banding, or harsh distortions of the original colors, as seen in the example below:

GIF file with custom color palette
(256 colors)

GIF file with Web-safe color palette
(216 colors)

To get around this problem you could convert all your color graphics to GIF files that use only the browser palette of 216 colors. This would ensure that your images look exactly the same - in most cases, poor - no matter how the user's display screen is set up. A better approach is to apply custom palettes to your images and accept that those readers using 8-bit display monitors (a growing minority) will see distorted images. Or you could use the JPEG file format instead.

The image compression in the GIF file format is less efficient than JPEG compression. However, the compression advantages of JPEG don't apply to small to medium-size images (say, up to 200 x 200 pixels). At these sizes GIF images may be only slightly larger than JPEG files. With images larger than 200 x 200 the compression advantages of the JPEG format become more obvious.

Photographs as JPEGs

JPEG files are inherently full-color (24-bit) images, so preserving the correct colors in the files themselves is not an issue. However, there is no way to prevent JPEG images from dithering when they are displayed on 8-bit screens — any photographic image displayed on a 256-color display will dither.

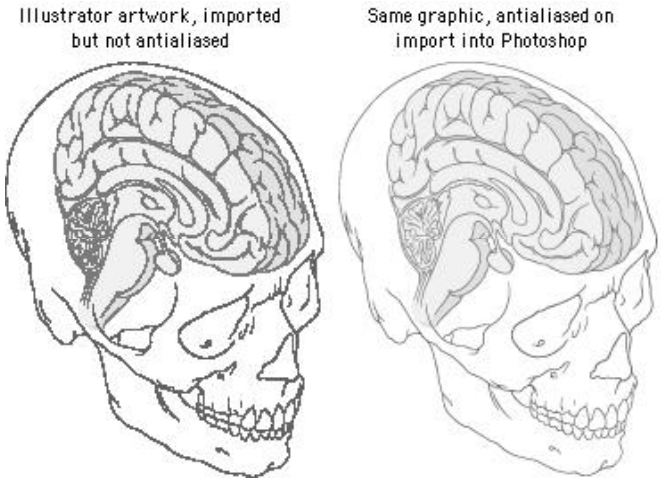
The dithering seen in JPEG images does not compromise image quality any more than if you dithered the images to 256-color GIFs yourself. If you standardize on JPEG images, the majority of your audience will see full-color photographs and illustrations. Standardize on the JPEG format for any photographic or other full-color or grayscale image suitable for

JPEG Compression

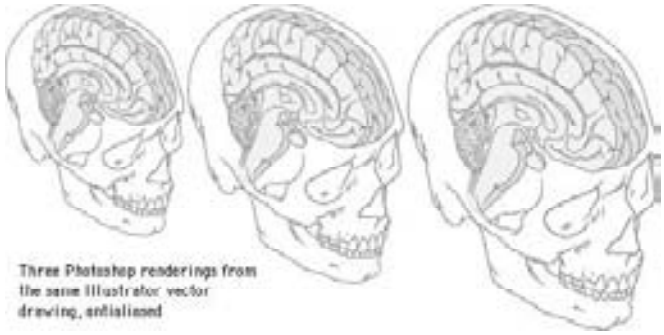
Diagrams and illustrations as vector graphics

Most Web page graphics are raster images - often called "bitmap" or "paint" images - composed of a grid of colored pixels. Complex diagrams or illustrations, however, should be created as vector graphics and then converted to raster formats like GIF or JPEG for the Web. Vector graphics (also known as "draw" or "PostScript" graphics) are composed of mathematical descriptions of lines and shapes. Although these graphics cannot (yet) be used directly to illustrate Web pages without requiring users to have a special browser plug-in, there are three major reasons for producing complex diagrams in vector graphics programs:

1. Vector graphic illustrations are automatically antialiased when imported into Photoshop or other raster imaging programs and converted to raster graphics:



2. Vector graphics can be easily resized as they are imported:



3. Complex artwork created in such vector-based programs as Adobe Illustrator and Macromedia FreeHand is a better investment of your illustration budget, because vector graphics also produce high-resolution images suitable for print, as shown below. The illustrations below and immediately above were produced from the same Illustrator file:

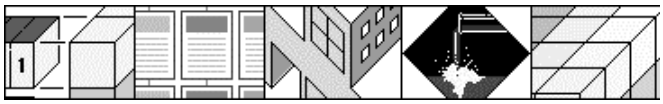
Archiving your Web site Graphics

Always save a copy of your original graphics files, and make it a standard practice to create separate new files every time you make significant changes to an image, such as resizing it or changing the file format. After the close of a project all photos and artwork should be kept and stored at their full original resolution and in a format that does not compromise the image quality of the files through "lossy" image compression, as in JPEG. We prefer to archive every image generated in a project. Many small 8-bit GIF or JPEG illustrations on the finished Web page, for example, start out as much larger high-resolution files in Photoshop format. We save all the intermediate pieces, not just the original and final files. This will save you a lot of time if you later change your mind about the best file format for a graphic or need to modify it. If you have archived the full-color Photoshop version of the graphic, you can easily create a new version in a different format. If you save only the final GIFs , you will have lost your full-color version. If you save only the final JPEGs, you will no longer have images without compression artifacts, and recompressing an image that already has JPEG compression noise usually yields poor results.

Summary: File formats

Uses for GIF and JPEG Files

Netscape Navigator, Microsoft Internet Explorer, and most other browsers support both GIF and JPEG graphics (as of this writing, PNG graphics are not adequately supported). In theory, you could use either graphic format for the visual elements of your Web pages. In practice, however, most Web developers will continue to favor the GIF format for most page design elements, diagrams, and images that must not dither on 8-bit display screens. Designers choose the JPEG format mostly for photographs, complex "photographic" illustrations, medical images, and other types of images in which the compression artifacts of the JPEG process do not severely compromise image quality.



Advantages of GIF files

- GIF is the most widely supported graphics format on the Web
- GIFs of diagrammatic images look better than JPEGs
- GIF supports transparency and interlacing

Advantages of JPEG images

- Huge compression ratios mean faster download speeds
- JPEG produces excellent results for most photographs and complex images
- JPEG supports full-color (24-bit, "true color") images

Computer Lab

Dreamweaver

Working With Video Clips

If you have short video clips you'd like to put on the Web, you may not need the industrial strength-or the hassle and expense-of a streaming media solution. Short video clips can be included in a Web page just by linking to them or embedding them. Depending on the viewer's software setup, video clips either download completely and then start playing, start playing right away and stutter as they wait for data, or start playing as soon as enough of the video has arrived that uninterrupted playback is possible, as shown in figure below:

QuickTime Player starts playing video clips when it has downloaded enough that playback will be uninterrupted.

Video clips come in a few common formats, detailed in Table below. In addition to the video format itself, what *codec* (en**co**der/**dec**oder) a particular video clip uses is also important. A codec provides video compression and is required for the decompression at playback time. Many codecs are included with Windows and with QuickTime, so codecs are not usually a problem, unless you're authoring for platforms other than Windows and Macintosh.

Video Clip File Formats

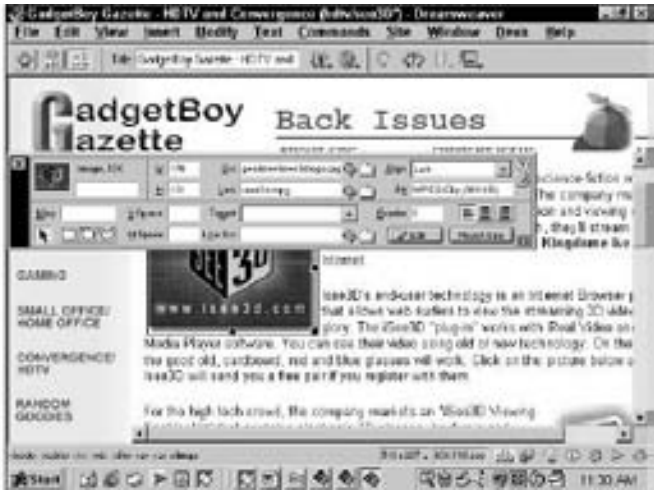
Video Format	*Typical Filename Extension*	*Description*
MPEG	.mpg, .mpeg .mpe	The MPEG video format is the work of the Motion Picture Experts Group. Windows computers play MPEG video clips with Windows Media Player or another, older Microsoft player. Macintosh systems play MPEG clips with QuickTime.
QuickTime	.mov	QuickTime movies can contain a multitude of media types and usually require QuickTime for playback.
QuickTime Video	.mov	A QuickTime movie that contains plain video only, and can be played by almost any video player on a machine that doesn't have QuickTime installed, as long as the right codec is available.
Video for Windows (AVI)	.avi	The popular but now officially unsupported format used by Microsoft's Video for Windows (aka ActiveMovie, aka NetShow). As with QuickTime Video, clips can be played in almost any player, as long as the right codec is installed.

MPEG, QuickTime Video, or AVI clips are good candidates for linking or embedding due to the wide variety of players on multiple platforms that can play them. QuickTime movies are best aimed squarely at the QuickTime Player because of the multiple media types that they contain.

Linking to Video

To include a video clip in your Dreamweaver Web page, follow these steps:

1) Select the text or image that you want to serve as the link to the video file. If you use an image as a link, you might want to use a frame from the video clip in order to provide a preview.
2) In the Property Inspector, enter the name of the video file in the Link text box or select the folder icon to browse for the file.
3) Because video files can be quite large, it's also good practice to note the file size next to the link name or enter it in the Alt text box, as shown in figure below:



Embedding video

You can gain more control over the way your video clip plays by embedding it in the Web page with the <embed> tag. Modifying the attributes of the <embed> tag enables you to modify how the video is presented. Video clips inserted this way play back in whatever players are available, just as linked video clips do.

To embed a simple video clip in a Web page, follow these steps:

1. Choose Insert->Plugin or select the Plugin object from the Common pane of the Objects palette, or drag the file from the Movies category of the Assets panel to a location on your Web page.
2. If you inserted a Plugin object, enter the path to the video clip in the Plugin Src text box of the dialog box, or select the folder icon to browse for the file. Movies dragged onto the page from the Asset panel already include the source path. The plugin placeholder is displayed as a 32×32 icon.
3. In the Plugin Property Inspector, enter the dimensions of your video clip in the width and height boxes, marked W and H, respectively.

Playing Videos Within Dreamweaver

Dreamweaver can access and use Netscape plugins to display video right in the Document window at design-time. These plugins can be installed in Netscape's Plugins folder, in Internet Explorer's Plugins folder, or in Dreamweaver's own Plugins folder. Dreamweaver checks all three every time it starts up. Installing the correct plugins into Netscape and enabling Dreamweaver to use them from there can make maintaining your plugins easier because many come with browser specific installation programs that are hard to adapt to Dreamweaver.

Whenever a file is embedded for playback via a plugin, a green Play button appears in the Property Inspector. To play a particular video in Dreamweaver's Document window, all you have to do is select the plugin placeholder and click the Play button. The video begins playing, and the green Play button, shown in figure below, becomes a red Stop button. To stop playback-surprise-just click the Stop button.

You can also use the menus and the corresponding keyboard shortcuts to control the digital video in the Document window: View->Plugins->Play or Ctrl+Alt+P (Command+Option+P), and View->Plugins->Stop or Ctrl+Alt+X (Command+Option+X). If you have multiple videos inserted on the age, you can play them all by choosing View->Plugins->Play All or by using the keyboard shortcut Ctrl+Alt+Shift+P (Command+Option+Shift+P), and stop them with View->Plugins >Stop All or Ctrl+Alt+Shift+X (Command+Option+Shift+X).

Playing video within Dreamweaver is as simple as having the right plugin installed and clicking Play.

Notes

LESSON 41:
STREAMING MEDIA IN DREAMWEAVER

Topics Covered

- Images on the screen, The screen versus printed color artwork, Complex illustration or photographs
- Dreamweaver - Streaming with Real Media, Creating Real media metafiles, Inserting Real media in your web page, Using <embed>.

Objectives

Upon completion of this lesson, you should be able to:

- Means of distributing color photography
- Differentiate between screen and print color artwork
- Understand complex illustration or photograph
- Create Real Media Meta files
- Insert Real Media in your web page
- Use <embed>

Images On The Screen

The primary challenge in creating images for Web pages is the relatively low resolution of the computer screen. But today's computer screens can display thousands or millions of colors, and this wealth of color minimizes the limitations of screen resolution. Complex graphics or color photographs often look surprisingly good on Web pages for two reasons:

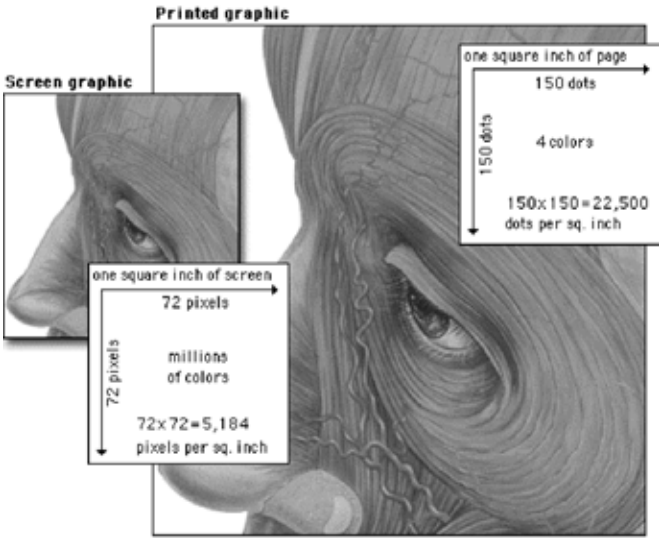
- True-color (24-bit) or high-color (16-bit) displays show enough colors to reproduce photographs and complex art accurately
- The light transmitted from display monitors shows more dynamic range and color intensity than light reflected from printed pages

Digital publishing is color publishing: on the Web there is no economic penalty for publishing in color. Web pages may in fact be the best current means of distributing color photography — it's a lot cheaper than color printing, and it's also more consistent and reliable than all but the most expert (and costly) color printing.

The screen versus printed color artwork

Relative to printed pages the computer screen is a low-resolution medium. When you look at illustrations, photographs, and other sophisticated imagery, however, the differences in quality between conventional four-color printing and the computer screen are not as great as you might expect.

In terms of resolution, the computer screen is limited to about 72 to 92 dots per inch of resolution (see Screen resolution). But most four-color magazine printing is done at 150 dpi, or only about four times the resolution of the computer screen (150 dpi is four times the resolution of 75 dpi because resolution is measured over area, 150 x 150 per square inch):



Regarding color reproduction, four-color printed images are separated into four subtractive printing colors (cyan, magenta, yellow, and black). These four inks combined produce the illusion of a full range of colors on the printed page, but ultimately the typical magazine or textbook image is composed of only four colors. By comparison, as mentioned, current computer monitors can display millions of colors, producing a richness of color that easily rivals the best quality color printing. Also, computer screens display transilluminated images - the colored light shines out from the screen. Transilluminated images deliver a much greater range of contrast and color intensity than images printed on opaque paper, which depend on reflected light. Finally, computer displays show color images using the additive RGB (red-green-blue) color system, which can display a much broader and subtler range of colors than conventional four-color printing.

Bottom line: the computer screen is lower in resolution, but because of the other advantages of computer displays, images on Web pages can easily rival color images printed on paper.

Complex Illustrations or Photographs

The anatomic graphic below was originally painted at much higher resolution in Adobe Photoshop (1000 x 2000 pixels, 24-bit RGB file). We then reduced a copy to the size above and used Photoshop's "Unsharp Mask" filter (at 60 percent) to restore sharpness. Although this small version of the painting has lost some resolution and color detail, it still shows all the major anatomic landmarks. The extra detail and subtle nuances of high-resolution artwork are not entirely lost when the graphic is reduced to Web page size.

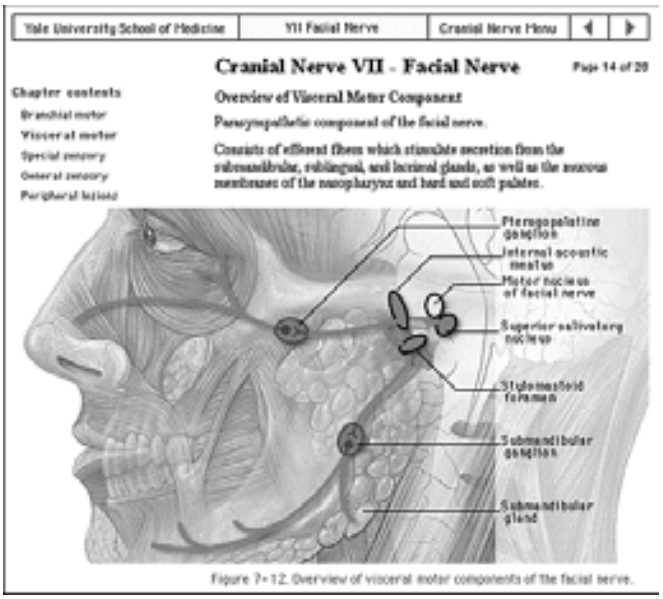


Figure 7-12. Overview of visceral motor components of the facial nerve.

We chose the JPEG file format for the anatomic painting because the artwork is relatively large for a Web page graphic. JPEG compression can be used for paintings or photographs with text labels if you choose the right compression setting. The painting above was compressed in Photoshop at "good" quality, which is the medium-quality setting ("excellent, good, poor"). If you choose the "good" or "excellent" JPEG compression settings, text labels should look acceptable, at least on 16-bit or 24-bit displays. Note that in the anatomic illustration example shown above the text labels are clear and legible, even though close inspection would certainly turn up JPEG noise around the characters.

Computer Lab

Dreamweaver

Streaming With Realmedia

If you've ever downloaded a few minutes of digital video over a slow modem connection, you know the reason why streaming video was invented. In an age when immediacy rules, waiting until the complete video file is transferred and then loaded into the video player can seem to last an eternity. *Streaming*, on the other hand, enables the multimedia content to begin playing as soon as the first complete packet of information is received, and then to continue playing as more digital information arrives. Video is just one form of media to get the streaming treatment: You can also stream audio, animation, text, and other formats.

Regardless of which streaming video protocol you use, the procedure for incorporating the file on your Web page is basically the same, although the details (such as filename extensions) differ. In order to demonstrate the general technique and still offer some specific information you can use, the next section details how to include streaming RealMedia clips with Dreamweaver. Check with the developer of the streaming video format you plan to use to get the precise installation details. Typically, lots of information is available for free on the developers' Web sites.

A RealMedia example

When incorporating RealMedia into your Web pages, you have a variety of playback options. You can set the video so that a free-floating RealPlayer is invoked, or you can specify that the video appears inline on your Web page. You can also customize the controls that appear on your Web page so that only the ones you want-at the size you want-are included.

Creating RealMedia Metafiles

RealMedia uses its own specialized server software called RealServer to transmit encoded video files. Rather than call this server and the digital video file directly, RealMedia uses a system of *metafiles* to link to the RealMedia server and file. A metafile is an ordinary text file containing the appropriate URL pointing to the RealServer and video file.

The metafiles are distinguished from the media files by their filename extensions:

- RealMedia files: .rm, .ra, .rp, .rt, .swf
- Metafile that launches the independent RealPlayer: .ram
- Metafile that launches the RealPlayer plugin: .rpm

To create the metafile, open your favorite text editor and insert one or more lines pointing to your server and the video files. Instead of using the http:// locator seen with most URLs, RealMedia files address the RealServer with an rtsp:// (Real-Time Streaming Protocol) indicator. The contents of the file should take the following form:

rtsp://hostname/path/file

where *hostname* is the domain name of the server where the RealMedia files are stored, *path* is the path to the file, and *file* is the name of the RealMedia file. For example, to display a training video, the metafile contents might look like the following:

rtsp://www.trainers.com/videos/training01.rm

You can include multiple video clips by putting each one on its own line, separated by a single return. RealMedia plays each clip in succession, and the user can skip from one clip to another.

Inserting RealMedia in your Web page

Once you've created both the encoded RealMedia file and the metafiles, you're ready to insert them into your Web page. You have two basic techniques for including RealMedia: as a link and using the <embed> tag.

Using a link

Generally, if you want to invoke the free-floating RealPlayer, you use a link; the href attribute is set to an address for a metafile, like this:

Demonstration

When the link is selected, it calls the metafile that, in turn, calls the video file on the RealServer. As the file begins to download to the user's system, the RealPlayer program is invoked and starts to display the video as soon as possible through the independent video window, as shown in figure below. The link can be inserted in Dreamweaver through either the Text or Image Property Inspector.

You can set up your RealMedia clip so that it plays in its own RealPlayer window. This is RealPlayer's "Compact" view

Using <embed>

If, on the other hand, you'd like to make the video appear inline with the Web page's text or graphics, you use Dreamweaver's Plugin object to insert an <embed> tag. Position the pointer where you want the RealMedia to be displayed, and either choose Insert'Plugin or select Insert Plugin from the Objects palette. After theInsert Plugin dialog box appears, enter the path and filename for the video's metafile in the Plugin Source text box.

When the Plugin object representing the RealMedia clip is selected, you can enter values for the <embed> tag in the Property Inspector. The only attributes required for a RealMedia clip, as with the QuickTime Player object, are the file source and the width and height of the movie. And, as you can with QuickTime Player, you can choose from a healthy number of attributes to control your RealMedia movie. Enter attributes by selecting the Parameters button on the Plugin Inspector and entering attributes and their values in the Parameters dialog box

Parameters for RealMedia Movies

RealMedia G2 Parameter	*Possible Values*	*Description*
`Autostart`	true (the default) or false	Tells RealPlayer to start playing as soon as content is available.
`Console`	(name), _master, _unique	Determines the console name for each control in a Web page that has multiple controls. Force controls on a page to refer to the same file by giving them all the same name. A value of `_master` links to all controls on a page, whereas `_unique` connects to no other instances.
`Controls`	all, controlpanel, imagewindow, infovolumepanel, infopanel, playbutton, positionslider, positionfield, statuspanel, statusbar, stopbutton, statusfield, volumeslider	Enables the placement of individual control panel elements in the Web page. You can use multiple controls in one attribute or multiple `<embed>` tags to build a custom RealMedia interface.
`nolabels`	true or false (the default)	Suppresses the Title, Author, and Copyright labels in the Status panel. If you set nolabels to true, the actual data is still visible.

Notes

LESSON 42:
DIGITAL AUDIO IN DREAMWEAVER

Topics Covered

- Diagrams for the computer screen, HTML and graphics, Accessibility
- Dreamweaver - Digital audio fundamentals, file formats, Making audio files lighter, mp3 mini primer, Linking to audio files

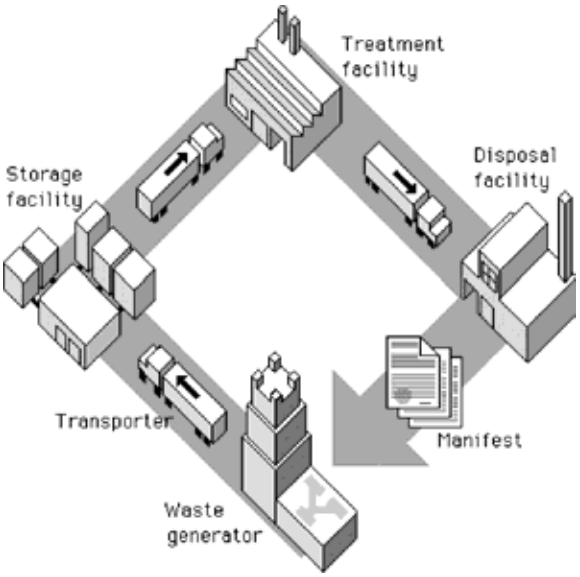
Objectives

Upon completion of this lesson, you should be able to:

- Design correct diagrams for the computer screen
- Use of proper backgrounds in the HTML page
- Maintain legibility on background colors
- Define image maps
- Know Digital audio fundamentals
- Classify file formats
- Make audio files lighter
- Link web document to audio files

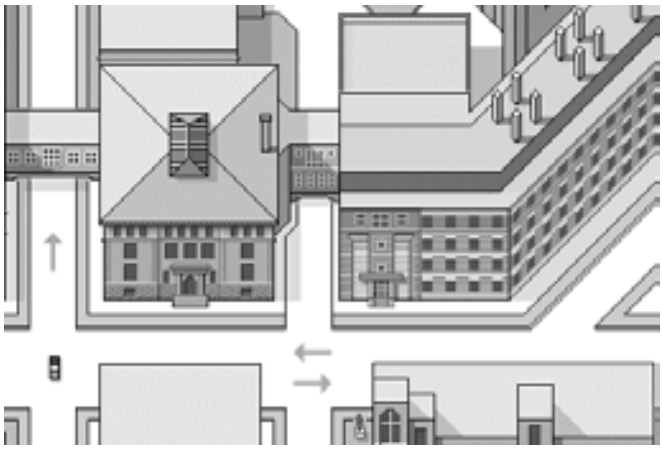
Diagrams For The Computer Screen

Basic diagrams also work well on the computer screen if they are carefully designed to match the grid of pixels on the screen. Graphics built with orthogonal lines (straight horizontal or vertical lines) or diagonal lines at 45-degree angles work best for the screen, as this enlarged view illustrates:

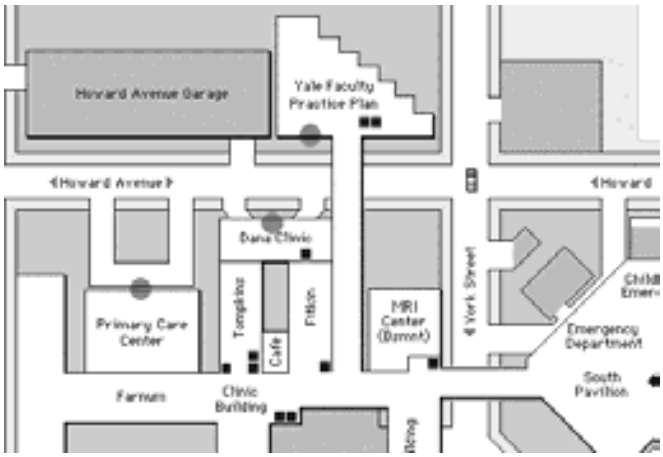


Complex icons are hard to interpret, and they look mushy and confusing on the screen. Keep icons and navigation graphics as simple as possible:

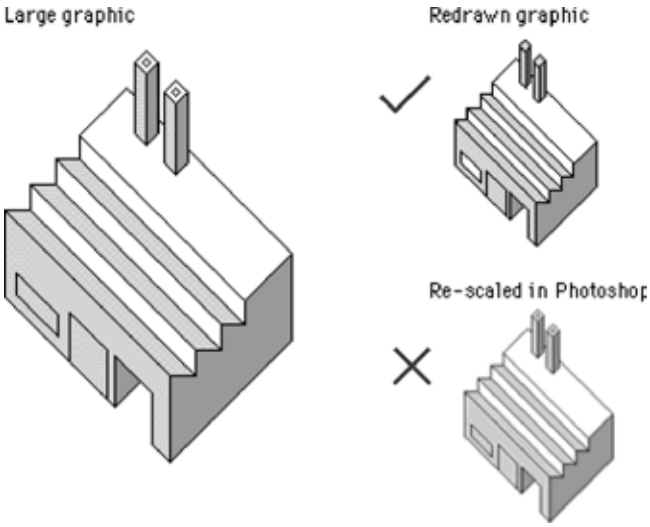
Simple isometric perspective graphics also work well because they depend on straight lines and 45-degree diagonals. Although the restrictions of working within fixed line angles make the technique unsuitable for many diagrammatic graphics, it is possible to build complex illustrations using this technique. The regularity of the isometric line work and the absence of the complexities of perspective bring order to graphics that might otherwise be too complex for Web page presentation:



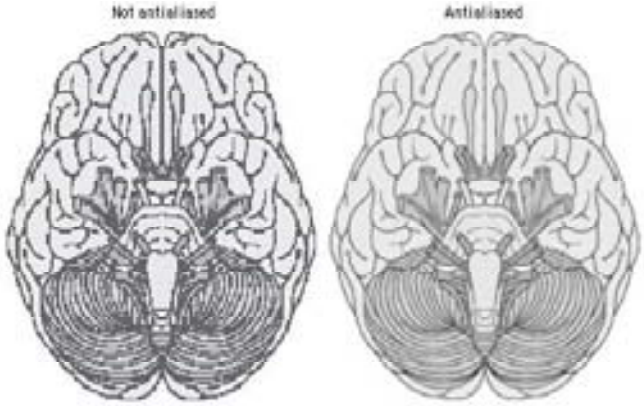
Another benefit of keeping diagrammatic art and maps simple is that graphic simplicity is ideally suited to the LZW encoding compression algorithm used in GIF graphics (see GIF files). This 450 x 306-pixel GIF graphic is large for a Web page, but it compresses to a mere 8 KB because the contents are well suited to LZW compression:



Be careful about choosing the proper sizes for this type of illustration. Graphics carefully built to match the pixel grid cannot be resized automatically in Photoshop - they must be redrawn by hand to larger or smaller sizes to avoid a mushy, fuzzy look that destroys their effectiveness:



The low resolution of the computer screen is insufficient for displaying diagrams that incorporate many curves or angles; lines that do not follow the pixel grid appear jagged. To optimize these kinds of diagrams for Web pages you'll need to use antialiasing to smooth the boundaries and make the jagged edges less apparent:



At great magnification antialiased graphics may have fuzzy boundaries, but at normal magnification antialiasing produces smooth, natural-looking line work.

Html and Graphics

Height and width tags

All your page graphics source tags (even small button or icon graphics) should include HEIGHT and WIDTH tags. These tags tell the browser how much space to devote to a graphic on a page, and they instruct the browser to lay out your Web page even before the graphics files have begun to download. Although this does not speed up downloading (only a faster data connection can do that), it does allow the user to see the page layout more quickly. The text blocks will fill out first and then the graphics files will "pour" into the allotted spaces. This means that the user can start to read your page while the graphics are downloading.

Colored backgrounds

Web background colors offer a "zero-bandwidth" means to change the look of your pages without adding graphics. They also allow you to increase the legibility of your pages, tune the background color to complement foreground art, and signal a broad change in context from one part of your site to another. A List Apart uses background colors as an easy way to enliven the visual impact of their otherwise low-bandwidth pages:

Picking the background color is easy in WYSIWYG (what you see is what you get) graphic Web page layout programs. Unfortunately, picking a color without one of these Web page editors is a procedure only a propellerhead could enjoy. The color is specified in the tag in hexadecimal code, in which the six elements give the red, green, and blue values that blend to make the color. In the tag, the hex code is always preceded by a "#" sign: (#RRGGBB). Because this whole business is now handled visually by the new generation of WYSIWYG page editors and image editors like Adobe Photoshop, we will not delve further into the arcana of hexadecimal RGB color selection.

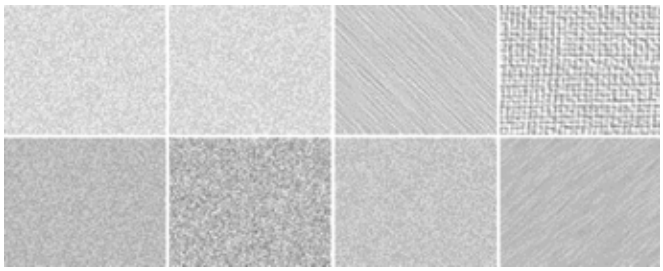
Background Colors and Legibility

The Web is rife with pages whose legibility is marginal due to poorly chosen background color – text color combinations. Text that is hard to read is a hindrance for a fully sighted reader, and certain color combinations make pages unreadable for colorblind users (10 percent of males are partially colorblind). The legibility of type on the computer screen is already compromised by low screen resolution. The typical Macintosh or Windows computer screen displays text at 72 to 80 dots per inch (about 5,200 dots per square inch), or almost 300 times lower resolution than a typical magazine page (1,440,000 dots per square inch). Black text on a white (or very *slightly* tinted) background yields the best overall type contrast and legibility. Black backgrounds are significantly less legible than white backgrounds, even when white type is used for maximum contrast. Colored backgrounds can work as an alternative to plain browser-default gray if the colors are kept in very muted tones, and low in overall color saturation (pastels, light grays, and light earth tones work best).

Background Patterns

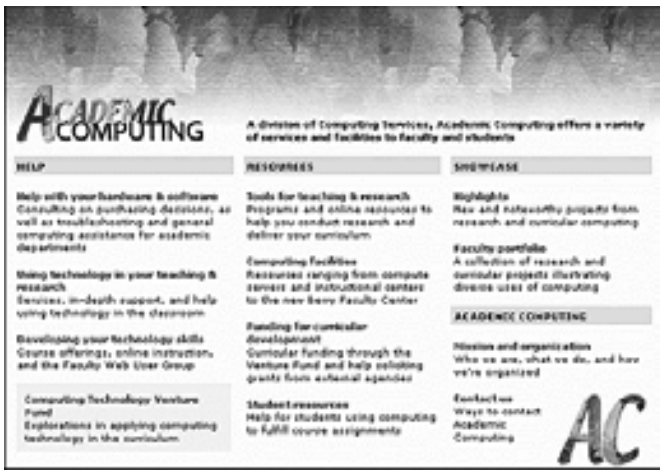
Early in 1995 Netscape Navigator version 1.1 gave Web page authors the ability to use small tiled GIF or JPEG graphics (or a single large graphic) to form a background pattern behind the Web page. The feature is controversial in Web design discussions, because pages that use large background images take longer to download and because the background patterns tend to make pages harder to read unless they are carefully designed.

To be suitable for use as a background texture, the graphic should be a small GIF or JPEG, ideally no more than about 100 x 100 pixels in size. In our experience, JPEG background patterns load slightly faster than equivalent GIF graphics. Typical graphics used for background patterns are homogeneous textures:



The image will repeat both horizontally and vertically to fill the browser window.

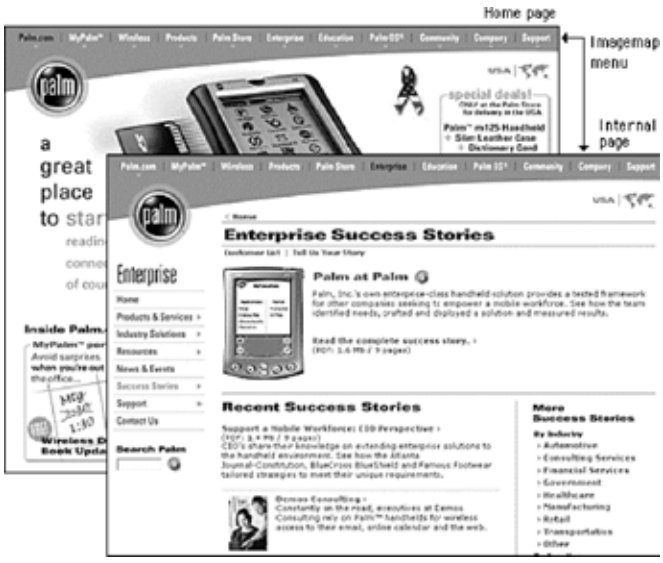
How you might use background graphics depends entirely on your goals for your Web site, the access speeds that are typical for your target audience, and whether a graphic background matches the aesthetic goals of your Web site. It is foolish to use large or visually complex background textures on any page that is heavily accessed by busy people looking for work-related information - the long download times, amateurish aesthetics, and poor legibility will simply annoy your users. That said, in the hands of a skilled graphic designer who is creating Web pages designed for graphic impact, the option to use background textures opens up many interesting visual design possibilities. This is particularly true in universities and commercial organizations where fast network access is commonplace and bandwidth is not the obstacle it is to many modem-based users.



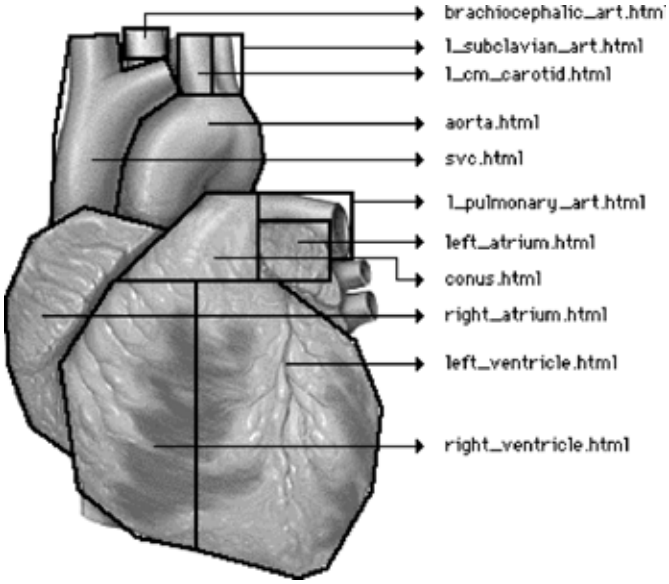
Imagemaps

Imagemaps offer a way to define multiple "live" link areas within a graphic on a Web page. Imagemaps have become a standard feature of most professionally designed Web sites

because they offer an effective combination of visual appeal and, when used properly, space-efficient functionality. Imagemaps are particularly effective when incorporated into moderately sized "splash" graphics at the top of home pages or into the "signature" graphics or logos that define your pages. For example, Palm uses a space-efficient imagemap menu on its home page. The graphic is more than a menu; it helps define the signature "look" of pages within the Palm Web site:



Imagemaps are the only way to incorporate multiple links into a graphic illustration, as in this anatomic example:



Imagemaps are also the ultimate way to overcome the vertical, list-oriented, graphically inflexible norms of conventional Web pages built with standard HTML tags. With imagemaps you can abandon HTML page layout and build links into large graphics, just as you might in CD-ROM authoring programs. Keep in mind, however, that such designs are suitable only for audiences with high bandwidth access to the Web or the local intranet.

Accessibility

Whenever you introduce nontext elements to your Web design you reduce the accessibility of your pages. For the purposes of universal access, text is the ultimate content type: it can be most widely adapted for use with different devices and assistive technologies. But the Web is a visual medium, and access to images and other nontext materials is one of the reasons why people turn to the Web over other information sources. As a Web page designer, you should keep this restriction in mind and take measures to ensure that your design decisions do not exclude disabled users from your Web page content.

Text Alternates

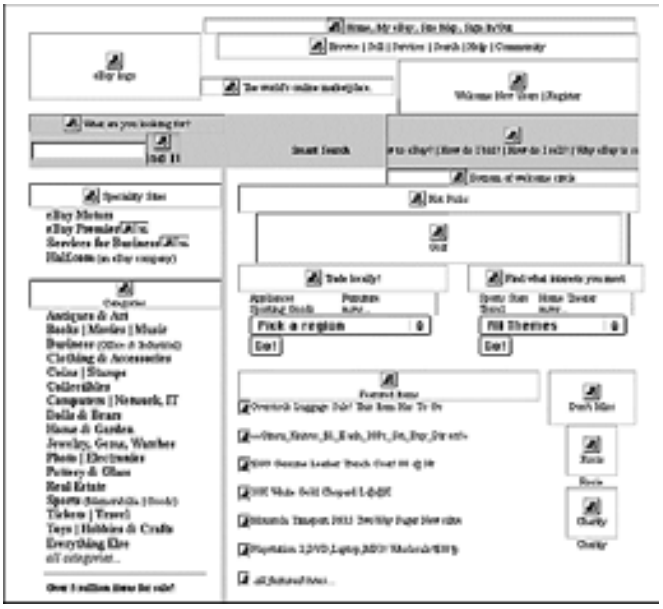
Your site navigation can be supplied using graphics such as buttons, imagemaps, or animations, but it is *critical* that you design your navigation system for all users. If your site's navigation interface uses graphic menus, always provide an alternate navigation route using basic text links. Users without graphics capabilities, such as those using text-only browsers or visually impaired users, will not be able to use your site if you provide only graphic menus.

ALT-text

HTML has several built-in fallbacks designed to allow your content to degrade gracefully under different viewing conditions. One of these is ALT, an attribute of the IMG tag. The ALT attribute allows you to supply an alternate text description with any images you place on your page. Users who cannot see your images for whatever reason will see or hear the text you supply using the ALT attribute:

<IMG SRC="banner.gif" HEIGHT="30" WIDTH="535" ALT="Web Style Guide">

In the above example, users accessing the Web Style Guide page with graphic loading turned off will see the alternate text "Web Style Guide" in place of the banner graphic. Visually impaired users using assistive technology to access Web pages will hear the text "Web Style Guide" read aloud. This way you can use a graphic banner to establish site identity, but users who do not see images will still know what site they are visiting.



Writing good ALT-text is an epigrammatic art, challenging your ability to describe the content and function of an image in just a few words. Browsers do not currently wrap ALT-text, so users reading ALT-text from the screen will normally see only a few words, though users who are read ALT-text by software will hear the entire description. Think not only about what the image *is* but also how it functions on the page. What does the image say? What is its purpose? Is it there to identify your organization? If so, write ALT-text that identifies your organization. Does it provide navigation options? Write ALT-text that describes where the user will go after clicking on the image. Think about the primary purpose of the graphic and attempt to convey it in ten words or fewer.

<IMG SRC="up.gif" HEIGHT="10" WIDTH="10" ALT="Go to top of page">

Also include ALT-text describing link destinations for imagemap menus so that users who cannot see the graphic menu will know where they will go if they select an imagemap link.

At times ALT-text is not useful - for example, for interface images like custom bullets or for invisible spacer graphics -and in those cases you should include an empty ALT attribute (ALT="") in your IMG tag. An empty ALT attribute hides the graphic from text-only browsers and assistive technologies like screen readers. If you leave out the ALT-text, users could hear the words "image, image, image, image" because most software is designed to let the user know when there is an undescribed image on the page. If instead you include an empty ALT attribute, the software knows to skip the image.

Computer Lab

Dreamweaver

Using Audio On Your Web Page

Web sites tend to be divided into two categories: those totally without sound, and those that use a lot of it— there's not much middle ground. Many music and entertainment sites rely heavily on both streaming audio and downloadable audio files such as MP3.

In this chapter, you learn how to use audio in the Web pages you design with Dreamweaver. We look at traditional digital audio formats such as AIFF and WAV, and how you can turn these into files suitable for publishing on the Web, in formats such as MP3 and RealAudio. We also look at music formats such as Standard MIDI files and QuickTime Music.

Digital Audio Fundamentals

Digital audio files are digitized representations of sound waves. While not as heavy as digital video, digital audio files-even those that have been compressed-are still a strain for today's Web. As usual, minimizing file sizes wherever possible makes for a better experience for users of your Web site.

File formats

Many different formats for digital audio files are in use today across the various computer platforms. The most common formats are described in Table below and can be identified by their unique filename extensions and/or by their icons on Macintosh systems.

Web Digital Audio File Formats

Audio Format	*Typical File Name Extension*	*Description*
AU	.au, .snd	Very common on the early Unix-dominated Web. Uncompressed and no longer suitable for Web use.
AIFF	.aif, .aiff	Apple developed the Audio Interchange File Format. Uncompressed versions can be played in most browsers, but using AIFF on the Web should be avoided when possible.
Flash	.swf	Not just an animation format, Flash streams PCM- or MP3-compressed audio at various bit rates.
MP3	.mp3, .mp2	The MPEG Audio Layer 3 format features high-quality digital audio files with excellent compression. MP3 has become the standard for downloadable music. It plays in QuickTime Player 4+, RealPlayer G2 6+, Windows Media Player 5.2+, and a whole range of standalone players that work as browser helper apps.
QuickTime	.mov	A QuickTime movie with a soundtrack only.
RealAudio	.ra or .ram	The audio component of RealNetworks' RealMedia. Lots of players. Good quality at low bit rates, but not as good as MP3.
Rich Music Format	.rmf	Beatnik's hybrid audio/music format. Samples are either PCM or MP3 compressed.
Shockwave Audio	.swa	The audio component of Shockwave, they're low bit rate MP3 files with a different file header. They stream over HTTP, and any MP3 player can play them locally.
WAV	.wav	Codeveloped by Microsoft and IBM, the default audio format for Windows. Uncompressed versions play in browsers, but their use on the Web should be avoided wherever possible.
Windows Media	.asf, .asx, .wma, .wmv	Microsoft's streaming media solution.

Which audio format should you choose? That depends on a combination of factors, including your target audience, available bandwidth, and the purpose of the audio's content.

Although most browsers can play standard digital audio files such as AIFF and WAV, the sheer uncompressed bulk of these files makes them unsuitable for the Internet, now that so many highly compressed formats exist. In the early days of the Web, with slower computers and less advanced compression technologies, these uncompressed audio files were the only game in town. But today, fast computers are capable of easily decoding MP3 and RealAudio, and free players for those formats are common.

A live Internet broadcast dictates a streaming solution such as RealAudio, QuickTime, or Windows Media. If you're offering complete songs for download, you may not have to look any further than MP3. It's not uncommon to offer a sound file in multiple formats. Although many users have more than one player, offering your audio in a few formats gives you a better chance of reaching everybody. Converting one audio file format to another typically involves opening the source file in an audio editor that can read the format and exporting it in another format. If you lack a professional audio editor such as SoundForge or Peak, a simple alternative is to use QuickTime Pro; it reads and writes a lot of formats. You can also easily cut and paste sections of files, to remove or add a few seconds of silence, for example.

Making audio files lighter

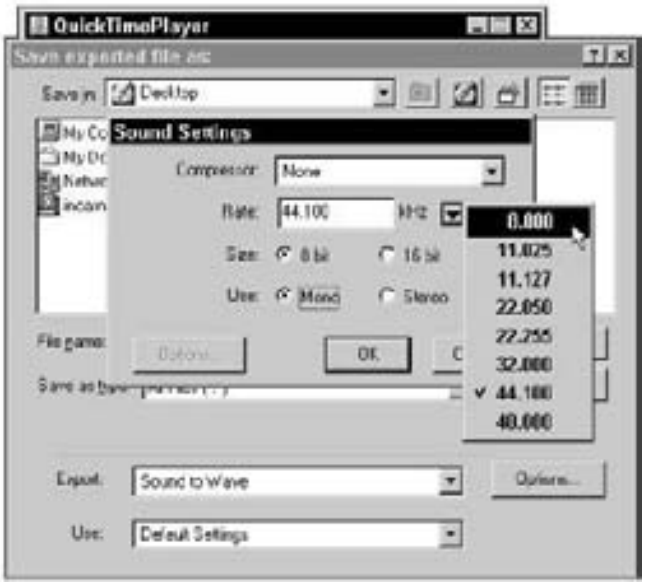
As well as categorizing by file format, we can also think of audio on the Web as being in one of two categories: uncompressed and compressed.

Uncompressed files

AIFF and WAV audio files come in compressed and uncompressed formats, but only the uncompressed versions play in Web browsers. If you can't compress an audio file in some way, the only way to lower its file size is to lower its quality in one of three ways:

- **Convert a stereo file into a mono file:** A stereo file has two audio channels, while a mono file has only one. Converting a stereo file to mono halves its file size.
- **Lower the bit depth:** A lower bit depth-for example, from 16-bit to 8-bit- reduces the accuracy of the stored audio waveforms.
- **Lower the sample rate:** From 44 kHz to 22 kHz, for example. This lowers the range of audio frequencies in the recording, chopping off the "high end" or treble frequencies.

You can make the preceding conversions by opening the audio file in an application such as QuickTime Player Pro and exporting the file with new properties, as shown in the figure below:



Exporting an AIFF as a WAV in QuickTime Player Pro. Converting stereo to mono, 16-bit to 8-bit, and lowering the sample rate from 44.1 kHz to 8 kHz lowers the file size but drastically lowers the quality.

MP3 Mini-Primer

The MP3 audio format has quite simply taken the Web—and the world-by storm. While other downloadable music formats come with caveats such as ownership by one company or built-in limitations on how users can use the files they purchase, MP3 just did the work and got the job done. MP3 software players are common. A range of manufacturers offers MP3 hardware, such as home, car, and personal stereos.

Generally, the MP3 "scene" has shown interest in new and/or unusual artists, offered a selection of dynamic, full-featured players , and maintained an attitude of music appreciation. Conversely, non-MP3 downloadable music has generally featured bland players, corporate music, proprietary technologies, and an unhealthy fascination with watermarking and controlling content. It's not hard to see why the market chose MP3.

Many standalone MP3 players feature dynamic looks that can even be changed by applying a new "skin."

Linking to Audio Files

The simplest way to add sound to a Web page is to create a link to an audio file. You enter the path to your audio file in the Link text box in the Text or Image Property Inspector, or select the folder icon to browse for the file. When the user clicks that link, the sound file downloads, and whatever program has been designated to handle that type of file opens in a separate window. The exception to this is the QuickTime Plugin. Instead of opening linked audio files in the QuickTime Player, it opens them within the browser window, as if they were a new Web page. To get back to your Web page, the user clicks the browser's Back button.

Netscape Navigator 4.*x*'s LiveAudio player is the only major audio player that does not yet support MP3, but Netscape has also shipped with RealPlayer G2 for quite some time now, which does play MP3, as shown in Figure below:

A link to an MP3 file in this Web page downloaded and then opened the file in RealPlayer, which was specified as a helper application for MP3 files.

To create a link to an audio file in Dreamweaver, follow these steps:

1. Select the text or image that you want to serve as the link to the audio file.
2. In the Property Inspector, enter the name of the audio file in the Link text box, or select the folder icon to browse for the file.
3. Because audio files can be large, it's good practice to note the file size next tothe link name or enter it in the Alt text box for your image.

When you use the link technique for incorporating sound, you have no control over the position or appearance of the player. However, you can control these factors and more by embedding your audio.

Assignments

1. Identify the differences in photographs as GIF and JPEGs?
2. What are vector graphics?
3. How can you archive your web graphic files?
4. What is a codec? Explain with examples from both windows and mackintosh platform?
5. What is a embedded video? Why is it standalone and platform independent?
6. How is screen resolution different from computer screen display?
7. What is Real Server? What is it used for?
8. How do you insert real media to your web page? Explain with the steps required to do so?
9. How can be complex graphic be properly viewed on a computer screen, explain in terms of rescaling methods?
10. Write the importance of legibility of written text in a colored background. What measures should be taken to maintain clarity?
11. What are image maps?
12. Name four uncompressed and compressed audio format?
13. Is Mp3 still comes for free? Name the audio formats which are right now coming for free?

Notes

LESSON 43:
APPLICATIONS FOR MULTIMEDIA

Topics Covered

- Introduction to Multimedia, Application for multimedia
- Dreamweaver - Embedding sounds and music, Playing background music, Targeting specific plug-in , Installing RealAudio, Using Real Audio object

Objectives

Upon completion of this lesson, you should be able to:

- Know about the various application for multimedia
- Embed sound and music
- Play background music
- Target specific plug-in
- Install streaming Audio
- Use Real Audio object

Multimedia

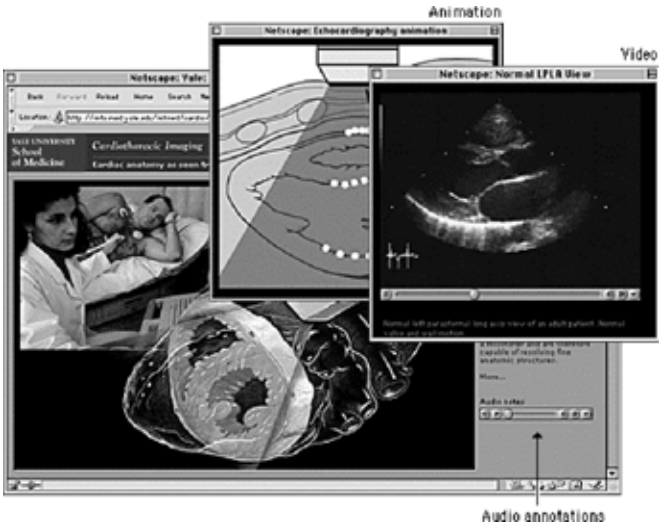
It's as large as life, and twice as natural!
- Lewis Carroll, *Through the Looking-Glass*

PERHAPS THE MOST POWERFUL aspect of computing technology is the ability to combine text, graphics, sounds, and moving images in meaningful ways. The promise of multimedia has been slow to reach the Web because of bandwidth limitations, but each day brings new solutions. Although there are numerous methods for creating Web multimedia, we recommend using stable technology that works for the great majority of client machines. Plug-ins that extend the capabilities of your Web pages are a mixed blessing. You risk losing your audience if you require them to jump through hoops to view your content.

Applications for multimedia

Web designers must always be considerate of the consumer. A happy customer will come back, but one who has been made to wait and is then offered goods that are irrelevant is likely to shop elsewhere. Because multimedia comes with a high price tag, it should be used sparingly and judiciously.

All too often Web authors include visual or moving elements on the page for the purpose of holding the user's attention. This approach is based on the assumption that Web users have short attention spans, which in many cases may be true. However, the solution is not to add gratuitous "eye candy" to your Web presentation, which may, in fact, command too much of the user's attention and detract attention from the main content of your page. When thinking about adding media to your Web pages, consider first and foremost the nature of your materials. Use images, animations, video, or sound only when relevant to your message.



info.med.yale.edu/intmed/cardio/imaging

Bear in mind, too, that there are technical limitations to the delivery of audiovisual content via the Web. For example, long-duration video and video requiring smooth motion or clear details require large amounts of bandwidth to deliver and may tax the playback capacity of the user's machine. A significant amount of downsampling and compression is required to create a file that is small enough to be delivered via the Web. In some cases, these compromises may be too significant to warrant the effort. When you are considering adding multimedia to your pages, make sure the technology can meet the demands of your content. You don't want users to spend extra time and energy retrieving files that cannot be illustrative owing to limitations of the technology.

Also be wary of fledgling technologies. Plug-ins that allow users to see new and exciting things using their favorite browser software are constantly being introduced. This is especially true of multimedia; the options for encoding and delivering audio, animations, and video are dizzying. Although designers may be tempted to create files that employ the functionality offered by custom plug-ins, they should bear two things in mind. First, the bother and potential confusion of downloading and installing plug-ins will deter many users. Second, it is not prudent to create content in a custom file format that could quickly become obsolete. It is best to create your multimedia content in the standard formats for operating systems and browser software.

This somewhat conservative discussion of multimedia considerations needs one important qualification. If you are creating a site for a specific audience and not for global interests you will probably have more flexibility and can ask more from your users. You can require them to use specific browser software and plug-ins, and you can include data-intensive multimedia elements in your presentation. Say, for example, that your site is academic and your audience is a group of students or faculty with specialized interests. You are charged with the task of creating a custom site that fully addresses these interests, so function should define form. A foreign-language teaching site, for example, could contain bandwidth-intensive audio and video elements because the students who visit the site will use these multimedia elements to improve their abilities with the language. These students are not casual visitors; they are invested in the content, so they will tolerate lengthy download times and more demanding site interaction. And because your audience is defined and finite, you can take steps to ensure that they know what to expect and are prepared when they visit your site.

Computer Lab

Dreamweaver

Embedding Sounds And Music

Embedding a sound file truly integrates the audio into your Web page. Embedding the sound files also gives you a much higher degree of control over the presentation of the audio player itself, including the following:

- The clip's play volume
- Which part, if any, of the player's controls is visible
- The starting and ending points of the music clip

As with any other embedded object, you can present the visual display inline with other text elements—aligned to the top, middle, or bottom of the text, or blocked left or right to enable text to flow around it. Dreamweaver controls all of these parameters through two different objects: the Plugin object and the ActiveX object.

Each type of object calls a specific type of player. For example, the default Plugin object calls the LiveAudio Plugin in a Netscape browser and the Windows Media Player control in Internet Explorer. Calling the Windows Media Player as an ActiveX object explicitly enables you to modify a great number of parameters for Internet Explorer—which are completely ignored by Navigator. You learn all of your embedding options, including techniques for cross-browser audio, in the next few sections.

As with the basic video file, Dreamweaver uses the generic Plugin object to embed audio in your Web page. The object requires only three parameters: the source of the audio file, the width and the height of the object. To embed an audio file in your Web page, follow these steps in Dreamweaver:

1. Position the cursor where you want the control panel for the audio file to appear.

2. Insert the Plugin object by choosing Insert->Media->Plugin or by selecting the Plugin object from the Special category of the Objects panel.

3. In the Select File dialog box that appears, choose the audio file.

4. Use either of the following techniques to size the Plugin placeholder:

- Enter the appropriate values in the W (Width) and the H (Height) text boxes of the Property Inspector.
- Or click the resizing handles on the Plugin placeholder and drag it out to a new size.

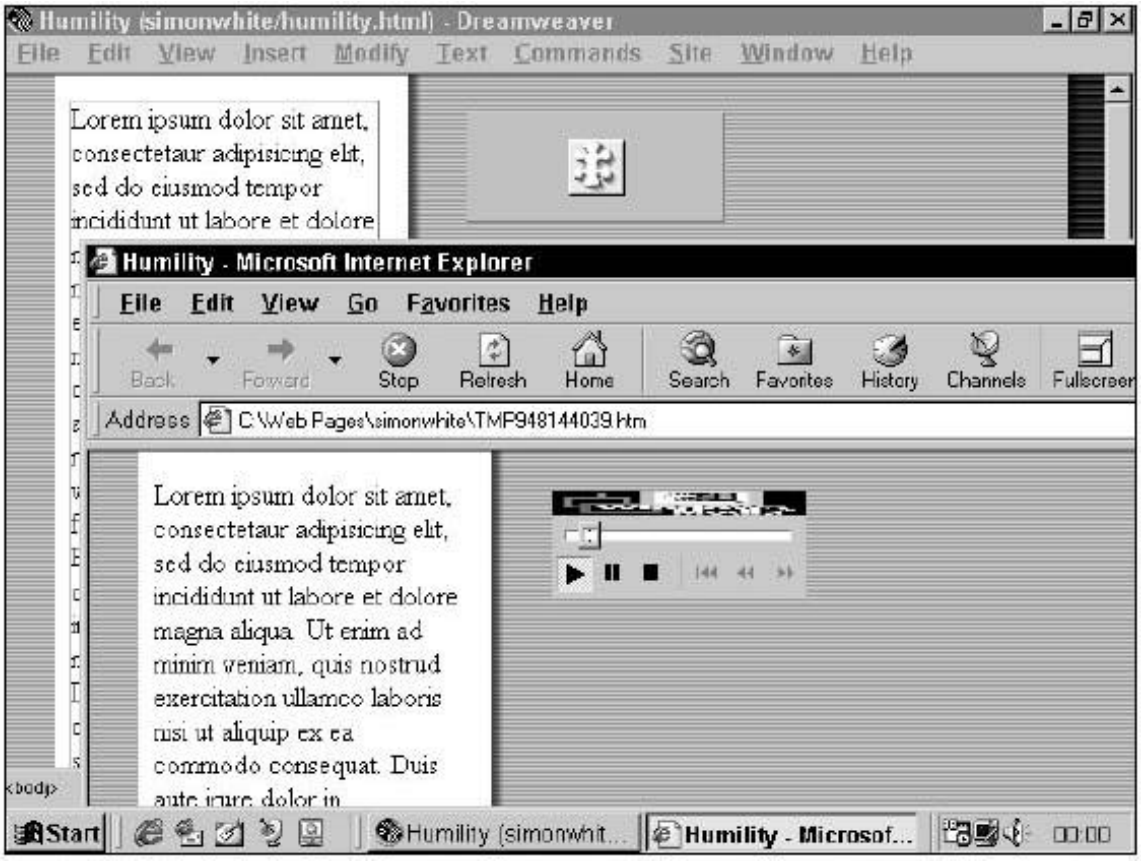
For a default audio Plugin, use a width of 144 pixels and a height of 60 pixels. These dimensions are slightly larger than necessary for Internet Explorer's audio controls, as shown in the figure below, but they fit Navigator's controls perfectly, and the control panel does not appear to be "clipped" when viewed through any browser.

Windows Media Player needs less space than Netscape's LiveAudio for its controls, so it fills the rest with a crushed version of its logo.

Playing Background Music

Background music, played while the user is viewing online material, is one of the Web's hidden treasures. When used tastefully, background music can enhance the

overall impact of the page. Making a regular embedded sound into a background sound is as simple as adding a few



parameters to the embed tag: hidden tells the browser not to display any controls, autostart tells it to start playback automatically, and loop tells it to play the audio continuously. Although you can add these attributes to the embed tag manually in Code View, or in the Code Inspector, it's easier to add them using the Parameters button of the embed tag Property Inspector.

Follow these steps to embed background music in a Web page:

1. Position the cursor near the top of your Web page. Choose Insert->Media-> Plugin or select the Plugin object from the Special category of the Objects panel.
2. Enter the path to your audio file in the Plugin Source text box or select Browse to locate the file.
3. In the Property Inspector, enter **2** in both the H (Height) and W (Width) text boxes.
4. Click Parameters.
5. In the Parameters dialog box, select the add (+) button and enter hidden inthe Parameter column. Press Tab and enter true in the Value column.
6. Enter autostart as the next parameter and give it the value true.
7. To make the audio clip repeat, enter loop as the next parameter, and in the Value column, enter the number of times you want the sound to repeat. To make the audio repeat indefinitely, enter true as the value.
8. Click OK to finish.

Targeting Specific Plugins

You can exercise a much finer degree of control of the audio in your pages by calling specific Plugins. The trade-off, unfortunately, is that by designating a Plugin, you reduce the size of your potential audience. Some Plugins are specific to a browser or browser version. Moreover, Plugins that aren't distributed with the major browsers face an uphill battle in terms of market penetration. If you use a Plugin, you can always expect some folks to be resistant to downloading the necessarysoftware. Before you incorporate any Plugin, you must weigh these issues against your overall design plan.

Installing Streaming Audio

Although audio files are not as time consuming as video, downloading them can take a long time. Audio-on-demand-or streaming audio-is an alternative to such lengthy downloads.

Using the RealAudio object

Embedding a streaming audio file has been greatly simplified with the introduction of the RealAudio object. As with RealVideo, you can have the RealAudio player appear either free-floating or embedded in the Web page. Embedding a RealAudio file is explained in the next section. To insert a RealAudio streaming audio file with a free-floating player, follow these steps:

1. Select the link or image that you want to use to begin the RealAudio file.
2. In the Property Inspector, enter the path to the RealAudio metafile in the Link text box or select Browse to locate the file. Make sure that the metafile has the .ram extension.

LESSON 44:
USING TEMPLATES IN DREAMWEAVER

Topics Covered

- Web Multimedia strategies- Audio only, Slide shows
- Dreamweaver - Using Dreamweaver templates, Understanding templates, Creating your own templates, Using editable regions, Inserting a new editable region, locking and existing region

Objectives

Upon completion of this lesson, you should be able to:

- Know the various web multimedia strategies
- Use Dreamweaver templates
- understand templates
- Create your own templates
- Use Editable regions
- Lock an editable region

Web Multimedia Strategies

Simply because we *can* digitize hours' worth of analog video and stream it out over the Web doesn't mean that we *should*. The value of having the text of *Paradise Lost* on computer is not in making it available for reading - most people prefer to read the work in print. We digitize texts in order to use the strengths of computing, such as searching and linking, to enhance our understanding of the material. This holds true for multimedia, too: we need to consider how best to use the computer and not simply translate analog video and audio content to the computer screen. Networked multimedia requires scaling and compression, which means that much of the content created for analog delivery does not work well on the Web. The key to successful Web multimedia is to tailor your content for Web delivery.

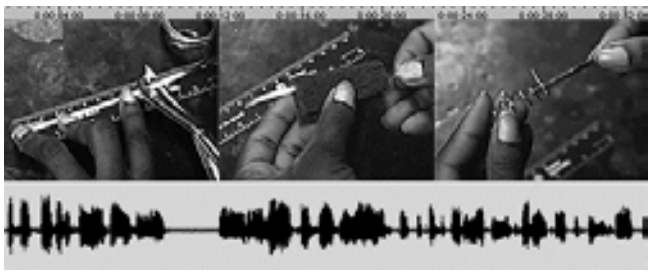
Audio only

Audio is an extremely efficient way to deliver information. Consider a training video on measuring and weighing chemical compounds. Which track - audio or video - would be the most important in conveying information? In the sound track a narrator explains the procedure, and in the video track someone is measuring and weighing compounds. Which track would you remove if necessary? Which could stand alone? The audio track. Consider enhancing your presentation with an audio component. Audio can be captured and optimized fairly easily, and it compresses well.

When recording original audio, take the time to do it right. Low-frequency background noises, such as the hum of a ventilation system, will be inseparable from your audio track; no amount of tweaking will eliminate it altogether. Remember, too, that the downsampling and compression you will have to perform to make your audio Web deliverable will emphasize any flaws in your recording.

Slide shows

Slide shows are another method for delivering multimedia on the Web. In a slide show, you synchronize audio with still images. Through this approach you provide information via audio and add visual emphasis with still images. As an example, to present the training video mentioned above as a slide show, you would use video editing software to synchronize the narration with still images of the weighing and measuring procedure. Still images compress much more efficiently than video, and because slide shows do not require smooth motion, the movie frame rate can be low. This in turn means that you can devote more data to image quality and size.



Computer Lab

Dreamweaver

Using Dreamweaver Templates

Let's face it: Web design is a combination of glory and grunt work. Creating the initial design for a Web site can be fun and exciting, but when you have to implement your wonderful new design on 200 or more pages, the excitement fades as you try to figure out the quickest way to finish the work. Enter templates. Properly using templates can be a tremendous time-saver. Moreover, a template ensures that your Web site has a consistent look and feel, which, in turn, generally means that it's easier for users to navigate. In Dreamweaver, new documents can be produced from a standard design saved as a template, as in a word processing program. Furthermore, you can alter a template and update all the files that were created from it earlier; this capability extends the power of the repeating element Libraries to overall page design. Templates also form the bridge to one of the hottest technologies shaping the Web-XML (Extensible Markup Language).

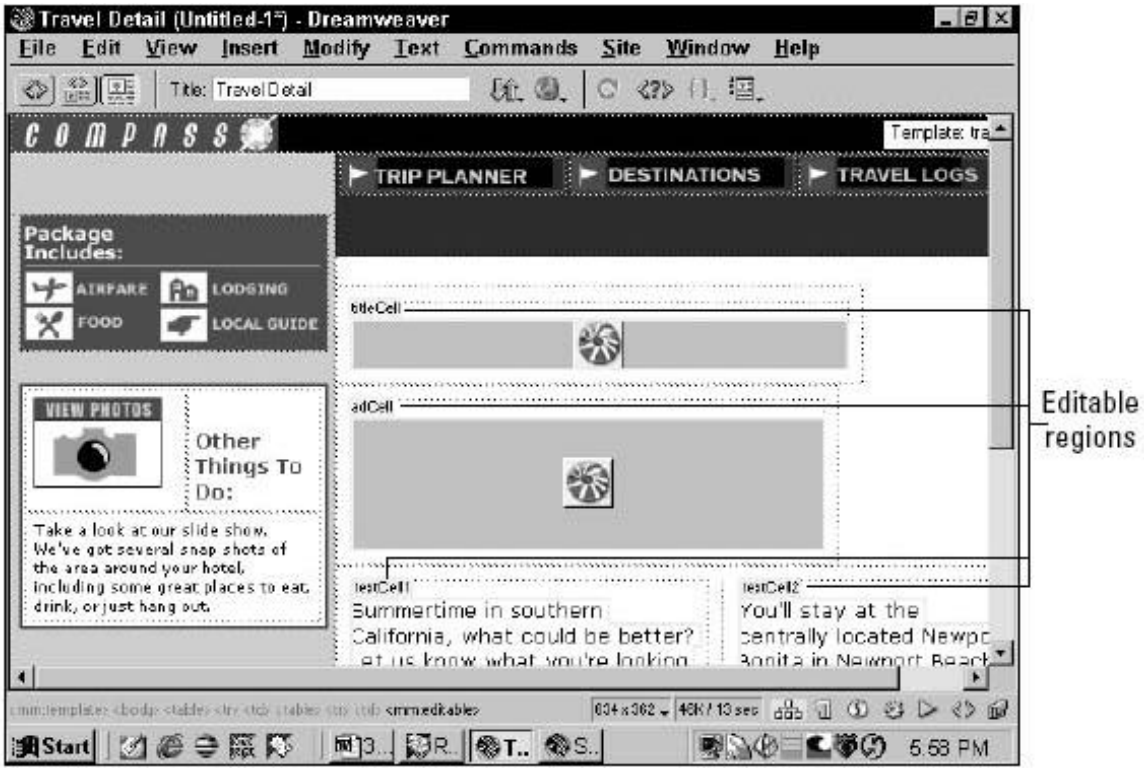
Dreamweaver makes it easy to access all kinds of templates-everything from your own creations to the default blank page. This chapter demonstrates the mechanism behind Dreamweaver templates and shows you strategies for getting the most out of them.

Understanding Templates

Templates exist in many forms. Furniture makers use master patterns as templates to create the same basic design repeatedly, using new wood stains or upholstery to differentiate the end results. A stencil, in which the inside of a letter, word, or design is cut out, is a type of template as well. With computers,

templates form the basic document into which specific details are added to create new, distinct documents. Dreamweaver templates, in terms of functionality, are a combination of traditional templates and updateable Library elements. Once a new page is created from a template, the new document remains attached to the original template unless specifically separated or detached. Because the new document maintains a connection to previous pages in a site, if the original template is altered, all the documents created from it can be automatically updated. This relationship is also true of Dreamweaver's repeating elements Libraries. In fact, templates can even include Library elements.

Templates are composed of two types of regions: *locked* and *editable.* Every element on the Web page template falls into one category or the other. When a template is first created, all the areas are locked. Part of the process of defining a template is to designate and name the editable regions. Then, when a document is created from that template, the editable regions are the only ones that can be modified. Naturally, templates can be altered to mark additional editable areas or to relock editable areas. Moreover, you can detach a document created from a template at any point and edit anything in the document-you cannot, however, reattach the document to the template without losing newly inserted content. On the other hand, a document based on one template can be changed to a completely different look but with the same content, if another template with identical editable regions is applied.



Dreamweaver ships with a tutorial that illustrates the power of templates. The tutorial, found in the Dreamweaver/Tutorial folder, is based on an example Web site for a travel company called Compass. Previewing the site in a browser shows that all the sample pages for the different trips in the Destinations section are basically the same-only the destination title, description, and Flash movie vary. The layout, background, and navigation controls are identical on every page. Each of these pages was created from the template page shown in figure below. Notice the highlighting surrounding certain areas; in a template, the editable regions are highlighted, and the locked areas are not. A tab further identifies each editable region to make it easier to add the right content in the right area

Creating Your Own Templates

You can use any design that you like for your own template. Perhaps the best course to take is to finalize a single page that has all the elements that you want to include in your template. Then, convert that document to a template and proceed to mark all the changeable areas-whether text or image-as editable regions.

In this sample template from the Dreamweaver tutorial, editable regions are highlighted.Before saving your file as a template, consider these points when designing your basic page:

- **Use placeholders where you can.** Whether it's dummy text or a temporary graphic, placeholders give shape to your page. They also make it easier to remember which elements to include. If you are using an image placeholder, set a temporary height and width through the Property Inspector or by dragging the image placeholder's sizing handles; of course, you can also just insert a sample graphic.
- **Finalize and incorporate as much content as possible in the template.** If you find yourself repeatedly adding the same information or objects to a page, add them to your template. The more structured elements you can include, the faster your pages can be produced.
- **Use sample objects on the template.** Often you have to enter the same basic object, such as a plug-in for a digital movie, on every page, with only the filename changing. Enter your repeating object with all the preset parameters possible on your template page as an editable region, and you only have to select a new filename for each page.

- **Include your** <meta> **information.** Search engines rely on <meta> tags to get the overview of a page and then scan the balance of the page to get the details. You can enter a Keyword or Description object from the Head panel of the Objects palette so that all the Web pages in your site have the same basic information for cataloging Editable regions
- **Apply all needed behaviors and styles to the template.** When a document is saved as a template, all the code in the <head> section is locked. Because most behaviors and CSS (Cascading Style Sheet) styles insert code here, documents created from templates cannot easily apply new behaviors or create new styles.

You can create a template from a Web document with one command: File->Save As Template. Dreamweaver stores all templates in a Templates folder created for each defined site, with a special file extension, .dwt. After you've created your page and saved it as a template, notice that Dreamweaver inserts <<Template>> in the title bar to remind you of the page's status. Now you're ready to begin defining the template's editable regions.

Using Editable Regions

As noted earlier, when you convert an existing page into a template via the Save As Template command, the entire document is initially locked. If you attempt to create a document from a template at this stage, Dreamweaver alerts you that the template doesn't have any editable regions, and you cannot change anything on the page. Editable regions are essential to any template.

Marking existing content as editable

Two techniques exist for marking editable regions. First, you can designate any existing content as an editable region. Second, you can insert a new editable region anywhere you can place your cursor. In both cases, you must give the region a unique name. Dreamweaver uses the unique name to identify the editable region when entering new content, applying the template, and exporting or importing XML.

To mark an existing area as an editable region, follow these steps:

1. Select the text or object that you wish to convert to an editable region. The general rule of thumb with editable regions is that you need to select a complete tag pair, such as <table>...</table>. This has several implications. For instance, while you can mark an entire table or a single cell as editable, you can't select multiple cells, a row, or a column to be so marked. You have to select each cell individually (<td>...</td>). Also, you can select the content of a layer to be editable and keep the layer itself locked (so that its position and other properties cannot be altered), but if you select the layer to be editable, you can't lock the content.
2. Choose Modify->Templates->New Editable Region. You can also use the keyboard shortcut Ctrl+Alt+W (Command+Option+W), or right-click (Control+click) the selection and choose Editable Regions->New Editable Region from the shortcut menu. Dreamweaver displays the New Editable Region dialog box. If you want the flexibility of adding returns to your editable region, make sure it includes at least one return. The easiest method is to select the <p> tag in the Tag selector. If just text is selected, Dreamweaver does not allow any returns, although line breaks are accepted.
3. Enter a unique name for the selected area. Click OK when you're done or Cancel to abort the operation.

Dreamweaver outlines the selection with the color picked in Preferences on the Highlighting panel. The name for your newly designated region is displayed on a tab marking the area; the region is also listed in the Modify->Templates submenu. If still selected, the region name has a checkmark next to it in the Templates submenu. You can jump to any other editable region by selecting its name from this dynamic list.

Inserting a new editable region

Sometimes it's helpful to create a new editable region where no content currently exists. In these situations, the editable region name doubles as a label identifying the type of content expected, such as {Catalog Price}. Dreamweaver always puts new region names in curly braces as just shown and highlights the entry in the template.

To insert a new editable region, follow these steps:

1. Place your cursor anywhere on the template page.
2. Choose Modify->Templates->New Editable Region. You can also use the keyboard shortcut Ctrl+Alt+V (Command+Option+V), or right-click (Control+click) the selection and choose New Editable Region from the shortcut menu. Dreamweaver displays the New Editable Region dialog box.
3. Enter a unique name for the new region. Click OK when you're done or Cancel to abort the operation. Dreamweaver inserts the new region name in the document, surrounded by curly braces, marks it with a named tab and adds the name to the dynamic region list (which you can display by choosing Modify->Templates).

Locking an Editable Region

Inevitably, you'll mark a region as editable that you'd prefer to keep locked, or you may discover that every page constructed to date has required inputting the same content, so it should be entered on the template and locked. In either event, converting an editable region to a locked one is a simple operation.

To lock an editable region, follow these steps:

1. Place your cursor in the editable region you want to lock.
2. Choose Modify->Templates->Remove Editable Region. The Unmark Editable Region dialog box, , appears with the selected region highlighted.
3. Click OK in the Unmark Editable Region dialog box to confirm your choice. The editable region highlight is removed, and the area is now a locked region of the template.

Convert an editable region to a locked one with the Unmark Editable Region command.

Notes

LESSON 45:

Topics Covered

- More web multimedia strategies - Video, Animation
- Dreamweaver - Working with Dreamweaver in the asset panel, Creating a blank template, Deleting and opening template, Applying template, Updating template

Objectives

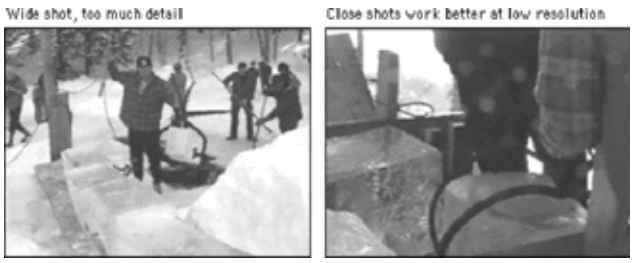
Upon completion of this lesson, you should be able to:

- Know about other multimedia strategies like video and animation.
- Work with Dreamweaver in Assets panel
- Create a blank template
- Delete and open existing template
- Update template

Video

Video is the most challenging multimedia content to deliver via the Web. One second of uncompressed NTSC (National Television Standards Committee) video, the international standard for television and video, requires approximately 27 megabytes of disk storage space. The amount of scaling and compression required to turn this quantity of data into something that can be used on a network is significant, sometimes so much so as to render the material useless. If at all possible, tailor your video content for the Web.

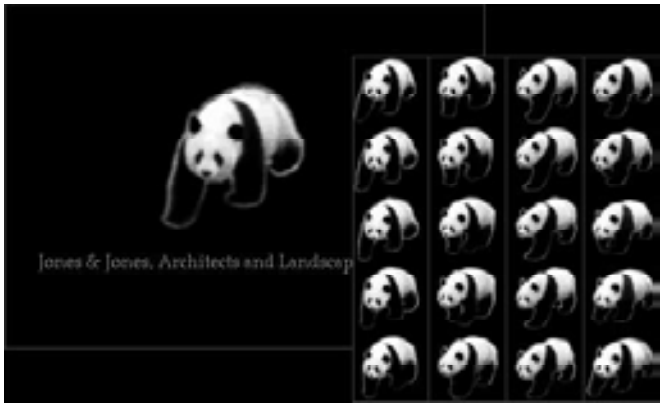
- Shoot original video; that way you can take steps to create video that will compress efficiently and still look good at low resolution and frame rates.
- Shoot close-ups. Wide shots have too much detail to make sense at low resolution.



- Shoot against a simple monochromatic background whenever possible. This will make small video images easier to understand and will increase the efficiency of compression.
- Use a tripod to minimize camera movement. A camera locked in one position will minimize the differences between frames and greatly improve video compression.
- Avoid zooming and panning. These can make low frame-rate movies confusing to view and interpret and can cause them to compress poorly.
- When editing your video, use hard cuts between shots. Don't use the transitional effects offered by video editing software, such as dissolves or elaborate wipes, because they will not compress efficiently and will not play smoothly on the Web.
- If you are digitizing material that was originally recorded for video or film, choose your material carefully. Look for clips that contain minimal motion and lack essential but small details. Motion and detail are the most obvious shortcomings of low-resolution video.

Animation

Most Web animation requires special plug-ins for viewing. The exception is the animated GIF format, which is by far the most prevalent animation format on the Web, followed closely by Macromedia's Flash format. The animation option of the GIF format combines individual GIF images into a single file to create animation. You can set the animation to loop on the page or to play once, and you can designate the duration for each frame in the animation.



Animated GIFs have several drawbacks. One concerns the user interface. GIF animations do not provide interface controls, so users have no easy way to stop a looping animation short of closing the browser window. They also lack the means to replay nonlooping animation. Second, the animated GIF format does not perform interframe compression, which means that if you create a ten-frame animation and each frame is a 20 KB GIF , you'll be putting a 200 KB file on your page. And the final drawback is a concern that pertains to animations in general. Most animation is nothing more than a distraction. If you place animation alongside primary content you will simply disrupt your readers' concentration and keep them from the objective of your site. If you require users to sit through your spiffy Flash intro every time they visit your site, you are effectively turning them away at the door.

There is a place for animation on the Web, however. Simple animation on a Web site's main home page can provide just the

right amount of visual interest to invite users to explore your materials. There, the essential content is typically a menu of links, so the threat of distraction is less than it would be on an internal content page. Also, subtle animation such as a rollover can help guide the user to interface elements that they might otherwise overlook. Animation can also be useful in illustrating concepts or procedures, such as change over time. When you have animation that relates to the content of your site, one way to minimize the potential distraction is to present the animation in a secondary window. This technique offers a measure of viewer control: readers can open the window to view the animation and then close the window when they're through.

Computer Lab

Dreamweaver

Working With Templates In The Assets Panel

As a site grows, so does the number of templates it employs. Overall management of your templates is conducted through the Templates category of the Assets panel. You can open the Templates palette by choosing Windows->Templates or by pressing the keyboard shortcut Ctrl+F11 (Command+F11). The Templates category, shown in Figure below, displays a list of the current site's available templates in the lower pane and a preview of the selected template in the upper pane.

The Templates palette has five buttons along the bottom of its window:

- **Apply-**Creates a document derived from the currently selected template if the current document is blank, or, if the current document is based on a template, changes the locked regions of the document to match the selected template.
- **Refresh Site List-**Displays the list of all the templates currently in the site.

Use the Templates category of the Assets panel to preview, delete, open, create, or apply your current site's templates.

- **New Template**-Creates a new blank template.
- **Edit-**Loads the selected template for modification.
- **Delete-**Removes the selected template.

The Assets panel's context menu offers all of these options and more as explained in Table below:

Template Category Context Menu

Command	*Description*
Refresh Site List	Displays the list of all the templates currently in the site.
New Template	Starts a new blank template.
New from Template	Creates a new document based on the currently selected template.
Edit	Opens the current template for modifying.
Apply	Creates a document derived from the currently selected template if the current document is blank or, if the current document is based on a template, changes the locked regions of the document to match the selected template. The same effects can also be achieved by dragging the template from the Assets panel to the current document.
Rename	Renames the selected template
Delete	Removes the selected template.
Update Current Page	Applies any changes made in the template to the current page, if the current page is derived from a template.
Update Site	Applies any changes made in any templates to all template-based documents in the site.
Copy to Site	Copies the highlighted template, but none of the dependent files, to the selected site.
Locate in Site	Opens the Site window and highlights the selected template.

Creating a blank template

Not all templates are created from existing documents. Some Web designers prefer to create their templates from scratch. To create a blank template, follow these steps:

1. Open the Templates category of the Assets panel by selecting its symbol or by choosing Window->Templates.
2. From the Templates category, select New Template. A new, untitled template is created.
3. Enter a title for your new template and press Enter (Return).
4. While the new template is selected, press the Edit button. The blank template opens in a new Dreamweaver window.
5. Insert your page elements.
6. Mark any elements or areas as editable regions using one of the methods previously described.
7. Save your template.

Deleting and opening templates

As with any set of files, there comes a time to clean house and remove files that are no longer in use. To remove a template, first open the Templates category of the Assets panel. Next, select the file you want to remove and choose the Delete button.

You can edit a template-to change the locked or editable regions-in several ways. To use the first method, choose File'Open and, in the Select File dialog box, change the Files of Type to Template Files (*.dwt) on Window systems and choose Template Files from the Show drop-down list on Macintosh systems. Then, locate the Templates folder in your defined site to select the template to open. The second method of opening a template for modification uses the Templates category of the Assets panel. Select a template to modify and choose the Edit button. You can also double-click your template to open it for editing. Finally, if you're working in the Site window, open a

template by selecting the Templates folder for your site and open any of the files found there.

Applying Templates

Dreamweaver makes it easy to try a variety of different looks for your document while maintaining the same content. Once you've created a document from a template, you can apply any other template to it. The only requirement is that the two templates have editable regions with the same names. When might this feature come in handy? In one scenario, you might develop a number of possible Web site designs for a client and create templates for each different approach, which are then applied to the identical content. Or, in an ongoing site, you could completely change the look of a catalog seasonally but retain all the content. Figure given below shows two radically different schemes for a Web site with the same content.

To apply a template to a document, follow these steps:

1. Open the Templates category of the Assets panel.

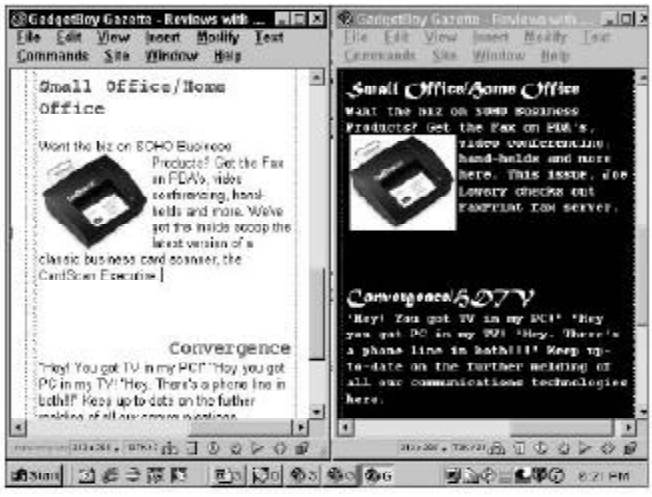
2. Make sure the Web page you want to apply the style to is the active document.

3. From the Templates category, select the template you want to use and click the Apply button. You can also drag onto the current page the template you'd like to apply or choose Modify->Templates->pply Template to Page from the menus.

4. If content exists without a matching editable region, Dreamweaver displays the Choose Editable Region for Orphaned Content dialog box. To receive the content, select one of the listed editable regions from the template being applied and click OK.

The new template is applied to the document, and all the new locked areas replace

all the old locked areas.



You can apply a template to a document created from another template to achieve different designs with identical content.

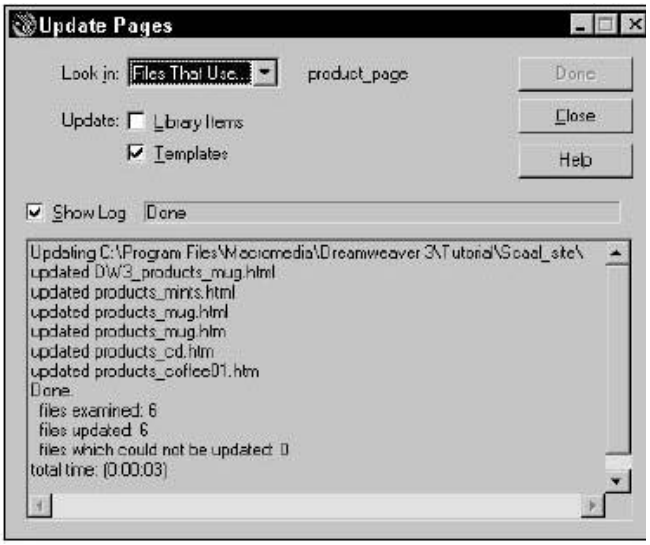
Updating Templates

Anytime you save a change to an existing template-whether or not any documents have been created from it-Dreamweaver asks if you'd like to update all the documents in the local site attached to the template. As with Library elements, you can also update the current page or the entire site at any time. Updating documents based on a template can save you an enormous amount of time-especially when numerous changes are involved.

To update a single page, open the page and choose Modify->Templates->Update Current Page or select the same command from the context menu of the Assets panel. Either way, the update is instantly applied.

To update a series of pages or an entire site, follow these steps:

1. Choose Modify->Templates->Update Pages. The Update Pages dialog box, shown in figure below,



1. Any changes made to a template can be automatically applied to the template's associated files by using the Update Pages command.
2. To update all the documents using all the templates for an entire site, choose Entire Site from the Look In option and then select the name of the site from the accompanying drop-down list.
3. To update pages using a particular template, choose Pages Using from the Look In option and then select the name of the template.
4. To view a report of the progress of the update, make sure that the Show Logoption is enabled.
5. Click Start to begin the update process.

The log window displays a list of the files examined and updated, the total number of files that could not be updated, and the elapsed time.

Changing the Default Document

Each time you open a new document in Dreamweaver-or even just start Dreamweaver-a blank page is created. This blank page is based on an HTML file called Default.html that is stored in the Configuration\Templates folder. The default page works in a similar fashion to the templates in that you can create new

documents from it, but no editable or locked regions exist- everything in the page can always be altered.

The basic blank-page document is an HTML structure with only a few properties specified: a document type, character set, and white background for the body:

```
<html>
<head>
<title>Untitled Document</title>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
</head>
<body bgcolor="#FFFFFF">
</body>
</html>
```

Naturally, you can change any of these elements-and add many, many more- after you've opened a page. But what if you want to have a <meta> tag with creator information in every page that comes out of your Web design company? You can do it in Dreamweaver manually, but it's a bother, and chances are that you'll forget.

Luckily, Dreamweaver provides a more efficient solution. In keeping with its overall design philosophy of extensibility, Dreamweaver enables you to modify the Default.htm file as you would any other file. Just choose File-> Open and select the Configuration\Templates\Default.htm file. As you make your changes, save the file as you would normally. Now, to test your modifications choose File->New-your modifications should appear in your new document.

Assignments

1. How can your embed sound and music in a web document?
2. What is Real Audio object? Explain its significance in Streaming Audio?
3. What is a template? How can it be effective in web designing?
4. How do your create your own template in Dreamweaver?
5. What are the drawbacks of GIF animation?
6. Write the steps to create a bland template?
7. Write the steps to a default document into a template?

Notes

LESSON 46:
PREPARING MULTIMEDIA

Topics Covered

- Preparing Multimedia - Processing, Audio processing, Video processing
- Dreamweaver - Final touches to your personal home page

Objectives

Upon completion of this lesson, you should be able to:

- Prepare multimedia
- Process Audio
- Process Video
- Give final touches to your personal home page

Preparing Multimedia

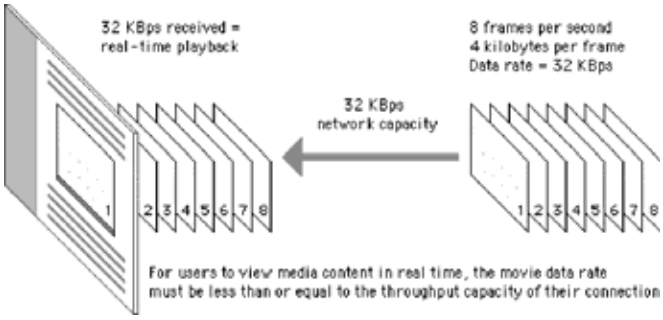
Multimedia places high demands on the network, the computer, and the user. The challenge thus lies in preparing files that are small enough to be accessible to the broadest possible audience yet are of sufficient quality to be worth the effort. To balance quality against accessibility you'll need to understand both the characteristics of different media formats and the limitations of delivering media in a networked environment, and you must be ready to compromise.

Processing

Analog source generally comes with certain established characteristics. For example, CD-quality audio is sampled at 44.1 KHz, 16-bit stereo sound, and video is usually 640 x 480 pixels in dimension and plays at 30 frames per second (fps). However, analog source digitized at full resolution would require enormous amounts of disk storage and is far too large to be used on a network. One way to prepare media for network delivery is to reduce the data by, for example, downsampling the audio material to 11.025 KHz, 8-bit mono sound. This reduces file size but also substantially reduces quality. Another way to reduce file size is to apply compression.

Compression first eliminates redundant data from a file and then removes less important data to shrink file size still further. This process is achieved using algorithms, or "codecs" (short for compressors-decompressors), that handle the media compression and the decompression when it is played. The codecs that are used for Web delivery use lossy compression: the process removes data from the original source material. You should never compress material multiple times, because each process will lower the video quality.

In preparing media for Web delivery, you should aim for files that can be managed by the average network connection and desktop machine of your target audience. The key measure is the data rate, normally measured in kilobytes per second (KBps), which is the amount of data that is used to represent one second of movie playback. For users to play your files in real time without hiccups or delays, you need to set a data transmission rate that is slightly lower than the throughput of your users' connections.



Audio processing

- Normalize. Audio files may lose amplitude and clarity in the digitizing process. To compensate you can use software to normalize your audio. This process finds the highest peak in a file and then amplifies the entire file to make that peak's volume 100 percent. This ensures that you are working with the loudest possible audio signal.
- Boost the midrange. Another way to enhance your Web audio is to use software with an equalizer function to boost the midrange frequencies slightly.
- Frequency. Reducing the frequency reduces the data required to represent the material, for example, from 44.1 KHz to 22.050 KHz.
- Depth. Sixteen-bit samples provide greater dynamic range but take up more space. Reducing the depth to 8-bit will reduce the file size.
- Channel. Be sure not to use stereo settings for a mono source. If your source does have stereo audio, you might consider switching to mono to reduce the data rate.
- Codec. Applying compression to an audio track may allow you to keep higher-quality audio frequency and depth settings.

Video Processing

- Process the audio. Perform the audio normalizing and equalizing mentioned above.
- Trim clips. Make sure that your movie begins and ends with frames that make sense as still images. The first frame will appear on the user's screen while the movie is loading, and the last frame will remain on screen when the movie has finished. Take care that these images do not seem awkward out of the context of the movie.
- Crop. Use video editing software to crop out unwanted noise or borders from the movie image.

- Scale. Most Web video is sized to quarter-screen (320 x 240 pixels) or smaller.
- Image quality. Reducing the image-quality setting of a movie reduces the data that is stored for each frame.
- Frame rate. Standard NTSC video has a frame rate of 30 fps. Most Web video is set to about 10 fps.
- Codec. Some codecs compress more efficiently than others do, though usually at the expense of image quality.
- Custom filters. Compression software provides filters that reduce the differences between frames, permitting more efficient compression.
- Audio. The audio track of video can be downsampled and/or compressed to reduce the overall movie data rate.

Computer Lab

Publishing A Website

The HTML files you create are not available over the world wide web until you put them on a web server. To make web sites available to the world, you need to place all the HTML and image files on a computer set up with web server software.

There are several web servers

Examples of Web Servers on Campus:

http://www.raidunivesity.edu

An account is set up for you on one of the web servers and you will be given a username and password to access the account. How you publish the web pages depends on the type of server you are using. Web sites that are held on a UNIX server, will typically use FTP to transfer their html files and images to the server. Web servers running on a Windows NT Server may not allow FTP for transferring files. Some web creation packages will handle publishing for you after you set it up initially.

Transferring files using FTP

In order for the web pages that you created during this course to be viewable over the web, they must be placed within your web server account. All of your HTML & image files must be moved from your computer to this account.

The software used to move files from your desktop computer to a server is FTP. FTP stands for 'File Transfer Protocol'. You use FTP software to publish your website to the world wide web or, in other words, or move your files to your web server account.

There are many FTP software packages available as shareware or freeware. The examples below are shown using WS-FTP LE. The examples can be applied to other types of software programs as well. WS-FTP LE is available as freeware for Windows 95 & 98

FTP File Tranfer Example:

Step 1:

1. Launch WS_FTP or other FTP software. You should see something similar to the screen below.
1. Enter your web server's Host Name/Address.
2. Enter your username for your web server account.
3. Select the 'OK' button.
4. The FTP program should now attempt to log into the web account.
5. Once connected successfully, you will be asked to enter a password.
6. The system will check your username/password. If the login is successful, the system will automatically place you within your user account. You should see something similar to the screen below. If you need assistance, contact the web server administrator for more information.
7. Double click on your public_html subdirectory.

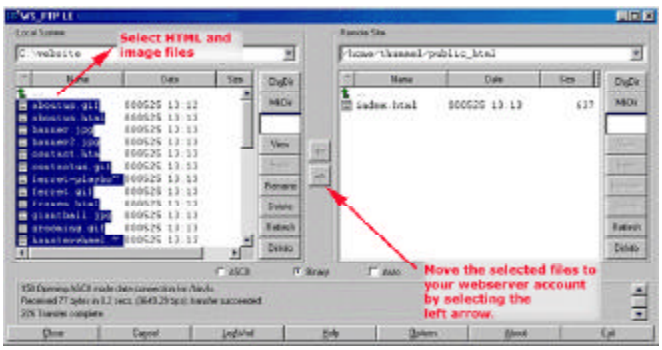
public_html

On most webservers, your website is placed within subdirectory called 'public_html' within your user account. This subdirectory will hold all the files used within your website — .html, .jpg, .gif, .cgi, etc...

Only files or other subdirectories placed within the public_html folder will be viewable over the internet.

Step 2:

1. Now move to the left portion of the FTP window. This side of the screen represents your computer's harddrive.
2. You need to locate your website folder or subdirectory on your computer's harddrive.
3. Double click on the green arrow and two periods to move down a directory level on your hardrive. See the illustration below
5. Locate the website folder that contains all your files for your web site on your local computer.
6. Select each of the HTML files & image files. Select multiple files by selecting & holding down the 'CTRL' key.
7. Move the files from your local computer to your web server account by selecting the right arrow in the center of the screen. See illustration below:



8. All of your web site files should now be stored in the public_html subdirectory within your account on the web server.
9. View your website in your web browser. You may need to select 'Refresh' or 'Reload' on your browser to refresh the screen.

Uploading your first Web page

When you are done creating your website in HTML, you should upload it using a File Transfer Protocol (FTP) client such as CuteFTP or WS_FTP, both for Windows or Fetch for the Macintosh. All of these are available for download at http://www.tucows.com as they are all shareware programs.

Setting up your FTP Client

Once you have downloaded your FTP client and installed it, you are ready to set up the client to connect to your FTP site. Most FTP clients require the following information:

Hostname: Typically www.yourdomain.com

User ID: Use the same user ID as that set up in the control panel PLUS the domain name separated by a % sign. For example, if the user ID was yourname, then in the user ID field you would put yourname%yourdomain.com

Password: This is initially same password as the one you use to login to the Control Panel. You can change the password by following the FTP Manager link.

We also highly recommend that you read the File Transfer Protocol guide and How to FTP guide which contain more in-depth information about using FTP.

Test your FTP client

You should launch the FTP client and try to connect to your FTP account to make sure it works. Test to make sure that you can upload files from your computer (client) to the server (host) and download in the opposite direction as well.

If you are on an NT Server and created your site using Microsoft FrontPage, you must use FrontPage to upload your site. Using FrontPage and FTP in tandem to publish your site on an NT Server can potentially disable your FrontPage extensions and corrupt your FrontPage-based website by accidentally destroying internal files used by FrontPage.

Test your Web Page

Once you have completed all the steps in this document, it is important that you test all the settings to ensure that you are fully online and ready to start marketing yourself on the Internet. Ideally, you should test your e-mail and make sure that your Web pages look the way you want them to.

To ensure that your Web site has been set up properly, all you have to do is open up a browser and type in the URL for your Web site. Typically, it will be something like http://www.yourdomain.com/.

The following are some factors you may need to consider when testing your Web pages:

1. If you can, use as many different types of browsers you may have on your computer to look at your Web page. Different browsers interpret more specialized HTML differently. For example, the <BLINK> tag works only on Netscape Navigator.
2. Use a variety of screen settings. Remember, although the most common screen resolution is 800 X 600, some computer users may have the larger 1024 X 768 or the smaller 640 X 480 resolutions. This affects the intended display of your Web page. Assuming that you have used a standard resolution of 800 X 600, a user loading up your page on a smaller screen may be frustrated if parts of it are cut off.
3. Find out how long your web page takes to load. Some users may not be connected to the Internet with high-speed services and a graphics intensive page may take a lot longer to load - it may deter customers from coming back to your website.

If you make your Web page accessible to all, after testing all the different factors, you will have reached more happy customers who will inevitably come back to you for repeat business. You could also get your friends to help you test out your Web pages and ask for feedback.

LESSON 47:
CUTE FTP–FINAL UPLOADING

Topics Covered

- Preparing Multimedia - Delivery, streaming, Downloading
- Dreamweaver – testing of HTML code and final publishing

Objectives

Upon completion of this lesson, you should be able to:

- Prepare multimedia
- Streaming
- Downloading
- Testing the coding of your personal home page
- Final publishing of your web document

Delivery

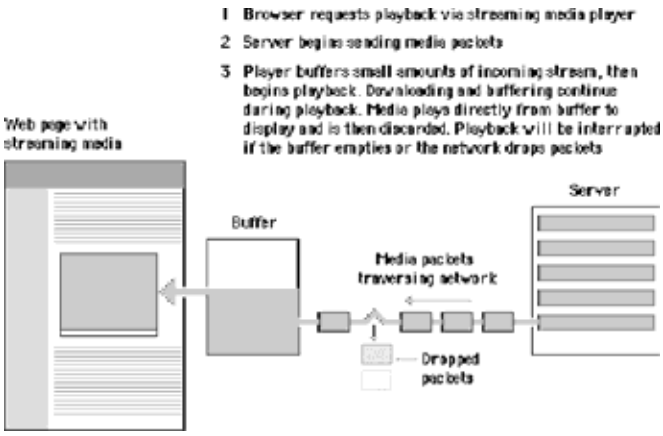
The technology of networked media consists of three main components: the server, the network, and the client machine. These three components must work in tandem to deliver good Web multimedia to the desktop. It makes no difference how high-end your video server and network are if your users are running low-end desktop machines that cannot handle the demands of playback.

The wildest of all these wild cards is bandwidth. If you purchase a high-end media server, you can expect a certain level of performance. You can predict playback performance on desktop machines. These elements are somewhat measurable. But unless you are working with a dedicated network, bandwidth will be hugely variable and difficult to predict. Issues regarding bandwidth run from the basic configuration of your connection to the network to the amount of network traffic at any given time.

Given these variables, the parameters for creating and delivering Web multimedia are not easily defined. They will vary depending on the scope and content of your project. If you are creating a Web site for a corporate intranet, for example, your media can be more technologically demanding than if you send it worldwide over the Internet. The key is to be well acquainted with the configuration of your client base and prepare accordingly.

Streaming

Streaming technology sends data to the desktop continuously but does not download the entire file. In the optimal scenario, the content is stored on a media server, which maintains a constant conversation with the client to determine how much data the user can support. Based on this information, the server adjusts the data stream accordingly and sends just enough data to the client.

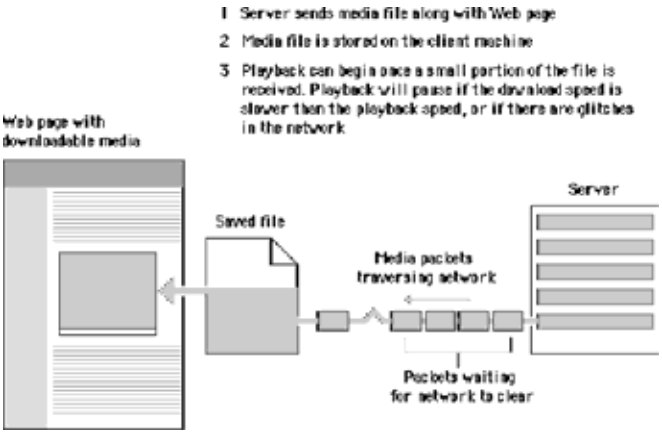


Streaming offers many benefits, the first of which is random access. Streaming technology permits movies to be viewed at any point in the video stream. If your reader is accessing an hour's worth of video and wishes to view only the last five minutes, he or she can use the controls to move forward to the desired starting point. Another benefit is a lower storage demand on the client machine. Streaming media plays directly to the display; it is not stored in memory or on the hard drive.

The strengths of streaming are also its shortcomings. To play a movie in real time the player software needs to keep up with the incoming data sent from the server. As a result, if there are glitches in the network or if the client machine cannot handle playback, the data may simply be lost. Streaming playback requires significant processing power, so playback may be suboptimal if the processor has to drop frames to keep up with the incoming stream. Also, streaming media needs to be heavily compressed to create a file small enough to play in real time.

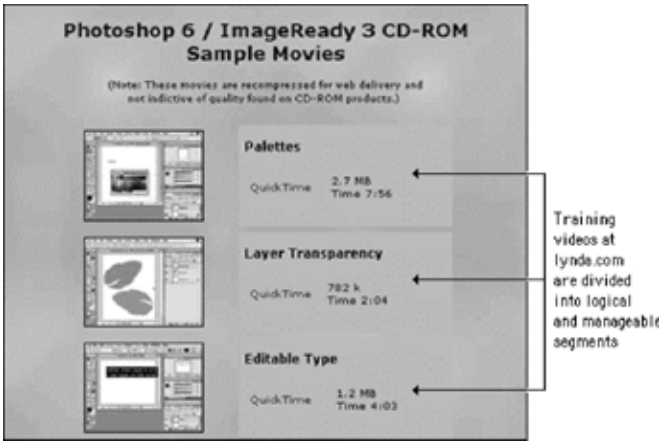
Downloading

Downloadable media is temporarily stored on the client machine in memory or on the hard drive. Most downloadable media is progressive, which means that the information necessary for playback is stored at the beginning of the file. Progressive download allows playback before the entire file has downloaded. Downloadable media is sent to the client using the same HTTP protocol as a Web page, so no special server is required. As long as the download speed stays above the data rate of the movie, playback will be uninterrupted.



The quality of downloadable media is generally higher than that of streaming media. Because the data rate is not required to remain low enough to play the material in real time, more data can be devoted to image quality and motion. Downloadable media also has integrity: all the data in the original movie is contained in the downloaded version. This means that playback is predictable and that you can download the data onto your disk for future use.

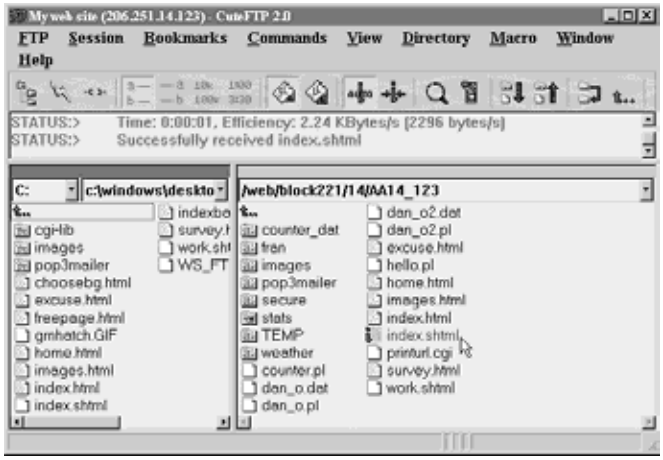
The main drawback of downloadable media is the storage demand it places on the client machine. Even videos of short duration require many megabytes of storage. The other problem is that downloadable media does not allow random access. If you want to view only the last few minutes of a long clip you must wait for the entire clip to download. One solution to both of these problems is to split longer media segments into smaller chunks. This reduces the demands on the client machine and allows users more direct access to the material they want.



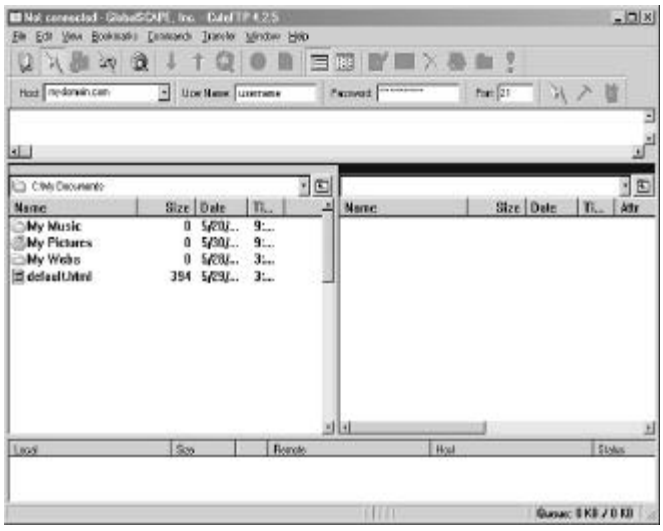
Computer Lab

Cute Ftp

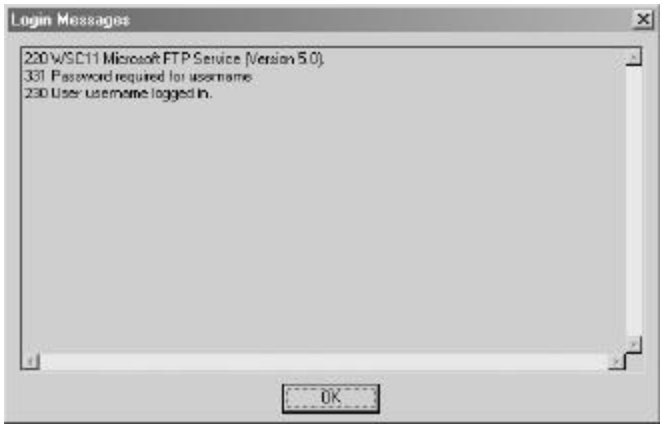
This is the initial screen of CuteFTP. To start the upload process click the connect button. It is the second one from the left and is labeled with lightning bolt.
To continue this tutorial click the connect button in the screenshot below.



Once the connect button has been clicked a connection bar will appear just below. There are three pieces of information that need to be entered here: the host (domain), the username, and the password for the hosting account.
Also note that there is now a second connect button labeled with a lightning bolt. It appears on the connection bar just after the hosting account settings. Once the settings have been filled in this button will become active. To connect click this button.
To continue this tutorial click the new connection button in the screenshot below.

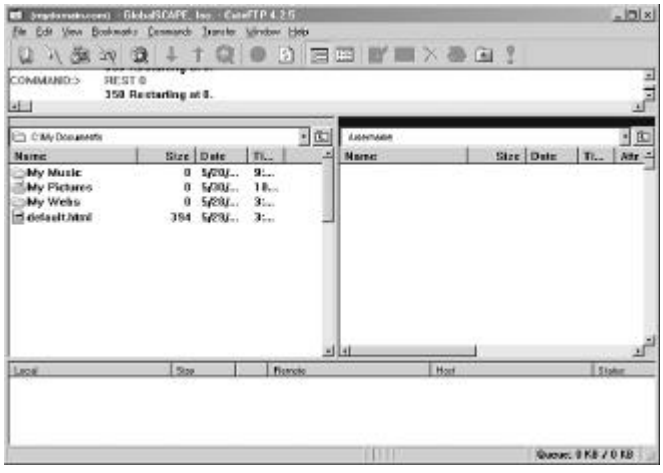


CuteFTP now does the work of connecting to the hosting server. The steps it goes through will be displayed in the dialogue box shown below. If there is a problem connecting, such as an authentication error, this screen will give you some clue as to what might be going on.
Once the connection has been established click the 'OK' button. To continue this tutorial click 'OK' in the screenshot below.



Once CuteFTP has successfully connected, the connection bar will disappear and you should see a view similar to the one shown below. The left side will display the files on your computer while the files on the hosting server appear on the right.

To move a file to the hosting server first locate it on the left and then double-click it. To continue this tutorial click on 'default.htm' in the screenshot below.



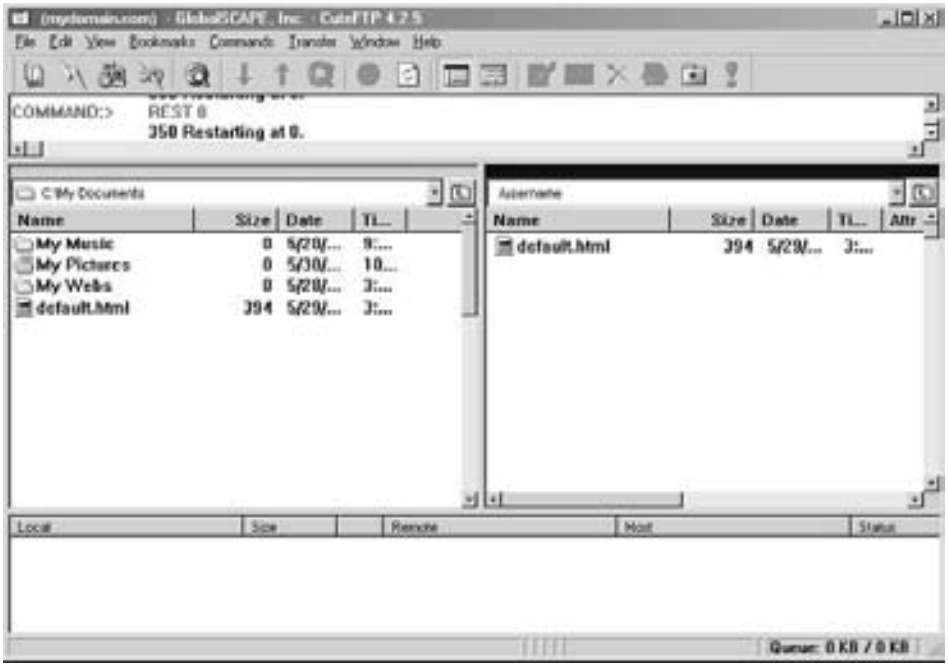
The progress of the transfer will be displayed in the bottom pane. If a firewall is interfering with the upload process this is the phase in which an error will likely occur. Again, CuteFTP may display messages here as it did in the connection dialogue that provide some clue as to what is going wrong.

Most likely all that will be necessary at this stage is to wait.

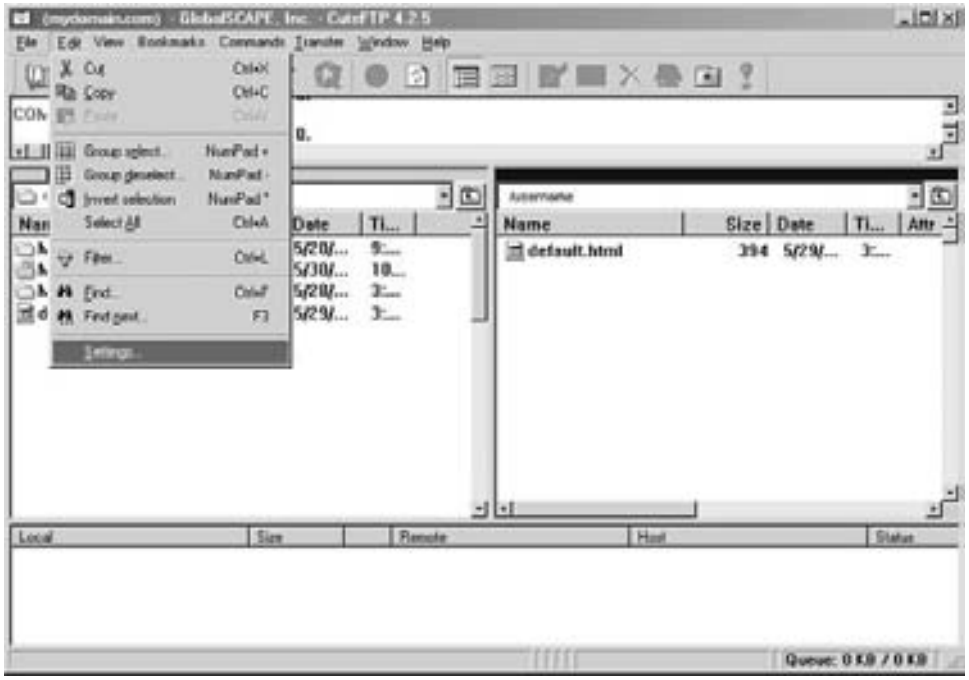
Once the transfer is successful the file will appear in both the left and the right panes of the program, as it now exists on both computers. If CuteFTP is unable to perform the transfer and the Internet connection is intact, then a firewall may be interfering.

To fix this problem it is usually necessary to adjust the passive transfers setting within CuteFTP. The following screens show how this is done. The first step is to open the 'Settings' dialogue box under the 'Edit' dropdown menu.

To continue this tutorial click 'Edit' in the screenshot below.



CuteFTP's settings may be accessed by clicking 'Settings' at the bottom of the 'Edit' dropdown menu. To continue this tutorial click 'Settings' in the screenshot below.



LESSON 48:
FINAL TOUCH

Topics Covered

- Design and Multimedia, inform your user, Provide content, Accessibility, Alternate versions, References
- Dreamweaver – Uploading your web document

Objectives

Upon completion of this lesson, you should be able to:

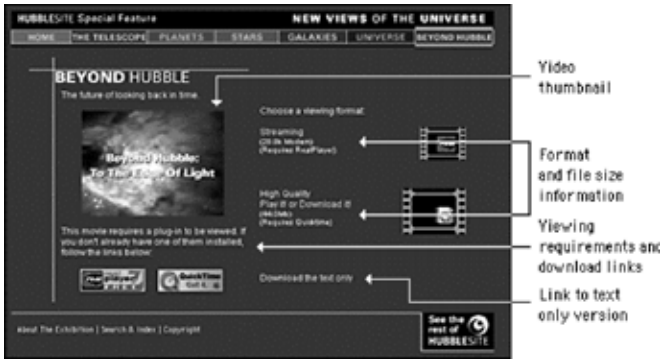
- Design and Multimedia
- Inform your user
- Provide content
- Add Accessibility
- Provide Alternate versions

Design and Multimedia

The combination of low-bandwidth considerations and primitive interface options creates interesting design challenges for Web developers who wish to incorporate multimedia elements into their sites. Designers need to inform users when they are entering a high-bandwidth area and give them the tools they need to control their experience once in the area.

Inform your Users

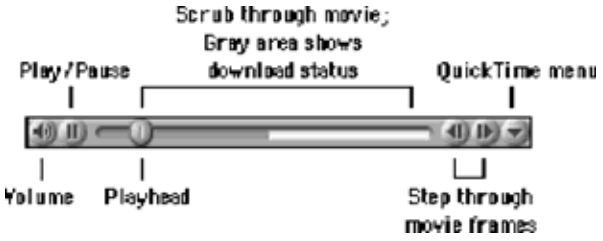
One aspect of the Web is that you don't always know where you're going or what you'll find there. For some this uncertainty is exciting. For many, it is annoying, particularly when a long wait is involved. Most frustrating, perhaps, is when you finally receive the requested page only to find that is not what you expected or that it contains materials in a format you are not set up to view. With content that is as technologically demanding as multi-media, it is especially important to give users enough information to make an informed decision *before they click*, so that they know what to expect and are prepared to receive your materials.



High-demand content such as large multimedia files should not be part of your basic page design. These materials should appear on secondary pages that are described and can be accessed from the main pages of your site. Make the menu page a plain HTML page that loads quickly and does not require special software. Include descriptive information about the materials along with previews such as still shots from the video. Include the run time for time-based media, and include the file size for materials that download. In addition, fully explain any special software requirements for accessing the materials and provide a download link. Your users should have a clear idea of what your materials are before they begin to download. With a menu interface, users can confirm that their systems are properly configured and that they have enough bandwidth, time, and patience to load the materials.

Provide Controls

Be sure to give users status information and controls when you are presenting multimedia materials. The QuickTime controller bar is an extremely effective interface element that provides both controls and status information. It allows users both to adjust the volume control and to play, stop, and scrub through a movie, and it provides information about the movie's download status.



If you don't include controls, users will hit your page with no way to control their viewing environment. For example, if a visitor is looking at your page at a public workstation and you have looping bird calls as a background sound without any control options, the visitor will experience an unsettling (and potentially embarrassing) moment when he or she cannot control interaction with your site. Many users in this situation will simply close the browser window to make the sound stop, which means that they never get to see the page content.

When designing a media interface, let interaction with your media be entirely user-driven. Always include user controls, such as a media controller bar, and make sure that users have a way to turn it off. Avoid prescribed playback options like auto play or looping that take control from the user. With auto play, for example, media files begin playing when a Web page is loaded. If the page has other elements, such as descriptive text, the user who wants just the text will find the video distracting. Design your media interface so that files play only when the user explicitly elects to initiate playback.

Accessibility

It is nearly impossible to construct a multimedia presentation that will be accessible by every user on the World Wide Web. Whenever you put multimedia content on your Web pages you potentially shut out users. For example, vision-impaired users cannot see content such as graphics, video, or animations. To access visual content, they need a text alternative that can be

spoken by a screen reader. Hearing-impaired users rely on content they can see, and so they need a visual alternative to any audible materials. Initiatives such as Section 508 and the Web Accessibility Initiative (WAI) have produced guidelines and mandates requiring that nontext content be rendered in an alternate format that is accessible to disabled users, such as text captions for audible content and text descriptions of visual content. This is why it is particularly important when planning for multimedia content to consider users with disabilities: both technology-disabled users who are connecting to the Internet via slow modems on outdated machines and physically disabled users for whom multimedia content may be out of reach.

Alternate Versions

The best way to ensure that your materials are accessible is to provide alternate versions designed to accommodate different users. For example, when creating Web video using QuickTime, developers can link different versions of their movie saved at varying levels of quality and compression. Then, when a user requests the movie via a Web page, QuickTime sends the version that the user's network connection can best accommodate. This approach supports divisions in technology resources, but alternate views also benefit those who are excluded from multimedia for physical reasons. By providing alternate views of your multimedia content, your information becomes accessible to people who cannot appreciate it in its native format because of physical limitations.

Text is the most widely accessible content there is. For physically disabled users, text can be magnified or read by special software or rendered by a braille reader. For those with technology limitations, text loads quickly and can be viewed on nongraphical browsers. Another strength of text over media content is that it can be read and indexed by search engines and translated into other languages. The best alternate, then, to multimedia content is the written word. For instance, if you are providing video content on your site, the simplest alternate to include is a text transcript of the audio track for hearing-impaired users. An even better approach would be to use the text as captions synchronized with the video. To address the needs of visually impaired users, you could also include a text description of the video track, either as a separate audio track or as text. Or simplify the materials by reducing the video track to a series of still images synchronized with the audio for users with reduced vision or cognitive difficulties.

At minimum, you can use basic HTML to give disabled users information about multimedia content. For example, you can use the ALT parameter to include a short description of the animation in your applet or animated GIF HTML code. Because almost all browsing devices can handle text, if you include this basic descriptive text, users who have their Web pages read to them will at least be able to understand the function of the visual content.

References

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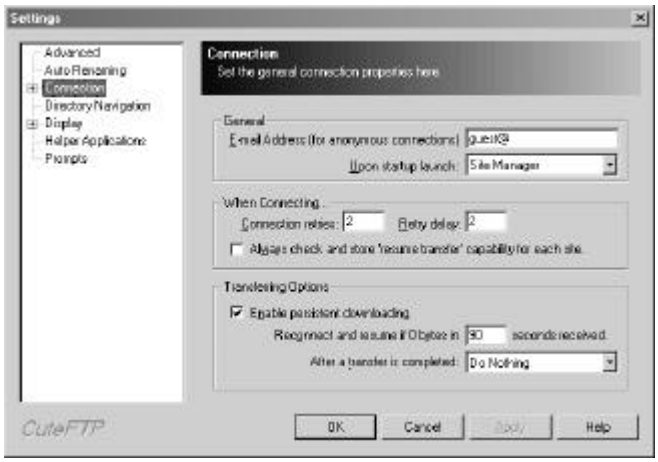
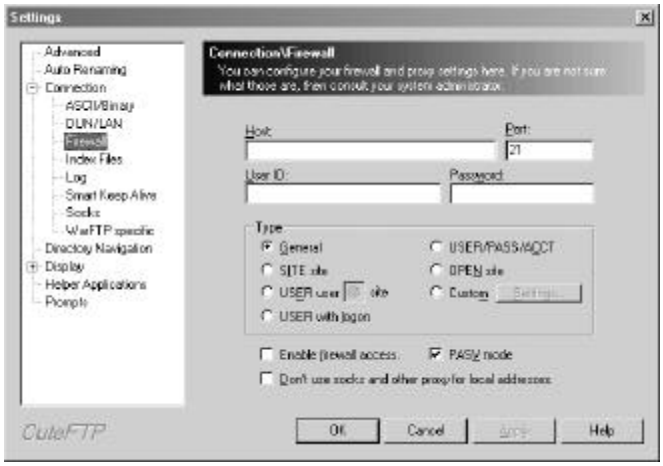
Computer Lab

Cute Ftp (Continued)

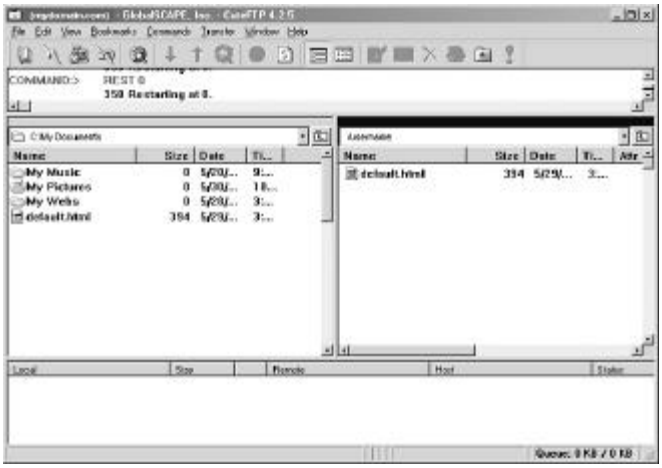
Cuteftp's Firewall Settings Appear In The 'Connection' Area. To continue this tutorial click the '+' beside the connection entry in the screenshot below.



To access the firewall settings click on 'Firewall' in the left pane of the dialogue box. 'Firewall' must be highlighted in order for the settings within to display on the right.
The passive transfer option is labeled PASV and is checked by default inside the program. If you are having trouble transferring files after successfully connecting then it might be helpful to uncheck this option, click 'OK," and try again.
To continue this tutorial click 'OK' in the screenshot below.



Clicking 'OK' within the settings dialogue box will return a person to the main screen. Disconnect, reconnect, and try to transfer the file again.
To return to the tutorial list click the 'Next' button below.



End Note

This is the end of E-media – 1, by now, you must have uploaded your website. Now we evaluate our work and wait for the feedback. In the next E-media 2, we go for more focused course ware, where we will be concentrating more on the content and we shall also learn more advanced technology.

All the best for your exams.

Notes