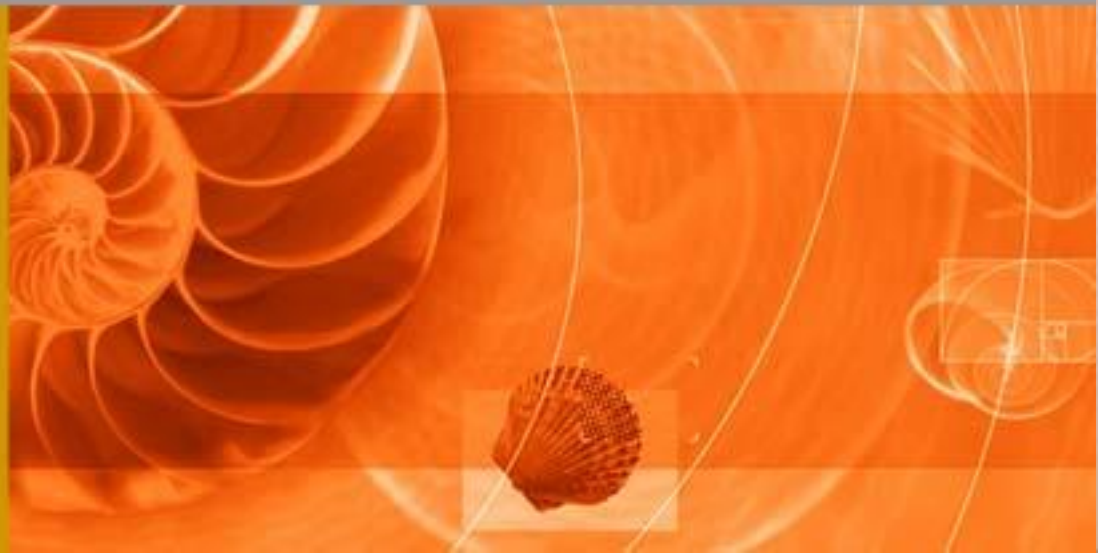


Fundamentals
of **WEB
DESIGN**



Mastering the Internet

Internet Languages

Internet Languages

- There are many languages in the computer world today.
- Luckily there are only a few that you need to be familiar with in order to get into the Internet business.

Internet Languages

HTML

- "HyperText Markup Language" (HTML) is the driving force behind Web pages on the Internet.
- HyperText, which HTML is based on, is any document which contains references to other documents that can be followed, thus linking documents to other related materials.
- It was designed to be a text based language not to display graphics, video, or sound.
- HTML is a very simple language to learn, but can become very challenging to master. It's not which HTML commands are used that make the best Web sites, it's how they are applied.

Internet Languages

XHTML

- XHTML is very similar to HTML, but is designed to work with the "eXtensible Markup Language" (XML).
- XML may become the language of choice for designing various new Web applications that use a variety of languages, including XHTML.
- Given that XHTML is designed to work with these other languages, it will allow different documents in different languages to be combined.

Internet Languages

DHTML

- The World Wide Web Consortium (W3C) said: "Dynamic HTML is a term used by some vendors to describe the combination of HTML, style sheets and scripts that allows documents to be animated."
- Using these technologies allows a designer to manipulate the style, layout, and contents of the Web page "on the fly" or in response to user input.
- There are many technologies for producing dynamic HTML, including Cascading Style Sheets (CSS), CGI, Java, Java Applets, JavaScript, VBScript, ColdFusion, PHP, ActiveX, and cookies.

Internet Languages

CSS

- Cascading Style Sheets (CSS) are used to define how to display HTML elements.
- CSS was added to HTML 4.0 to solve the presentation problem correctly.
- With CSS you can control the color, size, position, and many other characteristics of nearly every tag in HTML. This allows you to be much more creative with the look and feel of Web pages, and at the same time, not be limited by the HTML presentation tools.

Internet Languages

Java

- Java is an object-oriented programming language that can be used to extend the functionality of HTML by adding features to Web sites that are not possible with HTML alone.
- Java is unique in that currently no other language has stronger browser support.

Internet Languages

Java Applets

- Java can be compiled into browser-compatible executables known as Java applets.
- These applets are downloaded to the browser in a compiled format and executed by the browser.
- It is not possible to view the source code of a Java applet directly.

Internet Languages

JavaScript

- JavaScript is a browser-compatible scripting language whose source code lives inside the HTML documents.
- JavaScript adds features to Web sites on the client side that simply are not possible with HTML alone.
- For example, HTML is unable to display the current date as the JavaScript below does.

Date: Monday, July 20, 2009

Internet Languages

VBScript

- Visual Basic Script is a light version of Microsoft's programming language Visual Basic
- VBScript is inserted directly into a HTML document, the Internet browser will read the HTML and interpret the VBScript.
- The VBScript can be executed immediately, or at a later event.

Internet Languages

CGI Languages

- "Common Gateway Interface" (CGI) is a Web server-scripting standard used to connect scripts to Web servers.
- In the past, most CGI programs were script files written in scripting languages such as PERL ("Practical Extraction and Reporting Language").
- Today, CGIs can also be executable programs that are written in high-level languages such as C/C++ and Visual Basic.

Internet Languages

Active Server Pages

- Active Server Pages (ASP) is similar to CGI, but is put out by Microsoft.
- It is a server-side technology and is used for creating dynamic and interactive pages.
- The code for an ASP page is embedded within the HTML page itself and the page will have an .asp extension.
- Upon receiving a request for the page, the Web server executes the ASP instructions first, then builds the page to include any ASP-generated information, and returns the completed page to the client.
- ASP code is usually written in a language called VBScript, which is Visual Basic's Scripting language.

Internet Languages

ColdFusion

- ColdFusion is a server-side application from Macromedia for making databases accessible to the Internet.
- ColdFusion can be viewed as a set of HTML extensions designed specifically for accessing Databases, yet flexible enough to handle high-level programming demands.
- ColdFusion pages will have the extension .cfm or .cfml.

Internet Languages

PHP

- PHP (PreHypertext Processor) is a server-side scripting language for creating dynamic Web pages.
- You create pages with a combination of PHP and HTML and they will have a .php extension.
- Just like ASP and ColdFusion, upon receiving a request for the page, the server processes the PHP commands first and then sends the completed page, including the results of the PHP commands, to the client browser.
- Unlike ASP and ColdFusion, which are proprietary, PHP is Open Source and cross-platform.

Internet Languages

ActiveX

- ActiveX is a component object model (COM) developed by Microsoft for Windows
- ActiveX controls are small program building blocks that can be used to create distributed applications that work over the Internet through web browsers. Examples include customized applications for gathering data, viewing certain kinds of files, and displaying animation.

Internet Languages

Cookies

- A cookie is a small text file stored on your machine by the browser and contains information about your current Web session. Cookies are important because your browser has no other way to track information you have entered while moving between different Web pages. For example, cookies have become a valuable way to keep track of shopping cart items while shopping online.



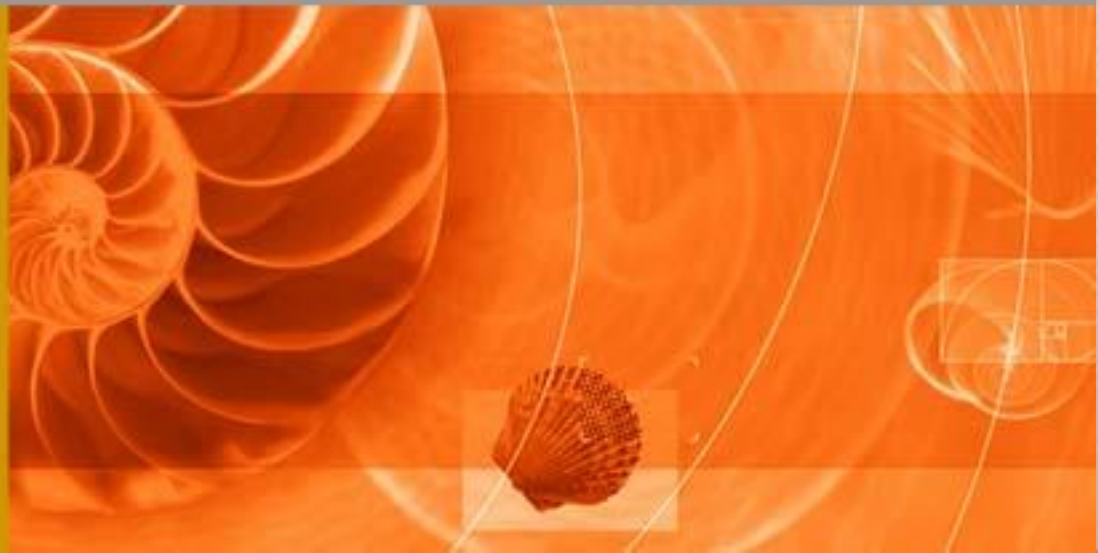
Internet Languages

Cookies

- Although there has been some debate over the privacy implications of cookies, they cannot be used to reveal anything about you to the server that you have not already explicitly revealed.
- A cookie alone cannot read your hard drive to find out who you are, what your income is, or where you live.



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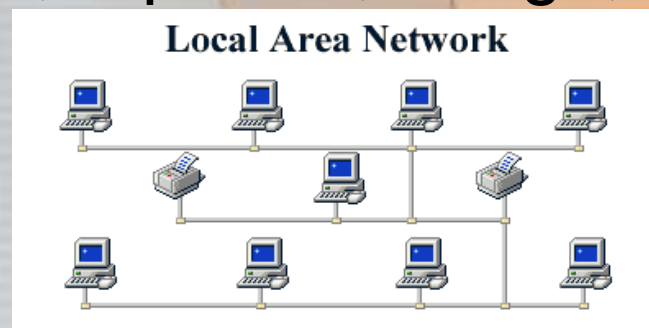


Mastering the Internet

Networking

Internet Connection Devices

- A **LAN**, "Local Area Network," is a collection of computers and other network devices that are connected together to form a network contained within a single physical site (one or more buildings).
- They either connect via a common network backbone, or using a central connecting device known as a hub, repeater, bridge, or switch



Internet Connection Devices

- **Repeaters** are dumb devices (make no decisions) that strengthen and broadcast a signal on one connection
- **Hubs** (multiport repeaters) are dumb devices (make no decisions) that strengthen and broadcast a signal on multiple connections
- Repeaters and hubs should only be used in networks of 10 devices or less

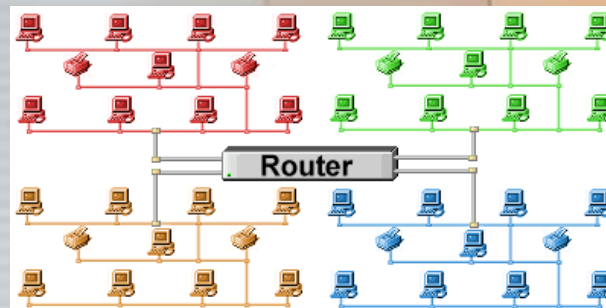
Internet Connection Devices

- **Bridges** are intelligent devices (make decisions based on the MAC address) that strengthen and broadcast a signal out a single connection
- **Switches** (multiport bridges) are intelligent devices (make decisions based on the MAC address) that strengthen and broadcast a signal out multiple connections
- Bridges and switches are used in large networks and give each port dedicated bandwidth

Internet Connection Devices

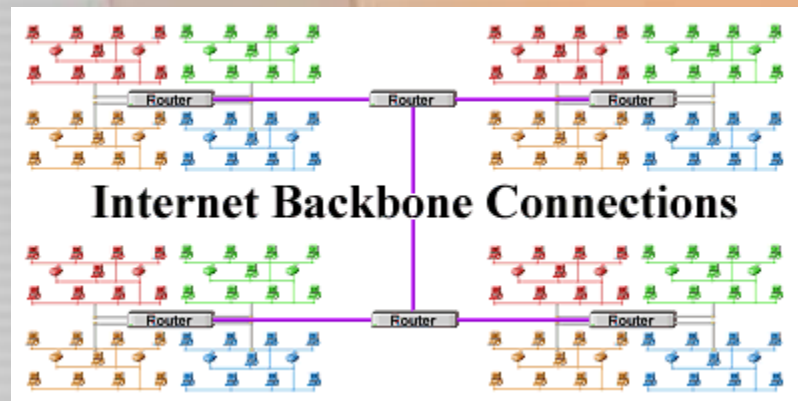
Routers

- A router is a device that connects local area networks together.
- A router can have two ports for connecting two networks together or have multiple ports which can connect multiple networks together to form network communities.



About Internet Connections

- The Internet itself consists of a network of interconnected networks collectively called the "Internet Backbone."
- It is the collection of all the machines connected directly and indirectly to the Internet backbone that make up the Internet itself.



Internet Connections

ISP

- An ISP, "Internet Service Provider," purchases T1 or better connections to the Internet and shares the expense of their Internet connection across their subscribers. Typically the subscribers pay \$20 a month to have dial-up access to the Internet.
- With a dialup account you typically receive an email address, access to newsgroups, and a small amount of personal Web space. The Web space is generally not flexible enough to create a full-blown business Web site, but makes for a nice location for a hobby site.

Internet Connections

Commercial Online Services

- Commercial online services are network connections via network communities such as AOL and CompuServe. These connections originally did not access the Internet but only their own private services. Due to the demand for access to the Internet, these companies now provide access to the Internet through their network communities.
- The key advantage to the commercial online services is they are easy to get running and easy to use.

Internet Connections

PPP

- "Point-to-Point Protocol" (PPP) is an advanced serial packet protocol. PPP, now the Internet standard, has extra features such as error detection and IP address negotiation.

PPPoE

- "Point-to-Point Protocol over Ethernet" is used to supply authentication back to the ISP.

Internet Connections

Phone Modems

- The most popular method of connecting to the Internet is via a standard phone line using a modem with connection speeds up to 56Kbps.
- The Internet provider's server is usually configured to assign you a unique IP address upon accepting your call.
- While you are connected, you retain the IP address and are a member of the Internet network.
- Once you disconnect, the assigned IP address is released and made available for the next caller to the Internet provider.
- Popular providers include EarthLink, NetZero, and Academic Planet

Internet Connections

DSL

- DSL, "Digital Subscriber Line," is a technology for bringing high-bandwidth information to homes and small businesses over ordinary copper telephone lines.
- **ADSL** (Asymmetric Digital Subscriber Line) and **SDSL** (Symmetric Digital Subscriber Line) are the two main types of DSL.
- Assuming your home or small business is close enough to a telephone company central office that offers DSL service, you may soon be able to receive data at rates up to 6Mbps, enabling a continuous high-speed Internet connection.

Internet Connections

ISDN

- ISDN, "Integrated Services Digital Network," achieves connection speeds up to 128Kbps connection.
- The great advantage of ISDN is its ability to connect to another computer at a speed that is much faster than even the fastest modem. This is because phone lines carry analog data and computers use digital data.
- A modem is needed to convert the digital data to analog data and on the other end another modem is needed to translate the data back to digital. Since an ISDN connection is digital, there is no need to do the conversion.

Internet Connections

Cable Modems

- Cable modems enable data connections up to 10 Mbps.
- In most cases a cable modem can send data at speeds up to 2 Mbps but receive data at 10 Mbps.
- Cable modems are also a direct connection like T-1, thus don't require connecting each time they are used.
- Since they connect across a standard cable TV line, they don't tie up your phone either.

Internet Connections

Satellite Connection

- A satellite Internet connection is where the upstream (outgoing) and the downstream (incoming) data are sent from, and arrive at, a computer through a satellite.
- Each subscriber's hardware includes a satellite dish antenna and a transceiver (transmitter/receiver) that operates in the microwave portion of the radio spectrum.
- Satellite Internet systems are quite pricey, but a great option for people in areas where other options are not available.

Internet Connections

Cellular

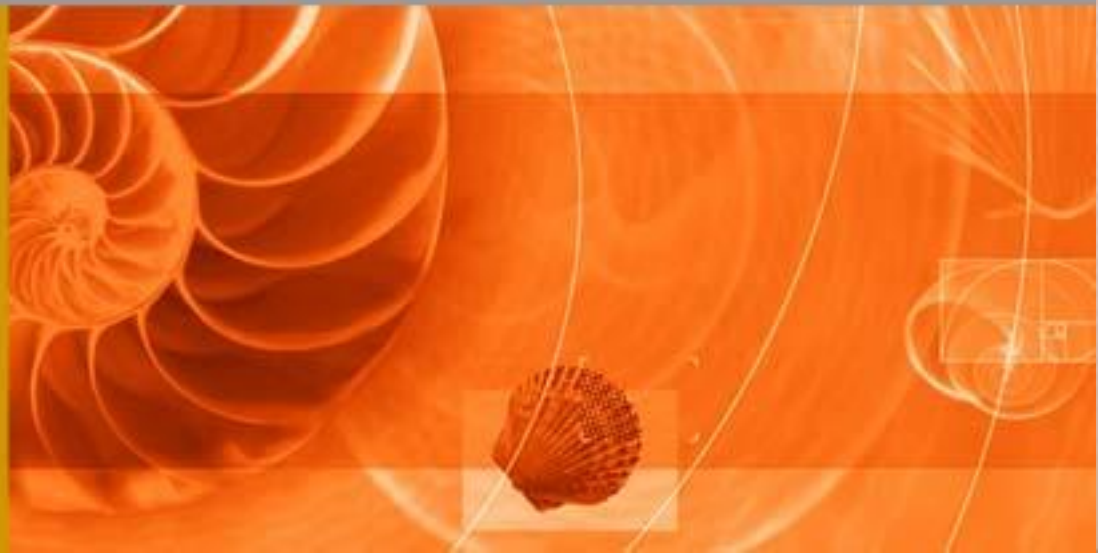
- Cellular phone companies are now becoming popular ways to connect to the Internet.
- Service is fairly slow but available anywhere you have cellular connectivity.
- Great option for people on the go.

Internet Connections

Direct Connection

- Most users at large companies, educational facilities and all universities have direct connections to the Internet via a shared T-1, T-3, or faster connection.
- The 1.54 Mbps (Million bits per second) T1 line, and the 45 Mbps T3 line, and even faster connections are certainly the preferred access to the Internet, but expensive. With this speed, comes an amazing price tag of around \$800 - \$1,600 a month for a T1 connection and much higher for a T3 connection. Because of these high costs, most users connect to the Internet via Internet providers.

Fundamentals
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Mastering the Internet

Browser Fundamentals

About Gopher

- Gopher is the predecessor to Web browsers both in concept and function.
- It is a menu-based system that allows a user to access information from a remote computer.
- Menu items point to a file or directory item, which may be located on the same computer or on a different one.
- Gopher servers essentially point to other gophers on remote machines and ultimately to the individual files available on those machines.
- Gopher has all but vanished with the advent of Web pages, but there are still a few out there.

About Mosaic

- Mosaic was developed at the National Center for Supercomputing Applications at the University of Illinois and first released in 1993.
- It was made available free to the Internet community.
- With the advent of Netscape, Mosaic rapidly lost its market share.

Browsers

- A browser, such as Internet Explorer, Firefox or Netscape, is an application that provides a means for viewing World Wide Web pages.
- Each of these are graphical browsers, which means that they can display graphics as well as text.
- In addition, most modern browsers can present multimedia information, including sound and video, although some may require plug-ins (small software add-ons that extend the functionality of the browser).
- Most newer browsers will also display Web sites that contain programming other than HTML, such as Java or PHP.

About Netscape

- Netscape was founded by James H. Clark and Marc Andreessen of Netscape Communications Corp. in 1994.
- Netscape has always pushed to be on the cutting edge of Web browsing, and continues to push the limits of what is possible.
- Netscape can be downloaded free from the Internet for both Windows and Macintosh platforms.
- The last version of Netscape was version 9, 2008 it was sold to AOL to be their official browser.

About Internet Explorer

- Internet Explorer is a Microsoft Product.
- Internet Explorer has always been free and comes preinstalled with the purchase of a new PC.
- Currently IE is running at version 7.
 - Includes support for P3P (Platform for Privacy Preferences), a standard intended to help boost user privacy currently under development by the W3C (the World Wide Web Consortium), a standards group.

About Firefox

- Mozilla Firefox is a relatively new browser but probably the second most used browser in existence (after Internet Explorer).
- Firefox has a large following in the web development community because Firefox interprets code in a strict fashion.
- Another unique feature is that Firefox can be 'skinned' meaning that you can download a number of different themes to use or develop your own.
- Firefox also can be extended even further with the use of plugins that are small software packages that allow you to customize the browser to almost any way you want it.

HTML Syntax Standards

- When developing browsers to process HTML, Netscape, Mozilla and Microsoft went in slightly different directions. Netscape and Firefox has rigidly complied with the standards set for HTML, while Internet Explorer seems to have taken a few liberties.
- Microsoft has added code that allows some extra functionality when viewing pages on Internet Explorer. In addition Internet Explorer has been programmed to read HTML with a looser interpretation. In other words Internet Explorer may display the page as if it is correct when in fact the code may not be complete or arranged correctly.

Browser Functionality Features

- Be aware that Netscape, Internet Explorer and Firefox have implemented HTML features that are also browser dependent.
- These features are referred to as browser dependent features and not necessarily available in all versions of the browser.

Other Browsers

- Believe it or not, there are other browsers which are equally as useful as Netscape and Explorer.
- Typically they are free, and offer plenty of features available only in those browsers.
- These browsers currently do not enjoy a large market share but are worth mentioning as alternatives.
- NetPositive
- NetCaptor
- NeoPlanet
- Opera
- Safari
- Chrome

Bookmarks vs. Favorites

- "Bookmarks" are Netscape's and Firefox's name for a shortcut to a Web site address to save for visiting again later.

To create a bookmark in Firefox, you can

- Right click anywhere on the page and choose the Bookmark option.
- Choose Bookmarks > Bookmark this Page.
- Highlight a URL and then click-and-drag the URL to the bookmarks toolbar.
- Open the 'Bookmarks Manager' (Bookmarks > Manage Bookmarks) and then choose New Bookmark

Bookmarks vs. Favorites

- Netscape provides 4 ways to do this. The 4th way is the quickest way to get your bookmark directly into the folder where you want it to live.
 - Right click anywhere on the page and choose the Bookmark option.
 - While in the page you wish to save, click the bookmark icon and choose "Add Bookmark."
 - If you wish to use your personal toolbar you can click and drag the green linking icon (next to the word Location) to a spot on the personal toolbar.
 - This green linking icon can also be dragged directly over the bookmarks icon, opening up the bookmarks, so that it can be dropped directly into your folder of choice.

Bookmarks vs. Favorites

- Favorites are Internet Explorer's equivalent to bookmarks. There are three ways to save your favorites. The first method seems to be the quickest of these, due to the fact that Explorer asks you what folder to store your shortcut in each time you try to save a favorite.
 - Right click anywhere on the page and choose "Add to Favorites."
 - While in the page you wish to save, go to "Favorites" in the top menu bar and choose "Add to Favorites."
 - To add a link to the personal toolbar, click on the explorer icon inside the address bar and drag it to a blank spot on the toolbar.

Browser History Feature

- All browsers provide a history of all the pages you have visited within the time determined in your History preferences.
- When in History you get a detailed list of every page of every Web site in order of last visited. You may click on any of them to view these visited pages.
- In Firefox you can view your history by the order in which you visited sites, by date, by site or by most visited.
- The history feature is also responsible for making the links in Web pages appear visited.

Cache vs. Temporary Internet Files

- As pages and graphics are being downloaded on to your computer for viewing through the browser they are being saved in a place usually referred to as your cache (pronounced cash).
- Internet Explorer uses a separate directory called "Temporary Internet Files." This means every HTML page and every graphic on those pages is still living inside your computer's memory and taking up valuable hard drive space.
- Every so often it is a good idea to find these directories and delete their contents.
- One of the unique features of Firefox is the ability to set a preference to have your cache deleted each time you close your browser. This has been added to IE7.

Using the Back and Forward Buttons

- In Netscape you can hold down the back button to see the list of sites it will allow you to go back to.
- This same feature is achieved in Internet Explorer and Firefox with a little down arrow next to the back button. If a Web page doesn't allow you to back out of it, you can simply use this trick to click on the page you would like to go back to.

Shift Reload vs. Control Refresh

- Sometimes when reload or refresh is pressed the browser will only redisplay the same version you already have in the cache.
- In these cases you will need to press the shift key on your keyboard while pressing the reload button in Netscape and Firefox.
- In Internet Explorer the same affect is achieved by pressing the control key while clicking on refresh.
- ❖ Often you can fix pictures that won't come in, or Java that will not run correctly the first time, by using this tip.

Viewing the source code

- In these browsers, you can view the HTML code that makes up a Web page by right clicking on the page and choosing "View Source."
- This can also be achieved by clicking on "View" in the top menu bar and choose the "Page Source" option.

Copying text from a Web page

- You may be accustomed to moving a line or a paragraph in a word processing application using "copy" and "paste."
- Copy and paste is also possible from one application to another even when there is not an option for it as a menu choice.
- By highlighting the text either on the page itself or inside the source code you can use keyboard shortcuts to place this text on the clipboard.
- For copy use Ctrl + C, for cut use Ctrl + X, and to paste use Ctrl + V. These are very useful shortcuts to become accustomed to for Web site design.
- You can also select the entire page using Ctrl + A.

Saving pictures from a Web page

- Pictures that are included in the HTML that is downloaded onto your computer can be saved with a simple right click on the image in these browsers.
- A menu will appear, choose "Save Image." You will then be asked to choose a location to store the image.
- ❖ It is illegal to download pictures without proper consent.

View Image Width and Height

- Only in Netscape and Firefox, you can right click on an image and choose "View Image (image_name.gif)". It will show you the picture alone in the browser window and the Title bar at the top of your browser will display the width and height of the image.
- To view the width and height of an image in Internet Explorer 5.x or newer, you may right click the image and choose properties. The width and height are listed in this properties box.



eagle.jpg

Preserve Form Fields on Back Button

- While filling out a form on the Web you sometimes leave something out or want to go to another Web site to get answers before finishing the form. In this case, you can simply use the back button to navigate back to your form and Netscape will hold the items you have already typed.
- Internet Explorer does not preserve the contents of form fields as reliably as Netscape.

Minimizing tool bars on the fly

- In both Internet Explorer and Netscape Toolbars can be moved around by clicking and dragging on the left side of them.
- Both allow you to turn toolbars on and off from the "View" menu, however, in Netscape the bars can be minimized simply by clicking once on the left end.

About Browser Plug-ins

- Plug-ins are software programs that extend the capabilities of your browser. For example, plug-ins can give you the ability to play audio samples or view video movies from within all three browsers.

Browser Plug-ins

Java

- Originally it was necessary to download a plug-in to view Java on a Web page. Since Java is now considered mainstream technology it is included in the newer versions of Netscape, Firefox, and Internet Explorer.

Browser Plug-ins

Flash

- Flash is a plug-in required to view content developed using Macromedia Flash Publisher application. Flash is used to create highly interactive web sites. You may have seen Web sites that have introductions that move in and out to music and include buttons that move and make cool sounds when rolled over. These are also used to create presentations and interactive games.

Browser Plug-ins

RealPlayer G2

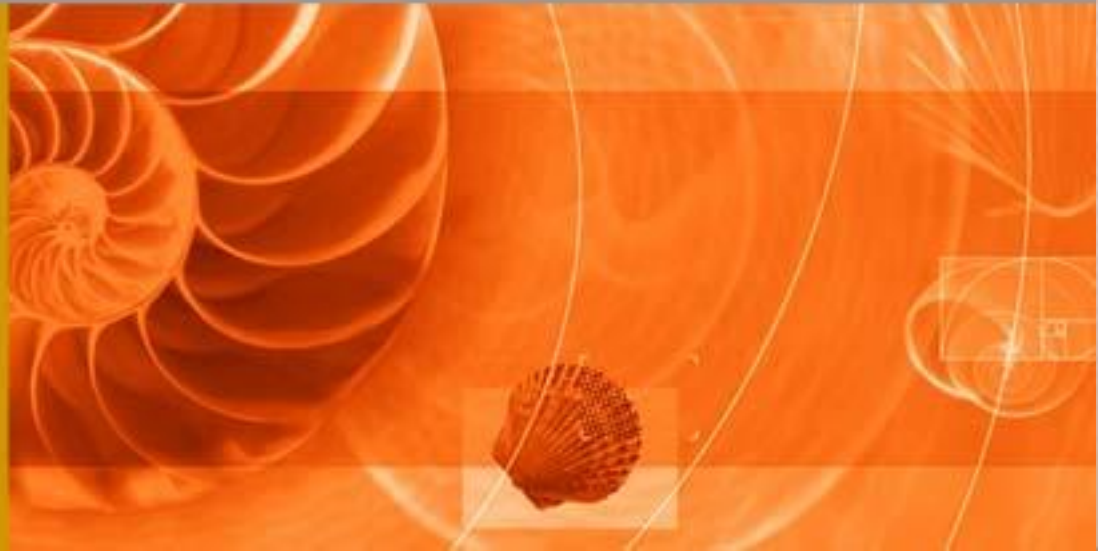
- RealPlayer provides live and on-demand real-time RealAudio and RealVideo streaming content on the Web. This new G2 version comes with video and picture controls, audio with 10-band equalizer and built-in support for MP3.

Browser Plug-ins

Adobe Acrobat Reader

- Adobe Acrobat Reader is a free program that allows you to view and print maps and forms that have been created in Adobe Acrobat. Webmasters often use Acrobat for items that need to be navigated and printed because this plug-in insures that the result views and prints the same regardless of the browser or system configurations. Another advantage is that files in different formats such as Excel, Word, WordPerfect, etc., can be exported to the Acrobat format which is viewable by anyone with this plug-in. The Reader plug-in is free, however, to produce images in this form (.pdf format) you must pay for the software necessary to convert the image.

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Mastering the Internet

Internet Searching

Search Engines

- A search engine is an interactive tool that enables users to locate information available on the Internet. They are capable of searching Web pages, FTP sites and news groups. Search engines provide "fill-out" forms and other interfaces so the user can type in a query, submit the request, and retrieve a list of resources that match the search criteria.
- The hypertext environment makes it possible to offer a link directly from the list of results to the resources themselves.

Indexes

- A search engine works by sending out a "spider" or "crawler" to retrieve as many documents as possible.
- Another program, called an indexer, then reads these documents and creates an index based on the words contained in each document.
- Each search engine uses a proprietary algorithm to create its indexes so that you, hopefully, will see responses that are useful.
- These "spiders" or "crawlers" are constantly searching the Internet in order to create catalogs of Web pages. It is because of these algorithms and the sheer number of pages indexed that results vary from site to site, as well as possibly displaying old or broken links.

Directories

- Unlike indexes, directories are created by humans. Sites must be submitted for approval by the Webmaster or Web development team, then they are assigned to an appropriate category or categories.
- Because of the human role, directories can often provide better results than search engines.
- Yahoo is an example of a directory

Search Engine Rankings

- So how do search engines go about determining relevancy of its results to your search words?
- They follow a set of rules, with the main rules involving the placement and frequency of keywords on a Web page.

Keywords Placement

- Pages with keywords appearing in the title are assumed to be most relevant. Search engines will also check to see if the keywords appear near the top of a Web page, such as in the headline or in the first few lines of text.
- They assume that any page relevant to the topic will mention those words at the beginning of the page.
- Web pages with keywords placed inside clickable link text typically rank higher as well.

Keywords Frequency

- Frequency is the other major factor in how search engines determine relevancy. A search engine will analyze how often keywords appear in relation to other words in a Web page.
- Those with a higher frequency are often deemed more relevant than other Web pages.

Link-To Frequency

- Search engines may also give Web pages a "boost" for certain reasons. For example, Excite uses link popularity as part of its ranking method.
- It calculates which pages in its index have numerous links pointing at them. These pages are given a slight boost during ranking, since a page with many links to it is probably well regarded on the Internet.

Meta Tags

- Meta Tags are used to define keywords and descriptive information within the HTML code. Meta Tags can be helpful but are not necessarily the "secret" to reaching the top of the rankings.
- HotBot and Infoseek do give a slight boost to pages with keywords in their Meta Tags.
- Lycos doesn't read them at all, and there are plenty of examples where pages without Meta Tags still get highly ranked. They should be part of the recipe, but they are not necessarily the secret ingredient.

Meta Tags

- An example of a description Meta Tag is:

```
<meta name="description" content="Take Certified Internet Webmaster courses by studying online." />
```

- An example of a keywords Meta Tag is:

```
<meta name="keywords" content="Burleson, Burleson High School, web, web master, webmaster, html" />
```

Search Engine Spamming

- Search engines may also penalize pages or exclude them from the index, if they detect search engine spamming.
- An example is when a word is repeated hundreds of times on a page to propel the page higher in the listings.
- All major search engines penalize sites that attempt to spam.

Search Phrases

- In order to retrieve an exact phrase, you can use quotes to make it clear those words must appear together in the result. You may also use plus and minus signs to indicate which items must and must not appear in the results. Below are some helpful examples.

+recipe +cookie +chocolate ="peanut butter"

Search Phrases

- You may also use Boolean operators as indicated below. Notice the use of parenthesis to group ideas.

+cookie AND (chocolate OR nuts) AND NOT "peanut butter"

Some search engines like will allow you to choose options, such as "All the words," "Any of the Words," or "Exact phrase."

Search Resources

- Following are some of the search resources available on the Internet. These are useful sites and you may want to spend some time exploring them to assist you in searching the Web successfully.

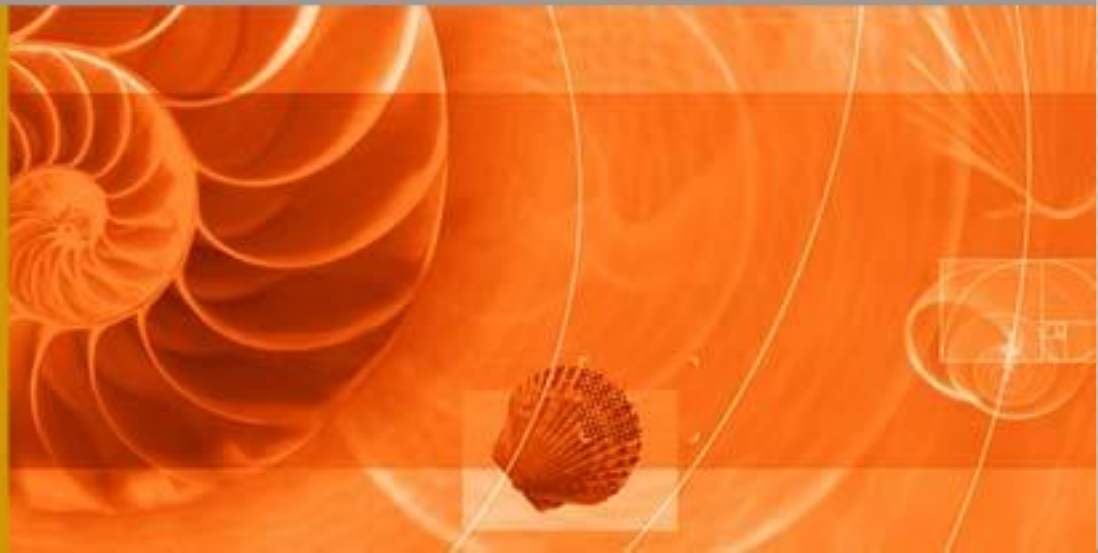
- 1) [Yahoo's Index of Search Sites](#)
- 2) [Learn About Meta-Search Engines](#)
- 3) [How to Choose the Search Tools You Need](#)
- 4) [Internet Searching Strategies](#)
- 5) [A Guide to effective Searching](#)
- 6) [Internet Search Tool Details](#)
- 7) [Choosing the best Search Engine](#)
- 8) [Using the Internet for Research](#)

Search Engines

- Following are some of the popular search engines. Remember, searching for the same thing on each of these engines will very likely turn up different results.

- 1) www.google.com
- 2) www.lycos.com
- 3) www.whatis.com
- 4) www.ask.com
- 5) www.nbc.com
- 6) www.altavista.com
- 7) www.hotbot.com
- 8) www.yahoo.com

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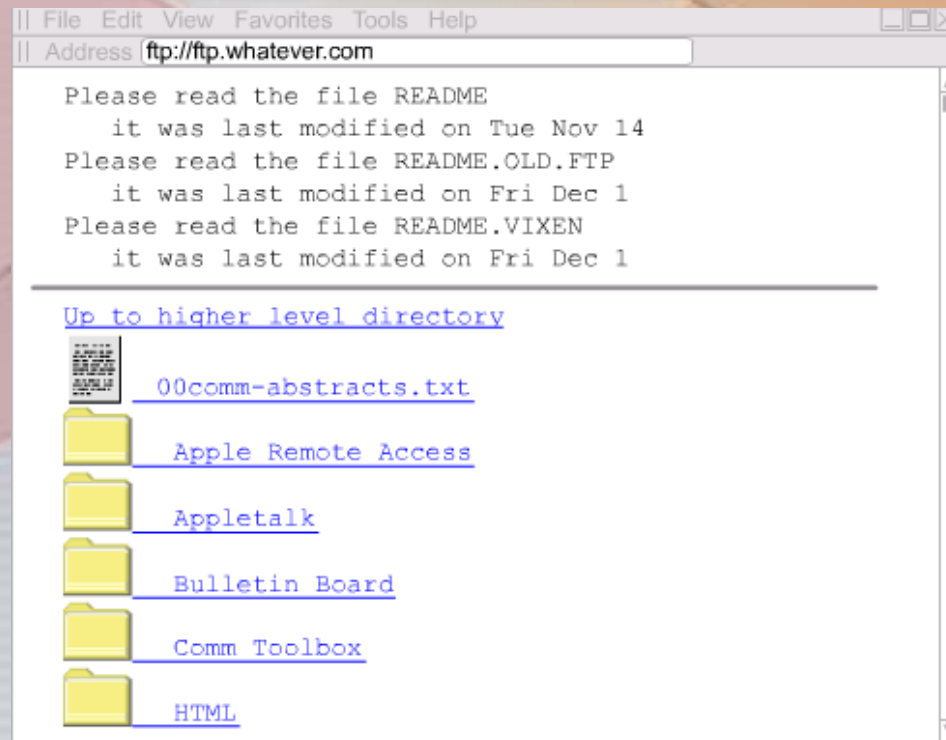
Mastering FTP

About FTP

- FTP, File Transfer Protocol, is the protocol, or set of rules, which enables files to be transferred from one computer to another.
- It is part of the TCP/IP protocol suite.
- Files that are available for FTP are stored on computers called FTP servers.
- An FTP client program is an application that allows the user to locate the file(s) to be downloaded and initiate the download process.

About FTP

- Mastering the use of this tool as a Webmaster will enable you to upload/download multiple files (web sites) from/to anywhere you can gain access to the Internet.



ASCII Files vs. Binary Files

- **ASCII files**

ASCII files are unformatted files, also called "text files," which can be opened in a simple text editor such as Microsoft's Notepad. In FTP, ASCII files must be transferred in ASCII mode to transfer correctly. File types include .txt, .htm, .html and many others.

- **Binary files**

Binary files are executable programs, documents, pictures, sounds, multimedia, zip files, or any other non-text file. In FTP, binary files must be transferred in Binary mode to transfer correctly. File types include .jpg, .gif, .avi, .mpg, .mp3, and many others.

Downloading & Uploading

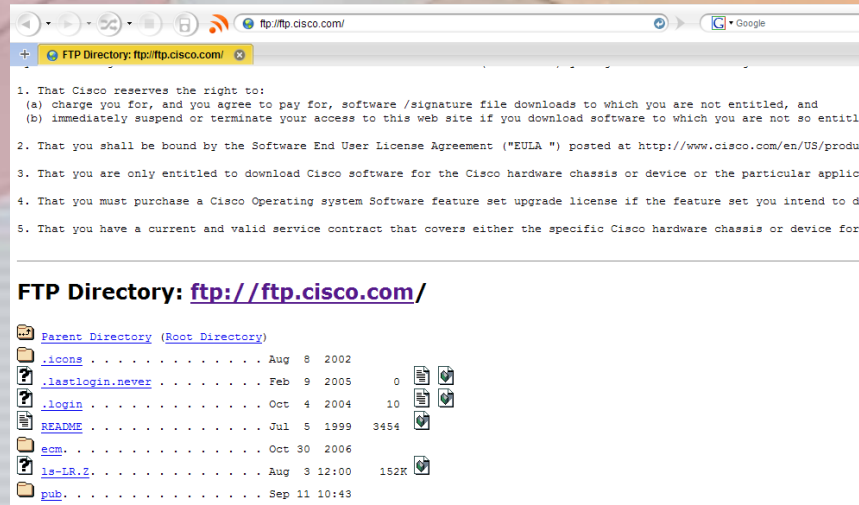
- The term "downloading" refers to the process of retrieving a file from a remote computer to your computer.
- The term "uploading" refers to the process of sending a file from your computer to a remote computer.
- To download or upload a file correctly, the remote computer must be instructed to transfer the file in the correct format, either ASCII or binary.
- Failing to download or upload the file in the correct format may make the received file unusable, but will not affect the original file.

About FTP Downloading

- An FTP client program, such as IPSwitch's WS_FTP, is an application that allows the user to locate the file(s) to be downloaded and initiate the download process.
- Many software companies have anonymous FTP sites which allow users to log on with a username of "anonymous" and any password. Through anonymous FTP, users have access to many types of files without having to get permission from the owner of the FTP site to gain access.

Downloading with a browser

- The average user uses their browser for FTP downloads, and not a stand-alone program.
- Most browsers allow you to view the FTP files on a server simply by using their domain address with FTP in front of the URL instead of HTTP. This will look more like a list of folders that you can click on to see what each contains rather than a web page.



Why Use FTP?

- *"Why would I want to use a FTP program instead of my browser?"* There are several reasons:
 - First, this is the standard way to upload files to a remote server since you can only download files with a browser.
 - Second, the transfer rate is much faster than through a browser.
 - Third, WS_FTP allows you to browse files on FTP servers and download or upload one or more files at a time. Because you simply highlight the file(s) to be transferred then press one button directing it to a destination, it is a very quick and easy way to transfer files.