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Introduction to the World Wide Web and Mosaic

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6/13/94 5:30 p. m.

IMPORTANT: This document is a hypertext file. If you are reading it in printed form you can get an electronic version by using your Mosaic browser's "Open URL" feature. This document's URL is "http://sti.larc.nasa.gov/demos/mosaic-general.html". The electronic version contains Hyperlinks that allow you to access reference documents in other parts of the World Wide Web. (All of this is explained in more detail below.)

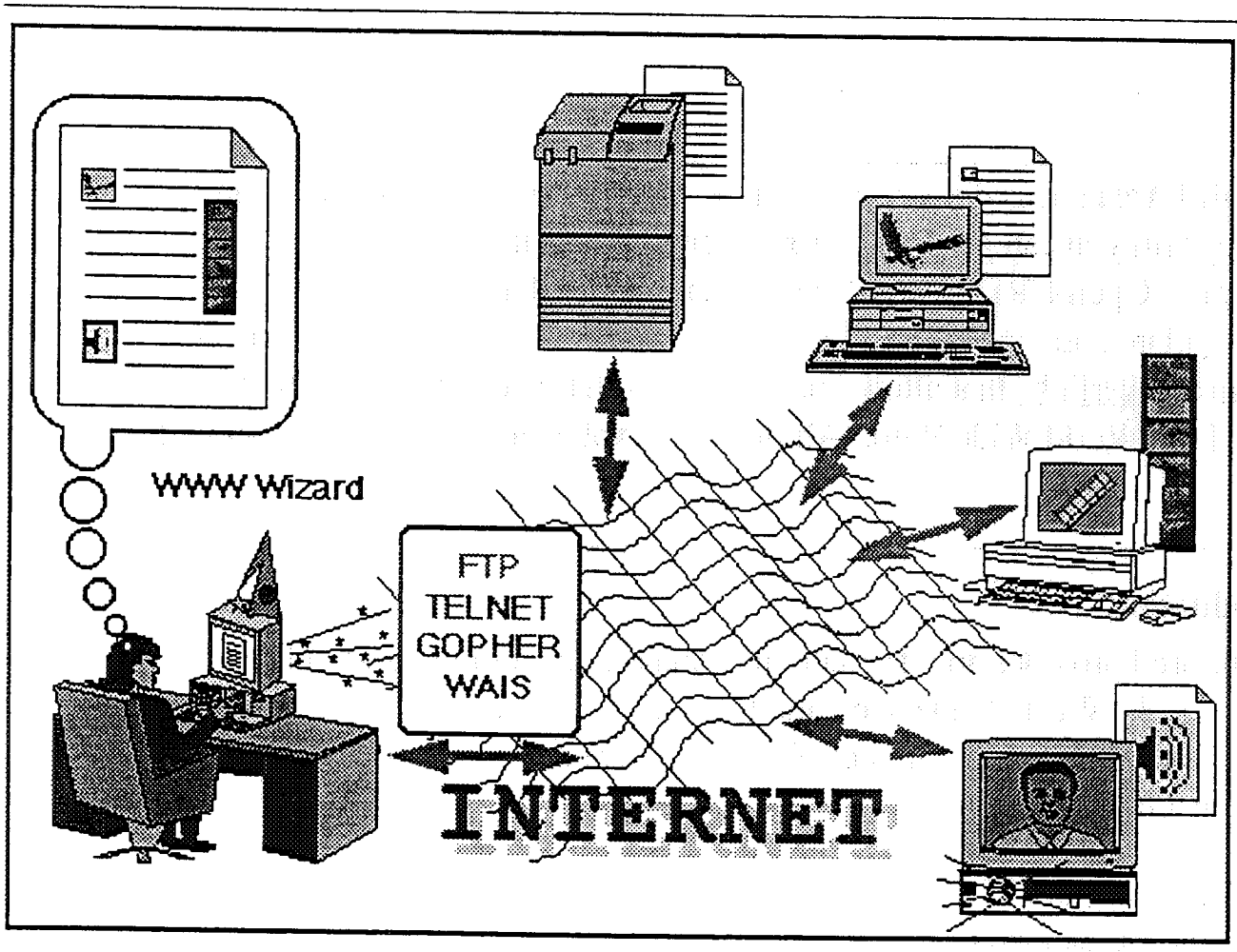
Introduction

This tutorial provides an introduction to some of the terminology related to the use of the World Wide Web and Mosaic. It is assumed that the user has some prior computer experience. References are included to other sources of additional information.

The concepts are:

- The World Wide Web
- Browsers
- Mosaic
- Hypertext
- Hypermedia
- Distributed Hypermedia
- Hyperlinks
- HTML
- URL
- Hotlist
- Hints

If you are reading this document from within Mosaic and you are familiar with some of these concepts and want to skip to an unfamiliar section just place your mouse cursor on the section you wish to read and click the mouse button. If you are reading this document in printed form, the sections proceed in the order given above.



What is the World Wide Web (WWW or W3)?

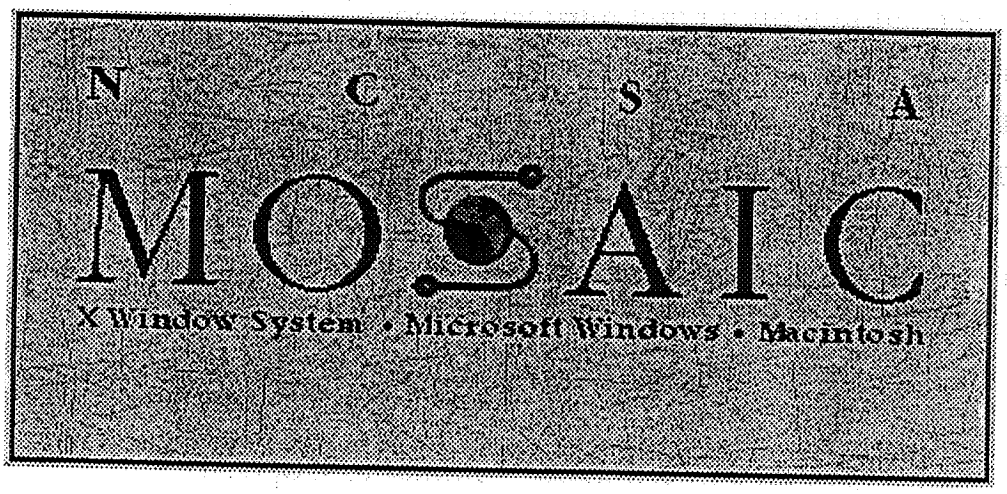
The world wide web was first conceived at the CERN high energy physics research laboratory in Switzerland as a way to quickly share physics research results over the Internet. The shared data was often graphical in nature so existing methods of distributing text were not adequate. CERN defined standards for uniform access methods to all forms of media on the net. There are several different WWW clients; Mosaic is emerging as the most popular. The WWW attempts to find uniform ways to access all of the current Internet resources including:

• Gopher (An on-line card catalog of many on-line libraries.)
• WAIS (An on-line catalog browser and retrieval mechanism)
• FTP (File Transfer Protocol) -- A way to transfer files to and from other computers to your computers.)
• Usenet (The worlds LARGEST computer bulletin board)
• telnet (A way to log into other computers)
• hytelnet (A menu driven version of telnet)
• hyper-g (A hypermedia system built on existing large databases, Computer Aided Instruction lessons and a general purpose hypermedia encyclopedia)
• techinfo (Another Internet based information -- similar to Gopher)
• texinfo (Based on Donald Knuth's TeX typesetting system, texinfo allows one file to produce both on-line help files and a printed manual)
• man pages --UNIX manual pages on-line (help files)
• hypertext documents
• "Phone book" services (On-line "White" and "Yellow" pages)

Browsers

A browser is simply a software application that recognizes the standards that define the World Wide Web. Mosaic is **not** the only browser for the World Wide Web. Some of the other browsers are:

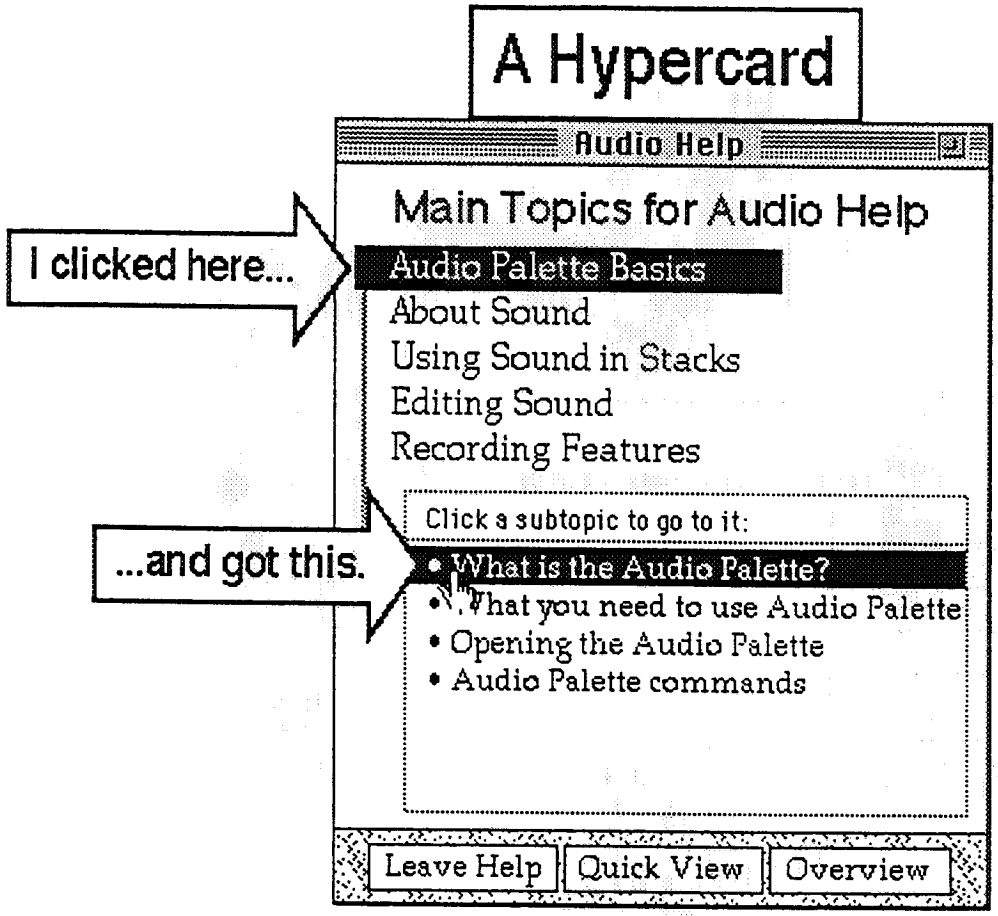
• Cello for Microsoft Windows
• DosLynx for MSDOS
• Samba and MacWeb for the Macintosh
• Chimera, tkWWW and MidasWWW for X Windows System
• Lynx text mode browser for UNIX



What is Mosaic?

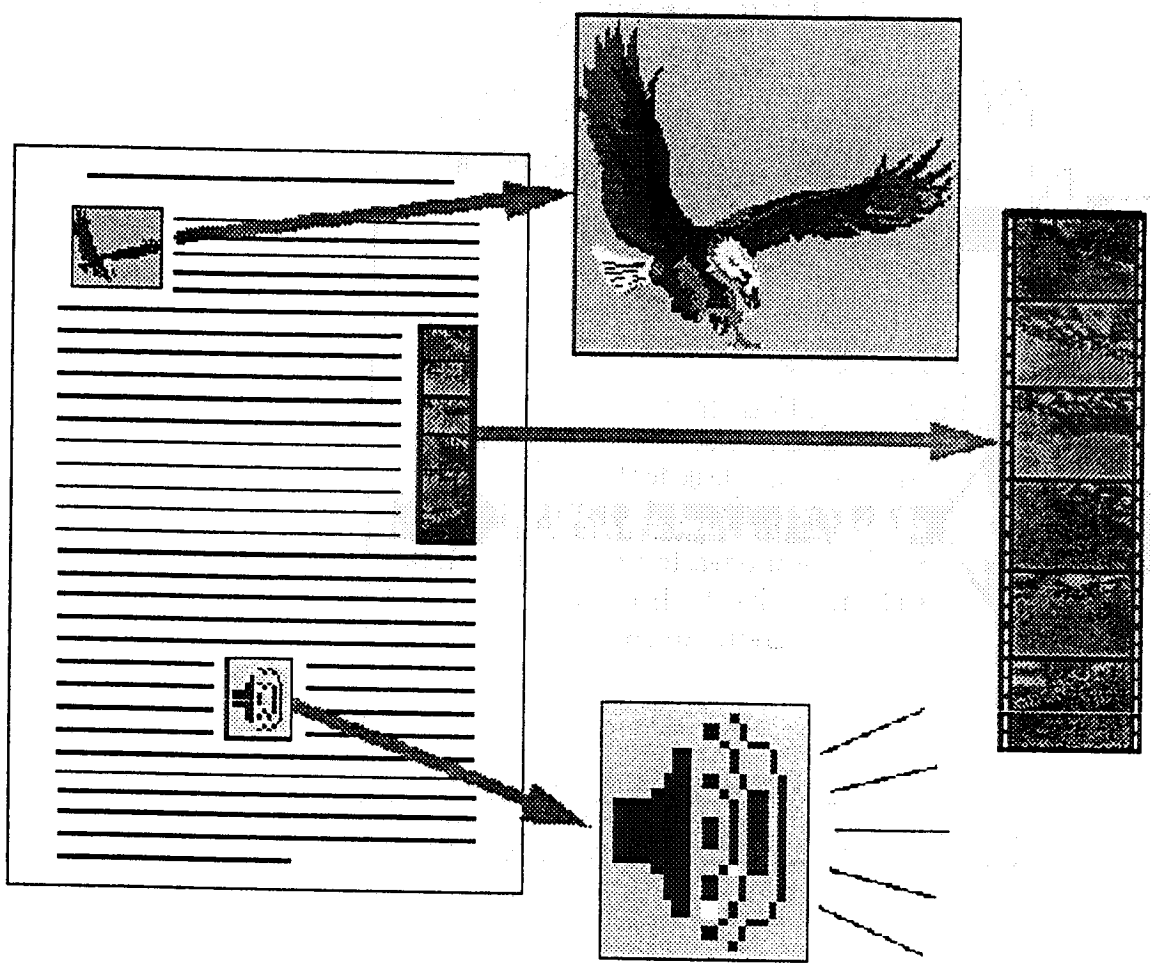
Mosaic is a distributed hypermedia browser for the World Wide Web (WWW or W3). Mosaic was originally developed in the USA at the National Center for Supercomputer Application (NCSA) at the University of Illinois at Urbana/Champaign, and is in the public domain. Mosaic was originally X-mosaic for X Window System for UNIX. Mosaic has become so popular that it has been renamed from X-mosaic because it is now available for X Window System, PCs and Macs. Mosaic is available in version 2.0 for X Window System and PCs. Version 2.0 Alpha for the Mac was released on June 10, 1994. It is not known how stable and usable this release is. Version 1.0.3 for the Mac is the current fully released version. This version does not have "Forms Support".

Mosaic provides a more "user friendly" interface to existing Internet services such as Archie, Gopher and WAIS, which allow users to search for and retrieve data from sources throughout the world. Mosaic provides for direct transfer and display of images, motion pictures and sound.



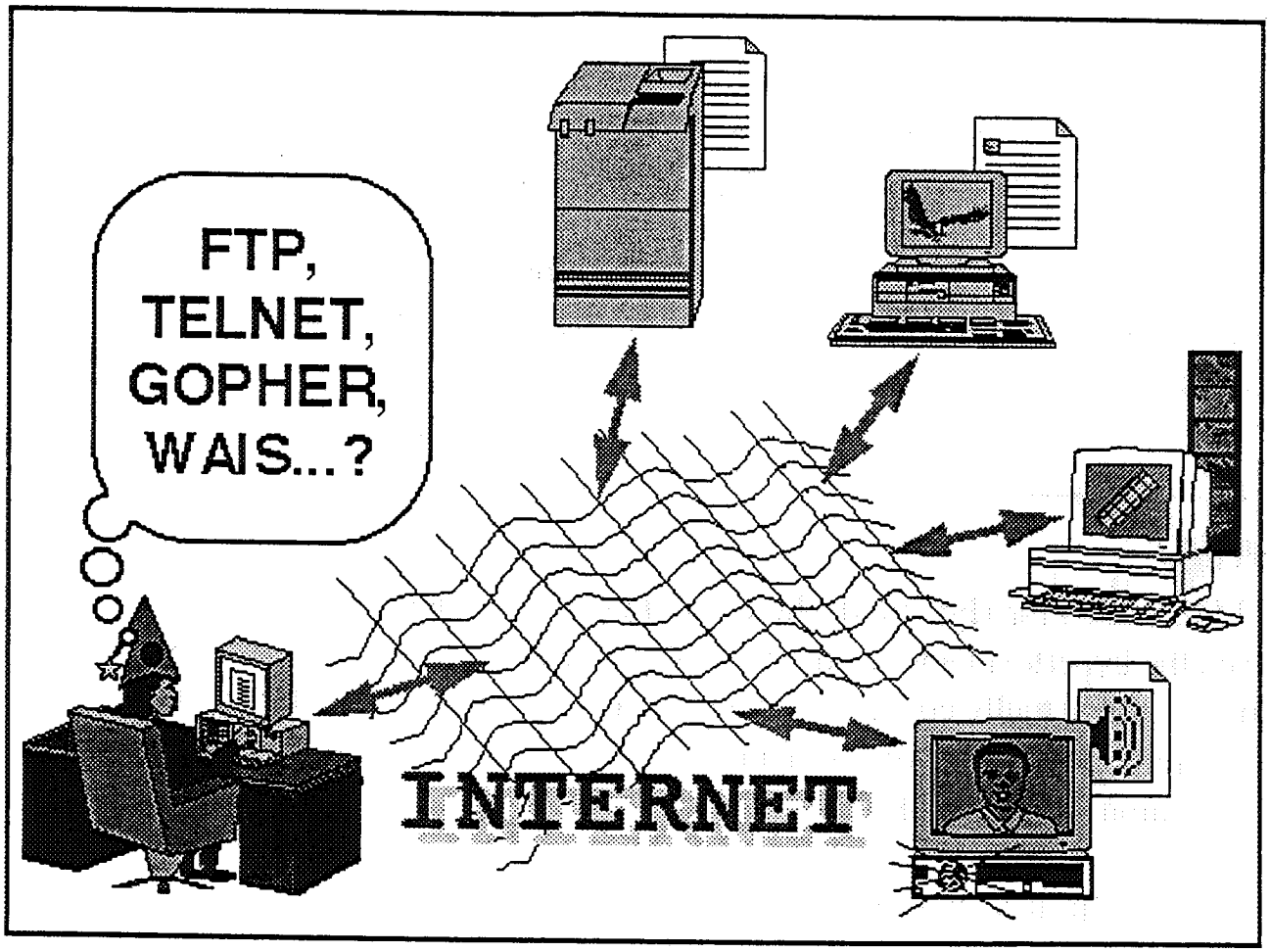
What is hypertext?

Hypertext is text in a document that is highlighted in some way. When the text is selected, with a single mouse click you will be taken somewhere else in that document or to another related document. We have all probably had some experience with hypertext. PC users have seen hypertext in Microsoft Windows Help--you can click on highlighted text and get more detailed information about that text. Macintosh users first experienced hypertext with the product HyperCard. Many Macintosh products now have hypertext interfaces.



What is hypermedia?

Hypermedia is an extension of hypertext that include pictures, sound, and motion pictures. After a single click on an icon (also called hyperlink -- see below) that represents a picture, sound or motion picture, the object will be displayed, the movie played or the sound produced.



Distributed Hypermedia

Computers have become more sophisticated and able to handle graphical and sound programs. Distributed hypermedia is merely hypermedia (text, sound, picture or movie files) that resides on multiple machines and is accessible via a network.

Hyperlinks/Home Page

Hyperlinks are highlighted text, pictures or symbols in a document that indicate a connection (or link) to other material. When you click on a hyperlink with your mouse you directly access the item that the hyperlink refers to. These documents, pictures, videos, or sounds are files that may reside anywhere on the Internet. Your computer retrieves them as files and opens the proper application to display them as documents, pictures, videos,

or sounds.

A "Home Page" is a hypermedia document that is on the World Wide Web to give information about the posting organization or project. Usually the home page will aim to be eye catching by including a logo for the organization and some picture of the organization's activities. Most home pages also include hyperlinks to other multimedia documents about the organization and related organizations.

HTML

HTML stands for Hypertext Markup Language -- a meta language used to write the hypertext pages of the WWW. The easy to read text that you see on your screen actually comes to you in a format that your computer must then read and format into a form suitable for your display. For example: the title of this section actually looks like:

 <h3> HTML </h3>

HTML is important in other ways that Donna Roper will cover in her presentation.

Click here for Donna Roper's presentation on HTML

URL

URL stands for Uniform Resource Locator. A URL may be thought of as an extended filename that lets you find a file anywhere on the Internet. The URL also can have information about what kind of a file it is and other information. All versions of Mosaic have the option "Open URL" under their "File" pull down menu. The URL becomes useful when you see a statement in your email like "The LaRC home page URL is http://www.larc.nasa.gov/larc.html" To access the LaRC home page all you need to do is pull down the Mosaic "File" menu and select "Open URL" then type the string "http://www.larc.nasa.gov/larc.html" (without the quotes).

- URL (Uniform Resource Locator) specification (CERN)
- A Beginner's Guide to URLs
- URLCurling Up to Universal Resource Locators, by Eric S. Theise

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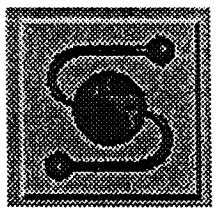
Hotlist

Using the hotlist is usually the safest way to be sure that you can come back to interesting information that you have found with Mosaic.

Depending on your version of Mosaic, Hotlist will have its own pull down menu or be found under the "Navigate" pull down menu. If you find a particularly interesting Mosaic screen that you would like to view again, pull down the hotlist menu and add the document to the hotlist. (When you quit Mosaic on the Macintosh, remember to save the changes to the hotlist.) Other WWW browsers may call this same feature "Bookmarks".

Hints


The "S" with a globe in it the NCSA Mosaic symbol and is an indicator that a file transfer is taking place between your computer and a remote computer. This gives you status information on what Mosaic is doing. If a transfer seems to be taking too long or not doing much, you can click on the globe symbol to abort the transfer. (What is too long will depend on the speed of your network connection and how heavily loaded the network is,)

PC Mosaic has a number of problems including being difficult to configure. If you can use X-windows from your PC, it is best to start an X-windows session and use a UNIX version of Mosaic from your PC.

Forms Support is a feature that makes searching for information much easier. The best way to use forms is with X-Mosaic on a UNIX platform. Mosaic for the Macintosh is currently out in version 1.0.3 and does not

support forms. (Mac Mosaic 2.0 Alpha was released on June 10, 1994. At this time it is not known how stable this release is.) PC Mosaic has problems as stated in the paragraph above.

JARGON

Here is some of the jargon you will encounter while using Mosaic and my attempt to explain its meaning:

- Archie - Certain Internet sites maintain lists of the files available at all Internet FTP sites. When you request an Archie search for a given file at one of these servers it responds with a list of all known FTP sites that have the file.
- FAQ - (Frequently Asked Question) Questions that are often asked by new users of the Usenet news services. Many of the Usenet groups create FAQ files to keep network traffic down and avoid repeatedly responding to common questions.
- FTP (File Transfer Protocol) The method used most commonly to transfer files from one computer to another on the Internet. WWW gives FTP a user friendly interface.
- Gopher - A client/server distributed information delivery service. Gopher is like a library where you can browse other librarie's card catalogs and have the material you want automatically sent to you. A deficiency is that one library may have a subject called "Folklore, American" and another may call the same category "Funny Old Stories". (Adapted from The Whole Internet User's Guide & Catalog by Ed Krol)
- HTTP (HyperText Transfer Protocol) A protocol used by the WWW to transfer hypermedia.
- URL - (Uniform Resource Locator) An extended form of file names that locates files and other resources anywhere on the Internet.
- WAIS - (Wide Area Information Service) A client/server distributed information retrieval service. WAIS is like walking into a library with a quote and have the library automatically check out everything that contains it. Think of WAIS databases as private libraries devoted to a particular topic. "In Gopher, you find resources by looking through a

sequence of menus until you find something appropriate. WAIS does the same thing, but it does the searching for you. You tell it what you want: it tries to find the material you need." (Adapted from The Whole Internet User's Guide & Catalog by Ed Krol)

Ways to find out more about the WWW:

- The WWW FAQ (Frequently Asked Qestions with answers) is very good.
- Read the LaRC Usenet news group "larc.users.mosaic".
- Read the NASA Usenet news group "nasa.infosystems.www".
- Read the Usenet news group "comp.infosystems.www".
- The tutorial at URL http://matrix.ssd.intel.com:8008/BrownBag/brownBag.html is excellent.
- A tutorial at URL http://navigator.jpl.nasa.gov/section314/papers/www-seminar/www-seminar.html is more technical but still good.

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