

What is the Web?

First of all I must state that you don't need to know much about the technical minutiae of the World Wide Web to design Web pages. It will help, however, to have a little grounding in just what the Web is, how it relates to the other facets of the Internet, and what a few of the terms mean that you will come across.

Firstly, the Web is NOT the Internet!

Pardon?

The Web is NOT the Internet; it is only one of several services available through the Internet. The Internet is a worldwide informal network of computers, linked together by high (but not unlimited) capacity lines allowing data on the Web to be accessible across the world. It is not a local network restricted to just the USA and Europe or the "developed" nations it circles the globe and is way beyond the control of any one individual or government. This is something to bear in mind when we come to consider copyright and other legal aspects of web content.

First a brief look at the origin of the Web

Back in the 1960s when computing was not personal, computers, in the shape of large mainframes, were in the main in the hands of the military, BIG business and large universities. Access to these computers was strictly limited – the public at this time had no access whatsoever to computers and the Personal Computer was a long way off.

The US government, as an experiment, created the forerunner of the Internet, the ARPAnet as way to communicate with its contractors and researchers at large universities. To achieve this they laid the telecommunications backbone of today's network and also had to develop a PROTOCOL - a set of rules for exchanging information between computers on a network. The came up with what we now call TCP/IP

(Transmission Control Protocol / Internet Protocol) which manages the transmission of data across a network. TCP/IP was designed to create a decentralised system in which any computer on the network can talk to any other. TCP/IP crucially ensures that messages on the network can be re-routed as needed depending on what lines are free so that if one or several lines or computers on the lines are out of action communication can still proceed.

Software was quickly developed for communicating over this early network through services such as E-MAIL and NEWSGROUPS.

TELNET allows remote users to log on to Internet computers as guests and run programs on them from their own machines.

FTP lets users download files from remote machines or transfer files onto remote machines (this is the method we shall be using to 'upload' web pages to make them accessible on the World Wide Web.)

GOPHER provides hierarchical menus for finding information.

WAIS provides a search engine or finding what you need anywhere in the network.

Alongside the World Wide Web these are the other services that comprise the Internet.

Let's look at these Internet services again.

E-mail is short for "electronic mail." It is sent over computer networks, such as those inside businesses or universities or the Internet, from one user to another. Each user has a unique "mailbox," in which personal messages are stored.

FTP stands for File Transport Protocol, a method of sending files over the Internet. Fetch is the FTP application of choice for the Macintosh and is

free and very easy to use. We will use Fetch as a matter of course in later classes once we have begun designing our own web pages.

GOPHER is a protocol used to create hierarchical menus, allowing users to navigate through information by moving through the directory structure until they find the desired file.

NEWSGROUPS are a collection of information on a certain topic, automatically compiled from messages sent by individual users. Newsgroups are available on just about any topic, from the Internet itself, to sport, pets, religion, and, of course, sex.

TELNET is a protocol that allows one machine on the Internet to run programs stored on another computer on the network, or a program that puts that protocol into effect.

WAIS stands for Wide Area Information Service, a protocol used to build indexes of text pages on the Internet, allowing quick searches for information within the indexed content.

The WORLD WIDE WEB supports multimedia pages that are connected by a system of hyperlinks. The Web is based on HTTP, the Hypertext Transfer Protocol.

Each of these Internet services offers a different way of publishing and viewing information on the Internet.

The creation of the Web as we know can be put down to the ingenuity of British scientist Tim Berners-Lee who devised the World Wide Web in 1989. He is currently still involved in the World Wide Web Consortium (<http://www.w3c.org>) who set and update the standards for HTML the language used to encode web pages.

HTML stands for HyperText Markup Language. It is a protocol that permits the marking up of World Wide Web documents with tags that

describe the document's structure. HTML tags also enable references to be inserted that link a document to other Web documents, FTP, or electronic mail addresses. This method of linking documents, referred to as HYPERLINKING, puts the Web into World Wide Web and allows a degree of interaction that no other medium can match. For example, you can click on a hyperlink within a document with your mouse and another page on a related topic will appear on your screen. The text that appears may be something written by the same author and stored at the same site as the first page you were reading – or it could be stored in Beijing or Barnsley, written by someone the first author doesn't even know. To the reader, it makes no difference: Click, and you're there.

At the time of its introduction the World Wide Web was, compared with its current incarnation, a rather dull and literally grey visual experience. The early standards for HTML did not permit the use of images and the technology behind web based animation, such as Flash and Shockwave, would not emerge for quite some time. In order to view these HTML documents the viewer needs a special piece of software, called a BROWSER, especially made to retrieve and display HTML files and other commonly used formats and help users navigate through the Web. All pages were displayed on a medium grey background and consisted only of text.

The next important milestone was the creation of MOSAIC, the first browser capable of displaying graphics. Finally, information on the Web could have colour and personality. And suddenly, the Web became more than a way to exchange useful information and e-mail; it became an entertainment medium.

Mosaic has since evolved in Netscape Navigator and competing products such as Microsoft Internet Explorer and Opera have since emerged.