The internet

Introduction

By the turn of the century, information, including access to the Internet, will be the basis for personal, economic, and political advancement. The popular name for the Internet is the information superhighway. Whether you want to find the latest financial news, browse through library catalogs, exchange information with colleagues, or join in a lively political debate, the Internet is the tool that will take you beyond telephones, faxes, and isolated computers to a burgeoning networked information frontier.

The Internet supplements the traditional tools you use to gather information, Data Graphics, News and correspond with other people. Used skillfully, the Internet shrinks the world and brings information, expertise, and knowledge on nearly every subject imaginable straight to your computer.

What is the Internet?

The Internet links are computer networks all over the world so that users can share resources and communicate with each other. Some computers, have direct access to all the facilities on the Internet such as the universities. And other computers, eg privately-owned ones, have indirect links through a commercial service provider, who offers some or all of the Internet facilities. In order to be connected to Internet, you must go through service suppliers. Many options are offered with monthly rates. Depending on the option chosen, access time may vary.

The Internet has revolutionized many aspects of our daily lives. It has affected the way we do business as well as the way we spend our leisure time. Count the ways you've used the Internet recently. Perhaps you've sent electronic mail (e-mail) to a business associate, paid a utility bill, read a newspaper from a distant city, or looked up a local movie schedule-all by using the Internet. Or maybe you researched a medical topic, booked a hotel reservation, chatted with a fellow Trickier, or comparison-shopped for a car. The Internet is a communication system that has brought a wealth of information to our fingertips and organized it for our use.

Different Types of Internet Connections

There are many ways a personal electronic device can connect to the internet. They all use different hardware and each has a range of connection speeds. As technology changes, faster internet connections are needed to handle those changes. I thought it would be interesting to list some of the different types of internet connections that are available for home and personal use, paired with their average speeds.

Dial-Up (Analog 56K): Dial-up access is cheap but slow. A modem (internal or external) connects to the Internet after the computer dials a phone number. This analog signal is converted to digital via the modem and sent over a land-line serviced by a public telephone network. Telephone lines are variable in quality and the connection can be poor at times. The lines regularly experience interference and this affects the speed, anywhere from 28K to 56K. Since a computer or other device shares the same line as the telephone, they can't be active at the same time.

DSL: DSL stands for Digital Subscriber Line. It is an internet connection that is always "on". This uses 2 lines so your phone is not tied up when your computer is connected. There is also no need to dial a phone number to connect. DSL uses a router to transport data and the range of connection speed, depending on the service offered, is between 128K to 8 Mbps.

Cable: Cable provides an internet connection through a cable modem and operates over cable TV lines. There are different speeds depending on if you are uploading data transmissions or downloading. Since the coax cable provides a much greater bandwidth over dial-up or DSL telephone lines, you can get faster access. Cable speeds range from 512K to 20 Mbps.

Wireless: Wireless, or Wi-Fi, as the name suggests, does not use telephone lines or cables to connect to the internet.   Instead, it uses radio frequency. Wireless is also an always on connection and it can be accessed from just about anywhere. Wireless networks are growing in coverage areas by the minute so when I mean access from just about anywhere, I really mean it. Speeds will vary, and the range is between 5 Mbps to 20 Mbps.

Satellite: Satellite accesses the internet via a satellite in Earth's orbit. The enormous distance that a signal travels from earth to satellite and back again, provides a delayed connection compared to cable and DSL. Satellite connection speeds are around 512K to 2.0 Mbps.

Cellular: Cellular technology provides wireless Internet access through cell phones. The speeds vary depending on the provider, but the most common are 3G and 4G speeds. A 3G is a term that describes a 3rd generation cellular network obtaining mobile speeds of around 2.0 Mbps. 4G is the fourth generation of cellular wireless standards. The goal of 4G is to achieve peak mobile speeds of 100 Mbps but the reality is about 21 Mbps currently.

Electronic mail on the internet
Electronic mail, or e-mail, is probably the most popular and widely used Internet function. E-mail, email, or just mail, is a fast and efficient way to communicate with friends or colleagues. You can communicate with one person at a time or thousands; you can receive and send files and other information. You can even subscribe to electronic journals and newsletters. You can send an e-mail message to a person in the same building or on the other side of the world.

How does E-mail Work?
E-mail is an asynchronous form of communication, meaning that the person whom you want to read your message doesn't have to be available at the precise moment you send your message. This is a great convenience for both you and the recipient.
On the other hand, the telephone, which is a synchronous communication medium, requires that both you and your listener be on the line at the same time in order for you to communicate (unless you leave a voice message). It will be impossible to discuss all the details of the many e-mail packages available to Internet users.

Fortunately, however, most of these programs share basic functionality which allows you to:
    *send and receive mail messages
    *save your messages in a file
    *print mail messages
    *reply to mail messages
    *attach a file to a mail message

Reading an Internet Address

    To use Internet e-mail successfully, you must understand how the names and addresses for computers and people on the Internet are formatted. Mastering this technique is just as important as knowing how to use telephone numbers or postal addresses correctly.
    Fortunately, after you get the hang of them, Internet addresses are usually no more complex than phone numbers and postal addresses.
    And, like those methods of identifying a person, an organization, or a geographic location--usually by a telephone number or a street address--Internet addresses have rules and conventions for use.
    Sample Internet Address: custcare@aucegypt.edu
        The Internet address has three parts:
      1.a user name [custcare in the example above]
      2.an "at" sign (@)
      3.the address of the user's mail server [aucegypt.edu in the example above] Sometimes it's useful to read an Internet address (like custcare@aucegypt.edu) or a domain name from right to left because it helps you determine information about the source of the address.
    An address like 201B6DQF@asu.edu doesn't tell me much about the person who's sending me a message, but I can deduce that the sender is affiliated with an educational institution because of the suffix edu.
    The right-most segment of domain names usually adhere to the naming conventions listed below:

EDU   Educational sites in the United States
COM Commercial sites in the United States
GOV Government sites in the United States
NET   Network administrative organizations
MIL   Military sites in the United States
ORG Organizations in the U.S. not covered by the categories above (e.g., non-profit organizations).
.iq   where iq is the country code (eg for Iraq).

Introduction to the World Wide Web

The World Wide Web (also referred to as WWW or W3) is the fastest growing area of the Internet. World Wide Web has raised excitement about the Internet to new heights.
What makes the World Wide Web appealing and innovative is its use of hypertext as a way of linking documents to each other. A highlighted word or phrase in one document acts as a pointer to another document that amplifies or relates to the first document. When looking at a WWW document, the reader doesn't have to follow every pointer, or link (also called a hypertext link), only those that look interesting or useful. In this way, the user tailors the experience to suit his or her needs or interests. The other very appealing aspect of the World Wide Web is the use of graphics and sound capabilities. Documents on the WWW include text, but they may also include still images, video, and audio for a very exciting presentation. People who create WWW

documents often include a photograph of themselves along with detailed professional information and personal interests. (This is often called a person's home page.)

What makes the WWW work?

WWW is another example of client/server computing. Each time a link is followed, the client is requesting a document (or graphic or sound file) from a server (also called a Web server) that's part of the World Wide Web that "serves" up the document. The server uses a protocol called HTTP or HyperText Transport Protocol. The standard for creating hypertext documents for the WWW is HyperText Markup Language or HTML. HTML essentially codes plain text documents so they can be viewed on the Web.

Uniform Resource Locators or URLs

A Uniform Resource Locator or URL is the address of a document you'll find on the WWW. Your WWW browser interprets the information in the URL in order to connect to the proper Internet server and to retrieve your desired document. Each time you click on a hyperlink in a WWW document, you're actually instructing your browser to find the URL that's embedded within the hyperlink.
The elements in a URL:Protocol://server's address/filename
 Hypertext protocol: http://www.aucegypt.edu
Gopher protocol: gopher://gopher.umm.tc.edu
File Transfer Protocol: ftp://ftp.dartmouth.edu
Telnet Protocol: telnet://pac.carl.org
News Protocol: news:alt.rock-n-roll.stones

A look at search engines

The World Wide Web is "indexed" through the use of search engines, which are also referred to as "spiders," "robots," "crawlers," or "worms". These search engines comb through the Web documents, identifying text that is the basis for keyword searching. Each search engine works in a different way. Some engines scan for information in the title or header of the document; others look at the bold "headings" on the page for their information. The fact that search engines gather information differently means that each will probably yield different results. Therefore, it's wise to try more than one search engine when doing Web searching.

The list below lists several search engines and how each one gathers information, plus resources that evaluate the search engines.

Selected Search Engines (listed alphabetically)
Alta Vista
Alta Vista, maintained by The Digital Equipment Corp., indexes the full text of over 16 million pages including newsgroups. Check out the Alta Vista Tips page.

Excite Netsearch
Excite includes approximately 1.5 million indexed pages, including newsgroups. Check out the Excite NetSearch handbook.

InfoSeek Net Search
Indexes full text of web pages, including selected newsgroups and electronic journals.
Just under one-half million pages indexed. Check out the InfoSeek Search Tips.

Inktomi
As of December 1995, the Inktomi search engine offers a database of approximately 2.8 million indexed Web documents and promises very fast search retrievals. Results are ranked in order of how many of your searched terms are used on the retrieved pages.

Lycos
Lycos indexes web pages (1.5 million +), web page titles, headings, subheadings, URLs, and significant text.
Search results are returned in a ranked order.

Magellan
Magellan indexes over 80,000 web sites. Search results are ranked and annotated.

Open Text Index
Indexes full text of approximately 1.3 million pages. Check out the Open Text Help pages for tips on using this search engine.

WebCrawler
Maintained by America Online, WebCrawler indexes over 200,000 pages on approximately 75,000 web servers. URLs, titles, and document content are indexed.

WWWW -- World Wide Web Worm
Approximately 250,000 indexed pages; indexed content includes hypertext, URLs, and document titles.

Yahoo
A favorite directory and search engine, Yahoo has organized over 80,000 Web sites (including newsgroups) into 14 broad categories. Yahoo also maintains a comprehensive list of links to Yahoo - Computers and Internet: Internet: World Wide Web: Searching the Web other web search engines, indexes, and guides.

Finally the internet is a huge source of information in all fields of knowledge. Which will take your hand through this incredible world of information to get what you need in a fast, reliable and professional way.