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Technology

The Internet

The Internet is a worldwide connection of thousands of computer networks.

All of them speak the same language, TCP/IP, the standard protocol. The Internet

allows people with access to these networks to share information and knowledge.

Resources available on the Internet are chat groups, e-mail, newsgroups, file

transfers, and the World Wide Web. The Internet has no centralized authority and

it is uncensored. The Internet belongs to everyone and to no one.

The Internet is structured in a hierarchy. At the top, each country has

at least one public backbone network. Backbone networks are made of high speed

lines that connect to other backbones. There are thousands of service providers

and networks that connect home or college users to the backbone networks. Today,

there are more than fifty-thousand networks in more than one-hundred countries

worldwide. However, it all started with one network.

In the early 1960's the Cold War was escalating and the United States

Government was faced with a problem. How could the country communicate

after a

nuclear war? The Pentagon's Advanced Research Projects Agency, ARPA, had

a

solution. They would create a non-centralized network that linked from city

to

city, and base to base. The network was designed to function when parts of

it

were destroyed. The network could not have a center because it would be a

primary target for enemies. In 1969, ARPANET was created, named after its

original Pentagon sponsor. There were four supercomputer stations, called

nodes,

on this high speed network.

ARPANET grew during the 1970's as more and more supercomputer stations

were added. The users of ARPANET had changed the high speed network to

an

electronic post office. Scientists and researchers used ARPANET to

collaborate

on projects and to trade notes. Eventually, people used ARPANET for leisure

activities such as chatting. Soon after, the mailing list was developed. Mailing

lists were discussion groups of people who would send their messages via e-mail

to a group address, and also receive messages. This could be done twenty-four

hours a day.

As ARPANET became larger, a more sophisticated and standard protocol was

needed. The protocol would have to link users from other small networks to

ARPANET, the main network. The standard protocol invented in 1977 was called

TCP/IP. Because of TCP/IP, connecting to ARPANET by any other network was made

possible. In 1983, the military portion of ARPANET broke off and formed MILNET.

The same year, TCP/IP was made a standard and it was being used by everyone. It

linked all parts of the branching complex networks, which soon came to be called

the Internet.

In 1985, the National Science Foundation (NSF) began a program to

establish Internet access centered on its six powerful supercomputer stations

across the United States. They created a backbone called NSFNET to connect

college campuses via regional networks to its supercomputer centers. ARPANET

officially expired in 1989. Most of the networks were gained by NSFNET. The

others became parts of smaller networks. The Defense Communications Agency shut

down ARPANET because its functions had been taken over by NSFNET. Amazingly,

when ARPANET was turned off in June of 1990, no one except the network staff

noticed.

In the early 1990's the Internet experienced explosive growth. It was

estimated that the number of computers connected to the Internet was doubling

every year. It was also estimated that at this rapid rate of growth, everyone

would have an e-mail address by the year 2020. The main cause of this growth was

the creation of the World Wide Web. The World Wide Web was created at
CERN, a

physics laboratory in Geneva, Switzerland. The Web's development was
based on

the transmission of web pages over the Internet, called Hyper Text
Transmission

Protocol or HTTP. It is an interactive system for the dissemination and

retrieval of information through web pages. The pages may consist of text,

pictures, sound, music, voice, animations, and video. Web pages can link to

other web pages by hypertext links. When there is hypertext on a page, the
user

can simply click on the link and be taken to the new page. Previously, the

Internet was black and white, text, and files. The web added color. Web
pages

can provide entertainment, information, or commercial advertisement. The
World

Wide Web is the fastest growing Internet resource.

The Internet has dramatically changed from its original purpose. It was

formed by the United States government for exclusive use of government
officials

and the military to communicate after a nuclear war. Today, the Internet is used

globally for a variety of purposes. People can send their friends an electronic

" hello." They can download a recipe for a new type of lasagna. They can argue

about politics on-line, and even shop and bank electronically in their homes.

The number of people signing on-line is still increasing and the end it not in

sight. As we approach the 21st century, we are experiencing a great

transformation due to the Internet and the World Wide Web. We are breaking

through the restrictions of the printed page and the boundaries of nations and

cultures.

You may not be aware of it, but the World Wide Web is currently

transforming the world as we know it. You've probably heard a lot about the

Internet and the World Wide Web, but you may not know what these terms mean and

may be intimidated by this rapidly advancing field of science. If there is one

aspect of this field that is advancing faster than any other, it is the ease

with which this technology can be learned.

The Internet, by definition is a " network of networks." That is, it is a

world-wide network that links many smaller networks. The World Wide Web

is a

new subdivision of the Internet. The World Wide Web consists of computers

(servers) all over the world that store information in a textual as well as a

multimedia format. Each of these servers has a specific Internet address

which

allows users to easily locate information. Files stored on a server can be

accessed in two ways. The first is simply by clicking on a link in a Web

document (better known as a Web page) that points to the address of

another

document. The second way to locate a particular Web page is by typing the

Universal Resource Locator (URL) of the page in your browser (the software

interface used to navigate the World Wide Web). The URL of a page is the

string of characters that appears in the Location: box at the top of your

screen.

Every Web page has a unique URL which begins with the letters " http://"

that

identify it as a We b page. This is the equivalent of the Internet address and

tells the computer where to find the particular page you are looking for.

The greatest advantage of producing information in HTML format, is that

files may be linked to one another via hyperlinks (or links) within the

documents. Links usually appear in a different color than the rest of the text

on a Web page and are often underlined. Navigating the Web is as simple as

clicking a mouse button. Clicking the mouse on a link tells the computer to
go

to another Internet location and display a specific file. Also, most Web

browsers allow easy navigation of the Web by utilizing " Back" and "
Forward"

buttons that can trace your path around the Web. Links within Web pages
aren't

limited to just other Web pages. They can include any type of file at all.

Some of the more common types of files found on the Web are graphics files,

sound files, and files containing movie clips. These files can be run by

different helper applications that the Web browser associates with files of
that

type.

As a student, the Web can provide you with an enormous source of

information pertaining to any area of academic interest. This can be especially

useful when information is needed to write a term paper. Students can use one

of the many Search Engines on the Web to locate information on virtually any

topic, just by typing the topic that they wish to find information on.

Another application many students find the World Wide Web to be useful

for is career planning. There are hundreds of Web sites that contain

information about job openings in every field all over the United States as well

as abroad. Job openings can be found listed either by profession or by

geographical location, so students don't have to waste time looking through job

listings that don't pertain to their area of interest or location of preference.

Alas, if students fail to find job openings they are interested in, they can

post their resumes to employment service Web sites which try to match employers

with those seeking employment.

The Web can also be a useful place for high school students applying to

college or college graduates who wish to delay their job hunt by going to

graduate school. Many colleges and universities around the world are getting on

the Internet to provide their students with access to the enormous amount of

information available on it. This allows students the opportunity to browse Web

servers at different colleges where they can find information useful in

selecting the institution most appropriate to their academic needs.

While the World Wide Web can provide information crucial to your academic

and professional career, the information contained on it is not limited to such

serious matters. The Web can also provide some entertaining diversions from

academics. You can spend hours on the internet and it only feels like a couple

minutes. A recent topic I have personally been looking into is three

dimensional chat rooms. In this type of chat room you virtually walk around and

approach other people and attempt to have a conversation with them.

Unfortunatlely everyone is not always responsive as you would like them to

be.

As an avid user of the internet I highly recommend all people to look into "

Worlds Chat".

As the 21st century approaches, it seems inevitable that computer and

telecommunications technology will radically transform our world in the

years to

come. The Internet and the World Wide Web, in particular, appear to be the

protocol that will lead us into the Information Age. The social and political

implications for this new technology are astounding. Never before has such

an

enormous amount of information been available to a limitless number of

people.

Already, issues of censorship and free-speech have come to take center

stage, as

the world scrambles to deal with the power of modern technology.

The World Wide Web has already affected our educational, political, and

commercial sectors, and it now seems poised to affect every other aspect of

human life. The days where every home will have a computer are not far from the

present. In order to keep up with the technology of the future, you need to

catch up with the technology of the present. The easiest way to do this is to

simply wander around the World Wide Web. It's as easy as clicking a mouse. So

sit back and explore the World Wide Web at your own pace, and don't let yourself

get left behind when the next technological breakthrough comes along.