Internet 3464

Technology, Computer

" Beam me up, Scottie." This popular line from Star Trek was a

demonstration of the advanced technology of the future. Though it was a

fictional story, Star Trek became the universal vision of the future. As always

reality tends to mimic fiction. Though our society has not quite resulted to

living in space, we have made life easier with technology. Economic survival
has

become more dependent upon information and communications bringing
forth new

technology of which was never thought possible. Just a mere thirty years ago
a

computer occupied a whole room compared today's palm sized computers,
which

are faster and perform more functions. Cellular phones, now light and
compact,

were bulky just ten years ago. The most incredible invention, the Internet, is

bringing infinite amount of information to your desktop. In the world of the of

the Internet there exist a world blind to skin color and other physical

appearances. The Internet while still young in age has grown rapidly,
spreading

to countries world wide and connecting 50 million users. With its popularity,
it

is incumbent upon our society to recognize how the Internet works and to be

aware of its advantages as well as disadvantages. While seemingly high tech
the

Internet concept is rather simple. Computers speak to one another and send

information. This is accomplished by sending and receiving electronic
impulse,

and then decoding them into a message. In order to communicate with one
another

they are linked up in a network. They are then able to access information
from

thousands of other computers. The network acts like one large computer
storing

information in various places, rather than in one physical structure. Users tap

into the Internet to access or provide information. Internet technology allows

one to surf the World Wide Web or send e-mail. The vision of the Internet
that

would revolutionize the computer and communications belonged to JCR
Licklider of

MIT (Leiner n. page). In August of 1962 he envisioned a globally interconnected

set of computers which would allow everyone to quickly access data and programs

(Leiner n. page). A government sponsored project at Defense Advanced Research

Projects Agency (DARPA) started in October (Leiner n. page). The race for

discovery of such technology raged between the Soviet Union and The United

States of America. Both countries wanted control of the possibly powerful tool.

Then in 1968, The National Physical Laboratory in Great Britain set up the first

test network, which prompted the Pentagon's ARPA to fund a larger project in

the USA. (Sterling n. page) However the race was not limited to just nations but

also companies. In 1965, working with Thomas Merrill, Lawrence G. Roberts

created the first wide-area computer ever built. These experiments proved that

computers could work together running programs and retrieving data as

necessary

on remote machines. Roberts put together his plan for ARPANET, published

in

1966. At that time he learned of Donald Davies and Roger Scantlebury of

NPL and

Paul Baron and others at RAND. Research at MIT (1961-1967), RAND (1962-

1965) and

NPL (1964-1967) while parallel had no knowledge of one another. In August

of

1968 an RFQ, a refined model of ARPANET was released for the development

of one

of the key components, the packet switches Interface Message Processors

(IMP).

Bolt Beranek and Newman (BBN) installed the first IMP at UCLA and the first

host

computer was connected. By the end of 1969 four host computers were

connected

together into the initial ARPANET and the Internet was off the ground. In

1977,

electronic mail was introduced. (Leiner n. page) As the Internet quickly grew,

changes were necessary. The Internet's decentralized structure made it easy to

expand but its NCP did not have the ability to address networks further down

stream than the destination IMP. Bob Kahn decided to develop a new version of

the protocol which eventually became known as the Transmission Control Protocol

/ Internet Protocol (TCP/IP). Compared to the NCP which acted as a device

driver, the new protocol was more like a communication protocol. In order to

make it easier to use, Host were then assigned names, replacing numbers. A group

of scientist then set out to show that a compact and simple implementation of

TCP was possible. They succeeded, allowing it to run on desktop computers. (Leiner

n. page). Original uses of the Internet included government communications and a

forum for scientist to share ideas and help one another in research. In the

1980's the Internet grew beyond its primarily research roots to include a

broad user community and increased commercial activity. In present day it has

become a tool for conducting research and finding information, as well as

communications with others. Electronic mail, amazingly popular, with chat rooms

and discussion groups makes the Internet a popular place for meeting new people.

(Leiner n. page). Perhaps the largest shift is in the profile of Internet users.

In the beginning users were scientist and government officials: those highly

educated and well trained. However today's 50 million users are all ages and

from all backgrounds (Why use the Internet? n. page). Access to the Internet is

no longer limited and can be found just about everywhere including schools,

colleges, libraries, and at home. In 1992 the Internet had a growth of twenty

percent every month (Why use the Internet? n. page). A developer of the Internet

said, " If the Internet stumbles, it will not be because we lack for

technology, vision, or motivation. It will be because we cannot set a direction

and march collectively into the future." (Leiner n. page) Clearly the

Internet has brought many conveniences. Businesses and students benefit from the

technology as well as those who use the Internet for personal uses. Over 50

million people used the Internet in 1995 and by the year 2000 the number is

predicted to be over 150 million (Why your company should be on the Internet n.

page). Fortune Magazine said, " The Internet is the biggest and earliest

manifestation of the way business is going to be conducted from now on."

Companies are embracing the Internet and those who do not will be left behind

(Why use the Internet? n. page). The Internet opens a wider audience to

companies providing customers valuable information via mailing lists. Space on

the Internet is inexpensive compared to paper, radio and television

advertisements, therefore companies reach a broader community with little cost

(Why use the Internet? n. page). Most web users are well educated Americans with

professional or technical jobs with median annual salary of $69, 000, making them

a prime target group. Opening a storefront online gives the advantage of always

being open. The Internet is a fair playing field for large and small companies

alike. Computer networks track inventory and consumer demand resulting in

increased profits (Why Minnesota Students Need Access to the Internet n. page).

Remote video conferencing and Internet phones allow companies to conduct live

chat sessions with clients around the world. Data bases are available for public

or private uses. Companies can transfer files, bulletins or e-mail via the

Internet, and it is all very affordable.(Why use the Web? n. page) Students as

well as commerce is benefiting from the Internet. Students need more information

than is offered by school libraries. The Internet gives students access to

resources from around the world. They are also more willing to sit and browse

the Internet then to use the library. Information can be found, selected and

retrieved faster on the Internet. Entire books can be transferred in minutes

(Sterling n. page). Students find the Internet to be a viable educational tool

which makes them aware of the globalism of the world rather than sheltered in

the realm of the classroom. They have the option of writing to pen pals in other

countries and getting to know other cultures. (MRP-Discussion n. page) The

Internet also serves as a preparation tool for the future. The world is moving

towards electronics: in today's market being competitive means knowing how to

get information, and more and more, it is traveling by wires. The Internet

allows children to get hands on experience, and helps them develop intellectual

skills and problem solving. It allows children to research information that

interest them. For example, a child interested in baseball can find information

on the latest statistics and read about the history of the sport. By educating

themselves it opens their minds to technology. (Why Minnesota Students need

access to the Internet n. page) The Internet is a popular place to socialize.

Exchanging information with those far away take only seconds using the Internet.

While postal mail can take days, electronic mail, or e-mail, takes seconds. Many

companies offer e-mail services for free to those with access to computer with a

modem. Unlike phone system and postal system there are no charges for long

distance service or communication with foreign countries. E-mail and instant

messages (found in programs such as America Online and ICQ) can be used to send

images and software. (Sterling n. page) Internet technology has gone as far as

to allow people to make new friends without any physical contact. One way to

meet new people is to join an Internet discussion group. In such a group people

with a common interest ask and receive advice and exchange information. Another

opportunity to meet new people is in Internet chat rooms. In such rooms one can

speak freely to anyone as if they were at a party. America Online users refer to

relations charter though the sever as " AOL luv". Those in discussion

groups and chat rooms are not limited to just Americans but open to people all

around the world. The Internet is a world wide tool filled with many cultures,

and different people. In this world, race is not a factor since there is no

physical contact. Everyone is equal and has the freedom to express oneself. It

is an institution that resists institutionalization. It belongs to everyone and

yet no one, everyone sort of pitches in and it evolves on its own. There are no

censors, bosses, board of directors or stockholders. The Internet is unregulated

and uncensored. However, the Internet being so free and uncensored presents many

problems. Acknowledgment of children using the Internet has fueled a fight for

regulation. Parents can not always monitor their children, therefore the

Internet needs to be a safe place for the children. Children have access to the

Internet in schools, libraries, and just about everywhere. In schools it is

nearly impossible for a teacher to watch all the children, and in libraries it

is not the librarian's job to monitor them. Computers and the Internet are for

everyone, including children, thus it has become an immense problem. Access to

pornography has been one of the greatest concerns among parents. Surprisingly,

pornography is easy to access and children will. Children are naturally curious

and love to explore. Minors are also targeted by advertisers. Just like on

television advertisers try to lure children in with pictures and web sites which

include games and chat rooms. However the biggest danger is not what they find

on the Internet but who they find. The information they access is not as

dangerous as the people they meet. There have been many cases of molesters and

kidnappers searching for pray on-line. Nicknames are used to protect the

identity of the children but can also be used to mask adults. They enter

children's chat rooms and coax the children to trust them. Nonetheless,

denying the children access to the Internet is not the solution, perhaps

software is. However software limiting children's access to web pages have not

been successful. In some case the software does not filter out all inappropriate

pages but filters out non-objectionable pages. (Should children be kept

off-line? n. page) Molesters and kidnappers are not the only people with access

to the Internet we should fear. Those mischievous thinkers also pose a threat.

Known as hackers or crackers, they search for vulnerable computer systems then

strike. Businesses can lose trade secrets, and the damages can be a disaster. In

1996 Dan Framer, a security consultant, tested 2, 000 computers networks, and of

those 65% had security holes large enough for an intruder to enter (Freedman

280). Government computers are just a vulnerable as teenagers have recently

demonstrated. Teenagers working out of their home with guidance from a 18 year

old broke into government classified information. Though they were caught, it

bought alarm to the possible dangers of information leaks. The United States'

enemies could have access to military codes and top secret files. Although the

average person is not targeted by hackers they are in danger of fraud and

con-artists. Stolen credit card numbers have been rumored to be a major problem.

The chances of it happening are not as great as the media makes it to be, but

nevertheless it is a problem. The criminals easily get away with such a crime.

They get the number of a credit card and charge ridiculous bills, but by the

time the bill comes they have moved on to the next victim. Many schemes come in

the form of junk mail. They offer deals that sound too good to be true and

chances are they fake. They only ask for a small sum of money up front, next

they cash the check and move on. (Anarchy Online 98) Secure passwords can

prevent hackers from accessing computers. Passwords should consist of numbers,

letters and symbols: an example " P11++69." No matter how secure and

high tech the computer security system, all it takes is a simple , stupid

password like " hello" to render the whole system worthless. (Freedman

279) Though the Internet has its advantages it also has disadvantages, therefore

users should educate oneself on the revolutionary tool. With over 50 million

users the Internet is rapidly growing and is to the ' 90's what the personal

computer was to the 70's. New usage's are springing up everyday, making it

impossible to predict the future of the Internet. One thing certain is that the

Internet has revolutionized the computer and communications. " The Internet

is a world wide broadcasting capability, a mechanism for collaboration and

interaction between individuals without regard to geographic location."
(Leiner

n. page)