The Internet

The Internet is, literally, a network of networks. It is made of thousands of interconnected networks spanning the globe. The computers that form the Internet range from huge mainframes in research establishments to humble PCs in people's homes and offices. Despite the recent publicity, the Internet is not a new thing. Its roots lie in a collection of computers that were linked together in the 1970s to form the US Department of Defense's communications systems. Fearing the consequences of nuclear attack, there was no central computer holding vast amounts of data, but instead the information was dispersed across thousands of machines. A protocol known as TCP/IP was developed to allow different devices to work together. The original network has long since been upgraded and expanded and TCP/IP is now an overall standard. The Internet has gone on now to fulfill a great deal more than it's intended purpose and has definitely brought more good than bad.

Millions of people worldwide are using the Internet to share information, make new associations and communicate. Individuals and businesses, from students and journalists, to consultants, programmers and corporate giants are all harnessing the power of the Internet. For many businesses the Internet is becoming integral to their operations. Imagine the ability to send and receive data: messages, notes, letters, documents, pictures, video, sound- just about any form of communication, as effortlessly as making a phone call. It is easy to understand why the Internet is rapidly becoming the corporate communications medium. Using the mouse on your computer, the familiar point-and-click functionality gives you access to electronic mail for sending and receiving data, and file transfer for copying files from one computer to another. This flood of information is a beautiful thing and it can only open the minds of society. With the explosion of the World Wide Web, anyone could publish his or her ideas to the world. Before, in order to be heard one would have to go through publishers who were willing to invest in his ideas to get something put into print. With the advent of the Internet, anyone who has something to say can be heard by the world. By letting everyone speak their mind, this opens up all new ways of thinking to anyone who is willing to listen.

A very important disadvantage is that the Internet is addictive. One of the first people to take the phenomenon seriously was Kimberly S. Young, Ph.D., a professor of psychology at the University of Pittsburgh. She takes it so seriously, in fact, that she founded the Center for Online Addiction, an organization that provides consultation for educational institutions, mental health clinics and corporations dealing with Internet misuse problems. Psychologists now recognize Internet Addiction Syndrome (IAS) as a new illness that could ruin hundreds of lives. Internet addicts are people who are reported staying online for six, eight, ten or more hours a day, every day. They use the Internet as a way of escaping problems or relieving distressed moods. Their usage can cause problems in their family, work and social lives. They feel anxious and irritable when offline and craved getting back online. Despite the consequences, they continue using

regardless of what their friends and family say. Special help groups have been set up to give out advice and offer links with other addicts. Internets Anonymous and Webaholics are two of the sites offering help, but only through logging onto the Internet. The effects of IAS lead to headaches, lack of concentration and tiredness. Robert Kraut Doctoral Psychologist says referring on the subject: We have evidence that people who are online for long periods of time show negative changes in how much they talk to people in their family and how many friends and acquaintances they say they keep in contact with. They also report small but increased amounts of loneliness, stress and depression. What we do not know is exactly why. Being online takes up time, and it may be taking time away from sleep, social contact or even eating. Our negative results are understandable if people's interactions on the net are not as socially valuable as their other activities.

Another considerable drawback of the Internet is that it is susceptible to hackers. Hackers are persons that have tremendous knowledge on the subject and use it to steal, cheat, or misuse confidential or classified information for the sake of fun or profit. As the world increases its dependence on computer systems, we become more vulnerable to terrorists who use computer technology as a weapon. It is called cyber-terrorism and research groups within the CIA and FBI say cyber-warfare has become one of the main threats to global security. One notorious hacker is American Kevin Mitnick, a 31-year-old computer junkie arrested by the FBI in February for allegedly stealing more than $1 million worth of data and 20,000 credit-card numbers through the Internet. Network hacking is presenting fresh problems for companies, universities and law-enforcement officials in every industrial country. But what can be done for hacking? There are ways for corporations to safeguard against hackers and the demand for safety has led to a boom industry in data security. Security measures range from user Ids and passwords to thumbprint, voiceprint or retinal scan technologies. Another approach is public key encryption. An information system girded with firewalls and gates where suspicion is the standard and nothing can be trusted will probably reduce the risk of information warfare. A committee of the Canadian Association of Chiefs of Police has made several recommendations to stop hacking. One would make it illegal to possess computer hacking programs, those used to break into computer systems. Another would make the use of computer networks and telephone lines used in the commission of a crime a crime in itself. The committee also recommends agreements with the United States that would allow police officials in both countries to search computer data banks. The problem with regulating the Internet is that no one owns it and no one controls it. Messages are passed from computer system to computer system in milliseconds. Government officials are hoping that Internet service providers, such as AOL, can police the Net themselves.

But there is another problem that practically circulates through the Internet: The viruses. They can move stealthily and strike without warning. They have no real life of their own, and go virtually unnoticed until they find a suitable host. Computer viruses are tiny bits of programming code capable of destroying vast amounts of stored data and bear an uncannily close relationship to real viruses.

Like real viruses they are constantly changing, making them more and more difficult to detect. It is estimated that two or three new varieties are written each day. Most experts believe that a virus is created by an immature, disenchanted computer whiz, frequently called a cracker. The effects of a virus may be insignificant such as that of the famous Stoned virus that merely displays a message calling for the legalization of marijuana. Other viruses, however, can program files to constantly perform duplications that may cause a computer's microchips to fail. The rapid increase in computer networks, with their millions of user exchanging vast amounts of information, has only made things worse. With word processing macros embedded in text, opening e-mail can now unleash a virus in a network or a hard disk. Web browsers can also download running code, some of it possibly harmful. Many companies offer antiviral programs, capable of detecting viruses before they have the chance to spread. Such programs find the majority of viruses but virus detection is likely to remain a serious problem because of the cleverness of crackers. One type of virus, known as a polymorphic virus, evades discovery by changing slightly each time it replicates itself.

The Internet offers a new way of doing business. A virtual market place where customers can, at the push of a button, select goods, place an order and pay using a secure electronic transaction. Businesses are discovering the Internet as the most powerful and cost effective tool in history. The Net provides a faster, more efficient way to work colleagues, customers, vendors and business partners. Businesses making the transition over to e-business are prospering; however those that do not will most certainly suffer the consequences. One of the most commonly asked questions is, Will the Net help me sell more product? The answer is yes, but in ways you might not expect. The Internet is a communication tool first, not and advertisement medium. Unlike print or broadcasting media, the Internet is interactive; and unlike the telephone, it is both visual and content rich. A Web site is an excellent way to reduce costs, improve customer service, disseminate information and even sell to your market.

A very important fact is that the Internet supports online education. Online education introduces unprecedented options for teaching, learning, and knowledge building. Today access to a microcomputer, modem, telephone line, and communication program offers students and teachers the possibility of interactions that overcome the restrictions of time and space. There are many school based networks that link learners to discuss, share and examine specific subjects such as environmental concerns, science, local and global issues, or to enhance written communication skills. The introduction of online education opens unique opportunities for educational interactivity. Students may learn independently, at their own pace, in a convenient location, at a convenient time about a greater variety of subjects, from a greater variety of teachers.

The most important facts about the Internet are that it contains a wealth of information, that can be sent across the world almost instantly, and that it can connect people in very different locations as if they were next to each other. Most claims for the importance of the Internet in today's society are based upon these very facts. People of like minds and interests can share information with one

another through electronic mail and chat rooms. E-mail is enabling radically new forms of worldwide human collaboration. Approximately 225 millions of people can send and receive it and they all represent a network of potentially cooperating individuals belittling anything that even the mightiest corporation or government can assemble. Mailing-list discussion groups and online conferencing allow us to gather together to work on a multitude of projects that are interesting or helpful to us. Chat rooms and mailing lists can connect groups of users to discuss a topic and share ideas. Materials from users can be added to a Web site to share with others and can be updated quickly and easily anytime. Today the Internet is a highly effective tool for communicating, for gathering information and for cooperation between distant locations. There is continuous development and improvement. Many businesses are discovering new ways to reach their customers, new ways to improve efficiency, new products and services to sell. In the next 10 years, somebody will figure out how to charge for information on the Net, so you won't get things necessarily for free. That will have several good effects, including a way to pay authors for their work. And because of the economic incentive, it will become easier to filter out the good from the bad. The Web is like a library that many people access for the sake of ease. Arguments can be made for the advantages and disadvantages of the Internet, but most people will agree that the Internet is a fortunate thing for technology. It is not a question of whether or not the advantages of the Internet outweigh the disadvantages. It is about an understanding of the risks and implications of using this type of technology when working to achieve goals. Once the security problems are handled, the costs are streamlined, and the searching algorithms are perfected, the possibilities are endless. However, governmental action can't really make any difference, because the Internet is too already far out of their control.