



Module 4

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Social and Ethical Issues of Information Technology

- It has positive and negative sides
- Can use for social progress
- Can also use to commit crimes and threaten cherished social values



1. Privacy and freedom

- It is the right of individuals to be left alone, free from surveillance or interference from other individuals or organization including the state.
- Information is stored in centralized computer database by government and private agencies.
- The unauthorized use of this information would seriously affect the privacy of individuals
- Hurt credit standing or reputation of an individual



Internet and privacy

- Information sent over the network may pass through many computer systems before it reaches to the recipients computer
- Computers and websites can store information
- Example cookies

Ethical, social and political issues connected with privacy

1. Under what circumstances one can invade the privacy of others?
2. Is it fair to enter into the lives of others through surveillance or through other means like market research?
3. It it necessary to inform the individual when taping information about him?

Information given by individuals should be used only for the purpose for which it is given and should not be used for other purposes and purposes of others

2. Information systems and Intellectual Property

- IPR defined as the rights given to people over the creations of their minds.
- They give the creator an exclusive right over the use of his creation period of time
- Industrial designs, patents, IC designs, trade mark etc..
- India Trade mark Act 1999
- Sftware, music..
- Software piracy from individual, professionals, homes, schools

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- S/w piracy refers to unauthorised duplication of computer software

3. Accountability, Liability, and control

- Who is responsible if a person is injured by a machine?
- Consequences of the use of software.

PROBLEM

Service providers try to avoid their responsibility and to maximise their profits.

At the same time users want service providers to be held responsible for providing high quality services and software

4. System Quality and related issues

- Wide spread marketing of low quality and inferior software and systems.
- Without strict quality control test companies distribute software.
- Such software make loss which is irreparable.
- Ethical issue:
 - release a software when it is fully confirmed that it is a best product , totally bug free and satisfying all test criteria.

4. System Quality and related issues

- Data quality raises certain social issues.
- Software is not fully perfect some errors is possible.
The users should aware about this.

POLITICAL ISSUE

Quality standard institutes to certify the quality.
Punish the software providers who violate these standards.

5. Other issues (a) Employment & Productivity

- Automation increased productivity & some new jobs
- But same time it has reduced certain job opportunities.



5. Other issues (b) Individuality

- Human relationship is neglected in computer based systems.
- People are known as numbers so they lose their identity.
- The computer will work with strict rules .
- If everything is computerised one need not go to any where from home.

5. Other issues (c) The quality of life

- Computer helped to improve the life.
- Some jobs done with computers are repetitive and routine and it forces people to work like machine.

5. Other issues (d) Security of Information

- Computer also makes threat on security of data.
- Data banks are not make available to or can be damaged by unauthorized persons.

5. Other issues –(e) computer crime and abuse

- It is also created possibility to crime and abuse.
- Illegal acts through the use of computers or against computer system.



5. Other issues – Health Problems

- Repetitive Stress Injury(RSI) – stress to the muscles through some repetitive actions.
- keyboards
- Radiation from monitors may cause problems.
- Stress creates stress on the eyes.



Digital divide

- The gap between who possess regular access to IT and those who do not have.

Aspects of the Digital Divide

1. Access: individual with access and those without access to ICTs.
2. Usage: know how to use and those who do not
3. usage quality: quality of using Information Technology



Concept of digital divide

1. focus on infrastructure : availability of infrastructure
2. Focus on capacity building :capacity or difficulty to use these technologies
3. Focus on resource usage :limitation that people have to use the resources available on the web

Free software movement

- Freedom to share, study and modify software
- Political and ethical choice asserting the right to learn and share it with others.
- Free software movement Started 1983

By Richard M stallman

Project GNU..stands for

“GNU is Not Unix”

Goal of GNU

software free to use, distribute and modify





Free software movement

- Free software means freedom not zero cost
- Four essentials freedom
 1. The freedom to run the program, for any purpose (freedom 0)
 2. The freedom to study how the program works, and change it to make it do what you wish (freedom 1)
 3. The freedom to distribute copies so you can help your neighbour (freedom 2)
 4. The freedom to distribute copies of your modified versions to others (freedom 3)



Free software movement

- The program is free software if users have all of these freedoms
- It is uses purpose that matters



Open source software

- The code can be modified because its design is publically accessible.

Proprietary software or closed software

The source code is a property of its original authors, who are the only ones legally allowed to copy or modify it.

Linux is an example of open source software.



IT and Industry – New opportunities

- IT opened technological innovations in collecting, storing, processing transmission, and presentation of information.
- IT also provided advantages to other sectors.
- The IT is related with micro-electronics
- Agriculture, production
- Computer Integrated manufacturing (CIM)

Implications for Developing Countries

- Low labour cost.
- Improvements in micro –electronic reduce the cost of computer
- Cost of Developing electronic products in US is 3 times higher than Hong Kong



It industry- New Threats

- Hardware and software failure
- Malware
- Viruses
- Spam. scams and phishing
- Human error



Identity theft

- It is a crime.
- Steal personal information such as name, address, credit card number, bank a/c number etc..
- Identity theft mainly done in the following ways
 1. Stealing –wallets, computers, mobile devices, cheques, credit/debit cards
 2. Dumpster diving- to find discarded paper files, cds, floppy drives, etc
 3. Phishing/spam- fraudulent email



Identity theft

4. Social engineering- gaining your confidence in person, on the phone, online, postal mail, or email
5. Shoulder surfing – viewing your log on activities in public areas
6. Hacking – password guessing, tricking you to download malware, spyware or other software to access information on your computer



Identity theft

- Prevent identity theft
- Regularly check credit card report
- Follow up with creditors if your bills do not arrive on time
- Not revealing personal information to unauthorized information



Spam

- Flooding the internet with many copies of the same message, in an attempt to force the message on people who would not otherwise choose to receive it
- Two spam
- UseNet spam. Sending single message to more than 20 groups
- May be some advertisements or irreverent post.
- This attack is aimed at "lurkers". not posting anything just reading the messages



Spam

- Email spam sending spam to mailings list
 - Avoid spam
1. separate email for public and private
 2. Do not post emails on public places
 3. Caution when filling online forms
 4. Use spam filter
 5. Install firewall for our computer
 6. Do not respond to emails that ask verify account information
 7. Safeguard all your login information



Cookies

- Small piece of information sent by a web server to store on a web browser so it can later be read back from that browser.
- Cookies are embedded in HTML information