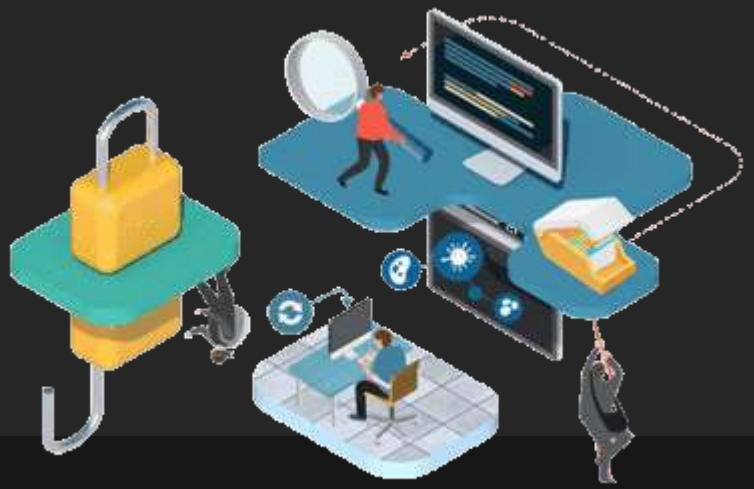
SOCIAL INFORMATICS



IT AND SOCIETY

SOCIAL AND ETHICAL ISSUES

Issues and concerns

Introduction – ETHICAL. SOCIAL AND POLITICAL ISSUES

- Computers and Internet (ICT) - Powerful and beneficial tool.
- ICT - tool for criminal purposes.
- The challenge comes from the nature of the information itself.

SOCIAL AND ETHICAL ISSUES OF IT:

- Inventions by human beings change the way have brought tremendous changes in human society.
- Computers and ICT & information revolution – change in life and gallops in communication.
- Unresolved ethical, social and political issues (related to individuals and societies) are created due to ICT.
- Present distribution of power, money, rights and obligations are threatened.
- Automated production process – high productivity of good products at less price but causes unemployment.

SOCIAL AND ETHICAL ISSUES OF IT.....

1. PRIVACY AND FREEDOM:

- Privacy - Right of individuals to be left alone free from surveillance or interference from other individuals, or organisations including Govt.
- Employees are under surveillance.
- Computer's ability to collect, store, retrieve and disseminate information is an advantage. But.....
- Private info.and data are stored in Govt. and private agency servers which are threat of misuse.
- Data are liable to change and the circulation of wrong data affects credibility of persons.
- Statutes are enacted to prevent misuse.
- Information should not be used for purposes other than declared ones and consent should be obtained for other purposes.

SOCIAL AND ETHICAL ISSUES OF IT.....

INTERNET AND PRIVACY

- INTERNET AND PRIVACY
- Websites leaking information via cookies.

Ethical questions:

- Under what circumstances one can invade the privacy of others?
- Is it proper to peep into others' lives via surveillance or means like market research?
- Is it necessary to inform the individual when tapping information about him?

2. INFO.SYSTEMS AND INTELLECTUAL PROPERTY:

- IP – Rights given to people over the creations of their mind.
- Trade and Merchandise Marks Act 1958 and 1999 amendment to protect IT and related products/creations in tune with WTO agreement.
- With IT it is easy to copy and transfer materials threatening IPR (both traditional IPR and IT related IPR)

INFORMATION SYSTEMS AND IP....

- **Software, music and movies are copied and disseminated easily over the internet.**
- **Unauthorized downloading of files.**
- **Software piracy – unauthorised copying, installation and use of software/application programs and even operating systems.**
- **The ethical issue of software piracy – Wheteher a person or organisation should use a protected software? Software providers should be encouraged to produce more useful ones by rewrading them and should not be discouraged through piracy.**
- **The social issue of software piracy – Stealing without any feeling of guilt and people follow it as normal activity. Law breakers.**
- **The political issue of software piracy – Protection of investment made by software creators by legislation is the duty of the Govt.**

SOCIAL AND ETHICAL ISSUES OF IT.....

3. ACCOUNTABILITY, LIABILITY AND CONTROL

- **IT development poses questions of accountability, liability and control.**
- **Software driven machine – responsibility in case of an injury to a person.**
- **Ethical concern – Software/hardware companies' liability/accountability.**
- **Responsibilities and liabilities of users in acquiring and using software and its related consequences.**
- **Social issue - System failures and consequent damage to data is a usual case. Develop back up services for protection. Network not to be used for posting inaccurate information that mislead/harm people.**
- **Political issue – Conflict b/w service providers and users reg. Quality of service. Providers evade duty and focus only on profit. Is legislation needed to impose liability on software/hardware providers?**

SOCIAL AND ETHICAL ISSUES OF IT.....

4. SYSTEM QUALITY AND RELATED ISSUES

- Many companies release and sell their software without proper quality control tets to make them bug free.
- Consequently system and/or data failure (damage)/loss happens.
- Irreparable damage may occur.
- Responsibility?
- **Ethical concern** – Perform quality tests and sell good products only.
- **Social Issue** – Data errors may happen due to other factors like power inconsistencies/failures or due to other reasons. Make them aware. If awareness occurs it may hamper further development!!
- **Political issue** – Govt. certification for quality products and penalty/punishment for marketing faulty software.

SOCIAL AND ETHICAL ISSUES OF IT.....

5. OTHER ISSUES

- **Employment and productivity – New jobs and enhanced productivity achieved. But Routine/ monotonous jobs disappeared.**
- **Clerical jobs done by computers.**
- **Training for skill enhancement of manual workers or their suitable rehabilitation is required.**
- **Individuality – Negative effect on individuality of people. Less or no interaction and relationships in an automated environment.**
- **Feeling of loss of human identity and value.**
- **Human machines in front of computers/machines.**
- **Overdependence by students/teachers etc.on computers even to do simple arithmetics. Humans become less reliable than machines.**
- **To prevent depersonalisation, computers with human interface capabilities are now being produced.**

SOCIAL AND ETHICAL ISSUES OF IT.....

5. OTHER ISSUES.....

- **The quality of life – Computerised business systems increase productivity and as a result they provide better quality goods at a lower price.**
- **More leisure time as monotonous jobs are done by computers and at the same time such monotonous jobs may require human intervention which makes their work atmosphere boring.**
- **Information security – Possibility of personal/company strategic/critical data being leaked or damaged by unauthorised persons.**
- **Computer crime and abuse - Doing illegal acts through the use of computers or against a computer system (accessing other's computer without consent, destroy data in it etc.). Computer abuse is the commission of acts involving a computer that may not be illegal but are generally considered unethical.**

SOCIAL AND ETHICAL ISSUES OF IT.....

5. OTHER ISSUES.....

Health problems – RSI -Repetetive Stress Injury - stress to muscles due to some repetitive actions primarily on keyboard. Pressure on median nerve through the bony structures of the wrist.

- **RSI - lack of ensation, killing pain, inability to grasp objects, and itchiness.**
- **Radiation from displays causing eye strain, watery eyes, redness, vision problems and head ache.**
- **Techno stress- Aggravation and hostiltiy to human beings. Impatience and fatigue.**

DIGITAL DIVIDE The Haves and Have nots

- The gap between people who possess regular access to computers and IT and those who do not have this facility.
- The term originated in 1990s and was much used in early days by the US.
- Today as ICT is penetretaing to all corners of the world and many areas are yet to gain ICT access the tterm has gained much relevance.
- Gap in access to ICT between developed and developing countries is also called as the 'digital divide'.
- Poorly funded and heavily funded educational institutions – the gap is prominent.
- Even in edu.institutions with high funding all students may not have access at home.

DIGITAL DIVIDE....

THE THREE ASPECTS

- 1. Access – Individuals with access and those without access.
- 2. Usage – Who know how to use ICT and those who do not.
- 3. Usage quality – Productive & positive usage and poor quality usage
- .
- Digital divide is more prominent in developing countries.
- Wealth of information available through internat can improve the quality of life and contribute to reduction in poverty.

DIGITAL DIVIDE....

FOCUS OF THE CONCEPT

- In the beginning the concept was basically referred to connectivity problems (access).
- Concern for the development of skills and education for effective use of ICT came later.
- Requirements of integerated resources was introduced finally.
- **Focus on infrastructure**: connectvity problems including servers and backbones.
- **Focus on capacity building**: Need of digital literacy for effective use.
- Focus on resource usage: Exploting newer opportunities such as online business, online medical services, online entertainment etc.
- Charitable and governmental organisations are working to reduce and eliminate digital divide.
- But providing basic living conditions to the poor is required before the lifting of the digital divide.

FREE SOFTWARE MOVEMENT

- **Free software gives the user the freedom to run, copy, share (distribute), study change and improve (modify) it.**
- **Ensure ethical and democratic choice of ensuring the right to learn and share with others.**
- **It is the foundation of a learning society where we share our knowledge in a way that others can build upon and enjoy.**
- **Proprietary software (closed source) denies users the freedom to share, study and modify. No scope of studying how a program works and no option of copying for installation in other computers. Such attempts are liable to penalty or even imprisonment.**
- **Proprietary software spy on our activities and put restrictions.**
- **Proprietary software represents an unacceptable danger to a free society.**

FREE SOFTWARE MOVEMENT....

- **Worldwide association of ethical programmers promote and suppport free software.**
- **Even a non-expert in computer field can be a part of it, either as user or promoter/campaigner.**
- **Copying, studying, sharing etc.are never penalised because there occurs no wrong –doing. This is called FREE SOFTWARE MOVEMENT.**
- **The movement was started in 1983 by Richard M Stallman of MIT, USA. He was the pioneer of the 'free software' movement.**
- **In 1983 he launched a project called GNU (GNU is Not Unix) with the aim of producing a software which is free to use, distribute and modify. He left MIT in 1984.**
- **In 1985 Stallman started the Free Software Foundation for advocating and educating computer users worldwide.**

FREE SOFTWARE MOVEMENT....

- In 1991, Linus Torvalds of University of Helsinki, Finland was working with "Minix" part of UNIX OS and he was having a kernel for a new OS but no peripheral programs.
- Richard Stallman was carrying superficial programs of GNU but no Kernel.
- They combined the two and Linux a free software was born.
- Free software is a matter of LIBERTY, not PRICE.
- The 4 essential freedoms are...
- Freedom 0 - to run the program for any purpose.
- Freedom 1 –to study the functioning of the program and change as per your wish. Source code is required for this.
- Freedom 2 – to distribute the copies of the original to others (helping).
- Freedom 3 – to distribute copies of changed versions so that the society can make use of the changes you have made. Souce code needed.