



# What We'll Discuss

TOPIC OUTLINE

Computer Ethics  
Types of Issues  
Computer Crime



# COMPUTER ETHICS



- Computer ethics is defined as
  - (a) study and analysis of nature and social impact of computer technology,
  - (b) formulation and justification of policies, for ethical use of computers.
- This subject has become relevant to the professionals such as designers of computers, programmers, system analysts, system managers, and operators.
- The use of computers have raised a host of moral concerns such as free speech, privacy, intellectual property right, and physical as well as mental harm.
- There appears to be no conceptual framework available on ethics, to study and understand and resolve the problems in computer technology.



# Types of Issues



- Different types of problems are found in computer ethics.
  1. Computer as the Instrument of Unethical Act
  2. Computer as the Object of Unethical Act
  3. Problems Related to the Autonomous Nature of Computer



# 1. Computer as the Instrument of Unethical Acts

(a) The usage of computer replaces the job positions. This has been overcome to a large extent by readjusting work assignments, and training everyone on computer applications such as word processing, editing, and graphics.

(b) Breaking privacy. Information or data of the individuals accessed or erased or the ownership changed.

(c) Defraud a bank or a client, by accessing and withdrawing money from other's bank account.



## 2. Computer as the Object of Unethical Act



- The data are accessed and deleted or changed.
  - (a) Hacking
  - (b) Spreading virus
  - (c) Health hazard



### 3. Problems Related to the Autonomous Nature of Computer

(a) **Security risk:**

Recently the Tokyo Stock Exchange faced a major embarrassment.

(b) **Loss of human lives:**

Risk and loss of human lives lost by computer, in the operational control of military weapons.

(c) In flexible manufacturing systems, the autonomous computer is beneficial in obtaining continuous monitoring and automatic control.



# Computers In Workplace

- **The ethical problems initiated by computers in the workplace are:**
  - 1. Elimination of routine and manual jobs**
  - 2. Health and safety**
  - 3. Computer failure**



# Property Issues

- The property issues concerned with the computers are:
  1. Computers have been used to extort money through anonymous telephone calls.
  2. Computers are used to cheat and steal by current as well as previous employees.
  3. Cheating of and stealing from the customers and clients.
  4. Violation of contracts on computer sales and services.
  5. Conspiracy as a group, especially with the internet, to defraud the gullible, stealing the identity and to forge documents.
  6. Violation of property rights





# Computer Crime

- The ethical features involved in computer crime are:

## 1. Physical Security

- The computers are to be protected against theft, fire, and physical damage.  
This can be achieved by proper insurance on the assets.

## 2. Logical security

- The aspects related are (a) the privacy of the individuals or organizations, (b) confidentiality, (c) integrity, to ensure that the modification of data or program are done only by the authorized persons, (d) uninterrupted service and (e) protection against hacking that causes dislocation or distortion.



# Privacy and Anonymity

- Some issues concerned with the privacy are listed hereunder:

## 1. Records of Evidence

- Service records or criminal records and the details of people can be stored and accessed to prove the innocence or guilty. Records on psychiatric treatment by medical practitioners or hospital, or records of membership of organizations may sometime embarrass the persons in later years.

## 2. Hacking

- There are computer enthusiasts who willfully or for fun, plant virus or “Trojan horses” that may fill the disc space, falsify information, erase files, and even harm the hardware. They breakdown the functioning of computers and can be treated as violation of property rights.



# Privacy and Anonymity

## 3. Legal Response

- In the Indian scene, the Right to Information Act 2005 14 provides the right to the citizens to secure access to information under the control of public authorities, including the departments of the central government, state governments, government bodies, public sector companies and public sector banks, to promote transparency and accountability of public authorities.



# Privacy and Anonymity

## 4. Anonymity

- Anonymity in the computer communication has some merits as well as demerits. While seeking medical or psychological counseling or discussion (chat) on topics, such as AIDS, abortion, gay rights, the anonymity offers protection (against revealing their identity). But frequently, anonymity is misused by some people for money laundering, drug trafficking and preying upon the vulnerable.



# Professional Responsibility



- The computer professionals should be aware of different conflicts of interests as they transact with other at different levels.
- The IEEE and Association for Computing Machinery (ACM) have established the codes of ethics to manage such responsibilities.



# THANK YOU