

Engineering Ethics

Lecture 7



Computer Ethics

- ❑ Computers have become the technological backbone of society.
- ❑ Computers raise a host of difficult moral issues, many of them connected with basic moral concerns such as free speech, privacy, respect for property, informed consent, and harm.
- ❑ The Internet has magnified all issues in computer ethics.
- ❑ Computers and the Internet dramatically increase the ability of centralized bureaucracies to manage enormous quantities of data.
- ❑ Computers are powerful tools that do not by themselves generate power shifts; they contribute to greater centralization or decentralization.



- ❑ Computer related issues
 - ❑ Job Elimination
 - ❑ Customer Relations.
 - ❑ Biased Software
 - ❑ Stock Trading
 - ❑ Military Weapons
- ❑ Crime by computer has proved to be unusually inviting; Computer crooks tend to be intelligent and to view their exploits as intellectual challenges.
- ❑ In addition, the computer terminal is both physically and psychologically far removed from face-to-face contact with the victims of the crimes perpetrated; unlike violent criminals, computer criminals find it easy to deceive themselves into thinking they are not really hurting anyone, especially if they see their actions as nothing more than pranks.



- ❑ There are often inadequate safeguards against computer crime.
- ❑ The technology for preventing crime and catching criminals has lagged behind the implementation of new computer applications.
- ❑ Computers reduce paperwork, but this has the drawback of removing the normal trail of written evidence involved in conventional white-collar crime (forgeries, receipts, etc.).
- ❑ Finally, the penalties for computer crime, as for white-collar crime in general, are mild compared with those for more conventional crimes.
- ❑ Computer crime raises obvious moral concerns of honesty, integrity, and trust.



Data and Software

- ☐ Computer hardware is protected by **patent laws**.
- ☐ Software can be protected by **trade secret laws or by copyrights**.
- ☐ Trade secret laws permit employers to require their employees not to divulge proprietary information.
- ☐ Obviously, trade secrets are useless once software is made publicly available as a marketed product. Here copyright laws offer the best protection.
- ☐ Does a company steal the property of a software producer if it buys one copy and then reproduces dozens of copies for its other employees?
- ☐ Yes, unless a special agreement has been reached with the software producer.
- ☐ Is making a dozen copies of a program borrowed from a friend for resale stealing? Yes.



- ❑ Storage, retrieval, and transmission of information using computers as data processors has revolutionized communication.
- ❑ Inappropriate Access or Hackings: suppose that the hacker's activities are limited to breaking into systems for shock value and a display of cunning. **Is that so bad?**
- ❑ All information ought to be freely available, that no one should be allowed to own information, especially in a democratic society that respects individual rights to pursue knowledge.
- ❑ Essentially, this argument makes freedom of information paramount.
- ❑ Yet, there are at least three other important values that place legitimate limits on access to information: individual privacy, national security, and freedom within a capitalist economy to protect proprietary information essential in pursuing corporate goals.



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