

Information Systems Ethics, Computer Crime, and Security



Information Systems Ethics



- Toffler's three waves of change
 - Agriculture
 - Industrial Revolution
 - Information Age

Information Systems Ethics

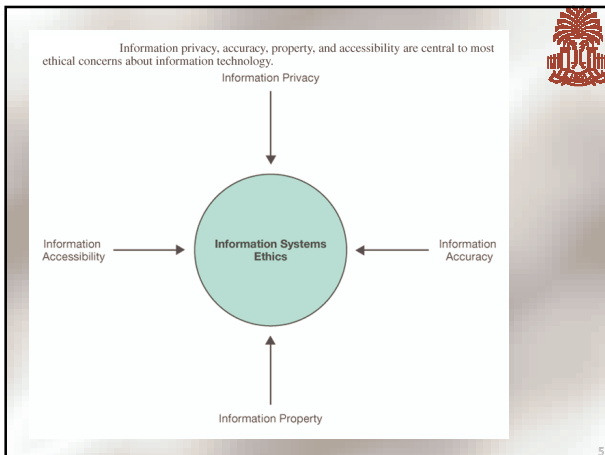


- **Computer Literacy**
 - Knowing how to use a computer
- **Digital Divide**
 - That gap between those with computer access and those who don't have it
- **Computer Ethics**
 - Standards of conduct as they pertain to the use of information systems

Information Systems Ethics



- **Information Privacy**
 - Protecting one's personal information
- **Information accuracy**
 - Deals with authentication and fidelity of information
- **Information property**
 - Deals with who owns information about individuals and how information can be sold and exchanged
- **Information accessibility**
 - Deals with what information a person has the right to obtain about others and how the information can be used



Information Systems Ethics

- **Issues in information accessibility the need for a code of ethical conduct**
 - Carnivore
 - Electronic Communications Privacy Act (ECPA)
 - Monitoring e-mail
- **The need for a code of ethical conduct**
 - Business ethics
 - Plagiarism
 - Cybersquatting

Computer Crime

- **Definition:** the act of using a computer to commit an illegal act
 - Authorized and unauthorized computer access
 - Examples
 - Stealing time on company computers
 - Breaking into government Web sites
 - Stealing credit card information

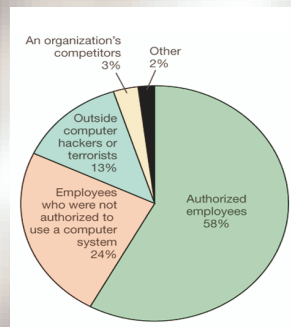
Computer Crime

- **Federal and State Laws**
 - Stealing or compromising data
 - Gaining unauthorized computer access
 - Violating data belonging to banks
 - Intercepting communications
 - Threatening to damage computer systems
 - Disseminating viruses
- **Hacking and Cracking**
 - Hacker – one who gains unauthorized computer access, but without doing damage
 - Cracker – one who breaks into computer systems for the purpose of doing damage

Computer Crime



Who commits computer crime?



9

Computer Crime



Types of computer crime

- **Data diddling**: modifying data
- **Salami slicing**: skimming small amounts of money
- **Phreaking**: making free long distance calls
- **Cloning**: cellular phone fraud using scanners
- **Carding**: stealing credit card numbers online
- **Piggybacking**: stealing credit card numbers by spying
- **Social engineering**: tricking employees to gain access
- **Dumpster diving**: finding private info in garbage cans
- **Spoofing**: stealing passwords through a false login page

10

Computer Crime



Computer viruses and destructive code

- Virus – a destructive program that disrupts the normal functioning of computer systems
- Types:
 - Worm: usually does not destroy files; copies itself
 - Trojan horses: Activates without being detected; does not copy itself
 - Logic or time bombs: A type of Trojan horse that stays dormant for a period of time before activating

11

Computer Security



Computer Security – precautions taken to keep computers and the information they contain safe from unauthorized access

Recommended Safeguards

- Implement a security plan to prevent break-ins
- Have a plan if break-ins do occur
- Make backups!
- Only allow access to key employees
- Change passwords frequently
- Keep stored information secure
- Use antivirus software
- Use biometrics for access to computing resources
- Hire trustworthy employees

12

Computer Security



■ Other encryption approaches

- Pretty good privacy (PGP)
 - Phil Zimmerman
- Clipper Chip

■ Internet Security

- Firewall – hardware and software designed to keep unauthorized users out of network systems

17

Computer Security



■ Virus prevention

- Install antivirus software
- Make backups
- Avoid unknown sources of shareware
- Delete e-mails from unknown sources
- If your computer gets a virus...

■ How to maintain your privacy online

- Choose Web sites monitored by privacy advocates
- Avoid “cookies”
- Visit sites anonymously
- Use caution when requesting confirming e-mail

18

Computer Security



■ Avoid getting conned in cyberspace

- Internet auctions
- Internet access
- International modem dialing
- Web cramming
- Multilevel marketing (pyramid schemes)
- Travel/vacations
- Business opportunities
- Investments
- Health-care products

19