Computer Security

Chapter5

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Computer Viruses, Worms and Trojan horses

Virus is a potentially damaging computer program

Worm copies itself repeatedly, using up resources and possibly shutting down computer or network

Trojan horse hides within or looks like legitimate program until triggered

Can spread and damage files

Does not replicate itself on other computers

Computer Viruses, Worms and Trojan horses

- ## What is an antivirus program?

  ➢ Identifies and removes computer viruses

  ➢ Most also protect against worms and Trojan horses

POPULAR ANTIVIRUS PROGRAMS

AVG AntiVirus
Command AntiVirus
eTrust InoculateIT
F-Secure Anti-Virus
McAfee VirusScan
Norton AntiVirus
RAV AntiVirus
Trend Micro PC-cillin

Ethics and Society

- What are computer ethics?

Moral guidelines that govern use of computers and information systems

Codes of conduct

Unauthorized use of computers and networks

Software theft

Intellectual property rights—rights to which creators are entitled for their work

Ethics and Society

The computer revolution has generated intense controversy about IT ethics. Educators believe that if people are made aware of the consequences of their actions, then fewer people will be motivated to plant dangerous computer viruses or contaminate information systems with false information.

An IT Code of Ethics

- ➢ Written guideline that helps determine whether computer action is ethical

- ➢ Employers can distribute to employees

- ➢ Most major IT professionals societies have adopted code of ethics

- ➢ Their codes warn the members, who are mostly professionals in the IT fields, that they can be expelled or censured if they violate them

- ➢ The recently updated *Association for Computing Machinery (ACM) Code of Conduct* provides guidelines for both knowledge workers and IT professionals

An IT Code of Ethics

IT CODE OF CONDUCT

1. Computers may not be used to harm other people.

2. Employees may not interfere with others' computer work.

3. Employees may not meddle in others' computer files.

4. Computers may not be used to steal.

5. Computers may not be used to bear false witness.

6. Employees may not copy or use software illegally.

7. Employees may not use others' computer resources without authorization.

8. Employees may not use others' intellectual property as their own.

9. Employees shall consider the social impact of programs and systems they design.

10. Employees always should use computers in a way that demonstrates consideration and respect for fellow humans.

Computer and IT Crime

The ethical spectrum for computer issues runs from that which is ethical, to that which is unethical, to that which is against the Law ⟶ *a computer crime*

Defrauding the system

An illegal entry into a computer system, direct or indirect, for the purpose of personal gain is considered **FRAUD**

Computers can be both an invitation to fraud and a tool to thwart fraud

Computer and IT Crime

Negligence and Incompetence

Not all computer crime is premeditated.

Negligence or incompetence can be just as bad for an organization as a premeditated crime.

The Cracker Problem

- What is unauthorized access and how is it achieved?

Use of a computer or network without permission

Hackers typically break into computer by connecting to it and then logging in as a legitimate user

Hacker, or cracker, is someone who tries to access a computer or network illegally

Software Piracy and the Theft of Intellectual property

Federal copyright law automatically protects software from the moment of its creation. The same law protects other Intellectual property (books, films, audio recordings and so on).

Software theft is act of stealing or illegally copying software or intentionally erasing programs

Software piracy is illegal duplication of copyrighted software