Computer Crimes and Misdemeanors

CSci 110 - Prof. C.D. Martin

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Overview

- Types of Computer Crimes
- Profile of Computer Criminal
- Incidence of Computer Related Crimes
- Prevention of Computer Crime
- CyberTerrorism
Types of Computer Crime

- Computer Fraud - Illegal, intentional act designed to deceive in order to receive something of value
  - Input, transaction error
  - Output or results
  - Applications programs
  - Data files - intrusion
  - Computer operations
  - Hardware/Systems software
Computer Abuses

- Unauthorized use of computer
- Unauthorized access to data
- Misuse of computers for revenge, malicious intent
- Denial of service
- Defacing or hijacking a website
FBI National Computer Crime Squad

http://www.emergency.com/fbi-nccs.htm

- Intrusions of the Public Switched Network (the telephone company)
- Major computer network intrusions
- Network integrity violations
- Privacy violations
- Industrial espionage
- Pirated computer software
- Other crimes where the computer is a major factor in committing the criminal offense
Other Computer Crimes

- Computer espionage
  - Industrial
  - National defense
- Computer terrorism
  - Disable critical systems for political purposes
- Computer vandalism
  - Viruses, worms
  - Hacking, cracking
- Distributing Child Pornography
Why?

- Financial gain
- Revenge
- Gain hacker status
- Curiosity
- Entertainment
- Personal favor
- Accidental
Who? (if not a hacker...)

- Functional end user, not technical
- Holds a non-supervisory position
- No previous criminal record
- Works long hours, takes few vacations
- The last person you would suspect
- Just the person you would want to hire!
Incidence?

- More than 1/2 caught by accident
- 1/4 caught by audit after the fact
- 1/4 caught by controls in place
- Law enforcement officials believe that only about 10% of the incidents are detected.
- Detection has improved greatly in last 10 years.
- Conviction difficult - hard to try cases.
Prevention

- Rigorous audit system to track all use
- Firewalls, other security features
- Intrusion detection
- Encryption of data transmissions
- Strong authentication mechanisms
- Redundant security mechanisms
- Stronger laws - greater penalties
Case Study: Operation Cybertrader

- NCIS (UK) received info about Internet child porn trader
- Operated home computer SW company
- Search warrant allowed officials to search home and computers—found 1,086 graphical images of hard porn and child porn
- Received and distributed child porn photos
- Found written fantasy about kidnapping 7-9 year old female children to drug and torture
- Had indecently assaulted a 9-year old girl
- Pleaded guilty - sentenced to 8 months in jail
Cyberterrorism

- A new wrinkle - the next battlefield
- Vulnerability of critical systems
  - Communications
  - Transportation
  - Financial
  - Medical
  - Law enforcement
  - Military
  - Government
New opportunity for CS students (US citizens)

- Computer security scholarships
  - Government service
- New courses, certificate in security
- Hot area for jobs
- Hot area for research
- Computer fraud investigators
Links to Info: Computer Crime

- http://www.cybercrime.gov/
- http://www.crime-research.org/eng/