

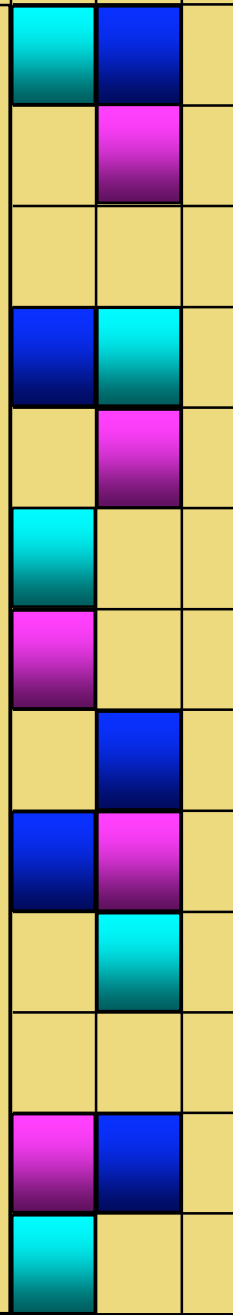


Computer Crimes and Misdemeanors

CSci 110 - Prof. C.D. Martin

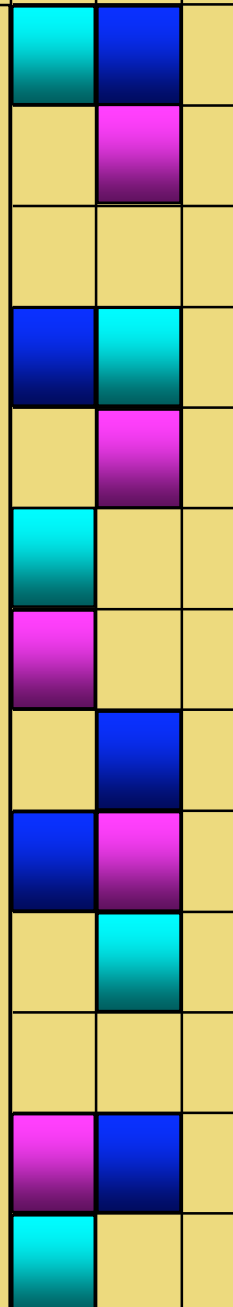
Updated Summer 2006 by

MBF



Overview

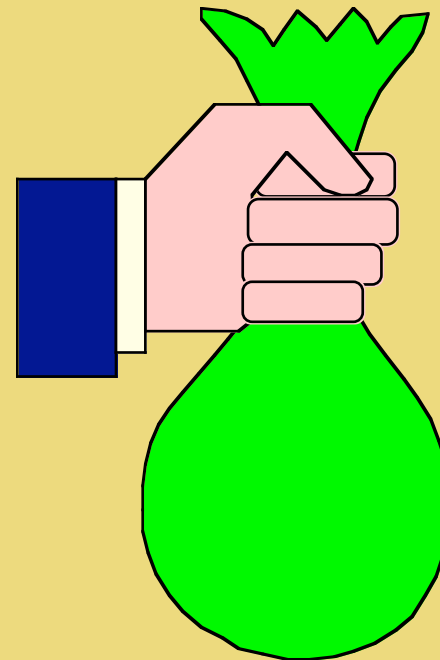
- **Types of Computer Crimes**
- **Profile of Computer Criminal**
- **Incidence of Computer Related Crimes**
- **Prevention of Computer Crime**
- **CyberTerrorism**



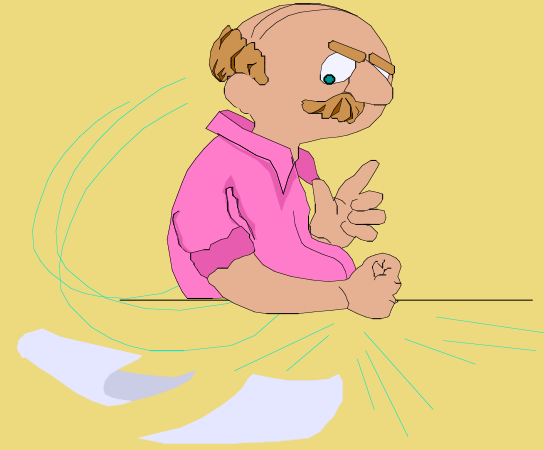
Types of Computer Crime

■ **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

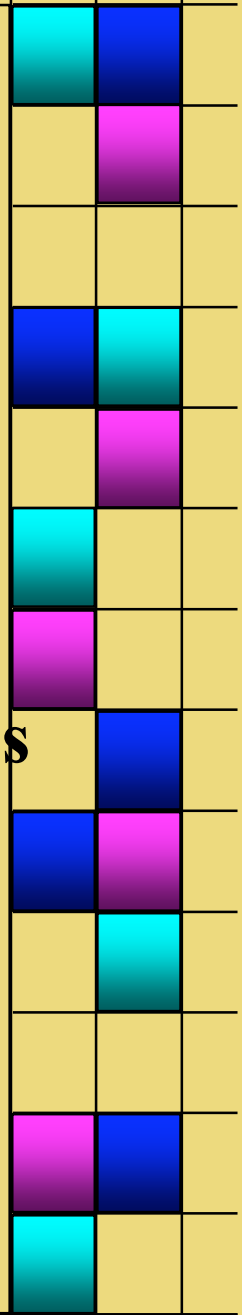
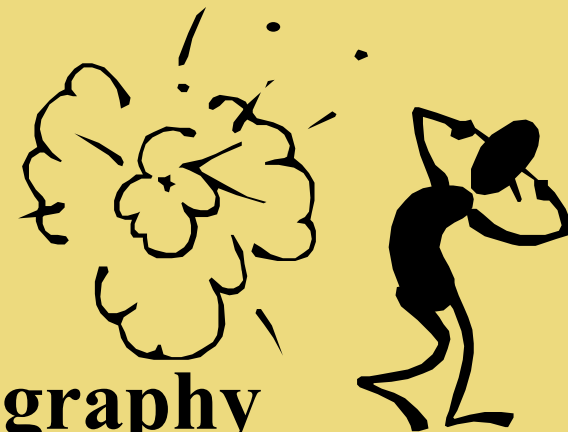
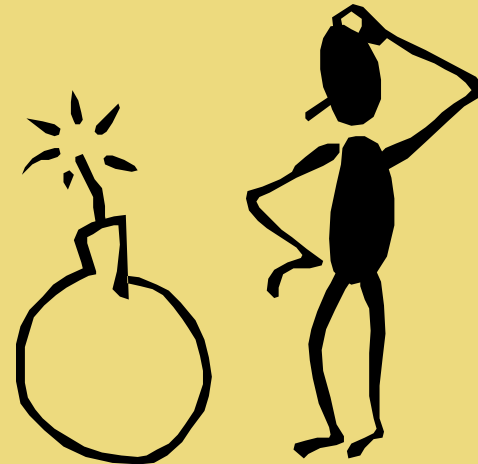
■ Computer terrorism

- Disable critical systems for political purposes

■ Computer vandalism

- Viruses, worms
- Hacking, cracking

■ Distributing Child Pornography

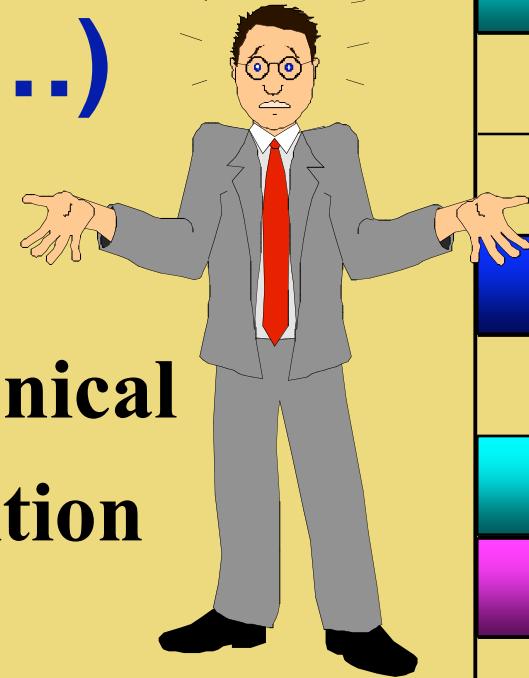


Why?

- Financial gain
- Revenge
- Gain hacker status
- Curiosity
- Entertainment
- Personal favor
- Accidental



Who? (if not a hacker...)

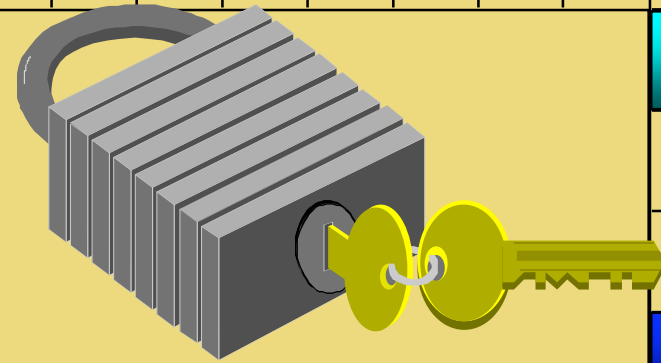


- **Functional end user, not technical**
- **Holds a non-supervisory position**
- **No previous criminal record**
- **Works long hours, takes few vacations**
- **The last person you would suspect**
- **Just the person you would want to hire!**

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



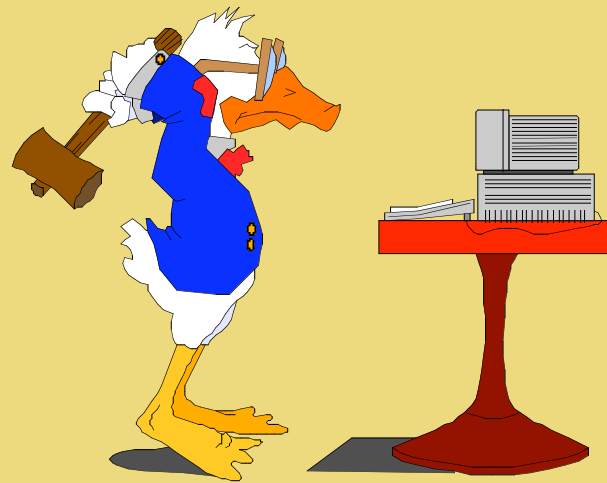
- **Rigorous audit system to track all use**
- **Firewalls, other security features**
- **Intrusion detection**
- **Encryption of data transmissions**
- **Strong authentication mechanisms**
- **Redundant security mechanisms**
- **Stronger laws - greater penalties**

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.virtuallibrarian.com/legal/>
- <http://www.emergency.com/fbi-nccs.htm>
- <http://www.cybercrime.gov/>
- <http://www.usdoj.gov/criminal/cybercrime/comprcrime.html>
- <http://www.crime-research.org/eng/>