Storage and Security of Digital Information

Dannelly’s CSCI 101 Sections
"Permanent" Storage Media

- Computer Hard Drive
- Optical Disks
  - CD
  - DVD
- Tape Backup System
- Flash Drives
How Data is Stored on Disks

- 1s and 0s
- Sectors
- Directory
  - file deletion
- Disk Fragmentation
- File Compression
Harmful Software

- **Virus**
  - usually destroys files

- **Worm**
  - objective: destroy the network, not your PC

- **Trojan Horse**
  - a virus that arrives inside something else

- **Spyware**
  - runs on your computer and steals information
Virus Protection

• Anti Virus Software
  • looks for known viruses and common virus formats

• Firewalls
  • prohibits unauthorized external access

• Be Careful of Cookies
Computer Crime

• Types of Computer Crime
  • Making and Spreading Viruses
  • Stealing Corporate Data
  • Destroying Corporate Data
  • Denial of Service Attack
    • you can shut down cnn.com by quickly hitting it with thousands of bogus requests

• Most corporate computer crime is done by employees
**How Images are Stored**

24-bit image - uncompressed
- **640 x 480 pixels** = 307,200 pixels per image
- 307,200 x 3 bytes-per-pixel = **921,600 bytes**

Average JPEG Image
- **800 x 600 pixels** = 85,000 bytes
- *compressed*, so quality of details is pretty low
- about 750 medium-quality jpegs will fit onto a CD
A Close Up View of Image Compression

http://photo.net/equipment/digital/basics/