

# VIRUSES

Computer Technology  
Day 21

# Computer Virus

- Set of program instructions that attaches itself to a file, reproduces itself, and/or spreads to other files
- It can
  - Corrupt files
  - Destroy data
  - Display irritating messages
  - Corrupt computer systems



# Spreading Viruses

- Viruses spread because people distribute infected files by exchanging disks and CDs, sending e-mail attachments, and downloading documents from the Internet.
- Viruses attach themselves to files with .exe, .com, or .vbs filename extensions
- When you open the infected file, the virus opens and waits to infect the next program you run or disk you use

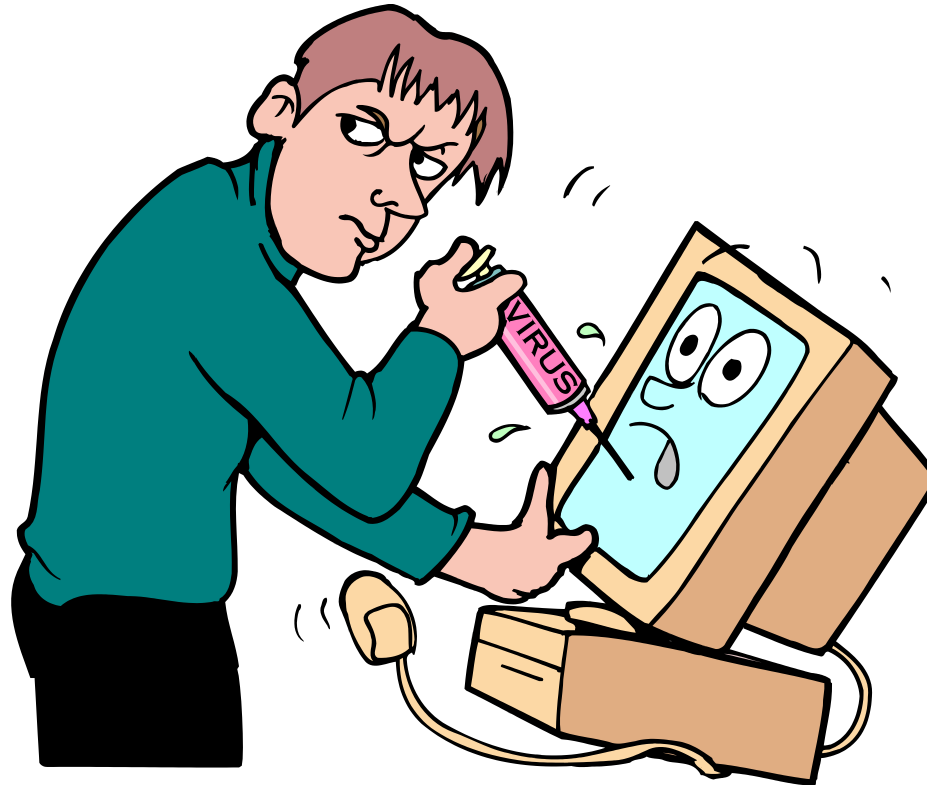
# Spreading Viruses (continued)

- Viruses have the ability to lurk in a computer for days or months, quietly replicating themselves
- You may not even know your computer has a virus, thus making it easier to spread the virus

# Trigger Events

- An event that activates a task often associated with a computer virus
- Time Bomb
  - Watches for the PC clock to reach a certain date to activate the virus
    - Example
      - Michelangelo virus
        - Damages files on March 6 the artist's birthday
- Logic Bomb
  - Watches for a specific set of input to activate the virus

# Classification of Viruses



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# File Virus

- Virus that attaches to an application program
  - Example
    - Chernobyl
      - Notorious for overwriting a section of the hard disk, making it impossible to access data

# Boot Sector Virus

- Infects the system files that your computer uses every time it is turned on
- Cause widespread damage and recurring problems
  - Example
    - Stoned Virus
      - Every time you turn on your computer the virus is activated and infects any non-write-protected files including your hard disk



# Macro Virus

- Macro
  - A miniature program that usually contains legitimate instructions to automate a document or task
- This virus infects a macro
  - Example
    - Melissa Virus
      - Attaches itself to Microsoft Word documents
    - Codemas Virus
      - Attaches itself to Microsoft Excel spreadsheets

# Other Viruses



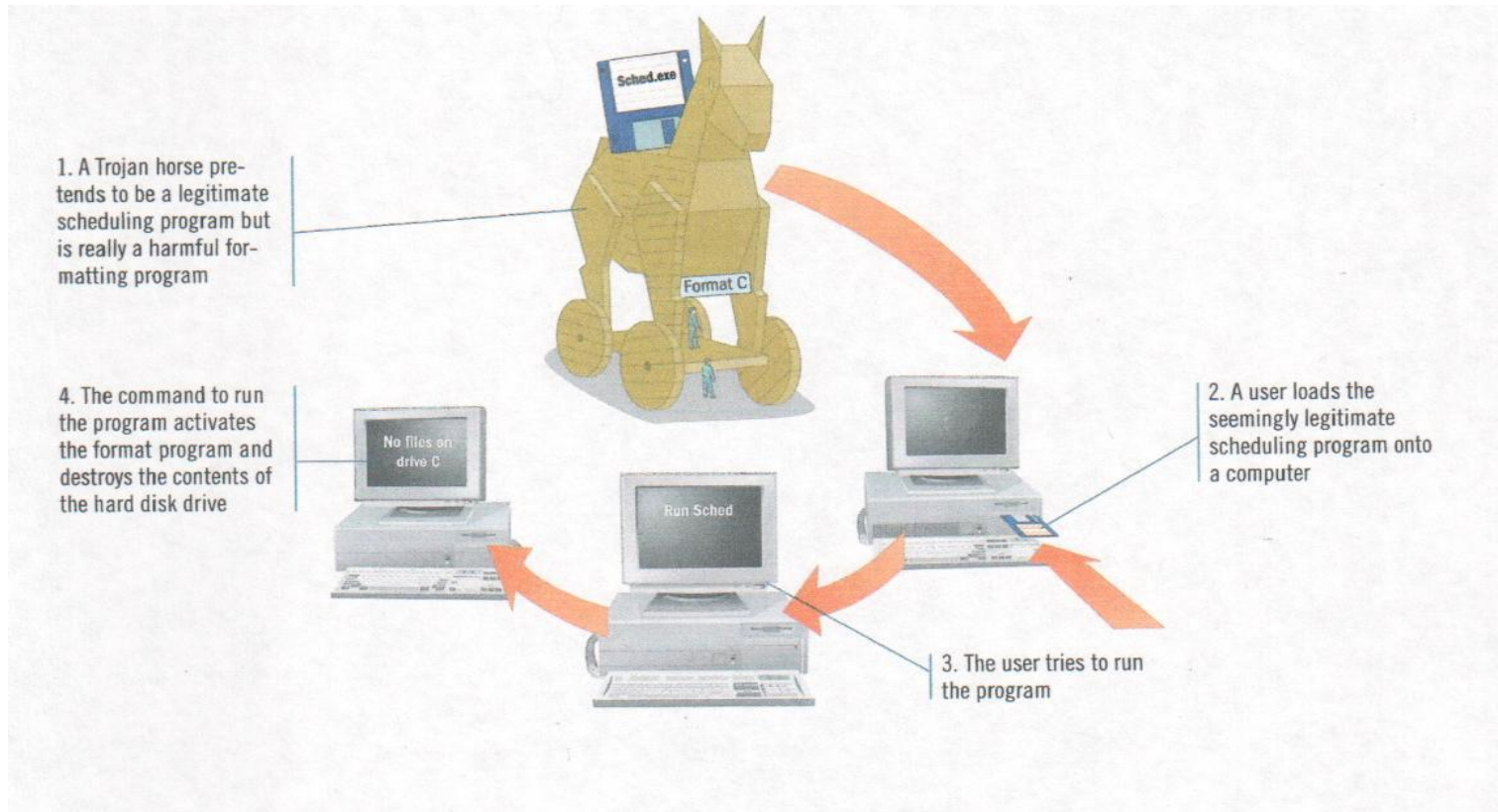
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# Trojan Horse

- Computer program that seems to perform one function while actually doing something else
  - Different from a virus because it does not make copies of itself
- Different tasks that can be affected
  - Stealing passwords
  - Deleting files

# Trojan Horse Example



# Worm

- Software program designed to enter a computer system usually through a network, through security holes and then replicate itself
- Spreads from computer to computer

# Worm Example

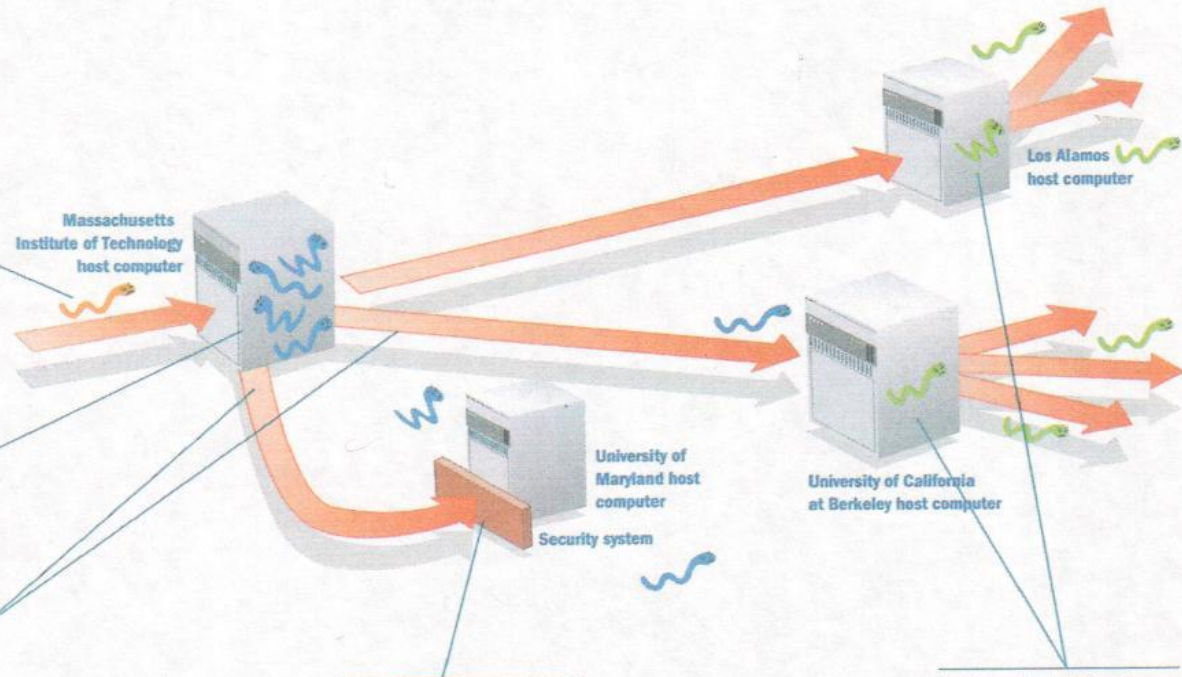
1. The worm enters a host computer through the e-mail system

2. The worm propagates, fills up storage space, slows processing time, and looks for other hosts

3. Copies of the worm attempt to use the e-mail system to travel to other hosts

4. Hosts protected by security systems don't let the worm enter

5. Unprotected hosts are invaded



# Protecting yourself from viruses

- Antivirus software
  - Set of utility programs that looks for and eradicates a wide spectrum of problems, including viruses, Trojan horses, and worms
  - Example
    - McAfee Virus Scan
- Don't open e-mails attachments that have strange names or are from people you don't recognize

# Resource

Parsons, June Jamrich, and Dan Oja.  
Computer Concepts. Boston: Course  
Technology - Thompson Learning, 2002.