Session: Introduction
Topic: Operating Systems and UNIX

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Computer Science Department UNIX Account

Machines
- Diablo ("diablo.cs.fsu.edu") - Faculty only (do not hack)
- Quake ("quake.cs.fsu.edu") - Deprecated
- Shell ("shell.cs.fsu.edu") - Use this one generally
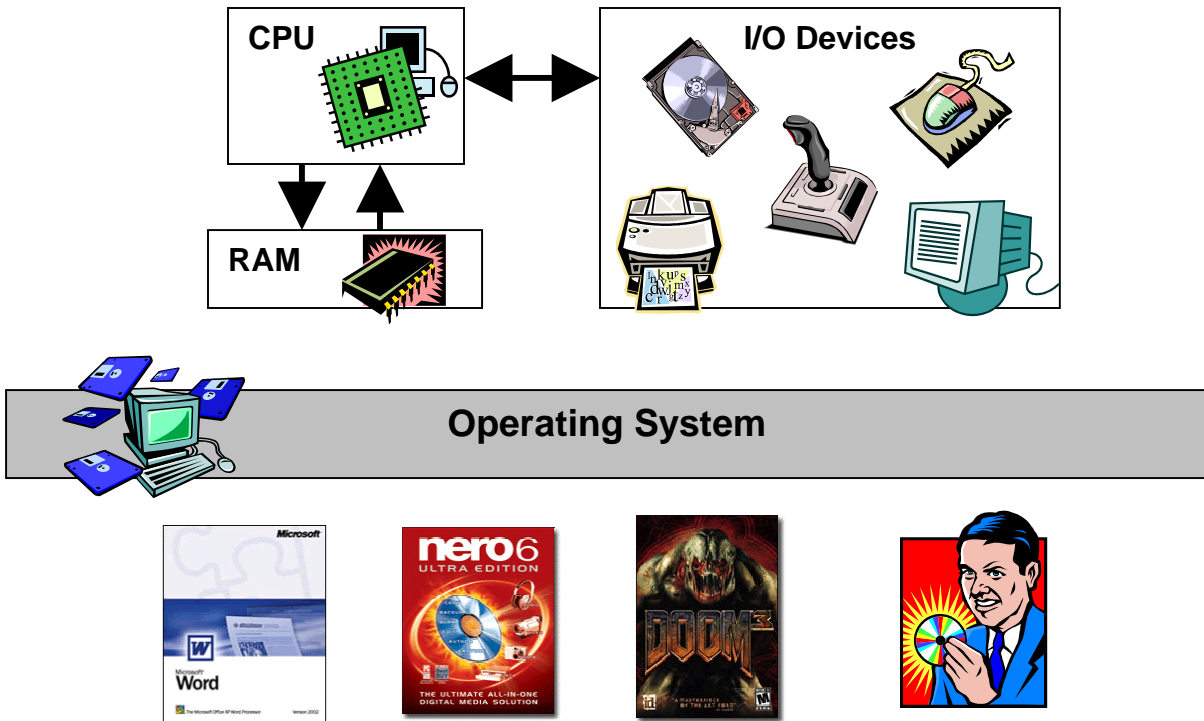- Linprog ("linprog.cs.fsu.edu") - Use for programming (actually a stack of "linprog1" - "linprog4")

SSH (Secure Shell)
- Use an SSH client program to connect to CS machines
- Download from: http://sl.us.fsu.edu/ssh.html (You must be connected to the FSU network to obtain)
- Also available on Blackboard website

New Account Application
- http://system.cs.fsu.edu/info/newuser/index.html
- Use SSH Client to connect to "shell.cs.fsu.edu"
- username: newacct
- password: newacct
- Carefully follow **rules** for creating your password.
- Be sure to get your assigned **username** at end.

Basic Components

CPU

I/O Devices

RAM

Operating System

CPU (Central Processing Unit, "Processor")
- Brain

Main Memory (RAM)
- Temporary Workspace

I/O (Input/Output)
- Keyboard, Mouse
- Monitor
- Mass Storage (Hard Drives, CD-ROM)

Operating System
- Oversees interaction of hardware components
- Provides interface between software and hardware
- Provides interface to user

- Most common use is running programs and managing "files"

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UNIX Components

Kernel
- Manages Main Memory, CPU

File System
- Handles Mass Storage
- Stores information in files
- Organizes files into directories

Shell
- Handles I/O between User and OS
- Interprets User Commands

Utilities
- Specialized Programs included with standard UNIX
- Run from Shell

Shell

Many Flavors
- Bourne (sh) - S.R. Bourne (Good scripting, poor interactivity)
- Bourne Again (bash) - Rework Bourne
- C-Shell (csh) - UC Berkeley (Scripting language buggy)
- Korn Shell (ksh) - David Korn at AT&T (sh with interactivity and fee)

T C-Shell (tcsh)
- Similar to C-Shell
- Default on Linux / Intel installations
- **Default for Department of Computer Science accounts**

Shell Operation Cycle
- Waits for command (you see "prompt")
- You type in a command name (that is, you "run a program")
- **You press <Enter>**
- Shell completes command
- Maybe you see something, maybe you do not
- [Go check for result]
- Repeat

```
>          →  > ls      →  > ls↵    →  > ls↵
                                       highscores
                                       little_wing.tab
                                       resume.txt
                                       swiss_acct.num
```