Class Overview

- Class website (http://csjava.occ.ccccd.edu/~dellingerd)
- Syllabus
- Text
- Class time, breaks
- Handouts (/dev/null)
About your instructor

- Learned Unix System 7 in 1982
- Unix System Admin in Dec 1982
- On/off System admin jobs over 20 years
- Unix programmer (C) in CA and Denmark
- Have taught this class 4 previous semesters
About you?

- Why do you want to learn Unix/Linux??
- Where did you hear about Unix/Linux?
- Is Unix new?
Unix or Linux or ??

- This class is called “Introduction to Unix”, so why are we using a Linux book?
What is Unix?

- What is UNIX?
- How old is UNIX?
- What kind of computers can UNIX run on?
- What makes it popular? (Why UNIX?)
History of Unix

- 1969 - Bell Labs
- 1972 - Written in C (makes it portable)
- 1970s - sold to universities at low cost
- MIT - X Windows
More Unix History

- 1983 - GNU (Gnu’s Not Unix) - Richard Stallman
- 1991 - Linux - Linus Torvalds
- 1999 - Mac OS X
- timeline: http://www.levenez.com/unix/
Advantages

- Built using a high-level language (C)
- Portable
- Not tied to the computer maker
- Kernel
- Shells - Powerful and interchangeable
- Fig 1-1
More Advantages

- **Peripherals** - devices are treated as ordinary files or directories
- **Uniform system calls**
- **Multi-tasking** - fully protected memory
- **Multi-user**
Even more Advantages

- *Multi-user (as we will see in our class)*
- *Powerful networking*
- *Non-proprietary (sometimes)*
  - *Not VMS, RSTS, Windows, etc.*
- *GNU - GNU's Not Unix*
Stability!

- All of this combines to make a very stable computer

- One of our class servers:
Overview of Unix/Linux

- Overview
  - Filesystem
  - Shells
  - Unix Variants
Hierarchical Filesystem

- file
  - document, text file, music file, etc.
- directory
  - can have subdirectories
  - / is the top directory
Shells

- Command line interpreter and scripting language (Shell)
  - sh - the orig. shell, aka Bourne Shell
  - csh - based loosely on the C programming language.
  - Bash - Bourne Again Shell
  - tcsh - newer/better version of csh
Examples of UNIX Variants

- Proprietary UNIX Systems
- Linux
- BSD
Proprietary UNIX Systems

- Solaris: http://www.sun.com/software/solaris/binaries/
- IBM's AIX: http://www-1.ibm.com/servers/aix/
Linux variants

- Redhat: http://www.redhat.com
- Fedora Project: http://fedora.redhat.com/
- Linsipre/Lindows: http://www.linspire.com/
More Linux variants

- Mandrakelinux: http://www.mandrakelinux.com/en
- TurboLinux: http://www.turbolinux.com
- IBM's Linux: http://www-1.ibm.com/servers/eserver/pseries/linux
BSD variants

- FreeBSD: http://www.freebsd.org
- Mac OS X: http://www.apple.com/macosx
- OpenBSD: http://www.openbsd.org
More Unix/Linux variants

- http://www.linuxiso.org
- http://www.levenez.com/unix
USENIX

- USENIX (the Advanced Computing Systems Association)
- UNIX organization
- Conferences
- BoFs
Logging in

- In this class, we will spend most of our time discussing UNIX from a command line perspective.
- We will all share one (2?) UNIX/Linux server(s).
- Tonight we’ll use cis106.occ.cccd.edu
Logging in (cont’d)

- You will first need to login to the PC that is sitting in front of you.
- You can use any PC in the lab and in any of the classes. You can use any computer in the world with an “ssh” client.
- We’ll be using putty (look in Start>All Programs>Linux Apps)
You try it!

- Tonight’s lab:
  - login to our Linux server