Lecture 01: welcome and intro what LSD and Unix have in common

Hands-On Unix System Administration DeCal

2012-08-27

The connection

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Diving into the shell
Text editing

> "Two of the most famous products of Berkeley are LSD and Unix. I don't think that this is a coincidence."

(from *The Unix-Haters Handbook*)

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❖ Who are we?

❖ What is Unix?

❖ What is sysadmining?

❖ Logistics

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Text editing

- CS 98/198-8, the Hands-on Unix system administration DeCal
- `decal.ocf.berkeley.edu`
- Don't be shy. Ask questions in class or on Piazza.

Who are we?

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Text editing

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What is Unix?

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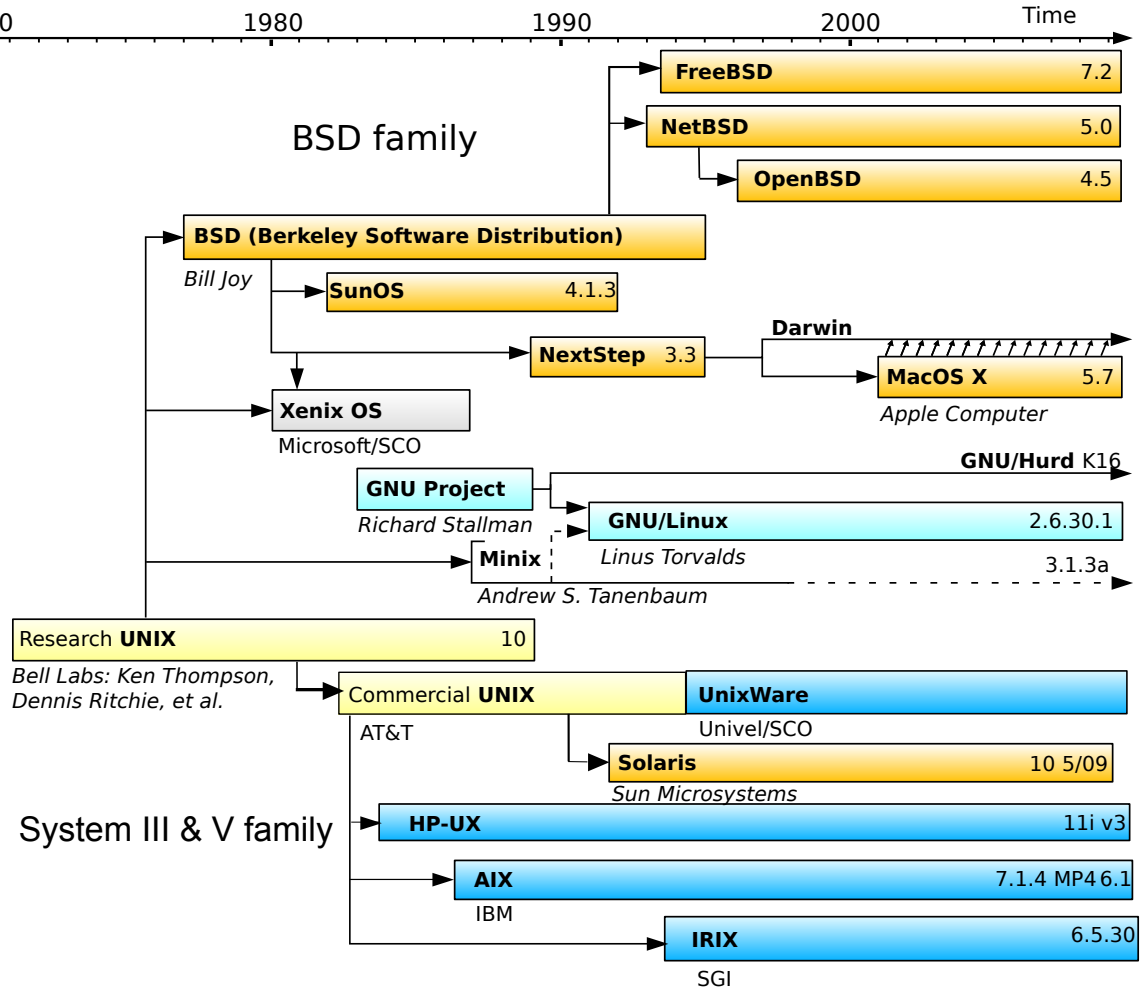

https://en.wikipedia.org/wiki/File:Unix_history.svg

What is sysadmining?

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http://xkcd.com/705/

Logistics

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- lecture-lab format: lab due at start of next week's class
  - lab $\neq$ homework
- grading: attendance, labs, final project
- bring laptop if possible

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Text editing

- an ordinary program (e.g., `bash`) that lets you access the system
  - text-based
- edit files, run other programs, etc.
- can be automated with shell scripting

In a nutshell

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Text editing

- there's a prompt
- type something
- read output
- repeat

Common shells

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Text editing

- `sh`/**`bash`**
- `csh`/`tcsh`
- `zsh`
- `fish`

Basic programs

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Text editing

- `pwd`: print working directory
- `ls`: list file
- `cd`: change working directory
- `mkdir`: make directory
- `rmdir`: remove empty directory

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Text editing

- `touch`: create/access file
- `mv`: move file
- `cp`: copy file
- `rm`: remove file

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Text editing

- `echo`: print text
- `cat`: print file
- `less` (`more`): scroll ("page") through file
- `grep`: search file for specified pattern

Saving keystrokes

- command history
- tab-completion

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Text editing

- programs have command line options.
  - e.g., ls -l
- programs are (usually) documented
  - e.g., `man ls`, `ls --help`
- search manpages with `apropos` (or Google)

Unix paradox

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Text editing

Good Unix programs are

- simple
- do one thing well

"`cat` came back from Berkeley waving flags" (Rob Pike [Unix minimalist])

ls -l

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- filenames preceded with a dot are hidden by default
  - e.g., `.bashrc`
- special directories
  - `.` (one dot): current directory
  - `..` (two dots): parent directory

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Text editing

vi(m)

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❖ vi(m)

"I was trying to make it usable over a 300 baud modem" (Bill Joy [Berkeley graduate student])

- modal text editor: normal mode, insert mode
- `vimtutor`