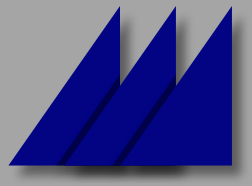


Department of Physics,
Computer Science & Engineering

CPSC 410 – Operating Systems I

Introduction

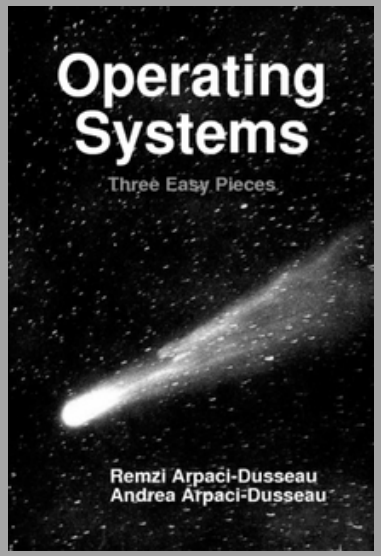
Keith Perkins

Admin: Your Background

- Some high level programming language
- Prerequisites CPSC 327 (C++)

Admin: Text

- Free online text
- http://pages.cs.wisc.edu/~remzi/OSTEP/



Admin: Text

- Three sections
  - Virtualization
    - Architecture, process scheduling, memory management
  - Concurrency
    - Threads, deadlock, critical sections, mutual exclusion, etc.
  - Persistence
    - I/O

Admin: Evaluation

- Multiple projects
- 2 midterms
- 1 final

Probably 4 but maybe 5

Admin: What you get from this class

- Some C++ experience
- How an OS works (multitasking)
- Process scheduling
- Memory Management
- I/O management and File Management
- Threads and concurrency

Admin – Linux

- Please use Ubuntu

Admin – Linux –Why?

- Most of the worlds OSs are based on unix like kernels (Mac, Android, Linux)
- Client side, games, laptops , desktops
  - Windows
  - Mac Os (unix)
- Handsets
  - Android (unix)
  - iOS (unix)
- Servers
  - Linux (unix)
- Most high performance remotely hosted (cloud) machines are linux (AWS, paperspace, etc)
- See Linux - tutorials on course website

Admin: Language

- C++
  - One C++ starter project
  - The rest will be OS specific
- Why C++

Admin: Compiling and debugging

- C and C++ both compile to an executable
- Can use many compilers (clang, gcc, g++ …)
- Please use GNU toolchain (see course website for install how to)

Admin: Development Environment

- Could use vim, g++, gdb, valgrind, tmux for a command line only dev environment
- Or an Integrated Development Environment (IDE)
- Lots to choose from, Codeblocks, Netbeans,Ms Visual Studio, Eclipse CDT…Clion
- We will use Eclipse CDT

Admin - Git

- You will use version control professionally, best to learn it now
- See ‘Git-The simple guide’ on course website

Admin - Summary

- 2 tests and a final
- Several projects
- Text is free and online
- Using Eclipse and Ubuntu
- Git
- Finally, course website:
- https://cnuclasses.github.io/CPSC410/