An Introduction to CS161: Operating Systems

- Cancelled!!!!

- Theoretical agenda for the day: A meta-discussion about how I will be teaching this course and what I expect of you and what you can expect of me..

Course Objectives (for the semester)

- Explain how operating systems provide the abstractions with which programmers are familiar.

- Work effectively with a partner.

- Design, implement, modify, and analyze complex software systems.

- Complete different types of programming projects:
  - Implement to a well-defined interface (asst 2)
  - Design interfaces to provide specified functionality (asst 3)
  - Extend an existing body of code (asst 4)

- Analyze how operating systems problems are addressed in different systems and explain why particular approaches are/are not suitable.

My Contract

- I expect a lot of you:
  - Do the reading/viewing/web-work in advance.
  - Participate in class.
  - Provide feedback.
  - Take our assignment suggestions seriously.
- In return, I promise to:
  - Provide concrete reasons for why we cover material.
  - Keep preparations short and focused.
  - Take advantage of the time we have together to help you think deeply rather than reciting to you what is in the book
  - Be receptive and responsive to feedback.
  - Keep class preparation to a minimum when you are deep in the guts of intensive programming assignments.

Administrivia: Course Organization

- Lecture: Concepts
  - Make sure everyone has the big picture
  - Discuss alternative ideas and implementations
  - Talk about real systems
  - I really, really, really want to assume that you've done the reading.
- Section: Details, especially on assignments
  - Details from lecture that were confusing
  - Discussion of assignments: suggestions and discussion
  - Exam preparation
- Assignments: Applications of what we do in class

Administrivia: Assignments

- You get to build or modify the major pieces of an OS.

- This is, unfortunately, a labor-intensive activity: debugging concurrent, asynchronous systems is just hard.

- Assignments are usually two to three weeks because that's how long they really take (honest).

- CS61 prepares you well, so that the current workload is not quite as bad as the historical reputation might suggest.

- Do not leave assignments until the night before.

Administrivia: The Dirt

- A0: Introduce you to OS/161.
- A1: Practice using synchronization techniques.
- A2: Implement processes.
- A3: Virtual memory.
- A4: File systems.

Administrivia: Partners

- Assignments 2-4 are completed in teams.

- You must work on a team.

- You should schedule in time to both meet with and work with your partner.
  - Sometimes partitioning is the right strategy.
  - Sometimes working together is the right strategy.
  - You must understand what your partner is doing.

- Divorces sometimes happen in this course; seek out assistance from the course staff if your partnership is not working!
  - We will try to help you work out minor differences.
  - We will work to resolve major differences.