

## CS4513 Distributed Computing Systems

D-term 2014  
Mark Claypool

### Topics

- Background
- Admin Stuff
- Motivation
- Objectives
- Class material!

### Professor Background (Who am I?)

- Mark Claypool (professor, “Mark”)
  - Professor, Computer Science
  - Director, Interactive Media and Game Development
  - Systems guy
- Research interests
  - Network games
  - Multimedia performance
  - Congestion control (protocols, AQM)
  - Wireless networking

### Student Background (Who are you?)

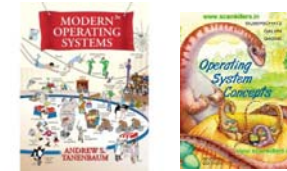
- |                        |                                 |
|------------------------|---------------------------------|
| 1. Background          | 5. Major?                       |
| a. CS3013?             | 6. Expertise (low 1 to 5 high)? |
| b. CS3516?             | a. C/C++                        |
| c. CS4516?             | b. Java                         |
| 2. Language of Choice? | c. Unix                         |
| 3. Platform of Choice? | 7. Other?                       |
| 4. Year?               |                                 |

## Syllabus Stuff

- <http://www.cs.wpi.edu/~cs4513/b14>
- Class: Tu, Fr 1-2:50pm
- TAs: **Hien Duong** and **Ahmedul Kabir**
- Office hours:
  - TA: TBA, FLA22
  - Prof: TBA, FLB24b
  - Or by appointment
- Email
  - [claypool@cs.wpi.edu](mailto:claypool@cs.wpi.edu) (me)
  - [cs4513-staff@cs.wpi.edu](mailto:cs4513-staff@cs.wpi.edu) (me + TA)
  - [cs4513-all@cs.wpi.edu](mailto:cs4513-all@cs.wpi.edu) (class)

## Text Book

- OS Book from cs3013
  - File systems
- Research papers
  - Links or possibly copies
- Learned
  - Read by you
  - Presented by me
  - Tested for exam
- May be “Recommended” papers/links



## Range of Topics

- |                   |                      |
|-------------------|----------------------|
| • File Systems    | • Communication      |
| • The Web         | • Architectures      |
| • Network Games   | • Synchronization    |
| • Peer-to-Peer    | • Virtualization     |
| • Cloud Computing | • <i>Performance</i> |

## Course Structure

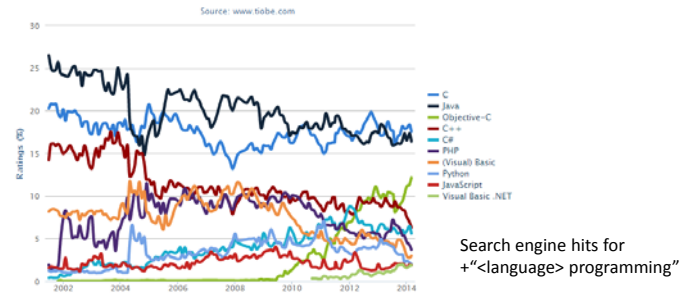
- Recommended background
  - Operating Systems (cs3013)
  - Computer Networks (cs3516)
  - Good programming skills (required)
- Grading
  - Exams (50%)
  - Projects (50%)

## Exams

- 2 exams
- 50% of grade
- Non-cumulative
- In-class
  - Closed-note, Closed-paper, Closed-friend

## Projects (1 of 2)

- Implementation in Linux (or Cygwin on Windows)
- Implementation in C/C++ or Java



## Project (2 of 2)

- Done solo (no groups)
- Topics
  - Proj 1 – Files
  - Proj 2 – Distributed shell
  - Proj 3 – Network game (text based)
  - Proj 4 – File/Media sharing

## Slides

- On the Web (maybe after class)
- Powerpoint and PDF
- Caution! Don't rely upon the slides alone! Use them as supplementary material
  - (come to class)

## Timeline

<http://www.cs.wpi.edu/~cs4513/d14/timeline.html>

- *Estimate* of assignment dates
- Use it to help plan

## Why This Class?

- WPI CS requirements
  - Gotta take something in Systems
  - Gotta take five 4000-level courses
- Distributed systems are the future
  - The network is the computer, The cloud, Mobility and Wireless
- Distributed Systems are cool!
  - Algorithms, Networks, Hardware...
- Programming
  - The more you do, the better a computer scientist/software engineer you become
- Fun!