Intro to LAN/WAN

CS 513

Topics

☞ Background

☞ Admin Stuff

☞ Motivation

☞ Objectives

Professor Background

- Dr. Emmanuel Agu (professor, "Emmanuel")
- Research areas
  - Computer Graphics (rendering, mobile graphics, etc)
  - wireless networking and mobile computing
- Underlying themes:
  - *computer systems*
  - *networks*
- Advise MQPs, MS and PhD theses

Student Background

☞ Name

☞ Class (grad student, BS/MS, part-time, etc …)

☞ Major (CS, EE, knitting socks, ...)

☞ C experience (CS 2303, from job)

☞ Unix experience

☞ Operating Systems (CS 3013/502)?

☞ Other

Syllabus

- http://www.cs.wpi.edu/~emmanuel/courses/cs513/S10/

- Office hours:
  - Mondays: 4:30-5:30
  - Note: Please use office hours or book appointments first

- Important: All questions on myWPI, share info

- Email questions that concern only you

- Text Book: Computer Networks by Tanenbaum
  - Good stuff so read, but will focus

- Supplementary text: TCP/IP Sockets in C: Practical Guide for Programmers, Michael J Donahoo and Kenneth Calvert Morgan Kaufmann Publishers 2001

Course Structure

- ☞ Grading
  - – Exams: 2 exams, not cumulative (40%)
  - – Projects: 3 programming projects (45%)
  - – Homework: 3 homeworks (15%)
- ☞ Groupwork for projects, ***not*** for written homework
- ☞ Important: Choose partner, email me by 02/01/10
- ☞ Prerequisites
  - – C programming (assumed)
  - – Operating Systems (assumed)
  - – Unix (recommended)
  - – Probability?

Why This Class?

☞ WPI requirements
- CS undergrads/masters: 1 of 8 or 11 courses to graduate?
- Phds: One of 6 bins
- Cross listed with ECE (ECE 506)

☞ Networks are everywhere!
- Cable modem, ADSL, dial-up phone line, Internet, World Wide Web, wireless and software to join
- Indeed, the network is the computer!

☞ Fun!

Course Objectives

☞ Understanding of Networks and Systems

☞ Motivation

☞ Hands-on programming of several network layers
  – C
  – Unix

The Nature of this Course

☞ Acronyms/definitions up the wazoo!! TCP/IP, LAN, WAN, 802.11, etc

☞ Lots of concepts covered quickly

☞ Some concepts easy to understand

☞ Some concepts really abstract/tough

☞ ECEs struggle with amount of programming

☞ *Exams:* not enough time to study, easy to forget some concepts

Class Format

☞ Class time: 2 hours, 50 minutes

☞ Broken down into:

- 1 hr 15 minutes lecture

- 15 minute break

- 1 hr 15 minutes lecture