CS E6181: Advanced Internet Services

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Overview

- Course Outline
- prerequisites
- assignments
- projects
- exams
Course Outline: Internet Multimedia

- Review of Internet architecture, protocols, standardization:
  - infrastructure
  - IPv4, IPv6
  - DNS
  - routing
  - UDP and TCP
- audio and video coding and compression
- real-time and multicast services:
  - multicast routing
  - properties of real-time services
  - resource reservation, packet scheduling and transport
  - handling impairments for streaming audio and video
  - Internet telephony and multimedia conferencing
    - Internet telephony signaling (H.323, SIP)
    - interoperation with the telephone system
Course Goals

- descriptive: what’s out there
- skill-oriented programming assignments, semester running project, measurements
- critical: what’s wrong with. . . , how else can we do this?
- interactive: discussion, questions encouraged
- work-in-progress. . .
Am I in the Right Room?

This course does not address:

- “How do I make money on the Internet?”
- “How do I configure an Apache web server?”
- “Social/Psychological/Eschatological Impact of the Internet”

You should know . . .

- general networking concepts (layers, CL vs. CO, . . . )
- TCP vs. UDP
- HTML vs. HTTP
- C/C++; maybe Java
Course Mechanics

WWW page: http://www.cs.columbia.edu/6181

Email list: cs6181@cs.columbia.edu, subscribe at http://lists.cs.columbia.edu/mailman/listinfo/cs6181

Homeworks: 5 assignments: questions + small programming problems

Grading: Homeworks 30%, project 35%, final 30%, class participation (person, email) 5%

Project: Internet telephone and radio, built in multiple stages
Books for Course


- Kevin Jeffay and HongJiang Zhang, *Readings in Multimedia Computing and Networking*, Morgan Kaufman (or get individual papers)

- manuscripts and slides to be made available via web page
Reference Books


