COMP202-08B
Computer Communications

Lecture 24

Course Wrap, Exam

Overview

This paper provides an overview of the technologies, protocols and security issues involved in computer communications. It will introduce programming issues in communications, including error handling and concurrency. Practical work will look at the Internet Protocols TCP and IP, and include programming exercises using socket interfaces.

Goals

1. Students will be expected to understand aspects of the Internet such as TCP/IP, DNS, addressing, routing

2. Students will be expected to be able to describe physical aspects of computer networks such as Ethernet, clocking, data checking

3. Students will be expected to be able to write a small communications system in Java using both parallelism (threads) and asynchronous I/O, and be able to judge the complexity and suitability of each

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Where COMP202 leads

• COMP312: Communications and Systems Software

• COMP513: Computer Networks

• COMP514: Advanced Communications

• COMP56X: Topics in computer science

• COMP520: Report of an Investigation

Contents

• Intro to Linux

• Using the Java language on Linux

• Socket programming

• Concurrent programming (IO)

• Asynch serial communications

• Ethernet

• MAC addresses, IP addresses

• TCP/IP

• Domain names and DNS

Contents

• Routing

• HTTP and web servers

• Traffic analysis

• Security and data checking   ← did not do this

• Possibly:
  • Email
  • Wireless
  • Social issues
  • Common tools; dhcp, ping, traceroute

Exam

• Ten questions. 3 hours

• Questions in similar form to the two in-class tests held

• Calculators permitted. Non-programmable, something similar to a Casio FX-82.

Exam questions

• Question 1: IP addresses and routing

• Question 2: BGP

• Question 3: Physical aspects of Ethernet

• Question 4: Link-layer aspects of Ethernet

• Question 5: Elementary network debugging

• Question 6: TCP

• Question 7: TCP

• Question 8: Dynamic Internal Routing Protocols

• Question 9: DNS

• Question 10: Java

Tips for the exam

- Go through your previous two tests and practice those again. Copies of these tests are on Moodle (under Lectures) if you've lost your copy.
- Practice answering questions from the student selected questions pdf on Moodle
  - Consider posting your assignment you submitted in the 202 moodle forums and invite discussion to be held on the correctness of the questions, and of your model answers.
- Consider quizzing each other, or something similar, in the Moodle 202 forums.

Good luck

- See you in COMP312-09A next year.