

CSE 111
Fall 2010
October 11 – 15

ANNOUNCEMENTS

- Lab 2 Part 2 due this week in lab
 - Week of October 11th
- Lab 3 starts this week
 - Lab 3 due week of October 18th
- No lecture Friday, October 15th
- Exam 2 – Friday, October 22nd in lecture

NETWORKS

- Linked computer systems
- LAN - Local Area Network - one building
- MAN - Metropolitan Area Network - one community
- WAN - wide Area Network - very large area

NETWORK TYPES

Open Networks

Public access
↓
way to access &
communicate on
the network is
publicly known
Internet

Closed Networks

Proprietary

NETWORK TYPES

Bus Networks

Ethernet

All computers are connected to a common communication line.

Machines communicate with each other

Star Networks

One computer is a focal point of the network and all computers communicate to it.

COMMUNICATION INSIDE NETWORKS

Protocols - rules about how communication occurs on the network

CONNECTING NETWORKS

-Each retains their own characteristics

↳ When we do this, we create
an internet



MODELS FOR INTERPROCESS COMMUNICATION

○ Client/Server Model

asks for
something

↓
provides the
service

-Print server
-File server

○ P2P

All computers send & process requests



PRACTICE PROBLEMS FOR EXAM 2

- Section 4.1 – page 162
 - 1
 - 3
 - 4
 - 5



THE INTERNET

Constructed & maintained by ISPs

Internet
Service
Providers

A handwritten green arrow pointing from the text 'Internet Service Providers' up and to the right towards the underlined text 'ISPs'.

ISPs

- Tier 1 & 2 ISPs

Infrastructure

- Access ISPs

Verizon DSL, Time Warner, AOL



INTERNET ADDRESSES

- IP (Internet Protocol) Address



NUMBERS - YICK

- IP addresses given mnemonic names so that it is easier for humans to remember them

↓
domain names
yahoo.com - business
.edu - schools
.gov - government
.org - non-profit

BUT...

- Addresses inside the Internet are still processed using the numbers, so there needs to be a translator.
- Every address while being processed goes through a DNS lookup.

↓
domain
name
server

INTERNET APPLICATIONS

- Email

user @ domain

- FTP

transfer files over the Internet

- Telnet/Secure Shell *— ability to interact with other computers (text-based)*



INTERNET APPLICATIONS

- VoIP

Voice over IP

"Telephone" someone using the Internet

- Internet Radio

Streaming radio over Internet



PRACTICE PROBLEMS FOR EXAM 2

- Section 4.2 – page 171
 - 1
 - 2
 - 4



THE WORLD WIDE WEB

- Built on the idea of hypertext

*documents that contain
links to other documents*



WEB

Client Software

Web browser -
display
web pages

Server software

Web server -
processes requests
for pages



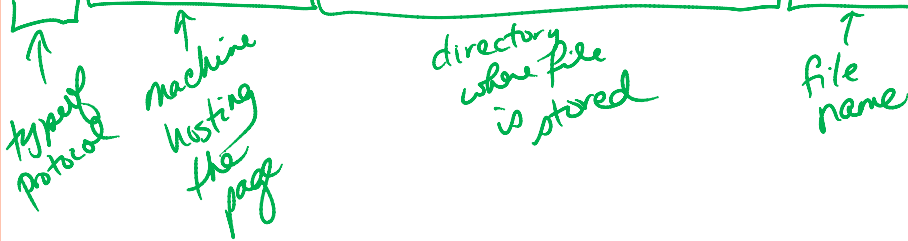
HTTP PROTOCOL - means of
communication
Hypertext Transfer Protocol

URL is the address for a page
Uniform Resource Locator



EXAMPLE URL

`http://www.cse.buffalo.edu/faculty/adrienne/FA2010/cse111/Schedule/index.shtml`




HTML

- Hypertext Markup Language

Tags that describe what the page should look like

CLIENT-SIDE VS. SERVER-SIDE ACTIVITIES

- Any time you submit information via a web page, you are interacting with the server.
 - The client (browser) will be sending information to the server.
 - The server will process the information and give back an “answer” or “result.”
 - However, this “answer” could also be a program that the client is to run on the client’s machine.
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PRACTICE PROBLEMS FOR EXAM 2

- Section 4.3 – page 181
 - 1
 - 2
 - 3
 - 5
- 