ANNOUNCEMENTS

- Instructor:
  - Nelson Padua-Perez (nelson@cs.umd.edu)
- Class Web Site:
  - http://www.cs.umd.edu/class/fall2011/cmsc122/
- No posting of code in the forum
- Check class announcements daily
- We post class examples as zip files. Mac and PC users should be able to extract these files without adding any software. If you have problems extracting the files, try to use the free software:

  http://www.7-zip.org/
- Common problem with class zip files:
  - You need to unzip the files before accessing contents

COURSE OBJECTIVES

- Introduce computer programming principles
  - Basic computer programming language constructs
  - How to design procedural solutions to problems
- Overview web design concepts/technologies
  - HTML
  - CSS
  - JavaScript
  - Authoring Tools
- We assume no previous programming experience

SYLLABUS

- Let's go through the different sections
- Please read the syllabus
- If you have conflict with the final let us know ASAP
- Significant amount of material not provided via posted slides
- Feel free to bring your laptop

MISCELLANEOUS

- Regarding deadline to address grading concerns
  - It will be strictly enforced
  - At the end of the semester we will not address grading concerns for assignments/material already graded
- Email
  - Please follow the guidelines available at:
  - http://www.cs.umd.edu/~nelson/classes/emailingNelson.html

MISCELLANEOUS

- If you are experiencing any problems that affect your performance in this class, please contact us immediately. Usually students wait until the end of the semester when probably nothing could be done
- Work hard from the beginning of the semester in order to avoid the following type of messages at the end of the semester:
  - Is there any extra credit so I can boost my grade?
  - I am .1 from an A; can something be done?
  - I need to pass this class otherwise I will …

FUNDAMENTALS: INTERNET

- What is the internet?
- How is data transferred in the internet?
  - Using Packet Switching
- Let's see an example

http://www.pbs.org/opb/nerds2.0.1/geek_glossary/packet_switching_flash.html

FUNDAMENTALS: CLIENT/SERVER

- Client and server are two terms frequently used
- Client/Server Model
- Client/Server model when talking about software
- Client/Server model when talking about hardware

FUNDAMENTALS: THE WEB

- What is the Web ?
  - Collection of sites
  - Conceptual organization of many distinct resources
- Internet and World Wide Web do not refer to the same entity
- Tim Berners-Lee → Defined the structure associated with the world wide web (he is the father of the web)
- The following article defined was written by Berners-Lee in 1991defining the web model

  http://groups.google.com/group/alt.hypertext/msg/395f282a67a1916c

FUNDAMENTALS: IP ADDRESSES

- **IP Address** → Unique address for machine on internet
  - Get from ISP when connecting to internet
  - Allows network to find your machine
- **Domain Name**
  - Text name corresponding to the numeric IP address
  - It is convention to use www as part of the name but you can name it anything you want
  - Example → cnn.com
    - First-level domain → com
    - Second-level domain → cnn
    - Second-level domains can be divided creating sub domains
      - http://ireport.cnn.com/

FUNDAMENTALS: WEB SERVER

- Web Server
  - Computer program that delivers (serves up) web pages
  - It is like a person that is in charge of a warehouse
- Popular Web Server Programs
  - Apache → http://www.apache.org/ Free!!!
  - IIS → Internet Information Services
  - Sun Java System Web Server

FUNDAMENTALS: DNS

- DNS → Domain Name Systems
- Protocol for translating domain names to IP addresses
  - Example: cs.umd.edu ⟶ 128.8.128.44
- Multiple DNS servers on the internet
- Video “DNS Explained” at:
  - http://www.youtube.com/watch?v=hcaJ1Vp_Ntg

FUNDAMENTALS: PORT NUMBER

- What is a port number?
  - A number representing an application (program) running in a machine
  - Assuming the IP Address is a phone number, the port represents a phone number extension
  - A server machine could have several applications (programs) “listening” to different ports
- Web servers default port number is 80
- Complete list at:
  - http://www.iana.org/assignments/port-numbers

FUNDAMENTALS: URLS

- URL → Uniform Resource Locators
- Represent web resources
  - Arbitrary files
  - Web pages
- Examples
  - http://www.cs.umd.edu/index.html
  - ftp://www.cs.umd.edu/pub/doc/policies.pdf
  - https://login.yahoo.com/
  - file://dir/my.txt

FUNDAMENTALS: URL STRUCTURE

- URL consists of
  - Protocol
    - http
    - ftp
    - https (secure http)
    - file
    - …
  - IP address (or domain name)
  - Port (optional most of the time)
    - http://www.cs.umd.edu:80/
  - path

FUNDAMENTALS: HTTP

- Hypertext Transfer Protocol (HTTP) → protocol that defines how user agents (e.g., browser) and web servers can communicate
- HTTP is a request/response protocol between clients and servers
- Do not confuse with HTML

CLASS BROWSER: CHROME

- Browser we will use
  - http://www.google.com/chrome
- Your projects must work using Chrome
- We will use Chrome to grade your projects