IT350
Web & Internet Programming

Fall 2014

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http://www.usna.edu/Users/cs/adina/teaching/it350/fall2014/

Outline

• Class Survey / Role Call
• What is:
  - the web/internet?
  - web programming?
  - this class?
• Course Admin
  – Syllabus
  – Policy
  – Tips
• History
• HTML5 / XHTML
Web vs. Internet

- Internet – collections of computers/devices that can communicate
  - telnet, ftp, SMTP(mail)

- Web – software/protocols that has been installed on (most of) these computers
  - http / https

Client/Server Computing

Computation can occur in ____________ location
Things we’ll learn and do

- HTML5 – basics, tables, forms
- Cascading Style Sheets
- JavaScript
- Dynamic HTML
- CGI / Perl

Things we’ll hear about

- Human Computer Interaction
- Accessibility
- Web ethics
Things we won’t have time for

- Not fully supported HTML 5 features
- Not fully supported CSS 3 features
- ASP, .NET
- Java Servlets
- JavaServer Pages (JSP)
- jQuery
- PHP
- Flash, Photoshop

Admin – Assignments

- Assignments will be on the course calendar
- First homework – email due Monday by 0900
  - Read course policy
  - Read Lab Guidance (on the web) – pick a topic
  - Email topic to instructor (subject: “IT350 Lab topic”)
- First reading – due next Tuesday (quiz)
  - Skim chapter 1
  - Read chapter 2.1-2.9
- Deadlines
  - Reading (+ quiz) – often Tuesdays, but see calendar
  - Lab – usually due Monday 2359 (electronically). Hard copy before lab on Tuesday
- Late assignments – see policy
  - Late online quizzes not accepted!
Admin - Policy

• Workload:
  – Readings
  – Quizzes
  – Labs: start in class, usually finish outside class
  – Project
  – Exams

• Collaboration
• Honor
• Class/lab behavior

Success in IT350

• Do the reading (don’t forget online quizzes!)
  – Brief lecture to highlight key points
• Lecture – stay engaged
  – Ask & answer questions
  – Take notes – provided slides are not enough!
  – Exams closed-book – but open-note!
• Make the most of in-class lab time
  – Read lab in advance
  – Think before you start typing
  – Don’t stay stuck!
• Don’t fall behind
  – Finish lab early and leave time for reading
  – See me for help and/or talk to friends
  – Course material builds on itself and gets more complex
History of the World in Just 5 Slides, Part 1

- **ARPANET**
  - Implemented in late 1960’s by ARPA (Advanced Research Projects Agency of DOD)
  - Networked computer systems of a dozen universities and institutions with 56KB communications lines
  - Grandparent of today’s Internet
  - Intended to allow computers to be shared
  - Real benefit?

History of the World in Just 5 Slides, Part 2

- ARPA’s goals
  - Allow multiple users to send and receive info at same time
  - Use *packet switching* technique
    - Digital data sent in small packages called *packets*
    - Packets contained data, address info, error-control info and sequencing info
    - Greatly reduced transmission costs of dedicated communications lines
  - Operate without centralized control
    - If portion of network fails, remaining portions still able to route packets
- Huge variety of networking hardware and software appeared
  - Development of TCP/IP protocols enabled interoperation
History of the World in Just 5 Slides, Part 3

- Internet initially just for universities and research labs
  - Military became big user
  - Next, government decided to access Internet for commercial purposes
- Internet traffic grew
  - Businesses spent heavily to improve Internet
    - Better service their clients
  - Fierce competition among communications carriers and hardware and software suppliers
  - Result
    - Bandwidth (info carrying capacity) of Internet increased tremendously
    - Costs plummeted

History of the World in Just 5 Slides, Part 4

- WWW
  - Allows computer users to locate and view multimedia-based documents
  - Introduced in 1990 by Tim Berners-Lee
- W3C – www.w3.org
  - Founded in 1994 by Tim Berners-Lee
    - Devoted to developing non-proprietary and interoperable technologies for the World Wide Web and making the Web universally accessible
  - Standardization
    - W3C Recommendations: technologies standardized by W3C
      - include Extensible HyperText Markup Language (XHTML), Cascading Style Sheets (CSS) and the Extensible Markup Language (XML)
    - Document must pass through Working Draft, Candidate Recommendation and Proposed Recommendation phases before considered for W3C Recommendation
History of the World in Just 5 Slides, Part 5

• Web 2.0
  – Users create the content
    • Facebook
    • Wikipedia
    • del.icio.us
    • Amazon – how?
  – Tagging

  – Richer user interfaces
    • Google Maps vs. original Mapquest
    • AJAX

  – And more… see IT452!

Web Markup Languages

• HTML 2.0
  ...
• HTML 4.01
• XHTML 1.0
• XHTML 1.1
• XHTML 2.0
• HTML 5
Web Resources

- Google
- www.w3.org/TR/html5
- http://www.w3schools.com/html/default.asp
- validator.w3.org