IT350
Web & Internet Computing

Fall 2009

Asst. Prof. Adina Crăiniceanu
Asst. Prof. Lori DeLooze

http://www.usna.edu/Users/cs/adina/teaching/it350/fall2009/

Outline

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

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

Things we’ll hear about

- Human Computer Interaction
- Accessibility
- Web ethics
- “Semantic Web”
- XML
Things we won’t have time for

- ASP, .NET
- Java Servlets
- JavaServer Pages (JSP)
- PHP
- Flash, Photoshop

Admin – Assignments

- Assignments will be on the course calendar
- First reading – due Wednesday (Blackboard quiz)
  - Skim chapters 1-2
  - Read chapter 4 (4.1-4.9)
- First homework – email due Wednesday by 0800
  - Read course policy
  - Read Lab Guidance (on the web) – pick a topic
  - Email topic to instructor (subject: “IT350 Lab topic”)
- Deadlines
  - Reading (+ quiz) – often Wednesdays, but see calendar
  - Lab – usually due Wednesday 2359 (electronically). Hard copy before lab
- Late assignments – see policy
  - Late quizzes (online) not accepted!
**Textbook Structure**

- Chapters 1-20
  - Covers XHTML, JavaScript, Dynamic HTML, Flash and Extensible Markup Language (XML)
  - For applications running on *client side* (typically Netscape and Microsoft Internet Explorer)

- Chapters 21-38
  - Covers Web servers, databases, Active Server Pages, Perl/CGI, PHP, ColdFusion, Python, Java servlets and JavaServer Pages
  - For applications running on *server side* (complex computer systems where Web sites usually reside)

**Textbook Analysis**

- Good

- Less good
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](http://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!