IT350
Web & Internet Programming

Fall 2013

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http://www.usna.edu/Users/cs/adina/teaching/it350/fall2013/

Outline

• Class Survey / Role Call

• What is:
  - the web/internet?
  - web programming?
  - this class?

• Course Admin
  – Syllabus
  – Policy
  – Tips

• 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 **tomorrow** by 0800
  - 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 chapters 1, 2
  - Read chapter 2.10-2.13
- 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
Chapter 2 - Introduction to HTML5: Part 1

2.1 Introduction / 2.2 Editing HTML5

- HTML 5 (HyperText Markup Language 5)
  - A markup language that specifies the structure and content of documents
  - Separates document presentation from information
  - Standard defined by W3C
- HTML documents
  - Source-code form
  - Text editor (e.g. Notepad, Wordpad, emacs, etc.)
  - .html or .htm file-name extension
  - Web server – stores HTML documents
  - Web browser – requests HTML documents
Basic Syntax

<a href="links.html"> Useful links </a>

<br />

Example

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset = "utf-8">
    <title>Welcome</title>
  </head>
  <body>
    <p>Welcome to HTML5!</p>
  </body>
</html>
```
2.4 W3C HTML5 Validation Service

- Validation service (validator.w3.org)
  - Checking a document’s syntax
  - Provide URL (not intranet), upload file, or direct input

- Local validation service
  http://zee.cs.usna.edu:8888

Block vs. inline tags in HTML5

- Block tags
  - Start their content on a new line

- Inline tags
  - Their content continues on the same line

- Restrictions
  - Inline tags (and text) must be nested inside block tags, not
directly under <body> or <form>

  - Block tags cannot be nested inside inline tags
    ILLEGAL:  <b> <h1> Foo </h1> </b>
2.5 Headers – h1 to h6

```html
<!DOCTYPE html>
<html>
<head>
<meta charset = "utf-8">
<title>Headings</title>
</head>
<body>
<h1>Level 1 Heading</h1>
<h2>Level 2 heading</h2>
<h3>Level 3 heading</h3>
<h4>Level 4 heading</h4>
<h5>Level 5 heading</h5>
<h6>Level 6 heading</h6>
</body>
</html>
```

2.6 Linking

- Hyperlink
  - References other sources such as HTML documents and images
  - Both text and images can act as hyperlinks
  - Created using the `a` (anchor) element
    - Attribute `href`
      - Specifies the location of a linked resource
    - Link to e-mail addresses using `mailto: URL`
Relative vs. Absolute Links

- **Absolute links**
  
  `<a href="http://www.cs.usna.edu/textbooks.htm">Textbooks</a>`

  `<a href="http://www.nytimes.com">NYT</a>`

- **Relative links**
  
  `<a href="textbooks.htm">Textbooks</a>`

  `<a href="../textbooks.htm">Textbooks</a>`

  `<a href="../common/dogs.html">More on dogs</a>`
2.7 Images

```html
<!DOCTYPE html>
<html>
<head>
  <meta charset = "utf-8">
  <title>Images</title>
</head>
<body>
  <img src = "cpphtp.png" width = "92" height = "120"
       alt = "C++ How to Program book cover">
  <img src = "jhtp.png" width = "92" height = "120"
       alt = "Java How to Program book cover">
</body>
</html>
```

2.9 Lists

- **Unordered list element ul**
  - Creates a list in which each item begins with a bullet symbol (called a disc)
  - **li** (list item)
    - Entry in an unordered list

- **Ordered list element ol**
  - Creates a list in which each item begins with a number

- Lists may be nested to represent hierarchical data relationships
Web Resources

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

• Student Web Server Accounts (Zee - Unix Server)
  – Mapping web-server account:
    • Start->Computer: Map Network Drive (pick drive W)
    • \zee.cs.usna.edu\mXXXXXX
    • Check the “Reconnect at login” box.
    • Click on “Finish”
    • Username: academy\mXXXXXX
  – Set up the web server:
    • Ssh into zee.cs.usna.edu (use putty or other tool)
    • Create public_html directory (mkdir public_html)
    • Change permissions for directory to allow web access (chmod a+rx public_html)
  – URL for each student website on the department web server: http://zee.cs.usna.edu/~mXXXXXX

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