IT350
Web & Internet Programming

Fall 2012

Asst. Prof. Adina Crăiniceanu

http://www.usna.edu/Users/cs/adina/teaching/it350/fall2012/

Outline

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

- XHTML – 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

- 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, 4
  - Read chapter 4.10 - 4.15
- 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 quizzes (online) 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
4.1 Introduction / 4.2 Editing XHTML

• Extensible HyperText Markup Language (XHTML)
  – A markup language based on HTML
  – Separates document presentation from information
  – Standard defined by W3C

• XHTML documents
  – Source-code form
  – Text editor (e.g. Notepad, Wordpad, emacs, etc.)
  – .html or .htm file-name extension
  – Web server – stores XHTML documents
  – Web browser – requests XHTML documents
Basic Syntax

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

<br />

Example

main.html
(1 of 1)
4.4 W3C XHTML Validation Service

- Validation service (validator.w3.org)
  - Checking a document’s syntax
  - Provide URL or upload file
- Local validation service
  http://intranet.cs.usna.edu/w3c-validator/

Block vs. inline tags in XHTML

- 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>
4.5 Headers – h1 to h6

```xml
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<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>
```

4.6 Linking

- **Hyperlink**
  - References other sources such as XHTML 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`

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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>
4.7 Images

<!-- Fig. 4.5: picture.html -->
<!-- Images in XHTML files. -->
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Images</title>
</head>
<body>
<p>
<img src="cpphtp6.jpg" width="92" height="120" alt="C++ How to Program book cover" />
<img src="jhtp.jpg" width="92" height="120" alt="Java How to Program book cover" />
</p>
</body>
</html>

4.9 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
<?xml version = "1.0" encoding = "utf-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">

<!-- Fig. 4.8: links2.html -->
<!-- Unordered list containing hyperlinks. -->
<html xmlns = "http://www.w3.org/1999/xhtml">
<head>
<title>Links</title>
</head>
<body>
<h1>Here are my favorite sites</h1>
<p><strong>Click on a name to go to that page.</strong></p>
<!-- create an unordered list -->
<ul>
<li><a href = "http://www.deitel.com">Deitel</a></li>
<li><a href = "http://www.w3.org">W3C</a></li>
<li><a href = "http://www.yahoo.com">Yahoo!</a></li>
<li><a href = "http://www.cnn.com">CNN</a></li>
</ul>
</body>
</html>

Web Resources

- Google
- www.w3.org/TR/xhtml11
- www.xhtml.org
- www.w3schools.com/xhtml/default.asp
- validator.w3.org
- wdv1.com/Authoring/Languages/XML/XHTML
Lab Accounts

• Student Web Server Accounts
  – Mapping web-server account:
    • File Explorer: Tools → Map Network Drive (pick drive W)
    • \intranet.cs.usna.edu\mXXXXXX
    • Check the “Reconnect at login” box.
    • Click on “Finish”
    • Username: USNA\mXXXXXX
  – Set up the web server:
    • Ssh into intranet.cs.usna.edu
    • 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://intranet.cs.usna.edu/~mXXXXXX