IT350
Web & Internet Programming

Fall 2011

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http://www.usna.edu/Users/cs/adina/teaching/it350/fall2011/

Outline

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

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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

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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 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**

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**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

```xml
<?xml version = "1.0" encoding = "utf-8" ?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/1999/xhtml" >
<!-- Fig. 4.1: main.html -->
<!-- First XHTML example. -->
dtd xmlns = "http://www.w3.org/1999/xhtml"
<head>
title = "Welcome/"
title = "Welcome/"
title = "Welcome/"
title = "Welcome/"
</head>
<body>
<p> Welcome to XHTML! 
</p>
</body>
</html>
```

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/](http://intranet.cs.usna.edu/w3c-validator/)

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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
<?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">
<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 HTML files. -->
<title>Images</title>

</head>
<body>
<p>
<img src="cpphtp6.jpg" width="92" height="120" alt="C++ How to Program book cover" />
<br>
<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
Here are my favorite sites

Click on a name to go to that page.

- Deitel
- W3C
- Yahoo!
- CNN

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 \rightarrow 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