IT350
Web & Internet Computing
Fall 2007

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http://www.cs.usna.edu/~adina/teaching/it350/fall2007/
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, frames
• Cascading Style Sheets
• JavaScript
• Dynamic HTML
• CGI / Perl
Things we’ll hear about

• Accessibility
• Web ethics
• “Semantic Web”
• XML
Things we won’t have time for

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

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Admin – Assignments

• Assignments will be on the course calendar
• First reading – due tomorrow in class
  – Skim chapters 1-2
  – Read chapter 4 (in-class quiz Wednesday)
• First homework – email due today by 2000
  – Read course policy
  – Read Lab Guidance (on the web) – pick a topic
  – Email topic to instructor (subject: “IT350 Lab topic”)
• Deadlines
  – Reading (+ quiz) – often Mondays, but see calendar
  – Lab – usually due Monday 2359 (electronically)
• 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
Chapter 4 - Introduction to XHTML: Part 1
Lab Accounts

• **Student Web Server Accounts**
  – Mapping web-server account to department student account
    • File Explorer: Tools ↦ Map Network Drive (pick drive W)
    • `\cs-websrvr.cs.usna.edu\www.mXXXXXX.it350.cs.usna.edu$
    • Note $ on the end
    • Username: USNA\mXXXXXX
    • Password: *your usual USNA password*
  – URL for each student website on Department Web-Server is as follows:
    [www.mXXXXXX.it.cs.usna.edu](http://www.mXXXXXX.it.cs.usna.edu)
    • where "XXXXXX", is the individual student's alpha number
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 />

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1  <?xml version = "1.0" encoding="utf-8" ?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
3     "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
4
5  <!-- Fig. 4.1: main.html -->
6  <!-- Our first Web page -->
7
8  <html xmlns = "http://www.w3.org/1999/xhtml">
9      <head>
10         <title>Internet and WWW How to Program - Welcome</title>
11      </head>
12
13      <body>
14         <p>Welcome to XHTML!</p>
15      </body>
16  </html>
4.4 W3C XHTML Validation Service

- Validation service (validator.w3.org)
  - Checking a document’s syntax
  - Provide URL or upload file
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"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN" "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">

<!-- Fig. 4.4: header.html -->
<!-- XHTML headers -->

<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <title>Internet and WWW How to Program - Headers</title>
  </head>
  <body>
    <h1>Level 1 Header</h1>
    <h2>Level 2 header</h2>
    <h3>Level 3 header</h3>
    <h4>Level 4 header</h4>
    <h5>Level 5 header</h5>
    <h6>Level 6 header</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
<?xml version="1.0"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN" "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">

<!-- Fig. 4.5: links.html -->
<!-- Introduction to hyperlinks -->

<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <title>Internet and WWW How to Program - Links</title>
  </head>
  <body>
    <h1>Here are my favorite sites</h1>
    <p><strong>Click a name to go to that page.</strong></p>
    <!-- Create four text hyperlinks -->
    <p><a href="http://www.deitel.com">Deitel</a></p>
    <p><a href="http://www.prenhall.com">Prentice Hall</a></p>
    <p><a href="http://www.yahoo.com">Yahoo!</a></p>
    <p><a href="http://www.usatoday.com">USA Today</a></p>
  </body>
</html>
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

```xml
<?xml version = "1.0"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<!-- Fig. 4.7: picture.html -->
<!-- Adding images with XHTML -->
<html xmlns = "http://www.w3.org/1999/xhtml">
<head>
	<title>Internet and WWW How to Program - Welcome</title>
</head>
<body>
<p>
	<img src = "xmlhtp.jpg" height = "238" width = "183"
alt = "XML How to Program book cover" />
	<img src = "jhtp.jpg" height = "238" width = "183"
alt = "Java How to Program book cover" />
</p>
</body>
</html>
```