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

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Client/Server Computing

Computation can occur in _____ location

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Things we'll learn and do

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

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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

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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!

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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

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Chapter 4 - Introduction to XHTML: Part 1

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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

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Basic Syntax

 Useful links

**
**

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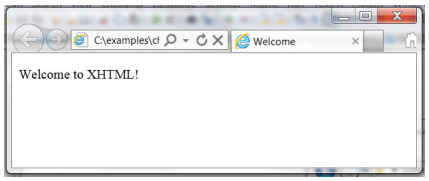
Example

main.html
(1 of 1)

```
1  <?xml version = "1.0" encoding = "utf-8"?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5  <!-- Fig. 4.1: main.html -->
6  <!-- First XHTML example. -->
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Welcome</title>
10    </head>
11
12    <body>
13       <p>Welcome to XHTML!</p>
14    </body>
15 </html>
```



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/

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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: <h1> Foo </h1>

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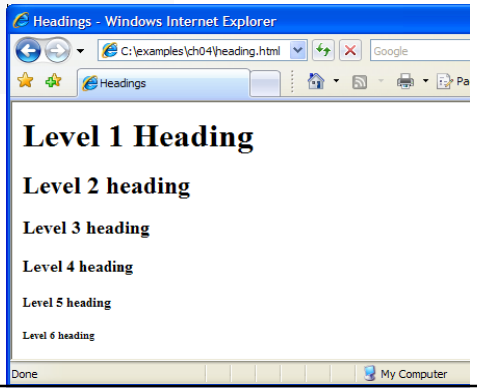
4.5 Headers – h1 to h6

```
1  <?xml version = "1.0" encoding = "utf-8"?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5  <!-- Fig. 4.2: heading.html -->
6  <!-- Heading elements h1 through h6. -->
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Headings</title>
10    </head>
11
12    <body>
13       <h1>Level 1 Heading</h1>
14       <h2>Level 2 heading</h2>
15       <h3>Level 3 heading</h3>
16       <h4>Level 4 heading</h4>
17       <h5>Level 5 heading</h5>
18       <h6>Level 6 heading</h6>
19    </body>
20 </html>
```



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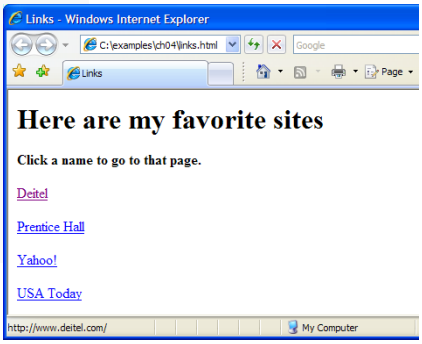
```
<?xml version = "1.0" encoding = "utf-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
   "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">

<!-- Fig. 4.3: links.html -->
<!-- Linking to other web pages. -->
<html xmlns = "http://www.w3.org/1999/xhtml">
   <head>
      <title>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

  Textbooks

   NYT

- Relative links

  Textbooks

  Textbooks

  More on dogs

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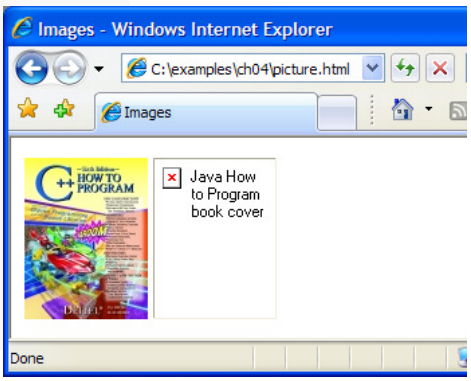
4.7 Images

picture.html
(1 of 1)

```
1  <?xml version = "1.0" encoding = "utf-8"?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5  <!-- Fig. 4.5: picture.html -->
6  <!-- Images in XHTML files. -->
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Images</title>
10    </head>
11
12    <body>
13       <p>
14          <img src = "cpphtp6.jpg" width = "92" height = "120"
15             alt = "C++ How to Program book cover" />
16          <img src = "jhtp.jpg" width = "92" height = "120"
17             alt = "Java How to Program book cover" />
18       </p>
19    </body>
20 </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

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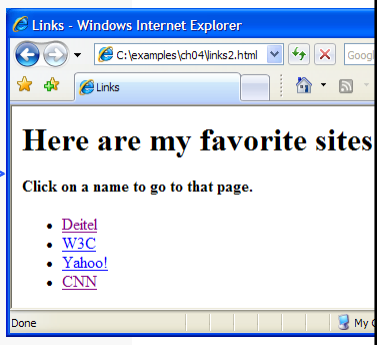
```
1  <?xml version = "1.0" encoding = "utf-8"?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5  <!-- Fig. 4.8: links2.html -->
6  <!-- Unordered list containing hyperlinks. -->
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Links</title>
10    </head>
11
12    <body>
13       <h1>Here are my favorite sites</h1>
14       <p><strong>Click on a name to go to that page.</strong></p>
15
16       <!-- create an unordered list -->
17       <ul>
18          <!-- add four list items -->
19          <li><a href = "http://www.deitel.com">Deitel</a></li>
20          <li><a href = "http://www.w3.org">W3C</a></li>
21          <li><a href = "http://www.yahoo.com">Yahoo!</a></li>
22          <li><a href = "http://www.cnn.com">CNN</a></li>
23       </ul>
24    </body>
25 </html>
```

links2.html
(1 of 1)



Web Resources

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

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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

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