

Developing Web Content: Basic HTML

Dr. Michele Weigle

Department of Computer Science

Old Dominion University

mweigle@cs.odu.edu

<http://www.cs.odu.edu/~mweigle/CS312-F08/>

1

HTML

- ◆ HyperText Markup Language
 - » language used to format webpages
 - » markup language – describes formatting rather than function
 - » *not a programming language!*

- ◆ Online references/tutorials
 - » <http://www.w3.org/MarkUp/#tutorials>
 - » <http://www.htmlcodetutorial.com/>
 - » http://www.w3schools.com/html/html_intro.asp

2

XHTML

- ◆ eXtensible Hypertext Markup Language
 - » successor to HTML, but is a parallel and separate standard
 - » a stricter and cleaner version of HTML
 - » is designed to replace HTML
 - » hybrid between HTML and XML
- ◆ Online reference/tutorial
 - » http://www.w3schools.com/XHTML/xhtmll_html.asp
- ◆ In this class, we'll study HTML, but we'll try to conform to some XHTML rules
 - » all tags must be lowercase
 - » tags/elements must always be closed
 - » tags/elements must be properly nested

3

Getting Started

Where to Store HTML Files @ cs.odu.edu

- ◆ In your ~/public_html directory
 - » already created when you setup PmWiki
- ◆ Make additional subdirectories under ~/public_html as needed
 - » `mkdir ~/public_html/cs312`
 - » `chmod 755 ~/public_html/cs312/`
- ◆ Normally, you can set subdirectories and executable files with access mode 755 and files with 644
 - » 755 - **owner** (you!) can read/write/execute; **group** and **world** (everyone else) can read/execute, but not write
 - » 644 – **owner** (you!) can read/write; **group** and **world** (everyone else) can read, but not write

4

Website Design Issues

- ◆ Considerations, the intended
 - » Audience
 - » Browsers
- ◆ Homepage contents
 - » Owner, contact
 - » Purpose
 - » Links to other internal pages
- ◆ Consistency of pages
- ◆ Respect copyrights
- ◆ Site maps

5

Basic Format of an HTML Page

```
<html>
<head>
<title>My First Page</title>
</head>
<body>
This is the content of my page.
</body>
</html>
```

File saved at ~/public_html/cs312/firstPage.html
<http://www.cs.odu.edu/~mweigle/cs312/firstPage.html>

6

HTML Tags

- ◆ `<tagName>`
 - » Opening tag – some type of command or formatting
- ◆ `</tagName>`
 - » Closing tag – ends the formatting
- ◆ `<html>`
 - » Indicates start of an HTML document
- ◆ `</html>`
 - » Indicates end of the HTML document
- ◆ `<head>` and `</head>`
 - » Header information (not displayed in the browser window)
- ◆ `<title>` and `</title>`
 - » The title is displayed in your browser's caption (title bar)
- ◆ The text between the `<body>` tags is the text that will be displayed in your browser
- ◆ **Note:** HTML is not case sensitive, so generally `<HTML>` or `<Html>` or `<html>` will work, **but** we want to conform as much to XHTML which requires lowercase-only tags

7

Common Formatting Tags

HTML

- ◆ Headings are defined with the `<h1>` to `<h6>` tags
 - » `<h1>` defines the largest heading
 - » `<h6>` defines the smallest heading
 - » Each heading must have closing tag
- ◆ **Bold** is defined with the `` tag
 - » `` closing tag
- ◆ *Italics* is defined with the `<i>` tag
 - » `</i>` closing tag

8

Common Formatting Tags

PmWiki

- ◆ Headings are defined with !!
 - » !! defines the largest heading
 - » !!!!! defines the smallest heading
 - » No closing tag

- ◆ **Bold** is defined with the ' ' ' tag
 - » closing tag is the same

- ◆ *Italics* is defined with the ' ' tag
 - » closing tag is the same

9

HTML Paragraphs and Line Breaks

- ◆ Paragraphs are defined with the <p> tag:
 - <p>This is a paragraph</p>
 - <p>This is another paragraph</p>
 - » HTML automatically adds an extra blank line before and after a paragraph
- ◆ A line break in your HTML source file does not translate to a line break on the webpage.
- ◆

 - » The
 tag forces a line break wherever you place it
- <p>This
 is a para
graph with line breaks</p>

10

HTML Spacing

- ◆ More than one space between words has no effect in HTML
- ◆ ` ` creates a blank space
- ◆ Centering is done with the `<center>` tag
» and `</center>` closing tag

11

HTML Comments

- ◆ Like good programs, complex webpages should contain comments.
`<!-- This is a comment -->`
- ◆ Like regular comments, these are not processed by the web client, but are just for the reader of the source code.

12

Special Characters

- ◆ & is a control character in HTML (ex:)
 - » to display &, use &
- ◆ Likewise, < and > have special meanings in HTML
 - » to display <, use <
 - » to display >, use >
- ◆ List of special characters
 - » <http://www.coolnerds.com/HTML/htmlchar.htm>

13

Tag Attributes

- ◆ Attributes provide additional information to an HTML element
 - » name/value pairs like this:
name="value"
 - » Attribute values should always be enclosed in quotes
- ◆ Examples:
 - » `<h1 align="center"> This is a center heading</h1>`
 - ❖ has additional information about the alignment (says the header is supposed to be centered)
 - » `<body bgcolor="yellow">`
 - ❖ Makes the page background yellow

14

Example Time

◆ Formatting Example:

<http://www.cs.odu.edu/~mweigle/cs312/formatting-example.html>

- » Headings
- » Paragraphs
- » Line Breaks
- » Spacing
- » Centering
- » Special Characters (&)
- » Tag Attributes (centering, background color)

15

Links

The “Real” Reason for Webpages

- ◆ `Text to be displayed`
 - » opens the page in the current window/tab
- ◆ `Text to be displayed`
 - » opens the page in a new window
- ◆ `Text to be displayed`
 - » title is displayed when mouse hovers over link in browser (browser-dependent)

16

Absolute vs. Relative Links

- ◆ *Absolute* links will take you to a page regardless of where the source anchor is located
 - » Example: <http://www.espn.com> takes you to the same place no matter where your anchor is located
 - » Must include “http://” or it will be interpreted as relative
- ◆ *Relative* links reference something on your local site
 - » Example: `` references some page myLink.html that exists in the same directory as the source page

17

More Relative Links

- ◆ You have a folder containing pages “basePage.html” and “refPage.html”, and a subfolder “myFolder”
 - » The subfolder contains “mySubPage.html”
- ◆ From basePage.html, you can reference refPage.html as ``
 - » And you reference mySubPage.html from basePage.html as ``
- ◆ Links Example:
 - » <http://www.cs.odu.edu/~mweigle/cs312/links-example.html>

18

Links in PmWiki

- ◆ Bare URL
 - » `http://www.google.com`
 - » will appear as a link
- ◆ Link Text
 - » `[[http://www.google.com | Google]]`
 - » will appear as Google
- ◆ Can have relative links to point to other PmWiki pages as well
 - » `[[Main.Research | Research]]`

19

Lists in HTML

- ◆ Unordered (bulleted) list
 - » surrounded by the ` ... ` tags
 - ❖ unordered list
 - » each element surrounded by the ` ... ` tag
 - ❖ list item
- ◆ Numbered list
 - » surrounded by the ` ... ` tags
 - ❖ ordered list
 - » each element surrounded by the ` ... ` tag

20

List Examples

<code></code>	• first list item
<code>first list item</code>	• second list item
<code>second list item</code>	
<code></code>	

<code></code>	
<code>first item</code>	1. first item
<code>second item</code>	2. second item
<code></code>	

21

Nested Lists

- ◆ Using ` ... ` or ` ... ` inside a list creates a level of indentation

```
<ul>
  <li>first item</li>
  <ol>
    <li>first subitem</li>
    <li>second subitem</li>
  </ol>
</ul>
```

22

Definition Lists

- ◆ Surrounded by `<dl> ... </dl>` tags
 - » “title” is surrounded by `<dt>...</dt>` tags
 - » “definition” is surrounded by `<dd>...</dd>` tags

- ◆ Example:

```
<dl>  
  <dt>URL</dt>  
  <dd>Uniform Resource Locator</dd>  
</dl>
```

- ◆ Lists Example:

- » <http://www.cs.odu.edu/~mweigle/cs312/lists-example.html>

23

Lists in PmWiki

- ◆ Bulleted Lists

- » begin line with *
- » add * to create subitems
- » example:
 - * item one
 - ** subitem one
 - * item two

- ◆ Numbered Lists

- » use # instead of *

- ◆ Definition Lists

- » use : to separate term from definition
- » : item : the definition

24

Adding Images

- ◆ Defined with the `` tag:

```

```

- ◆ Setting the size:

```

```

- ◆ Setting a background picture:

```
<body background="background.jpg">
```

- ◆ Image as link:

```
<a href="lastpage.html">
```

```

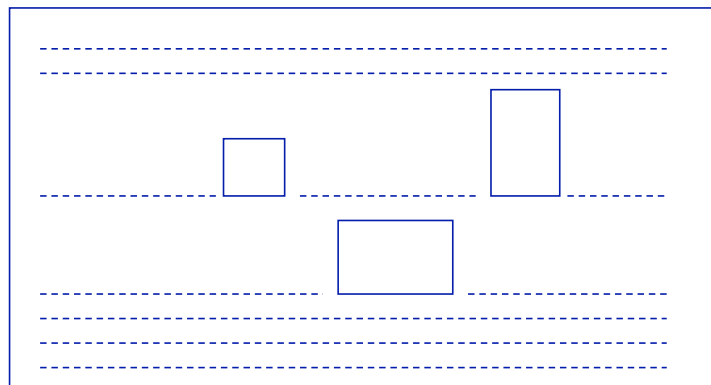
```

```
</a>
```

25

More on Images

- ◆ Image location URLs can be absolute or relative, just like other URLs
- ◆ Images can be located anywhere text can



26

Aligning Images

- ◆ An image can be aligned either to the left or to the right of a page margin. Text will wrap around them.

``

- ◆ Images can also be enclosed in `<center>` tags to center them on the page.

27

Miscellaneous Tags

- ◆ In the `<head>` section
 - » Meta data for search engines
 - » `<meta name="keywords" content="database, computer science, internet">`
 - » `<meta content="Dr. Michele Weigle" name="author">`
- ◆ In the `<body>` section
 - » horizontal lines
 - ❖ `<hr width="100%" size="2">`
 - ❖ `<hr width="300" size="4">`
 - » Changing the size and width of the horizontal line is not accepted in XHTML.

28

Changing Fonts and Colors

- ◆ Changing fonts
 - » ` ... ` tag
 - » size, face, color attributes
 - ` This is text in font Verdana. `
- ◆ Changing colors
 - » `color="#eeff00"`
 - ❖ contributions from red, green, and blue (RGB) in hexadecimal (0...9, a...f)
 - » also are 16 accepted names (purple, red, blue, ...)
 - » list of colors
 - http://www.w3schools.com/Html/html_colors.asp
- ◆ Note that the `` tag is not used in XHTML. Should use CSS styles instead to change fonts.

29

Common Mistakes

- ◆ Missing an opening tag or closing tag
- ◆ Crossing pairs of opening and closing tags
- ◆ Typing “<” as “>”, or vice versa
- ◆ Missing a closing double quote for some parameter value
- ◆ Forgetting to set permissions on newly created files and directories
 - » `chmod 644 filename`
 - » `chmod 755 directory_name`

30

Copyright and Fair Use

- ◆ We cannot arbitrarily copy other peoples' texts and images
- ◆ Copyright and fair use overview
 - » http://fairuse.stanford.edu/Copyright_and_Fair_Use_Overview/
- ◆ Website permissions
 - » http://fairuse.stanford.edu/Copyright_and_Fair_Use_Overview/chapter6
 - ❖ Ways to stay out of trouble
 - ❖ Transferring information to and from a website
 - ❖ Connecting to other websites