



# WEB PROGRAMMING/DESIGN

## LAB 1: CREATING A SIMPLE XHTML PAGE

NAME: \_\_\_\_\_

### 1. Overview

1.1. For this assignment, you will create an XHTML file in a text editor.

- on a PC, this is Notepad (not Wordpad)
- on a Mac, this is TextEdit (in plain text mode, not rtf)
- on Linux, this is pico or emacs or vi or Text Editor.

1.2. Type your name at the top of the file as a comment.

- Comments in HTML are lines that begin with the tag: `<!--` and end with `-->`.
- Example:

```
<!--Your-name xhtml page. -->
```

### 1.3. **Save your work!!!**

**BEFORE YOU LEAVE THE LAB**, make sure that you save your work (both HTML files and any image files you use) by storing them on a USB flash drive or by emailing them to yourself (ask if you don't know how to do this).

### 2. Getting started

2.1. Open the appropriate text editor for the type of computer you are using.

- In this file, you will write XHTML code to do the things listed below.

2.2. Start by creating the outline for the page.

- All XHTML pages begin with a `<!DOCTYPE ...>` tag. Other "metadata" tags may also appear at the start of the document. All tags must appear within the HTML section, which starts with an `<html>` tag and ends with a `</html>` tag. In between these tags, the page is divided into two parts: the head and the body. These tags also have "start" and "end" forms: `<head>` and `</head>`, and `<body>` and `</body>`. Things that go inside the head tags do not appear directly in the content of the page, but are used to control the page in various ways. The content of the page goes between the body tags.



2.3. The page outline should look like this:

```
<!-- Your-name xhtml page. -->

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">
<head>
  <meta http-equiv="Content-Type"
  content="text/html; charset=utf-8" />
</head>
<body>

</body>
</html>
```

2.4. Set the title of the web page by inserting title tags (<title>...</title>) inside the head tags, beneath the <meta> tag. When you view the HTML page, the title will be displayed inside the browser window's top heading bar, not in the body of the browser's content. Example:

```
<title>The Greatest Webpage Ever Made</title>
```

2.5. Set the background color of the page to something other than the default (usually white) and the text color of the page to something other than the default (usually black). You can do this by going into the body tag and adding 'bgcolor' and 'text' attributes and then assigning those attributes values, like this:

```
<body bgcolor="yellow" text="blue">
```

2.6. Note that you will be modifying the body tag that you put in when you created the document, not adding another one. There should be only one body tag in an HTML document.

2.7. Display a heading that welcomes the user to YOUR web page (use your name instead of mine). This needs to go in between the body tags.

```
<body bgcolor="green" text="white">
  <h1>Welcome to Your-name home page!</h1>
</body>
```



- 2.8. Save the file and name it with your last name followed by -home.html. For example, my file is called: meyer-home.html
  - Note that some text editors, particularly on Windows, want to put a .txt extension after the .html extension. Don't do it. Choose "all files" as the type and make sure the extension ends with .html.
- 2.9. Try opening the file with a browser (like Firefox or Safari or IE) and see what your page looks like. In the browser, select File - Open File... and then enter the name of your HTML file (e.g., meyer-home.html).
- 2.10. If any of the elements above don't work, go back into the text editor, and edit the file to fix them. Then reload the file in your browser. Keep doing this until everything looks is correct.

### **If you need help, ask!!!**

#### **3. Adding content**

- 3.1. Between the heading (<h1>...</h1>) and the end body tag (</body>), you should add the following text. Note: all the page content goes in between the body tags

```
<h2>Paragraph Tags</h2>
```

1. This is how a <br /> break tag behaves.<br />
2. This is how a <p> paragraph tag </p> behaves. <br />
3. This is how a <div> division tag </div> behaves. <br />
4. This is how a <span> span tag </span> behaves. <br />

#### **4. Adding Contrast**

- 4.1. Between the heading (<h1>...</h1>) and the end body tag (</body>), just below the section you added in part 3, add the following text.

```
<h2>Character Tags</h2>
```

```
Emphasis: Let me <em>emphasize</em> how easy this is. <br />
```

```
Italics: Anyone can add <i>italics</i>. <br />
```

```
Bold: Be <b>bold</b> and learn XHTML. <br />
```

```
Preformatted Text: <br />
```

```
<pre>
```

```
AN XHTML HAIKU
```

```
This is so easy
```

```
Who new that structured markup
```

```
Could be so simple
```

```
</pre><br />
```



## 5. Adding a List

5.1. Now add XHTML tags to display an unordered list of five of **your** favorite movies.

Example:

```
<ul>
  <li> Doctor Zhivago </li>
  <li> An American In Paris</li>
  <li> The Wild Bunch </li>
  <li> The Godfather</li>
  <li> West Side Story</li>
</ul>
```

5.2. Be sure to make the page user-friendly by adding in an explanatory text telling what the list is (e.g., "Here is a list of my five of my favorite movies:" )

## 6. Adding links

6.1. A link, or "hyperlink", in XHTML provides a means for going from one page to another.

A link has two components:

- one is the tags with the URL of the page that is being linked,
- and the other is the text (or image) within the tags that the user will click on in order to follow the link.

6.2. In Detail:

- The HTML tag for a link is: `<a href=...URL...> ...CLICK... </a>`
- You need to replace the ...URL... with the location of the page you want to link and ...CLICK... with the text you want the user to click on in order to go to the linked page. Example:

```
<a href="http://en.wikipedia.org/wiki/Doctor\_Zhivago">Dr. Zhivago</a>
```

6.3. Add links to each of the five items in your list of favorite movies. These could be links to the movies on Amazon or information on IMDB (<http://www.imdb.com>) or a trailer (e.g., <http://www.apple.com/trailers>) or some other relevant link (like wiki).

6.4. NOTE: The link tags `<a>` and `</a>` should be nested within the list item tags `<li>` and `</li>`. Example:

```
<li><a href="http://en.wikipedia.org/wiki/Doctor\_Zhivago"> Doctor Zhivago </a></li>
```

6.5. Save your changes. Reload the page in the browser and try clicking on your link. If it doesn't work, then go back and fix the errors.

**If you need help, ask!!!**



## 7. Adding images

7.1. The XHTML tag to include an image in your document is different from most of the other tags you've used so far because it is an empty-element tag; it does not have a begin tag and an end tag. The image tag is look like this:

```

```

7.2. Find an image that you like on the web and then find the URL of that image. Usually right-clicking on the image from the browser window will give you the option to "Copy Image Location". Do that and then paste the image location into your text editor window. Then enclose the URL in the image tag. Example:

```

```

7.3. Save your changes. Reload the page in the browser and try clicking on your link. If it doesn't work, then go back and fix the errors. The image tag has TWO required attributes, src, which is set to the URL of the image you want to display and alt, which is set to a text phrase that you want displayed if the image cannot be loaded. The image tag has other optional attributes. The attribute width can define the width of the image, in pixels if you assign a value to this attribute. Example:

```

```

7.4. Find an image to go with each of the movies on your list. Add an image tag for each list item. Set the alt and width attributes (make width="200").

7.5. Again, save your changes. Reload the page in the browser and try clicking on your link. If it doesn't work, then go back and fix the errors.

**If you need help, ask!!!**



## 8. Adding a table

8.1. Tables provide ways of lining up information on an HTML page. The content of a table is organized in rows and columns. Rows extend horizontally. Columns extend vertically. See the illustration, below:

	column 1	column 2	column 3
row 1	A	B	C
row 2	D	E	F
row 3	G	H	I

8.2. Tables are created using a series of tags.

- Table start and end tags `<table>...</table>` surround the whole table.
- Table rows start and end with: `<tr>...</tr>` and are placed in between the table tags.
- Table columns start and end with: `<td>...</td>` and are placed in between row tags.

8.3. Below is the code to create a table with three rows and three columns:

```
<table border="1">  
<tr> <td> A </td> <td> B </td> <td> C </td> </tr>  
<tr> <td> D </td> <td> E </td> <td> F </td> </tr>  
<tr> <td> G </td> <td> H </td> <td> I </td> </tr>  
</table>
```

8.4. Note that the table tag shown above specifies one attribute 'border' and a value for that attribute of 1. This will create a border line around the table boxes (0 for no border, 1 for a thin border, 2 for a thicker border, etc.)

8.5. Try entering the sample table above in your HTML file. Save and reload to make sure it works. Then modify the sample table to have two columns and six rows.

8.6. The first column of each row should contain the title of the movie (just copy and paste). The second column of each row should contain a brief (1 or 2 sentences) synopsis of the plot of the movie (you can copy this from another website).

- NOTE: The top row should have in the 1<sup>st</sup> and 2<sup>nd</sup> cells "Title" and "Synopsis" respectively.

8.7. Again, save your changes. Reload the page in the browser. If it doesn't work, look right then go back and fix the errors.



## **If you need help, ask!!!**

### **9. Validating your XHTML Page**

9.1. **SAVE YOUR FILE!!!**

9.2. Go to the following website:

[http://validator.w3.org/#validate by upload](http://validator.w3.org/#validate_by_upload)

9.3. Click on the 'Browse' button, find your XHTML file and click open.

9.4. You should see a path listing to your XHTML file in the 'File' window, if you do then hit the button called CHECK.

9.5. If you have created your XHTML document properly, you should get a message saying:  
***" This document was successfully checked as XHTML 1.0 Transitional! "***

9.6. **If you have errors you will need to correct them. Read the error messages provided in the lower part of the the validator window and try and fix the problem**

9.7. Once your page has been successfully checked as valid XHTML add the following lines of code to the bottom of your XHTML page:

```
<p>  
  <a href="http://validator.w3.org/check?uri=referer">  
      
  </a>  
</p>
```

### **10. (OPTIONAL) Linking in a FOAF.RDF file (OPTIONAL).**

10.1. As we talked about in class markup languages can be thought to provide 3 different kinds of functionality:

**Presentational markup:** Used by traditional word-processing systems, to create a WYSIWYG effect. Examples: add a line break, bold a word, change font style or color.

**Procedural markup:** Provides instructions for programs that are to process the text. Examples: add an image, applet or link to a document.

**Semantic markup:** Used to label sections of text and attach additional meaning to those sections. Examples: define the title of a document or declaring that a section of text is an address.



10.2. If you have completed all the other items and would like to explore some of the possibilities of "semantic markup" go to the following link:  
<http://www.ldodds.com/foaf/foaf-a-matic>

10.3. Follow the instructions and you can create a separate markup file that describes you in much greater detail, in a form that is machine readable. You can then follow the instructions to link to this file (which will have the extension .rdf) from the XHTML file that you have just created.

## 11. **Helpful links and resources:**

11.1. Introduction to HTML:

<http://www.w3schools.com/html/default.asp>

<http://www.w3.org/MarkUp/Guide/Overview.html>

<http://htmldog.com/guides/htmlbeginner/>

11.2. Introduction to XHTML:

<http://www.w3schools.com/xhtml/default.asp>

11.3. HTML validator:

<http://validator.w3.org/>

11.4. Semantic Markup and FOAF (Friend of a Friend)

<http://www.ldodds.com/foaf/foaf-a-matic>

(Simple and fun way to grasp concept of "semantic markup")

11.5. Mobile devices:

<http://www.developershome.com/wap/xhtmllmp/>

11.6. XHTML Mobile Profile standard & webpages for mobile devices.

<http://www.w3.org/TR/2008/REC-mobile-bp-20080729/>

(Mobile Web Best Practices 1.0)

<http://developer.apple.com/iphone/>

(iphone sdk -free download plus tutorials, videos and documentation)

<http://code.google.com/android/>

(android sdk -free download, documentation, etc)