Introduction to (X)HTML & CSS

Structure vs. Presentation

XHTML

- Stands for EXtensible HyperText Markup Language

- Is a stricter and cleaner version of HTML

- Combines HTML and XML (EXtensible Markup Language).

- Consists of all the elements in HTML 4.01, combined with the strict syntax of XML.

- Defines **the structure** and, partially, the layout of a Web document by using a variety of tags and attributes.

Sources: www.w3schools.com/xhtml/xhtml_intro.asp & www.webopedia.com/TERM/H/HTML.html

CSS

- **CSS** stands for **C**ascading **S**tyle **S**heets

- **CSS** is designed primarily to enable the separation of document content (written in HTML or a similar markup language) from document **presentation**, including elements such as the colors, fonts, and layout.

Source: www.w3schools.com/css/css_intro.asp & http://en.wikipedia.org/wiki/Cascading_Style_Sheets

XHTML & CSS

Structure = (X)HTML

Presentation = CSS

XHTML Basics

- XHTML elements must be **properly nested (well-formed).**

- XHTML elements must always be **closed.**

- XHTML elements must be in **lowercase.**

- XHTML documents must have **one root element.**

HTML5 Differences

- HTML5 doesn't care if void elements are closed.

- HTML5 accepts elements in lowercase, UPPERCASE, or MixedCase.

(X)HTML Basics

- HTML tags are keywords surrounded by **angle brackets** like `<body>`

- HTML tags normally **come in pairs** like `<p>` and `</p>`

- The first tag in a pair is the **start tag**: `<h1>`

- The second tag is the **end tag:** `</h1>`

  - Start and end tags are also called **opening tags** and **closing tags**

Sources: www.w3schools.com/xhtml/

(X)HTML Basics

There are two types of HTML tags: **block level** and inline

- Block-level tags:

  - Typically contain inline elements and other block-level elements.

  - When rendered visually block-level elements usually begin on a new line.

(X)HTML Basics

There are two types of HTML tags: block level and **inline**

- Inline tags/elements:
    - Typically may only contain text and other inline elements.
    - When rendered visually, inline elements do not usually begin on a new line.

(X)HTML Basics

- What do we mean when we say "closed?"
  - Most (X)HTML tags come in pairs & you need both:
    - `<p></p>`
    - `<a></a>`
    - `<h3></h3>`
  - Exceptions:
    - `<br />` - line break (`<br></br>`)
    - `<hr />` - horizontal rule (`<hr></hr>`)
    - `<img />` - image (`<img></img>`)

(X)HTML Basics

- What do we mean when we say "well-formed?"
  - Tags close in reverse order of how they were opened.

```
<p>This is some text and <a href="foo.html">text that links.</p></a>
```

```
<p>This is some text and <a href="foo.html">text that links.</a></p>
```

HTML5 Differences

- HTML5 requires a much simpler doctype declaration

  - `<!DOCTYPE html>`

- HTML5 doesn't care if void elements (e.g. `<br>`)are closed.

- HTML5 accepts elements in lowercase, UPPERCASE, or MixedCase.

- HTML5 doesn't care if attributes are in lowercase or if they have quotes.

  - ✖ XHTML = `<img src="pic.jpg" />`

  - ✖ HTML5 = either `<img src="pic.jpg">` OR `<img src=pic.jpg>`

- HTML5 allows you to enclose a block level element in an `<a>` tag

Syntax	Acceptable in
`<h1><a href="foo.html">Headline</a></h1>`	XHTML, HTML5
`<a href="foo.html"><h1>Headline</h1></a>`	HTML5

HTML5 Differences

- HTML5 redefines several HTML elements that were previously deprecated:

  - `<b>`, `<strong>`, `<i>`, and `<em>` have been redefined in HTML5

- HTML5 adds new semantic elements not present in HTML4:

  - `<section>` represents a generic document or application section. It can be used together with the h1, h2, h3, h4, h5, and h6 elements to indicate the document structure.

  - `<article>` represents an independent piece of content of a document, such as a blog entry or newspaper article.

  - `<aside>` represents a piece of content that is only slightly related to the rest of the page.

HTML5 Differences

- HTML5 adds new semantic elements not present in HTML4:

  - `<figure>` represents a piece of self-contained flow content, typically referenced as a single unit from the main flow of the document.

    ```
    <figure>

     <video src="example.webm" controls></video>

     <figcaption>Example</figcaption>

     </figure>
    ```

  - `<figcaption>` can be used as caption (it is optional).

  - `<video>` **and** `<audio>` for multimedia content. Both provide an API so application authors can script their own user interface, but there is also a way to trigger a user interface provided by the user agent. `<source>` elements are used together with these elements if there are multiple streams available of different types.

XHTML & CSS

Structure = (X)HTML

Presentation = CSS

CSS Basics

- A CSS rule has two main parts:
  1. a selector
  2. one or more declarations
- The selector is normally the HTML element you want to style.
- Each declaration consists of a property and a value.
  - The property is the style attribute you want to change.
  - The value is what you want the property to be.

Selector	Declaration	Declaration
h1	{ color:blue;	font-size:12px;}
	Property Value	Property Value

CSS Basics

- A CSS declaration outside the tag always ends with a semicolon and declaration groups are surrounded by curly brackets:

```
p
  {
  color:red;
  text-align:center;
  }
```

```
p {color:red; text-align:center;}


p {
    color:red;
    text-align:center;
  }
```

Source: http://www.w3schools.com/css/css_syntax.asp

CSS Basics

- **id** and class selectors allow you to define your own elements to style.
  - id selector:
    - is used to specify a style for a single, unique element.
    - uses the id attribute of the HTML element
    - is defined with a # in your CSS
    - can only occur once in a document

```
#center-tabs-content div.current {
 float:left;
 width:100%;
 display: inline;
 }
```

Source: http://www.w3schools.com/css/css_syntax.asp

CSS Basics

- id and **class** selectors allow you to define your own elements to style.
  - ○ class selector:
    - specifies a style for a group of elements
    - uses the class attribute of the HTML element
    - is defined with a . in your CSS
    - may apply to many HTML tags in the same document

```
.glossary_head {
    font-weight: bold;
    margin-right:  6px;
}
```

CSS Basics

- id and class selectors allow you to define your own elements to style.
  - Example:

```
<div id="center-tabs">
<ul>
  <li id="1" class="current">
   <A class="left"> </A>
   <a class="center" href="#">Vaccine Basics</a>
  </li>
  <li class="off" id="2">
   <A class="left"> </A>
   <a class="center" href="#">About Shingles</a>
  </li>
  <li id="3" class="off">
   <A class="left"> </A>
   <a class="center" href="#">Take Action</a>
</li>
</ul>
</div>
```

Source: http://www.vaccines.gov/diseases/hpv/index.html

CSS Basics

- There are 3 ways to get CSS into a document:
  - External (linked) stylesheet:

```
<link href="/css/main.css" rel="stylesheet"
type="text/css" media="screen" />
```

  - Internal stylesheet:

```
<style type="text/css">
<!--
h3 {font-size: 400%;}
-->
</style>
```

  - Inline styles:

```
<p style="margin-left: 50px;>Some text.</p>
```

CSS Basics

- Box Model
  - Considers all HTML elements to be boxes
  - Consists of:
    - margins
    - borders
    - padding
    - the actual content

Source: http://www.w3schools.com/css/css_boxmodel.asp

CSS Basics

- Box Model

  o **Margin** - Clears an area around the border. The margin does not have a background color, it is completely transparent

  o **Border** - A border that goes around the padding and content. The border is affected by the background color of the box

  o **Padding** - Clears an area around the content. The padding is affected by the background color of the box

  o **Content** - The content of the box, where text and images appear.

Source: http://www.w3schools.com/css/css_boxmodel.asp

CSS Basics

- What about `<b>`, `<strong>`, `<i>`, and `<em>`?
  - These were considered presentation tags by XHTML
  - Many content management systems use these tags in their WYSIWYG editors.

HTML5 Differences

- `<b>`, `<strong>`, `<i>`, and `<em>`
  - Have been redefined in HTML5

CSS3

- Adds a lot of new features including:
  - Changes to color scheming and opacity:
    - RGBA, HSL, HSLA
  - Rounded corners
  - Drop shadows
  - Text shadows
  - Gradients (without images!)
  - Multiple background images
  - Image scaling and transforming

XHTML Cheatsheet

- Always write tags in lowercase
- Always enclose values for attributes in " " marks
- Always close your tags

CSS Cheatsheet

- Declarations start and end with { } or " " (if inline)
- Always close property:value pairs with a ;
- id selectors can only be used once in a document
- class selectors can be applied to multiple tags
- The more recent a style is declared gives it a higher probability of overriding other styles for the same tag