

IIST 361 - Web Development

Class 2 – Lecture notes

Anna Arzrumtsyan

HTML/XHTML Overview

- HTML (Hyper Text Markup Language) and its more recent incarnation, XHTML (Extensible Hyper Text Markup Language) is the central core on which all Web pages are built. Although there are new types of technology and coding options, including PHP, ASP, XML and others, traditional markup language is the place where "all things Web" starts.
- Some Web editing software publishers claim that it is not necessary to know HTML if you use their programs to build Web pages. However, this is rarely the case. In almost every instance at least some knowledge of HTML and XHTML is helpful.

Most commonly used tags <http://library.albany.edu/imc/tagsheet.htm>

What is an HTML File?

- HTML stands for **Hyper Text Markup Language**
- An HTML file is a text file containing **markup tags**
- The markup tags tell the Web browser **how to display** the page
- An HTML file must have an **htm** or **html** file extension
- An HTML file can be created using a
 - **simple text editor**: Notepad (Windows), TextEdit (Mac)
 - **Dreamweaver**

How to View HTML Source

- Click the VIEW option in your browser's toolbar and select SOURCE or PAGE SOURCE. This will open a window that shows you the HTML code of the page.
 - To find out, try it yourself www.albany.edu

HTML Tags

- HTML tags are used to mark-up HTML **elements**
- HTML tags are surrounded by the **two characters, angle brackets, < and >**
- HTML tags normally **come in pairs** like and
- The first tag in a pair is the **start tag**, the second tag is the **end tag**
- The text between the start and end tags is the **element content**
- HTML tags are **not case sensitive**, means the same as

HTML Elements

Example: “**This text is bold**”

- The HTML element starts with a **start tag**: ****
- The **content** of the HTML element is: This text is bold
- The HTML element ends with an **end tag**: ****
- The purpose of the **** tag is to define an HTML element that should be displayed as bold.

Why do We Use Lowercase Tags?

- We have just said that HTML tags are not case sensitive: `` means the same as ``. If you surf the Web, you will notice that plenty of web sites use uppercase HTML tags in their source code. But, we always use lowercase tags. Why?
- If you want to follow the latest web standards, you should always use lowercase tags. The World Wide Web Consortium (W3C) recommends lowercase tags in their HTML 4 recommendation, and XHTML (the next generation HTML) demands lowercase tags.

Tag Attributes

- Tags can have attributes. Attributes provide additional information to an HTML element. The following tag defines an HTML table: `<table>`. With an added border attribute, you can tell the browser that the table should have no borders: `<table border="0">`
- Attributes always come in name/value pairs:
`name="value"`.
- Attributes are always specified **in the start tag of an HTML element**.
- Attributes and attribute values are also case-insensitive. However, the World Wide Web Consortium (W3C) recommends lowercase attributes/attribute values in their HTML 4 recommendation, and XHTML demands lowercase attributes/attribute values.

Always Quote Attribute Values

- Attribute values should always be enclosed in quotes. Double style quotes are the most common, but single style quotes are also allowed.
- In some rare situations, like when the attribute value itself contains quotes, it is necessary to use single quotes:
 - e.g. `name='John "ShotGun" Nelson'`

Headings

- Headings are defined with the `<h1>` to `<h6>` tags. `<h1>` defines the largest heading. `<h6>` defines the smallest heading.
- `<h1>This is a heading</h1>`
- `<h2>This is a heading</h2>`
- `<h3>This is a heading</h3>`
- `<h4>This is a heading</h4>`
- `<h5>This is a heading</h5>`
- `<h6>This is a heading</h6>`
- HTML automatically adds an extra blank line before and after a heading.

Paragraphs

- 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.

Line Breaks

- The `
` tag is used when you want to end a line, but don't want to start a new paragraph. The `
` tag forces a line break wherever you place it.
 - e.g. `<p>This
 is a para
graph with line breaks</p>`

HTML Lists

- Examples
- Code view
- Design view

```
<ul>  
<li>Dreamweaver</li>  
<li>Photoshop</li>  
</ul>
```

- Dreamweaver
- Photoshop

Comments in HTML

- The comment tag is used to insert a comment in the HTML source code. A comment will be ignored by the browser. You can use comments to explain your code, which can help you when you edit the source code at a later date.
- `<!-- This is a comment -->`
- Note that you need an exclamation point after the opening bracket, but not before the closing bracket.

HTML Character Entities

- Some characters have a special meaning in HTML, like the less than sign (<) that defines the start of an HTML tag. If we want the browser to actually display these characters we must insert character entities in the HTML source.
- A character entity has three parts: an ampersand (&), an entity name or a # and an entity number, and finally a semicolon (;).
 - To display a less than sign in an HTML document we must write: < or <
- The advantage of using a name instead of a number is that a name is easier to remember. The disadvantage is that not all browsers support the newest entity names, while the support for entity numbers is very good in almost all browsers.
- **Note that the entities are case sensitive.**

HTML Links

- HTML uses the `<a>` (anchor) tag to create a link to another document.
- An anchor can point to any resource on the Web: an HTML page, an image, a sound file, a movie, etc.
- The syntax of creating an anchor:
`Text to be displayed`
 - the `<a>` tag is used to create an anchor to link from
 - the `href` attribute is used to address the document to link to
 - the words between the open and close of the anchor tag will be displayed as a hyperlink.

E.g. this anchor defines a link to W3Schools:

`Visit W3Schools!`

- The line above will look like this in a browser [Visit W3Schools!](http://www.w3schools.com/)

HTML Links (The Target Attribute)

- With the target attribute, you can define where the linked document will be opened.
- The line below will open the document in a new browser window:

```
<a href="http://www.w3schools.com/"  
target="_blank">Visit W3Schools!</a>
```

Example: [Open a link in a new browser window](#)

Note: Always add a trailing slash to subfolder references. If you link like this: href="http://www.w3schools.com/html", you will generate two HTTP requests to the server, because the server will add a slash to the address and create a new request like this: href="http://www.w3schools.com/html/"

HTML Text Formatting

- **Examples**

- [Text formatting](#)

This example demonstrates how you can format text in an HTML document.

- [Preformatted text](#)

This example demonstrates how you can control the line breaks and spaces with the pre tag.

- ["Computer output" tags](#)

This example demonstrates how different "computer output" tags will be displayed.

- [Address](#)

This example demonstrates how to write an address in an HTML document.

- [Abbreviations and acronyms](#)

This example demonstrates how to handle an abbreviation or an acronym.

- [Text direction](#)

This example demonstrates how to change the text direction.

- [Quotations](#)

This example demonstrates how to handle long and short quotations.

- [Deleted and inserted text](#)

This example demonstrates how to mark a text that is deleted or inserted to a document.

What is XHTML

- XHTML stands for **EX**tensible HyperText **M**arkup Language
- XHTML is aimed to **replace** HTML
- XHTML is almost **identical** to HTML 4.01
- XHTML is a **stricter and cleaner** version of HTML
- XHTML is HTML defined as an XML application, a combination of HTML and XML (EXtensible Markup Language)
- XHTML is a **W3C Recommendation**
- XHTML consists of all the elements in HTML 4.01 combined with the syntax of XML.

Why XHTML?

- The following HTML code will work?

```
<html>
<head>
<title>This is bad HTML</title>
<body>
<h1>Bad HTML
</body>
```

- XML is a markup language where everything has to be marked up correctly, which results in "well-formed" documents.
- XML was designed to describe data and HTML was designed to display data.
- Some browsers run Internet on computers, and some browsers run Internet on mobile phones and hand held devices. The last-mentioned do not have the resources or power to interpret a "bad" markup language.

Why XHTML?

- By combining HTML and XML, and their strengths, we got a markup language that is useful now and in the future - XHTML.
- XHTML pages can be read by all XML enabled devices AND while waiting for the rest of the world to upgrade to XML supported browsers, XHTML gives you the opportunity to write "well-formed" documents now, that work in all browsers and that are backward browser compatible
(source: http://www.w3schools.com/Xhtml/xhtmll_why.asp).
- **Good practice:** write your HTML code in lowercase letters, and NEVER skip ending tags!!!

Differences Between XHTML And HTML

- XHTML elements must be **properly nested**

Example1.

```
<b><i>This text is bold and italic</b></i>
```

Example2.

```
<ul>  
  <li>Coffee</li>  
  <li>Tea  
    <ul>  
      <li>Black tea</li>  
      <li>Green tea</li>  
    </ul>  
  <li>Milk</li>  
</ul>
```

Differences Between XHTML And HTML

- XHTML elements must always be **closed**

Example:

```
<p>This is a paragraph
```

- XHTML elements must be in **lowercase**

Example:

```
<BODY>
```

```
<P>This is a paragraph</P>
```

```
</BODY>
```

Differences Between XHTML And HTML

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

All XHTML elements must be nested within the `<html>` root element. All other elements can have sub (children) elements. Sub elements must be in pairs and correctly nested within their parent element. The basic document structure is:

```
<html>  
<head> ... </head>  
<body> ... </body>  
</html>
```

XHTML Syntax Rules

Attribute names must be in **lower case**

```
<table WIDTH="100%">
```

Attribute values must be **quoted**

```
<table width=100%>
```

The XHTML DTD defines **mandatory** elements

```
<!DOCTYPE html
PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html>
<head>
<title>simple document</title>
</head>
<body>
<p>a simple paragraph</p>
</body>
</html>
```

XHTML DTD (Document Type Definition)

There are currently 3 XHTML document types:

- **XHTML 1.0 Strict** - Use this when you want really clean structural mark-up, free of any markup associated with layout. Use this together with W3C's Cascading Style Sheet language ([CSS](#)) to get the font, color, and layout effects you want.
- **XHTML 1.0 Transitional** - Many people writing Web pages for the general public to access might want to use this flavor of XHTML 1.0. The idea is to take advantage of XHTML features including style sheets but nonetheless to make small adjustments to your markup for the benefit of those viewing your pages with older browsers which can't understand style sheets. These include using the body element with *bgcolor*, *text* and *link* attributes.
- **XHTML 1.0 Frameset** - Use this when you want to use Frames to partition the browser window into two or more frames.

Source: <http://www.w3.org/MarkUp/>

XHTML Validation

An XHTML document is validated against a Document Type Definition.

- Test Your XHTML With The W3C Validator
- <http://validator.w3.org/>

XHTML Validation

"valid" Icon on your Web page

To show that you have taken the care to create an interoperable Web page, you should display this icon on your page that validates. Here is the HTML you can use to add this icon to your Web page:

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



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



e.g. <http://www.albany.edu/~aa645188/ist361/>

Dreamweaver

- **Dreamweaver - Insert Bar - Common layout**
 - contains buttons for inserting various types of "objects," such as images, tables, and layers, into a document.
 - Each object is a piece of HTML code that allows you to set various attributes as you insert it.
 - For example, you can insert a table by clicking the Table button in the Insert bar. If you prefer, you can insert objects using the Insert menu instead of the Insert bar.
- **View Options**
- There are 3 viewing options in Dreamweaver:
 - Code view
 - Split View
 - Design View

Dreamweaver

- Dreamweaver - Menu Bar
 - File
- Creating a new document click File > New
 - To make sure you have all of the necessary starter code in XHTML, chose document type “**XHTML 1.0 Transitional**”
- Open an existing document click > Open
- Review all options under file
 - Save, Save as, Print Code, Import, Preview in browser - F12

Dreamweaver

- **Edit**
 - Undo, cut, copy, paste, select all, find, find and replace
- Site - will allow management of web site, will actually control FTPing files and images to web server, great when maintaining multiple sites.

Assignment 2

- Use Dreamweaver and SSH
- See course homepage for more details
- Due next class

References

Introduction to HTML/XHTML, Interactive Media Center University
Library, University at Albany

http://library.albany.edu/imc/html_tut/index.html

World Wide Web Consortium (W3C) <http://www.w3.org/>

W3Schools, HTML Examples

http://www.w3schools.com/html/html_examples.asp

Next class

Designing with Images

- HTML frames, tables, images
- Photoshop – banner, logo
- more Dreamweaver