Introduction to HTML

Tags and Attributes

What is HTML?

- HTML: HyperText Markup Language,

- Language used to create Web pages

- Using HTML, you can create a Web page with
  - Text
  - Graphics
  - Sound
  - video

HTML

- Tim Berners-Lee created [first HTML](#) version in the late 1980s

HTML forms

- A Form is an area that can contain Form Control/ Elements.
- Each piece of information for a form is stored in a Field.
- The value itself is called Field Value.
- Users enter or select a field using Form Control/ Elements.
    - Form/Control elements include: buttons, checkboxes, text fields, radio buttons, drop-down menus, etc.
- A form usually contains a Submit button to send the information in the form elements to the server.

Control Elements of HTML Form

- **Input Boxes** – for text and numerical entries

- **Option Buttons**, also called **Radio Buttons** – for selecting a single option from a predefined list

- **Selection Lists** – for long lists of options, usually appearing in a **Drop-Down List Box**

- **Check Boxes** – for specifying yes or no

- **Text Areas** – for extended entries that can include several lines of text

HTML Form

- The basic construction of a HTML form is this...

  <form> - begin a form
  <input> - ask for information in one of several different ways
  <input> - there can be as many input areas as you wish
  </form> - end a form HTML form

- Forms are used to collect information.

- The information is then sent back to the server.

- Information is stored and analyzed using a program on the server.

- By giving users access to programs that react to user input, the Web became a more dynamic environment where companies and users could interact.

- Server-Based programs provide:
  - Online databases containing customer information
  - Online catalogs for ordering and purchasing merchandise
  - Dynamic Web sites with content that is constantly modified and updated
  - Message boards for hosting online discussion forums

Tags

- The essence of HTML programming is tags

- A tag is a keyword enclosed by angle brackets (Example: <BODY>)

- There are opening and closing tags for many but not all tags.

- The affected text is between the two tags

More Tags...

- The opening and closing tags use the same command except the closing tag contains and additional forward slash /

- For example,

```
<B> Warning </B>
```

It would cause the word 'Warning' to appear in bold face on a Web page

Anatomy of an HTML tag

Each tag has a "start tag", "end tag", some content in between, and optional attributes.

```
<tagname attribute="value">
  content
</tagname>

<a href="http://www.google.com" >
  Google
</a>
```

Think of a tag as a "command" to the browser and of the attributes as modifiers of that command.

HTML Tags

- All HTML tags are

  - made up of a tag name

  - Enclosed within < and > brackets.

  - Sometimes followed by an optional list of attributes which all appear between angle brackets < >

  - Attributes are properties that extend or refine the tag's functions

- **Nothing within the brackets will be displayed by the browser**

Tags and attributes...

Attributes

<body bgcolor="khaki" text="#000000" >

- Attributes are added within a tag to extend a tag's action.
- You can add multiple attributes within a single tag.
- Attributes come after the tag name;
- Each attribute should be separated by one or more spaces.
- Most attributes take values, which follow an equal sign "=" after the attribute's name.

Standalone Tags

There are a few HTML tags which do not use an end tag and are used for standalone elements on the page:

<img>   to display an image

                          Line break
<HR>   horizontal line

Nested Tags

- Whenever you have HTML tags within other HTML tags, you must close the nearest tag first

- Example:

<H1> \<I\> The Nation \</I\> </H1>

Comments

Browser will NOT display comment text

<!-- This is a comment -->

<!-- This is another comment -->

<!DOCTYPE> Declaration

- The <!DOCTYPE> declaration is not an HTML tag

- It is an instruction to the web browser about what version of HTML the page is written in.

Structure of a Web Page

- All Web pages share a common structure

- All Web pages should contain a pair of <HTML>, <HEAD>, <TITLE>, and <BODY> tags

<HTML>

<HEAD>

<TITLE> Example </TITLE>

</HEAD>

<BODY>

   This is where you would include the text and images on your Web page.

</BODY>

</HTML>

Creating HTML page

- Write the HTML tags in a notepad and save the file as *name*.html

- Now open the file in any browser to see the HTML page.

The <TITLE> Tag

- Choose the title of your Web page carefully. The title of a Web page determines its ranking in certain search engines

- The title will also appear on Favorite lists, History lists, and Bookmark lists to identify your page

- **<head>**
  <title> My First Page </title>
  </head>

Structural Tags

<HTML>
   These tags enclose the entire Web page document.
</HTML>

<HEAD>
  These tags enclose the Head part of the document
</HEAD>

<TITLE>
  These tags enclose the title of the document. This text appears in the title bar in the browser and on the bookmark list if someone bookmarks your web page.
</TITLE>

Sample Structure of a Web Site

```
<HTML>
    <HEAD>
        <TITLE> John Q. Public's Web Page </TITLE>
    </HEAD>

    <BODY>
        This is John Public's Webpage!
    </BODY>
</HTML>
```

Header Tags

Header Tags -- Used for marking sections and subsections in a document.

<H1>Header 1 -- Giant-sized and bold </H1>

<H2>Header 2 -- Large and bold </H2>

<H3>Header 3 -- Normal-sized and bold </H3>

<H4>Header 4 -- Small and bold </H4>

<H5>Header 5 -- Very Small and bold </H5>

<H6>Header 6 -- Tiny and bold </H6>

Header Tags (cont.)

H1 = Giant-sized and bold

H2 = Large and bold

H3 = Normal-sized and bold

H4 = Small and bold

H5 = Very Small and bold

H6 = Tiny and bold

Breaking Lines and Paragraphs

- \<P> text \</P>
  - Paragraph tag
  - Most browsers render (process) this with blank lines between each paragraph
- \
  - Line break tag
  - Used when the webmaster wants a carriage return but doesn't want a blank line to follow

---

Example:

\<p>text a\</p>

\<p>text b\<

\
text c

\
text d

text a

text b

text c

text d

Horizontal Rule

The <HR> tag puts a graphical line across the page.

Ex:

_____

Horizontal Rule Attributes:

NOSHADE -- A solid line with no shading

WIDTH="xx%/xx" --Controls the width of the line. You may specify either percentage of the width of a page or actual   pixel length

SIZE="xx" -- Controls the height of the line. You need to specify the
   dimension in pixels.

ALIGN="left/center/right" -- This allows the line to be aligned to the left,
   right, or center of the page

Text Formatting Tags

Some basic text formatting styles:

Tag	Result
<I> Italics </I>	*Italics*
<B> Bold </B>	**Bold**
<PRE> Preformatted Text </PRE>	Preformatted Text
<STRONG> Strong </STRONG>	**Strong**
<ADDRESS> Address </ADDRESS>	*Address*
<CITE> Citations </CITE>	*Citations*
<CODE> Source Code </CODE>	Source Code

Font modifications

Web creators can also change the way text looks by using the <FONT> tag

SIZE="number" - changes size of the font; 1=smallest, 7 = largest

<FONT SIZE="7">Big</FONT> <FONT SIZE="1">Small</FONT>

Big _{Small}

COLOR="color-name" - changes text color

<FONT COLOR="red">This is red</FONT>

This is red

FACE="font-name" - changes font

<FONT FACE="verdana">This is the verdana font;</FONT> <FONT FACE="chicago">this is the chicago font.</FONT>

This is the verdana font; this is chicago font.

\<Font\> modifications (cont.)

One can combine font modifications:

<FONT SIZE="7" FACE="courier" COLOR="red">Big, Courier & Red</FONT>

`Big, Courier & Red`

<FONT SIZE="7"><FONT FACE="courier">Big & Courier</FONT> - Just Big</FONT>

`Big & Courier` - Just Big

Lists -- Unordered Lists

Unordered lists:

```
<UL>
    <LI>Item One
    <LI>Item Two
    <LI>Item Three
    <LI>Item Four
</UL>
```

- Item One
- Item Two
- Item Three
- Item Four

Unordered List Attributes:

type="disc/circle/square"

- Disc (default)   ⌂ Circle   ⚑ Square

Lists -- Ordered Lists

Ordered (Numbered) Lists:

```
<OL>
    <LI> Item One
    <LI> Item Two
    <LI> Item Three
    <LI> Item Four
</OL>
```

⟹

1. Item One

2. Item Two

3. Item Three

4. Item Four

Ordered List Attributes:

type="i/I/a/A/1"   (default)

i =	i. Item One	I =	I. Item One	a =	a. Item One	A =	A. Item One	1 =	1.Item One
	ii. Item Two		II. Item Two		b. Item Two		B. Item Two		2. Item Two
	iii. Item Three		III. Item Three		c. Item Three		C. Item Three		3. Item Three
	iv. Item Four		IV. Item Four		d. Item Four		D. Item Four		4. Item Four

start="xx"

- This attribute lets you specify which number/letter will start the list

Lists -- Definition Lists

Definition Lists:

<DL>

                <DT>List Name One

                        <DD>This is where information about List Name One would go</DD>

                </DT>

                <DT>List Name Two
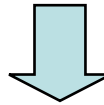
                        <DD>This is where information about List Name Two would go</DD>

                </DT>

</DL>

List Name One

This is where information about List Name One would go

List Name Two

This is where information about List Name Two would go

Links

The anchor tag <A> is used to link one document to another or from one part of a document to another part of the same document.

Basic Links:

<A HREF="http://www.stanford.edu/">Stanford University</A>

Inter-document Links:

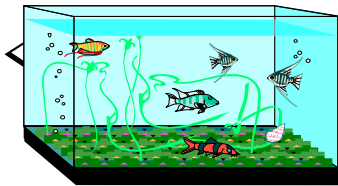<A HREF="#spot">Point to 'spot' in this document</A>

Defining a point in a document:

<A NAME="spot">Spot</A>

Email links:

<A HREF="mailto:someone@somehost.com">Email someone@somehost.com</A>

Graphics

To have a graphic appear on a webpage, web designers must to put the <IMG> tag in with the address where the graphic "lives":

<IMG SRC="http://www.someplace.com/images/fish.gif">

Graphics attributes:

alt="text": insert a description of the graphic for those who are using browsers that cannot process images (e.g., page readers for the blind)

width="xx/xx%": width in pixels/percentage

height="xx/xx%": height in pixels/percentage

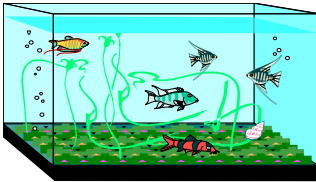border="xx": pixel length of the border surrounding the image.

hspace="xx": places a buffer of space horizontally around the image

vspace="xx": places a buffer of space vertically around the image

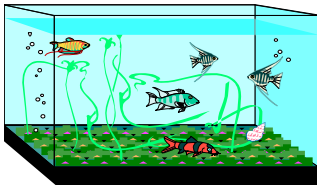align="top/middle/bottom/right/left": aligns image in relation to the text (see next 2 slides)

Graphics (cont.)

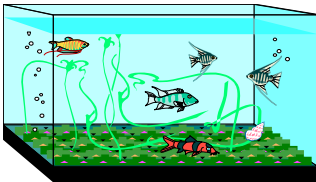<img src="http://www.someplace.com/images/fish.gif" align="top">All about Fish

 All about Fish

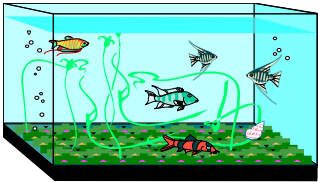<img src="http://www.someplace.com/images/fish.gif" align="middle">All about Fish

 All about Fish

<img src="http://www.someplace.com/images/fish.gif" align="bottom">All about Fish
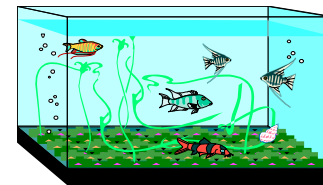
 All about Fish

Graphics (cont.)

`<img src="http://www.someplace.com/images/fish.gif" align="left">`

`<img src="http://www.someplace.com/images/fish.gif" align="right">`

Text Formatting Tags

\<U\> <u>Underline</u> \</U\>

\<b\>..\</b\>: Defines bold text

\<big\>..\</big\>: Defines big text

\<em\>..\</em: Defines emphasized text

\<i\>..\</i\>: Defines italic text

\<small\>..\</small\>: Defines small text

\<strong\>..\</strong\>: Defines strong text

\<sub\>..\</sub\>: Defines subscripted text

\<sup\>..\</sup\>: Defines superscripted text

\<strike\>..\</strike\>: defines strike tag

\<center\> ..\</center\>: indicates a section that is center aligned.

\<left\> ..\</left\>: indicates a section that is left aligned.

Paragraphs

```
<p>Paragraph 1</p>
<p>Paragraph 2</p>
<p>Paragraph 3</p>
```

Paragraph 1

Paragraph 2

Paragraph 3

Line Breaks

```html
<p>
Imagine there's no Heaven <br>
It's easy if you try <br>
No hell below us   <br>
Above us only sky <br>
</p>
```

Imagine there's no Heaven
It's easy if you try
No hell below us
Above us only sky

Notice: This tag does not need to be closed, since it doesn't encapsulate anything.

Changing the Font

<FONT FACE = "fontname"> … </FONT>

It can be used to change the font of the enclosed text
`

<FONT SIZE=n> …. </FONT>

where n is a number between 1 and 7

It can change the size of text use the expression

Changing the Font

- ***<FONT COLOR="red">…. </FONT>***

- It can change the color. The color can also be defined using hexadecimal representation (Example: #ffffff)

- These attributes can be combined to change the font, size, and color of the text all at once;

- For example,

  <FONT SIZE=4 FACE="Courier" COLOR="red"> …. </FONT>

\<Font>…\</Font>

- *The \<font> tag is not supported in HTML5.*

Headings

- Web pages are typically organized into sections with headings

- To create a heading use the expression <Hn>….</Hn> where n is a number between 1 and 7

- In this case, the 1 corresponds to the largest size heading while the 7 corresponds to the smallest size

Headlines

```
<h1>Header 1</h1>
<h2>Header 2</h2>

...
<h6>Header 6</h6>
```

Header 1

Header 2

...

Header 6

Aligning Text

- The ALIGN attribute can be inserted in the <P> and <Hn> tags to right justify, center, or left justify the text

- For example,
- ***<H1 ALIGN=CENTER> The New York Times </H1>***

- It would create a centered heading of the largest size

Page Formatting

- To define the background color, use the BGCOLOR attribute in the <BODY> tag

- To define the text color, use the TEXT attribute in the <BODY> tag

- To define the size of the text, type <BASEFONT SIZE=n>

Example

```
<HTML>
<HEAD>
<TITLE> Example </TITLE>
</HEAD>
<BODY BGCOLOR="black"  TEXT="white">
<BASEFONT SIZE=7>
    This is where you would include the text and images on your Web
    page.
</BODY>
</HTML>
```

Attributes of <BODY> Tag

- <u>bgcolor</u>   color   Specifies the background color of a document
- <u>text</u>   color   Specifies the color of the text in a document
- <u>background</u> URL   Specifies a background image for a document

- <u>alink</u>   color   Specifies the color of an active link in a document
- <u>link</u>   color   Specifies the color of unvisited links in a Doc
- <u>vlink</u>   color   Specifies the color of visited links in a document

Different ways of specifying color

Color	Color HEX	Color RGB	Color Name
	#FF0000	rgb(255,0,0)	Red
	#00FF00	rgb(0,255,0)	Green
	#0000FF	rgb(0,0,255)	Blue