Session: Software
Topic: HTML

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HTML Element (often improperly called "Tags")

\[
<\text{name attr1="answer" attr2="42"> text </name> \\
\]

Start Tag
- Tag name
- Attributes [optional]

Enclosed Text
- Text to be "marked up"
- May contain more Elements

End Tag
- Tag name with leading slash
Basic HTML Document

<html>
  <head>
    ...
    </head>

  <body>
    ...
    </body>

</html>

Head Section
  • Typically only important element Head contains is <title>
  • The enclosed text of <title> element will appear in title bar of browser window

Body Section
  • Contains actual contents of web page
Physical Formatting

<table>
<thead>
<tr>
<th>Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;p&gt;</code></td>
<td>Identifies a single Paragraph (typically skips a line above and below)</td>
</tr>
<tr>
<td><code>&lt;br&gt;</code></td>
<td>Line Break (no end tag necessary)</td>
</tr>
<tr>
<td><code>&lt;b&gt;</code> <code>&lt;i&gt;</code> <code>&lt;u&gt;</code></td>
<td>Bold, Italic, Underline</td>
</tr>
<tr>
<td><code>&lt;center&gt;</code></td>
<td>Centers text</td>
</tr>
</tbody>
</table>

- Physical Formatting elements exactly specify what text should look like
- Example: Special effects artist puts drops of water on your forehead

Logical Formatting

<table>
<thead>
<tr>
<th>Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;h1&gt;</code> <code>&lt;h2&gt;</code></td>
<td>Headings (lowest number is most prominent heading)</td>
</tr>
<tr>
<td><code>et. al.</code></td>
<td></td>
</tr>
<tr>
<td><code>&lt;cite&gt;</code></td>
<td>Citation</td>
</tr>
<tr>
<td><code>&lt;em&gt;</code></td>
<td>Emphasize</td>
</tr>
<tr>
<td><code>&lt;strong&gt;</code></td>
<td>Really emphasize?</td>
</tr>
</tbody>
</table>

- Logical Formatting elements give a concept or principle that suggests what the elements should look like
- Example: Movie Director says "act scared"
Elements with Attributes

- Attributes are added to an element to modify how the element would otherwise normally appear
- Attribute values should be surrounded by quote marks
- Pixels: for now think of as really small light dots that make up a screen.

<table>
<thead>
<tr>
<th>&lt;hr&gt;</th>
<th>Horizontal Rule (no end tag necessary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attributes:</td>
<td>width</td>
</tr>
<tr>
<td></td>
<td>size</td>
</tr>
<tr>
<td></td>
<td>align</td>
</tr>
</tbody>
</table>

- Example

  `<hr width="80%" size="5" align="center">`

Anchor (Link)

- Makes enclosed text act as a "hyperlink" to other HTML resource
- Resource is specified using URL (e.g. WWW address)
- Other things besides web page addresses can be URLs

  `<a href="[url]"> This is the link </a>`
<body> Element Attributes

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>bgcolor</td>
<td>Solid background color for entire page</td>
</tr>
<tr>
<td>text</td>
<td>Color of text on page (default)</td>
</tr>
<tr>
<td>link</td>
<td>Color of the enclosed text of an anchor element (not yet visited)</td>
</tr>
<tr>
<td>vlink</td>
<td>Color of the enclosed text of a previously visited anchor element</td>
</tr>
<tr>
<td>alink</td>
<td>Color of the enclosed text of an anchor element while it is &quot;active&quot;</td>
</tr>
</tbody>
</table>

Example

```html
<body bgcolor="black" text="silver" link="red" vlink="lime" alink="lime" background="pics/stuccotile.gif">
  . . .
</body>
```

- Note: any pathnames refer to files and directories within your "public_html" directory
- "public_html" is always assumed to be part of the path to your web resources (within your user account), but is never shown in the web address
Color Numbering

#RRGGBB

- **RR** – Two digit *numeral* representing amount of Red
- **GG** – Two digit *numeral* representing amount of Green
- **BB** – Two digit *numeral* representing amount of Blue

Color Numerals

- Numerals are in Hexadecimal (allows quantities from 0-255)
- Smallest two digit HexaDecimal is 00 (just like decimal)
- Largest two digit HexaDecimal is FF

Example

```html
<body bgcolor = "#FF0000" link="#00FFFF">
```
Additional Formatting Elements

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;pre&gt;</td>
<td>Preformatted (forces exact spacing)</td>
</tr>
</tbody>
</table>

<font> Element

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>color</td>
<td>Solid background color for entire page</td>
</tr>
<tr>
<td>size</td>
<td>Absolute or relative (+2, -3)</td>
</tr>
<tr>
<td>face</td>
<td>Name of font, or list of fonts (must exist on client machine)</td>
</tr>
</tbody>
</table>

Example

- Attributes
  <font color="red" size="+2" face="Courier New, Arial">Some different text</font>
Anchor (Link) Reloaded

<a href="[url]"> This is the link </a>

- Anchor can also specify a target by "name"

<a name="somedlabel"> This is a target </a>

(Enclosed text could be empty)

- Link to target by specifying "name" as value of "href"

<a href="#somedlabel"> Go to target </a>

- MailTo Link for e-mail

<a href="mailto:dchang@cs.fsu.edu"> Mail me </a>
Image Element

\[ < _____ _____ = "_____"> \]

- Displays a picture (or image) file
- Guess (conceptually what should it be?)
- No end tag necessary

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>align</td>
<td>&quot;left&quot;, &quot;right&quot; OR &quot;top&quot;, &quot;bottom&quot;, &quot;middle&quot;</td>
</tr>
<tr>
<td>border</td>
<td>Size in pixels (0 for none)</td>
</tr>
<tr>
<td>height</td>
<td>Height of image file in pixels. (Can be different than actual image size to cause stretching or shrinking)</td>
</tr>
<tr>
<td>width</td>
<td>Width of image file in pixels</td>
</tr>
<tr>
<td>&lt;more&gt;</td>
<td>(many more)</td>
</tr>
</tbody>
</table>

Alignment at "top", "bottom" or "middle"
- Places image within a single line of text
- "align" attribute will refer to the position of the line of text along the sides of the image (at the "top" of the image)

Alignment at "left", or "right"
- Causes all HTML (text and otherwise) to wrap around the image for the entire height of the image
- "align" attribute will refer to the position of the image with respect to the wrapping HTML (to the "left" of the HTML)
Lists
• "List" element defines start and end of list

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;ul&gt;</code></td>
<td>Unordered list (each line is bulleted)</td>
</tr>
<tr>
<td><code>&lt;ol&gt;</code></td>
<td>Ordered list (each line is numbered in order)</td>
</tr>
</tbody>
</table>

• `<li>` element within list defines each item in list
• End tag not required (but still wise to include), since end will be next `<li>` or end tag of list element
• Lists can be embedded (lists within lists)

Example

```html
<ol>
  <li> item 1 </li>
  <li> item 2 </li>
</ol>
```
Tables

- `<table>` - defines entire table

Basic

- `<tr>` defines each row
- Within a row
  - `<td>` - defines cells within each row
  - `<th>` - can be used instead of `<td>` for "header" cells, makes them look special

Example

```html
<table>
  <tr>
    <th>Food</th>
    <th>Drink</th>
  </tr>
  <tr>
    <td>Pepperidge Farm Orange Milano</td>
    <td>Dr. Pepper</td>
  </tr>
</table>
```
Attributes

<table>
<thead>
<tr>
<th>&lt;table&gt;</th>
<th>Attributes:</th>
<th>border</th>
<th>Width in pixels of grid lines (default = 0, but was 1 previously)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>&lt;td&gt;</th>
<th>Attributes:</th>
<th>align</th>
<th>&quot;left&quot;, &quot;center&quot; or &quot;right&quot; alignment of text within cell</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;th&gt;</td>
<td></td>
<td>valign</td>
<td>&quot;top&quot;, &quot;bottom&quot;, or &quot;middle&quot; vertical alignment of text</td>
</tr>
</tbody>
</table>

- Many more `<table>` and `<td>` attributes

Example

```html
<table>
  <tr>
    <th align="center">Food</th>
    <th align="center">Drink</th>
  </tr>
  <tr>
    <td valign="top">Pepperidge Farm Orange Milano</td>
    <td>Dr. Pepper</td>
  </tr>
</table>
```
Tables - Complex

- Start with maximum number of rows and columns in table, then for any row or column determine how much a cell "spans"
- Spanning goes to the right and down

<table>
<thead>
<tr>
<th>Attributes:</th>
<th>colspan</th>
<th>Number of columns cell crosses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>rowspan</td>
<td>Number of rows cell crosses</td>
</tr>
</tbody>
</table>

This cell "spans" 3 columns

This cell "spans" 2 rows
Example

<table>
<tr>
    <th colspan="3">Heading</th>
</tr>
<tr>
    <td rowspan="2">Sidebar</td>
    <td>A cell</td>
    <td>A cell</td>
</tr>
<tr>
    <td>A cell</td>
    <td>A cell</td>
</tr>
</table>

Only two cells because first is spanning from previous row