Introduction to HTML

Webworks – A Workshop Series in Web Design (Session One)

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1. Overview of HTML

Basically, HTML is the language used to create websites on the web. That's about all you need to know. Though you can write HTML with fancy web design software, a firm grasp of the underlying concepts is very helpful. Thus, we will be writing with the simplest of text editors and nothing more advanced.

2. Basic HTML

HTML is written with "tags," or text surrounded by angle brackets (<>). To create a website, start off with the tag **<HTML>**. Most tags work by surrounding whatever content they modify. For example, with the **<HTML>** tag, one would want to "surround" whatever HTML code he or she writes with the **<HTML>** tag at the beginning and **</HTML>** tag at the end.

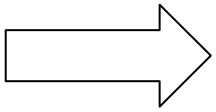
The next component of a website is the header section, marked off by **<HEAD>...</HEAD>**. Typically people are taught to include the **<TITLE>...</TITLE>** tag here; whatever you put between the **<TITLE>** tag goes to the top of the web browser window, next to "Internet Explorer" if that is the browser you choose to use. However, the **<TITLE>** tag works outside of the **<HEAD>** just dandy.

Arguably, the most important part of any webpage is the content, which is located within the **<BODY>...</BODY>** tags. One pretty much puts... everything here.

Let's look at an example:

HTML Code

```
<HTML>
<HEAD>
<TITLE>I am a title</TITLE>
<BODY>
I am the content for this
website.  Aren't I neat and
awesome?
</BODY>
```



I am a title

I am content for this website. Aren't I neat and awesome?

Content structure tags:

Now you probably want to know how to write stuff inside, eh?

Well, basically one can write pretty much anything one wants inside the body and have it just show up on the webpage. It is important to note that all "white space" is treated the same in HTML, "white space" being spaces (created with the "space bar"), carriage returns (the "return" or "enter" key), etc. Thus, a thousand thirty-two spaces and a single space will be displayed in the same way.

Thus, HTML has special ways of dealing with displaying white space. In order to move to the next line, one must use the **
** tag, which manually inserts a line break on the page. Alternatively, one could use the **<P>** tag to create a new paragraph. Using the **<P>** tags automatically sets up a paragraph block of text. When using **<P>** by itself, one is not required to close the tag. Another common white space character is ** **—this "non-breaking space" will force a space to display on the screen.

Other useful structure tags are listed below:

- **<H1>,<H2>,...,<H6>** are tags that surround headers, basically making the text larger depending on what kind of header it is. H1 would produce the largest heading, while H6 would produce the smallest. Headers need to be closed with **</H1>**, **</H2>**, etc., tags.
- **<CENTER>...</CENTER>** centers the text contained within. It needs to be closed in order for most browsers to properly display it.
- **<!--...-->** comments out the HTML text contained within it. Use it to make comments to yourself or to insert secret messages to people who view your source. Ooooh.

Tags that modify text:

Use these to make your text more awesome.

- **<I>...</I>** *italicizes* the text that it modifies.
- **<B>...</B>** makes the selected text **bold**. **<STRONG>** behaves the same way.
- **<U>...</U>** makes the selected text <u>underlined.</u>
- **<BIG>...</BIG>** makes the selected text <big>larger</big> relative to the text around it.
- **<SMALL>...</SMALL>** works the similarly, making the selected text <small>smaller</small>.
- **_{...}** makes the selected text _{subscript}.
- **^{...}** makes the selected text ^{superscript}.
- **<S>...</S>** ~~strikes out~~ the selected text. **<STRIKE>** behaves the same.
- **<TT>...</TT>** causes the selected text to be written in `typewriter format`.

Hardcore text modification:

The **<FONT>...</FONT>** tag allows the user to change quite a couple font parameters.

- **<FONT COLOR="RED">** would change text to red. There are quite a few color names that can be used here (see the Appendix for links to a full list). One can also use hexadecimal numbers to describe color (This is for more advanced coders. The colors are represented in RGB format, with the first two numbers describing the intensity of red, the second two describing green, and the last two numbers describing the intensity of blue. Thus, **#000000** would be black, and **#ffffff** would be white.)
- **<FONT SIZE="7">** would change the text to its maximum size. **SIZE="1"** would be the smallest. Anything larger or smaller isn't appreciated by the web browser.
- **<FONT FACE="SANS-SERIF">** would change the actual font to one that is sans-serif. Due to the many, many numbers of computers out there, it's generally better to use a generic font name, i.e. *serif, sans-serif,* or *monospace*, rather than a specific font that other

people might not have. Very general fonts such as Arial and Times New Roman are some of the exceptions to this rule as they are very common. One can also list fonts in order of preference, i.e. **<FONT FACE= "Times, Times New Roman, serif">**.

Nifty stuff:

- To create one of those nifty horizontal lines/bars, type in **<HR>**. These lines often get annoying if there are too many on a page, so take caution when creating them.

For those visual learners, here is another example:

HTML Code

```
<html>
<head>
<title>This site just got awesomer</title>
</head>
<body>
  <font color="pink">
  <h1>I rock my own socks off I'm so cool</h1>
  <hr>
  <p> <font color="blue"> <center><i>Now that must be cool. Just lookit
the bar of awesome-ness above this!</i></center></p>
  <p>How cool am I? I school the fools with no tools I'm so cool,
they're just fools when they tool with me, 'cause I go to school and
fool with the tools that are cool and stuff.</p>
  <p>This is another paragraph. Isn't this cool?</p>

  <p><!-- This is a secret message, k? -->It's over!!!</p>
</body>
</html>
```

Links and similar madness:

If you've used the internet at all, you've probably encountered what is known as a "link," an often underlined bit of text or an image that you can click in order to go to another page. A link is written using what is technically known as an "anchor." Don't worry about the terminology; this is basically how links are written:

```
<A HREF="http://www.put_address_here.com">display name of the link</A>
```

The **<A>** portion stands for anchor. Again, don't worry. The **HREF** portion tells the internet browser that this anchor will soon link to somewhere. Just change the text inside the quotation marks to wherever you want to go, remembering to close the parentheses.

One can put practically anything between the **<A HREF="www.foo.com">...</A>** tags, including entire bodies of text and pictures. When a web surfer clicks on any of the text or pictures that are enclosed in the anchor tags, they will move to another page. Having one's entire webpage act as a giant link is probably a bad idea, however.

To allow people to easily send one e-mail, one can use the `mailto:` command. Working the same way as a normal link, one would type **<A HREF="mailto:some_email@email.com">e-mail me</A>**. One should be

cautious when placing e-mail links in this manner as many evil spammers use automated tools to look through web sites to steal your e-mail address by looking for this tag.

While **<A HREF>** is normally used to link to other places on the internet, using **<A NAME>** allows one to link to different places on the same web page, a very useful trick when one wants the viewer to be able to quickly jump to a certain part of the page, or simply return to the top in a hurry. To do so, one needs to label areas of a page like so: **<A NAME= "name_goes_here">**. For example, if one wanted a "return to top" link, one would place **<A NAME="top">** at the top of the web page and make a link further down on the page as follows: **<A HREF="#top">return to top</A>**. It is *very* important to remember to include **"#"** before the name of the label when linking within a page. In general, one can also link to a specific label in any webpage by adding the label name after the web address, e.g. http://opera.stanford.edu/index.html#libretti.

Even more link stuff:

The pop-up window is an ever-increasingly useless "feature", most heavily abused and annoying, especially since most all browsers, except for Internet Explorer, feature built-in pop-up blockers. If you are one of the unfortunate few who yet do not have a pop-up blocker, visit http://toolbar.google.com and get with the program. You will *not* learn how to spam pop-up windows in this class.

Opening content in new windows, however, is not evil, and is often useful. To do so, add **TARGET="_blank"** to your link. E.g. **<A HREF="http://www.google.com" TARGET="_blank">Go to google</A>**.

Images, in a nut shell:

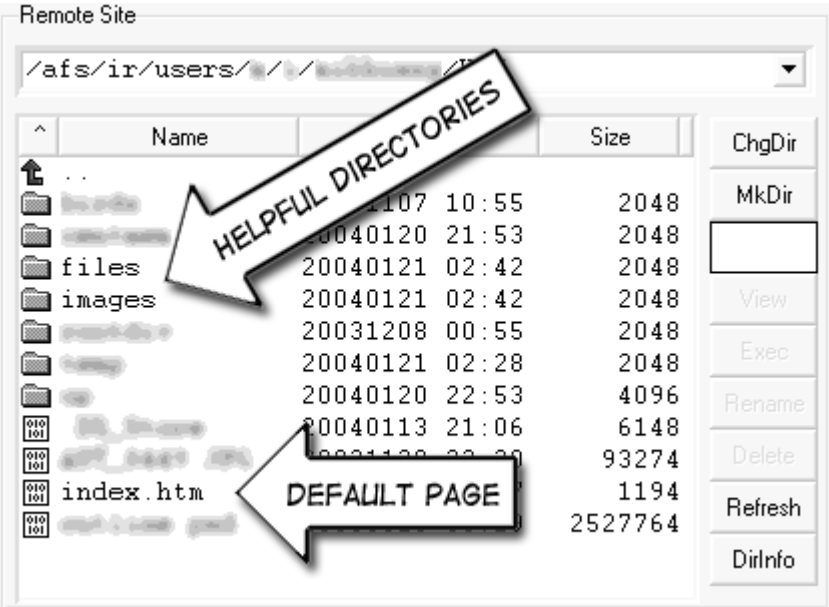
To include an image on a website, use the command **<IMG SRC="image_location">**, where **image_location** is replaced by whatever image you desire to use. That's basically it. For more advanced image information, wait for the next lesson.

3. FTP/AFS/Directory Structure

FTP stands for File Transfer Protocol; you use it to move files from your computer, to the internet, and if you like, vice versa. The client most often include with Stanford software is **WS_FTP**, which should be located with your Stanford Essential Software. **AFS** is a system used by Stanford to set up a virtual "drive" on Stanford's servers, accessible along with the standard drives on your computer. Using this system allows you to skip the FTP software and simply move files to your web space as if you were manipulating files on your own computer.

When setting up your web space, it is often best to organize files in different folders instead of piling everything into a single folder. Most likely, you'll want to include a separate **images** folder, a separate **files** folder, and separate folders for major sub-areas of your webpage, for example an image gallery of some sort, or a sub-site for a club you are in.
To set up your Stanford web space, visit http://academiccomputing.stanford.edu/acpubs/Docs/set_webspace/pc.html if you own a PC, or the same address without the pc.html if you own a Mac.

Thus a typical web site file structure at Stanford could look something like this:



Note that **index.htm** (which you can customize and create) is the default page. What this means is that if a viewer types in your page without including a specific HTML file to open, this page will be shown.

4. Appendix

For more advanced HTML, please visit http://www.w3.org/MarkUp/Guide/, and then click Advanced HTML. The W3C site also contains much of the content of this class.

For a full listing of available colors in HTML, please visit http://www.december.com/html/spec/color.html.