

Web Design for Macintosh and PC

Course Description: This class will cover some of the basics of web design. We will examine how the HTML language can be used to create various features, and how these features can be used to yield an overall design.

Prerequisites: This class will assume that you know how to use Netscape Navigator. A strong background in HTML is greatly appreciated. Please have your own 3 1/2" floppy disk if you wish to store your data.

OVERVIEW

- This class will assume that you have an understanding of HTML and web pages. This class will not be able to teach you how to create a web page, if you have had no experience creating one before. If you have very limited experience with HTML, please consider attending the Basic HTML or the Intermediate HTML Walk-in classes, offered throughout the semester.
- This class is taught in a slightly different style than previous HTML classes here. We will try to go over as many concrete examples of web design in the given time, and show what tags and structure people used. The instructors will not be spending as much time creating examples, although you should feel absolutely free to experiment with any of the topics covered.
- Although HTML is not a case-sensitive language, for this class, all HTML tags and attributes will be in capital letters.
- We will be using several examples from personal web pages and corporate web pages. These examples are meant to illustrate uses of HTML, and do not constitute an endorsement of a particular person, company, corporation, or other entity.

EXAMPLE PAGE

If you want to work on your own example, it is recommended that you create your own text file, and use Netscape to view it, saving any changes as you go along.

Here is a simple template for a basic page. Feel free to use it, or make your own.

```
<HTML>
<HEAD>
<TITLE>My Sample Web page</TITLE>
</HEAD>
<BODY>
<A HREF="http://www.berkeley.edu"> A sample
link</A> to campus.<BR>
<A HREF="http://www.infoseek.com"> A sample
link</A> to a search engine.<BR>
</BODY>
</HTML>
```

COLORS

It is possible to change the colors of your text and background. Most pages specify both as a straightforward method of changing the appearance.

Color Syntax

An HTML color looks like #BC0837 or #FFFFFF or #0000CC. It is a series of six hexadecimal digits. A hexadecimal digit is like a regular digit; it spans from 0, 1, 2, 3..., all the way up to 9. It can also continue further: A, B, C, D, E, and F. Each digit can take on one of 16 values, from 0 through F. A group of two regular numbers can go from 00 through 99. A group of two hexadecimal numbers can go from 00 through FF.

The browser breaks up the series of six digits into three groups of two digits. The first two digits tell the browser how much of the color red to use. The second group tells the browser how much green to use. The last group represents how much blue to use. The browser then takes those three amounts, and mixes them together to produce a single color.

By varying the amount of red, green, and blue used, a web designer can choose one of over 17 million possible color choices, ranging from dark black, to red, green, blue, and white.

Each group of two digits specifies how much of a red, green, or blue component it should use.

White = #FFFFFF	(maximum values of all colors)
Black = #000000	(no red, green, or blue included)
Red = #FF0000	(pure red, but no other colors)
Green = #00FF00	(pure green, no other colors)
Blue = #0000FF	(pure blue)
Yellow = #FFFF00	(mixture of red and green)
Magenta = #FF00FF	(mixture of red and purple)
Light Gray = #CCCCCC	(lighter mixture of all colors)

A longer list can be found at <http://www.infi.net/wwwimages/colorindex.html>

Color issues

An HTML color is a combination of six hexadecimal digits. Since each digit can take 16 possible values, this gives over 17 million possible colors. The problem is that most monitors are not set up to display every possible color; the computers in the facilities are usually set up for 256 colors. To compensate, a browser must convert a particular color into colors that the computer is able to display. Sometimes, the computer will substitute another similar color in its place, or it may use a mosaic of similar colors to build up the needed color. This process is called dithering.

The problem is that the dithering process is not standard between the Macintosh and PC platforms, or even among different browsers on the same platform. A color or background may look perfect on one particular computer, but look completely different on another computer.

However, there is a set of colors that do look the same on both the Mac and PC platforms. Again, a color consists of three groups of two digit numbers, for the red, green, and blue parts. If all three parts are either 00, 33, 66, 99, CC, or FF, then the color is safe for the web. For instance, #003366 is a safe color, while #004466 is not considered a safe color. This restricts you to a smaller set of only 216 colors. However, if you are really concerned with the colors of your page, try to limit yourself to these.

Color choice

A page with stark, contrasting colors will cause certain elements to stand out more than others. A page with dark purple text on a bright orange background will probably cause visitors to go somewhere else. Red text on a green background might be indistinguishable to people with color blindness. A full discourse on the effects of colors is well outside the scope of this class. The important thing to understand is to choose your color design very carefully.

COLORS (continued)

Style

For your pages, feel free to choose any type of color style that suits you. Three major schemes are:

- Black text on white backgrounds. This is used on many corporate pages, like <http://www.ibm.com>
- Black text on light textured backgrounds. A lot of personal pages use this approach, like <http://cafe.berkeley.edu/~rux/>
- Light text on black backgrounds, such as <http://www.mtv.com/>. This also seems to be somewhat popular for personal pages.

Format

All formatting of text colors, link colors, and backgrounds are done within the <BODY> tag. In the template above, the tag is empty. But, by adding various attributes, we can alter the way the page looks. For instance, we can replace the tag with:

```
<BODY TEXT=#000000 VLINK=#996699 LINK=#0000FF ALINK=#FF0000>
```

This will make the text black, the visited links purple, the regular links blue, and the active links red. An active link is a link that is in the process of being clicked on.

To change the color of a few words, you can use the COLOR attribute of the tag. The word inside the tags will be blue

Backgrounds

There are two different ways to modify the background of a page. You can specify a BGCOLOR attribute, to give a solid color background. This is also done in the body tag.

```
<BODY BGCOLOR=#FFFFFF> makes a solid white background.
```

The other method is to use a tiled image as the background. If you set the BACKGROUND attribute of the body tag with the name of an image file, the browser will load and tile it to create the background. <BODY BACKGROUND=îbg49.gifî> will tile bg49.gif and make it the background of the page.

You may need to retouch the background image. A nice background that makes your text unreadable is useless. The usual method is to lighten or darken the image to contrast with your text color.

If you are using the BACKGROUND tag, it is a good idea to choose a BGCOLOR that looks similar. For instance, if I have white text on a dark background image, I should choose a dark BGCOLOR; ideally, the same color as the background of the image.

Otherwise, when the text loads, it will be displayed on the default light gray background until the background image fully loads up. If I had a BGCOLOR for that page, it will load up at the same time, making the light colored text on the dark background easy to read. Most graphics programs are able to tell you the red, green, and blue colors for a particular area on an image.

LAYOUT

There are many methods to arrange the content of your page. One of the main goals of a page is to make it make it easy to find the content that you have to offer. There are many popular methods to lay out a page.

Flat Text

By far the simplest approach to layout, Flat Text simply is one relatively long web page, going on for a couple screens. It usually isn't the most exciting approach, but is the easiest to get right.

This layout is more or less straight text, but there are a few things that you can use to make it more interesting.

For instance, <H2>, <H3>, and tags can be used to vary size and color.

<HR> tags can create a full line across the screen, or include some short, wide images to divide up your page.

<BLOCKQUOTE> tags can surround a quote, indenting it on both sides.

```
<H3>Memorable Quotes</H3>
Here are some quotes:<BR>
<BLOCKQUOTE>
<FONT COLOR=#00FF00>
It isn't easy being green. --
Kermit The Frog
</FONT>
</BLOCKQUOTE>
<BR>
<BR>
<HR>
<H3>Really Funny Jokes</H3>
A man walks into a bar. He asks
```

Again, this approach is very simple, but it works well for most informal applications.

Two Unequal Columns

This design divides the page into two unequal columns. Because we tend to read from left to right, greater importance is placed on the right side of the page. In this case, the left, smaller column contains a navigation bar, allowing a surfer to jump to any other place on the site. But the focus shifts to the right, larger column which contains the actual content that you want to display. An example of this is <http://www.iomega.com>

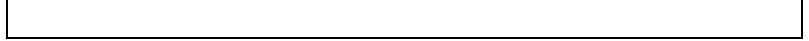
Layouts like these can be created with tables. You can specify a small fixed width for the smaller column, and leave the rest of the browser for the main content.

This layout is popular, because most browsers are able to handle tables very easily, and are able to move from almost any page back to their starting point.

However, it can be complex for the web designer, since the navigation bar has to

```
...
<TABLE><TR>
<TD WIDTH=100>
.....
(Things such as the navigation bar)
.....
</TD><TD>
.....
(The main part of your page)
.....
</TD>
</TR></TABLE>
...
```

be repeated for every page on the site.



Some designers use frames to create the same effect, with a navigation frame on the left, and a content frame on the right. <http://cafe.berkeley.edu/~rux/cookbook.html> does this. However, some people do not like to use frames, since it causes problems with some browsers.

If you go to UC Berkeley's home page at <http://www.berkeley.edu>, the same approach is used, but with the columns reversed. If you are using a browser that cannot handle tables, the pages still looks good; the main content is displayed first with the news items at the end.

LAYOUT (continued)

Top and Bottom

This is one of the more popular formats of layout on the web today. It is commonly combined with other layout techniques discussed above. The basic idea is to show as much content as possible within the very top screen of the page. One site that does this quite well is <http://www.infoseek.com>

There are motivations behind this. People want to see exactly they want in as little time as possible. By putting the content at the very top screen, a surfer can see it as it loads, without scrolling.

Usually this is done with a combination of tables and images. Instead of text links pointing to other places on the site, the designers use various graphics programs to create small graphical buttons for links.

This method is one of the most difficult to complete perfectly, since you have to create a lot of small items yourself. You also have to spend the time to arrange everything in order, which isn't always easy. Still, it is very effective; one of the reasons why it is popular.

Other styles

There are other layout forms. Some of them are combinations of the above, while others work on completely different tangents. This layout section is not meant to be totally comprehensive, but simply show some of the popular layout methods in use today.

TRICKS WITH HTML

Most web pages require careful alignment to get things done. If most of the web page is done with graphics, the problem is fairly easy, since you can specify the pixel size of the individual images, and lay out things with some degree of exactness. If most of the web page is pure text, the problem is also easy, since you can resort to the layout methods above.

Images and alignment

The hard part is actually getting your text to interact with your graphics. It is very difficult to get things exactly right, and still have a varied interesting layout. Fortunately, you do have some help from HTML.

Aligning text is straight-forward. You can mark off the relevant text with `<P>` and `</P>`, and add `ALIGN=RIGHT`, `ALIGN=LEFT`, or `ALIGN=CENTER`, to move things around within the browser window. Images are slightly harder to manipulate. You can certain attributes to the `` tag to tell the browser to adjust the surrounding text.



By default, the browser will align the bottom edge of the images with the baseline of the surrounding text. All text continues and wraps around directly underneath it. This is the same as using the `ALIGN=BOTTOM` attribute.



With the `ALIGN=TOP` attribute, we can align the top of the text with the top of the image. This is very similar to the `ALIGN=LEFT` or `ALIGN=RIGHT` attribute, which pushes the image to the left or right margin (regardless of any surrounding text) and wraps text around it.



The hard part is to vertically center an image with respect to a single line of text. For instance, if I want to use my own images for bullet points on a list, I would like to have those points centered on the same line as my headings. `ALIGN=MIDDLE` doesn't seem to work, since it aligns the bottom edge of the text with the center of the image. However, a `<TABLE>` without borders can work for this since they vertically center anything within their cells, as in this example here.