Unit 4 - Images and Color

Objectives	- Learn what kinds of image compressions are available and when to use them. - Learn and demonstrate how to include graphics on a web page. - Learn how to manipulate colors on your web page.
Required Reading	- Lesson 7 – Using Images, Color, and Backgrounds, Lemay, p. 171 - Chapter 8 - Graphics and Color, Sklar, p. 233 - W3Cschools Background Information (http://www.w3schools.com/css/css_background.asp) - W3Cschools Colors Information (http://www.w3schools.com/css/css_colors.asp)
Resources	- Appendix D – Colors by Name and Hexadecimal Value, Lemay, p.765 - Web Safe Color Chart (http://www.mandarindesign.com/color.html) - The Browser-Safe Web Palette (http://www.lynda.com/hex.asp) - Color Codes Matching Chart HTML (http://www.logoorange.com/color/color-codes-chart.php) - Colours (http://cloford.com/resources/colours/index.htm) - List of Fonts (http://www.angelfire.com/fl5/html-tutorial/fontlist.htm) - Font Face Examples for HTML (http://www.ilovethisplace.com/webdesign/fonts.html)
Assignment	**Revise your mini_project1.html** page so it should contain at least one image and the background color should be something besides white. Change the color of the text and links on the page. The background, font, and link colors should work well together (black background with dark blue text is bad). **Read the mini project 1 instruction for details.** **Mini Project 1 will be due on June 26 at 11:45 pm**

I. Important Concepts

1. How do I get images to use on my webpage?

Use free images: Probably the easiest way is to use images that are available on the web in free clip-art archives. An example site is http://www.clipart.com. You can find more sites like this by searching on the web.

Create your own images: You may also take photographs using a digital camera. To use existing images such as photographs, you'll need to convert them to a digital format by using a scanner. You can also scan things besides pictures. Use your imagination and think leaves, fabric, or other objects. Once an image is scanned into digital format, the image file may then be further manipulated using an image-editing program, such as Adobe Photoshop or Adobe ImageReady. See http://www.adobe.com for a trial version of various image editing applications.

Purchase images: You can also purchase excellent photographs and graphics on CD or through commercial graphics web sites.

2. How do I locate and save a graphic from the web?

Copyright: Remember that not all web graphics you see are free. With any media, copyright rules apply and people are often misinformed about the legality of using material found on the web. If in doubt, e-mail the person listed on the web site as creator or webmaster and asks permission. To find out more about copyright issues, check out http://www.copyright.gov/.

Free clip = Copyright-free? There are many free clip art web sites, but be aware that all graphics on them may not be copyright-free. For example, it's safe to say that Disney characters you may find on these sites are probably not there because Disney has given permission! Use your best judgment and always err on the side of caution. Severe penalties may be imposed for copyright violations. That's said, here are the steps:

1. Go to a clip art site. You can find these by typing "clip art" into the search box at http://www.google.com.
2. Find a graphic you like. Click and hold the mouse (Mac) or right click (PC) on the graphic.
3. On the pop-up menu you'll see something to the effect of "Save this graphic as?" The wording may be slightly different depending on what browser you're using.
4. When you select "Save this graphic as?" you'll be prompted for a place to save it. You may save the graphic file on your hard drive or a disk. It will already be named. You may change the name if you wish, but make sure that you **keep the .jpg or .gif extension on the name. This is necessary for the graphic to display on the web.** As with all file names, using short, lowercase names is recommended.

Image Format (File types): Only .gif and .jpg formatted images work with all browsers on all platforms. Files with a .png extension are becoming more popular. For a list of browsers that support .png, see http://www.libpng.org/pub/png/pngapbr.html. An easy test to see if the image will display in your web browser is to open a new browser window and drag the image into the display area. If the image shows up, you know that it is in a format that your browser can read. This trick has a catch. Some browsers on the Windows platforms will display images that are in formats other than .jpg or .gif. However, if the image displays in your browser while residing on your hard drive, barring any HTML errors, it should display in your browser when it is uploaded. This rule holds true even if it is not in .jpg or .gif format (Refer to Lemay, p. 173 for Image Formats).

Appropriate Citation: Make sure that you provide a citation on your site for the image if requested. One way to do this is to have a line of text under the image that states, Photo used with permission from [name]. If it is truly a free image then no citation is necessary.

3. What do I do now that I have the graphic saved? (Refer to Lemay, p. 174 for <img /> tag)

Now you're ready to use the graphic on your web page with an img tag. Below is an example of using the **<img /> tag**.

Replace image.gif with the pathname of your image file (if your image file is located in the same directory with the webpage, replace it with your image file name)

src is an attribute of <img>tag

_/ : Extra space and forward slash indicates that the <img /> is a self-closing tag.

Attributes of <img> Tag:

- The alt attribute: The alt attribute provides a more meaningful description regarding to your images for users. It allows those without visual capabilities to "see" what you have in your images. Remember to always add the alt attribute. For viewers with text browsers, the text you specify will show up instead of the graphic. However, if there's no appropriate text for an image, you can leave it empty (e.g. alt=""). Below is an example of using ALT attribute:

e.g. < img src=" image.gif " alt="My hometown." />

- The width and height attributes: Having width and height attributes speed up page layout because the browser will reserve space for the image and begin loading the text. Without the width and height attributes, the browser must load the graphic and compute its size before it can lay out the rest of the page. Below is an example of using width and height attributes.
e.g. < img src=" image.gif " alt="My hometown." width="300" height="100" />.
These three attributes are basic elements for an <img> tag. **Remember to use alt, width and height attributes in your image tags.**

- Some other attributes for <img> tag: You may also use the border, vspace, hspace, and align attributes within the image tag. Please refer to the textbook (Lemay p. 180 – 193) for some other attributes.

- **hspace and vspace = # of pixels:** this adds extra space around the image.
- **border = # of pixels:** use to frame a picture. If you don't add the border attribute, no border will appear, except when the image is used as a link. You can also set the border to zero to remove the blue border when the image is used as a link. Lemay tells how to use an image as a link.

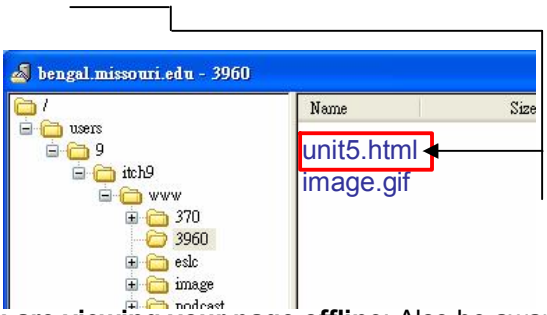
Make images work in your web page:
Except the .html file of your web page, you will also need to ftp the image files to your www directory! Just adding the image tag to your html file isn't enough. The image tag is only the pointer telling the server where to find the image file to display (just like the a href tag is just a pointer to a file). But unless the actual .gif, .jpg or .png file is also in your www directory, your web page will display a missing image icon. Definitely not what you want!

- If images does not display in my web page, what should I do? bengal server is case sensitive. After uploading image files and web page file to your bengal account, if the images still not display in your web page, here are what you need to check:

- **Review images by browsers**: An easy way to check if an image or other media element was successfully uploaded is to reference it directly outside of an HTML document. After you FTP the image into your www folder, type the path name to your web directory following by the image's name (e.g. http://bengal.missouri.edu/~pawprint/image.gif). The result is that you know the image is transferred to your account and can display in a browser. If you are still having problems getting it to show up in your html file, the problem is with your html and not the image.

- If the **path, file name, and file format** of your image file in bengal is consistent with the value in the **src** attribute of your image tag. **Note:** image.GIF, IMAGE.GIF, IMAGE.gif, image.gif, and image.jpg are different.

  < img src=" image.gif " alt="My hometown." width="300" height="100" />



- **If you are viewing your page offline**: Also be aware that if you are viewing your page offline as you did at the beginning of the course, you need to put the image file in the same folder as the HTML file. If you don't, the relative path you indicate in your image tag won't match the actual location on your computer.

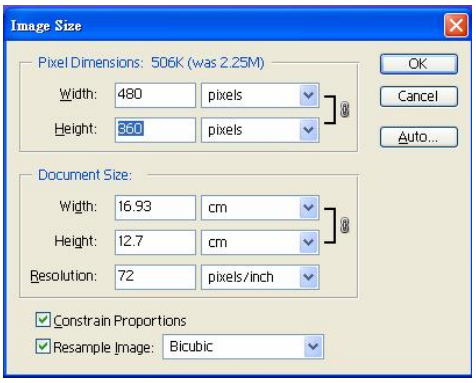
4. Tricks of scaling images:

Although Lemay discusses scaling a small image to a larger size using width and height attributes, I don't recommend it. Generally, the sacrifice in image quality won't be worth the savings in file size. It's better to manipulate the image in Photoshop or a similar application to reduce the number of colors or physical size of the image, thus reducing the file size.

- Using width/height to decrease the image's size means the server still loads the original graphic file. It would be better to use an image editing program to resize the image.
- Using width/height to increase the image's size will stretch your image, making it appear pixelly.
- Resizing with width/height can distort the image unless you're careful to maintain the proportions of the original image.

Use Photoshop to resize images: After opening your image file in Photoshop,

1. Go to Image > Image Size
2. Give values for Width and Height in the pop-up screen.
3. A recommend image size for a web image is no larger than **Width: 480 pix** and **Height: 360 pix**.



Use thumbnail pictures to save loading time: A good use of resizing is creating a thumbnail picture that's clicked to link to the larger image. Browsers store images in a memory cache, so the image is only loaded once. Although initially it might seem inefficient to load a large image that's been scaled to a smaller thumbnail size, you avoid loading two separate images. Once the graphic is loaded for the thumbnail, it won't have to load again for the full size image. This memory cache is also a reason to use the same picture over again on your web site since it doesn't need to reload.

5. Use hexadecimal numbers for colors: (Refer to Lemay p. 205 for Using Color)

Hexadecimal numbers: Don't be intimidated by using hexadecimal numbers for colors. The color names that can be used are limiting, especially when used in the tag as background colors. Most of them look terrible as backgrounds! They're much too bright and hard on the eyes. White may seem plain, but dark text on white is easy to read. Hexadecimal colors give you a much wider range of possibilities. For more information about hexadecimal numbers for colors, please refer to the websites listed in the table on the first page.