Editing Images

with Adobe Photoshop 7.0

A hands-on workshop

from the Academic Technology Center
Distributed Learning Services, CIT

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Macintosh and Windows

In this lesson, you will learn to:

Edit Images with Adobe Photoshop

Adobe Photoshop is an extremely powerful graphics editor. This FLEX workshop will give you some experience with a small portion of its features, and will concentrate on how to improve the quality of scanned images.

The images prepared in this workshop can then be added to a PowerPoint presentation or incorporated into Web pages.

To edit an image in Photoshop, it needs to be in a digitized format, either by scanning or taking a picture with a digital camera. Scanning can be done from within Photoshop, but the process is dependent on the type of scanner that is attached to the computer, so we'll start with an already digitized image.

Photoshop window and palettes

- **Launch the Photoshop rogram.**

    The Photoshop program window opens. A toolbox and palette windows appear on the screen.

    The tools in the toolbox let you select, paint, edit, and view images. Other toolbox controls choose foreground and background colors, and change the screen display mode. Most tools have associated palettes, which contain options for each tool.

Option Bar

Toolbox

Palette's
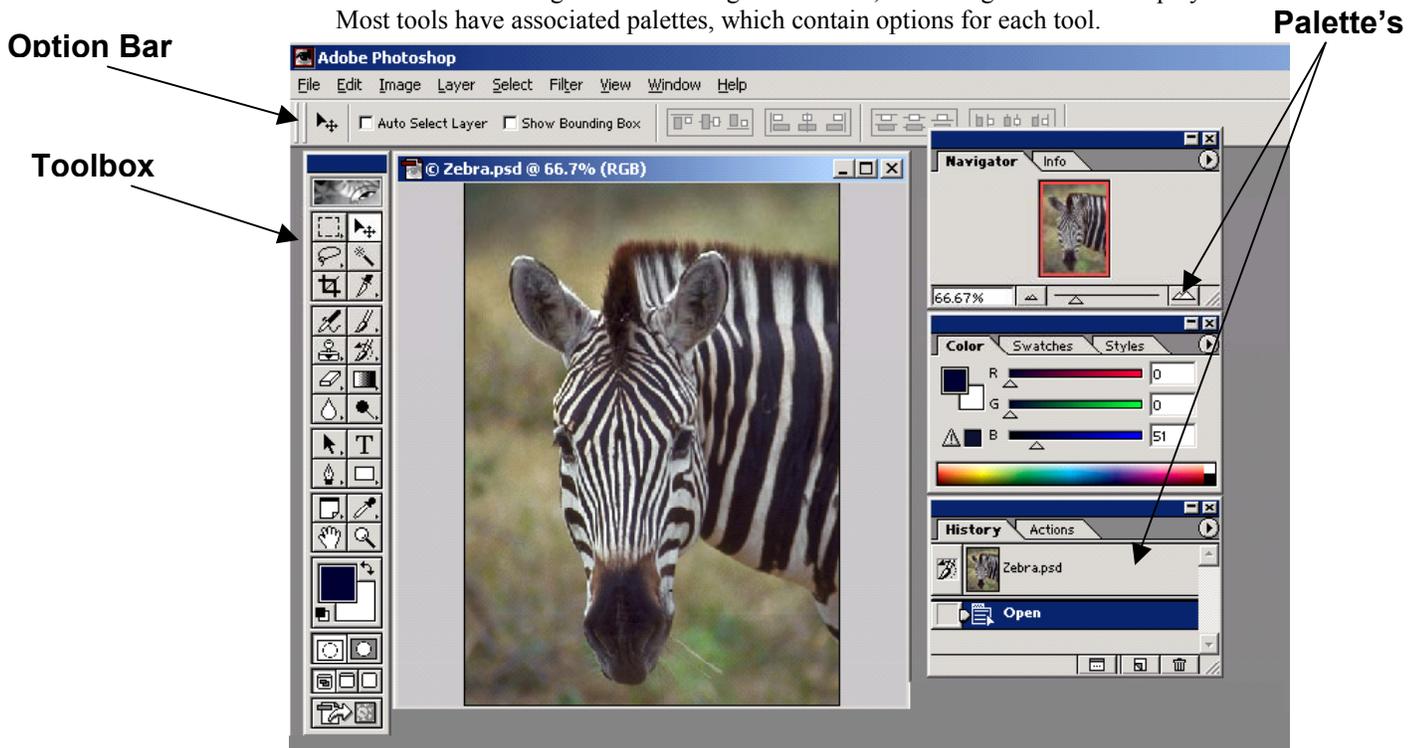
- **Refer to Appendix A for a detailed view of the toolbar.**

    The first time you start the application, the toolbox appears on the left side of the screen. Sometools in the toolbox have options that appear in the context-sensitive tool options bar. These include the tools that let you use type, select, paint, draw, sample, edit, move, annotate, and view images.

1. We will start by opening an image file. **From the File menu, choose Open. Locate the mountains.psd file, and click Open.** The image appears.

In Photoshop, many of the adjustments to an image are done by first selecting a portion of the image.

2. **On the Toolbox, click on the "Rectangular Marquee" Selection tool.**

3. **Place the mouse over the image.**

4. **Click& drag to draw a rectangle.** A marquee appears. This is your selected area.

   When you are done working with an area, you then need to de-select it.

5. **From the Select menu, choose Deselect**. The marquee disappears.

6. The selection needs to be cleared, otherwise Photoshop will only allow changes to be made within the selected area.

Correcting Scanned Images

The quality of scanned images can often be improved. In the following example, you will adjust the brightness and color balance, fix a scratch on the picture, remove an object, resize the image, and sharpen the focus.

Brightness and Color Balance

1. From the **Image** menu, choose **Adjustments** and from the sub-menu choose **Variations**… This is a useful function for changing several picture attributes.

2. **Adjust the brightness by clicking on the image with "Lighter" underneath it in the right column.**

   The thumbnail images will update, and show the effect. If you click it again, the image will get lighter still- the effect is cumulative. The upper left shows both the original image and what you have done to it.

If you ever feel like you have gone too far, you can click on the thumbnail image labeled "**original**" to undo all the settings.

3. **Similarly, correct the color balance by clicking on the thumbnail that you like the best.** Color balance is somewhat subjective, but you might want to start by adding "**More Green**" to the image.

4. **Click on the various options until you are satisfied with the resulting image.**
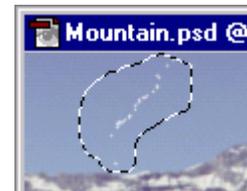5. **Click OK when you are finished.**

Repair a Damaged Image

On the mountains picture, there is a scratch in the upper left corner. Photoshop can be used to repair the image.

1. Refer to the Toolbar appendix, and **select the Lasso tool** from the toolbar.

   Lasso tool

2. **Carefully draw a circle around the scratch in the upper left corner by clicking and dragging around it.**

3. From the **Filter** menu, select **Noise**, and from the sub-menu choose **Dust & Scratches**…

In the dialog box that appears, you will adjust the Radius until the scratch disappears.

4. **Place your mouse over the triangle, drag it along the line. The number in the Radius box changes.** This will occur around 3 pixels.
5. **Click OK.**

The scratch is removed from the photograph.
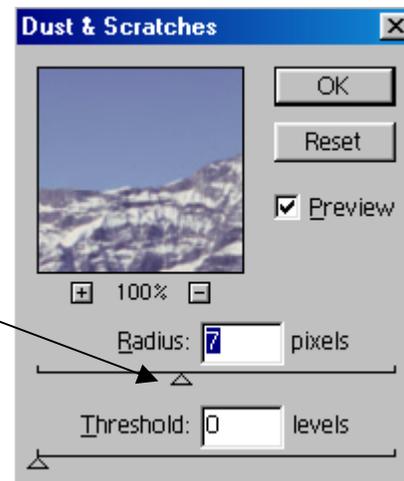
6. Clear the selection, **from the Select menu, choose Deselect**.

6. **Choose the Magnifying Glass tool from the toolbar (Zoom tool),**

 — Zoom

and click once on the pile of rocks near the center of the photo (see below). This will zoom into this area.
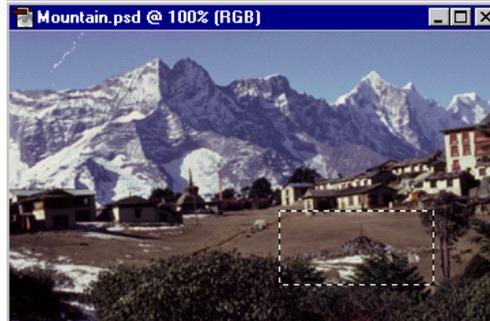
We will remove the pile of rocks from the photo.

7. **Select the Clone Stamp from the toolbar.** This tool allows you to copy one area of the picture to another part of the picture. The size of the area being copied is set by the size of the brush. (in next step)

Clone Stamp tool

8. On the Brushes palette, **click the drop-down menu of brushes.**

Click here

9. Select **the line labelled 13.** This sets the brush size that we will use.

First, you will select the part of the image to copy or "**clone**" with the stamp tool.

10. **Move the "clone stamp" cursor over the photo to an area just to the left or right of the rock pile.**

Note: the cursor appears a circle.

11. **Hold down the ALT key** (in Windows) or the **Option** key (on Macintosh).

The clone stamp will then look like a target.

12. **While holding the ALT or Option key, click once.** Release the **ALT** key (or Option key on Macintosh). This "clones" the area that was clicked.

Next, you will change a portion of the photo with a "clone" of the first area.

13. **Move the Clone Stamp tool over the rock pile.**

14. **Then, click the mouse.**

Part of the rock pile will disappear, and is replaced with the "clone" of the first area.

15. **Continue to move & click the Clone Stamp** **tool while holding the mouse button down to remove the rest of the rock pile.**

You may need to stop and repeat steps 10 - 12 to effectively replace the rock pile with the "cloned" part of the image..

16. **Select the Zoom tool.**
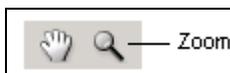
17. **To zoom out: Hold down the ALT key (or option key) as you click the Zoom tool over the photo.**

You'll notice that while holding the ALT key the center of the magnifying glass turns into a minus sign to signify that you are zooming out.

Sharpen the focus

Sharpening usually helps most photographs. It should usually be the last step.

1. **From the Filter menu, select Sharpen, and then from the sub-menu select Sharpen.** You should see a change in the image.
2. If you want to compare the before-sharpening and after-sharpening image, then **from the Edit menu, select Undo sharpen.**
3. To apply the sharpen filter again, **from the Edit menu, choose Redo sharpen.**

Save an Image

4. **From the File menu, choose Save As...**
5. **Rename the file and select a location for it.**

We will save the file using a different file format.

6. **In the Save As field, click on the arrow** and the file formats in which you can save this file are listed. (On a Mac, the list appears in the **Format** box)

Note: this list of file types will change based on settings in the image.

7. **Choose PSD as the file type.** This saves the image as a Photoshop file type.
8. **Click OK.** The file is now saved as a PSD.

Cropping and resizing

Photoshop has a cropping tool that can select a part of the picture and remove the rest. Cropping can be used to remove unwanted parts of a picture or to focus on a particular portion of the image.

Cropping an Image

The mountain image shows a view of mountains and a village. We will crop the picture to show only part of the village.

1. **Select the Crop tool on the toolbox.**
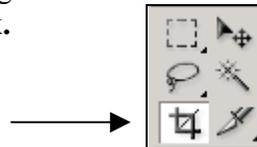
2. **Move your mouse to the image, and draw a rectangle to select the desired area.**

You don't have to get this perfect the first time, the selection area can be adjusted using the handles on the rectangular selection.

Crop
Handles

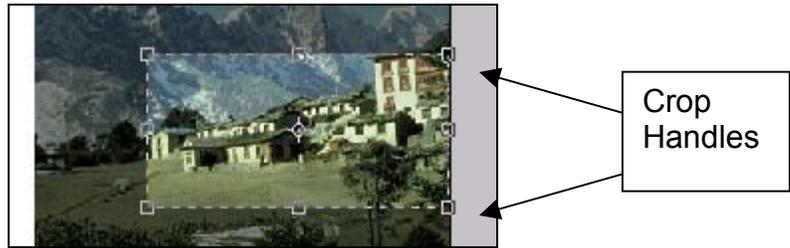3. The small squares that appear on the crop marquee are handles. **To re-size the selection, click and drag a handle**.

4. **From the Image menu, choose Crop.** (or click the checkmark button on the Toolbar)

Now, the image is cropped and only includes the area you selected with the crop tool.

5. Undo the crop, from the **Edit** menu, choose **Undo crop**.

Resize an Image

Often an image is digitized with a particular size. If you plan to insert an image into a PowerPoint presentation or onto a web page, then you may need to resize the image.

1. **From the Image menu, choose Image size...** The bracket-and-chain icon indicates that the proportions of the image are locked. By changing one dimension of the image, the other will be automatically calculated for you. This prevents the image from being stretched or squashed.
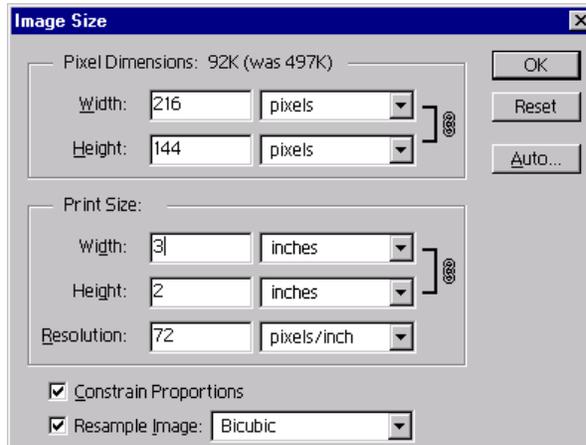
2. **Make sure the "Resample Image" and "Constrain Proportions" options are checked.** This prevents the resolution from changing while maintaining the aspect ration for the image.
3. **Make the width 3 inches.**
4. **Click OK.**
5. **Save and close the image.**

Altering Images

An image can be realistically manipulated using Photoshop. This involves learning how to select specific areas of the image, and using the various Photoshop tools.
Since images may be used to give a visual explanation or to illustrate an idea, then they can be altered to:
- simplify the image or focus on a particular part of the image
- make an image stand out
- group several images together
- add a description or title to an image
- duplicate or modify an image

In this section we'll change the color of an object, and generate a new background.

Change Color of an Object

1. **Locate and open the Shoes.psd image.**
2. **Click the Magic Wand tool in the Toolbar.**
3. A palette with Magic Wand options will appear at the top of the screen.. **Enter "32" for the Tolerance.** This sets the sensitivity of the Magic Wand.
4. **Use the Magic Wand tool to click on the yellow shoes.** An area of the picture will be selected. This area will be enclosed by a marquee. It won't encompass both shoes.
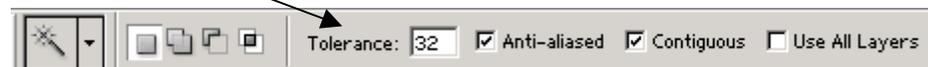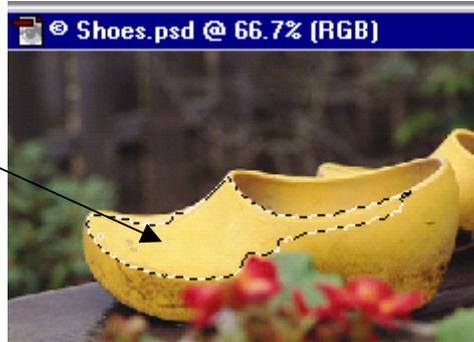
5. Hold the **Shift key down.** The Magic Wand icon will have a small plus sign next to it.

6. While holding the Shift key down, click on an unselected part of the shoes. The selected area will grow. By holding the Shift key down, you've added to the original selection.

7. Repeat step 6 until the yellow shoes are almost completely selected. If the selection "leaks out" of the shoes, use the **Edit, Undo** feature to reverse a step.

8. Select the Lasso tool from the Toolbar. Lassoo

9. Hold the Shift key down, and use the Lasso to circle any small unselected sections. (Similarly, holding the Alt key (Windows) or Command key (Macintosh) will let the lasso subtract from the selection.) The shoes should now be completely selected.

10. From the Image menu, select Adjustments, then choose Hue/Saturation from the sub-menu.

11. Turn the shoes red by setting the Hue to -45, and the Saturation to +31. (Or play with these sliders to make the shoes another color.)
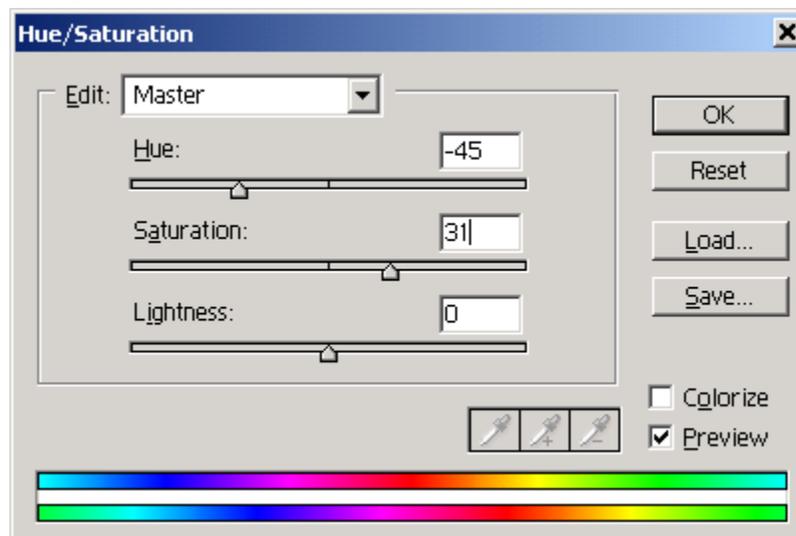
12. Click OK.

13. Using the lasso tool, **click on the image in an unselected area** to remove the current selection.

14. Save the image. From the **File** menu, choose **Save As...** and save this
image using a different name.

In the next section we will modify the background, and if you need to start over at any point you can return to this saved version.

Filters

Photoshop has several filters that can create a variety of backgrounds and fill textures. You will use the "Clouds" filter to create a new background for the shoes picture.

1. **Select the Magic Wand.**
2. **On the Magic Wand Options toolbar, set the tolerance to 64.**
3. Using the Magic Wand, **click on the dark background area** behind the shoes.

   Depending on where you click, most, if not all, of the back ground will be selected.
4. Using the methods you used previously, **completely select the background.**

Set Background and Foreground Colors

You will now change the foreground and background colors. These colors will be used to create a clouds background.

At the bottom of the Toolbar are two overlapping squares. The one on top is foreground (or drawing) color. The one behind is the background or "erase-to" color.

5. **On the Toolbox, click on the foreground color**.

A dialog box appears.

6. **Slide the triangles on the vertical column of colors to the hue you'd like to select as the** *Foreground color.*

7. **Then, click in the large box to the left to select the specific** *color saturation and brightness***.**

8. The selected color appears in the box. **Click OK.**

9. **Repeat this process for the background color.** Click the background color square on the Toolbar to set its attributes.

10. **From the Filter menu, select Render, and from the sub-menu choose Clouds**.

   The background will be replaced by a cloud-like pattern. As long as you leave the background selected, you can repeat this process until you get the desired effect.

11. **Experiment with some of the other filters, such as Artistic, Stylize or Texture.**

If you accidentally deselect the background, close the image and open the version you just saved. Repeat steps 1 and 2 to re-select it.

History Palette

The History palette lets you return to any recent version of the image. Every change to an image is added to the palette. Each action or "state" is listed in the palette. You can select any state, and the image will revert back to that point.

1. **With the Lasso tool, select a portion of the image, and press the Backspace or Delete key.** A portion of the image is removed.

We will now use the History palette to reverse these commands.

2. From the **Window** menu, choose **History**. The History palette appears and you will see a list of the recent states.

To revert to a previous state, position the mouse over the History state slider. When the mouse pointer looks like a hand, then click & drag the slider up to a previous state.

3. **Drag the slider up to reverse the Clear command.** This reverses the last command, and the deleted section re-appears.

4. **On the History palette, click on the Lasso state. Then, click the Delete current state button** in the lower right of the History palette.

5. A message will appear to ask if you want to delete a state, **click Yes.**

   Deleting a state removes the state and any states that were created are after the deletion.

6. **Close** the shoes image **without saving**.

Working with Objects in Photographs

In this section we'll add text to an image, and learn to edit images using layers.

1. Open the **Fruit.jpg** file.

First, we will crop the image to remove the dark margins.

2. **Select the Crop tool from the Toolbar, and click and drag to draw a rectangle over the area you want to keep.**

3. From the **Image menu, choose Crop**. (Or click the green Checkmark on the toolbar.)

Next, you will Retouch some flaws

   Using the techniques you have learned so far, such as the clone stamp tool and the Dust & Scratches filter, make the following corrections.

4. **Retouch the dark spot in the center of the pear.**

5. **Correct the flaw in the lower left corner of the image.**

6. **Remove the single leaf near the bottom right corner**. We will use this area in the next section to add some text to the image.

Add text to an image

If you plan to use an image in a presentation or on the web, words can be added to an image. Words can turn an image into a diagram, or used to add a name, a label or title to an image.

1. **Choose a color for the text** by setting the foreground color.

2. **Select the Horizontal Text tool** from the Toolbar, and click on the image in the location that you'd like to place the text. You'll be able to move this text later so the location doesn't have to be exact.

3. A cursor appears over the image. **Type the text you would like to use.**
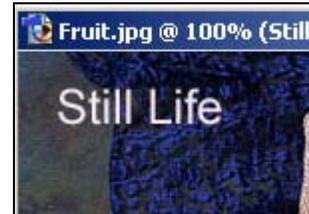
The words appear on the image.

Still Life

4. **Select the text you typed and set the attributes of that text from the Options bar at the top of the window.** (font, size, etc).

The words you typed will appear on the image, similar to the image at the right.:

Working with Layers

When you added the text to the picture in the previous section, you also created a new "layer." As new items, such as text, are added to an image, Photoshop automatically adds a new layer. Layers allow you to edit and position different parts of an image separately. The Layers palette displays all layers for a picture.

1. **Check the Window menu**. If there is a checkmark next to Layers appears in the list, do nothing. Otherwise click "Layers" to display the palette.

   Looking at the Layers palette, you'll notice that the image has 2 layers. The text layer that you added is labelled with the text that you typed.

Show/Hide Layer
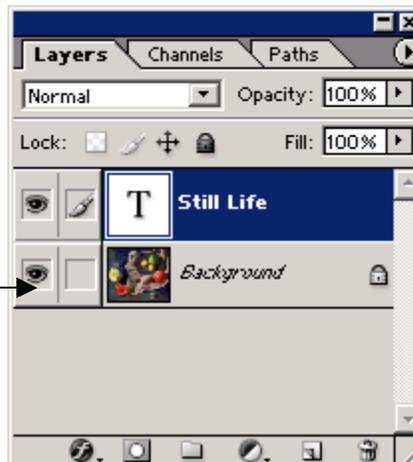
2. You can control whether the layer is visible by **clicking the eye icon** to the left of it. This will toggle it on (visible) or off (invisible).
3. **Select the layer with the text by clicking it** (it's probably selected already). It will be highlighted when selected.
4. **Choose the Move tool from Toolbar.** — Move

5. Click anywhere on the image and move the mouse.

Only the type will move because only its layer is selected. Imagine that the type is on a sheet of acetate and you're sliding the acetate around.

Since layers often contain text or a portion of an image, effects can be added to a layer to enhance it's appearance.

6. To add a Layer effect to the text layer, **from the Layer menu, choose Layer style, and then choose Drop Shadow….**
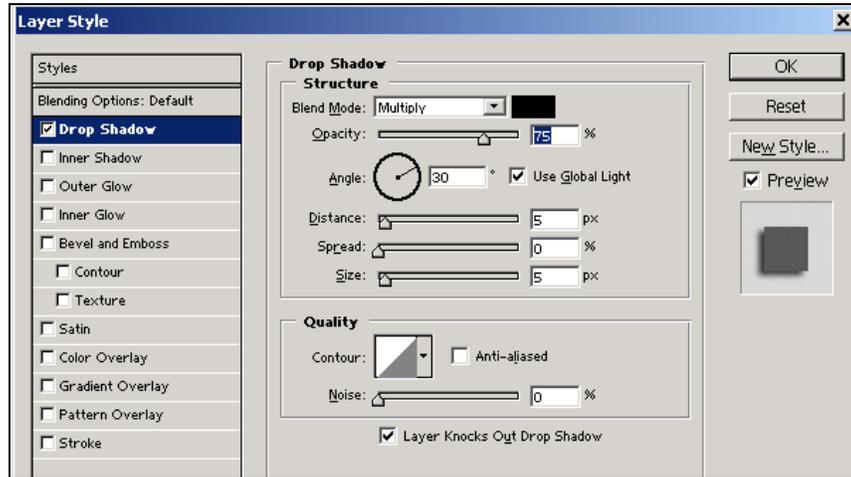
7. In the dialog box, click OK. The text layer now has a shadow effect.
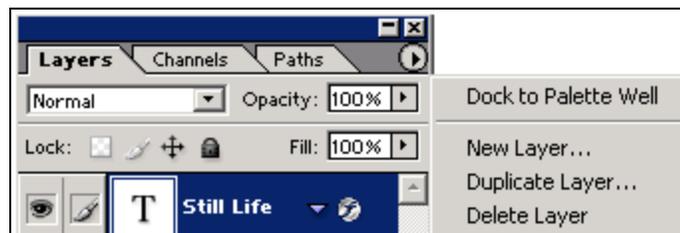
Next, we will add a new layer.

6. **On the Layers palette, click and hold on the arrowhead** in the upper right corner of the palette.

A drop-down menu appears.

7. **Choose "New Layer" from the drop-down menu.**

8. **Name the layer and click OK**. This layer becomes the selected one when it is created.

Add a Line

Now create an arrow that points from the words to part of the image.

1. **Select the Rectangle tool on the toolbar. Then, from the sub-menu select the Line tool.**
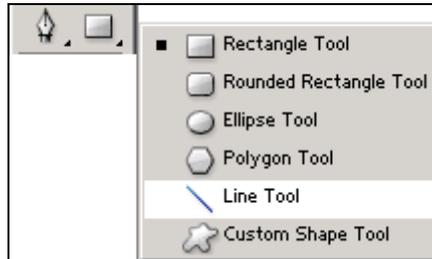
2. If you want to specify a color for the line, **set the foreground color** before you draw the line.

3. Click and drag to draw a line from the text to another part of the image.

The line is drawn using the foreground color.
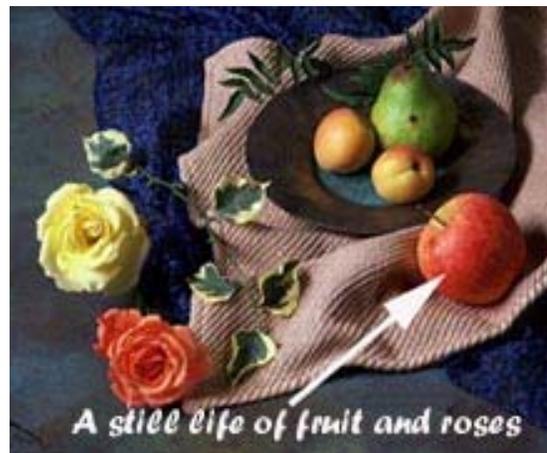
4. You can set the line options by **selecting the options from the Line Toolbar at the top of the window**.

5. **Change the line weight or arrow using the Line Options toolbar. Then, draw another line.**

Copy an Object

Many times an object can simply be copy-and-pasted to duplicate it. Other times it may need to appear behind something that partially obscures it.

First let's try the simple copy-and-paste.

1. **Select the Background layer in the layers window**. We will be working on this layer.
2. **Use the Magic Wand to select the pink/orange rose**.
   Use the techniques covered earlier to select the entire rose.
3. **Select Edit, then Copy. Then from the Edit menu, choose Paste.**
   A new layer will be created, and the copy will be placed over the existing rose.

The rose was copied and pasted twice. ⟶

4. **Use the Move tool to position the copied rose under the line or text that you created earlier**.
   The rose appears behind the text because the layer it is on is lower than the layer that the text is on. (The order of the layers is seen in the Layers palette.) When the new layer was created, it was placed right above the layer that was being worked on-in this case, the background.
5. **In the Layers palette, click and drag the layer with the rose up to the layer with the text on it, and release.**
   This changes the layer's location in the hierarchy. It will obscure any layer that is lower than it, and be obscured by any layer higher than it is. Position the rose's layer so that it is above the text but lower than the line you drew.

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In other cases, you may need to paste behind an object in the photograph. When layers don't exist you'll need to proceed differently.

1. **Select the background layer.**
2. **Select one of the peaches using the Magic Wand**.
3. **Select Edit, then Copy**. The copy will be held in memory.
4. **Using the Magic Wand, select the plate and the fruit on it**.
   The peach will be pasted so it looks like it is behind the plate.
5. **Choose Select, then Inverse from the menu bar**.
   This reverses the selection so that everything but the plate is now selected. You'll notice that there is a marquee around the outer edge of the image, but otherwise the selected area will appear the same.
6. **Select Edit, then Copy. Then, choose Edit, and Paste Into.**
   The peach will be pasted , but will only show when it's in a selected area (i.e. not the plate). If it doesn't appear, you may need to use the Move tool to move it into a region that's visible.
7. **Select Edit, then Transform, and Flip Horizontal from the menu bar**.
   This will help make the peach less recognizable as a cloned image. Similarly you can use the functions under the **Image menu, and the Adjustments** sub-menu to change the peach's appearance.
8. **Close the image**. You do not need to save the file.

   For most purposes you could stop here, but for absolute realism you would need to be concerned about the direction with which the light is hitting this scene and the shadows it casts. The light source is in the upper left corner, as evidenced by the highlights on the fruit. However the cloned peach has highlights that come from a light source on the right side.

   You could try rotating the peach to correct the position of the highlights, or probably come up with some more extreme solutions. Also, depending on where you placed the peach, it may not be casting a shadow. A shadow from another part of the image can be rubber-stamped to correct this. Mask off the peach by selecting it and then doing an Inverse on the selection. Then create the new shadow.

- **Try adding a few more elementsto the image by copying and pasting, possibly from other images.** This will add layers to image, and give you more possibilities to play with in making the image look natural.

   While Photoshop has a number of powerful features, practice is necessary to use all the tools skillfully.
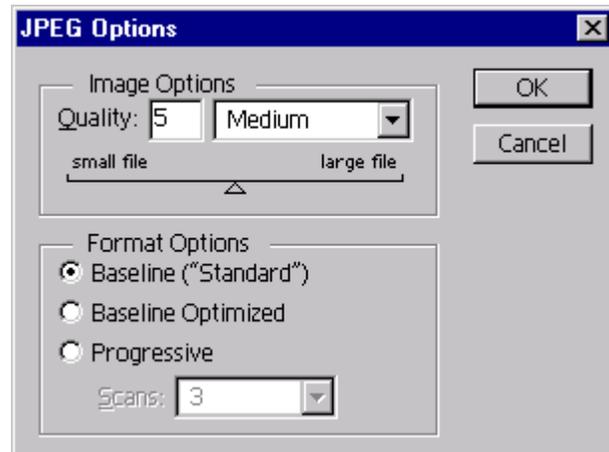
Save an Image for the Web

1. **From the File menu, choose Save As...**
2. **Rename the file and select a location for it.**
3. We will save the file using a different file format. **In the Save As field, click on the arrow** and the file formats in which you can save this file are listed. (On a Mac, the list appears in the **Format** box)

   Save As   JPEG (*.JPG;*.JPE)   ▼

   Note: *this list of file types will change based on settings in the image.*
4. **Choose JPEG as the file type.** This saves the image as a JPEG file type. It will compact the layers.

   A dialog box appears with options for creating a jpeg file.

   JPEG Options

   Image Options
   Quality: 5   Medium   ▼
   small file   large file

   Format Options
   ◉ Baseline ("Standard")
   ○ Baseline Optimized
   ○ Progressive
   Scans: 3

   OK
   Cancel

5. **Select "Baseline ('Standard')" for the format options. In the Image Options section, select the level of quality.** The lower the number in the Quality setting, the smaller the file. There is a little loss of quality as this number decreases, but it is not a large quality loss.
6. **Click OK.** The file is now saved as a jpeg.

   (*Refer to the* **Saving Images for the Web** *section of this document for more information about jpeg files*)

Save as GIF

An image can also be saved as a GIF file. GIFs are most commonly used for graphics or buttons on Web pages. GIF supports transparency, however, a GlF file also uses a reduced set of colors (called a palette.)

To create a GIF, we need to first reduce the number of colors being used by the image.

1. **Open the shoes.psd image.**
2. **From the File menu, choose Save for Web.**
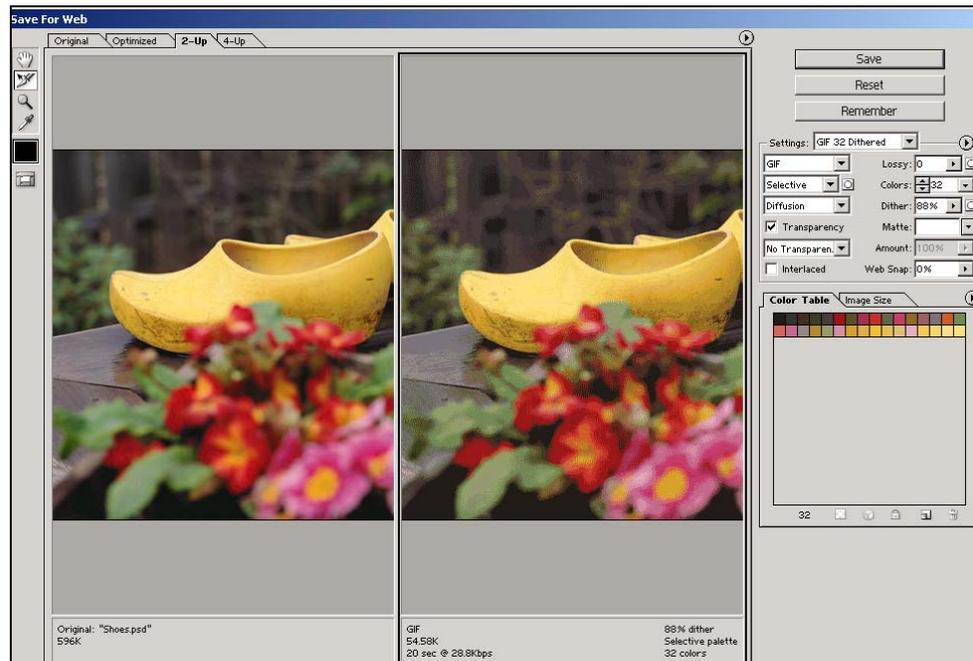
> The "Save for Web" option allows you to adjust the settings and file size of an image.

3. **From the Setting drop-down menu, select a setting for the GIF file, and Select 32.**

   This process will reduce the number of colors used in the picture from thousands or millions down to the 256 used by GIF images. These settings will build a palette of the 256 colors most commonly used in the image. Other colors will be simulated through dithering, id dithering is selected.

   The window shows the optimized image for the Web.

   The choices in the menu affect the color palette, file size and the quality of the image. The preview displays the image and also shows the file size and estimated download time.

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4. **Click OK.**
5. **A Save dialog box appears. In the save dialog box, name the new file and click Save**.

    A copy of the image is now saved in a gif file format.

Learn More about Photoshop

Photoshop has many powerful features, but practice is necessary to use all the tools proficiently. This workshop has covered some of the basic image editing tasks using Photoshop.

If you want to expand your image editing capabilities, you can learn more online.

See the Course Web Page

References for further information, are on the Web pages for this course:

http://www.cit.cornell.edu/atc/materials/FLEX/photoshop/references.shtml

For answers to common Photoshop questions, refer to Appendix B.

For information about creating images for the Web, Refer to Appendix C
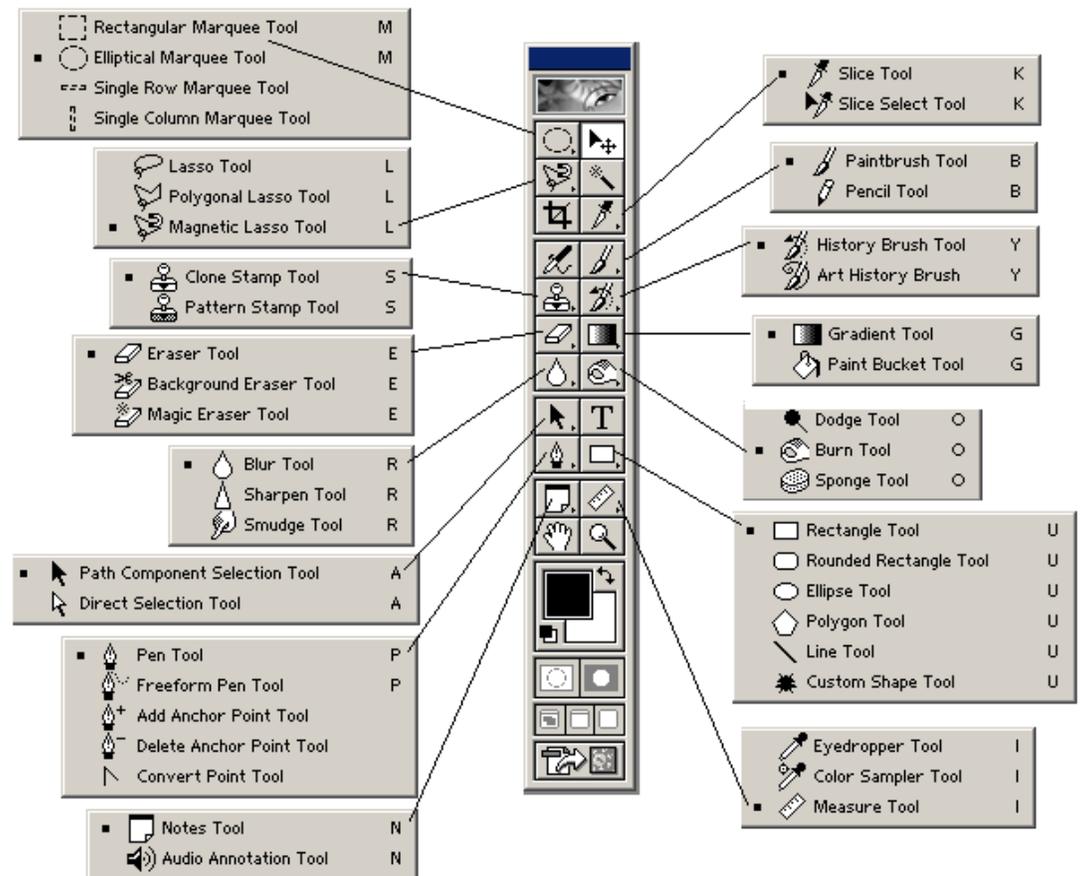
Appendix A: Photoshop 7.0 Toolbar

The Toolbar

Here is a detailed layout of the Photoshop 7.0 toolbar.
The extra tools shown on the sides are displayed when you hold your mouse button down on any tool that has a small arrow in the lower right hand corner of the tool, such as:
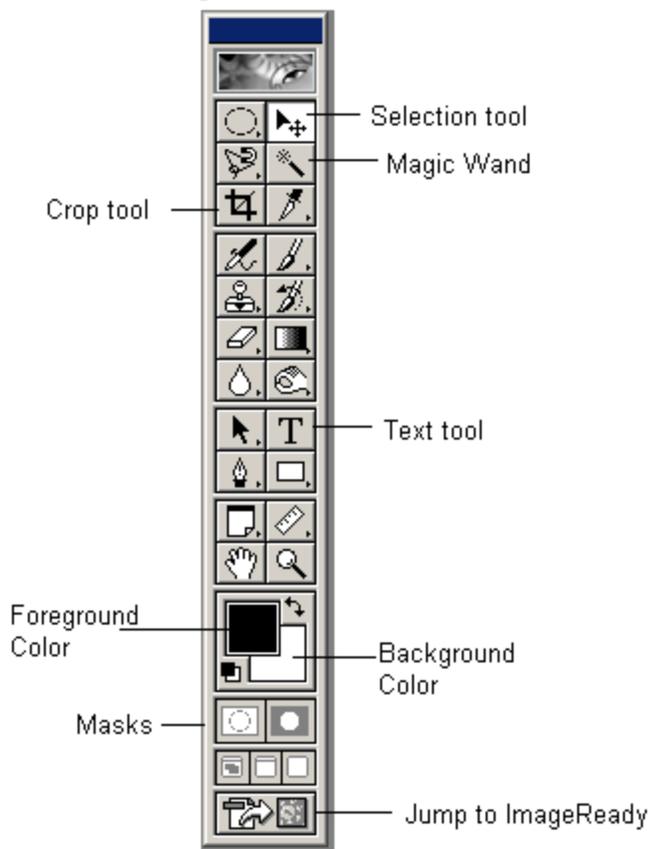
This indicates an expanded menu.

If a tool is referenced in the document, and you cannot locate it, make sure to check this diagram, since the tool may be hidden in the expanded menu's of the toolbar.

The Toolbar
Here is a another view of the Photoshop 7.0 toolbar.
These buttons do not have expanded menu's.

Appendix B: Common Problems

There are a few problems that people commonly run into while using Photoshop. These are some of the most common ones:

Questions about File Saving:

Q: I'm trying to save a file, and Photoshop will only let me save it in Photoshop PSD format. What do I do?

A: Chances are, your file contains layers. To save as a different file type you must first flatten the layers. This is done by selecting "Layer=>Flatten Image." You should now be able to save it in the file format you want.

Q: I want to save my file as a .GIF file, but I can't select that as an option...Why?

A: The format for GIF is listed as "CompuServe GIF." If this option is not available, your image is not in the Indexed Color Mode. To correct this, Select "Image=>Mode=>Indexed Color..." If it asks you to Flatten Layers, click "OK." The GIF options will now come up. Select either "System (Windows)" or "System (Macintosh)" depending on your operating system. Click "OK." You should now be able to save as a GIF.

Q: I want to save my file as a JPEG, but I can't select that option. Why?

A: In order to Save as a JPEG, your image must either be in the RGB or Grayscale mode. To change this, Select "Image=>Mode=>RGB" (Replace RGB with "Grayscale" if your image is black and white.) You should now be able to save the file as JPEG.

Q: What do I do in the JPEG saving options?

A: The options for JPEG are basically for the amount of compression you want in your file. The slider in the JPEG options is basically all you need to worry about. Sliding the slider to the right will yield a very high quality image, but will create a larger file. Sliding the slider to the left will yield a lower quality image, but will create a smaller file. A selection of about 3 is usually a good mix between high quality and low file size.

Questions about layers:

Q: Why do I have layers? I didn't create any, did I?

A: There are a few instances when Photoshop creates a layer automatically. This occurs whenever you paste from the clipboard or use the text tool. If you would like to get rid of the layers, Select "Layer=>Flatten Image."

Q: I try to copy something, but nothing's happening, or I got a "the area you selected is empty" message. What's happening?

A: This occurs when you are trying to do something but you're working on the wrong layer. To see which layer you're currently working on, look at the Layers Palette, and see which layer has the Pencil next to it. You can not draw on a text layer, and you can not copy a part of a layer that does not have any color on it. Change to the layer you want to work on by clicking on it in the Layers Palette.

General Questions:

Q: I see lots of big blocks of color, not my image. What did I do?

A: You probably zoomed in too much. To fix this, Select "View=>Fit On Screen." You can also use the Zoom tool backwards. Select the Zoom tool and hold "ALT" (or Option) while clicking. This will zoom out. On Windows machines, you can Right Click and select "Fit On Screen" or "Zoom Out" as well.

Q: I'm trying to move a selected area, but it just moves the selection marquee instead.

A: After making a selection, Photoshop lets you move that selection. To move what you selected, change to the Move tool. You can change to the move tool temporarily by holding CTRL (or Command) while in any selection tool.

Appendix C: Images for the Web

When creating images for a web page, images need to be saved in a format that will display the image but not create a large file size. Images also need to be compatible with web tools.

Recommendations:

FILE NAMES: use 6-8 charcaters, all lowercase. For the most trouble-free use on your Web site, use a three letter extension on the filename: .GIF for GIFs and .JPG for JPEGs. Avoid unusual characters.

FILE TYPE: gif or jpeg These two formats are the most common on the Web. GIFs images can only contain 256 colors, and are best used for computer-generated graphics. JPEGs are best used for photo-realistic images.

FILE SIZE: usually 30 K or less so the image will load quickly.

RESOLUTION: 72 dpi

Image size:

Images for the web are sized in Pixels. (1 inch = 72 pixels, use in multiples of 4)

A good rule of thumb for sizing images on a web page is to design for a screen size of 640 x 480 pixels. This will make the images on the page visible for most users.

Set the image size to be smaller than the size of the screen.

Some examples of sizes:
A small to medium image size would be from 100-300 pixels
Image to cover the screen (472 x 320)
Banner to go across the top of a page (600 x 96)

$\Rightarrow$ *Refer to the image examples on the Course Web page to get an idea of how different sizes appear on a web page.*

Resolution and Pixel size

The first adjustment you will make to an image is to reduce the size of the image, and set the resolution. By reducing the image size, it will also have a smaller file size.

1. Open the image file. From the **Image** menu, choose **Image size…**

    Make sure that "**Constrain Proportions**" and "**Resample Image**" are checked.

2. In the Resolution box, **set the resolution to 72.**

3. Change the size of your image. **Set the width of the image in pixels.**

4. **Click OK.**
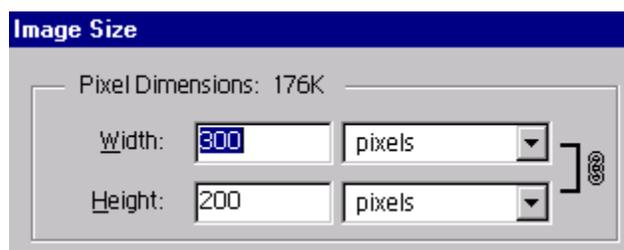
Color mode

The next step is to set the colors for your image. Since most web browsers do not support an unlimited set of colors, it is a good practice to use a RGB set of colors.

5. From the **Image** menu, choose **Mode**, then from the sub-menu choose **RGB Color**.

Save as jpeg

There are two file types that work well on a web page, gif and jpeg. Both of these file types use compression to reduce the size of a file.

If an image is from a photograph, then use the jpeg file format to save the image. JPEG retains all color information in an image and compresses file size by selectively discarding data.

1. From the **File** menu, choose **Save a Copy**…
2. Give your file a name. (when naming files for the web it's a good idea to use a consistent case, like all lower case.)
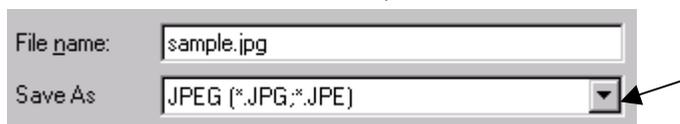

3. In the Save As section, choose **JPEG** from the list of file types.
4. Make sure the "Use Lower Case Extension" is checked.
5. Click **Save**.

The next dialog box that appears, allows you to control the quality of a jpeg image file.

1. In the Quality box, enter a **value between 0 and 10.**

There's a trade-off between the quality of an image and the amount of compression. A higher-quality image uses less compression but has a larger file size. A lower-quality image would generate a smaller file.
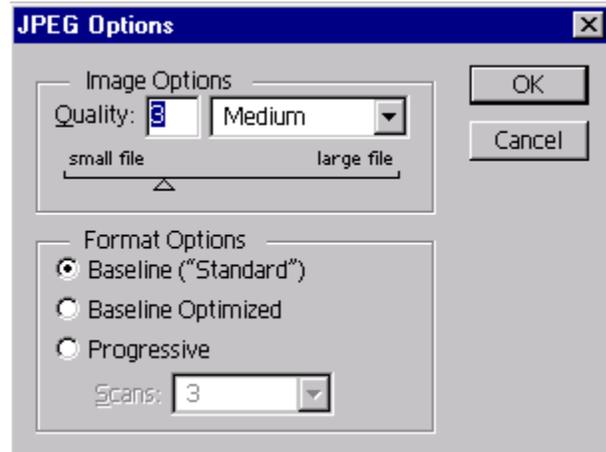
2. In the Format Options box, **select Baseline ("Standard').**

3. **Click OK**.

Make a thumbnail image.

Often on a web page you may not need to actually show the image, but instead may want to provide a small thumbnail version for the user to click on if s/he wants to see a larger version. The thumbnail reduces download time and gives a preview of the image.

1. Open the image file. From the **Image** menu, choose **Image size…**

2. **Change the height of your image to 50 Click OK.**

3. Save the file using a different name. From the **File** menu, choose **Save a Copy**…

4. **Give your file a new name. And make sure it is also saved as a jpeg file. Click Save.**

Gif Files

If an image is from a drawing or graphic, then use the gif file format to save the image. In an earlier section of this tutorial, you saved an image with a transparent background, using the GIF89a Export command. An image can also be saved as a gif file type, without a transparent background.

1. Open an image file.

2. From the **File** menu, choose **Save As…**

3. Give your file a name. In the Save As section, choose **CompuServ GIF** from the list of file types. Make sure the "Use Lower Case Extension" is checked. Click **Save**.

4. The next window gives a choice of interlacing. An interlaced image appears gradually in increasing detail as it is downloaded from the Web but can increase the file size. Click **Normal**, and then click **OK**.