A University of Michigan Library Instructional Technology Workshop

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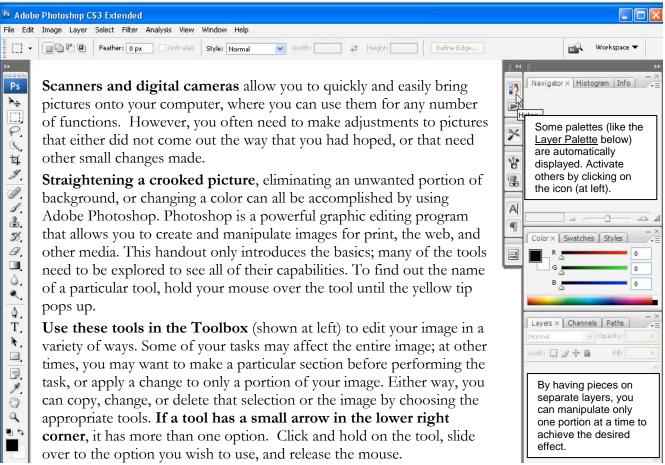
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INTRODUCTION: TOOLS AND PALETTES



Each tool has an Options Palette (displayed at the top of the screen) that lets you define the tools' painting, editing and other effects. This and other Photoshop's Palettes help you monitor and modify images. Three commonly used palettes are the <u>Lavers</u>, <u>History</u>, and <u>Options Palettes</u>. Any palette can be shown or hidden by selecting the palette from the Window menu or using its icon in the right-side dock (in the picture above, the History Palette is about to be displayed when the user clicks on the <u>History Palette</u> icon).

THE HISTORY PALETTE - SAVING A SNAPSHOT

By default, the History Palette contains the last 20 changes to your image. It also allows you to save a snapshot and/or create a new document from the current state of the image. These two options are great ways to insure that you always the version of your image that you want. Each time you change the image, a new state is added to the History Palette. To jump to a particular state, click on that state name in the History Palette. As shown at right, the other states below turn gray and italicized. If you change your image while at a previous

state, you will start from this state and lose all of your other changes.



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The **Snapshot** command lets you take a *snapshot* of any state in the <u>History Palette</u> of your image. The new snapshot is added to a list of snapshots located at the top of <u>History Palette</u>. To create a snapshot:

- 1. Select the state that you want to capture.
- 2. Click the *New Snapshot* button () at the bottom of <u>History Palette</u>.

Note: Snapshots and states in the <u>History Palette</u> are not saved with the image – closing an image deletes its snapshots and any information in the <u>History Palette</u>.



GETTING HELP WITH PHOTOSHOP

In addition to this handout, Photoshop's Help menu is a great resource when you have a quick question. The possibilities in Photoshop are endless, and there are typically a number of ways to accomplish what you are trying to do with your pictures. If you cannot find what you are looking for in the Photoshop **Help** menu, or you're stuck, please email us at exploratory@umich.edu or knc-info@umich.edu, or drop in with your question.

RESOLUTION AND IMAGE SIZE

Photoshop works with raster (or bitmap) images. Raster images are stored in the computer as a grid of pixels, and variations in the colors of the pixels produce areas of color on the picture.

Resolution refers to the density of small squares known as **pixels** that make up an image and establish its detail. Resolution is commonly measured in "**dots per inch**" or "**dpi**". It is generally the same as "**pixels per inch"** (**PPI**). An image's resolution is measured by how many of those tiny dots are crammed into a certain amount of space. For example, if an image's resolution is 300dpi, then for every physical inch of the image, there are 300 tiny little dots, both vertically and horizontally.

Generally, the higher the resolution, the more smooth the image appears, and the less likely the human eye will notice individual dots, because there are more dots per inch. After all, if you cram 300 dots into one inch, those dots are a lot smaller than the dots would be if you were only cramming 72 dots into one inch!

Your file is measured in a few different ways:

- the file size (how much file space the image takes up)
- the on-screen pixel size (how big the image is onscreen, e.g., in a web browser) and
- the output print size (how big the image will appear on paper when you print it).

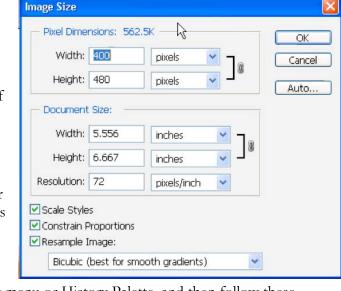
To see how your image will look on a screen (for example, on a web page or in a PowerPoint presentation), go to the **View** menu and choose **Actual Pixels**. To see what it will look like if you print it, go to the **View** menu and select **Print Size**.

See our handout at http://www.lib.umich.edu/exploratory/pdfs/preparingimages.pdf for more information, or come to our *Preparing Images for PowerPoint, the Web, and Publication* workshop.

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CHANGING THE IMAGE SIZE

- 1. To resize the image, go to the **Image** menu and select **Image Size**.
- 2. Make sure the *Resample Image*: box is checked. This will change the pixel size of your image as well as the print size.
- 3. Make sure the *Constrain Proportions* box is checked.
- 4. In the *Pixel Dimensions*: section or the *Document Size*: section, change the width or height; notice the other dimension changes automatically (if the *Constrain Proportions* box is checked).
- 5. Click OK.



If you don't like your change, undo it via the **Edit** menu or <u>History Palette</u>, and then follow these steps again.

TIPS FOR CHANGING IMAGE SIZE

Changing the image size is a basic Photoshop skill that you will use in many different situations. You can change the *Pixel Dimensions*, *Document Size*, or the *Resolution*. Generally speaking, you can always go down in size or resolution without loosing any clarity, but you cannot often go larger/higher.

- You may want to scan your images at a higher resolution than you may need, because you can always discard image information, but you cannot add it.
- Adjust the *Pixel Dimensions* if the image is going to be displayed only on the screen (web page, PowerPoint presentation, etc.) You can change either by pixel size or percentage.
- Adjust the *Document Size* if the image is primarily for printing.
- The *Constrain Proportions* option changes the height automatically if you adjust the width (and vice versa).
- To lock in the pixel size, but change the print size, uncheck the *Resample Image* option, and change the resolution.
- Monitors can display either 72 or 96 dpi (it varies among monitors). Therefore, a rule of thumb is to save all of your images for the web at 96 dpi, but never less than 72 dpi.

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CROPPING, STRAIGHTENING OR ROTATING AN IMAGE

It's sometimes hard to get a perfectly straight result when scanning in an image. Photoshop offers a quick automated solution called Crop and Straighten Photos (located in the File menu under Automate). This tool works well, but is not always perfect – a copy is made, so if you don't like it, you can just close and not save the copy.

In addition to the below methods, you can rotate the entire canvas by going to the **Image** menu, then Rotate Canvas, and then select one of the options (rotate clockwise or counterclockwise, flip horizontal or vertical, or choose a specific angle of rotation).

ROTATING WITH THE CROP TOOL

The Crop Tool allows you to remove unwanted parts of an image by drawing a rectangle around the part you want to keep and then rotating it if needed. Outside of the selection is deleted.

- 1. Select the <u>Crop Tool</u> () from the Toolbox and draw a marquee around the part of the image you wish to keep. Resize the marquee by moving the small squares (or "handles") that appear in each corner and at the middle of each side. The unwanted part of the image will be dimmed out.
- 2. If your image isn't straight, rotate the marquee by moving your cursor outside a corner handle until you see a two-headed curved arrow (see above middle picture). Click and hold to rotate the crop area in the direction you wish to move.





3. To crop the image, push Return/Enter on your keyboard, or click on the checkmark in the Options Palette. You can also crop by going to the **Image** menu and choosing **Crop** (after you've drawn the marquee around your selection).

TRANSFORMING THE SELECTION

- 1. Select part of the image with a selection tool or go to the **Select** menu and choose **All**.
- 2. Once you have your selection (or all), go to the **Edit** menu, then **Transform**, and then Rotate.
- 3. A transform box will appear around the image or selection to rotate the selection, move your cursor outside a corner handle until you see a two-headed curved arrow (see the left of penguin picture). Click and hold to rotate the area in the direction you wish to move.
 - a. In the middle of the transform box is a rotation point crosshair if you click and drag that, it will move the rotation point, not rotate the selection.
 - b. Notice that if you don't have the entire image selected, there will be a gap where the selection originally was (see the white area in the penguin picture).
 - c. Hold down the *Shift* key to constrain the angle to increments of 15
- 4. To apply the transformation, push Return/Enter on your keyboard, or click on the checkmark in the Options Palette.

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WORKING WITH SELECTING TOOLS

To modify a portion of your image you need to select it first – everything outside the selected area is then protected from change. The selected area is then outlined with a dotted line, what we refer to as "dancing ants." The <u>Selection Tools</u> allow you to select portions of the image either by location or by pixel color, and thus apply Photoshop's editing power in specific areas. All selection tools can be combined to create exact selections using the *Shift* key or *Alt* key (*Option* key on the Mac), to add or subtract respectively (see below for more tips).

In addition, there is a *Refine Edge* button in each selection tool <u>Options Palette</u> (see the Marquee Tool and Feathering Exercise for a picture of this dialog box). You can adjust the edges of your selection – sharpen or blur, smooth the transition, etc. – and then preview what it would look like against different backgrounds.

- Marquee Tools: The Marquee Tool () allows you to make a selection using a rectangle or ellipse. Select one of the Marquee Tools by clicking and holding on the tool, then sliding over and down to the correct selection.
- Lasso Tools: The <u>Lasso</u> () and <u>Polygon Lasso</u> let you draw both freehand and straight-edged segments of a selection border. With the <u>Magnetic Lasso</u>, the lasso snaps to the edges of a color in the image. The <u>Magnetic Lasso</u> tool is especially useful for quickly selecting objects with complex edges set against high-contrast backgrounds. You can select one of the <u>Lasso Tools</u> by clicking and holding on the <u>Lasso Tool</u>, sliding over and selecting the correct option.
- Magic Wand Tool: The <u>Magic Wand</u> (selects pixels based on color value, not on their placement in the image, and so lets you select an area with similar colors without having to trace its outline. The <u>Magic Wand</u> is now found under the <u>Quick Selection Tool</u>.
- The Quick Selection Tool: The Quick Selection Tool () is a new feature in Photoshop CS3. It allows you to paint over the area that you would like to select by using an adjustable brush tip. As you drag over the area, the selection expands and follows defined edges within the image.

SELECTION TOOL TIPS

- **To add** to your shape once you have the original selection, hold down the *Shift* key and click the selection tool you are using to select the additional areas, then create another selection (you'll see a plus sign (+) by the crosshair).
 - You can also add to your selection by using the **Similar** or **Grow** commands (best used with <u>Magic Wand Tool</u>). Go to the **Select** menu, choose **Similar** to include pixels *throughout* the image, not just adjacent ones, falling within the tolerance range. Choose **Grow** from the **Select** menu to include *adjacent* pixels falling within the tolerance range specified in the <u>Options Palette</u>.
- To subtract from your shape once you have your original selection, hold down the *Alt* key (Windows) or *Option* key (Mac) and draw the additional shape (you'll see a minus sign (-) by the crosshair). For example, if you have a circle selected and drag another smaller

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- circle inside it while pressing the Alt key (Windows) or Option key (Mac), the selected shape is then a donut.
- To make a circle or a square with the <u>Marquee Tool</u>, hold down the *Shift* key as you drag your first shape.
- **To drag** a marquee from its center, hold down the *Alt* key (Windows) or *Option* key (Mac) as you begin dragging.
- To reposition a marquee, click inside the selection, then drag it to the desired location.
- To switch between freehand and a straight-edged selection border, select the <u>Polygon Lasso</u>, and click where segments should begin and end. You can switch to drawing freehand by holding down the *Alt* key (Windows) or *Option* key (Mac).

MARQUEE TOOL AND FEATHERING EXERCISE

In this exercise, we will draw an ellipse around a bird in a picture, and fade the background to white, using the Elliptical Marquee Tool () and the **Feather Effect**.

- 1. Go to the **File** menu, select **Open** and choose the "bird.psd" file.
- 2. Click and hold on the Marquee Tool and choose the Elliptical Marquee Tool.
- 3. Click and drag an ellipse around the bird in the image. This becomes the selection. While you can move your selection (by clicking in the middle of the selection, then holding and dragging it or using the arrow keys on the keyboard), you can't resize the selection. If the selection isn't how you want it, go to the **Select** menu, choose **Deselect**, then try again.

4. You can add a feathered effect, so the marquee fades to white (versus a hard line of white around the marquee), in a couple of different ways. Put in somewhere between 5 and 10 for the pixel radius – the higher the number, the larger the gradient. If you don't want the feathered effect, skip this step.

- a. Go to the **Select** menu, then **Modify**..., and then choose **Feather**...
- b. If you want the same feather on every selection of the <u>Marquee Tool</u>, then put the number in the <u>Marquee Tool</u> <u>Options Palette</u>.
- c. In the Marquee Tool Options Palette, click on the Refine Edge... button or go to the Select menu and choose Refine Edge...
- 5. Go to the **Select** menu and choose **Inverse**.

 Now your selection is not the ellipse, but the entire area outside the ellipse. This way, when we add the color it won't cover the bird.
- 6. You can now fill this area with any color you like. Go to the **Edit** menu and choose **Fill**. In the *Use*: pulldown of the *Contents* area, select *White*, *Black*, *Foreground Color*, or *Background Color*. For more information on choosing the foreground or background color, see the *Working with Colors* section on page 11. Click OK.

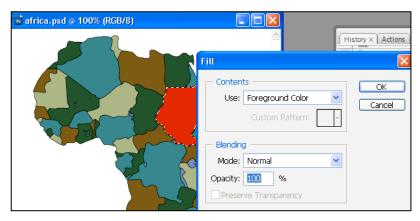
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7. Go to the Select menu and choose Deselect.

MAGIC WAND TOOL EXERCISE

In this exercise, we will select a specific color using the Magic Wand Tool, and change it to a different color.

- 1. Go to the **File** menu, select **Open** and choose the file "africa.psd."
- Choose the Magic Wand Tool from the Toolbox (click and hold on the Quick Selection Tool).
- 3. Click once with your Magic Wand in the gray area around the continent. This will select that color anywhere it touches the spot you selected.
- 4. Go to the **Edit** menu and choose **Fill**. In the *Use*: pulldown of the *Contents* area, select White, Black, Foreground Color, or Background Color. Click OK to close the dialog box.
- Click once with your Magic Wand on one of the countries.
- 6. Go to the **Select** menu and choose Similar. Now all of the countries of that color are selected.
 - If you get more of a selection than what you expected, it's possible that the Tolerance of the Magic Wand is set too high – change the number and then try the selection again. The



- tolerance defines how similar in color a pixel must be to be selected by the Magic Wand Tool. Lower values select colors that are very similar; higher numbers select a broader range of colors. The default is 32, and the range is between 0 and 255.
- b. An alternate way to select everything in the image that is the same color is to uncheck the Contiguous checkbox in the Option Palette. That way, any occurrence of that color will be selected throughout the image.
- Go to the **Edit** menu and choose **Fill**. In the *Use*: pulldown of the *Contents* area, select White, Black, Foreground Color, or Background Color. Click OK to close the dialog box.

MAGNETIC LASSO TOOL EXERCISE

In this exercise, we will select a specific shape using the Magnetic Lasso Tool ().

- 1. Go to the **File** menu, select **Open** and choose the file "ducky.tif".
- 2. Click and hold on the Lasso Tool () and choose the Magnetic Lasso Tool ().
- 3. Click the Magnetic Lasso on the edge of the duck and move the cursor around the edges (you don't have to hold your mouse button down while doing this).
 - a. Notice that "anchor points" are dropped along the way. If part of the selection is not what you want, press the *Delete* key and this will undo the last anchor point on the selection.
 - b. You can click your mouse at any time to manually set an anchor point. If you press the esc key on the keyboard, your whole selection will disappear.
- 4. To finish the selection, return to the point where you began your selection, and click when you see the little circle next to your Magnetic <u>Lasso</u>. You should now see "dancing ants"
- around your selection. 5. Now that you have a selection, you can copy it, apply a filter, etc.



The new Quick Selection Tool is sort of a combination of the Magic Wand and the Magnetic Lasso – it selects pixels based on color (like the Magic Wand), but also "senses" the edge of the color (like the <u>Magnetic Lasso</u>).

- 1. Go to the **File** menu, select **Open** and choose the file "Dune.tif".
- 2. Choose the Quick Selection Tool from the Toolbox, and drag your cursor over the sky area.

Notice that this tool picks up all the colors of the sky – with the Magic Wand, this would have been more difficult because of the various colors in the sky.



To change the brush size, adjust the pressure or angle, click on the black arrow next to the Brush: section of th Options Palette. Brush: Sample All Layers 🔲 Auto-Enhance Refine Edge...

To subtract from your selection,

choose the icon with the minus sign in the Options Palette.

Need help? Visit the Faculty Exploratory or Knowledge Navigation Center on the 2nd floor of the Graduate Library.

exploratory@umich.edu | http://www.lib.umich.edu/guides | knc-info@umich.edu

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WORKING WITH COLOR

There are many different ways to work with color, including using a variety of tools (some of which are discussed below) and applying fill layers (which use a different layer for the fill effect, so it is easier to alter if you change your mind). Remember as you're working with color that *Hue* is color, *saturation* is the purity of the color, and *lightness* is how much white or black is in the image.

CORRECTING COLORS IN YOUR IMAGE

Photoshop lets you change the mixture of colors in a color image in a few different ways, depending on what you are trying to do. Sometimes there is too much (or not enough) of a particular color throughout your image, and other times you want to change just a particular selection. There are several different ways to make these adjustments and we'll just talk about a few.

You can adjust the colors in your image by going to the **Image** menu, selecting **Adjustments** and then choosing one of the following. Remember that you can also use one of the selection tools to apply the adjustment only to the selection.

- Levels: allows precise adjustments using three variables (highlights, shadows, and midtones). You can change it manually, or let Photoshop do it by choosing *Auto Levels*.
- **Curves:** replicates high-end color correction systems and lets you isolate 16 ranges of pixel values between pure highlight and pure shadow.
- Color Balance: lets you change the mixture of colors in a color image. Like the Brightness/Contrast command, this tool provides generalized color correction. For precise control over individual color components, use Levels, Curves, or one of the specialized color correction tools: Hue/Saturation, Replace Color, or Selective Color.
- **Brightness/Contrast:** applies the same adjustment to every pixel in the selection or image (i.e., if you increase the brightness value by 30, 30 is added to the brightness value of every pixel). You can change it manually, or let Photoshop do it by choosing *Auto Contrast*.
- **Desaturate:** removes all color from an image. It's useful to remove the yellowing of old black and white pictures.

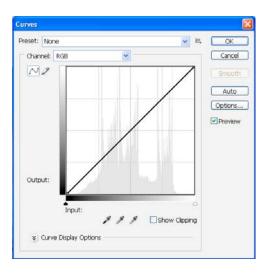
In addition to these adjustments, you can also add a **fill layer** to overlay solid colors, gradients or patterns all at varying opacities or an **adjustment layer** to overlay the adjustments described above, but on a separate layer. **Fill** or **adjustment** layers allow you to play with different colors or effects without changing your main image. If you change your mind, you can delete or alter the fill or adjustment layer, and your original image layer is still intact. For more information about using layers, please visit the Working with Layers on page <u>15</u>.

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SETTING BLACK AND WHITE POINTS

Sometimes when you scan in an image the whites aren't white enough – for example, a line drawing in a book that should be black lines on a white background. By using curves, you can set the white point, black point or gray point. For more information, go to the **Help** menu.

- 1. Go to the **Image** menu, **Adjustments**, and then **Curves...**.
- 2. Click once on the appropriate eyedropper (*Set Black Point*, *Gray Point*, or *White Point*) then click on the appropriate spot in your image.
- 3. Click *OK* when you are finished.



Using the Foreground/Background Tool

The <u>Foreground/Background Tool</u> () allows you to designate two colors (one for the foreground color chip, and one for the background color chip). The colors in this tool are used in a variety of instances: the foreground color is the default color for the text tool, the background color is the default for the eraser tool, both can be used from the **Edit** then **Fill...** command or to create a gradient, and so on.

The <u>Color Picker</u> dialog box is describe below in relation to the <u>Foreground/Background Tool</u>, but is used in the same manner by many of the different tools.

Choose a foreground color from the <u>Foreground/Background Tool</u> () in the Toolbox by clicking once on the top box.

A dialog box appears so you can choose a color. Use the slider on the color bar to select the hue,

and then choose a specific color in the large color box.

 Note that if you move the cursor out of the <u>Color Picker</u> dialog box and onto your picture, the cursor turns into an eyedropper. If you click on a color in your image, the <u>Color</u> <u>Picker</u> will show that color as selected. Again, you may need to move around to get exactly the color you are after.

Once you have the color you want, click OK.

USING THE EYEDROPPER TOOL TO SELECT YOUR COLOR

As mentioned above, if you move the cursor out of the <u>Color Picker</u> dialog box and onto your picture, the cursor turns into an eyedropper, and allows you to select the color that was clicked. However, you can also use the <u>Eyedropper Tool</u> () at anytime by selecting it from the Toolbox. Click anywhere on your image, and that color will appear as the foreground color chip.

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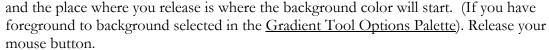
CREATING A COLOR GRADIENT EXERCISE

The <u>Gradient Tools</u> create a gradual blend between multiple colors. There are a variety of <u>Gradient Tool</u> options – line, radial, etc. and each will give you a different effect. By default, the <u>Gradient Tool</u> will use the colors displayed in the <u>Foreground/Background Tool</u>, but you can choose other options in the <u>Options Palette</u>.

If you want to change your gradient, you do not need to undo it, but rather you can just draw a new line to apply a new gradient, because it will cover everything up. For an added effect, use a selection tool, such as the <u>Marquee Tool</u>, and your gradient will only apply to that selection. If you do that, however, you will need to undo your gradient to get rid of it.

In addition, you can apply a filter after you've added a gradient, if you want to give your image a texture, etc. Careful, though – if you apply the filter first, then the gradient, the gradient will overwrite the filter!

- 1. Create a new file by going to the **File** menu and selecting **New...** or use a selection tool to select just a portion of an existing image.
- 2. Select the <u>Gradient Tool</u> () from the Toolbox. To select other types of gradients, choose that style from the <u>Gradient Tool Options Palette</u>.
- 3. Using the <u>Foreground/Background Tool</u>, choose a foreground color and a background color that you would like the gradient to appear between. If you go to the <u>Gradient Tool Options Palette</u>, you can choose other predefined gradients, such as rainbow, tri-color, etc.
- 4. Click and hold on your image, and draw a line. The length of the line will determine the length of the gradient. The first place you click is where the foreground color will start





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REPLACING COLORS IN AN IMAGE

With the Replace Color command, you can create temporary masks based on specific colors and then replace these colors. Masks let you isolate an area of an image, so that changes affect just the selected area and not the rest of the image (for more about masks, see the *Using Masks to Hide and* Reveal Parts of Your Image section on page 27). Options in the Replace Color command's dialog box allow you to adjust the hue, saturation, and lightness components of the selection.

The advantage of using the **Replace Color** command instead of filling the selection is that this command replaces the color range, so you keep the various shades.

- 1. Select the Rectangle Marquee Tool, and drag a selection around the area that has the colors you want to change (make sure you're on the right layer!). Don't worry about making a perfect selection, but be sure to include all of the area you wish to change.
- 2. Go to the **Image** menu, choose **Adjustments**, and then choose **Replace Color**. By default, the Selection area of the Replace Color dialog box displays a black rectangle, representing the current selection.
- 3. Use the Evedropper Tools within the Replace Color dialog box to select the area of color that will be masked and replaced with a new color.

The first Evedropper Tool selects a single color, the Evedropper-Plus Tool is used to

i tulips.jpg ⊚ 50% (RGB/8#)

- add colors to a selection, and the Evedropper-Minus Tool is used to subtract colors from a selection. Use these various eyedroppers to make your selection, which will appear as white in the preview box.
- b. If you seem to be selecting too many or too few colors, adjust the tolerance level of the mask by moving the Fuzziness slider. Fuzziness controls the degree to which related colors are included – the higher the number the broader the color range.



9 9. 9.

Fuzziness

- Once you have made your selection, you need to choose a new color. You can do this in one of two ways – either move the Hue, Saturation, and Lightness sliders to the color you would like, or click in the Result color square and choose a color from the <u>Color Picker</u>. As noted above, once the <u>Color Picker</u> is open you can use the Eyedropper Tool to choose a color from your image. You may need to move the dialog box to preview your changes.
- As in the picture above, you may find that you need to add more to your selection (or take more away). Continue until your whole selection area is white, and you see the results you want in the preview.
- Click *OK* to apply the changes.

Save...

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WORKING WITH LAYERS

Layers are one of Photoshop's most powerful features – think of a cartoonist who draws each bit of a character on a different cel so he/she can move them around, but when you view the final

product, it looks like one image. That's a bit what layers are like; you can draw, edit, paste, and reposition elements on one layer without disturbing the others. Where there is no image on a layer, you can see through to the layers below. Behind all of the layers is the background. The <u>Background</u> is a protected layer, and many filters and effects cannot be applied to background layers. To unprotect the background, double-click on it in the <u>Layers Palette</u>, rename it, and then apply your effect.



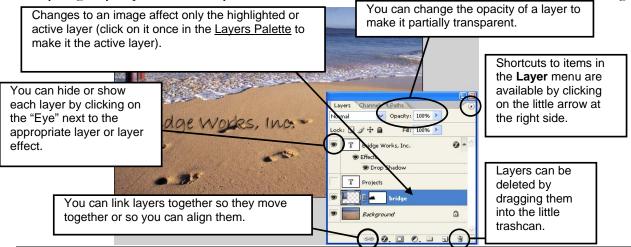
The <u>Layers Palette</u> lists all layers in an image, and a thumbnail of layer contents appears to the left of the layer name. It is updated as you edit. You use the <u>Layers Palette</u> to create, hide, display, copy, merge, and delete layers. (Additional commands appear in the <u>Layers Palette</u> and the <u>Layers menu</u>.) Changes to an image affect only the highlighted or *active* layer(s). Click once on the layer in the <u>Layers Palette</u> to select it and make it active. Only one layer can be active at a time, unless they are linked (see the <u>Linking and Aligning Layers</u> section on page <u>16</u>).

There are many types of layers: some layers are pieces of a final image that you are putting together, some are shape or text layers (created automatically), and some are fill or adjustment layers. **Fill** or **adjustment** layers allow you to play with different colors or effects without changing your main image. If you change your mind, you can delete or alter the fill or adjustment layer, and your original image layer is still intact.

Web page navigational buttons are often created in Photoshop using layers. In a single image, you can have different background colors or effects (if you are creating "rollovers", that change when the person's mouse is over the button), and different text layers (such as Readings, Assignments, Contact Info, Class Projects, etc.). You can align the layers so the text appears in exactly the same spot on each button. In addition, you can show or hide various layers so that when you save them for the web, only the shown layers will export, or add a bevel effect so it looks like a button.

A Few Layer Tips

Layers give you power, but they can also cause confusion. Here are a few tips to help you along.



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exploratory@umich.edu | http://www.lib.umich.edu/guides | knc-info@umich.edu

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CREATING A NEW LAYER

There are a few different ways to create a new layer:

- Go to the Layer menu, select New, New Fill Layer..., or New Adjustment Layer....
- If you have something on the clipboard (from either cutting or copying), you can go to the **Edit** menu and select **Paste**. A new layer is automatically created.
- If you have a portion of your image selected, you can go to the **Edit** menu and select Paste Into. This not only creates a new layer, but adds a layer mask so the pasted item only displays in the selected area (you may need to transform and/or move this layer to get it all to display in your selection, depending on the size of your selection).
- Sometimes layers are created automatically, such as when you use the <u>Text Tool</u>, the Shape Tool, or add a layer mask.

Adding Layer Styles/Effects

Layer styles (or effects) can be added to any layer (including text layers) and are applied to the whole layer. Make sure you're on the correct layer in the <u>Layers Palette</u> before you start, or on the thumbnail of the image if you are on a layer with a mask.

Knockout: Blending Modes determine how the pixels in a layer or set of layers are blended with underlying pixels in the image, such as "screen", so you see the layer below as if through a light version of the upper layer. Layer Styles include drop shadows and bevel effects.

1. Select the layer to which you would like to apply the style, then go to the **Layer** menu, and then to Layer Style. ayer Style

Styles

Blending Options: Custom

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Outer Glow Inner Glow

Bevel and Emboss

Contour Texture

- Choose one of the options such as **Drop Shadow...** In the <u>Laver Style</u> dialog box, you'll see a check next to *Drop Shadow* or whatever options you chose. You are welcome to play with the angle, opacity, etc., but the defaults usually look fine.
- You can add more than one style by clicking on it in the left side of the dialog box – be sure to click on the **name** of the style so the right side of the dialog box changes. Move the dialog box so you can see what the preview looks like on your image.
- 4. When you're done, click OK. If you don't like it, use the History Palette to back up.

COPYING STYLES TO ANOTHER LAYER

Once you have a style applied, you will see a symbol for it (*) on the layer in the <u>Layers Palette</u>. To copy a style to another layer, click on the name of the effect (or on the word Effects to copy all of them) in the Layers Palette, hold down the Alt/Option key on the keyboard, and drag it to the

other layer. You should now see the ** next both layers. If you don't hold down the Alt/Option key, the effect is moved from one layer to the other.

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Blending Options General Blending

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LINKING AND ALIGNING LAYERS

Often times you want your layers lined up – all your text aligned in the center, for example, or two layers evenly aligned horizontally. To align your layers:

1. Select the layers you want to align in the <u>Layers Palette</u> by clicking on one, then holding down the *Shift* key (if the layers are contiguous) or the *Control* key (if they are not contiguous) while you click on the other layers.

- 2. Choose the <u>Move Tool</u> from the Toolbox, and then select one of the alignment options in the <u>Options</u> Palette at the top of the screen.
- 3. If you want both vertical and horizontal alignment, you need to do one, then the other (you can't apply both at the same time).

If you no longer need the layers to be linked, just click on one of the individual layers and then only that one will be active.

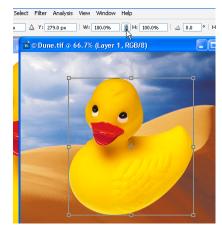
If you want to link your layers so that they move or resize together, select them then go to the **Layer** menu and choose **Link Layers** or click on the <u>Link</u> icon at the bottom of the <u>Layers Palette</u>.

The **Auto-Align Layers** command under the **Edit** menu is for creating a panorama image from several layers that contain parts of the whole. If you have individual files that each have a part of the whole, you can go to the **File** menu, the **Automate**, then **Photomerge...**, and this will create a new image that blends the individual files together into one.

TRANSFORMING LAYERS

Once you have more than one layer, there are times when you need to resize or transform just that layer, not the whole image.

- 1. With the correct layer selected in the <u>Layers Palette</u>, go to the **Edit** menu, and choose either **Free Transform** or **Transform** and then your specific transform need (scale, rotate, etc.)
- 2. A box will appear around the content of the layer click and drag at a corner or midpoint to transform the layer.
 - a. To keep the layer proportionate, click on the chain link () in the Options Palette.
 - b. Be sure to drag from a corner to retain proportions.
 - c. You can also rotate the image by moving your cursor away from a handle until you see the two-headed curved arrow, and then clicking and dragging the cursor.



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3. Once you are satisfied, click on the check mark in the <u>Options Palette</u> or push *Enter/Return* on the keyboard.

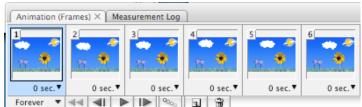
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ANIMATING IMAGES

Photoshop makes it easy to create simple animations composed of a sequence of frames, where each successive frame is slightly different than the previous one. These frames are played quickly in order and create the illusion of movement. Animations are stored in an animated GIF format.

CREATING AN ANIMATION USING LAYERS

- 1. Open "clouds.psd."
- 2. Open the <u>Animation Palette</u> by going to the **Window** menu and selecting **Animation**.
- 3. Add a frame to the <u>Animation Palette</u> by clicking the <u>Duplicates Current Frame</u> (button at the bottom of the <u>Animation Palette</u>. You've just added a second frame to your animation.
- 4. Make sure that the *Big Cloud* layer is selected in the <u>Layers Palette</u>. You will be making this cloud float around to the right side of the picture. Select the <u>Move Tool</u>, then click and drag the cloud a little bit to the right, and a little bit up or down.
- 5. Repeat steps 3 and 4 until you have enough frames in your animation to move the cloud to the right side of the image (for more complicated changes, see the next section).
- 6. The **frame delay** is the amount of time that a frame is displayed, measured in seconds. Select the frames in the <u>Animation Palette</u> by



- a. Holding down the *Control* key (*Apple* key on the Mac) as you click to select noncontiguous frames, or
- b. Holding down the *Shift* key as you click the first one and then click on the last one to select contiguous frames.
- 7. Click the *Delay value* below one of the selected frames to display the *Delay* pulldown menu, and choose a value appropriate to your animation (about 0.5 seconds per frame).
- 8. Specify the looping options (how many times the animation is played) by clicking on the *Looping Option Selection* box in the lower left corner of the <u>Animation Palette</u> below the first frame (by default it says *Forever*.) Select *Once* if you don't want the animation to loop, *Forever* if you want it to loop infinitely, or *Other*... if you want to specify the number of times it loops.
- 9. Preview the animation by clicking the *Play* (button at the bottom of the <u>Animation Palette</u>.
- 10. Save the file as a Photoshop document to retain the layers and animations, and also **Save for Web & Devices** to create the animated GIF to put on the web.

TWEENING LAYER EFFECTS

Tweening, short for "in-betweening", is a process that takes two images (or frames) and automatically generates frames to go in between them. When played as an animation, the intermediary frames serve as a smooth, evolving transition between the two original images.

In this exercise, we'll create a simple tween that animates the transition between a plain image and the same image with added layer effects.

- 1. Open "blockM.psd."
- 2. Open the Animation Palette by going to the **Window** menu and selecting **Animation**.

3. Add a frame to the <u>Animation Palette</u> by clicking the <u>Duplicates Current Frame</u> (button at the bottom of the <u>Animation Palette</u>.

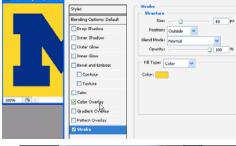
- 4. Make sure that the second frame in the Animation Palette is selected. Go to the Layer menu, then to Layer Style and then choose one of the options as described in the Adding Layer Styles/Effects section on page 16. For example, add a Color Overlay that is dark blue, and add a maize-colored Stroke of size 60 pixels. Click OK to exit the dialog box.
- 4. Select the first frame in the <u>Animation Palette</u>. Click the <u>Tween</u> (button at the bottom of the Palette.
- 5. In the dialog box that appears, set the following options:
 - a. Make sure that the *Tween With*: pulldown menu has *Next Frame* selected.
 - b. In the *Frames to Add:* field, put *5 or 10* (or whatever number you choose).
 - c. Under Layers, select All Layers.
 - d. In the *Parameters* area, make sure that all the options are checked.

Click *OK* when you are finished. The new frames appear in the <u>Animation Palette</u>.

7. Change frame delay. Select all of the frames at once by clicking on the first one, holding down the *Shift* key, and then clicking on the last frame. Click the *Delay*

value below one of the frames to display the Delay pulldown menu. Click on 0.1 seconds.

- 8. Specify the looping options (how many times the animation is played) by clicking on the *Looping Option Selection* box in the lower left corner of the <u>Animation Palette</u> below the first frame (it should currently say *Forever*.) Select *Once*.
- 9. Preview the animation by clicking the *Play* (button at the bottom of the <u>Animation Palette</u>.
- 10. Save the file as a Photoshop document to retain the layers and animations, and also **Save for Web & Devices** to create the animated GIF to put on the web.





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WORKING WITH TEXT

When you add text, a new layer will automatically be created. Because text layers work just like other layers, you can apply styles as described in the <u>Adding Layer Styles/Effects</u> on page 16.

The Options Palette (shown below) is key for formatting the text you create with the Text Tool – here you'll change fonts, size, color etc., but you'll also use it to access the Character/Paragraph <u>Palette</u> icon (to add small caps, subscript, superscript, and other formatting options. How to give shape to your text is described later on this page.

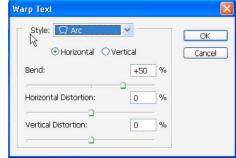


- 1. Choose the <u>Type Tool</u> (<u>T</u>) from the Toolbox, then click on the image and start typing (note we recommend against drawing a box with the Type Tool and then typing, as it changes the way resizing your text works).
- 2. Highlight your text and change the font, size and color in the Options Palette by default the font color will be what is selected in the foreground of the Foreground/Background Tool.
 - While the text is still active (before you've clicked the checkmark at the right end of the Options Palette), you can move the text by moving your cursor slightly below the text until you see the Move Tool icon and then moving it.
 - b. Once you've created the text layer, you can move it like any layer by selecting the Move Tool from the Toolbox.
- 3. Click on the checkmark at the right end of the Options Palette to accept the changes, and a new text layer is automatically created in the Layers Palette.
- To change the text, double-click on the "T" in the <u>Layers Palette</u>. The Type Tool becomes active, with your text highlighted. Make your changes, and click on the check mark at the right end of the Options Palette.

WARPING TEXT

You can add some special shapes for your text by using the Wrap Text icon in the Options Palette.

- 1. Select your text layer, or add one as described above.
- 2. Select the <u>Create Warped Text</u> icon () from the Options Palette and choose a style from the Style: pulldown.
- 3. Modify the various options if you desire and click OK.



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ADJUSTING CANVAS SIZE

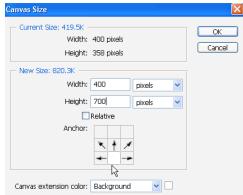
As mentioned above in the layer tips section, if you have something on the clipboard, (from cutting or copying), then you can just paste it and it will create a new layer for that object. You can also use the Move Tool move one image into another image. Sometimes when you combine images, you need to change the "canvas size" or work area to make it wider or taller to accommodate the new pieces.

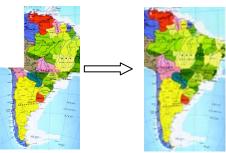
MANUALLY ADJUSTING THE CANVAS SIZE

In this exercise we'll look at two different parts of South America, which were scanned separately, and we will combine them into one image.

- 1. Open "maptop.psd" and "mapbottom.psd."
- 11. To merge the images, we will need to work with a larger canvas so both parts will fit. By going to the Image menu, then Image Size for both images, we can see how big the image will be combined.
- 12. Once you know the proper height/width that you want for the combined image, you can change the canvas size of the one that you will be using as the base by going to the **Image** menu and selecting **Canvas Size...** Select an anchor point to designate where the new space should go by clicking in the appropriate box in the Anchor section. In this example, we need all the extra height added above the existing image, so we would click in the bottom center.
- 13. Type in the correct new height/width (you can use either inches or pixels by changing the pulldown). When it's all set, click OK.
- 14. In maptop.psd, select the Move Tool from the Toolbox, then click and drag the map top on to the map bottom, and you will notice that a new layer appears in the Lavers Palette.
- 15. Once the top is in the bottom image, again use the Move Tool to correctly position it. Remember you can use the **Zoom Tool** to focus in on a particular area and

then use the arrow keys on the keyboard to nudge the layer into place.





AUTOMATICALLY ADJUSTING THE CANVAS SIZE

If you have pictures that form a panoramic view, or two parts of the same (such as our maps above), you can also try using the Photomerge command. Found under the File menu's Automate submenu, this command will try to automatically merge the selected images; if Photoshop can't do it automatically, a dialog box will appear allowing you to arrange the images yourself (though Photoshop will automatically resize and crop), or cancel the operation. This function creates a new merged image, and leaves your two (or more) originals intact.

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ADDING SHAPES

There may be occasions to add shapes to your images – arrows, circles, lines, etc. You can use either the <u>Shape Tool</u> or one of the selection tools to create the shape. The <u>Shape Tool</u> has some advantages, in that it automatically creates a shape layer (and therefore allows you to move it, change the color, and add effects to it), and has several options, including, but not limited to lines (which can have arrow heads) and custom shapes.

USING THE SHAPE TOOL

As mentioned above, the <u>Shape Tool</u> automatically creates a layer that has a "mask" linked to it. A mask isolates a specific area, and protects the rest of the image from the effect (color changes, filters, etc.) that you are applying. In the case of the <u>Shape Tool</u>, the shape defines the boundary of the mask, and then the fill color only appears within the shape. In addition, you can add multiple shapes to the same layer by changing the options in the <u>Shape Tool Option Palette</u>. For more information on how to do this, look up "Using the Shape Tools" in Photoshop help.

Since the <u>Shape Tool</u> uses the foreground as its color, choose a foreground color that you would like and that will stand out against the other colors in the image. For more information on choosing a foreground color, see the <u>Using the Foreground/Background Tool</u> section on page <u>12</u>.

- 1. Open "map.psd" or any image you would like.
- 2. Click and hold on the Shape Tool, and select the Line Tool.
- 3. In the Options Palette, be sure that the Shape Layer (option is selected.
- 4. Use the *Shape* pulldown arrow to add an arrowhead to your line by checking *Start*, *End* or both and change the *Weight*: (thickness of the arrow) if you would like.
- 5. Click and hold on the image to begin your line, and release the mouse button where you want it to end. Holding down the *Shift* key on the keyboard will keep the line straight as you drag it out. You can add other lines or shapes as well by using the icons in the Options Palette.
- 6. A new layer will appear in the <u>Layers Palette</u> with a *shape mask*. Since the <u>Shape Tool</u> creates its own layer each time you use it, you can use the <u>Move Tool</u> to adjust the positioning of the line if you wish. You can also double-click on the color square in that layer to change the color of the shape.



Rectangle Tool

Ellipse Tool

Line Tool

Polygon Tool

Rounded Rectangle Tool

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If you want a hollow circle, square, etc., draw your shape as above, then double-click on the shape mask, and go to the *Blending Options*. In the *Advanced Blending* section, change the *Fill Opacity*: to 0% and make sure to go to the *Stroke* option to give your shape an outline.

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USING THE MARQUEE TO MAKE A CIRCLE

You can use any of the selection tools to make a selection and either add a fill color (inside the shape) or a "stroke" color (outline of the shape). The most common selection tool used is the <u>Marquee Tool</u> to add a circle or square.

- 1. Choose the Elliptical Marquee Tool (if it's not displayed, click and hold on the Marquee Tool and select it), or any of the selection tools, if you want to do something different. Holding down the *Shift* key on the keyboard as you draw creates a perfect circle.
- 2. Once you've got your circle (or other shape), to be able to move it later, you must first create a new layer for it by going to the **Layer** menu, choosing **New**, then **Layer**....
- 3. Be sure that you are on the new layer (which you should be by default), then go to the **Edit** menu and choose **Stroke...** In the <u>Stroke</u> dialog box, you can change the *Width*: (the thickness of the line) and *Color*: if you choose. Click *OK*.
- 4. From the **Select** menu, choose **Deselect** to get rid of the "dancing ants".

USING OTHER SELECTION TOOLS AND THE MOVE TOOL

Sometimes you want a specific shape or outline to add to your picture; at the right is an example of using the outline of Africa to lay over the giraffe picture to give a different kind of effect for the image.

You can copy and paste the portion of the image you want, but you can also use the Move Tool () to drag one image onto another.

- 1. Open the "africa.psd" and "giraffe.psd" files. Make sure the picture of Africa is the active image.
- 16. We want to put the outline of Africa on top of the picture of the giraffe but first we must select the outline. Choose the <u>Magic Wand Tool</u> from the Toolbox and then click on the gray area around the continent to select it.
- 17. Choose the *Move Tool* from the Toolbox. Make sure that you can see part of the giraffe.psd window as well as the africa.psd window, moving the windows if necessary.
- 18. Click in africa.psd and drag the selection onto any part of giraffe.psd. Notice that the outline of Africa is sitting on top of the giraffe image, and a new layer now appears in the <u>Layers Palette</u>. Still using the <u>Move Tool</u>, position the continent where you want it.
- 19. To rename the layer something easier to remember, double-click on the layer name in the <u>Layers Palette</u> and give it a new name. Push *Enter* (or *Return*) on the keyboard to accept your change.

Remember, since the continent is its own layer, you can select the gray again and choose a new color with the <u>Foreground/Background Tool</u>, change the opacity of the layer (in the <u>Layers Palette</u>) so some of the giraffe's natural habitat shows through (e.g. the picture above), or add a layer style such as a bevel or drop shadow.



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WORKING WITH FILTERS

Many of the filters are artistic in nature, but there are others that are more commonly used. Filters are applied to the active layer or selection, and cannot be applied to Bitmap-mode or indexed-color images, such as GIFs. You can make a selection (with the <u>Marquee Tool, Magic Wand</u>, etc.) and apply the filter only to that selection. The Photoshop Help offers more explanations and examples. Some of the most commonly used are:

- **Blur**: softens a selection or an image and creates smooth transitions by averaging the pixels next to the hard edges of defined lines and shaded areas in an image.
- Noise: adds or removes "noise", or pixels with randomly distributed color levels. This helps to blend a selection into the surrounding pixels. Noise filters can create unusual textures or remove problem areas, such as dust and scratches, from an image. Choosing Noise and then the Despeckle option detects edges in an image (areas where significant color changes occur) and blurs all of the selection except those edges. This blurring removes noise while preserving detail. Choosing Noise and then Dust & Scratches reduces the noise by changing pixels that are dissimilar.
- **Sharpen**: focuses blurry images by increasing the contrast of adjacent pixels. They include the *Sharpen Edges* and *Unsharp Mask* filters, which find and sharpen areas where significant color changes occur (such as at the edges). The *Unsharp Mask* filter is commonly used for high-end color correction.
- **Texture**: gives images the appearance of depth or substance, and has options such as *Grain* or *Canvas*.

APPLYING FILTERS

Before adding a filter, make sure that you are on the correct layer and make a selection with one of the selection tools you've learned if you choose. In the **Filter** menu, choose a filter category then choose any of the specific filters. Photoshop gives you a preview of the various filters within each category, so you can move around in the dialog box until you find exactly what you are looking for. Click *OK* when you are finished to close the dialog box.

Play around with multiple filters, trying out any of the filters in the **Filter** menu. Remember, regular filters build on each other, so if you don't like it, you should remove it. To remove a filter, go to the **Edit** menu and choose **Undo**, or use the <u>History Palette</u> to go back.

SMART FILTERS

Smart Filters are a new feature in Photoshop CS 3, allowing you to hide, show, and adjust the filters you apply to a layer.

- 1. Go to the **Filter** menu and choose **Convert for Smart Filters**.
- 2. Apply your filters as you normally would (go to the **Filters** menu and choose your filter).

Notice that you now have an Eye next to each filter, so you can hide or show it, and an adjustment icon to the right of the filter name. Double-click on the adjustment icon, and you can change the settings for the filter.

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CORRECTING PARTS OF YOUR IMAGES

Often times when you scan an image, there will be parts of the image that you will not want in the final image, or that don't look exactly how you'd like. Cropping is an effective tool for eliminating parts of the image that are at the edges of your image, but more often you need to eliminate a selection in the middle of the image that you can't just crop away. In addition, there are times when you need to correct something in the image – the lighting, a smudge or tear, etc.

There are a number of tools in Photoshop that can be used fix problems – depending on what you are trying to accomplish, you may need a different type of tool:

- Healing Tools (Spot Healing Brush, Healing Brush, Patch, Color Replacement): take your selection and its replacement, and blend it with the surrounding area.
- Cloning Tools (Clone Stamp, Pattern Stamp): take your selection and exactly copy it to the new location (no blending).
- Erasing Tools (Eraser, Background Eraser, Magic Eraser): erase unwanted parts of an image to the layer below or to transparency.
- Lightening/Darkening Tools (Dodge, Burn, Sponge): lighten or darken an image or selection; the Sponge changes the saturation.
- Focusing Tools (Blur, Sharpen, Smudge): soften or harden the edges of the selection or image.

Other ways to adjust your image can be found in the **Filter** menu (see *Working with Filters* section on page <u>24</u>).

USING THE SPOT HEALING BRUSH AND THE HEALING BRUSH

The Spot Healing Brush Tool () automatically replaces an area with a blend of its surrounding texture, brightness, and even color. There is no need to sample with the spot healing brush. Generally you'll want to have the hardness of your brush high with the Healing Brush (some books recommend 75%), since the tool itself will soften the edges to blend to the surroundings. In addition, you may want to change the shape of your brush to more of an oval (angle at 60°, for example) so you have more of an irregular edge to help the blending process.

- 1. Open "oldphoto.psd" and then select the <u>Spot Healing Brush Tool</u> from the Toolbox.
- 2. Drag the Spot Healing Brush Tool over the unwanted portions of the image. Remember to take short strokes, so undoing doesn't loose lots of work. You can change the brush size to fit the area you wish to heal by going to the Options Palette, and picking a different paintbrush or changing the brush's diameter.
- 3. When you release the mouse button, the <u>Spot Healing Brush Tool</u> will modify the image by automatically replacing and blending the desired area with its surroundings.



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The <u>Healing Brush Tool</u> copies a sampled area, inserts it into a new location, and then proceeds to blend. Each stroke of the tool paints on more of the sampled image. Cross hairs mark the original sampling point.

The *Aligned* option in the <u>Options Palette</u> toggles from where the tool will sample on the succeeding uses. If *Aligned* is checked, the sampling point will be in the same relative position to the cursor. If you deselect *Aligned*, the brush will always draw from the initial point of sampling each time you begin again.

- 1. Center the <u>Healing Brush Tool</u> over an area you wish to copy and then hold down *Alt* (Windows) or *Option* (Mac) key, and click to sample/copy that part of the image. Make sure that the area you sample blends well with the area around the object you are removing. The cross hair that follows the cursor as you paint indicates the point from which the <u>Healing Brush</u> is taking its sample. Remember you can change the brush size.
- 3. Drag the <u>Healing Brush Tool</u> over the unwanted portions of the image. Remember to take short strokes, so undoing doesn't loose lots of work.
- 4. Resample as needed (holding down the down Alt (Windows) or Option (Mac) key).

THE CLONE STAMP TOOL

Similar to the <u>Healing Brush Tool</u>, the <u>Clone Stamp Tool</u> takes a sample of the image, which can then be applied over another image or part of the same image. For the background of this old photo, for example, we don't want to blend in the odd colored spots, but rather want to replace with the correct looking area.

- 1. Select the <u>Clone Stamp Tool</u> in the Toolbox (remember to deselect the *Aligned* option if you prefer).
- 5. Center the <u>Clone Stamp Tool</u> over an area you wish to copy and then hold down *Alt* (Windows) or *Option* (Mac) key, and click to sample/copy that part of the image. Make sure that the area you sample blends well with the area around the object you are removing. Remember you can change the brush size by going to the <u>Options Palette</u>, and picking a different paintbrush.
- 6. Drag the <u>Clone Stamp Tool</u> over the unwanted object to paint over it with a copy of the area you just sampled to duplicate the sample so it repeats. Just like with the <u>Healing Brush</u>, the cross hair that follows the cursor as you paint indicates the point from which the <u>Clone Stamp</u> is taking its sample. Remember, it's best to use short strokes, because if you need to undo a step, you don't want to lose everything you've done.

THE ERASER TOOL

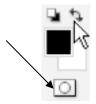
You can also use the <u>Eraser Tool</u> to get rid of unwanted spots or defects in your image. With the <u>Eraser Tool</u>, you can choose to work with a brush or a block, which is sometimes handy to make straight edges. The <u>Eraser Tool</u> can erase to the background color chip, to the layer below, or with the <u>Magic Eraser</u>, you can change all similar pixels at once.



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USING MASKS TO HIDE AND REVEAL PARTS OF YOUR IMAGE

Photoshop also offers the flexibility to "hide" or mask a certain part of an image. A mask lets you isolate and protect areas of an image as you apply color changes, filters, or other effects to the rest of the image. When you select part of an image, the area that is not selected is "masked" or protected from editing.



Making careful selections in an image can be tricky sometimes, but editing in Quick Mask Mode allows you to carefully include or exclude certain pieces of the image from your selection by using a temporary mask for the image.

Adding a Layer Mask Exercise

In this exercise, we'll use the Move Tool to merge two images like we did before, but this time we'll use a Layer Mask to hide part of one image so the one behind it shows through.

- 1. Open the files called "dolphin.psd" and "lighthouse.psd." Use the Move Tool to move the dolphin into the lighthouse picture. Select the Move Tool, click on the dolphin and then drag the dolphin into the opened lighthouse picture.
- 2. Resize the dolphin layer by going to the **Edit** menu and choosing **Free Transform**.
 - There will be a box around the dolphin that allows you to resize it. To keep the body proportionate, click on the chain link () in the Options Palette to lock height and width together while you drag a corner to resize.
 - b. You can also rotate the image by moving your cursor away from a handle until you see the two-headed curved arrow, and then clicking and dragging the cursor.



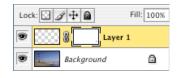
c. Once you are satisfied, click on the check mark in the Options Palette or push Enter/Return on the keyboard.

To create the illusion that the dolphin is coming out of the water, we'll add a Layer Mask.

1. Go to the <u>Layers Palette</u> and click on the <u>Add Mask</u> icon at the bottom of the <u>Layers</u> Palette (the second button from the left.) Notice there is now a new symbol for the mask on the dolphin layer in the <u>Layers</u> Palette.



2. Also notice that the Foreground/Background Tool automatically switches to black and white. Make sure the foreground color is set to black to hide what you brush over in order for the ocean to shine through. If you change to white, what you paint over will show,



not hide. Use the two-headed arrow (by the <u>Foreground/Background Tool</u> to switch between black and white.

3. Click on the <u>Paintbrush Tool</u> () and select the type of brush you would like to use from the Options Palette, changing brushes as needed, to brush away at the dolphin's tail so it looks as if it is jumping out of the water. When using the paintbrush, short strokes are recommended so if you need to undo a step, you won't lose many changes.

Need help? Visit the Faculty Exploratory or Knowledge Navigation Center on the 2nd floor of the Graduate Library.

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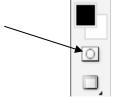
USING QUICK MASK MODE AND APPLYING FILTERS EXERCISE

To change the sky to a more cloudy look, we can apply a filter to just that area. First we'll select the sky, use <u>Quick Mask Mode</u> to finalize our selection, and then apply a filter.

Still using the lighthouse.psd image, click the <u>Magic Wand Tool</u> (**) and then click on the sky (be sure you are on the background layer).

Note: To add to the sky selection, you could hold down the *Shift* key while clicking on the rest of the sky or you can enter <u>Quick Mask Mode</u>, which enables you to quickly and accurately select the desired portions of the image.

1. Click on the *Quick Mask Mode* button () in the Toolbox below the <u>Foreground / Background Color Tool</u>. The **NON-selected** portion appears in red. Notice that your foreground/background colors are automatically changed to black and white, as they did when we manually applied a mask.



- 4. Click on the <u>Paintbrush Tool</u> (), go to the <u>Options Palette</u>, and pick a paintbrush.
 - To add to your selection, make sure that white is the foreground color.
 - > To subtract from your selection, make sure that black is the foreground color.
- 5. Use the paintbrush to add or subtract until you are satisfied with your selection. It's best to use short strokes, because if you need to undo a step, you don't want to lose everything you've done. You may need to switch paintbrushes as you go.
- 6. When you are satisfied with your selection, exit the <u>Quick Mask Mode</u> by clicking on the left button below the <u>Foreground/Background Tool</u>. Your selection will now appear with the "dancing ants" around it.
- 7. Go to the **Filter** menu, choose **Render** and choose **Clouds**. Note that the **Cloud** filter uses your foreground and background colors, so you may need to adjust that first. Notice that the last filter used is always at the top of the **Filter** menu, so you can just choose that rather than go to the specific filter grouping. This may be selected as many times as you like to change the effect of the clouds.



- 8. To adjust the darkness of the clouds, go to the **Image** menu, select **Adjust**, then **Levels**. Now adjust the *Midtone* slider to the left for lighter tones or to the right for darker tones. Notice it is only applying the levels to your selection. When you are satisfied with your adjustments, click *OK*.
- 9. Go to the **Select** menu, choose **Deselect**.
- 10. To add one last effect to the image, go to the **Filter** menu, select **Render**, and choose either **Lighting Effects...** or **Lens Flare...**. Adjust as you see fit, then click *OK*.

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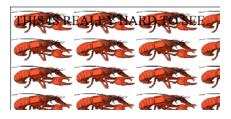
HIDING SELECTIONS WITH MASKS

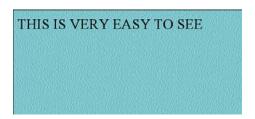
- 1. Open the "lighthouse2.psd" and "sunset.psd" files. Make sure sunset.psd is the active image.
- 2. We want to put the sunset behind the lighthouse and reveal it in Layer 2 the sky area using a mask. To do this, choose the Move Tool Background from the Toolbox. Make sure that you can see part of the lighthouse2.psd window as well as the sunset.psd window, moving the windows if necessary. Click and drag the sunset.psd onto any part of lighthouse2.psd. Notice that the sunset is sitting on top of the lighthouse image, and a new layer now appears in the Layers Palette.
- 3. To rename the layer something easier to remember, double-click on the layer name in the Layers Palette. Rename it, and then push *Enter/Return* on the keyboard.
- 4. We want to put the sunset behind the picture of the lighthouse, but if we try to drag the sunset layer down behind the background, Photoshop won't let us, because the background layer is a special layer.
 - To make the background a layer we can alter, double-click on the Background layer in the <u>Layers Palette</u> to bring up the <u>Layer Options</u> dialog box.
 - b. In the Layer Properties dialog box, name the layer "lighthouse". Click OK.
- 5. In the Layers Palette, click and drag the sunset layer below the lighthouse layer. It is now hidden by the lighthouse layer.
- To show the sunset in the sky area, first select the sky area as we lighthouse did in the previous exercise using the Magic Wand Tool and if necessary, Quick Mask Mode. Once you have made your selection, go to the Layers menu, Add Layer Mask, and choose Hide Selection. Notice the new symbol on the lighthouse layer in the Layers Palette, indicating use of a Layer Mask.
- Make sure that you are on the sunset layer in the <u>Layers Palette</u> and select the <u>Move Tool</u>. Move the sunset so you can see the sun itself over the horizon of the waves (not too high, though, or you'll start to see the trees!).
 - **Note:** Use the arrow keys on the keyboard to move the selected layer by one pixel per keystroke.
- If you want, change the blending mode of the lighthouse (Screen, for example), or add some other layer style. Remember, when working with a layer that has a mask, click on the thumbnail of the image (not the mask) before you apply your style or change the blending.

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CREATING BACKGROUND AND HORIZONTAL RULE IMAGES EXERCISE

Background images for web pages are a perfect way to get away from the monotony of stark white and add in a splash of color or even a texture. Web authoring programs like Dreamweaver allow you to choose an image as a background; however, by default, it tiles the image over and over and over again. This means that a picture or a vivid graphic might make your text hard to read, such as in the crayfish example below, so be careful what you choose. **Note**: There are ways to control this in web pages using Cascading Style Sheets (CSS); for more information, contact the Faculty Exploratory or Knowledge Navigation Center.





CREATING A BACKGROUND IMAGE

- 1. Create a new document with a height and width between 1 and 2 inches.
- 2. Pick a foreground color by clicking on the top box of the <u>Foreground/Background Tool</u> in the Toolbox.
- 3. Fill the document by choosing **Fill** from the **Edit** menu (make sure the *Contents* is set to *Foreground*).

This could be used right now as a background image; it wouldn't have to be very big, since its tiles it will all blend together and appear seamless, but you might want to add a texture to give it a little more pizzazz.

Adding a Texture to a Background Image

Select a filter such as **Texture** from the **Filter** menu; try the various options and see what's right for you. Some of the filters, such as **Texturizer**, have several different options with it. Click *OK* and the filter will be applied.

CREATING A BACKGROUND IMAGE WITH A MARGIN

Since web backgrounds repeat, you can also create the look a margin for your webpage.



Note: This exercise is just one example of a background image with margin. You can employ any filter or effect to make the image fit your needs.

To create a background image with a margin:

- 1. Create a new document for this exercise, the settings should be *Width:* 900 pixels, *Height:* 50 pixels, *Resolution:* 72 pixels/inch, *Mode:* RGB, and *Contents:* Transparent. Click *OK*.
- 2. Fill the document by choosing **Fill** from the **Edit** menu (make sure the *Contents* is set to either *Foreground* or *Background*, whichever color you want), then click *OK*.
- 3. Make a selection with the <u>Rectangular Marquee Tool</u> () for a new colored area.
- 4. Click on the *Quick Mask Mode* button (in the Toolbox below the <u>Foreground/Background Color Tool</u>. The NON-selected portion appears in red. Notice that your foreground/background colors are automatically set to black and white. By switching to *Quick Mask Mode*, we protect the rest of the document from the application of the effect.
- 5. Select **Brush Strokes** from the **Filters** menu and then select **Sprayed Strokes**.
- 6. Select the *Stroke Length*, *Stroke Radius*, and *Stroke Direction* as you wish. Note: You may have to zoom out or move the preview to see the effect.
- 7. Exit the *Quick Mask Mode* by clicking on the left button below the *Foreground/Background* button.
- 8. Choose a new color for this area, then go to the **Edit** menu and then **Fill** (make sure the *Contents* is set appropriately.)
- 9. Go to the **Select** menu and choose **Deselect**.
- 10. Apply any filters or other effects to the image, such as the **Texturizer**, as desired.

ADDING A LINE WITH THE SHAPE TOOL

- 1. Select the <u>Line Tool</u> () from <u>Shape Tools</u> () and set the *Weight* in the <u>Options Palette</u> to four pixels.
- 2. Select a foreground color (this is the color that the line will be).
- 3. Draw a line from the very top to the very bottom (holding the *Shift* key on the keyboard while dragging the line will make it straight).

Note: If an effect is applied to the line, such as a bevel, it will not appear contiguous on the web page. Also, if the line isn't completely drawn from top to bottom, there will be a gap when it repeats. The image is now ready for saving and use as a background image.





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MEASUREMENT TOOLS

Photoshop has measurement tools that allow you to do precise counts and calculate exact distances between objects on your image. Although measurements themselves are not stored as part of your image, the data can be recorded in a Measurement Log for future reference by clicking the *Record Measurements* button in the Measurement Log. To display the Measurement Log, go to the **Window** menu and select **Measurement Log**.

The <u>Ruler Tool</u> () allows you to measure the distance between any two points on an image. In addition, you can calculate angles between various reference axes holding down the *Alt* key (Windows) or *Option* key (Mac) and drag at an angle away from an existing line. Alternatively, double-click the line and drag away from it. Hold down the *Shift* key while dragging to constrain the protractor to 45-degree increments. You could then use the **Place Scale Marker** command to add a scale to your image as a separate layer.

With the <u>Count Tool</u> (123), you can add numbers to an image to count occurrences. Note that the markers you placed are not actually part of your image, so they are not stored as a separate layer, and you must remove any markers you have in order to start a separate count.

SETTING THE SCALE MARKER UNIT

Measurements are calculated using the unit set in the Unit & Rulers Preferences (**Edit** menu, **Preferences**, and then **Units & Rulers...**). Depending on what your image is, you might need to change the scale used by the **Place Scale Marker** command.

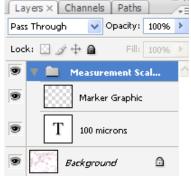
- 1. Go to the **Analysis** menu, choose **Set Measurement Scale**, and then click **Custom...**, and the <u>Measurement Scale</u> dialog box appears.
- 2. Set the *Pixel Length*, *Logical Length*, and *Logical Units* fields as appropriate for your image.
- 3. Click OK.

Presets: Custom OK Pixel Length: 1 Logical Length: 100| Logical Length: microns 1 pixels = 100.0000 microns The Ruler tool has been activated while this dialog is open. You may use it to measure the pixel length for use in your scale.

Using the Count Tool and Scale Markers Exercise

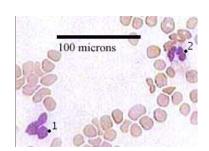
- Open "cells.jpg." Go to the **Analysis** menu and select **Place Scale Marker...**. The <u>Measurement Scale Marker</u> dialog box will appear.
 - a. Enter a value in the *Length:* field to set the length of the scale marker.
 - b. Make sure that *Display Text* is selected.
 - c. Choose a *Text Position* to display the caption either above or below the marker. Finally, pick a *Color*.
- 2. When you click *OK*, the scale marker and units will show up on your image, and appear as a separate layer in the <u>Layers</u> Palette.





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- 3. Click and hold on the <u>Eyedropper Tool</u> in the Toolbox and select the <u>Count Tool</u> or go to the **Analysis** menu and then **Count Tool**.
- 4. In the <u>Options Palette</u>, adjust the color of count markers to contrast the image by clicking in the color square next to *Label Color*:.
- 5. Click on the image to add a count marker.
 - a. **To move** an existing count marker, click and drag it to a new spot.
 - b. **To remove a marker**, hold down the *Alt* key (*Option* on the Mac) and click on the marker. The remaining markers automatically update.



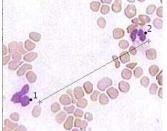
The total count displays in the *Total Count*: field in the <u>Options Palette</u>. Note that the markers you placed are not actually part of your image, so they are not stored as a separate layer, and you must remove any markers you have in order to start a separate count.

To hide the count markers, go to the **View** menu and unselect **Extras**. You can undo this later if you want to show your markers again.

If you want to start a new count, you have to erase your markers entirely rather than just hiding them. Note that you may want to record your current count for future reference by storing it in the Measurement Log (**Window** menu and select **Measurement Log**); otherwise your count will be lost forever when you erase it. Click the *Clear* button in the <u>Options Palette</u> to erase all of the count markers on your image.

USING THE RULER TOOL

- 1. Click and hold on the Eyedropper Tool in the Toolbox and select the Ruler Tool or go to the Analysis menu and then Ruler Tool.
- 2. Click on the image and drag a line to the length you want. Hold down the *Shift* key while dragging to constrain the line to 45-degree increments. A nonprinting line will appear on your screen, and the measurement information will display.
 - a. To resize, drag one end of the existing line.
 - b. To **move**, place the cursor on the line somewhere away from either endpoint, and click and drag the line to its new position.
 - c. To **remove**, place the cursor on the line somewhere away from either endpoint, and either click the *Clear* button at the top of the workspace or drag the line outside of your image.



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AUTOMATING TASKS WITH PHOTOSHOP

Repeating the same set of steps on several different images in Photoshop can be time consuming and tedious. Fortunately, Photoshop includes a way to automate some of these processes. Any series of steps to be repeated can become an "action" in Photoshop. Some actions come predefined in Photoshop (most of the automated tasks below, for example, use actions), but you can also create your own actions.

To use any of these preset features described below, go to the **File** menu, choose **Automate...** and then choose one of the below. While this handout deals primarily with the Web Photo Gallery and batch processing, we do include some information about the other features as well to get you started.

Photoshop offers a number of different automated processes, including:

- **Web Photo Gallery:** allows you to easily create a gallery of pictures for display on the Web (see the *Creating Web Photo Galleries* section on page <u>35</u>).
- **Batch:** performs pre-defined actions on multiple images at the same time (see the <u>Batch</u> <u>Processing</u> section on page <u>36</u>).
- **PDF Presentation:** creates a PDF slideshow from documents you select.
- **Create Droplet:** a *Droplet* is an icon that runs a specific action. This icon can be saved in any folder, and an image file can be dragged on top of it to apply the batch process to it.
- Conditional Mode Change: allows you to change the color mode from the existing mode (e.g. RGB Color) to a different mode (e.g. grayscale). This command is very useful when creating and saving your own actions.
- **Contact Sheet II:** produces a series of thumbnail previews on a single sheet from the files in the selected folder.
- Crop and Straighten Photos: separates, crops, and straightens multiple photo from a single scan (so, if you set 4 pictures on a flatbed scanner, for example, once they're in Photoshop, if you choose this option, it will separate them into 4 images.)
- **Fit Image:** fits the currently open image to the height and width that you specify. However, this command will keep the image to scale, based on the lower of the two measurements.
- **Multi-Page PDFs to PSD:** converts each page of a selected PDF document to separate Photoshop files.
- **Picture Package:** allows you to set up multiple copies of a picture on a page in a uniform size. This is especially useful if you want to print standard size pictures (e.g. 5"x7" or 4"x6").
- **Photomerge:** creates a single panorama image from separate, overlapping images.

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CREATING WEB PHOTO GALLERIES

Photoshop CS3 makes it easy to take several pictures and convert them to a gallery that can be uploaded to the Web. Photoshop's Web Photo Gallery automatically creates a thumbnail image, a web-viewable image, and an html (web) page for each image in a specified folder. When you click on the thumbnail, the page with the bigger image will be displayed. Once the pages have been created, you can edit them in any web editor. To create a Photo Gallery,

- 1. Go to the **File** menu, then **Automate**, and then choose **Web Photo Gallery...** The <u>Web Photo Gallery</u> dialog box appears.
- 2. In the *Styles:* pulldown, there are many different photo gallery layouts. Preview these different styles by choosing one then looking at the display on the right side of the dialog box. Use the *Email:* to put your email address on each page, and choose either *.htm* or. *html* from the *Extension:* pulldown.
- 3. Select the folder with your images by clicking on the *Choose*: button and navigating to it. If there are images in subfolders within that folder, make sure the box *Include All Subfolders* is checked.

Styles: Centered Frame 1 - Bas

Browse...

☑ Include All Subfolders

Destination...

Use UTF 8 Encoding for URL

Add Width and Height Attributes for Image

E-mail:

Source Images Use: Folder

Options: General

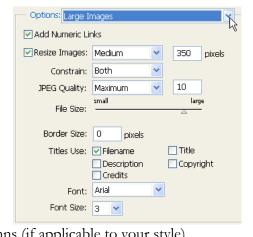
- 4. Click on *Destination*... to choose the location for the folder that is about to be created automatically.
- 5. Make adjustments if you want as described below, and click OK.

Wait until all the pictures have cycled through the process; depending on how many images you have, this may take a few moments! Once Photoshop is finished, your default browser (Internet Explorer, Firefox, etc.) will launch, displaying the main (or "index") page. To make your pages accessible on the Internet, upload the entire new folder (and its subfolders) to your web space.

FINE-TUNING THE LOOK OF YOUR GALLERY

There are several different settings you can change in the *Options:* pulldown to customize the look of your gallery.

- Choose *Banner* to edit the title and date of the photo gallery as well as the font and size of that text.
- In the *Large Images* and *Thumbnails* options, edit the size of the image, what title is used and what font and size.
 - > Set the JPEG quality to *High* or *Maximum*.
 - To add a title to an image, cancel out of the web gallery and for each image, go to the **File** menu, then choose **File Info...**. In the *Thumbnails* option, you can also choose the how many rows and columns (if applicable to your style).



- The **Custom Colors** option lets you edit the color scheme of your photo gallery.
- **Security** puts watermark-like text on your pictures to prevent unauthorized use.

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ACTIONS

Any series of steps to be repeated can become an "action" in Photoshop. Photoshop already has several default actions that are available in the Actions Palette, which can be opened from the Windows menu. To load default actions choose them from the Actions menu by clicking the menu arrow (12). To perform a particular action on an open image, click the *Play* button at the bottom of the Actions Palette. You can also apply actions to several images at once using the Batch process described below.

Each action can be expanded by clicking on the blue arrow to the left of the action name. By looking at the details of an action, you can see each step of the automated process. To the left is the expanded view of the Aged Photo action. All of those actions are performed on an image when it is "played." If an action is very close to what you want but not exactly, you can edit the action step by either unchecking one of the steps (so it won't play), or re-recording a particular step similarly to recording a new action below.

CREATING YOUR OWN ACTIONS

You can create your own actions to perform specific series of steps. Once you create an action, it is automatically added to the Actions Palette and can be used again and again, until you delete it.

- 1. Make sure you have at least one image open on which to perform the desired steps.
- 2. Go to the Actions Palette and click the Make New Action icon.
- 3. Type in a name for your action and click the Record button. This starts Photoshop "recording" anything you do, so be sure to do the steps in order (for example, add a filter, resize the image, etc.)
- 4. When you've finished all the desired steps, click on the *Stop* button (square at the bottom of the <u>Actions Palette</u>).



Your new action is now added to the bottom of your Actions Palette, and you can apply it to any image you wish. To apply it (or any action) to multiple images at once, use the Batch process below.

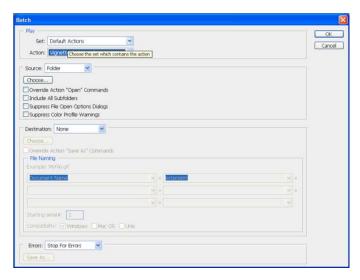
BATCH PROCESSING

To perform an action on several images at the same time, you can use a command called **Batch**.

- 1. Go to the File menu, select Automate, and then choose Batch...
- 2. In the <u>Batch</u> dialog box, use the *Set*: pulldown menu choose which group of actions you are going to use (unless you created a new set, you'll be using the Default Actions).
- 3. Select the specific action to be performed from the *Action*: pulldown menu.

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- 4. Your *Source*: will be an entire folder, an imported scanned document, a currently open file, or something you select using Photoshop's file browser. If you choose a folder, click the *Choose...* button to navigate to the desired folder.
- 5. If *None* is selected the *Destination*: pulldown, the files will remain open once the actions are finished. If *Save and Close* is selected, it will save the action changes, then close the file. The third option is to save to a destination folder, which creates a copy of the image with the changes, but keeps the original image untouched. If you choose to save it to a folder, click the *Choose*... button to navigate to the desired folder.
- 6. When you click *OK*, the images will open (if needed) and the automated actions will be applied.



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SAVING YOUR IMAGES

We recommend always saving a version of your file as a Photoshop document (.psd) even if you're going to **Save for the Web & Devices** because it is the only format that keeps the layers.

When you save, only the layers showing will display in your image. So, for example, if you have three layers in your image, but only two are displaying when you save as JPEG, only those two will show in the JPEG image.

THE DIFFERENCE BETWEEN SAVE, SAVE AS, AND SAVE FOR WEB

- Save: This option saves the changes that you have made to the original image.
- Save As: When you use Save As, you will save a copy of your original work and begin working on the new copy. Your original image remains as it was when you first opened it.
- **Save a Version:** You can check *As a Copy* in the <u>Save As</u> dialog box as well. When you use the **Save a Version** command, you save a copy of the file as it is at that moment, but you'll still be working on the original file, not the copy.
- Save for Web & Devices: You can optimize pictures for viewing on the web by previewing your images in "web" form and making adjustments specifically for different file types. Choose this if you want to save your GIF with a transparent background.

DIFFERENT FILE FORMATS

There are many different graphics file formats. Below is a list of a few common ones.

- **JPEG** (indicated by a .jpg extension on a file name) is a "lossy" format. This means that when you save a document as a JPEG, a computer algorithm compresses it. Because of this file sizes are generally much, much smaller than the comparable files saved in other formats. The compression, generally, does not cause a noticeable loss to image quality, but there is a loss. Professional printers do not prefer JPEG files because of this loss. *Good for: web images, non-professional printing, e-mail, PowerPoint.*
- **TIFF** files (indicated by a .tif extension on a file name) can be uncompressed, producing a file that is relatively large, but true to the original image. *Good for: professional publications, archival copies*.
- **GIF** files (indicated by a .gif extension on a file name) are widely used for web graphics, because transparency is possible. Files are generally compressed, and have lower-quality color settings, but the files sizes are small. *Good for: web graphics*.
- **Photoshop** files (indicated by a .psd extension on a file name) can only be opened by a few programs, including Photoshop and the Macintosh's Preview application. PSD files are generally much larger than JPG, GIF, and even TIF counterparts, because no compression occurs, and other data is stored in the file, including information on layers, paths, and other Photoshop-specific information. *Good for: "master" copies when you may want to edit and change portions of a photograph later.*