

FIT 100
LAB 5: Seeing is Believing--Or is it?
Adobe Photoshop and Image Alteration

Spring 2002

Introduction:

In Lab 3 you learned the basics of creating a HTML document to post on your web page and Assignments 1 and 2 helped you search for sites and then establish criteria for evaluating the credibility of those web sites.

Today we will focus on issues of authentication by learning the basics of Adobe Photoshop to alter an image and make the alteration appear as authentic as possible. The images given to you to work with have no copyright associated with them. You are allowed to use them because each comes from a government agency that does not hold copyright or require copyright fees to be paid for non-commercial use of images.

Adobe has a great deal of functionality in the area of graphics and image creation and manipulation. However, today's lab will focus on using certain tools to eliminate and alter areas of an image. Tools not explored in Lab today will require you to play with them on your own if you wish to use them as part of your project.

Objectives:

- Use Adobe Photoshop to select and manipulate areas of an image
- Remove and add selections to an image
- Through the manipulation of photos, create awareness about issues of authenticity and misinformation in photographic displays.

Adobe provides a work area for images that includes a Selection Tools Box. Hover over each tool with your mouse for the name:



Tool Descriptions for this Lab

Marquis Tools: The marquee tools let you select rectangular or elliptical areas in an image.

Crop Tool: This tool allows you to select an area of an image and crop it.

Move Tool: Lets you drag a selection or layer to a new location in the image.

Lasso Tools: The lasso and polygon lasso tools let you draw both straight-edged and freehand segments of a selection border.

Magic Wand Tool: The magic wand tool lets you select a consistently colored area (for example, green grass) without having to trace its outline.

Clone Stamp Tool: Takes a sample of the image, which you can then apply over another image or part of the same image. Each stroke of the tool paints on more of the sampled image. *[Also called Rubber Stamp Tool]*

Eyedropper Tool: Sample color from an image to indicate a new foreground or background color.

Paint Bucket Tool: Fills adjacent pixels that are similar in color value to the pixels you click.

You will be using the Crop, Lasso, Move, Eyedropper, Stamping and Magic Wand Tools for this lab.

Getting Started

1. Make Copies of Images

The first thing to do is get a copy of the images we'll work with and save them to a disk or a local drive.

When we finish the lab, use SSH to send the finished images to your Dante account for access later on.

- A. Go to <http://courses.washington.edu/gbw/images/>
 - Click on the link to the **StHelens.jpg** image
 - *Right click* on the **StHelens.jpg** image and select **Save Picture As...**
 - Save it to your disk or on the Desktop
 - Do the same with the second image, **RedSquare.jpg**
- B. Open Adobe Photoshop
 - **Start>Programs>Adobe Photoshop**
- C. Open the images in Adobe Photoshop
 - **File>Open...** open up both of the images you just saved by navigating to the Documents folder on C.

- You don't want to work on the original, so create a copy of each:
 - File>Save As...** and give them each a different name.(ex. StHelensCopy.jpg)
 - Close the originals.
 - Open up the copies you just created.

2. Adjusting Image Color

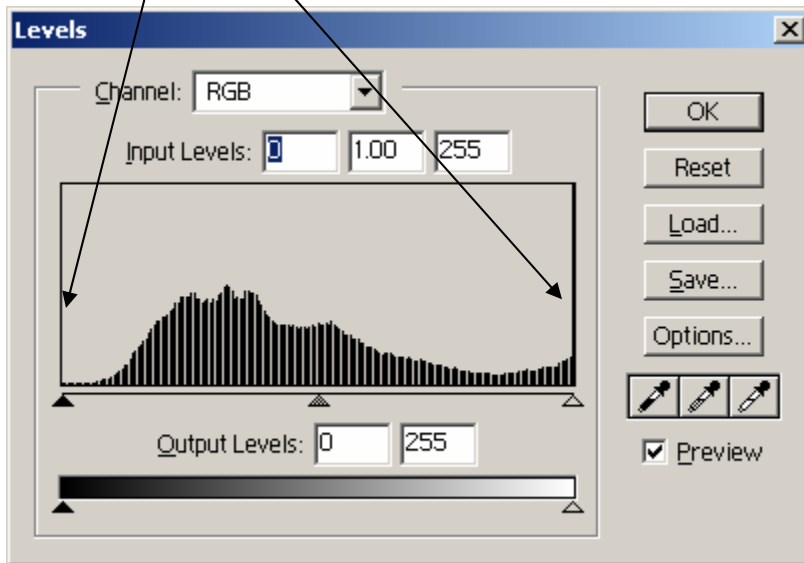
NOTE:

Whenever you want to indicate that you are dealing with one image versus another, make sure the image is "selected". That is, click somewhere on the image you want to work with to select it.

- A. Notice the color in the Red Square image is a bright but the St. Helen's photo is a little darker. To lighten or darken one of the images, adjust the color levels:

- Image>Adjust>Levels....**

Using the slider bar on the right and left sides of the Input Levels, decrease the amount of darkness in the image, without making it too bright. When you are satisfied, click OK and go back to your image.



- B. Save your changes
b. File>Save

3. Cropping an image

- A. Select the second image of Mt. St. Helen's. Crop it to get rid of the USGS fonts and make it a usable size for use later. Select the crop tool from the Marquis tools options:

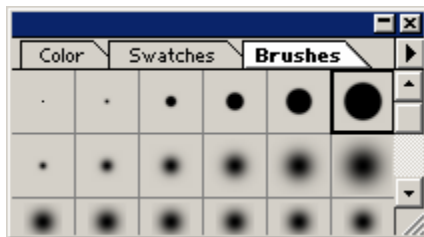


- B. Select the upper 2/3 of the image with the crop tool. The image will be the same width when you crop it, but not include the fonts and part of the lake at the bottom.
- C. Right click on the area you have cropped and click on Crop to finish the action.
- D. Save your work:
 - c. **File>Save**

4. Removing objects from an image

Remove some of the many pedestrians from the Red Square image.

- A. Select the **Rubber Stamping Tool** (it may also be called the **Cloning Tool**)
- B. While holding down the **ALT** key, use the mouse to click on an area near a pedestrian (in order to match the color of the brick nearest to them).
- C. Look at the size of the size of the pedestrian. Select the proper brush size to paint over the pedestrian.
 - If the Options box is not showing for Brushes, go up to the menu bar:
 - **Window>Show Brushes**



- Select a brush that will cover the area. You will decide whether to use soft or hard edges
- Move your mouse over the pedestrian and click. They are replaced with the stamped area.

NOTE:

Any time a move or action is taken that you don't want to keep, use the **Edit>Undo** button to remove the last step taken.

5. Selecting an area of an image by color

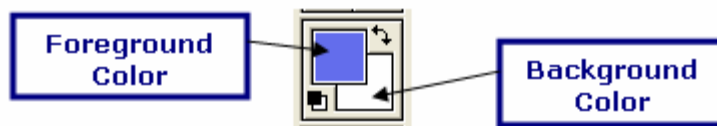
Using the **Magic Wand Tool**, you can select whole areas by their similarity in color.

- A. Select the **Magic Wand** and click in the area of the Red Square image where there is sky. Not all of the sky area may be selected at one time. To add to the area, hold down the **shift key** as you click on other areas of sky. (Use the ALT key if you want to subtract selected areas one at a time)
- B. Once you have selected the entire sky area, go onto the next step.

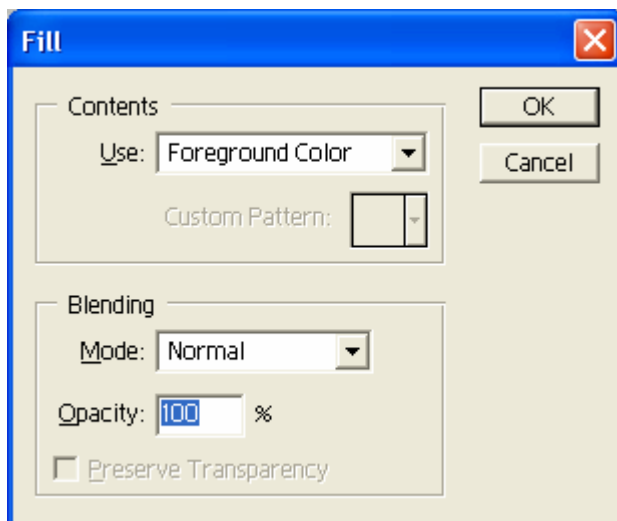
6. Replacing colors

In a few moments you're going to put the image of St. Helen's into the backdrop of Red Square. To make sure there is color continuity in the photo of Red Square, let's fill the area you just selected in Red Square with the blue in the Mt. St. Helen's image.

- D. Click the **Eyedropper tool** to select it.
- E. Click on the upper left corner of the Mt. St. Helen's image. Notice the foreground color on the palette is a shade of blue.



- F. Fill the selected area with the foreground color by using the Fill command on the Edit menu:
Edit>Fill..



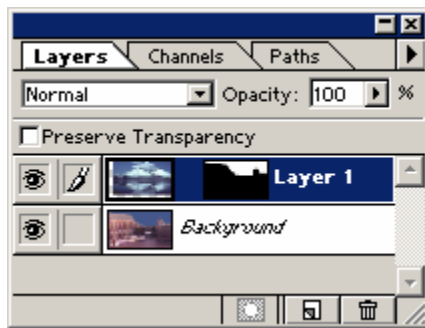
The selected area should now match part of the sky color from the StHelens image.

NOTE:

When you are finished, select one of the **Marquee tools** so you don't paint everything you click on!

7. Inserting an image into a layer

- E. Click on the cropped image of Mt. St. Helen's. The tools are now focused on this image.
You're going to copy the cropped image so that you can insert it into the background of the Red Square picture.
- G. **Select>All** The whole image should be selected.
- H. **Edit>Copy** You now have a copy of the image on the clipboard.
 - **File>Close** Close the St. Helen's image.
- F. Select the Red Square image by clicking up on the title bar so the sky area stays selected. You are now ready to insert the copied image into this one.
- I. **Edit>Paste Into** Notice a new layer has been created to hold the pasted image.



- J. With the new layer selected, use the **Move Tool** and adjust the mountain image so it looks "normal"!

8. Flattening your image

In order to save our new image as a .jpg or a .gif, we need to flatten the image. To do this you will combine the two layers that currently make up the image into one. This reduces the size of the file. Once an image is flattened, the layers can no longer be modified.

- A. Go to **Layer>Flatten Image** on the menu bar across the top.
The image is now a single layer, instead of two different layers.
- B. Save your image.
- C. Transfer your image to Dante using SSH. Add it to your web page from Lab 3 (**fit100.html**), just to keep those web skills current!
- D. Remember to log off the machine as you leave.

Images and Copyright:

Now is the obvious time to give a little background and advice about the use of images on the web. Most of you don't have any intention of using the images created for your project or here in lab for anything other than completion of a homework assignment. Regardless of your intentions for the use of this material, it is your responsibility to understand the laws surrounding copyright and the ethics of photo manipulation.

<http://www.utsystem.edu/ogc/intellectualproperty/cprtindx.htm#top>

9. Lab Notebook Questions

- A. There are 2 images used in this lab. How do you know that you have permission to alter and publish these images to your website?
- B. What tool or menu option would be used to perform each of the following operations in Adobe:
 - Add text to the image
 - Change the size of an image
 - Find help on working with multiple layers
- C. What are layers? How are they helpful?
- D. What digital representation scheme is used to reference colors in Adobe?

Bonus Practice:

The obvious choice for a picture in the background to replace Mt. Rainier would have been something like the Mt. St. Helen's explosion. On your own, for more practice, go find a photo of a volcano, or a famous city skyline, and insert it into the image the way you inserted Mt. St. Helen's. Use the copyright free images in the same folder as Mt. St. Helen's and Red Square for practice.

More Tutorials:

This lab is focused on the use of Adobe Photoshop for photo manipulation. There is a great deal of functionality of the software that we are not covering. Search out different ways to use the tool to manipulate images for your project. You may even find you need to use a different tool completely if you do a lot of work at home. Try to do many of the same things done in this lab with another image manipulation program, like MS Paint.