

# cs002 Lab 2

## *Introduction to Photoshop*

**Assigned: September 26, 2016**

**Due: October 7, 2016**

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### **Introduction**

Images on a computer are referred to as graphics. Graphics are composed of tiny square units of color called pixels. The more pixels an image has, the better quality it will appear to be. TVs and computer screens with a higher pixel density (pixels/square inch) have a higher resolution and appear more realistic.

Photoshop is an image manipulation program; it allows users to modify pixels in an image. Much like Instagram, there are many filters available but Photoshop is much more powerful. With a few clicks, you can remove zits and wrinkles, add muscle mass to your biceps, or even place yourself on the moon. In this tutorial, you will learn the basics of this complex program.

**To download Adobe Photoshop on your personal computer, please use the following link:**

<https://www.brown.edu/information-technology/software/catalog/adobe-cc-home-use>

### **Lab Goals**

- Learn the structure and workflow of Adobe Photoshop
- Use the basic tools of Photoshop to create interesting content
- Have fun making ridiculous images!

### **Lab Assignment**

#### **Getting Started**

To open Photoshop, click the following icon:

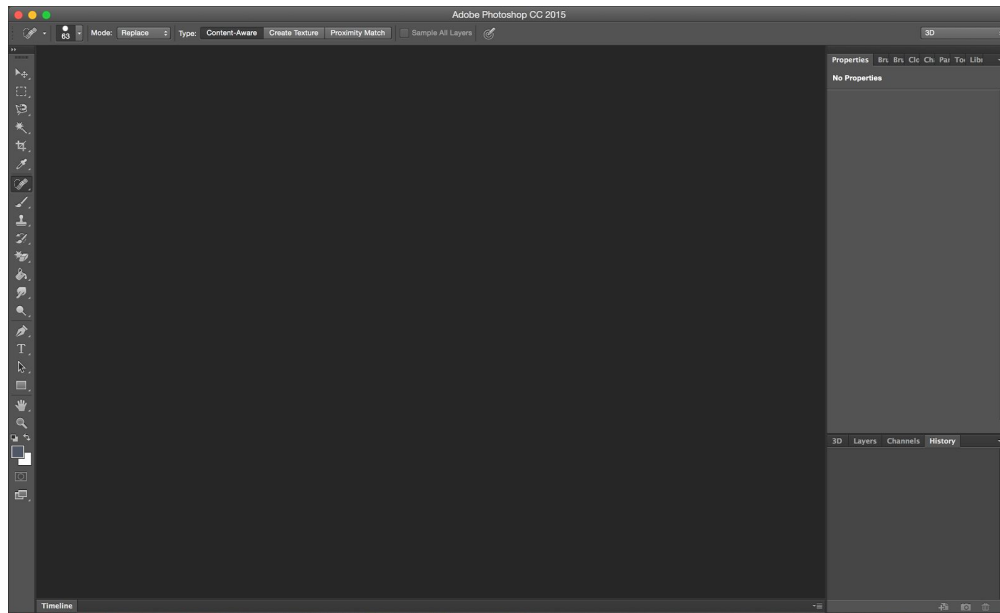


You will be greeted by a splash screen, followed by the main photoshop workspace.

The workspace is composed of 3 main panels on the left, right, and top of the screen.

# cs002 Lab 2

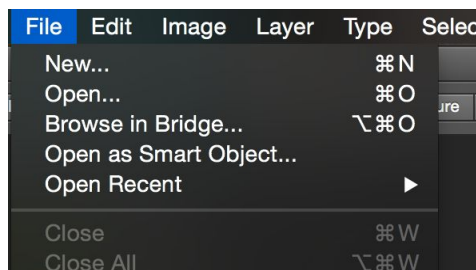
## *Introduction to Photoshop*



The panel on the left is called the toolbar and consists of tools that you can use on your image. The panel on the top contains the specific settings for the tool that you have selected. The panel on the right contains several sub-panels. The main ones you should focus on are **Properties**, **History**, and **Layers**. *If you cannot find all of these panels, go to the upper drop down menu called **Window** and select each of these panels so that you may work on them.*

### **Project 1: The Layer System**

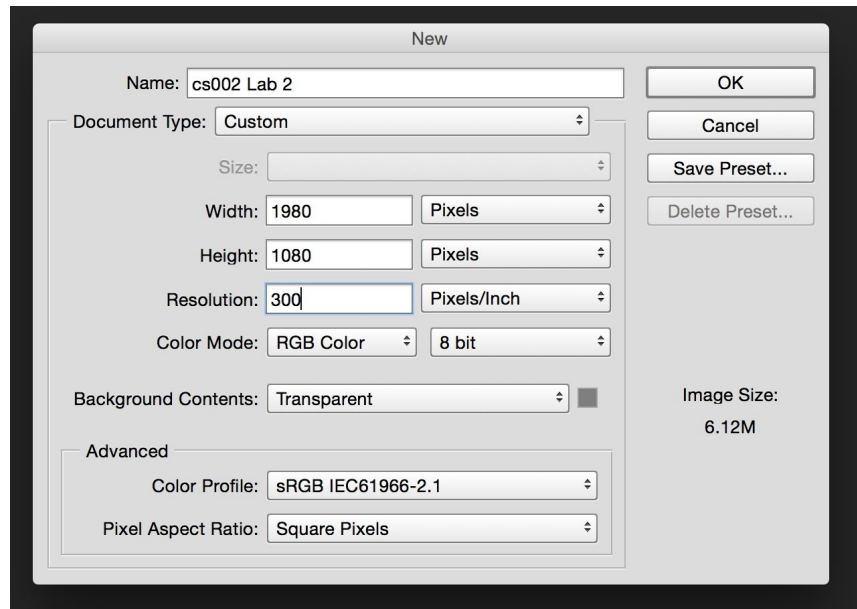
A large component of Photoshop is layering items on top of one another. The Layer panel on the right hand side allows you to control which item is on top of one another. To try this out, let's make a new workspace. Go to the drop down menu **File -> New**.



You will now see a popup with several settings. Please copy the following settings into your popup window, then press **OK**.

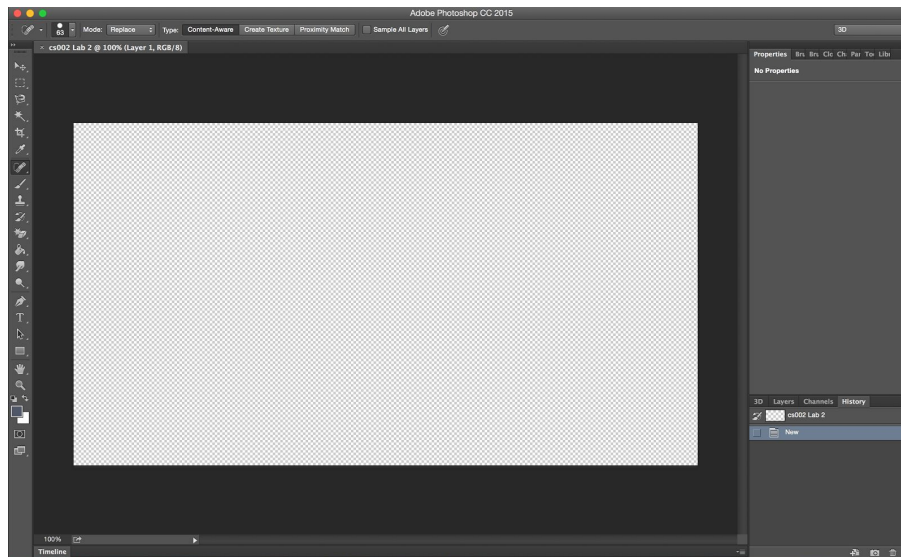
## cs002 Lab 2

### *Introduction to Photoshop*



1980 pixels by 1080 pixels is considered to be Full HD. Resolution is the pixel density, meaning that there will be 300 pixels on every inch of your image. Every pixel is a color, composed of some parts red, some parts green, and some parts blue (RGB).

Since we set the background to transparent, we should see a checkerboard pattern canvas in the middle of the screen.

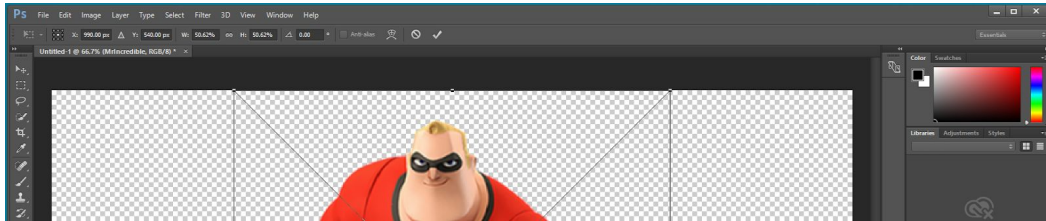


This checkerboard pattern means that there is no background - it is simply empty. Remember this; it will be important for later.

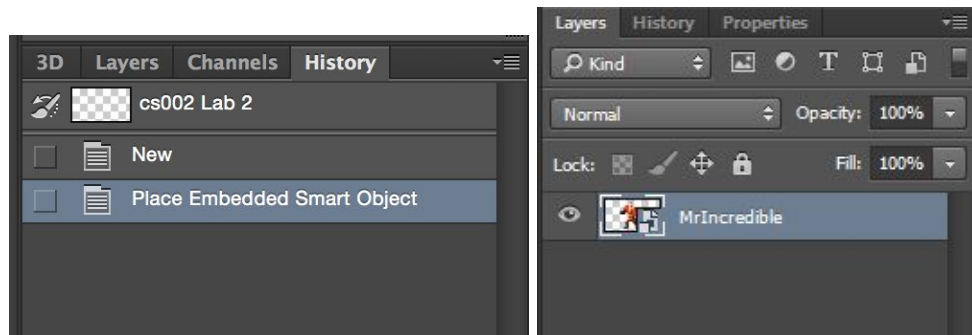
## cs002 Lab 2

### *Introduction to Photoshop*

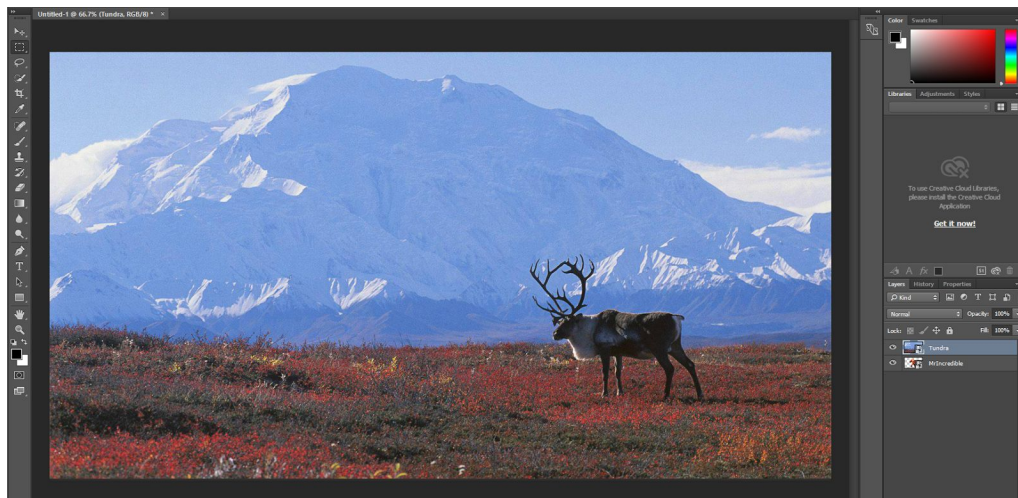
In your folder for this lab, you'll find a file titled **mr\_incredible.png**. Drag this image onto the canvas. Photoshop will automatically try to scale this image onto the canvas. Press Enter or the rightmost checkmark button on the top bar to accept this scaling.



Two things have now happened in the **History** and **Layers** panels: you created the canvas and you added a new layer called 'MrIncredible.'



Now, drag **tundra.jpg** onto the canvas. You will notice that it's not big enough to fill the entire canvas. Before you hit the checkmark at the top of the screen, drag the corners of the tundra so that it fills the entire canvas. (Tip: Hold shift while resizing the image to maintain its proportions!) You can drag outside of the canvas to prevent the image from distorting. Press Enter or the checkmark button to add this as a new layer.



## cs002 Lab 2

### *Introduction to Photoshop*

Notice that we can't see Mr. Incredible anymore. In the **Layers** panel, you will see that the tundra layer is on top of the MrIncredible layer. Any layer that is at the top of this list takes priority and will display on top on the canvas. In the **Layers** panel, click the eye button next to the tundra layer. This allows you to temporarily make a layer on the canvas invisible. Press the eye button again to put it back into view. Now, drag the MrIncredible layer so that it is above the tundra layer in the list.



Select the **arrow tool** in the **toolbar** on the left (the first tool from above) and then click on the MrIncredible layer in the **Layer** panel; this allows you to drag him wherever you want on the canvas. With the MrIncredible layer still selected, look at the **Properties** panel and note his size in inches. You can resize him by going to Edit>Free Transform or pressing Ctrl + T, then dragging on the edges and corners of the image. Resize him relative to the tundra background and click the checkmark button again to save this resize.



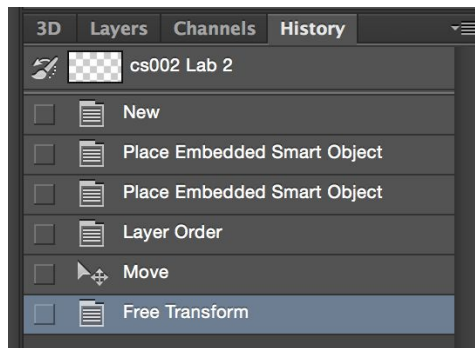


## cs002 Lab 2

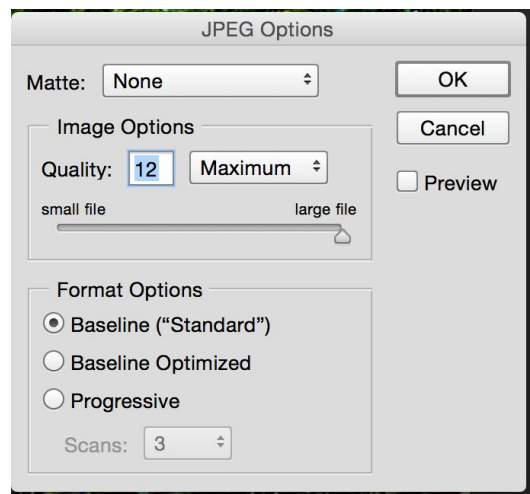
### *Introduction to Photoshop*

Look at the **Properties** panel again, and notice that his size in inches has changed. We've learned that the **arrow tool** allows you to move layers while **free transform** allows you to resize them.

Now go to the **History** panel and notice that it has started to fill up. In Photoshop, pressing **Ctrl+Z (Cmd+Z on Mac)** or going to the **Edit** menu and selecting **Undo** will only work ONCE; pressing Ctrl+Z/Cmd+Z again will redo the action. Undo is also different from **Step Backward** or **Step forward** in the Edit menu, which allow you to go through your history step by step. You can use the history panel to revert to previous changes. Try this out by clicking among the items in the **History** panel to see the progress that you have made.



Go forward to your last changes in the **History** panel. Now go to **File** and click **Save As**. The default will be a Photoshop file with extension **.psd** - but this type of file can only be opened by Photoshop! Instead select **.jpg** which is a more friendly image type. Name the file **mr\_incredible\_in\_tundra**, and save it where you can access it later. You will encounter yet another pop up window; use the following settings:



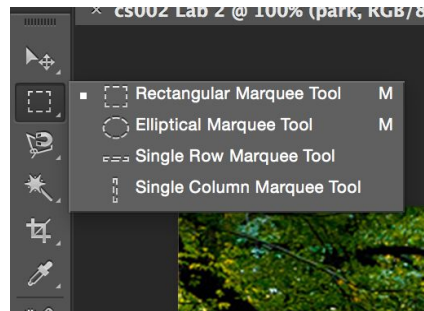
# cs002 Lab 2

## *Introduction to Photoshop*

### Using More Tools

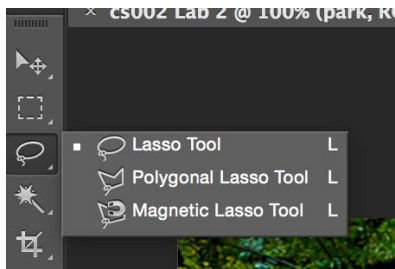
Most of the Photoshop workflow involves using tools. The toolbar on the left side will become your best friend. Some tools are hidden. In order to access them and switch between them, you will need to right click or click and hold, which will reveal a small menu. The buttons with this hidden menu have a small triangle in the lower right hand corner of the button. Some examples are here:

### The Marquee Tool



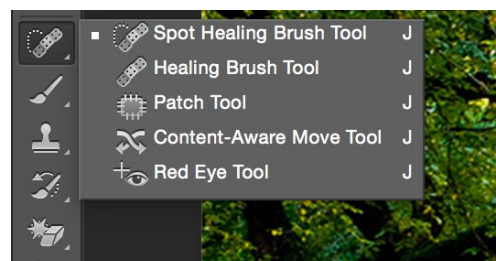
This tool allows you to select a certain section of pixels from a layer. After they are selected, you can cut them from this layer, and paste them into a new layer or file. The button for the marquee tool is above.

### The Lasso Tool



This tool is similar to the marquee tool because it allows you to select pixels from a layer. However, it is different because you draw with it to create more organic, free-flowing selections as opposed to rectangular and circular ones like the marquee tool. The magnetic lasso tool does a ton of work for you by automatically knowing where to draw as you move your mouse.

### The Spot Healing Tool

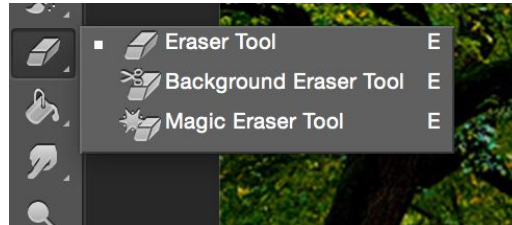


## cs002 Lab 2

### *Introduction to Photoshop*

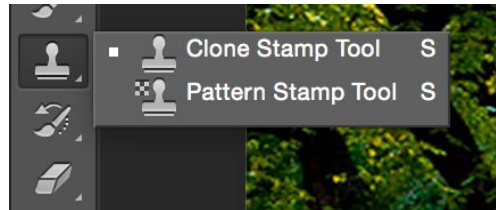
This is probably the most useful tool in Photoshop. It allows you to fix wrinkles and zits automatically just by using the brush it comes with. The Red Eye tool in the hidden menu allows you to fix red eye that may happen in photos taken with a flash.

#### **The Eraser Tool**



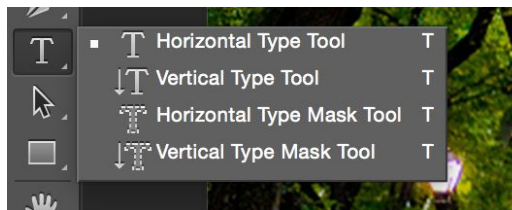
As the name suggests, the eraser tool erases pixels of a layer to white. The magic eraser tool and background eraser tool will erase the pixels to invisible (which appears as the checkerboard pattern).

#### **The Clone Stamp Tool**



This tool allows you to copy part of a layer elsewhere. It is best learned by using it, which will happen in the next part.

#### **The Text Tool**



This tool allows you to add text to your image!

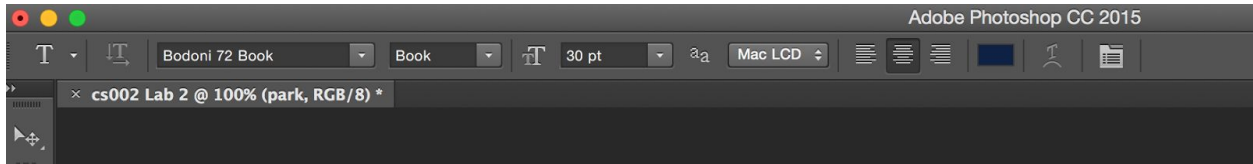
#### **The Top Toolbar - Tool Settings**

When you have a tool selected, it is imperative that you use the correct settings in order to get the desired result. For example, many tools are “brush-like” tools, where you might need to determine the size of the brush; the eraser tool and clone stamp tool are like this. Along the same thread, some settings for the text tool include font, font size, and color.



## cs002 Lab 2

### *Introduction to Photoshop*



#### Project 2: Using Selection Tools

Make a new photoshop canvas with the same dimensions and settings as before, but name it **Selection tools**. Drag the images titled **elastigirl.jpeg** and **jackjack.jpeg** to the file bar, located directly below the top toolbar settings, and NOT onto the canvas. You should have three tabs now!

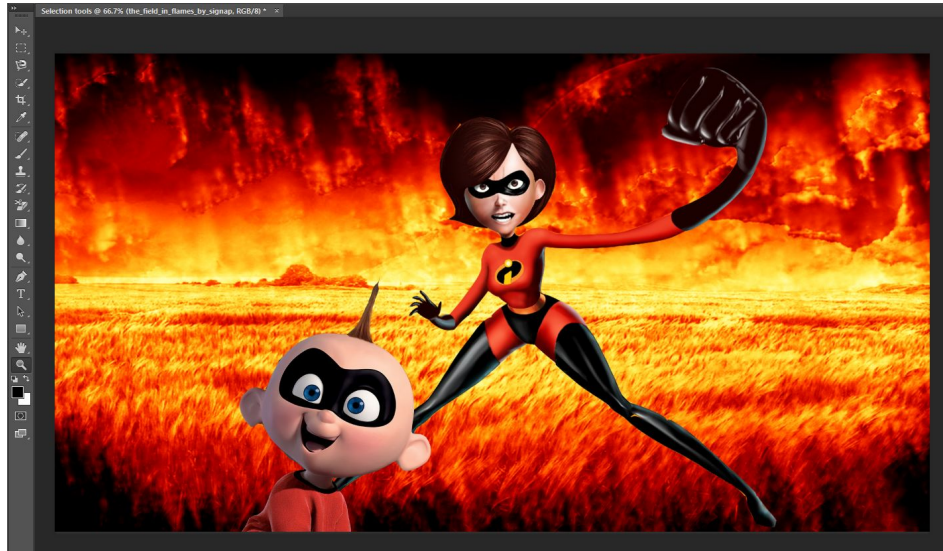
Try using the different **Lasso tools** and **Eraser Tools** to copy only Elastigirl and Jack Jack over to your blank canvas. It may take some experimenting with the tools to figure out exactly how they work. Then, using the **Free Transform** tool, resize them to be the about same size. Notice that Jack Jack has a higher **Resolution** than Elastigirl.



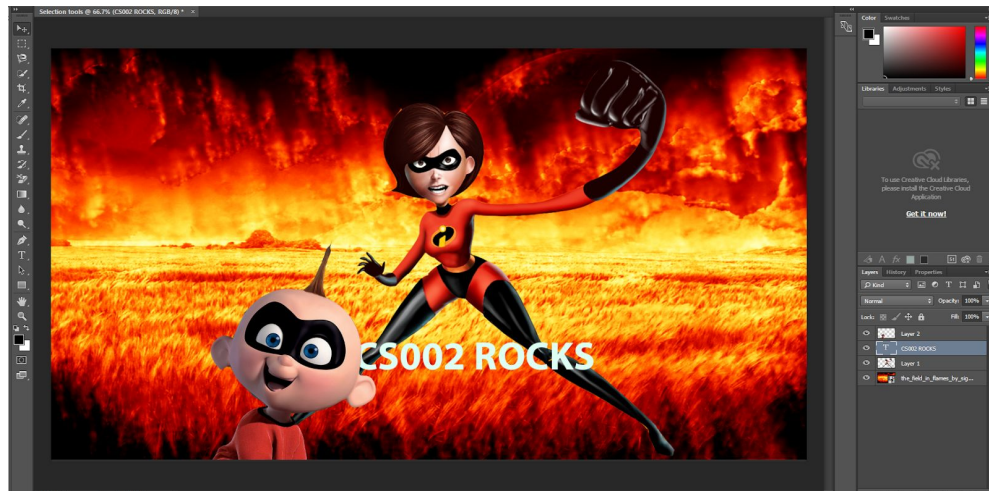
## cs002 Lab 2

### *Introduction to Photoshop*

Download a photo from Google for a background, and add it to your Photoshop file. Make sure that the jackjack and elastigirl layers are on top.



Add some text to the top of the graphic and make it so that the text is **BEHIND** Jack Jack, but in front of Elastigirl. Save this file as a **.JPG** and save it to your desktop using the same settings as before.



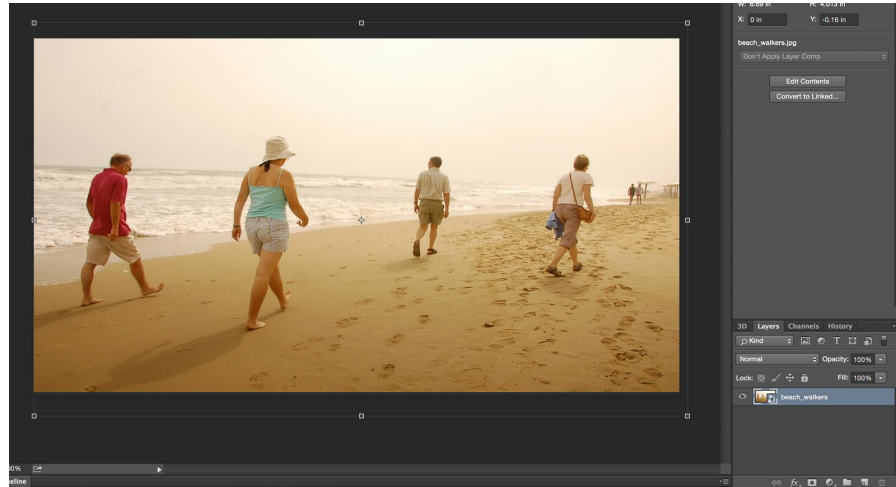
*You will need to show this to a TA in order to get checked off for today's lab.*

## cs002 Lab 2

### *Introduction to Photoshop*

#### Project 3: Photo Manipulation

Create a new canvas with the same settings and drag the photo from your lab folder called **beach\_walkers.jpg** onto the canvas. Resize it so that it fits the canvas dimensions.

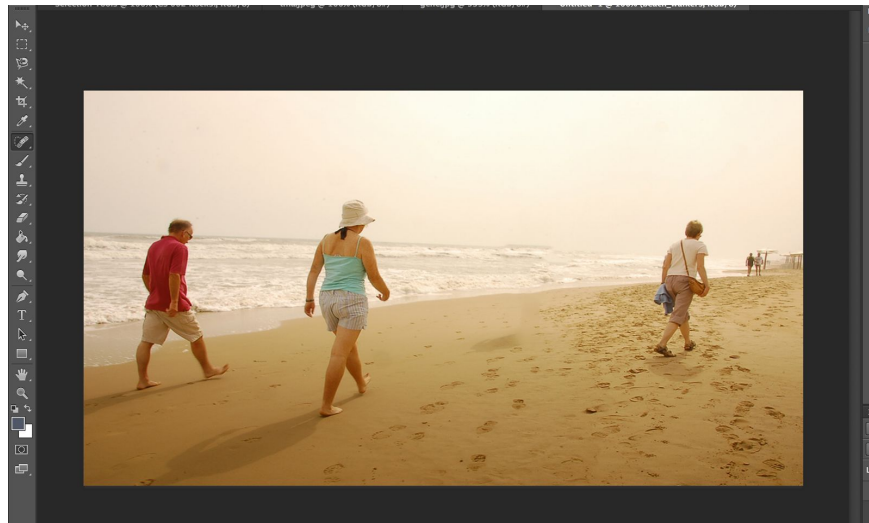
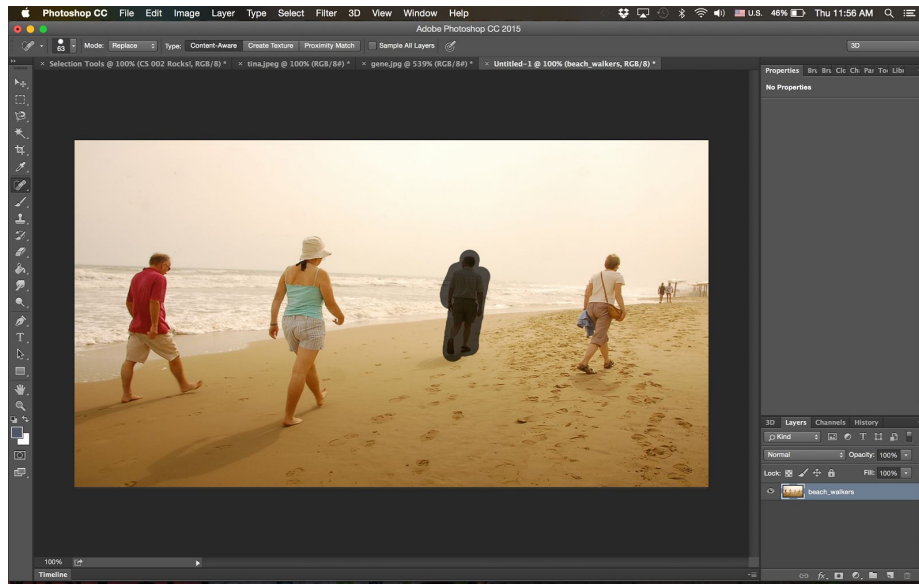


We will use the spot healing brush to delete the man in the middle of the beach. Use the brush to wipe over him. (Tip: use the keys [ and ] to change brush size!) If you encounter a popup about rasterizing the image, click **OK**.



## cs002 Lab 2

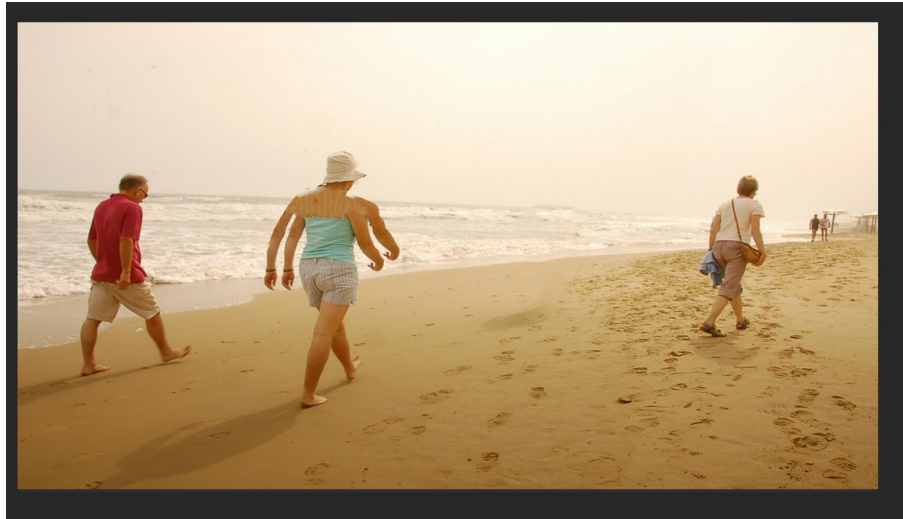
### *Introduction to Photoshop*



Next, we are going to morph the lady in the green tank top. Use the **Clone Stamp** tool to give her 4 arms. Do this by **Alt-Clicking (Option Click)** on her hand. Then regular click to the side of her hand and start using the brush to create a new arm. Smooth everything out by using the **Spot Healing Brush** again, in a small brush size. The final product should look something like this:

## cs002 Lab 2

### *Introduction to Photoshop*



When you are finished, please save the photo as a **.JPG** using the normal settings that we have been.

*You will need to show this to a TA in order to get checked off for today's lab.*

#### Check-off Requirements

- Mr. Incredible in tundra photo
- Elastigirl and Jack Jack photo
- Beach Walkers photo

#### Submission

To submit this lab, please raise your hand so a TA can come check your work. Make sure you tell the TA to check you off their list, or else you will not receive credit. If you do not finish your lab in the allotted time, please either come to office hours or another lab section to finish your work. If you are unable to complete this lab due to sickness or injury, please contact BOTH Don and the cs002 TAs via email. Please contact the cs002 TA's if you have any further questions.

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