From Hand-Drawn to Digital

Scanning and editing pictures at SBU

By Benjamin Shu

The computer labs at Stony Brook University come equipped with programs and scanners that can be used to refine drawings. With **VueScan** and **Adobe Photoshop**, hand-drawn pictures can be converted into **Portable Document Files** (**PDFs**) that are easier to store and edit. This tutorial aims to demonstrate how the conversion process for people who have access to Stony Brook computer labs, but may not have experience using them.

For the purposes of this tutorial, we're going to be taking a drawing (left) and cleaning up the lines and background to get a cleaner image (right). Keep in mind, however, that this is only one way to use the computer labs, and that the possibilities are endless.

1 - Where Do I Start?

Stony Brook University has computer labs called SINC (**S**tudents **I**n **N**eed of **C**omputers) sites. You'll need to use the Mac computers at these sites (left), in addition to the scanners (right).
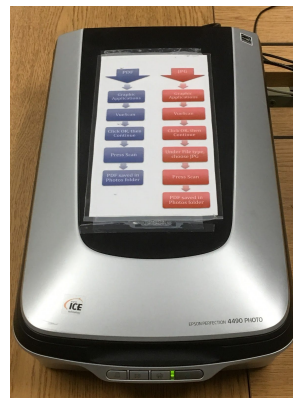

Note: The first step of this process requires a scanner - be sure to use a Mac connected to one.

A list of SINC site locations can be found here: https://it.stonybrook.edu/services/sinc-sites

2 - Scanning Your Picture

Note: If you have a problem with a SINC site computer, you can ask the consultants for help.

1. When you find a Mac, it will prompt you to log in with your Stony Brook NetID and NetID password. Once you've logged in, the home screen should look like this:
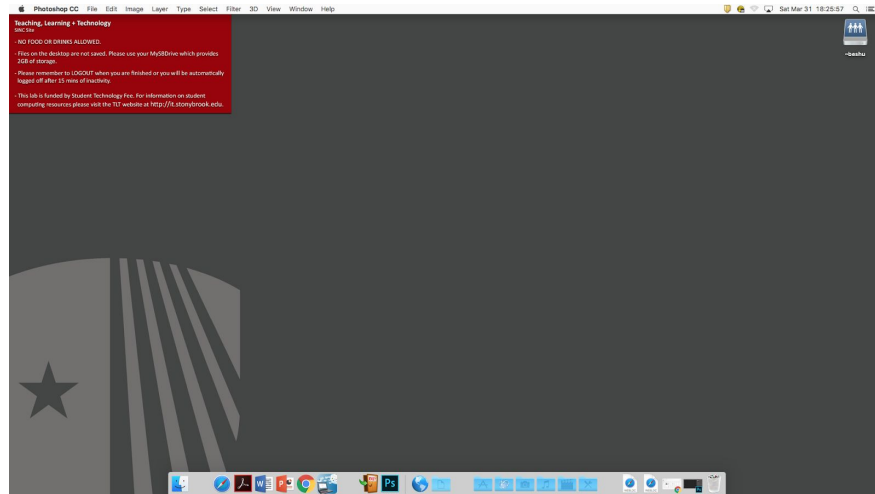

2. The SINC site Macs have a little blue folder icon at the bottom of the screen labeled **Graphical Applications**. To begin, click this folder, then click **VueScan**.

When VueScan starts running, you should see a pop-up window appear on screen (pictured below). The program itself is pictured on the next page.
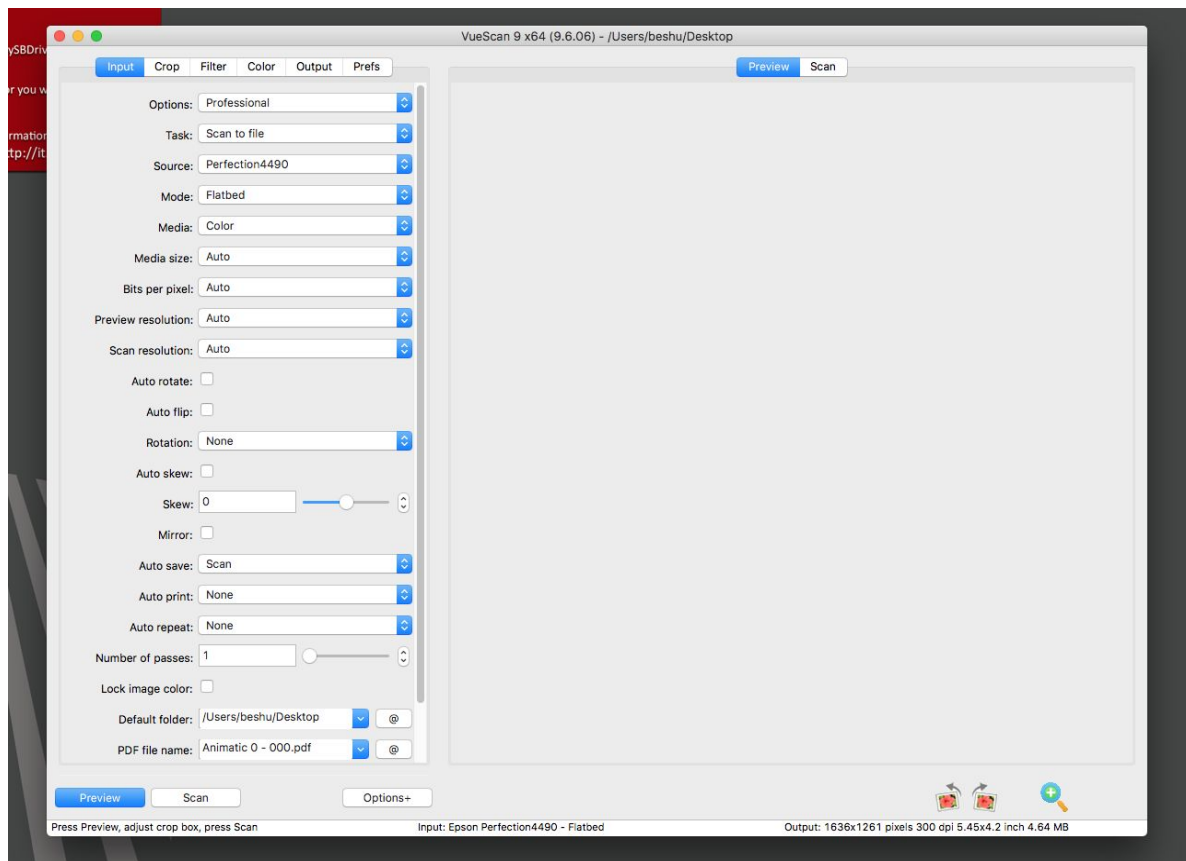
4.	For this step, you'll need the original copy of your hand-drawn picture:
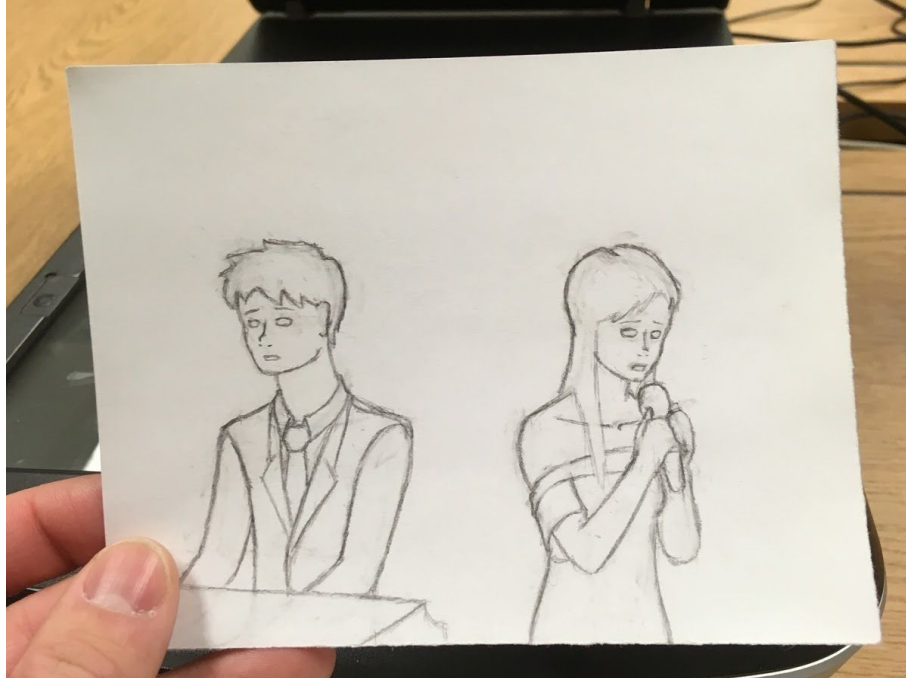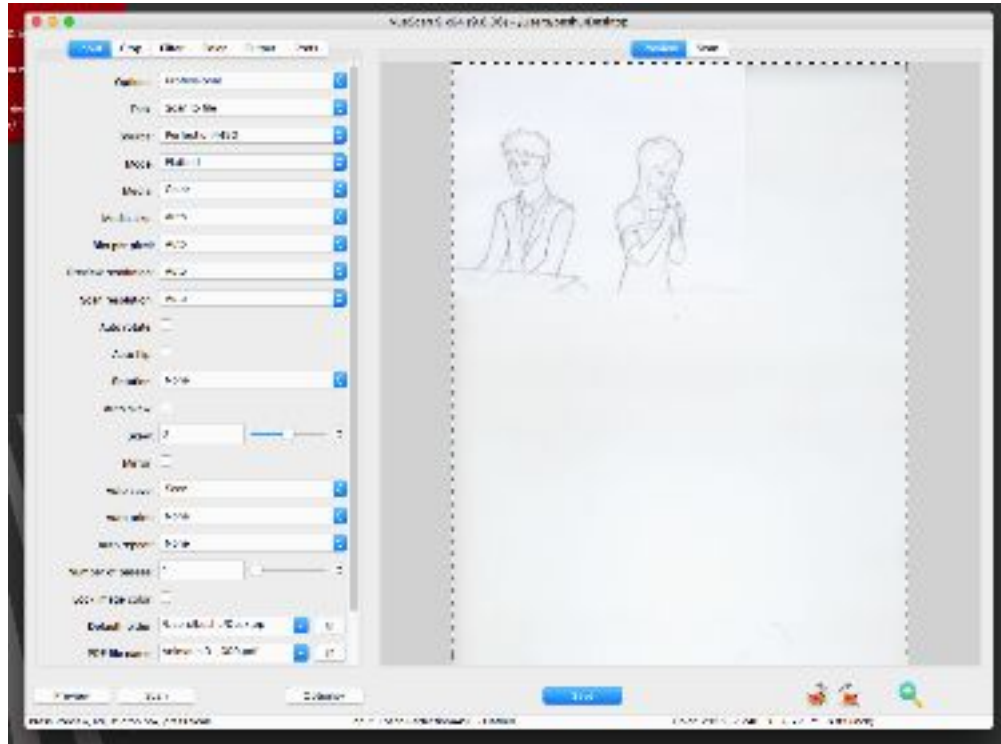
To scan your drawing, open the scanner and place the picture **face-down** on the scanner bed. There will be an arrow marking where the top-left corner should be placed.


5. Close the scanner and click the **Preview** button in VueScan, located in the bottom-left corner. Your picture should then appear in the VueScan window.
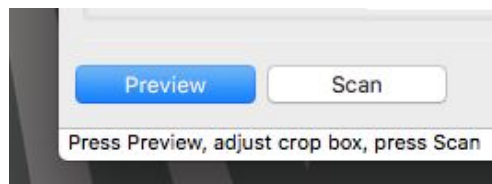
CAUTION: Your picture **hasn't** been saved yet - if you close VueScan, you may lose your file!

6.   You'll notice a dotted line along the edges of your picture. You can drag this window to change the size of the saved file. Since our picture is smaller than the scanning window, we're going to shrink the window to fit the edges of the paper (see below).
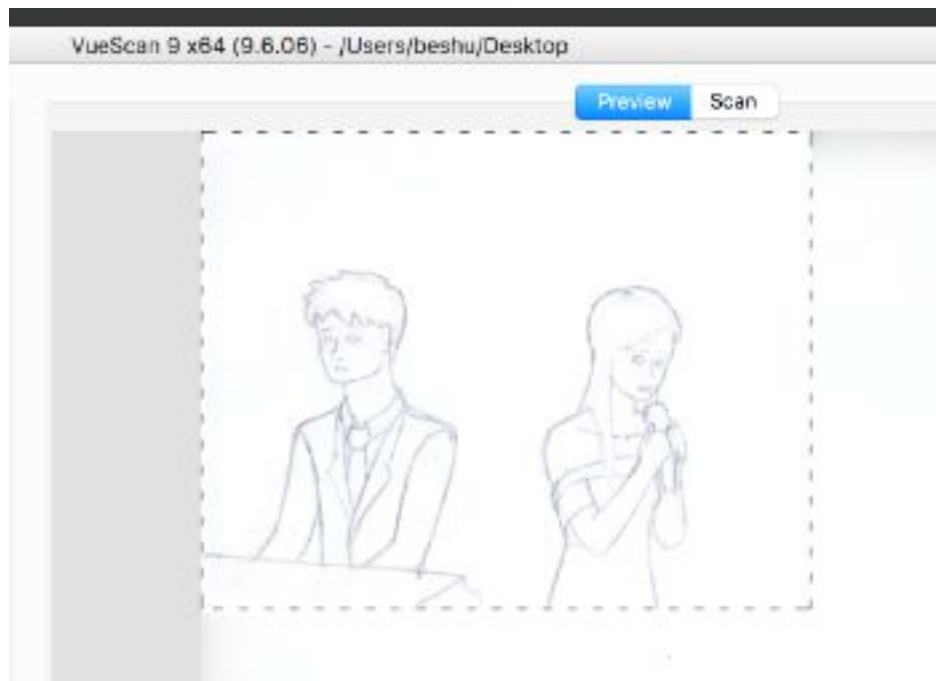
7.   Click the **Output** tab, located on the top left corner. You should see the following settings:
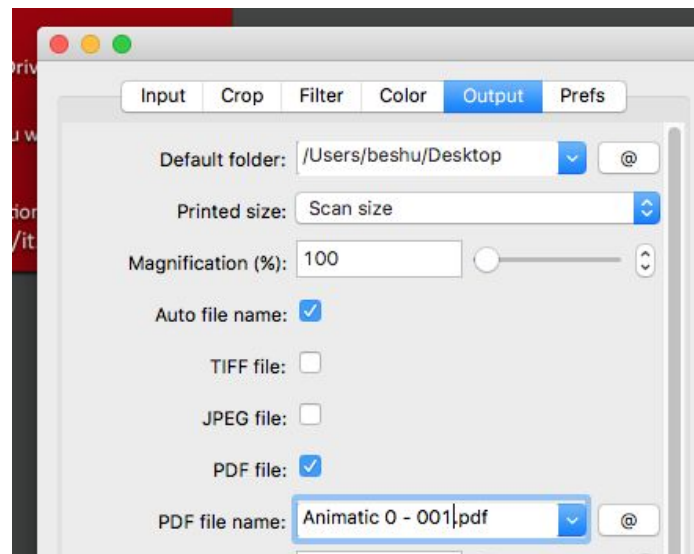
Here you can choose a location to save your file to, and change the file name. For this example, we're saving the file to the **Desktop**, and naming it **"Animatic 0 - 001."** Where you save your file and what you name it are up to you.

Note: Be sure to remember where you save your file - you'll need to find it for the next step.

8.   You should now see a **Save** button, to the right of the **Options+** button. Click it, and VueScan will save the picture as a PDF using the name and location you specified.
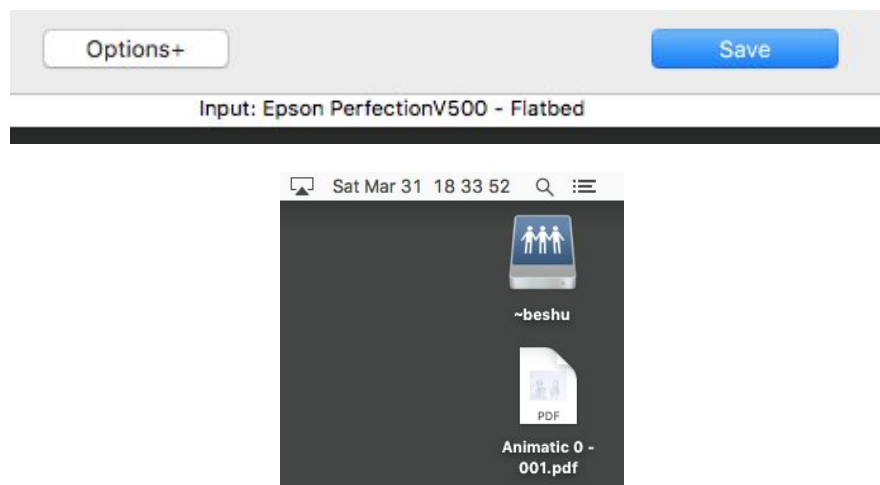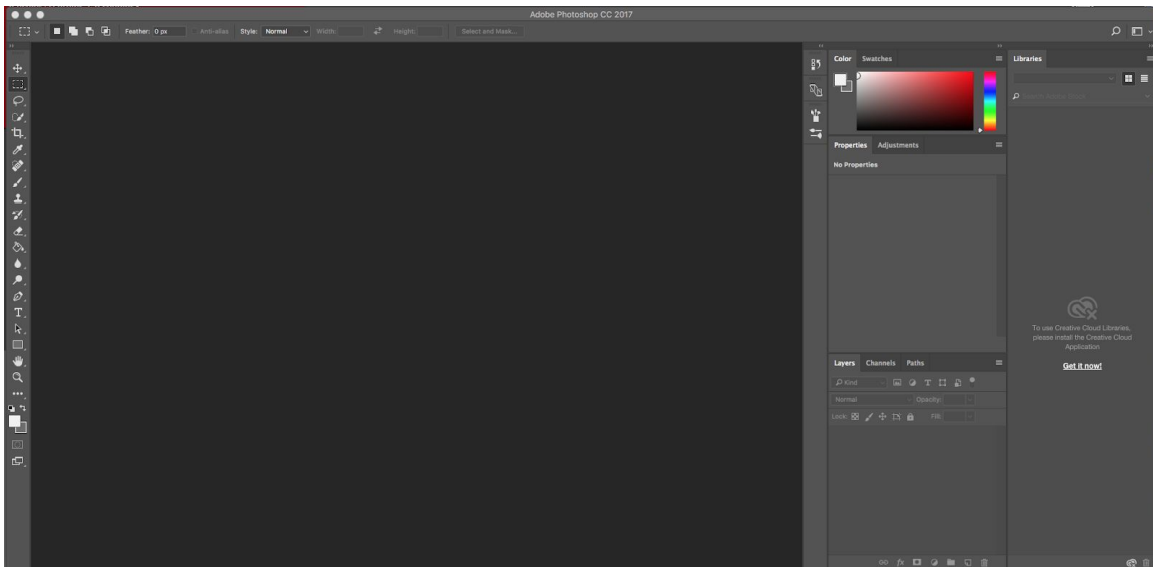

3 - Setting Up In Photoshop

1.   The next step of the process involves using **Adobe Photoshop**. You'll find it listed in the same Graphical Applications folder where you found VueScan.

Open Adobe Photoshop. You should see a window like the one pictured below.

2. Once Photoshop opens, the top toolbar on your screen should say "**Photoshop CC**" in the upper left corner. To open your scanned picture, click **File** > **Open**. A program called **Finder** will open, and you will need to use the tabs on the left to find your file.
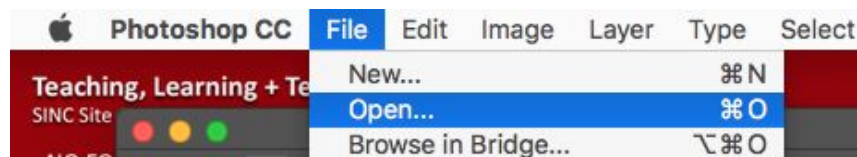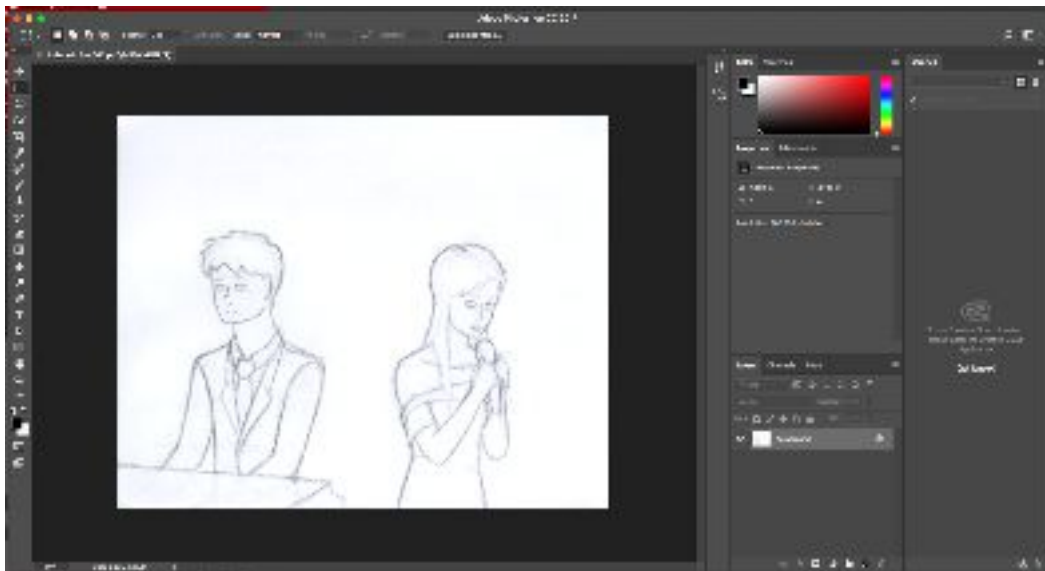

In this example, we saved the picture to the Desktop folder. So, if we click the **Desktop** tab in Finder, we'll see **Animatic - 001.pdf**.
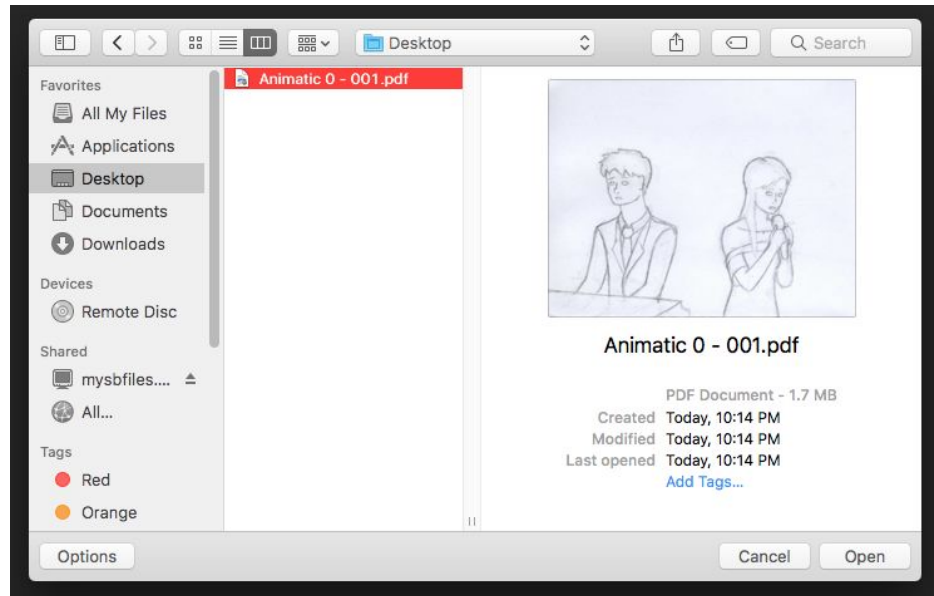
3.   Click the file's name, then click the **Open** button at the bottom right corner. This will open your scanned picture in Photoshop.

# 4 - Editing The Scanned Picture

Note: This part of the process varies wildly depending on the picture you're working with. As such, the following tips are intentionally vague guidelines instead of detailed instructions

Before you begin making changes, you'll want to set up your picture's two colors. For this example, the picture was drawn using a pencil and printer paper. Therefore, we're going to pick two colors that approximate both gray pencil lines and the color of printer paper.
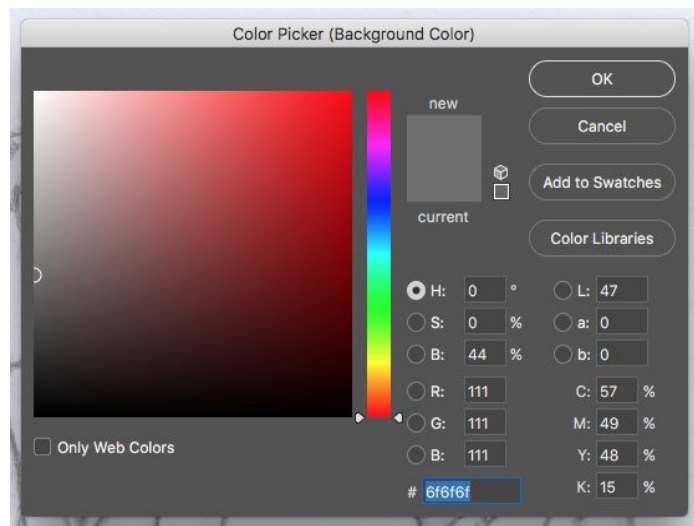
We're only using these colors for this example - feel free to experiment!

Photoshop, by default, has a color picker tool placed in the top left corner of its window.
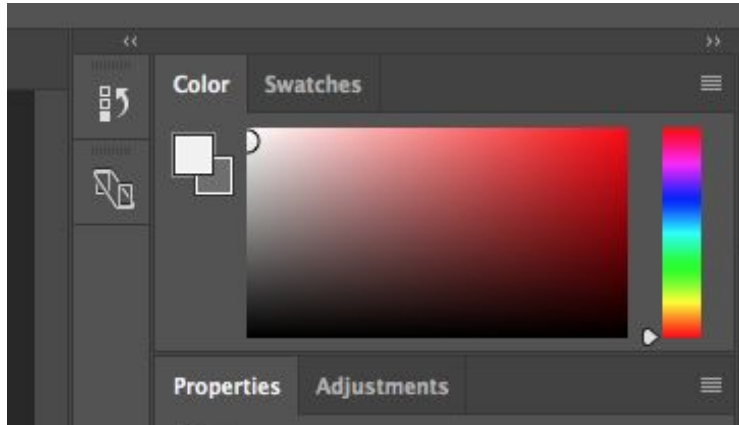
To choose a color, double-click one of the little boxes just under the **Color** label. Doing so will open a Color Picker window that looks like this:

You can drag the little white circle in this square to choose from different shades of a color. You can also drag the slider just to the right of the square to pick from different colors.

You can also enter 6-digit hex codes directly into the text area with a "**#**" symbol next to it - we're using hex code **6f6f6f** for the pencil lines and hex code **f1f1f1** for the printer paper.

Note: Make sure that the color you currently want to use is in the foreground. You can do so by using the "**Switch Background and Foreground Color**" tool at any time.
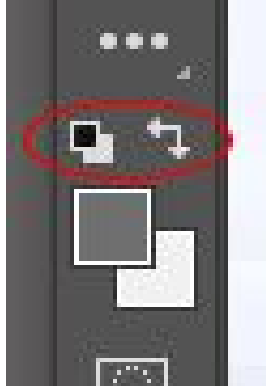
To clean this picture up, it helps to know how to use two basic tools - the **Paint Bucket tool** and the **Brush tool**.

The Paint Bucket tool can be found on the left toolbar. Depending on which tool was last used, there may be a different icon shown in its slot. Simply clicking the slot will allow you to pick the Paint Bucket tool.
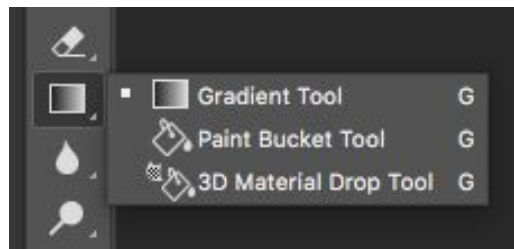
The Paint Bucket tool is used by clicking on some area in the picture. It detects that area's color, then replaces that with the current foreground color. For example, the following occurs if we click on any point in the background of Animatic 0 - 001.


You may have noticed that in addition to filling in the background, the color has also seeped into the man's piano and the woman's arm.
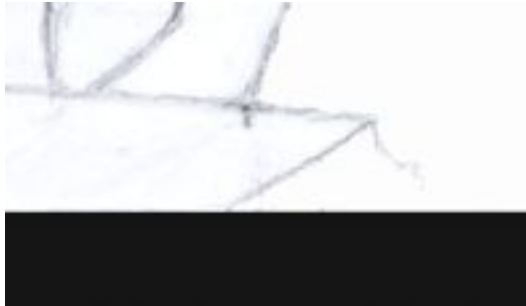
This happens because there are pixels in those areas with similar colors to the background. Without clearly defined lines/borders, the Paint Bucket tool will fill in every pixel connected to the point that was clicked. A similar problem occurs if you click on the woman's hair.


To fix this, we can use the Brush tool to draw boundaries in different colors. The Brush tool can also be found on the left toolbar, in the slot shown below:
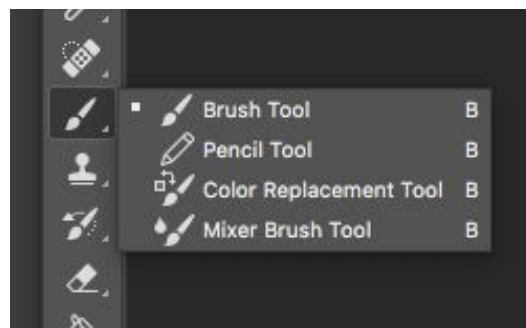
As the name implies, the Brush tool allows you to draw using your mouse and the current foreground color. We can use it to draw a rough outline of the woman's hairline (left), which then makes using the Paint Bucket tool on her hair less messy (right).


When using the brush tool, you can change the brush size by either clicking the drop-down arrow in the top left corner (below) or by right-clicking any point on the picture. The slider at the top will adjust the brush thickness.
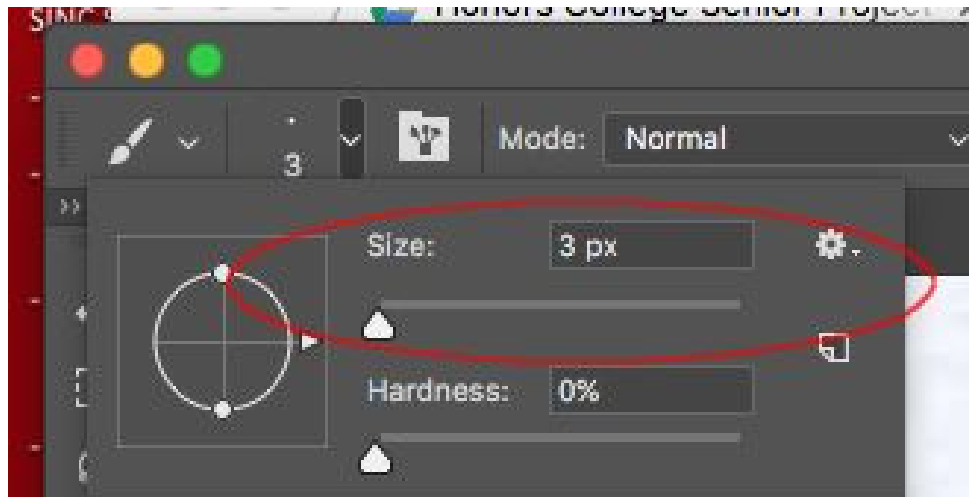
Using both the Paint Bucket and Brush tools will allow you to clean up the entire picture as you see fit as well as add different colors. There's no one correct way to go about this part of the process, so don't be afraid to make adjustments/changes from the original drawing!

If you make a mistake at any point, you can undo most changes by pressing **Command**-**Alt**-**Z**. The Command key on a Mac is located at the bottom right corner of the keyboard and has a ⌘ symbol printed on it.
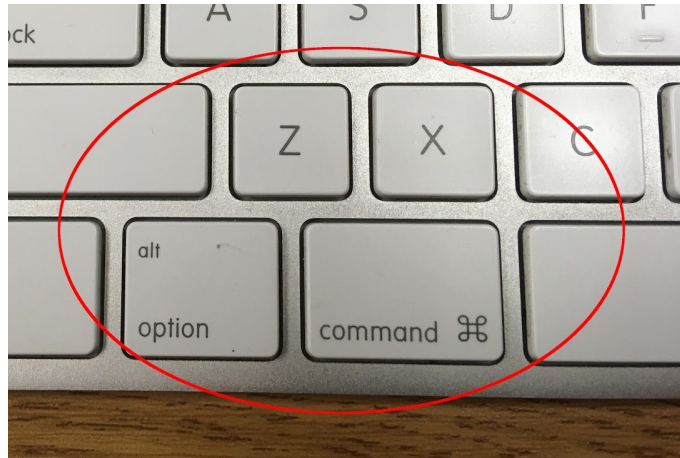
When you've finished making changes to your scanned picture, you can use the keyboard shortcut **Command**-**S** to save your file. Since you opened it as a PDF in Photoshop, it will be saved as a PDF to wherever it was when you last saved it.

You can either print the PDF directly, or open it in Photoshop again to make further changes. Either way, you get to decide what to do next.

Thank you for reading this tutorial - I hope it was helpful!

If you're interested, you can find more Photoshop tutorials here:
https://helpx.adobe.com/photoshop/tutorials.html