PATTERN MAKING FOR THE PHOENIX HOOP

This tutorial will walk you through making the most basic of pattern for the Phoenix Hoop and try to explain how the hoop interprets them. If you get confused, don't worry...keep reading, we walk you through step by step.
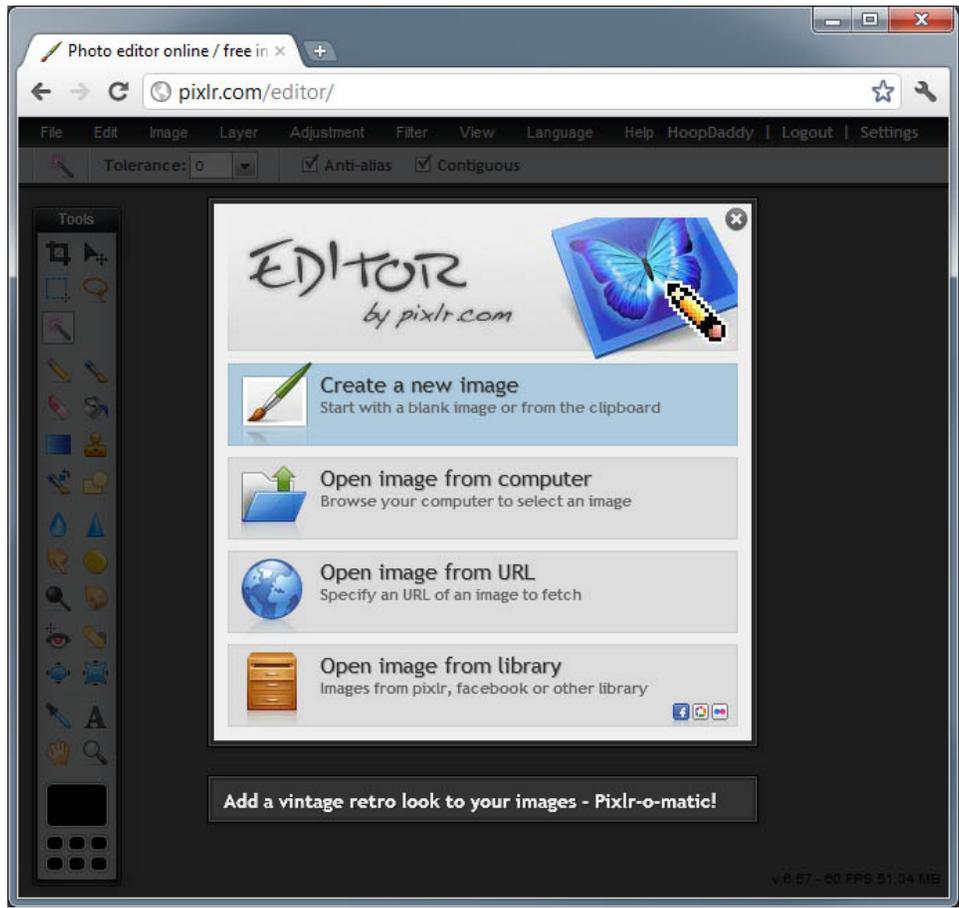
First a very high level explanation: The hoop reads bitmap (.bmp) from the internal memory. Each pixel in the image represents an LED in the hoop. Ideally, the image would be however many pixels wide as the number of LEDs your hoop contains. So, if you had a 100 LED hoop, a pattern that fit your hoop perfectly would be 100 pixels wide. For simplicity's sake, we are only going to use a 10x10 image. But that's OK, it will work just fine on your hoop.

If a pattern isn't wide enough to fill all the LEDs in your hoop, it's smart enough to fill the rest of the hoop by repeating the pattern. Many of the most eye-catching patterns are very basic, small patterns like this.
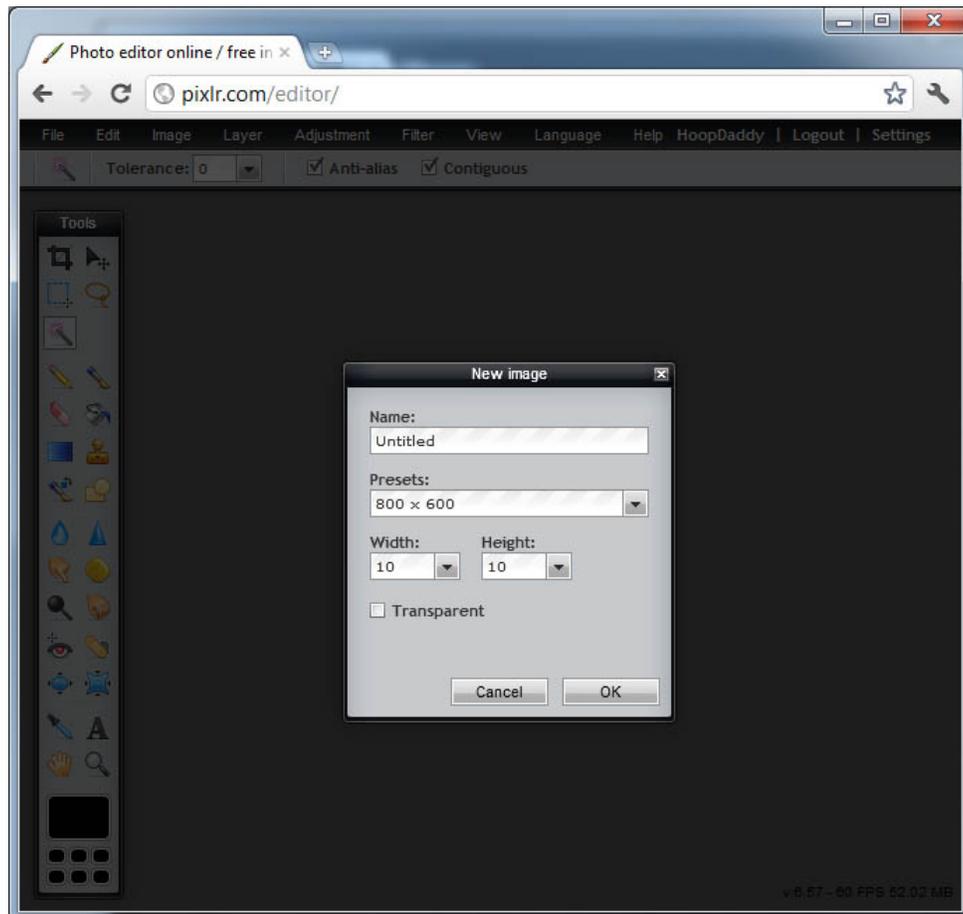
The hoop displays patterns one row at a time, starting from the top of the image, and then moves to the next until it reaches the end where it then goes back to the first row. So, a diagonal line in from the top-left of the pattern to the bottom-right will appear as chasing LEDs as the pattern is displayed one row at a time. Sounds confusing, right? Hopefully, as we go step by step through this tutorial it will make more sense!

I'm going to use the free image editor at Pixlr.com for this tutorial. Photoshop is my favorite tool for this, but Pixlr does a great job, and it's free.

So first go to **http://pixlr.com/editor/**
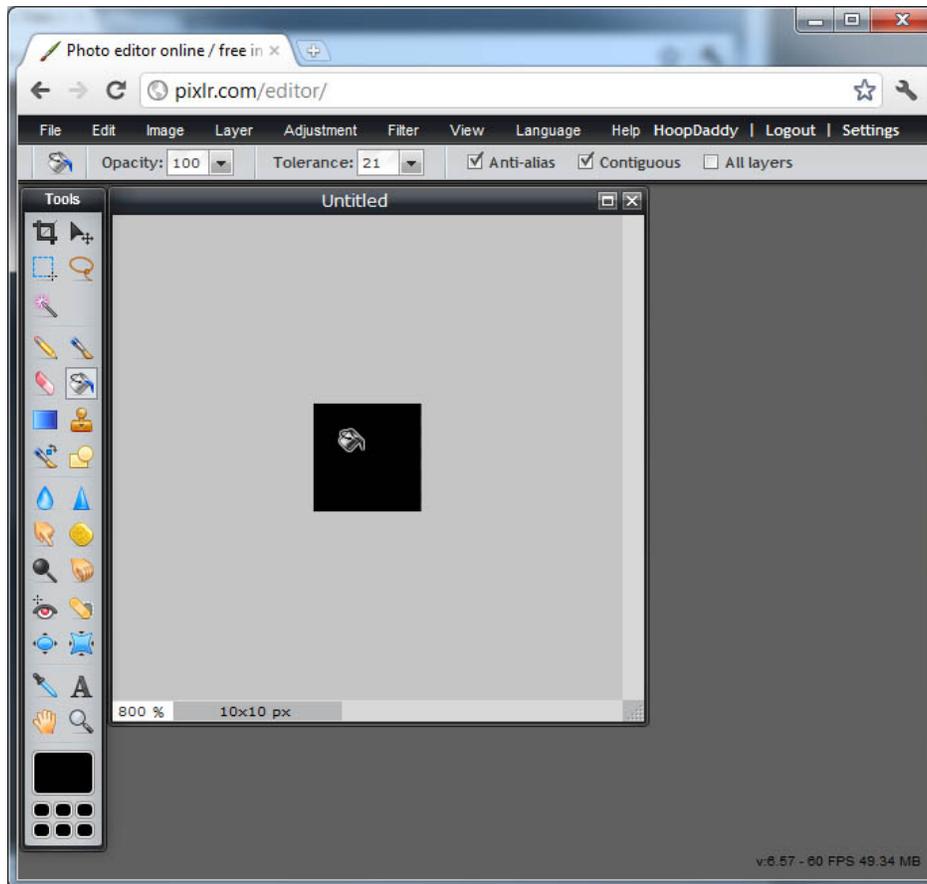
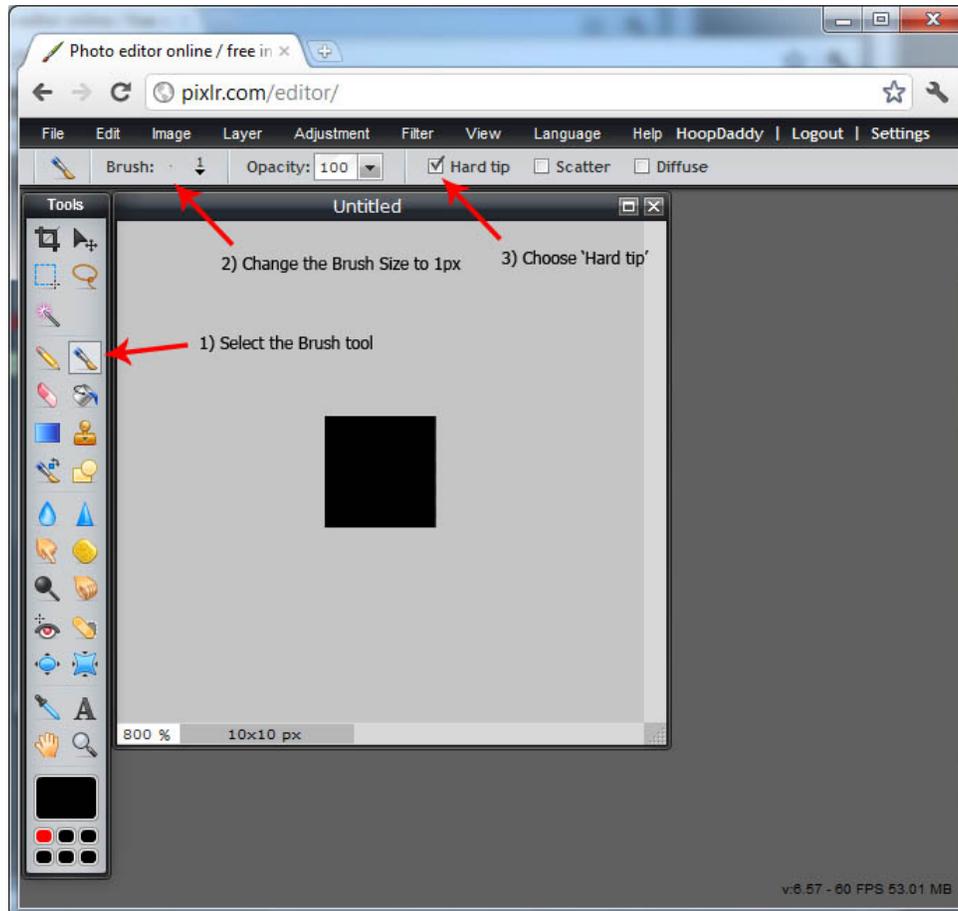Create a new image with a height of 10px and a width of 10px, then press the "OK" button.

Create a black background using the "fill bucket". This should be the starting point for all patterns.
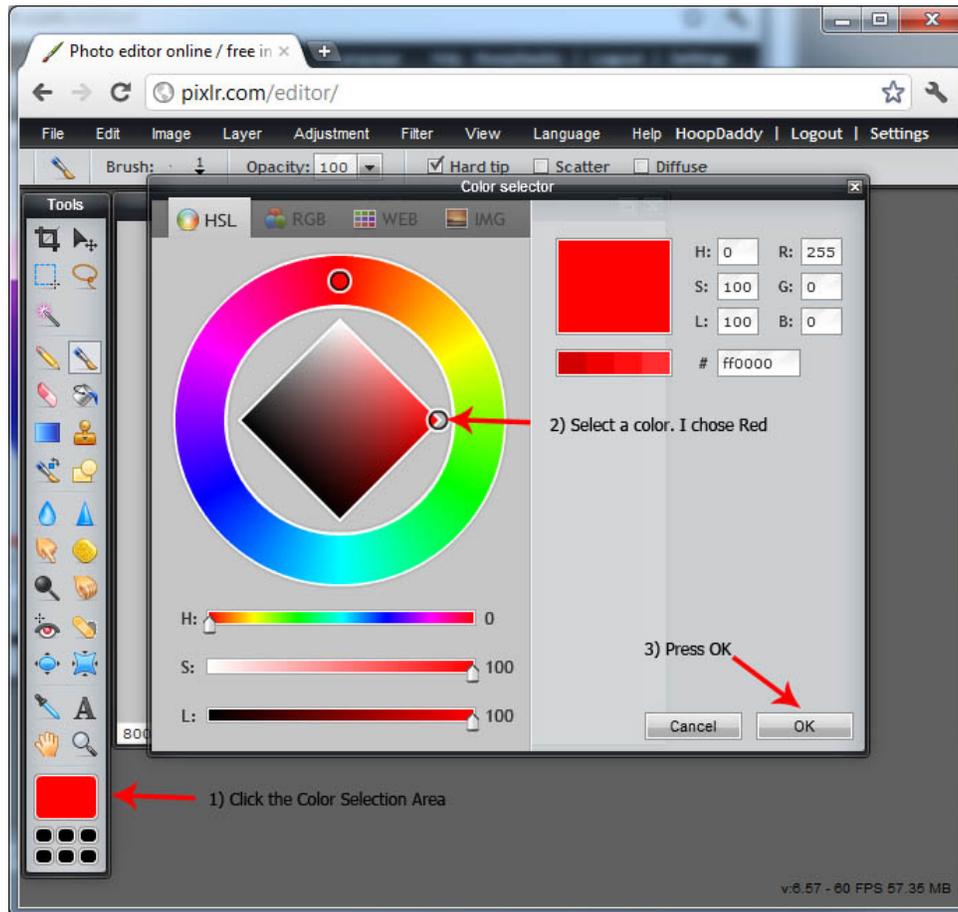
1) Select the "Brush" tool.

2) Change the brush size to 1px.

3) Select "Hard Tip". This makes a nice solid pixel rather than slightly faded. Without this, the system tries to blend it with the surrounding pixels and it will appear dim.
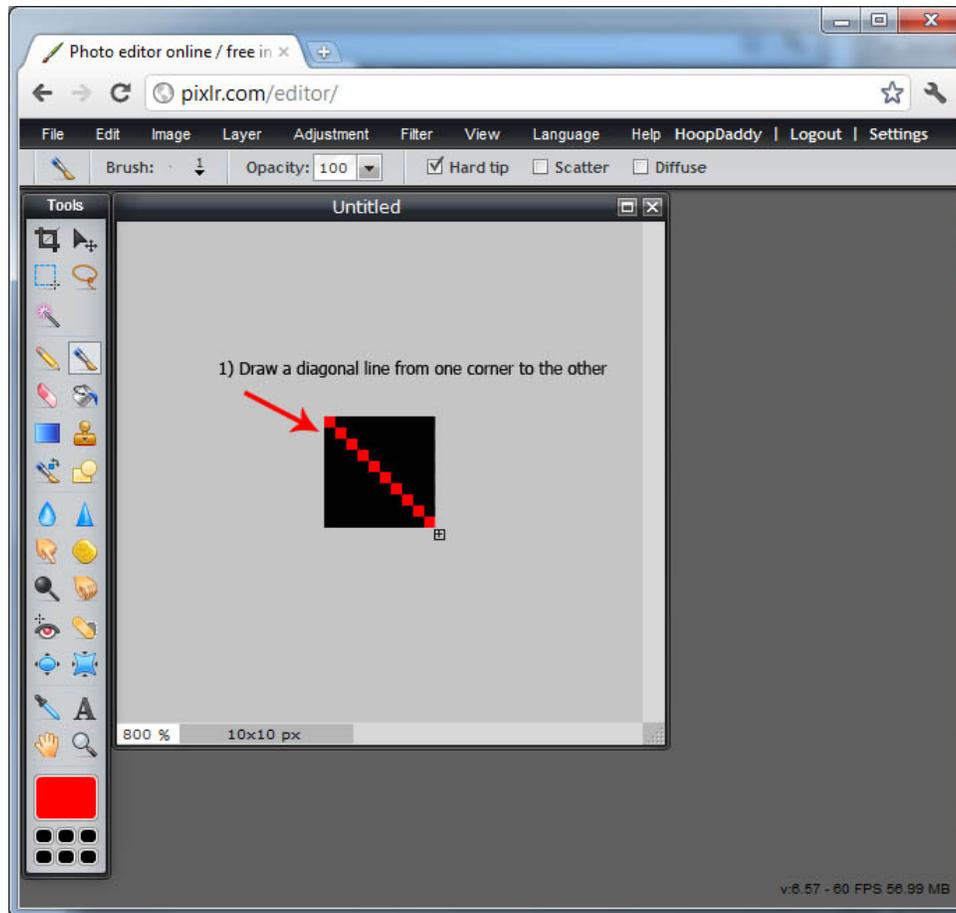
1) Click the color selection area. This will open the color selection dialog.

2) Pick a color, any color... I used red for this example.

3) Press "OK" to close the dialog.

Now draw a diagonal line from the top-left corner to the bottom-right.

Note There's a glitch with the Pixlr system where you can't directly click on the top-left most pixel of the image. I get around it by clicking one of the surrounding pixels and dragging the cursor onto the first pixel, then I change my color back to black and erase any pixels that I didn't mean to draw on.

Now for a closer look at the pattern we created. This illustration is just to help explain how the hoop interprets the image.

As you can see, I've labeled each row and column to show you how the image will appear on the hoop as the image is scanned from top to bottom.

Here's a close-up of the first frame of the pattern.
On this frame, the first LED of the hoop will be red. LED 2-10 will be off. Since the pattern is only 10 pixels wide but the hoop has many more LEDs, the pattern will repeat, so LED 11 will be red and 12-20 will be off.. this will repeat to fill up the hoop.
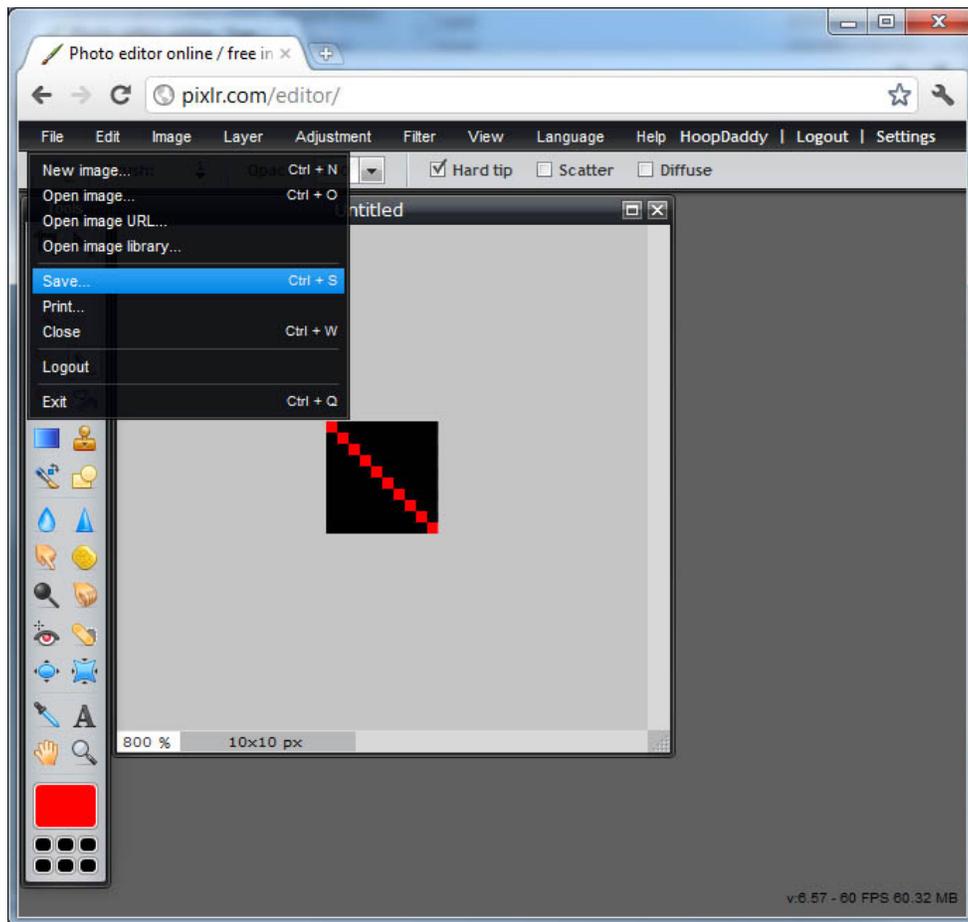
This is how the first frame will appear once the row has been repeated to fill the hoop.
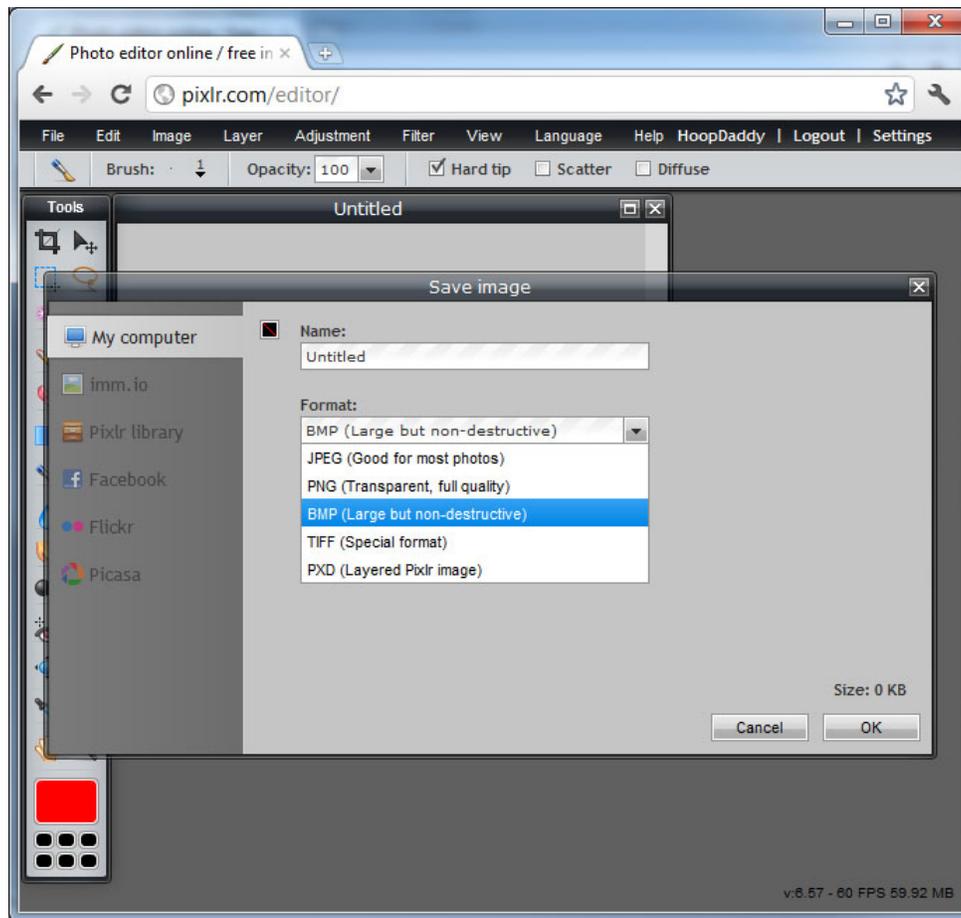

Great! You've done it! You have now successfully created your first pattern. Now to save it to the hoop.

Click File, then Save...

Now you want to make sure that you select "BMP (Large but non-destructive)" as your image Format.

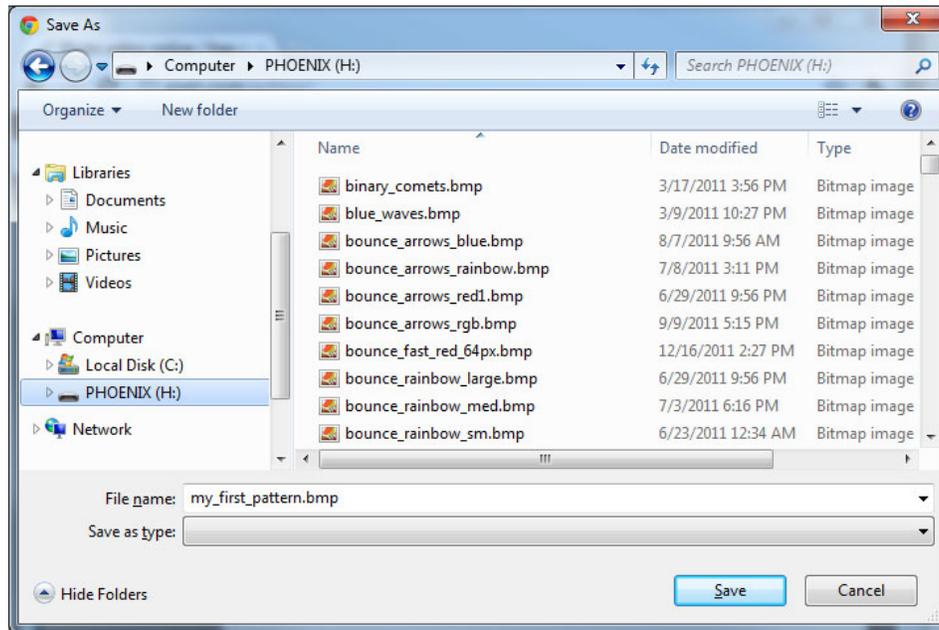Click "OK" and it will prompt you with a Save dialog.

NOTE Pattern names should only contain letters, numbers, '_' and '-'. Do not use spaces or periods within the pattern name.

From here you can either save it to you computer, or directly to the hoop.

If you're saving directly to the hoop, you'll need to plug in your hoop and turn it on. After 30 seconds or so, your computer should recognize that the hoop has been plugged in and a removable drive will show up labeled "Phoenix."

Click on the Phoenix removable drive and save the image to the root level of the device. The Phoenix does support sub-folders but it's more confusing and a little difficult to navigate into them with only the key-chain remote. So again to keep things simple, just save it to the root for now.

NOTE The Phoenix can only support up to about 220 patterns in one folder. So if you add enough patterns, you might get a warning that the pattern couldn't be saved to the hoop. If this happens, you'll need to remove a few of your least favorite patterns before you can save any new ones.

NOTE This tutorial shows PC based format, but MAC users will have the same basic instructions.

After you have saved the pattern, eject the hoop drive and turn off your hoop. Then reboot it to see your lovely patterns in action!