

Introduction to Programming II

Project Log

Project title:	Drawing App
Topic:	The Blur Tool. (22 nd July, 2023)
What progress have you made this topic?	
<p>Suprisingly, I would say that I am 95% done with this tool.</p> <p>The only issue left is that I don't know how to restore the original chosen colour after exiting the Blur Tool</p>	
What problems have you faced and were you able to solve them?	
<p>1st problem: For some reason, I can't use <code>red()</code>, <code>blue()</code>, or <code>green()</code> to retrieve a pixel's colour value. Solution: I used <code>"var pulledRed = get(x,y);"</code> then <code>pulledPixel()</code> to select my desired colour value.</p> <p>2nd problem: I did not consider the color's alpha value for Gaussian Blur. Due to the layers, pixels that are not coloured have the colour value of <code>[0,0,0,0]</code>. In addition of how I used to apply the new colour with <code>'stroke'(totalRed, totalGreen, totalBlue, 255)</code>, this create translucent white marks that can block the other layers. Solution: I started to consider the pixel's alpha value. Therefore, <code>'stroke'(totalRed, totalGreen, totalBlue, totalAlpha)</code> now include <code>totalAlpha</code> instead.</p> <p>3rd problem: Gaussian Blur in general will takes a lot of time steps, which affect the user's experience. For instance, with a 11×11 kernel and tool's size of 60×60, it will perform $11 \times (60-20) \times 4 = 774,400$ time steps and the true time steps value is <i>varying of colours</i>. Solution: I decided to implement another type of blur tool, where the color value of the center pixel is applied to the surrounding pixels instead. This algorithm will require time steps.</p>	
What are you planning to do over the next few weeks?	
<p>After finishing the Blur Tool, I will implement another extension or an additional function to my Stamp Tool. It will be either a Freehand Crop Tool or an add-on that allow users to upload their own pictures to use as stamp for the Stamp Tool.</p>	
Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?	
<p>As far as I know, I am very near the target of completing my project. I have technically completed four extensions (Editable Shape tool, Stamp tool, two types of Blur tools, and an <u>Eraser tool</u>). Therefore, I might focus on the UI and will most likely implement another extension/function. <i>A necessary byproduct of implementing Layers Helper functions.</i></p>	