

Introduction to Programming II

Project Log

Project title:	Drawing App V2
Topic:	Topic 7
What progress have you made this topic?	
Successfully implemented the scissors tool and added a few modifications of my own to the tool. The modifications are quality of life improvements.	
What problems have you faced and were you able to solve them?	
Faced the problem of the user changing the tool in the middle of cutting (before pasting) and I needed to come up with a solution to prevent the user from changing the tool until they press the “End Paste” button within scissors tool. I have successfully implemented this quality of life addition.	
What are you planning to do over the next few weeks?	
I am planning to resolve the color picker issue that I am having with p5 at the moment, that I described in the midterm report and also implement an eye dropper tool for selecting colors.	
Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?	
Yes, I am currently in target to successfully implement everything that I proposed to myself.	

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Project Log

Project title:	Drawing App V2
Topic:	Topic 8
What progress have you made this topic?	
I have implemented the color picker, finally, after having a bug of not managing to implement it, asked questions on stack overflow. I have also started researching bucket filling tool at early stages.	
What problems have you faced and were you able to solve them?	
<p>In the color picker tool I have encountered a couple of problems and I still have one that is unsolved. My first issue was related to this question here on StackOverflow that I asked: https://stackoverflow.com/questions/77728824/p5-js-createcolorpicker-undefined-error?noredirect=1#comment137033849_77728824</p> <p>None of the replies in there helped me solve this issue, but I managed to debug it myself, the issue was that I was trying to use colorPicker.parent() on a class name, but I then realized that parent() requires an ID so I had to change that part and my bug disappeared. I am still having issues with changing in between color picker value and the color array from colourPalette. This happens because the color array inside colourPalette is using swatches when loading colors to style the border of the selected color and when I change the color using the color picker, the swatch gets unstyled so after a color switch from color picker, I am getting a console error when trying to choose a normal color from the color array because of the swatch. I am working on solving this issue which currently I do not know how. I will continue to research how.</p>	
What are you planning to do over the next few weeks?	
I am planning to completely research bucket filling algorithm and see how I can implement it in my project, I will then also implement the text tool which will allow the user to place text on canvas. I am also planning to research how to implement the undo/redo tool and see if I have time to complete this as well but undo/redo is just an idea, not sure if I have time.	
Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?	
Yes I am in target. I only need to fix the colorPalette bug, implement bucket filling and text tool. If I have time, I will see if I can implement undo/redo tool as well.	

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Project Log

Project title:	Drawing App
Topic:	Topic 9
What progress have you made this topic?	
After long research hours I have finally managed to implement a bucket filling algorithm. This algorithm is not mine, I have found one algorithm on the internet and I managed to make it work with this project.	
What problems have you faced and were you able to solve them?	
<p>The main problem was that the algorithm was working with rgba only as an input. Our project was initially created with changing colors by the name of the color and everytime I was trying to pass the required color to the algorithm, I would encounter an error. I had to do slight modifications to the way the color is passed to the algorithm and transform the name of the color into an rgba value.</p> <p>Aside from the above issue, the algorithm had a major flaw. The original Algorithm (if you visit the cited link I provided) was created with filling a form with a random color every time, so the user would be allowed to click and fill the same form multiple times. In my case with the app, once the user selects a color and then tries to fill the same form twice, with the same color, the algorithm would enter in an infinite loop. This only happens if the same color is used twice on the same form. It was a really tricky problem to solve, it is all documented in my code. To solve the issue I am creating an array to store all the pixels that were already visited and if the same pixels are checked a second time, it will not attempt to fill the form anymore, it will continue over the loop iteration. This basically solved the issue and I prevented the algorithm to enter an infinite loop. Again, all of this is documented in my code already with what changes I have made to the algorithm.</p>	
What are you planning to do over the next few weeks?	
<p>This is still not super complete, at the moment this tool is added as a key press, when the user presses a key while the cursor is inside a shape or outside. I still need to modify this to a button of a tool and completely integrate it with my project as a constructor for the bucket filling tool.</p> <p>Another thing I still plan to do is to add the text tool. That is typing text to canvas wherever the user wants.</p>	
Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?	
I am on target to complete the project with what I had in mind initially, however, I am unsure if I will be having time to add the undo/redo tool. I will asses this in the coming couple of weeks.	

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Project Log

Project title:	Drawing App
Topic:	Topic 10
What progress have you made this topic?	
<p>I have successfully integrated the bucket filling tool into my project as a constructor function now. I have fixed all the errors I had with the algorithm regarding the color input and the infinite loop from last week. I also managed to research and create a Text to Tool for my project. This tool is allowing the user to type text to the canvas, change the size of the text to be bigger/smaller and the color of the text.</p> <p>After stepping away from the color picker issue with the swatches that I described in Topic 8 Progress log, I came back to the problem with fresh perspective and managed to resolve the issue and fix the bug. My color picker is not fully functional too.</p>	
What problems have you faced and were you able to solve them?	
<p>My first problem this week came with the Text to Tool, where I have tried to implement a blinking cursor while the typing is active. While I did manage to implement the blinking cursor with a line and a formula to take the modulus of frameCount, which gave me the desired effect, I did not manage to either move this blinking cursor with each letter so the cursor stays ahead of the typed letters. Besides this, My letters would blink too, not just the cursor. I did not manage to solve the issue as of now and I might skip the feature of blinking cursor and just leave the Text to Tool as it is, it is fully functional as it is without the blinking cursor functionality.</p> <p>Aside from the Text to Tool issue, I have managed to solve the issue that plagued me for the past 3 weeks with the color picker, when switching colors from the color picker back to the color array. The issue was because when deselecting a color, there would be a function that tries to take the last active swatch and unstyle the border but because my last selected color came from the color picker which did not have a swatch, it would throw out an error. I managed to fix this issue by checking if the last selected color was a string or if it was a color object from the color picker, before trying to unstyle the swatch and if it was a color object, then the swatch unstyle would be skipped.</p> <p>Ultimately, I've encountered a new bug, after managing to introduce the color picker tool with my color palette, the mirrorDrawTool had a new bug, once you would use the mirrorDrawTool and change color during use, when you would unselect the tool, the red vertical line from the tool would not disappear, it would remain on canvas, the fix was as easy as adding the updatePixels method but the main issue was finding the exact spot where this needs to be added, which I did and the bug has been resolved.</p>	
What are you planning to do over the next few weeks?	
<p>In the next couple of weeks up to project submission I will review the whole code, add more comments if needed and refactor parts of the code to streamline the project and make it more readable.</p>	
Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?	
<p>I am quite pleased with the progress on my project and the fact that I managed to finish my extensions in time for final submission and I still have a bit of time to refactor and go over my code again to clean it up.</p>	