Introduction to Programming II Project Log

Project title:	The Drawing App (Squiggle)
Topic:	Topic 7

What progress have you made this topic?

I have added the fill functionality and have begun adding some dropdown options for coloring in pictures to be added to the project. I found the coloring in pictures on Google. The fill function I have made is very basic and is not as sleek as it could possibly be. I need to spend some more time refining it, as it stands the fill function does fill in most of the area clicked, but there always is a little gap between the fill color and the line, which bothers me.

What problems have you faced and were you able to solve them?

I have found that there is an infinite loop somewhere in my program. The way I know this is that every time I run my application my computer fans start making a lot of noise and when I check the task manager Chrome is using up almost all of my CPU space! I am currently debugging this issue and commenting out big chunks of code so that I can hopefully isolate the problem and discover what is wrong, I am in the process of fixing this issue currently.

What are you planning to do over the next few weeks?

I plan on solving the bug and adding functionality to paste in stickers in the sticker tool. I also still need to convert the html code that I did initially which statically showed the colour palette to now show the color palette dynamically. I have a feeling that because I wrote some scripts in my html, this could be why the application has become slow and unresponsive.

Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?

Yes, I did factor that the fill function would be something I was working on by now, I just am worried that this bug might take a long time fix and thus will push me behind on the project. I will have to allocate some more time to resolving this issue.

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Project title:	The Drawing App (Squiggle)
Topic:	Topic 8

What progress have you made this topic?

I managed to change the colourPalette function so that it dynamically manipulates the DOM, this causes the elements like stroke weight, colour and alpha to be added at any time to any of the tools. I made it so that they will always effect the alpha, fill and stroke weight options in the draw function. I realized that the fill function I implemented is causing stack overflow due to recursion, I need to find a better way to implement a bucket tool than the current code I have.

What problems have you faced and were you able to solve them?

I realized I didn't fully understand how the DOM worked and all my initial code was direct changes to the HTML which I don't think is the best method to solve this problem. I had to watch a few YouTube videos and reread the documentation about it. Once I learned how to apply the DOM, I kept my HTML code in a separate textfile and used this as a guide to design my DOM changes, I am very happy with how this turned out. It took a lot of research but I am happy with the result and will continue to use these skills to code up the rest of the DOM elements that I need.

What are you planning to do over the next few weeks?

I need to fix the stack overflow problem with the bucket fill, I need to add in some pictures for the users to colour in and I still wanted to add more functionality to the sticker tool and the Spirograph. I also need to do my user testing.

Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?

I am slightly behind unfortunately, I didn't account for my fill to have this issue and it seems like a complex problem to solve as after a bit of research I realized that this is a common issue with the fill function. I plan on addressing this issue by doing some more research and focusing on other tasks in the meantime that don't take as long to solve.

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Project title:	The Drawing App (Squiggle)
Topic:	Topic 9

What progress have you made this topic?

I have completely overhauled the sticker tool, all of the elements are now dynamically created using the DOM. I also added some nice effects to the stickers using CSS so that they have a hover effect. I have done some refining so that the tools all check whether a click has been done in the canvas or not before beginning to run the code. I also did a few small modifications to the flood fill tool. I also changed how things are dynamically created and destroyed when certain tools are clicked, this seems to have freed up some memory, so the bucket fill tool isn't struggling as much with stack overflow.

What problems have you faced and were you able to solve them?

So many issues! Firstly p5.js has to use preloaded images in order to display the image, now obviously this was a big problem, as I was dynamically adding images to the html using loops. This caused an issue where the image name in the array was perfect for the html but it wasn't preloaded for the p5.js so I had do a workaround by making two arrays; one with the loaded images and the other one with just the names of the files. This worked well. Then I had another issue with adding an event listener in the loop because I wanted the ability to click stickers, I worked around this by adding the event listeners in a separate loop.

What are you planning to do over the next few weeks?

The next few weeks I am going to focus on getting the fill tool functionality finished, I wanted to make coloring in picture options so that the user can colour something in. The issue with the fill function is that it's very slow with the current colours, I am considering only allowing users to fill with certain colours only. I also want to finish adding the edit shape buttons to the DOM and also add a slider to increase the splatter of the spray paint tool. I need to add sliders for the Spirograph.

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, however if I have any other huge bugs that require a lot of brain power to fix I may be in a difficult position with the deadline, this is why I am just going to mainly focus on the Spirograph tool and the bucket tool in the next few weeks and then according to how that goes I can decide whether to refine the project further.

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Project title:	The Drawing App (Squiggle)
Topic:	Topic 10

What progress have you made this topic?

I have completed the autodraw tool by adding in the option to insert premade shapes. These shapes then can be edited by their vertices. I also smoothed out all the bugs with the fill function and found a way to make it work without crashing my entire program, I added in pictures that the user can colour in by selecting them from the dropdown box. I also added in more comments to my code and attempted to clean up the code by removing unnecessary lines of code and removing commented blocks of code. I also conducted my user tests and found that the users really enjoyed my program. I tried to implement the paint tool in my program as an added bonus to this project.

What problems have you faced and were you able to solve them?

The fill function initially caused me so much trouble, but after sitting with it for a while and trying different techniques as well as researching different methods to implement recursive algorithms I finally figured out a way to implement this tool without it crashing the drawing app. I did find that the paint tool is extremely complex and it was difficult to implement it properly into the drawing app, it was an additional last minute add on that I thought was nice so I am not too worried about getting it to be perfect. It also uses a lot of code from a tutorial and I can't think of that many ways to optimize it for my program so I am not focusing on this extension as much.

What are you planning to do over the next few weeks?

I will continue doing user tests and will try to optimize my code as much as possible. I will also be commenting as much code as possible so that the examiner can read what I am doing every step of the way. I also need to write up my report and remove any redundant variables or commented out pieces of code. I would preferably like to change the title font of the drawing app and make the program look sleek. I need to find ways to make the paint tool more customizable and take in the values of the already filled pixel array.

Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?

Yes I am. I just need to manage my perfectionism so that I don't delay handing in the project because it may not be 100% perfect. As long as I don't add any more last minute features into the app and refine what I already have I should be on track for the deadline.