**Introduction to Programming II Project Log**

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| **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?** | |
| 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.  Aside from the above issue, the algorithm had a major flawn. 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. | |
| **What are you planning to do over the next few weeks?** | |
| 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.  Another thing I still plan to do is to add the text tool. That is typing text to canvas wherever the user wants. | |
| **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. | |