Introduction to Programming II Project Log

Project title:	Drawing Application
Topic:	Extending the Apps

What progress have you made this topic?

I've been able to extend the application by refining the features of the template extension and making new extension. I added an option to copy pixel instead of cutting alone to the scissors tool, additionally I added a button to download a specific selected area of the canvas as an image.

I added an eraser tool to make it easier to erase some part of the canvas, the eraser tool can be resized.
In addition I've added a rectangle tool that has 3 different modes for drawing rectangle on the canvas.

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

At first, it was very tedious for me to understand how the code in the template were structured and connected.
Based on the mode of the rectangle, I was looking for how I can create two canvas at a time with one application. Create graphics fom p5js reference eased this.

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

I'm planning to add morecomplex tools that'll be required to meet final deadline

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

No, I'm not because I spent a long time than expected on implementing the basic tools planned out. I'll address this by taking up complex tools as from next week onward

Project title:	Drawing Application
Topic:	Callbacks

What progress have you made this topic?

I have been able to implement undo and redo function to the application. Beyond what I planned initially, I decided to make the drawing application like a native one with offline capabilities which implies that reloading the page or system shutdown won't cause progress loss. I used loadImage to load the image buffer from the localStorage and I pass a success callback to run when the image is fully loaded because the function is asynchronous.

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

I faced problem with circular when trying to use local storage, I was trying to save p5.image in the storage so it could load when application restart. I solved this by getting instead the data url as an image data string, then saving it to local Storage, calling loadImage when application restart and displaying it with the image function.

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

I'm planning to complete the present extension before moving to another.

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

No, I'm still not on target because I'm finding the extension challenging more than I predicted. I'll ensure that I finish this extension before moving to another. I want to implement the layer history and I realized that I needed to understand using Array Of Objects, I'm going through Mozilla documentation to understand this coding technique before moving to another. I belief the coding techniques gotten here, will make other complex extension easier.

Project title:	Drawing Application
Topic:	Debugging Skills

What progress have you made this topic?

I'm excited because I'm now moving at a very faster pace. I've implemented layer history and I now understand working with objects in an array. I used two array looping properties – map and forEach. I have layed my hands on zoom tool and found it very interesting to implement due to knowledge acquired. I modularize the code, I ensured that same code or block of code is not repeated, instead I turn it to a function and call them repeatedly. I notice some codes from template like setting option to "" when you unselect a tool. I followed Do not Repeat Yourself (DRY) coding philosophy, by working around the toolbox from the template. Also I adapt the code to modern javascript and avoiding things like "this" with arrow function.

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

It was painful at some point that I mismatched variable names – savedPixel and savedImg the debugging skill came in handy at this point in resolving them.

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

I am planning to take other complex extension of the application

Yes, I'm on target now.

Project title:	Drawing Application
Topic:	Testing with users

What progress have you made this topic?

I progress with an exponential speed as I implement two complex extensions. Firstly, text tool which allows writing on the canvas changing the text font and also the text size. It also allow writing to a specific pixel on the canvas. Secondly, bucket fill tool which is an implementation of flood fill algorithm, it works by getting rgb color of p5js pixel. It automatically detect an enclosed shape relative to the mouse position.
I also started the user testing and I was receiving response from black box user based on the usability of the application.

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

The text tool which was very hard in using it with already implemented undo and redo helper function. It was resulting in an unwanted behavior, I solved this by setting a flag - noHistory on the tool to not allow undo/redo when user is typing, as this is not needed because they can easily delete from text input without using undo/redo function.
I received a discouraging feedback from one of the user that tested the application. She said "the tools were useless" because she didn't understand their usage. I approach this by adding description to each tool just like as there is this.name and this.icon, I add this.description and automatically make the toolbox display it as needed.

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

I'm planning to gather more user feedback and submit the project

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

Yes I'm on target.