

I have chosen the Drawing App and named it DrawJS. I chose this template because it lets me experiment with trying to create an intuitive user experience by becoming an app the user will be able to interact more than other apps with. I also wanted to find a way to learn more about pixel manipulations.

I want to expand my app with tools that will help the user create a full image without using workarounds. I also want to give more options for tools that already exist. For this purpose, I want to extend my app with:

1. Editable Shapes
2. Scissor tool with a copy-paste functionality.
3. Editable canvas color to give users a better start on their drawings
4. Eraser Tool
 - a. The user will be able to choose the eraser's shape and size as well as opacity. The user will be able to partially erase their drawings.
 - b. The eraser tool will ultimately be a freehand tool which always draws in the color of the canvas.
5. Bucket Tool
 - a. Users will be able to pick a spot on their drawing and fill their drawing in the same way they can do in any other painting app.
 - b. I will use a flood-fill algorithm that I will write and use recursion to fill areas with the selected color.
6. Different brush types for the freehand tool
 - a. The user will be able to choose a shape for the freehand tool and different sizes of brushes.
7. Spray effect functionalities
 - a. User will be able to choose the shape and size of the spray tool as well as an editable spray spread.

I will use different techniques to implement my extensions. I am using ES6 syntax where possible, arrow functions to write cleaner code, and I will use OOP techniques to work on my code. I will also need to write a flood-fill algorithm and use `get()`, `set()` command from p5js library to get and draw pixels.

I expect that biggest challenges will be in the scissor tool and bucket tool. I will need to implement a custom flood-fill algorithm to implement the bucket but I will also need to make sure that DOM interactions work for the bucket tool. I will also need to implement a slider for spray effects, brush sizes extensions I chose.