INTERIM PROJECT PROGRESS [001]

QUESTION 1: Outline your project and which extensions you are building on to the template. (400 words)

Your answer should include:
Which of the templates you are extending and why have you chosen to do it.
What extensions have you chosen to do. You should include in your answer: any complex coding techniques you will need to use, (such as arrays of objects, constructor functions, nested looping); the complexity of the extension; and any expected challenges you will have implementing it.

My choice was "DRAWING APP" as there is an extremely small gap or divide between traditional and digital art. I decided to add some functionality to the already made tools. Sliding bars were implemented that allow you to modify the width of the lines. Also, now the color of these depends on the color selected in the colorPicker. On the other hand, 24 new tools were implemented:

- ***MODIFY THE BACKGROUND COLOR*** using 3 sliders to control the RGB values of a color.
- ***SIMULATE TRADITIONAL BRUSHES*** using a variety of drawing techniques, along with a bit of math (dist(), lerp(), Math.atan2(), frameCount, translate(), rotate(), abs(), createVector()). In addition, loops, nested loops, arrays, and constructor functions were used.
- ***DRAW GEOMETRIC FIGURES*** using basic functions such as ellipse(), circle(), rect().
- ***DECORATE THE CANVAS***, functions such as lerp(), colorMode(), translate(), angleMode(), rotate(), sin(), cos() were used. As well as loops and nested loops. These tools simulate multicolor, watercolor, highlighter, and rainbow brushes.
- ***ADD IMAGES***, createFileInput() was used to add an image-type document, which can be drawn on the canvas and saved in a matrix to add another image without harming the previous one. The following functions were used: createImg(), loadPixels(), updatePixels() and createGraphics().
- ***ADD STICKES***, an array was created with the names of all the stickers. After that, a loop was created that goes through this array to add each sticker from its local path. In this way, the stickers will be added to the HTML simulating samples. Thus, when we select a swatch, the image of the selected label will be drawn on the canvas at the current mouse position.

IMPORTANT: All these tools are included in the toolbox as constructor functions. Most have functionality to modify the width of the line, the size of the figure or the opacity. If not, these features will be rolled out over the next few weeks. Also, each tool has the unselectTool() function. Which allows the changes made to the HTML of the current tool to be removed so as not to interrupt the operation of the next tool that is selected.

UPCOMING IMPLEMENTATIONS:

Different implementations regarding the interface design will be added, as well as an extension that simulates the cloning of one area of the canvas to another. To do this, when you press the "Shift" key and the mouse on the canvas, a circle will be drawn around the current position of the mouse that will allow you to choose the initial position to copy. In this way, when "Shift" is released and the mouse moves over a new area on the canvas, the area chosen as initial will be copied to the new area. The functions copy(), keyPressed(), keyReleased(), mouseReleased(), mousePressed() will be used.

Some extra details and tools will be implemented as the presentation progresses. In addition, the bugs still present will be fixed. Each tool is fully detailed in the following file "file(Question1_Details).pdf".

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