Final Self-Assessment

Creative Coding

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Before this class, I already had some experience with coding, but it was new to me to connect design and coding in order to create an art project. Especially, it was great to learn a new library, p5.js. I spent most of my time becoming familiar with this library by reading the documentation on the p5 website. For my final project, I liked that I was able to use sound sources. However, it is a bit disappointing that I did not use image resources as I did in Sketch 6.

I was successful in visualization, interaction, and sound synchronization. It was exciting to make drum sound effects play in sync with music. However, the most challenging part was that the drum effects did not perfectly match the song *"Billie Jean"* due to a slight loading delay at the beginning of the audio.

My initial goal was to create a project where users could easily and freely generate their own drum beats. I wanted to visualize this process so that users could both see and hear the rhythm they were creating. At this stage, I believe I successfully achieved this goal.

However, one limitation of the project is that while the BPM can be adjusted freely, the rhythm is fixed to an 8 step pattern. This decision was made to keep the program lightweight and responsive. Even though this constraint helped with performance, I feel that allowing users to customize the number of steps would make the project more flexible. If I continue developing this project, I would like to explore ways to improve this aspect.

During the development of my final project, I encountered several minor bugs, mostly related to timing, audio playback, and user interaction. While none of these issues were extremely difficult, they required careful debugging to identify their causes. I often used console logging to track variable values and to check whether functions were being called at the correct time. In some cases, I temporarily displayed values on the canvas to better understand how the program state was changing over time.

The difference between Object-Oriented Programming (OOP) and Procedural Programming is that procedural programming focuses on executing instructions step by step in a specific order, while OOP organizes code around objects that contain both data and behavior. Although both approaches aim to structure code efficiently, they differ in how they manage data and logic.

The aspect I am most proud of is the user interaction. I especially like that users can create and modify rhythms on their own simply by clicking. This made the project feel more engaging and interactive.

In the future, I would like to create more projects using p5.js. I was particularly satisfied with the result I achieved in Sketch 6, and I would like to continue improving and expanding upon that work.