Final Project Report: ITP2

My project comprises six visualizations, three of which were adapted from the original template. These were either lightly modified for styling or significantly expanded upon. The remaining three are original extensions developed by me.

Spectrum: Underwent minor modifications involving background addition, color mapping adjustments, and altering the direction of bars.

Wavepattern: Features notable alterations where two waves rotate around a central point to a specified radius rather than stretching horizontally. The waves rotate counter to each other, reacting dynamically to the music frequency to create the desired effect.

Needles: Underwent substantial changes from the original. It visualizes multiple balls within a specific color range that change color, direction, and speed based on bass, treble, and mid-frequency levels. The bins containing the needles were transformed into bouncing circles across the canvas.

Wavetriangle: Built upon a course assignment, with updates to line width, placement, and aesthetic design. Shapes were incorporated to enhance the visual appeal, with the outer shape flashing colors and vibrating according to frequency.

Particlepattern: Utilizes for loops to generate multiple layers of particles, confined to specific locations and ranges of motion to resemble dancing stars or fireflies. Additional particles create bursts when certain bass frequencies are reached. Just as with all the additional extensions it is integrated with the visualizations and sketch functions.

Cubes: Utilizes lines and shapes to create a 3D visual effect, with specific corners and points reacting to frequency variations. The 3D shape rotates at varying speeds based on frequency input. This extension had to be greatly simplified from original plans.

Playbackbutton & Controlsandinput: User media controls are designed and drawn within the PlaybackButton function and called within the Controls function. Effects and color changes enhance user interaction, complemented by a redesigned menu layout for cohesive integration on the canvas.

App.js: Manages DOM elements such as preventing space bar scrolling, toggling dark mode, and managing navigation bar links.

All extensions utilize background images and music from arrays within the sketch file.

I believe my plan was effective up to a certain extent. There were circumstances and issues that were not foreseen. A lot of these issues stemmed from my lack of knowledge in certain topics and the time

that it realistically takes to research study and implement these techniques successfully. Sometimes, ambition can cloud the implementation of a realistic time managing plan. For the majority of the first part of my project, I followed the plan relatively well. It was not until I confronted a major setback that I had to switch to a plan B. Plan b was a lot easier to follow given the sudden time constraints.
In retrospect , I believe one needs to allocate more time to debugging and fixing unexpected errors. These issues, amongst others, such as family health emergencies called for a restructure of task deadlines and complexity features to the project. In all, having an overall plan and vision are tremendously important to these kinds of projects, even if they must be revisited and changed along the way.

This project has been quite the roller-coaster ride. Some weeks flowed smoothly with tasks completed effortlessly, while others were a frustrating mess. However, it has been a valuable learning experience. I feel more confident with P5.js now, although there's still much more to learn. I've gained insights into time management and the challenges that can arise during project development. Reflecting on the process, I realize that I underestimated the time required for certain features and could have structured my plan better. Debugging took longer than expected, and a more detailed plan for code structure and integration with the template would have been beneficial. The final code could be cleaner and better organized, and more emphasis on user testing is needed. Although I had limited access to testers, feedback from my wife and a few friends was invaluable. I had a hands-off approach during user testing that allowed me to only observe the user quietly and gather quantitative data and identify areas for improvement. I also interviewed them to gather qualitative data. For instance, users preferred simpler and more intuitive media controls akin to those found on Mac systems. Additionally, user challenges like the webpage scrolling down when the spacebar was pressed for play were uncovered. While the final product has room for improvement, it's positioned well for future enhancements. I intend to continue refining it with the goal of eventually launching it as a webpage.

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