**List the modifications and extensions that you have made to the template.**

I added a music visualizer sphere (MVS). The function of the MVS is to change shapes depending on the amplitude and frequency of the music playing. Implementing the MVS into the template was a bit difficult as I had to change the canvases that the other 3 were displayed on (More information on logs). I also added a volume and microphone input slider and button respectively. The volume slider and microphone button works for all visualizations. I removed the “fullscreen on click” functionality of the template as it was very annoying as I didn’t want to be full screen just by clicking on the screen. The MVS works by first creating all the customization sliders and buttons. After creating the sliders and buttons it adds text above the sliders and buttons according to their position. After creating the text the program checks whether some of the buttons were pressed and acts accordingly, ei. rainbowEffect is true so change the color of the stroke. After checking the buttons it checks the values and adjusts the corresponding functions, ei. rotateX, rotateY, rotateZ from the slider values. Then it checks the current selected sphere and draws it. The spheres are almost the same code with some variation to make them look different from each other. The MVS fits the template very well. It represents each part of the frequency with an appropriate movement and is accurate to the music.

**Describe how effective your plan was in completing your project.**

I stuck with my schedule most of the time but there were some unexpected things that made me fall behind a bit and had to work more to catch up. My plan was mostly correct with some small changes that had to be made. There were many challenges during my project. A big problem was the fact that we have never covered anything in 3d space. I had to learn from external sources on how to work on my project and a lot of time in the beginning was watching videos about 3d space and 3d space in p5js. During the last weeks of classes I was a bit behind with all classes as the workload increased so I had to work extra hard to not fall behind.

**Evaluate the process of completing the project and how effective the final product is.**

I believe I could have done more research in the beginning that would’ve helped me later on in the project when I had many errors to deal with. I’m very proud of the final result and sometimes I just watch my visualization while listening to the music. I had multiple friends and family try the MVS by sending the files and instructions on how to use it. They found it quite easy to use my extension and found it quite relaxing too! I had to change some positions of buttons and sliders as they were not in optimal places for some people. I added a resolution slider to lower the hardware cost of drawing the sphere that some computers couldn’t handle. This helped with performance on a lot of the computers.

**List any external sources that you have actively utilized in your project.**

<https://p5js.org/examples/>

<https://stackoverflow.com/>

<https://www.youtube.com/watch?v=h_aTgOl9J5I>

<https://www.youtube.com/watch?v=RkuBWEkBrZA>