Introduction to Programming II Project Log 1

Week no: 15th & 16th

Project title:	Music Visualisation
Topic:	Particles/FireWorks (ThreeRing extension)

What progress have you made this topic?

I customized my fireworks to explode with a starlike shape because it was my own idea and creativity, and I was able to properly apply the fireworks effect into my own extension. In order to give users customisation, I have also incorporated GUI elements for the fireworks, such as the frequency and quantity of fireworks exhibited. The speed and size of the particles have also been altered so that the fireworks will explode smoothly and won't cause the music visualization to falter or even crash from an excess of particles on the screen as I also limited the amount of fireworks being displayed in the GUI controls too.

What problems have you faced and were you able to solve them?

When I added the fireworks effect to my ThreeRings extension, it caused my other extensions, like the RidgePlot extension, to display a blank screen even though I could still see the GUI on the right side (as shown in figure 1). This was a difficult situation I had to deal with. At the end of the day, after testing line after line of the codes, I discovered that angleMode(DEGREE); which was in my ThreeRing extension code caused the RidgePlot extension to be blank. After removing this code, RidgePlot extension was working fine now. Thankfully, I was able to fix this major issue by debugging my code line by line. Base on my assumption angleMode(DEGREE) causes the wave formation to be affected thus resulting in a blank screen.

What are you planning to do over the next few weeks?

I planned to change my Block extension noiseline to become a moving spiral which bounces off the edge of the screen so that it is more complexed coding compared to the noiseline in the original midterm submission.

I would also plan to add in more features for my fireworks effect such adding a GUI feature of changing the size of the firework explosion and changing the speed of the firework explosion as such this will let the user have fun playing around with the GUI controls.

Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?
I need to study for my other courses' exams, therefore right now I'm not on track to finish my project. As a result, I would put my other co-curricular activity, like playing squash, on hold and concentrate more on my project in order to finish it successfully and by the deadline.

Figure 1

Introduction to Programming II Project Log 2

Week no:17 & 18

Project title:	Music Visualisation
Topic:	Spiral Line

What progress have you made this topic?

As I intended to use more advanced coding in my project, I was successful in transforming the noiseline in my block extension to a spiral. I made my spiral clickable so that it would change colour as a user clicked on it, making it interactive for the user. Additionally, I created a spiral motion on the screen that mimics the recognisable "DVD" logo from the era when we still watched music videos on DVD players. Last but not least, just like the "DVD" logo from back then, the spiral will automatically change colour as it hits the wall.

What problems have you faced and were you able to solve them?

The fact that there were two spirals when the block extension was launched which was not the right idea and that one spiral would be going completely normally while the other was only hovering at the top left of the screen was a significant error in my code.(shown in figure 2) After careful examination and numerous debugging attempts, it was discovered that the code "noiseSpiral" was being called two times in the "draw" function, resulting in the appearance of two spirals on the screen. Everything was operating well until the incorrect call for "noiseSpiral" in the "draw" function was removed.

What are you planning to do over the next few weeks?

In my ThreeRings extension, I would also be including more interactive GUI controls so that users could modify various aspects of the fireworks effect, such the speed at which they explode and the size of the firework explosion making it more fun and interactive to the user.

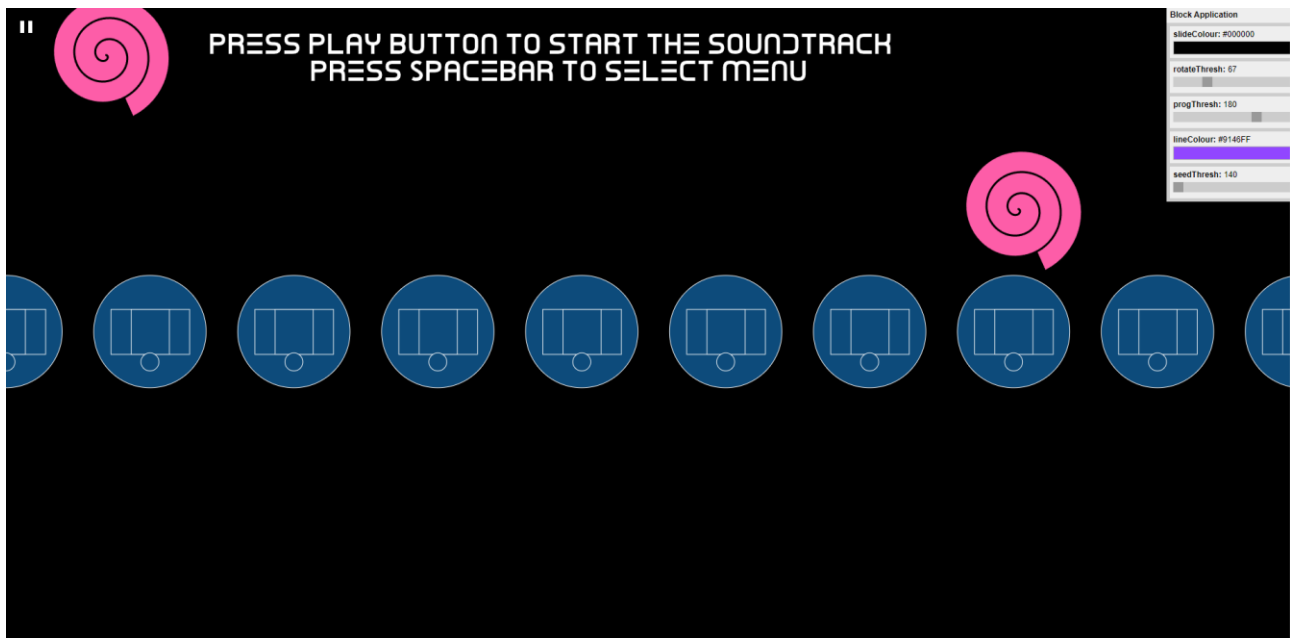| Are you on target to successfully complete your project? If you aren't on target, how will you address the issue? |
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| I am currently on track to finish my assignment effectively after putting aside my other co-curricular activities and concentrating on my project in order to make the deadline. In order to avoid any unneeded delays that would prevent me from submitting my project by the deadline, I also improved my project timetable diligence. |

figure 2

Introduction to Programming II Project Log 3

Week no:19 & 20

Project title:	Music Visualisation
Topic:	Fireworks GUI controls

What progress have you made this topic?

For my fireworks/particle effect, I was able to effectively add two new GUI features in my ThreeRing extension. The first would be adjusting the firework explosion's size to provide the user control over the explosion's radius. Controlling the firework explosion's speed is another GUI feature I implemented. As a result, my ThreeRing extension becomes more engaging for users and is subsequently more exciting and enjoyable to use as a result of the implementation of all these GUI elements. Additionally, it gives users flexibility because they may be as imaginative as they like and customise the extension to look whatsoever they can think of in their heads.

What problems have you faced and were you able to solve them?

One very problematic error I kept encountering would be cannot read properties of undefined(shown in figure 3) since creating the fireworks requires 3 separate JS files as such the this error would arise due to different parameters being used when creating the GUI features. I was able to overcome this error by slowly debugging each JS file individually to see where I needed to put in the new parameters to implement the GUI controls and have the fireworks effect working at the same time.

What are you planning to do over the next few weeks?

As there are three reports that must be submitted to Coursera, I will be putting aside time in the upcoming weeks to write them. I'm giving myself so much time to compose the report because I want to produce high-caliber work that is error-free in grammar and fluency.
Additionally, I would be reviewing my codes to find any minor flaws and fixing them.
Last but not least, in order to submit my music visualization, I will also do system/user testing (black box test) and compile my progress logs together.

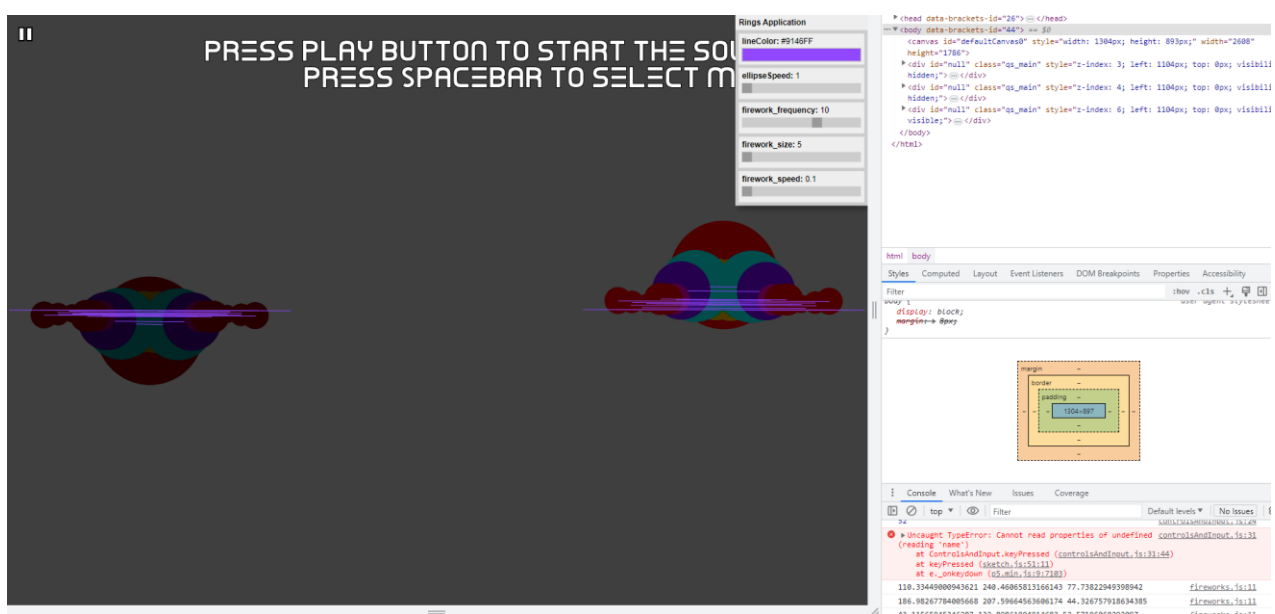| Are you on target to successfully complete your project? If you aren't on target, how will you address the issue? |
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| I have learned the hard way that procrastinating and not prioritizing my project over the first few weeks acted as a wakeup call after writing down my progress log for week 15 & 16 , but as of right now, I am on track to successfully complete my project. In order to complete my Music Visualization project on time and with high-quality output, I therefore became more rigorous about the project and reserved time to devote completely to it. As to not hinder my other modules revision time too. |

Figure 3