

# Introduction to Programming II

## Project Log

<b>Project title:</b>	Music Visualizer
<b>Topic:</b>	Topic 7: Extending apps
<b>What progress have you made this topic?</b>	
Attempted implementing the firework extension to the music visualizer app.	
<b>What problems have you faced and were you able to solve them?</b>	
<p>At first, the firework did not print or animate on screen, the screen was entirely black when music was playing just fine as well as menu shows.</p> <p>Steps I took to solve multiple errors:</p> <ol style="list-style-type: none"><li>1. Check at console had no errors shown</li><li>2. Trouble shoot by checking spelling, syntax errors and variable implementations, does not make changes to the error. Hence exclude from error list</li><li>3. Check for mix of variables to change</li></ol> <p>After executing the above steps, I did not manage to solve the problem, however coincidentally the problem was fixed when I intended to change the shape of firework particles. The original particles shown in Coursera video was drawn using an ellipse, I wanted to make it more personalized so I used multiple vertex. And the firework worked right after vertex was used, hence I assumed use of shape was the cause of problem.</p>	
<b>What are you planning to do over the next few weeks?</b>	
Check for errors and enhance all the music visualizer extensions.	
<b>Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?</b>	

Yes, so far I've been on track following the Coursera weekly tutorials. Have finished firework and everything works as intended.

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<b>Project title:</b>	Music Visualizer
<b>Topic:</b>	Topic 8: Callbacks
<b>What progress have you made this topic?</b>	
Attempted implementation of the firework extension to the music visualizer.	
<b>What problems have you faced and were you able to solve them?</b>	
<p>Right after I fixed the firework visualizer, an error appeared inside the needles and the ridge plot visualizer. By description, the needle extension experienced malfunction as all needles were only moving at a very small amplitude and not aligned inside it's designated rectangles. And the ridge plot was to be determined before I found that the colour mode was interrupting firework to draw on screen.</p> <p>Steps I took to solve these errors:</p> <ol style="list-style-type: none"><li>1.For needles I set angle Mode to radians to differentiate from fireworks' degree angle mode.</li><li>2.For ridge plot, I added one line of code that sets the visualizer back to RGB color mode to refrain firework using HSB mode within the ridge plot visualizer.</li></ol>	
<b>What are you planning to do over the next few weeks?</b>	
<p>Below consists of all ideas for the new visualizer as well as possible improvements that can be made to existing visualizers.</p> <p>Smoke Extension:</p> <p><a href="https://www.youtube.com/watch?v=fpViZkhpPHk">https://www.youtube.com/watch?v=fpViZkhpPHk</a></p> <p><a href="https://www.youtube.com/watch?v=N_Dlp-ueDf8">https://www.youtube.com/watch?v=N_Dlp-ueDf8</a></p> <p><a href="https://www.youtube.com/watch?v=gdJjc6l6iII&amp;pp=ygUQbXVzaWMgdmlzdWFsaXplcg%3D%3D">https://www.youtube.com/watch?v=gdJjc6l6iII&amp;pp=ygUQbXVzaWMgdmlzdWFsaXplcg%3D%3D</a></p> <p><a href="https://www.youtube.com/watch?v=ICmWwxaTmB8&amp;pp=ygUQbXVzaWMgdmlzdWFsaXplcg%3D%3D">https://www.youtube.com/watch?v=ICmWwxaTmB8&amp;pp=ygUQbXVzaWMgdmlzdWFsaXplcg%3D%3D</a></p> <p><a href="https://www.youtube.com/watch?v=wjQq0nSGS28&amp;pp=ygUQbXVzaWMgdmlzdWFsaXplcg%3D%3D">https://www.youtube.com/watch?v=wjQq0nSGS28&amp;pp=ygUQbXVzaWMgdmlzdWFsaXplcg%3D%3D</a></p> <p>elements: smoke bloom out in a circle? Jelly fish like?</p> <p>Laser Extension:</p>	

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

water visualizer:

elements: water droplets? Ocean waves?

Tunnel visualizer:

<https://www.youtube.com/watch?v=tx-Ukzqra9I&pp=ygUQbXVzaWMgdmlzdWFsaXplcg%3D%3D>

[https://www.youtube.com/watch?v=1T-FU0uhb\\_o&pp=ygUWdGltZSB0cmF2ZWxsaW5nIHR1bm5lbA%3D%3D](https://www.youtube.com/watch?v=1T-FU0uhb_o&pp=ygUWdGltZSB0cmF2ZWxsaW5nIHR1bm5lbA%3D%3D)

elements:

3d cube rotation:

IMPROVEMENTS to current visualizer

Improve firework extension -> outer space :

<https://www.youtube.com/watch?v=ztVV54sPOns>

elements: Planets pop out?

Improve wave pattern ->

<https://www.youtube.com/watch?v=rSrjDgWWlWs&pp=ygUQbXVzaWMgdmlzdWFsaXplcg%3D%3D>

Use blender to animate/create object and demonstrate

**Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?**

Not quite on target this week, falling back behind one Coursera week as I took longer time to decide on one idea for the final extension. Hence pushing designing and implementation back.

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<b>Project title:</b>	Music Visualization
<b>Topic:</b>	Topic 9: Testing stability
<b>What progress have you made this topic?</b>	
<p>In week 17, I have started to code my new music visualizer extension. The idea of this visualizer was inspired by default music visualizer from apple music, similar to a mix of a flower and a kaleidoscope which animates from center of screen to out of the screen, or simply zooming into the screen. Most of its related animation have been generalized that consists of working with having vitality.</p> <p>Most similar to this idea: <a href="https://www.youtube.com/watch?v=QU6Qy7UwTtk&amp;pp=ygUda2FsZWlkb3Njb3BIIG1lc2ljIHZpc3VhbGZlZXI%3D">https://www.youtube.com/watch?v=QU6Qy7UwTtk&amp;pp=ygUda2FsZWlkb3Njb3BIIG1lc2ljIHZpc3VhbGZlZXI%3D</a></p> <p>I had a rough idea and planning considering starting simple,</p>	
<b>What problems have you faced and were you able to solve them?</b>	
<p>I started debugging backwards, from the order each extension was added. Both the firework and the needles had errors appeared to screen. Extension by extension, starting with the firework extension I checked through each file for spelling mistakes, syntax errors and logic errors.</p> <p>There were new errors found from the previous extension that needs debugging, which the error's detail was not shown on the console.</p>	
<b>What are you planning to do over the next few weeks?</b>	
<p>Implement the new visualizer to main app, create new file and organize all extensions in each of their files.</p>	
<b>Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?</b>	

Not quite yet, have not quite figured out the mechanics of the new extension.

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<b>Project title:</b>	Music Visualizer
<b>Topic:</b>	Topic 10: Testing Users
<b>What progress have you made this topic?</b>	
<p>I have been working on the new visualizer extension by itself, separated from the final music app. It has been partially completed, the shape of the visualizer can be seen that also animates to the music. I've also made some changes to the playback button, a new change in shape and slight changes to its location on screen.</p>	
<b>What problems have you faced and were you able to solve them?</b>	
<p>The visualizer worked just fine on its own, however when transferring to the main music app. A displacement bug has appeared, this is due to new extension having many similar components used with previous extensions.</p> <p>In description both the playback button and the menu has been dislocated in only the new extension (bloom visualizer). However, the play and stop function remains to work at the original position,</p> <p>Haven't yet sort out the solution to this problem, though I have tried to change the playback button's x and y location in the setup function, but it does not seem to be the main issue.</p> <p>Not been able to fix this bug, I have added a substitute option to locate where the playback button is when bloom visualizer is chosen.</p>	
<b>What are you planning to do over the next few weeks?</b>	
<p>Minor fixes to finalize the music app, such as adjustment in menu position/size/background color. Enlarged the playback button.</p> <p>Test the music visualizer app as a whole and each of the visualizer components.</p> <p>If possible and within time limit, I hope to ask family members to try out the app and give feedback on specific questions such as, how smooth are the animations, rating creativity out of 10 highest...</p>	
<b>Are you on target to successfully complete your project? If you aren't on target, how will you address the issue?</b>	

Yes, I would say that I'm on target as all extensions have been successfully implemented on to the main music app and I will just need to finalize in the last week.