Julie Khashimova

CART 253

Pippin Barr

Project 2 proposal

For my final project, I want to make an interactive music visualizer (so to speak). The program will contain various multimedia (images, gifs, music) along with code-generated shapes and forms. It will consist of 3 different scenes, all with different styles of music, images, vibes, relatively differing behaviours, but they will be somehow be linked together in a single conceptual way. For the main characters/dancers, I will use my own digital collages (some exist, some I will create for the project).

The music will be carefully selected according to the scenes and will be taken from the Internet by other musicians(will credit later). Each scene will have an interactive mode, meaning that the user will be able to control the orbit and the distance of the viewing point during the performance (this allows for close interaction with the characters, the overall scene and space). The objects in each scene will interact closely with music, for example, when the music ends, the scene will become passive (this is to show that the characters come to life with the music).

This program is a bit experimental and will utilize primarily 2D shapes floating, moving and rotating in 3D space. The written code will produce both simple and complex shapes. For a music analyzer, I will use the FFT method to isolate and obtain specific audio frequencies. I will need to learn more about FFT analysis in order to dissect accurate audio data, so will be an additional challenge for me. In the final stage, I suppose my main difficulty will be to smoothly connect the scenes seamlessly and switch between different states of the program.

I am aware that this proposed project will present a big challenge for me both creatively and technically. Firstly, it is a conceptual and aesthetic part, a successful combination of different types of media with code (making them seem inseparable). The second is the amalgamation of all the scenes in the program. The third is learning the new information and applying it in the process.

First Scene Attributes

- Shorter (1-2 mins)
- Rotating 2D ellipses with the main character inside (image may alternate according to the sound) in the center
- Sharp, precise, ticking type of music
- Analyzes sound with Amplitude (because the sound is not too complex)
- Background changes according to the sound
- User can control the orbit and change the width of the ellipse with their mouse

Second Scene Attributes;

- Longer (2-4 mins)
- Rotating 2D rectangles/ellipses in the center
- One rotating 3D sphere as the central point
- Rotating protagonist is inside and outside the shapes
- Floating and rotating ellipses around the center and the character
- Haunting, bold electronic music
- Analyzes sound with Amplitude and/or FFT
- User controls the orbit and the distance of the scene

Third Scene Attributes:

- Longest (5 min)
- More complex in terms of shapes, sound, visuals, code
- Maybe will use sin/cos calculations to combine many tiny rectangles into the whole big circle in the center
- The main figure in the center gives strongly dances/reacts to sound
- Rock, electronic music (this will make the scene very dynamic)
- Maybe will use sin/cos calculations to combine many tiny rectangles into a whole circle
- Highly reactive to music and audio frequencies.
- Both Amplitude and FFT will be used. The former is for splitting the beats and the latter is for accessing a specific range of frequencies, typically low, mid and high.
- Make other objects appear and disappear as the music changes the dynamics
- Change colour of background and shape, the size of the shape and the main figure (Basically, everything will be responsive to music)
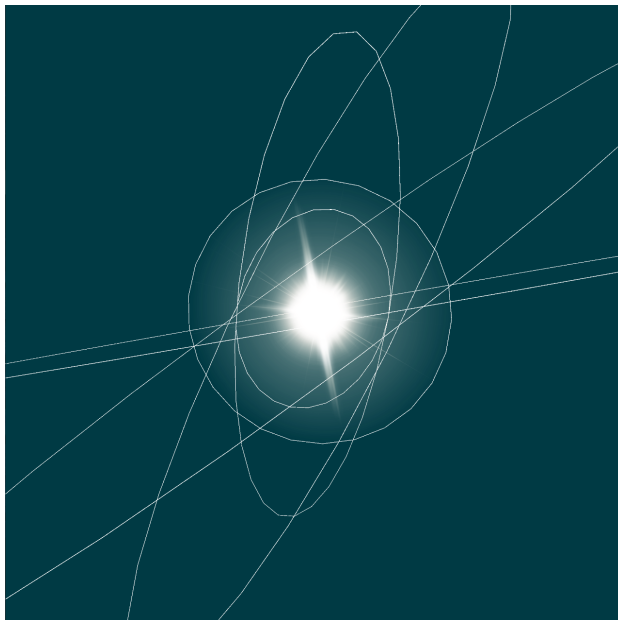
First scene experiment

Second scene experiment
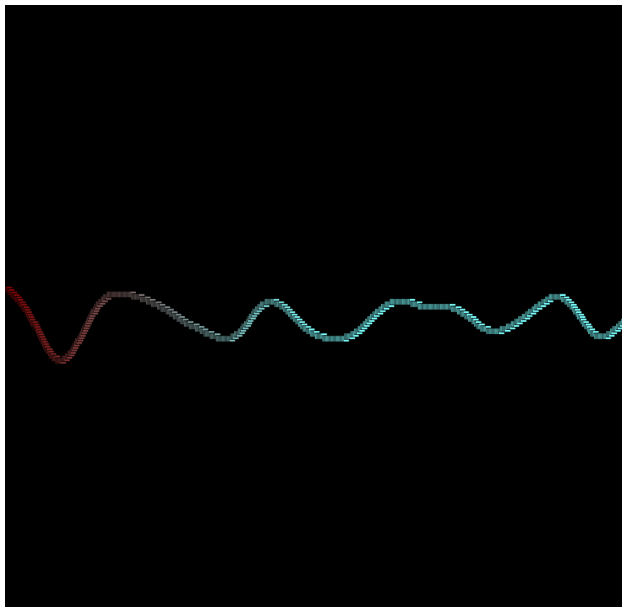
The early stage of the Third scene (FFT waveform experiment, will make it circular and many more)