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Cart-263
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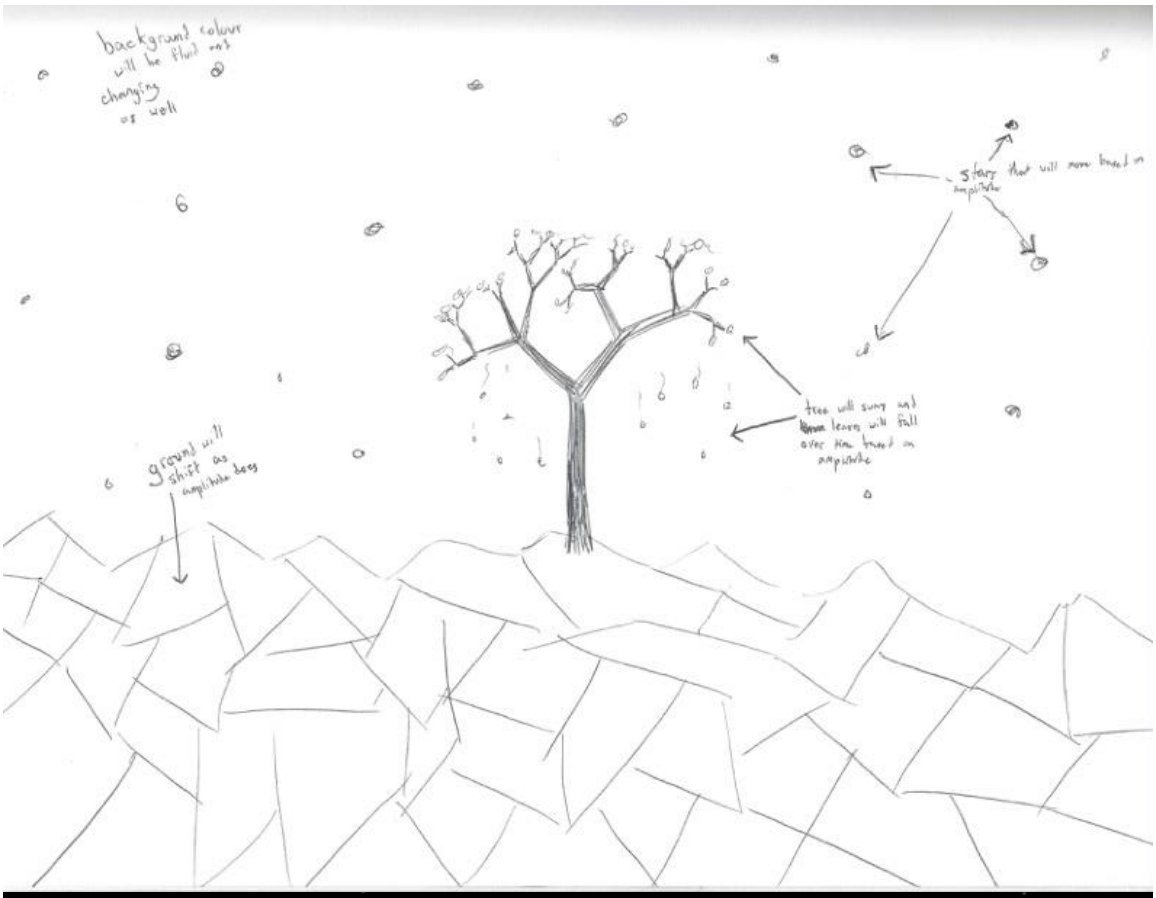
Project 2 Proposal: Audio Generative Visualizer Landscape

For my second project for CART-263, I am going to create a program which creates a landscape with p5.js and then uses FFT (Fast Fourier Transform) data taken from a song to animate this landscape. This scene will be composed of three main parts, the first of which is the tree. The tree will sway, shake, and drop leaves based on the amplitude of specific frequencies of the chosen song. The second element composing this scene will be the sky, which will be covered in stars which change their speed based on the amplitude of specific frequencies of the chosen song and will also have animated colours. The last element composing this landscape will be a ground terrain which will shift and modulate based on changes in FFT data like the other elements.

I wanted to create another audio generative visualizer like I did for my second CART-253 Project last semester, but I wanted to have it be significantly different, so I decided to make it less abstract and far more figurative. I also feel like the imagery in this scene will be far more calming than my previous p5.js visualizer, which was all hectic overlapping geometry.

Some of the next steps I am going to take with this project are storing the tree's branches and leaves into arrays to be more called upon and editing. This will make it possible to make the branches sway and the leaves fall. For the sky I need to add in changing the changing colours and I need to completely build the ground. I was thinking about making the ground in this project by creating a Perlin noise terrain as I had seen some quite incredible things made like that.


background colour will be fluid and changing as well
6
stars that will move based on amplitude
tree will sway and leaves will fall over time based on amplitude
ground will shift as amplitude does

The star and tree aspects of my program were inspired by Dan Shiffman from **http://codingtra.in**, specifically these videos

- **https://www.youtube.com/watch?v=17WoOqgXsRM**

- https://www.youtube.com/watch?v=0jjeOYMjmDU (and the videos that follow it up)