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Cart-253

Prof. Pippin Barr

Project 2 Proposal: Audio Visualizer

For my second project for Cart-253 I am going to create an audio visualizing program with one or possibly more different visualizing modes depending on how much time I have. The main idea of this program will be to input songs, find the amplitude of various frequency ranges in the songs and then generate interesting visuals based on that data. There could be many applications for a program like this such as creating visuals for live music, DJ sets, parties, music videos etc.

For this project I'm going to use many functions from the p5 sound library, such as `soundFile` to play sounds, `filter` to isolate the lower frequencies and the higher frequencies so that I may use different elements of the song to control different visual elements, and `amplitude` to measure the amplitude of the various frequencies I isolate. After getting the amplitude data I will use it to control various visual elements such as number of objects, size of objects, movement of objects and colours. The amplitude the lower frequencies is where I will be able to grab the most clear, punchy elements of the song such as the kickdrum and snare so that is what I will use to control my primary visual elements that will make the patterns. The higher frequencies I will be using to control aspects like colours which will just add in some variation. Another technical element I'd like to implement is either being able to use the computer's sound output from other apps as the sound input or using arrays with `for` loops to be able to create queues of songs like a playlist. I think 3d shapes would also make for an amazing

addition to this program so I'd also really like to explore working with shapes from the 3d side of p5 as well in this project if there is time.

