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#### Final Documentation

The idea of my project came to me when I was thinking about how most visualizers of sound that are common don't do a very good job at showing the sounds organically as they should be. These common visualizers are either static or inaccurate which completely goes against the concepts of sound. Sound is meant to be organic and precise in order to achieve unity. Without precision, the sound feels lost. Without organics, the sound feels unrelatable. So this was the challenge: to make an application that produces a simple organic and precise visualizer where everyone could see, in full detail, the sounds that hear, as long as they had a screen and a computer. It turns out that the actual user experience ended up being just as thought it would be with the exception of the particle trail effects and the addition of some simple color changing functionality. The code is relatively simple since it only required the main class and one visual method. The visual method controlled both the movement and the colors of the visualizer by using arrays that kept track of each frequency's angle and size. I'm more proud of the colorization of the rings since I felt like that's what distinguishes the precision of the sounds. It's basically a really long if statement that colors the boxes based off of its frequency range, which is determined by dividing the frequency spectrum into 8 parts. Also the addition of the microphone input enabled an expansive input that is much more user friendly than simply hardcoding the songs into the program. The feedback has been pretty positive and as of now I really like how the product turned out. I liked the idea mentioned in class of possibly reversing the expansiveness of the circles and allowing them to shrink which I might do later in the future.