Product Design: EmoViz

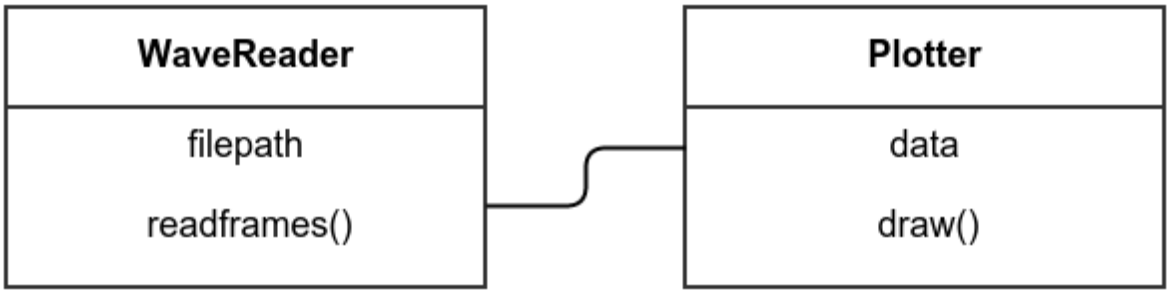
Lasya Venneti, Shubham Rathi, Vamshi Palabatla, Vivek Ghaisas, SSAD 21

Architectural Model

The same components are being reused for all the use cases. The application is written in python and it uses the matplotlib, numpy and wxPython open source libraries.

Python Standard Library (included library/framework)	The python standard library is used to ensure cross platform compatibility and ease of use.
wxPython (included library/framework)	Our initial research showed us that the best option for a cross platform GUI toolkit for python would be wxPython. It allows for convenient use of common widgets (which it attempts to implement using the native API on different OSes).
NumPy (included library/framework)	From NumPy's home page, "NumPy is the fundamental package for scientific computing with Python. Besides its obvious scientific uses, NumPy can also be used as an efficient multi-dimensional container of generic data." NumPy allows for easy handling of large vector data, which is necessary for processing audio files.
matplotlib (included library/framework)	matplotlib is a python 2D plotting library which is being used to handle the actual plotting of the processed data
WaveReader	The WaveReader component provides an interface to the other modules to conveniently read data from WAV files. As of now, it internally uses the python standard library to read WAV data.
Plotter	The Plotter component includes the application level logic involved in gathering data (using the WaveReader component) and then plotting it (using the matplotlib library).

Class Diagram



Sequence Diagram