

Final Project Proposal: LED Audio Visualizer

Overview:

Processing audio using a microphone input to detecting different frequencies and displaying them on an LED matrix

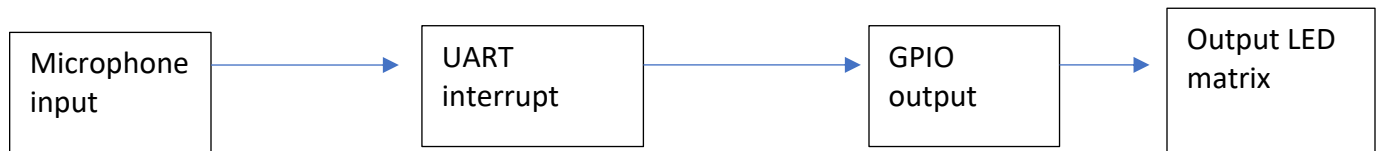
Peripherals:

- Led matrix
- Microphone input

Protocols:

- GPIO for LED matrix
- USART for Interrupts

Block Diagram:



Software Structure:

Constant polling at from the microphone to have an interrupt anytime a frequency is inputted in a certain range. Different interrupts for each type of frequency and then converting those interrupts to output different LED patterns. Possible addition of Bluetooth to be able to change modes of the LED lights

Responsibility:

Zion: Wiring and Parts as well as handing the different LED lighting up in different ways based on different interrupts

Kevin: Handle input from the microphone deciphering the different frequencies and interrupting correctly.

Website:

<https://sites.google.com/view/ece153bfinalproject/home>