# EECE 342 Project Proposal

Audio Visualization using a Microcontroller and WS2812B LEDs Over Wi-fi

# Group member(s):

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# Overview

## Project Scope

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|  | Using a microcontroller that supports code created in the Arduino IDE, this will be a small system that visualizes music on a strip of individually addressable LEDs. There will be a Master Hub controller that will have a microphone and Wi-Fi module. This is where most of the audio processing will occur and then send simple LED commands or at least mostly processed data to the receiving Salve Hubs. From there the sound will be displayed on WS2812B SPI based LEDs. These LEDs have many libraries that allow designs and control to be streamlined so you aren’t stuck writing the code that controls them. |

## Stretch Goals

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|  | - Unless time permits, frequency-based control over the visualization will not be included. **The primary goal of this is to get the LEDs to real time react to the music being picked up from the microphone at the Master Hub.**  - Another goal, if possible, would be a design and implementation of a custom PCB. Considering the different sensors and parts included in this project, the ability to have the internals of the product would be neater, and easier to assemble. |