Department of Electronic and Telecommunication Engineering
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EN2160 - Electronic Design Realization
Semester 4
The Specifications and Extra Features That are Going to Implement

April 9, 2023

This document is submitted as a partial fulfillment of the module EN2160 Electronic Design Realization

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The Specifications of the Product

- The primary goal of the device is to measure sound in a particular place and record the value in a graph using Internet of Things (IoT).
- The device will measure **the sound in decibels(dB)** using a sound sensor and display the level of pollution in a LCD display.
- The user can see the level of sound pollution using the display and will be given access to a ON/OFF switch to turn on and off the power.
- The user has the freedom to reset the device and start again to get the pollution level again and again.
- Since only a 5V power supply should be given to power up the devices and modules, the user will be given the freedom to change the batteries once they are drained.
- The expected dimensions of the final product are as follows.
  - Length - 14 cm
  - Width - 9 cm
  - Height - 5 cm

Extra Features That is Going to Implement

- Along with the sound pollution level in dB being displayed in the LCD display, it will also be pushing the readings to an IoT platform and a graph will be plotted over time to see the sound pollution level in that specific position.
- It will indicate whether the sound level in the area is quite, medium, high or high risk in the display.
- As the IoT platform, **Blynk IoT platform** will be used and it is accessible to anyone around the world.
- Even the past data along with location can be accessed for further analysis.

Major Components Required

- ESP8266 NodeMCU Board
- Microphone sensor
- 16x2 LCD Module

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Useful Data-sheets of the Modules and Micro-controllers

- https://pdf1.alldatasheet.com/datasheet-pdf/view/1148030/ESPRESSIF/ESP8266EX.html
- https://components101.com/modules/lm393-sound-detection-sensor-module
- https://circuitdigest.com/article/16x2-lcd-display-module-pinout-datasheet

The End.