To create an MQTT Microcontroller Client that can be controlled via Signals published by the Desktop Client which:

1. Controls the LED

2. Controls which sensor is sending the information (if any)

3. Sends the Proximity( UltraSonic/HC SR-04) reading from the Micro Controller Client to the Desktop

4. Sends the Temperature( MPU6050) reading from the Micro Controller Client to the Desktop

Via the Internet

Features

* A user-friendly Desktop GUI application to control the sensors and LED.
* LED can be controlled wirelessly using Desktop app.
* Gives live readings from the Ultrasonic and Temperature Sensor.
* Buzzer rings on Desktop when obstacles are detected in certain threshold range.
* The data is logged into the online server so that it can viewed anytime anywhere by the administrator.

Components

* NodeMCU microcontroller with inbuilt ESP8266 Wi-Fi module.
* Ultrasonic Sensor (HC-SR04).
* Temperature Sensor (MPU6050).
* LED and Resistor.
* Micro-USB cable.
* Jumper Wires.
* Breadboard.