
NOISE POLUTION
DANGEROUS VOLUME
LIGHT POLUTION
SOUND NOISE
RADIO WAVES
LOUD
EMR

NOISE POLLUTION MONITORING

PHASE -5

INTRODUCTION

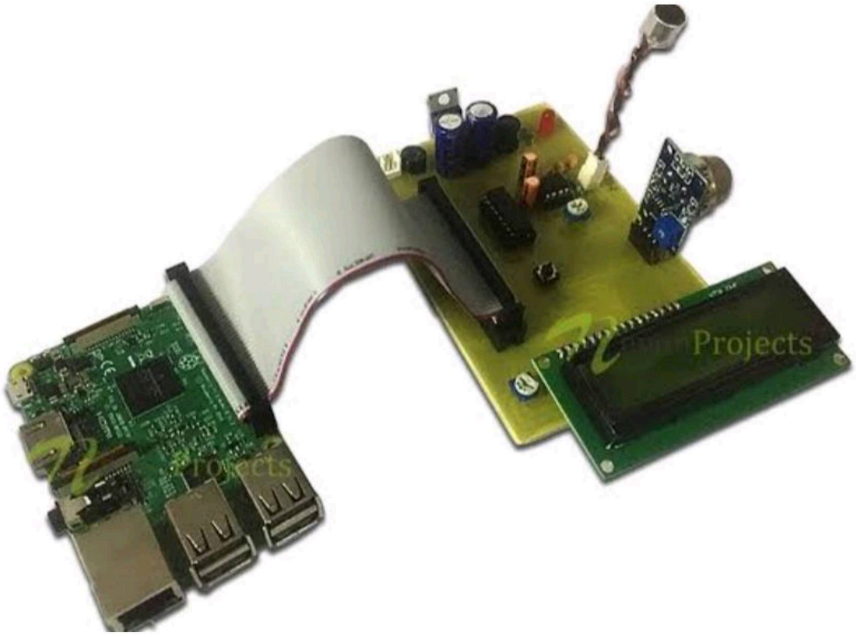
Noise pollution are a prominent subject that in our country continues to be highlighted every year. In industrial areas, the permissible limit is 75 dB for daytime and 70 dB at night. In commercial areas, it is 65 dB and 55 dB, while in residential areas it is 55 dB and 45 dB during daytime and night respectively. Sound amplitude must be monitored for a better and safer life for everybody.

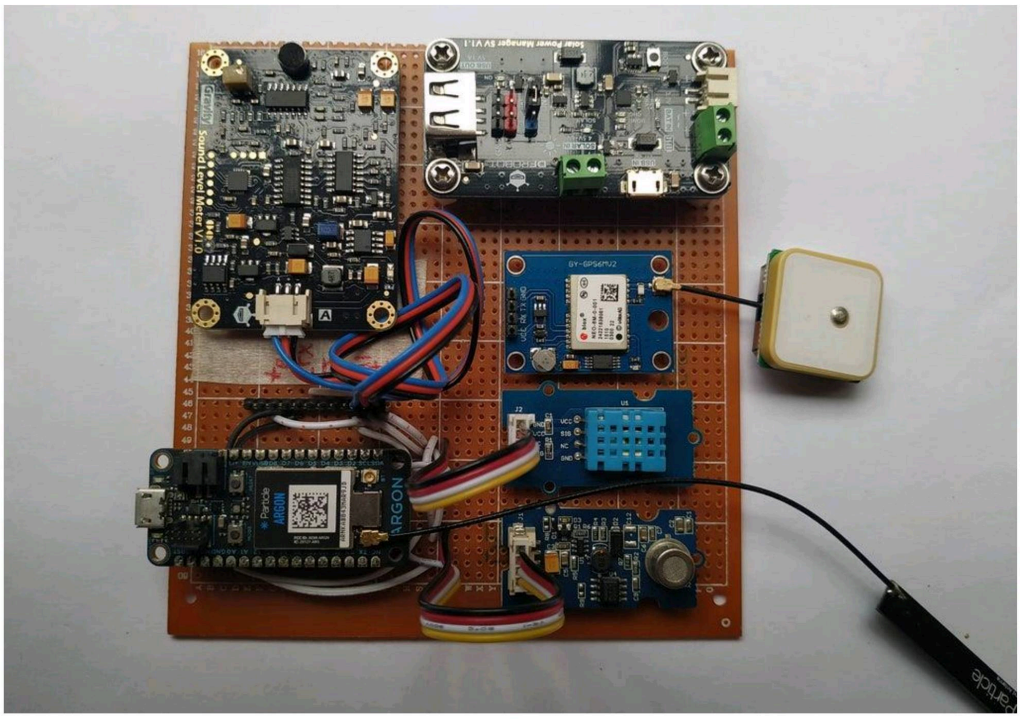
We present here a method for sound pollution monitoring system that enables us to monitor the sound contamination by IOT in a region.

The noise pollution monitoring iot innovation of our team and it efforts is displayed below this document.

By this Iot innovation ideas we exclusively control the Noise pollution by our idea and implementation is not much costly.

PROJECT PROTOTYPE





CODING USED

A)coding for Audio detection

```
  // Variable to store the time when last event happened
unsigned long lastEvent = 0;

void setup() {
        pinMode(sensorPin, INPUT); // Set sensor pin as an INPUT
        Serial.begin(9600);
}

void loop() {
        // Read Sound sensor
        int sensorData = digitalRead(sensorPin);

        // If pin goes LOW, sound is detected
        if (sensorData == LOW) {
                // If 25ms have passed since last LOW state, it means
that
                // the sound is detected
```

```
            if (millis() - lastEvent > 25) {
                Serial.println("Clap detected!");
            }
            lastEvent = millis();
        }
}


{
    pinMode(relayPin, OUTPUT);  // Set relay pin as an
OUTPUT pin
    pinMode(sensorPin, INPUT);  // Set sensor pin as an
INPUT
}
void loop() {
    // Read Sound sensor
    int sensorData = digitalRead(sensorPin);
    // If pin goes LOW, sound is detected
    if (sensorData == LOW) {
    // If 25ms have passed since last LOW state, it means that
    // the clap is detected and not due to any spurious sounds
```

```
    if (millis() - lastEvent > 25) {
        //toggle relay and set the output
        relayState = !relayState;
        digitalWrite(relayPin, relayState ? HIGH : LOW);
    }
    lastEvent = millis();
    }
}
```

Things to monitoring:

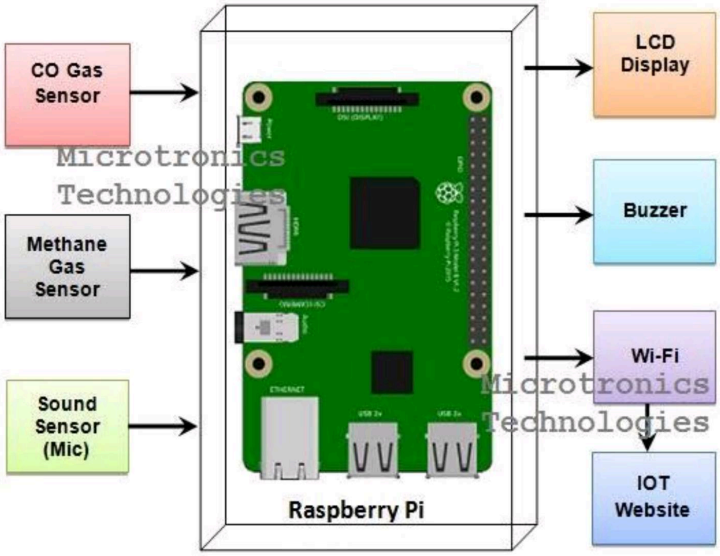
Monitoring noise pollution involves measuring and recording sound levels in a given area to assess the impact of noise on the environment and human health. Here's a basic outline of how you can set up a noise pollution monitoring system:

Hardware Selection:

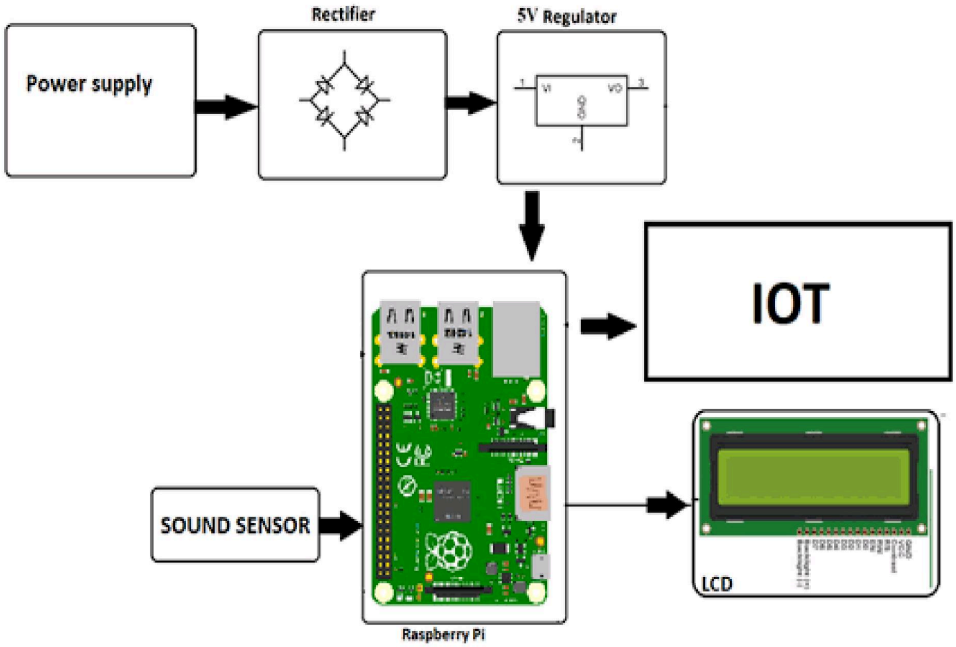
Choose a suitable noise sensor or microphone. There are various types available, including electret microphones, MEMS microphones, or dedicated noise sensors.

Microcontroller or Data Logger:

Select a microcontroller (e.g., Arduino, Raspberry Pi) or a data logger (e.g., data acquisition systems) to collect and process data from the sensor.



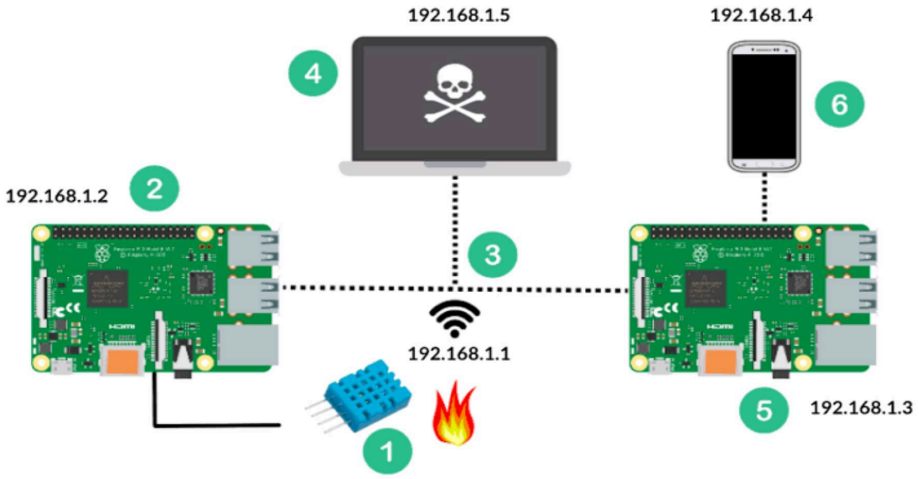
Block Diagram:



Data Acquisition and Processing:

Set up the microcontroller or data logger to read data from the noise sensor.

Process the data by measuring sound levels (typically in decibels, dBA is common) over time.



Data Storage:

Store the collected noise data on an SD card, USB drive, or in the cloud for analysis.

Real-time Monitoring:

If real-time monitoring is required, you can connect the system to the internet and transmit data to a server or use IoT platforms for remote monitoring.

Calibration:

Calibrate your noise sensor to ensure accurate measurements. You'll need a calibrated sound source to do this.

Analysis and Visualization:

Use software to analyze the collected data and create visualizations (e.g., graphs) to understand noise patterns and trends.

Alerting:

Implement an alerting system to notify you when noise levels exceed specified thresholds. This can be done through email, SMS, or other notification methods.

Power Supply:

Ensure a reliable power source, especially for long-term monitoring.

Regulatory Compliance:

Familiarize yourself with local noise pollution regulations and ensure your monitoring system complies with them.

Data Sharing:

Depending on your goals, you may want to share your noise data with local authorities, communities, or environmental organizations.

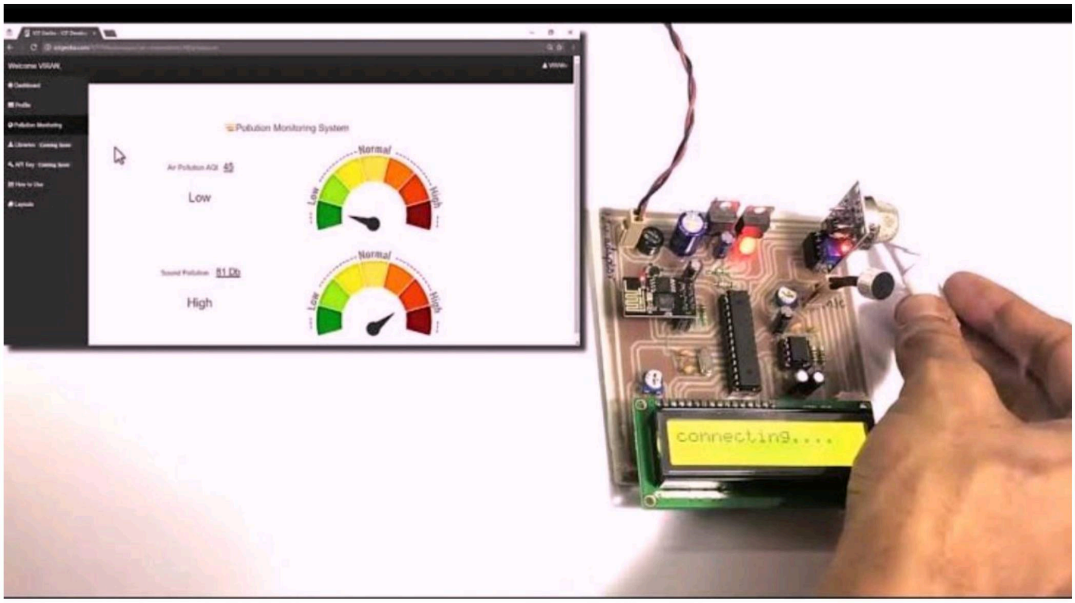
Maintenance:

Regularly maintain and calibrate your monitoring equipment to ensure accurate and consistent data.

Remember that noise pollution monitoring can vary in complexity, from simple DIY setups to more sophisticated and expensive systems used by environmental agencies. The choice of equipment and the level of detail in your system will depend on your specific monitoring needs and budget.

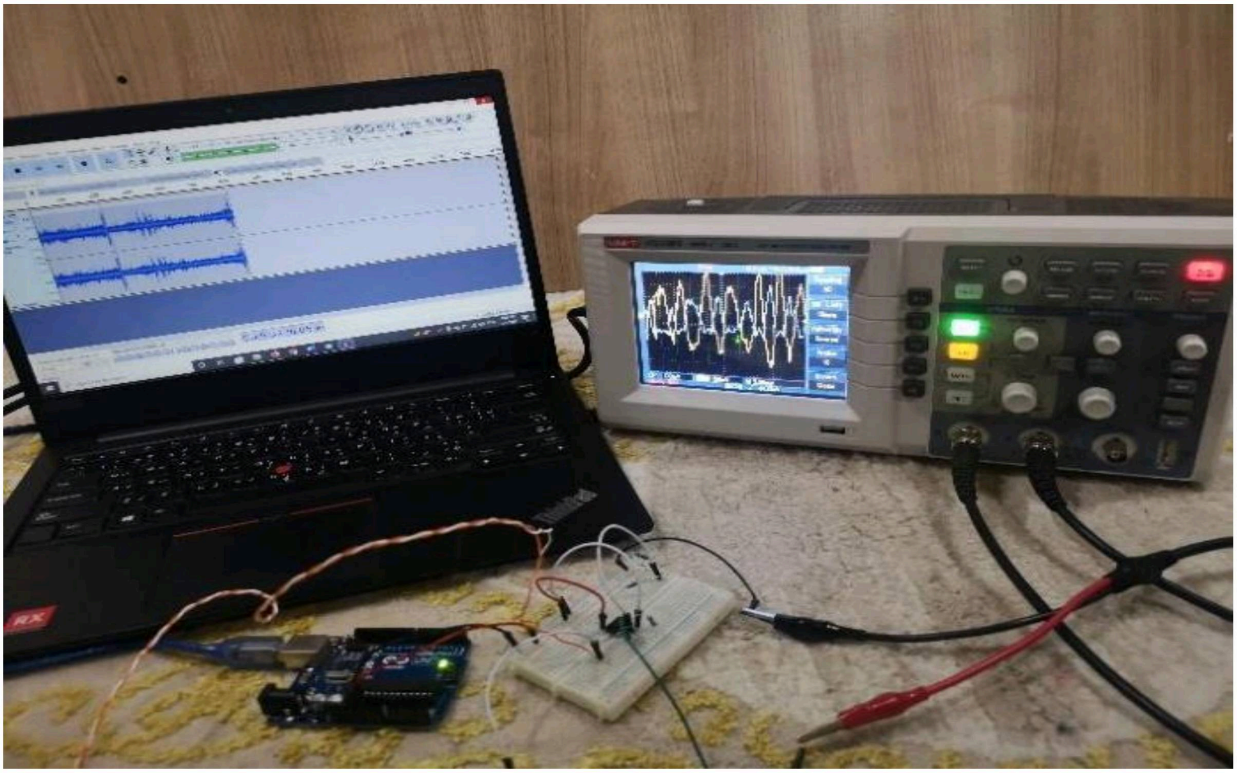
RESULT:

Virtual Results In System



Result At Blynk Page

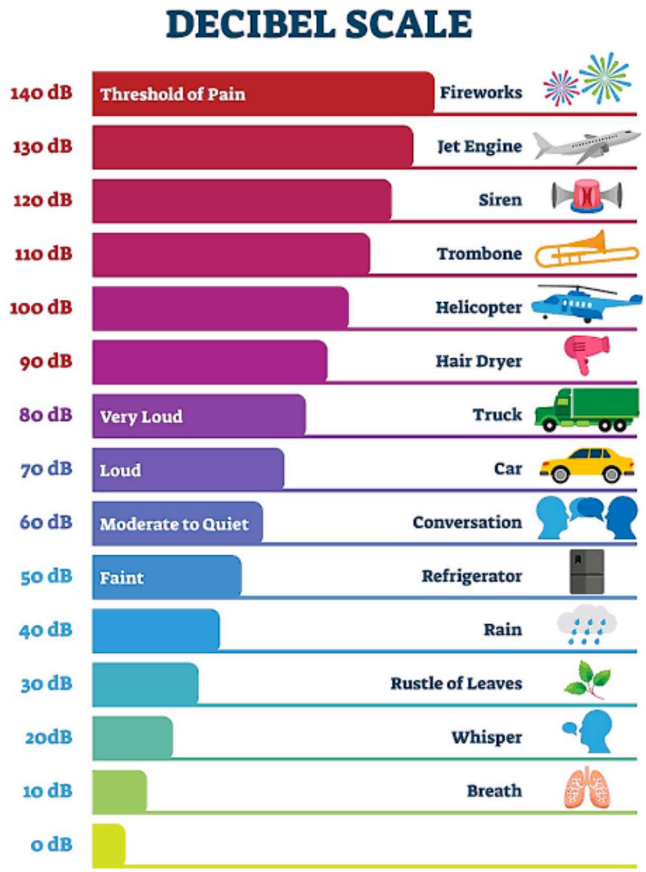
Overall Setup Visual



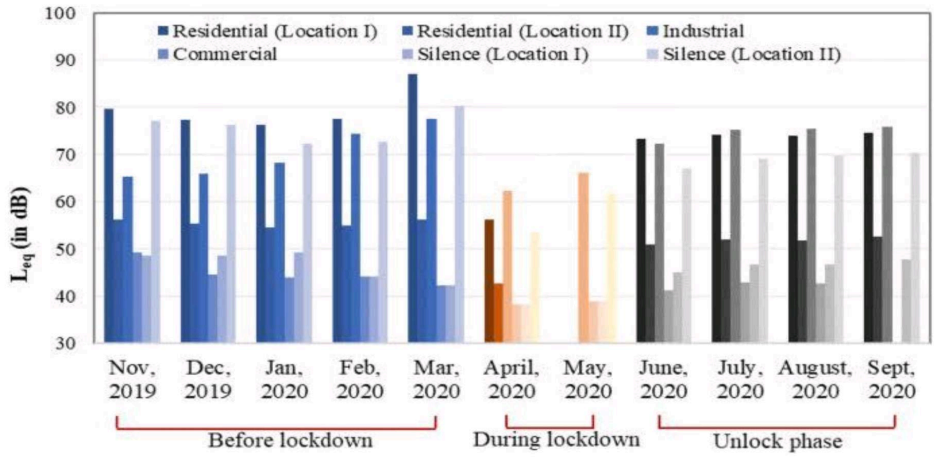
Mobile results visual

About Noise pollution and harms to people:

Different levels of db



Data by a bar graph



CONCLUSION

In conclusion, the noise pollution monitoring System project aims to address the problem of eradicate noise in

public places through the implementation of an IoT-based solution. By defining clear objectives, designing IoT sensors, creating a user-friendly interface, and integrating the system using IoT technology and Python, the project intends to monitor noise pollution in real-time, raise public awareness about reduce noise, improve the quality of life and contribute to sustainable resource management.