**NOISE POLLUTION MONITORING PHASE\_3**

***COMPONENTS REQUIRED*:**

* *Bluetooth HC 05*
* *Sound sensor module*
* *Wires*
* *Vibration motor/ Buzzer*
* *Arduino Nano*

***FEATURES OF COMPONENTS****:*

***1****.* ***Vibration Motor/Buzzer:***

*This component can be used to generate alerts or notifications in response to certain noise levels detected by the sound sensor module. It's a tactile or auditory feedback mechanism to inform users about noise events.*

***2.Bluetooth HC-05:***

*The Bluetooth module can be used for wireless communication between your Arduino Nano. It enables data transmission, which can include noise level readings or alerts.*

***3. Sound Sensor Module****:*

*The sound sensor module is a critical component for measuring noise levels. It detects sound and converts it into electrical signals that can be processed by the Arduino Nano. The data from this sensor forms the basis of your noise pollution monitoring system.*

***4. Wires***

*Wires are essential for connecting and establishing electrical connections between various components in your project. They ensure data and power transfer between the Arduino, sound sensor, and Bluetooth module.*

***5. Arduino Nano:***

*The Arduino Nano serves as the central controller for your project. It processes data from the sound sensor, triggers the vibration motor or buzzer for alerts, and communicates with the Bluetooth module for data transmission or interaction with other devices.*

PROGRAM:

#include <SoftwareSerial.h>

const int soundSensorPin = A0;

const int vibrationMotorPin = 8;

SoftwareSerial BTSerial(10, 11);

void setup() {

pinMode(soundSensorPin, INPUT);

pinMode(vibrationMotorPin, OUTPUT);

Serial.begin(9600);

BTSerial.begin(9600);

}

void loop() {

int soundValue = analogRead(soundSensorPin);

int threshold = 500;

// If the sound level exceeds the threshold, trigger the motor and send data via Bluetooth

if (soundValue > threshold) {

digitalWrite(vibrationMotorPin, HIGH);

BTSerial.print("Noise Level: ");

BTSerial.println(soundValue);

delay(1000); // Vibration motor runs for 1 second

digitalWrite(vibrationMotorPin, LOW);

}

while (BTSerial.available()) {

char c = BTSerial.read();

  }

}