AIR QUALITY MONITORING SYSTEM

INTRODUCTION

The project involves setting up IoT devices to measure air quality parameters and make the data publicly available for raising awareness about air quality and its impact on public health. The objective is to create a platform that provides real-time air quality information to the public. This project includes defining objectives, designing the IoT monitoring system, developing the data-sharing platform, and integrating them using IoT technology.

OBJECTIVES

Air Quality Monitoring Networks allow the measurement, operation and predictive analysis of the evolution of air pollution in different areas (urban areas, industrial areas, special nature conservation areas, etc.) Monitoring stations have equipment to measure the following parameters:

- NOx, SO2, CO, O3, BTX, etc.
- Particulate matter (PPM10 and PPM2.5)

DESIGN SYSTEM

In this project, we are going to make an IoT Based Air Quality Index Monitoring System in which we will monitor the Air Quality Index over a Thingspeak server using the internet. We will use MQ135 Air Quality Sensor that can detect the level of various air pollutant.

To make this project more advanced you can add PM5003 Particulate Matter Sensor to this project. IoT Based PM2.5 & PM10 Air Quality Monitoring with ESP8266.

WORKING

In the hardware part we are using Lcd, power supply, Jumper wires, MQ135 air quality sensor, and Node MCU this sensor is used to detect CO2, CO, Ammonia as well as smoke.

Followed by Node MCU also called as ESP8266 wifi chip why we are using means we need to push this data to the cloud because Arduino doesn't have wifi capacity so that we use this chip and connect this wifi to our mobile hotspot 5V Power supply is one of the most common power supply in use today.

Here the use of the MQ135 gas sensor gives the sense of the different types of dangerous gas and Arduino is the heart of this project which controls the entire process.

CONCLUSION

This system is used to send gas like benzene, alcohol, smoke, etc. using the MQ135 Gas Sensor.

To monitor the air of the environment using an Arduino microcontroller, IOT Technology is proposed to improve the quality of air. The use of Io technology enhances the process of monitoring various aspects of the environment such as the air quality monitoring issue proposed in this paper. The system This board has a Wi-Fi module that acts as the internet connector and informative access for the air quality. This measures the air quality in real-time using MQ135 Gas Sensor with Node MCU.

Node MCU will send the data to things peak platform which is connected with Twitter, so whenever the air quality goes below a certain level it will send the Twitter notification, thus warning people in that particular area.

Wi-Fi module connects the whole process to the internet and LCD is used for the visual Output It supports the new technology and effectively supports the healthy life concept. This system has features for people to monitor the amount of pollution on their mobile phones using the application.