AIR QUALITY MONITORING BASED ON IOT :

Air quality monitoring based on the Internet of Things (IoT) leverages the power of connected devices and sensors to provide real-time and comprehensive data on air q\uality. IoT-enabled air quality monitoring systems have several advantages, including increased data accuracy, greater coverage, and the ability to respond to environmental changes more effectively. Here's how IoT is used for air quality monitoring:

Data Collection: Sensors continuously collect data on air quality parameters, such as pollutant concentrations and meteorological conditions. This data is then transmitted to a central database or cloud platform via wireless communication protocols like Wi-Fi, cellular networks, LoRa, or NB-IoT.

Data Analysis: Once data is collected and centralized, it can be analyzed in real time to generate air quality metrics, including Air Quality Index (AQI) values. Advanced analytics and machine learning algorithms can be employed to predict trends, identify pollution sources, and provide early warnings.

Remote Monitoring: IoT air quality monitoring systems allow for remote monitoring of multiple locations simultaneously. This is particularly useful for urban areas where air quality can vary significantly from one location to another.

User Accessibility: The data collected and analyzed can be made accessible to the public through websites, mobile apps, and other user-friendly platforms. This empowers individuals to make informed decisions about their activities based on real-time air quality information.

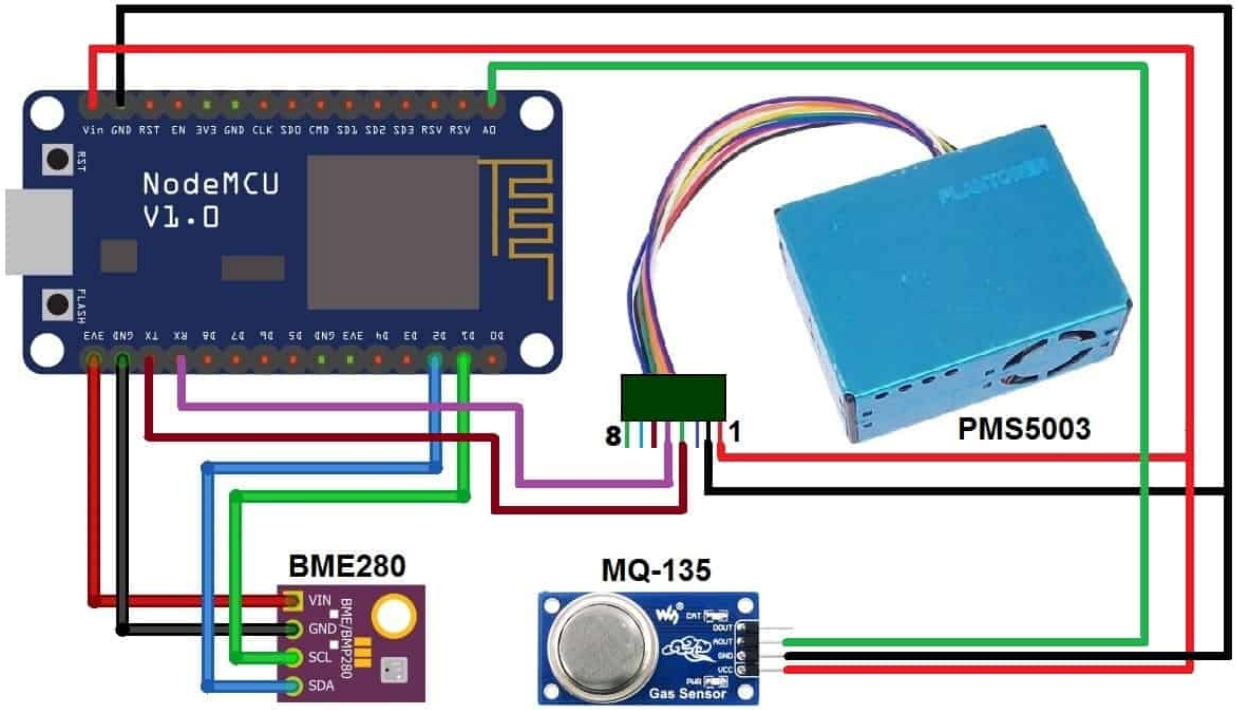
Alerts and Notifications: IoT systems can send alerts and notifications to the public or relevant authorities when air quality levels exceed predefined thresholds. This is critical for public health and safety during episodes of poor air quality.

Regulatory Compliance: IoT-based air quality monitoring systems can assist regulatory agencies in enforcing air quality standards and regulations by providing accurate and verifiable data for compliance assessments.

Environmental Insights: Continuous data collection and analysis help researchers and policymakers gain valuable insights into long-term air quality trends, pollution sources, and the effectiveness of pollution control measures.

Cost-Effective Scalability: IoT air quality monitoring systems can be easily scaled up or down to adapt to the specific needs of a region or urban area. Additional sensors can be added as needed to increase monitoring coverage.

AIR QUALITY MONITORING SYSTEM :



IoT Based Air Pollution/Quality Monitoring System with ESP8266, PM2.5 Particulate Matter Sensor, MQ-135 Air Quality Sensor & BME280 Barometric Pressure Sensor. We will monitor the Air Quality on Thinspeak Server using the internet.

This is a simple prototype for an Environmental IoT Air Pollution/Quality Monitoring System for monitoring the concentrations of major air pollutant gases. The system uses 3 sensors like PMS5003 PM2.5 Particulate Matter Sensor, MQ-135 Air Quality Sensor, BME280 Barometric Pressure Sensor. In this IoT project, you can monitor the pollution level from anywhere using your computer or mobile.

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BME280 Barometric Pressure Sensor:

Bosch BME280 Humidity, Temperature & Pressure Sensor is an integrated environmental sensor which is very small-sized with low power consumption.This BME280 Atmospheric Sensor Breakout is the easy way to measure barometric pressure, humidity, and temperature readings all without taking up too much space. Basically, anything you need to know about atmospheric conditions you can find out from this tiny breakout.