AIR QUALITY MONITOR

USING IOT

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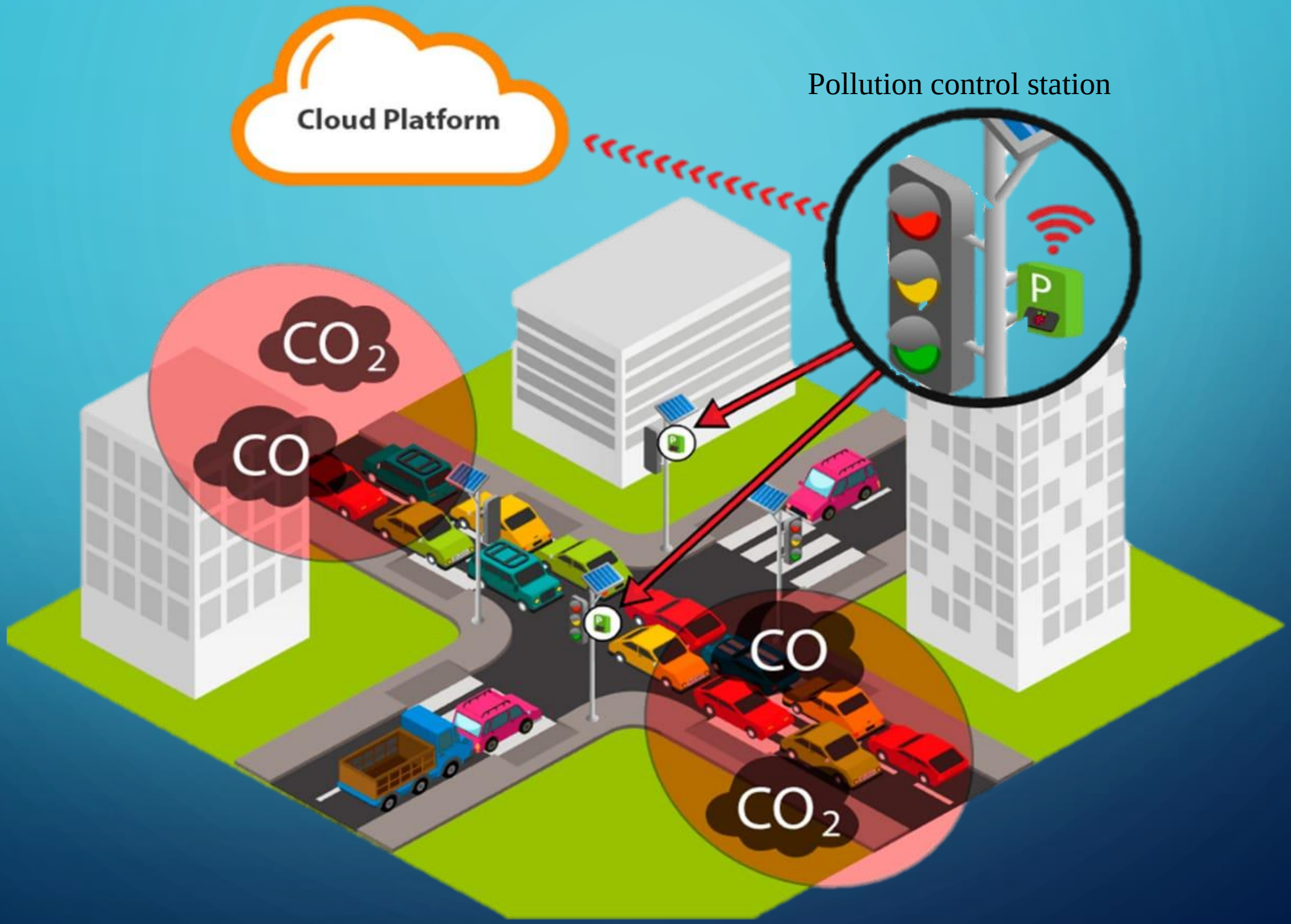
Cloud Platform
Pollution control station
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INTRODUCTION

Air quality management refers to all the activities a regulatory authority undertakes to help protect human health and the environment from the harmful effects of air pollution. The process of managing air quality can be illustrated as a cycle of inter-related elements.

PROJECT DEFINITION

- The "Air Quality Monitoring Using IoT" project aims to develop a comprehensive system for monitoring and analyzing air quality in real-time using Internet of Things (IoT) technologies.
- This project addresses the increasing concern about air pollution and its impact on public health and the environment.
- By deploying IoT sensors and devices, the project provides a scalable and efficient solution for collecting, processing, and visualizing air quality data.

PROJECT OBJECTIVES

- The project aims to deploy a network of IoT sensors capable of measuring key air quality parameters. These sensors will collect data, which will be efficiently transmitted to a central database or cloud platform to ensure data accuracy and integrity.
- An alerting system will notify users when air quality becomes unhealthy.
- Geospatial mapping features will visually represent air quality data across regions, while user engagement strategies will encourage data sharing.
- Security measures will protect sensitive information, and the system will be designed for scalability and low operational costs.
- Comprehensive documentation and training will ensure the system's effective use and maintenance, making it a valuable tool for environmental monitoring and public health awareness.

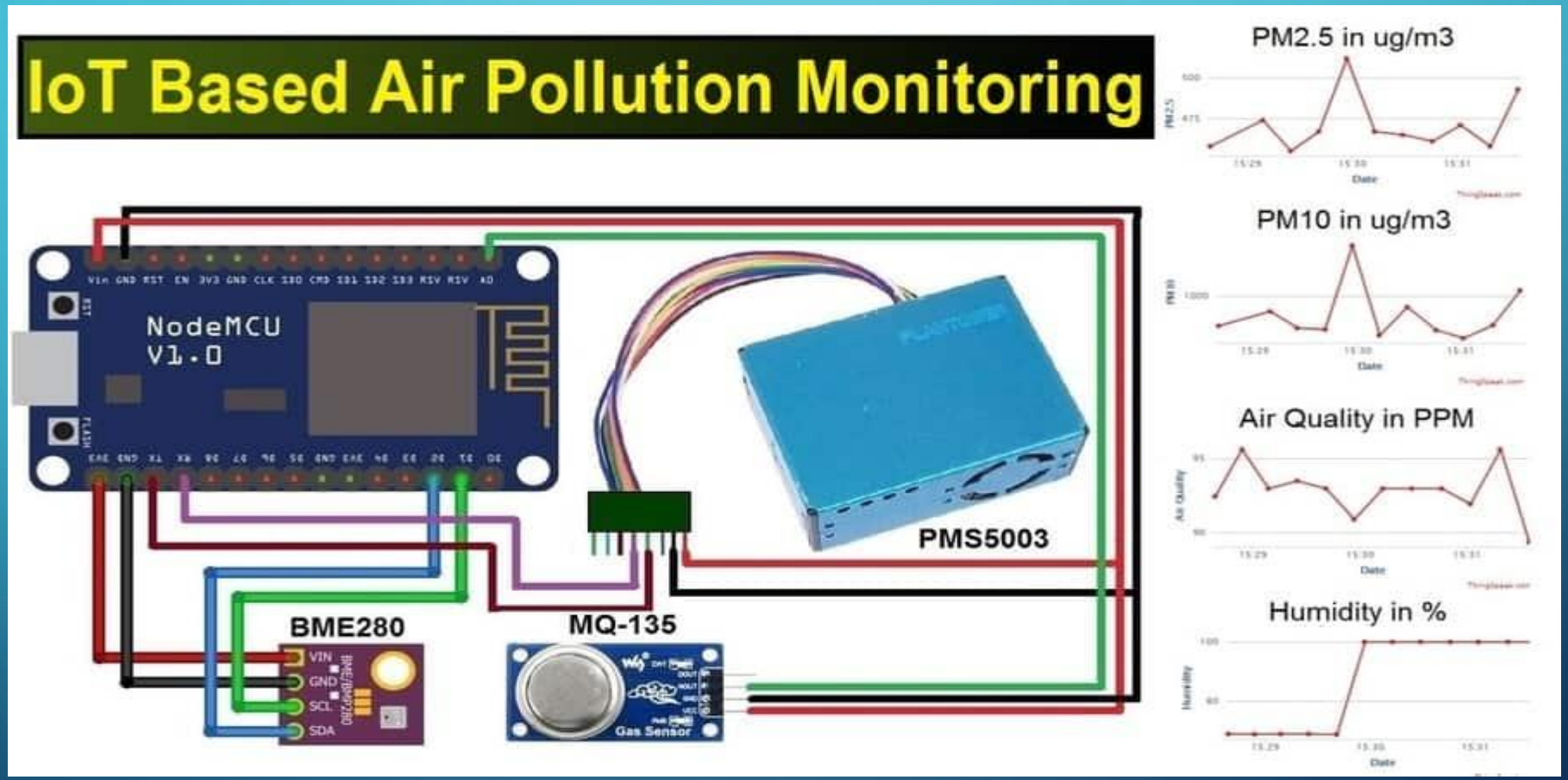
DESIGN THINKING

- **Empathize** : Understand user needs and challenges, including concerns about air quality and environmental impact.
- **Define** : Clearly define the problem and the essential features required for an effective IoT-based air quality monitor.
- **Ideate** : Generate innovative ideas for sensors, data transmission, and user interfaces to enhance the monitor's functionality.
- **Prototype and Test** : Create a working prototype, test it in various environments, gather user feedback, and iterate on the design.
- **Implement and Improve** : Develop a production-ready monitor, launch it, and continuously gather user feedback for ongoing improvements and updates.

TECHNOLOGIES

- RFID
- WiFi IEEE 802.11
- Barcode e QR Code
- ZigBee IEEE 802.15.4
- Sensors and smartphones

BLOCK DIAGRAM



ADVANTAGES

- Air quality monitoring is an important tool for improving air quality, protecting public health, and ensuring compliance with regulations.
- It can also be used to identify pollution sources, monitor climate change, or support research and development.

THANK YOU!!!