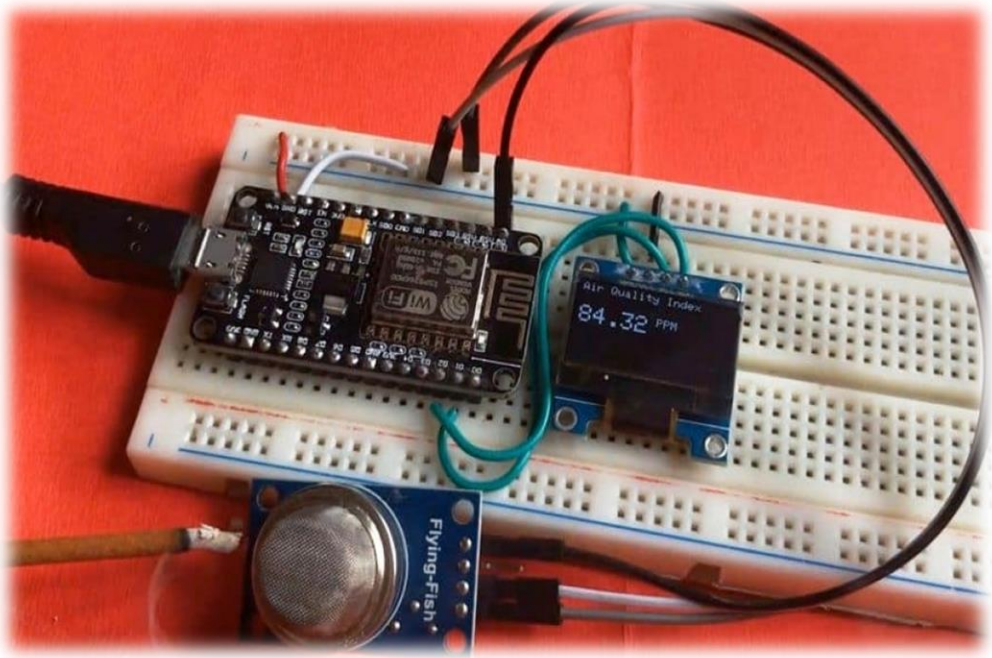
AIR QUALITY MONITORING (**AQM**)

PROBLEM DEFINITION AND DESIGN THINKING

PROJECT DEFINITION:

- Briefly introduce the project.
- Mention the importance of monitoring air quality for public health.
- State the project's objective: "To establish an IoT-based air quality monitoring system and provide real-time data to raise public awareness."



PROJECT OBJECTIVES:

- List specific objectives:
    1. Real-time air quality monitoring.
    2. Data sharing with the public.
    3. Raising awareness about air quality issues.
    4. Assessing the impact on public health.

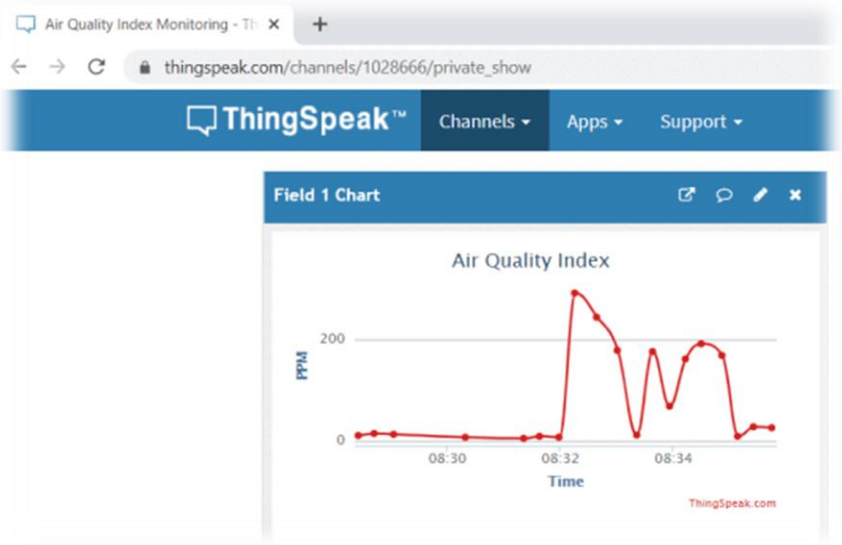
Air Quality Index Levels of Health Concern	Numerical Value	Meaning
Good	0-50	Air quality is considered satisfactory, and air pollution poses little or no risk.
Moderate	51-100	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups	101-150	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	151-200	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	201-300	Health alert: everyone may experience more serious health effects.
Hazardous	> 300	Health warnings of emergency conditions. The entire population is more likely to be affected.

IOT DEVICES DESIGNS

- Introduce the hardware components:
  - NodeMCU ESP8266.
  - I2C OLED Display.
  - MQ-135 Air Quality Sensor.
- Discuss how these devices will be assembled on a breadboard.
- Describe the placement and setup of the devices for optimal air quality data collection.

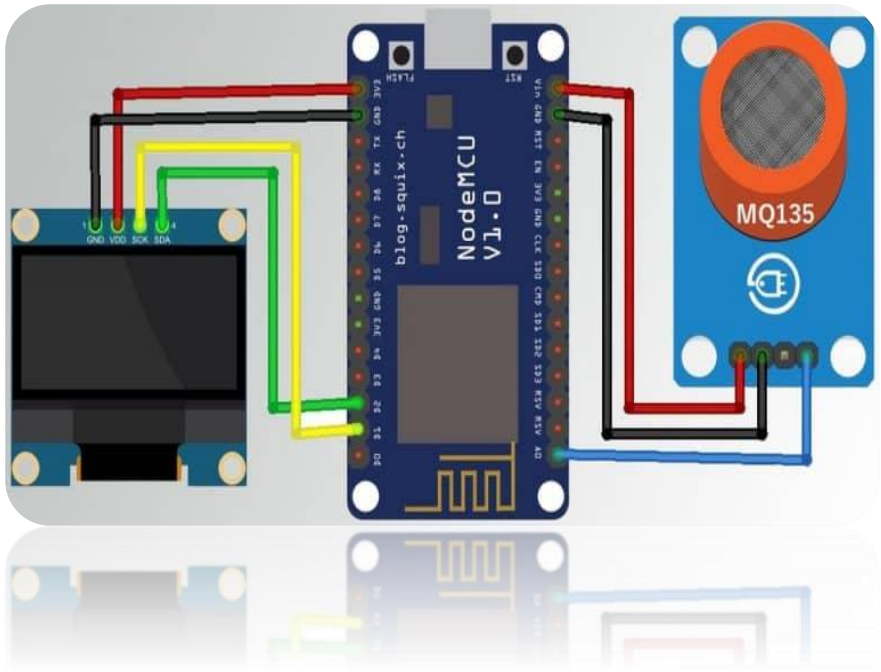
DATA SHARING PLATFORM

- Explain the need for a web-based platform.
- Mention key features like real-time data display.
- Highlight user-friendly design for public access.
- Mention the use of Python for backend development.



INTEGRATION APPROACH

- Describe how IoT devices will transmit data to the platform.
- Mention the use of wireless connectivity (Wi-Fi) for data transfer.
- Briefly discuss data processing and storage on the platform.
- Highlight the importance of secure data transmission and storage.



CONCLUSION - PHASE 1

- Project objective clarification
- IoT device selection and design
- Data sharing platform design.
- Integration approach for data transmission.

THANK YOU