

Design Thinking:

Project Objectives:

- 1.Real-time air quality monitoring.
- 2.Data sharing with the public.
- 3.Raising public awareness about air quality.
- 4.Understanding the health impact of air quality.

IoT Devices Designs:

- 1.Plan the design and deployment of IoT devices (sensors) to measure air quality parameters.
- 2.Select appropriate sensors for measuring key air quality parameters like PM2.5, PM10, CO2, and VOCs.
Consider power source options (e.g., battery or solar) for the IoT devices.
- 3.Determine the placement strategy for optimal data collection.

Data Sharing Platform:

- 1.Design a user-friendly web-based platform.

- 2.Ensure real-time data updates for immediate access to air quality information.
- 3.Create intuitive data visualization tools for easy interpretation.
- 4.Implement user authentication for secure access.
- 5.Include educational content to raise awareness about air quality.

Integration Approach:

- 1.Establish a secure communication protocol for IoT devices to transmit data to the platform.
- 2.Develop data processing algorithms to clean and analyze incoming data.
- 3.Implement data storage solutions for historical data retrieval.
- 4.Use Python for backend development, ensuring scalability and flexibility.
- 5.Regularly update and maintain both the IoT devices and the data-sharing platform for optimal performance.