



AQM

AIR QUALITY MONITORING


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Internet of Things

PROJECT OVERVIEW :

- **Objective:** The project aims to establish a comprehensive real-time air quality monitoring and awareness platform to provide the public with accurate air quality data, raise awareness about the impact of air quality on public health, and promote environmental consciousness.
- **Project Scope:** The project will involve the deployment of IoT (Internet of Things) devices equipped with sensors to measure various air quality parameters, including particulate matter (PM2.5 and PM10), nitrogen dioxide (NO2), ozone (O3), carbon monoxide (CO), sulfur dioxide (SO2), temperature, and humidity. Data collected from these devices will be processed, stored, and made accessible to the public through a user-friendly web platform and mobile applications.

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- To make our air quality monitoring project more innovative and impactful, we consider incorporating some of the following innovations:

Machine Learning and AI Predictions:

- Implement machine learning algorithms to predict air quality trends based on historical data. This can provide users with forecasts and alerts about expected changes in air quality

Crowdsourced Data:

- Allow users to contribute data from their personal IoT devices or smartphones to create a more extensive and detailed air quality map. Crowdsourced data can complement official measurements.



Air Quality Index (AQI) Calculation:

- **Calculate and display the Air Quality Index (AQI) to provide a simple and standardized way for users to understand air quality levels and their health implications**

Health Recommendations:

- **Provide personalized health recommendations based on the current air quality conditions and user profiles. For example, advise users with respiratory conditions to take precautions.**

Community Engagement:

- **Create community features such as forums or chat groups where users can discuss air quality-related issues, share tips, and exchange information.**



Feedback Loops:

- **Implement feedback loops to continuously collect user feedback and use it to drive improvements and innovations in your platform.**

Mobile Apps and Social Integration:

- **Develop mobile apps that enable users to access air quality data on the go. Integrate social sharing features to encourage users to spread awareness on social media.**

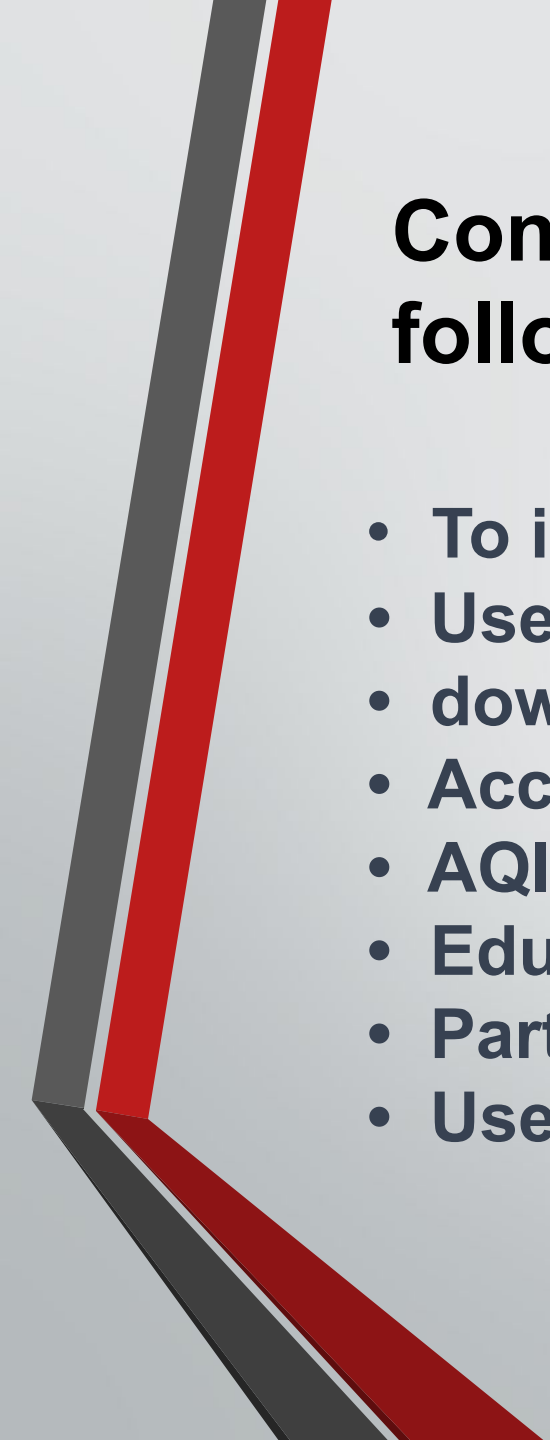
Open Data Initiatives:

- **Promote open data practices by making your air quality data available for researchers, innovators, and policymakers to encourage further research and solutions.**



Expected Outcomes:

- A real-time air quality monitoring platform accessible to the public.
- Rising awareness to the public with live data.
- Increased public awareness about air quality and its health impacts.
- Data-driven insights for further research and developments.
- Collaborative efforts to address air quality issues.



Conclusion for the phase are as follows:

- **To impact the user using historical AQI data**
- **User engagement metrics (website/app visits, downloads)**
- **Accuracy of air quality data**
- **AQI calculation accuracy**
- **Educational content reach and impact**
- **Partnership collaborations**
- **User feedback and satisfaction surveys**