**AIR QUALITY MONITORING USING IOT**

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**1.Real-Time Air Quality Monitoring**: Develop a robust IoT system to continuously monitor key air quality parameters, including particulate matter (PM2.5 and PM10), volatile organic compounds (VOCs), nitrogen dioxide (NO2), sulfur dioxide (SO2), carbon monoxide (CO),and ozone (O3) in real-time.

**2.Data Accuracy and Reliability:** Ensure high data accuracy and reliability by implementing advanced sensors and quality control mechanisms, enabling stakeholders to rely on the collected data for decision-making.

**3.Data Visualization and Analysis:** Create user-friendly dashboards and data analysis tools to provide real-time and historical data visualization, helping stakeholders gain insights into air quality trends, fluctuations, and patterns.

**4.Alert System:** Implement an alert system that triggers notifications to relevant authorities, organizations, and the public when air quality levels exceed predefined thresholds, ensuring timely response to pollution events.

**5.Data Sharing and Accessibility:** Establish a platform for sharing air quality data with relevant government agencies, research institutions, environmental organizations, and the public, promoting transparency and collaboration in addressing air pollution.

**6.Public Awareness and Education:** Develop educational materials and campaigns to raise public awareness about the importance of air quality, its impact on health, and ways individuals can reduce their contribution to air pollution.

**7.Health Impact Assessment:** Collaborate with healthcare professionals and researchers to assess the health impacts of poor air quality in the monitored area. Use collected data to quantify the association between air quality and health outcomes, such as respiratory diseases and cardiovascular problems.

**8.Policy Recommendations**: Provide data-driven insights to inform policymakers about the severity of air pollution and its consequences, facilitating the development and implementation of effective air quality regulations and policies.

**9.IoT Infrastructure Expansion:** Plan for the scalability and expansion of the IoT infrastructure to cover a wider geographic area and potentially integrate additional environmental monitoring parameters in the future.