**REAL TIME TRAFFIC MANAGEMENT AND AIR QUALITY MONITORING SYSTEM USING IOT**

**Objective**

The proposal is titled “REAL TIME TRAFFIC MANAGEMENT AND AIR QUALITY MONITORING SYSTEM USING IOT” and the goal of the project to simplify and optimize the existing traffic management system by making it a SMART process. Aim is to analyse the traffic present on traffic signals and monitor the contamination in the air. As per the analysis results, the time of the traffic signals will adjust themselves dynamically.

**Technology Stack**

* Angular
* Cloud server
* Raspberry pi
* Machine learning
* IOT

**Working**

The angular app and microcontroller (Raspberry pi) will be connected to cloud server. The sensors will be connected to the microcontroller for determining the air quality and the level of pollution. The microcontroller will transmit the data to cloud server and using that data sever will perform operation or make decision using machine learning algorithms. The system will generate alert for Unhygienic Gases if they exceeds their safe limit. There are two types of data which is collected, gas data and vehicle data. On the vehicle data clustering is applied to predict whether Traffic is more or not. If the Traffic is greater, then instruction is passed to controller to adjust the timing of traffic signal. Mobile users having internet can retrieve real time information for their use. End user or client can request to server via Android Application for knowing the real time situation about traffic & air quality of remote location.

**Conclusion**

We are designing a system which will dynamically adjust the Traffic Signal Time, due to which Air Pollution will be reduced. The system will also manage traffic and avoid congestion.

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