LITERATURE REVIEW

HAZARDOUS AREA MONITORING PLANT POWERED BY IOT

In recent years, people are getting more conscious of the environment they are living in. This consciousness is driving the need to develop a reliable environmental monitoring system. An environmental air quality monitoring system also has industrial application. In mining or in heavy industry, there is a possibility of air contamination by different harmful gases. In such hazardous situations, an environmental monitoring system can potentially save the life of the workers. In such largescale sensor deployment, there are data collection, data management, connection, and power consumption issues. IoT technology is specifically suited for this sort of need.

This paper presents an IoT based framework that effectively monitors the change in an environment using sensors, microcontroller, and IoT based technology. Users can monitor temperature, humidity, detect the presence of harmful gases both in the indoor and outdoor environment using the proposed module. The data is stored in the web server and the user can access the data anywhere in the world through an internet connection.

In the proposed work a web application is developed to provide vital information to the user. The user can also set up a notification for critical changes in the sensor data. In comparison to other closely related systems, the proposed system is a low-cost one, accurate and user friendly. It is also cloud-based and has easy monitoring and data visualization modules. The system has been evaluated in different stages. After testing all the functions in different conditions, it shows a high degree of accuracy and reliability.

This Environment Monitoring System is made from lowcost components that are easily available and can be used to monitor several environmental parameters. This system can be easily be adapted for both indoor or outdoor use. The proposed system has been tested several times with different parameters, and have been successful throughout.

Last but not least, this device can connect to the gateway via Bluetooth, Infrared or WiFi without much design changes thus making it suitable for different scenarios. This system is therefore flexible and scalable. In future the research work is intended to introduce several machine learning techniques that will give more insight to the user. Besides, to manage changes efficiently, the

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records can be kept in a secure immutable digital ledger using technologies like Blockchain [35-36].

COLLEGE NAME : Adhiyamaan College of Engineering (Autonomous), Hosur

BATCH NO : 29

PRESENTED BY,

Subburaj P (TL)

Santhosh Narmal Akash A

Sakthi T

Shanmugam M

Sridhar M