

# IOT BASED INDUSTRY SECURITY AUTOMATION

## Basic Description:-

To control and monitor of different activities focused by Present innovations in technology. To reach the human needs these are increasingly emerging. Most of this technology is focused on efficient monitoring and controlling different activities. To monitor and assess the conditions in case of exceeding the prescribed level of parameters (e.g., CO, Smoke, temperature and Humidity levels) an efficient environmental monitoring system is needed. In an environment when an object equipped with sensor devices, then in this case microcontroller and various software application becomes a self-defending Self-monitoring and self-controlling environment and it is also called as smart environment.

To predict the behavior of a particular area of interest and to collect the data, the Sensor devices are placed at different locations. The main goal of the this paper is to design and implement an adequate monitoring system through which the needed parameters are monitored and controlled remotely by using internet and the data collected from the sensors are stored in the cloud and on the web browser to project the estimated trend.

A solution for monitoring the abnormal and CO levels i.e., any parameter value crossing its threshold value ranges, for example CO levels in air in a particular area exceeding the normal levels etc., in the environment using wireless embedded computing system is proposed in this paper. The solution also provides an intelligent remote monitoring for a particular area of interest. In this paper I also describe a trending results of sensed or collected data with respect to the ordinary as well as specified ranges of particular parameters. The embedded system enables the user to remotely access the various parameters and store the data in cloud and this system is an integration of sensor devices with wireless communication.

## Working model:-

The proposed model is for monitoring hazardous and CO levels in the atmosphere to make the environment intelligent or interactive with the objects through wireless communication which is more adaptable and distributive in nature to monitor the environmental parameters.

We have identified a suitable implementation model that consists of different sensor devices and other modules, their functionalities. In this implementation model we used Raspberry Pi board with Wi-Fi module is as embedded device for sensing and storing the data in cloud. Raspberry Pi board consist of analog input pins (A0-A5), digital output pins (D0- D13), inbuilt ADC and Wi-Fi module connects the embedded device to internet. Sensors are connected to Raspberry Pi board for monitoring, ADC will convert the corresponding sensor reading to its digital value and from that value the corresponding environmental parameter will be evaluated. The Wi-Fi connection has to be established to transfer sensors data to end user and also send it to the cloud storage for future usage. Before sending the sensed data to cloud, the data will be processed in MATLAB for analyze and visualize data to end user. The data analysis in MATLAB makes easier to us to set threshold level and to perform necessary controlling actions.

Carbon Monoxide (CO) sensor MQ-7 will record the air quality in that region, if the threshold limit is crossed the corresponding controlling action will be taken (like issuing message alarm or buzzer or LED blink).All the sensor devices are connected to internet through Wi-Fi module.

It shows the embedded system with its components for reading and to store the pollution parameters in cloud. After successful completion of sensing, the data will be processed and stored in database for future reference. After completing the analysis on data the threshold values will be set for controlling purpose. CO levels in air at regular time intervals. All the above information will be stored in the cloud, so that we can provide trending of noise intensity and CO levels in a particular area at any point of time.

After sensing the data from different sensor devices, which are placed in particular area of interest. The sensed data will be automatically sent to the web server, when a proper connection is established with sever device. By entering IP address of server which is placed for monitoring we will get the corresponding web page. The web page gives the information about the intensity of sound and the CO level variations in that particular region, where the embedded monitoring system is placed. The sensed data will be stored in cloud (Google Spread Sheets). The data stored in cloud can be used for the analysis of the parameter and continuous monitoring purpose.

## RESULT:-

