IOT Based Noise And Pollution Monitoring System

Abstract – *In infrastructure of todays societies and industrial plants the increase in environmental issues like pollution(Air, Noise etc.),climate change, malfunctioning causes great consequences and which gives rise to demand for an, operationally adaptable, efficient, cheap and smart monitoring systems. In this Paper a solution to monitor air and noise pollution in industrial areas as well as public society is proposed. Now a Days technologies which provides an ease of using softwares and devices are in demand and IOT is such a platform which provides Real time access to the devices through the internet which is attracting the younger generation. Therefore the technology like Internet of Things (IoT) is included in the form of solution which is outcome of merged field of computer science and electronics. For two or three parameters like noise, Air Quality, LPG, Alcohol, Temperature and Humidity levels the implementation is tested with respect to the normal behavior levels or given specifications which provide a monitoring over the pollution control to make the environment smart and ecofriendly. The basic mission of the Air Quality Planning and Standards is to preserve quality of air and pollution monitoring on real time slot.*

***Key Words*: Node MCU, IOT, Relay, Sensor(noise, Air quality), Blynk.**

1.INTRODUCTION

For the purpose of controlling and monitoring different activities and parameters which is focus of Innovation in todays technology, For reaching the Human Needs and Demands of Ease of use of any technology. To monitor and assess the conditions in case of exceeding the prescribed level of parameters (pollution, humidity levels) an efficient environmental monitoring system is required. In an environment when by use of sensors devises an object is equipped with it making the environment self monitoring and self defending then that environment is known as smart environment.

Our proposed model focuses on Real time monitoring of noise and air pollution in the industrial and public areas where the users can access the data and monitor the quantity of different harmful gases, noise pollution in that area as well as humidity and temperature level. All these different parameters data can be accessed by users through an app which we provide namely as "Blynk" which is user friendly and easy to use. This is made possible by the use of concept of IOT which refers to accessing the devices through internet .Also Node MCU is used to make the model compact and easy to built with less complexity which increases the ease of handling the devices, the advantages of node mcu over arduino is discussed in paper later. So a solution for monitoring the noise 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 [1]

2. Existing Model

Many pollution monitoring systems are introduced in todays generation on of those models are a pollution monitoring system using Zigbee based wireless sensor networks shown in Figure 2.1 which is used to monitor physical and environmental conditions with thousands of application in different fields. In this existing model sensor nodes directly communicate with the moving nodes deployed on the object of interest which avoided the use of complex routing algorithm but also here use local computations are very minimal. In the existing model RFID is used for the storing and retrieving data through electromagnetic transmission to an RF compatible integrated circuit. It is basically used to track and label items in supermarkets and manufactories. The two main components of RFID systems are tags and readers where tag has an unique identification (ID) number and a memory used to store additional data such as manufacturer, product type etc. This provides an advantage where through wireless communication a reader is capable to write and/or read data to tags also for purpose of identification or tracking. tags are embedded or attached into objects in a typical RFID application.

Also in this modern Era where technology is growing rapidly more projects were introduced where the wireless communication was used for interaction of devices and users could read and access data through internet servers using ip addresses using computers and mobile phones. These projects included the monitoring system where local servers were used also projects came into play where global servers were used. In this modern era cloud access system are introduced where memory can be stored and hence smartphone application came into play and the demand of this type of technology increased which is also used in our proposed model.[2]