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IOT CONTROLLED ADVANCED INDUSTRIAL POLLUTION MONITORING AND CONTROLLING SYSTEM

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Abstract *For modern industrialization increased lot at the same time the C02 level from these industries also produce more which leads to lot of global warming, destruction of ozone layer and also effects on human health. The existing methods do not provide full and effective control of these parameters and because of using man power there may be negligence. Increasing pollution level from different industries like paper industry. Cement industry are consisting harmful chemicals in air, water as well sound pollution. The method shown here is solution of such problems using IOT technology. Using IOT Technology we are monitoring the pollution parameter and also the details of the industry at the same time in the pollution level exceeds certain limit the power inside the industry goes to cut off and stop the further production and to reconnect the power in the industry it is possible with the authentication signal generated from pollution control board.*

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Key Words: **Air pollution monitoring system; Air Pollution control; sensors; IOT; Cloud; Co2 Monitoring; Air-pollution safe route; Industrial Control**

1.INTRODUCTION

Because of modern advanced methodologies, the creation measureable for little and minimum price of sensors became economically and technically possible. As Vehicle is increased due to the industrialization in parallel pollution in the atmosphere is increased mainly in the industrial areas due to unwanted emission in the atmosphere can cause the various distraction in the biological world, so that proper system used to monitor the pollution condition in the surrounding. Importance to be taken to the parameters which affects the human being and the surrounding environment. To analyse the current conditions information should be collected from the devices and proper steps to be taken to control and monitor the different regions in the industries. Because of parameters difficulty huge alterations are appeared among the various industries.

1.1 LITERATURE REVIEW

IOT is recently created innovation here controllers, sensors and actuators are synchronized among the internet. IOT which provides the real time update about the parameters such as Noise, Air, Moisture, Temperature and Light [2]. It leads that the experts should take action against the affected environment by monitoring and controlling by utilizing new innovated systems IOT. Major aim of project is that to make contamination free environment by monitoring and controlling action, thereby to provide pollution free future life.

By the utilization of monitored data industrial pollution can be controlled. Big data collecting and storing is become the major problem. In that so many techniques are utilized for the purpose of storage of real-time data. [8] Awareness about the air pollution can be given to the public by praising the less polluted regions. So that to monitor the air pollution the Wi-Fi connection is necessary this connection is mainly utilized to monitor the system about the condition of the air. Spontaneously monitored information about the air pollution gases which are given to the Big Sensor Data system, and presenting the information about the air pollution.

1.2 PROBLEM STATEMENT

The problem statement of our project is that, Day by day the condition of the environment is getting polluted in the form of noise, air and water pollution which leads to the occurrence of various problems in environments, as by increasing the quantity of pollution in environment which leads to the high increase of global warming which destructs the ozone layer and this also affects health of human being incurable and unidentifiable diseases may appears due to heavy pollution in the environment. Various procedures have considered to control and monitor this problem but the techniques are not very efficient and utilize a large number human communication maximizing the negligence which causes problem it not solvable from particular manner.

2. PROPOSED METHOD

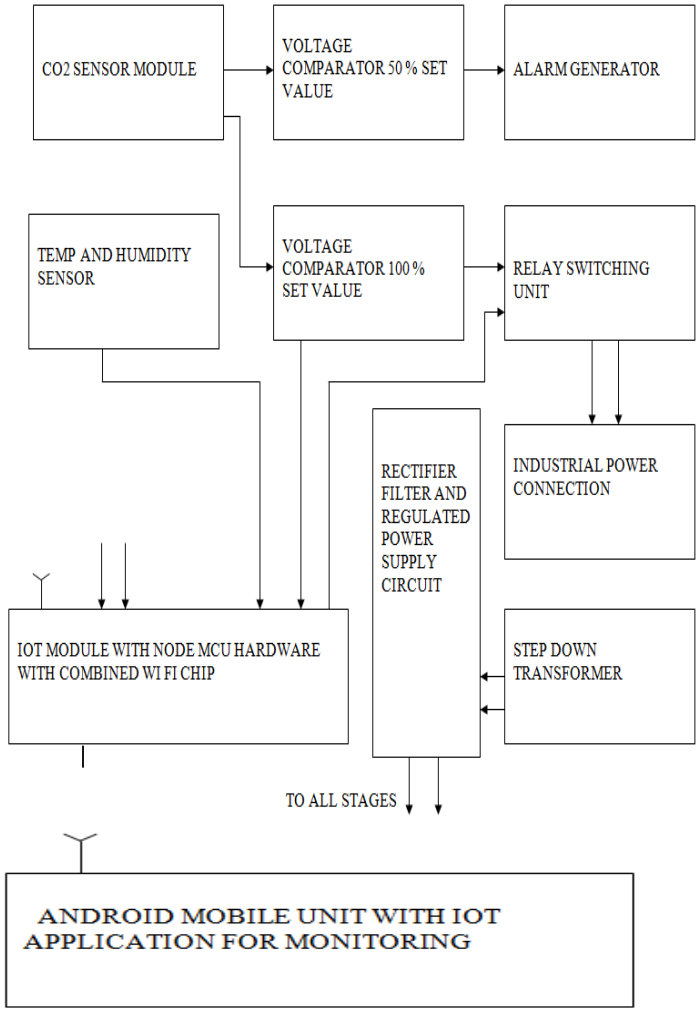

Figure 3.2: Android Mobile with IOT App

To maintain the level of co2 in the atmosphere takes very important role. Pollution control board monitoring the co2 level but it does not sufficient to maintain the 100% control on level of co2 in the atmosphere. Above represented techniques can be utilized to monitor these issues. This new introduced technology is utilized to monitor as well as control the level of co2 in surrounding and it also regulate the level of co2 whenever it shows unappropriated values. . In industries co2 sensor is utilized in the exhaust pipe, various stage of sensing for co2 (50% and 100%). In the form of voltage is available from the content of co2. Linear characteristics of co2 level is obtained by the proper potential divider in the voltage conditioning unit. Voltage conditioner unit output is given to voltage comparators here these are fixed reference voltages are suitable for every voltage level the appropriate comparator starts its output and corresponding LED s (Indicators) turn ON and indicates the level of co2.

To monitor two comparison level can be undertaken. First comparator switched on mainly for low co2 levels which signifies the output as well. Second comparator is switched on for higher co2 levels. To deactivate the power supply the electromagnetic relay control circuit is structured when it activated which turns off the ac power supply of the industry. In this manner if sent notification message about the high level of pollution of 100%.

3. RESULTS

3.1Amount of Co2 Level detection

The following figures show the implementation and results of the project:

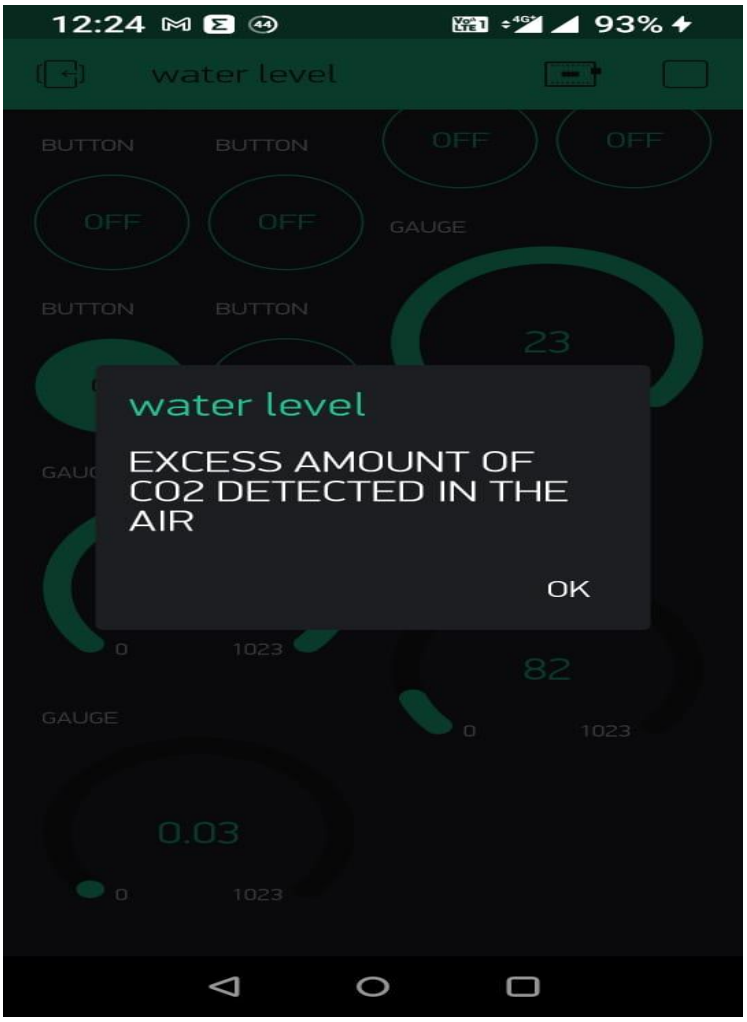

Fig. 6.1 (a) Co2 level measurment

3.2 Humidity level measurment

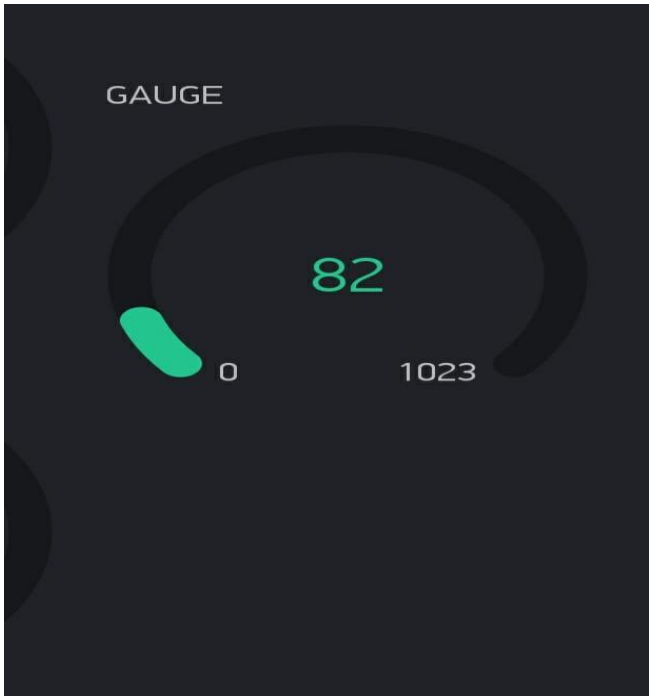

Fig 6.1(b) Humidity level measurment

3.3 Temperature level measurment

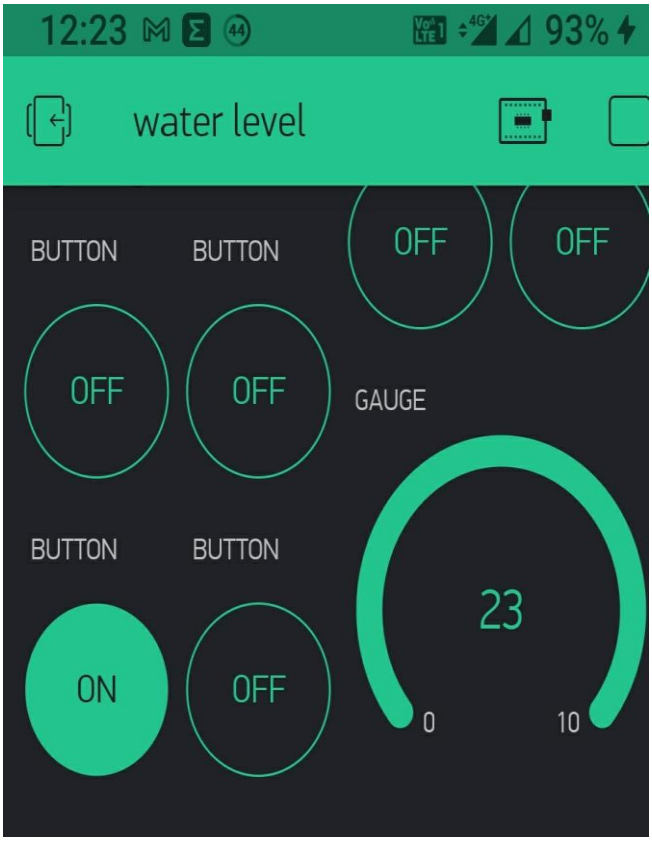

Fig. 6.1 (c) Temperature level measurement

4. CONCLUSION

The result of this project is monitoring of air pollution to threshold range and also monitoring of water and noise pollution to the threshold values, monitoring the pollution status in the control board and also obtaining the full details about industry along with address and license number and address For the disabling and enabling action of the industry power utilizing IOT app and with this way preventing the increase in pollution rate and manpower and also possible to manage the condition of the pollution effectively.

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