FINAL PROJECT REPORT

Gas Leakage Monitoring & Alerting System For Industries

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ABSTRACT:

Internet of Things aim towards making life simpler by automating every small task around us. As much is IoT helping in automating tasks, the benefits of IoT can also be extended for enhancing the existing safety standards. Safety, the elementary concern of any project, has not been left untouched by IoT. Gas Leakages in open or closed areas can prove to be dangerous and lethal. The traditional Gas Leakage Detector Systems though have great precision, fail to acknowledge a few factors in the field of alerting the people about the leakage. Therefore we have used the IoT technology to make a Gas Leakage Detector for society which having Smart Alerting techniques involving sending text message to the concerned authority and an ability performing data analytics on sensor readings. Our main aim is to proposing the gas leakage system for society where each flat have gas leakage detector hardware. This will detect the harmful gases in environment and alerting to the society member through alarm and sending notification. Keywords— Internet of Things, Gas Leakage Detector, Smart Alerting Techniques, Data Analytics.

INTRODUCTION:

Internet of Things aim towards making life simpler by automating every small task around us. As much is IoT helping in automating tasks, the benefits of IoT can also be extended for enhancing the existing safety standards. Safety has always been an important criterion while designing home, buildings, industries as well as cities. The increased concentration of certain gases in the atmosphere can prove to be extremely dangerous. These gases might be flammable at certain temperature and humidity conditions, toxic after exceeding the specified concentrations limits or even a contributing factor in the air pollution of an area leading to problems such as smog and reduced visibility which can in turn cause severe accidents and also have adverse effect on the health of people. Most of the societies have fire safety mechanism. But it can use after the fire exists. In order to have a control over such conditions we proposed system that uses sensors which is capable of detecting the gases such as LPG, CO2, CO and CH4. This system will not only able to detect the leakage of gas but also alerting through audible alarms. Presence of excess amounts of harmful gases in environment then this system can notify the user. System can notify to society admin about the condition before mishap takes place through a message.

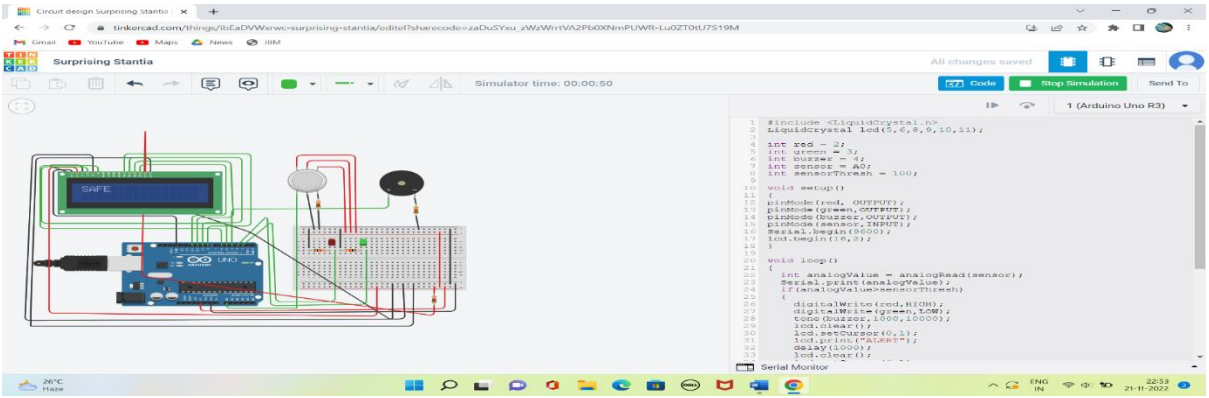
System consists of gas detector sensors, Arduino board, ESP8266 and Cloud server. One Society authority person can register the all flat member user to our system. Society admin can add the details of per flat user such as user name, mobile number, per user flat sensor details information. Society admin can configure the threshold value of each sensor. System hardware can be deployed on each flat. Sensors can sense the value per time. System can send the values to cloud server. Server can Check that the sensor values was existed the threshold value. If sensor value can cross the limit the server can send the command to hardware for buzzing the alarm. Server also sends the notification message to user.

COMPONENTS REQUIRED : Arduino Uno, LCD ,LED, Buzzer, Resistor.

Software Requirements: is ARDUINO Compiler (IDE) - The open-source Arduino Software (IDE) that creates a simple code to write and upload it to the panel. cloud ,Watson, node red ,python 3.7.1, . Nature is written in python and founded on managing and other open-source software.

OBJECTIVES :

General Objective :To layout and acquire a project “LPG Leakage Detector using Arduino with SMS Alert and Sound Alarm” Specific Objective: To layout and acquire project that will perceive gas outflow like Methane leak, Butane leak, and LPG leak, Methane outflow or any such petroleum centered on gaseous substance that can be discovered using MQ5 device to layout and set up an SMS centered Alert method send SMS alert missives to restrict mobile number enter inside the Arduino program. to layout and acquire a project that will fabricate a sound alarm during gas outflow and rest the alarm once gas outflow is regulated show status in an LCD using a 16×2 LCD component and to rest the gas supply using Solenoid controller.



ANALYSIS :

We analyzed about cloud, Watson, node red ,ticker card ,wowki these websites are very help full to complete the project.

And gas leakage and monitoring system for industries,it makes the industries to overcome

the gas leakage problems by knowing alerts before incidents ,it prevents harmfuleffects.

CONCLUSION :

After all the data had been gathered, analyzed and processed, the proponents arrived at the succeeding conclusion. Therefore,concluded that the “LPG Leakage Detector Using Arduino with SMS Alert and Sound Alarm” will help a lot in terms of preventing any danger caused by gas leakage and useful as part of safety to avoid the gas leakage that can cause harmful result. It will also improve the safety of all users of Gases and in industries .