LITERATURE SURVEY

Domain : Internet Of Things

Gas Leakage Monitoring and Alerting System

Batch No: B8-2A4E

Team Members:

1. Vigneshwaran S (Team leader)
2. Sambath N
3. Sanjai P
4. Suresh kumar M

LITERATURE 1:

IOT BASED HOME SAFETY GAS LEAKAGE DETECTION AND AUTOMATIC BOOKING SYSTEM:

Internet of things try towards making life less complex what's more, quicker via robotizing the whole little errands related with the life of human. Today, everything is getting keen because of the innovative advancement, for example, of IOT. As IOT is valuable for robotizing the assignments, the upside of IOT can likewise be far reaching for improving the helpful security strategies. Security plays a significant role while constructing home, buildings, industries as well as towns. The enlarged focus of certain gases in the environment can be exceptionally unsafe, in recent time, everyone needs a facility which reduces time and effort and expect their work to be as easy as possible. One such region where man wants to get the work quicker and simpler is cooking. Most ordinarily LPG is utilized for cooking reason which was presented by Dr. Walter Snelling. It is a amalgamation of propane and butane alongside soaked substance notwithstanding unsaturated hydrocarbon substance. Gas undertakings utilizes SMS, IVRS or Online reserving for the LPG, which is tedious strategies in individuals' day by day life. However, due to fast nature and high competition, today people look for smarter way of

operations than tedious and mechanical as well as manual routine. As such, booking gas has also become one of the tasks where one has tendency to either postpone or forget its booking due to busy schedule and lack of time. Usually in home or industries, most of the disaster happens due to gas leakages, which leads to several accidents and also causes human life. In order to handle such situation, the proposed gas leakage detection and monitoring system is developed and put forth in this paper. In this layout MQ-6 sensor is used to detect and sense the gas leakage and the temperature sensor is also placed to reduce the false deduction. This proposed system is not only capable of Sensing or detecting the gas leakages as well as alerting the user about the gas leakage by buzzer alarm and also displaying alert message in LCD display simultaneously switch on the exhaust fan and start the stepper motor, external coupling is made to turn off the gas regulator. PIR sensor also placed in the home to notify about the human presence.

Paper Details

Volume: Issue 2
Issues: Issue 2
Keywords: GSM module, gas sensor, PIR sensor, load cell, Arduino Uno, Internet of things.
Year: 2021
Month: February
DOI: 10.37200/IJPR/V25I2/PR320063
Pages: 752-765

LITERATURE 2:

ARDUINO BASED GAS LEAKAGE DETECTION SYSTEM USING IOT:

It has become important factor nowadays to bring the technology into our home and office. By making the place smart, the day-to-day activities are becoming more and easier. The development of home automation has become mandatory in homes as people are moving towards to the smart home concepts. The supply gas will also be stopped with the use of solenoid, ultimately preventing the chance of accident. 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. 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. The people in the neighbors can also be included in case of an emergency. LPG gas sensor is used for input. A buzzer is connected along with the circuit to indicate the use of the output.

LITERATURE 3:

IOT BASED DETECTION OF LEKAGAES IN GAS PIPES:

The Internet of things (IOT) is the network of electronic devices, which are related to embedded systems and also other domains through the internet. Liquids and gases are mostly transported in pipelines like oil, natural gases, biofuels and water. It is necessary to check whether the pipes are good enough without cracks. The cracks may lead to disasters. There is a real life incident which needs to be taken seriously. This project might help to get aware of it. The cruel incident took place in Tlahuelilpan town situated in Mexican state. On 18, Jan 2019 a pipeline transporting gasoline exploded taking the life of 96 people and a lots of people gets injured. Pipeline monitoring, control, operation and maintenance are very important activities, which have evolved considerably. The detection and behavior of leaks has deserved special attention by different researchers. This paper deals with the detection of leakages in gas pipes and thus reducing the man power

June 2019

DOI:10.31142/ijtsrd23722

Unique Paper ID - IJTSRD23722 | Volume – 3 | Issue – 4 | May-Jun 2019

LITERATURE 4:

A SMART NATURAL GAS LEAKAGE DETECTION AND CONTROL

SYSTEMFOR GAS DISTRIBUTION COMPANIES OF BANGLADESHUSING IOT:

This project proposes a smart mobile based model of gas leakage detection and control for gas distribution system of Bangladesh using IoT, called as smart natural gas leakage detection and control system (SNLDCS). The proposed SNLDCS has been implemented in both software and hardware modules. The existing researches are about Liquefied Petroleum Gas (LPG) leakage detection that are used for cylinder gas. Hence, these models are not suitable for gas distributions companies of Bangladesh where natural gas leakage is being controlled from remote places. But the proposed model can quickly detect natural gas leakage by continuous monitoring and can control gas leakage by a smart phone from anywhere. The experimental results confirm that, implementation of SNLDCS model in gas distribution system in Bangladesh can provide the quickest detection and rapid resolve of gas leakage. As a result, it will increase safety, decreases system loss and reduces Greenhouse Gas (GHG) emission in the air.

Published in: 2021 2nd International Conference on Robotics, Electrical and Signal Processing Techniques (ICREST)
Date of Conference: 05-07 January 2021
Date Added to IEEE *Xplore*: 01 February 2021
ISBN Information:
INSPEC Accession Number: 20402400
DOI: 10.1109/ICREST51555.2021.9331226
Publisher: IEEE
Conference Location: DHAKA, Bangladesh

LITERATURE 5:

DETECTION OFGAS LEAKAGE IN POLYMER INDUSTRIES

USING IOT:

Gases leaked from polymer and carbide industries are very harmful to all living things. Major disaster happened at Bhopal on December 3, 1984. Recently an industrial accident occurred at LG polymers chemical plant in the Vishakapattinam. As per the National Disaster Response Force (NDRF), the death toll was 11, and more than 1,000 people became sick

after being exposed to the gas. To prevent from these types of accidents, safety system should build in high quality standards. Safety should be ensured by all levels. To incorporate technology in the Safety System, Internet of Things (IOT) technology is used to detect the gas leakage and prevent the disaster before it happened. Internet of Things [IOT] is a system of interrelated computing devices without human – human or human– computer interaction. IOT is used to automating the daily tasks, the benefits of IOT can also be extended for enhancing the existing safety standards. Safety is the most important criterion while designing polymer industries. The spread of highly concentrated gases in the atmosphere can produce extremely dangerous condition. 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 smoke and reduced visibility which can in turn cause several accidents and also have adverse effect on the health of people.

- Article Download / Views: 413
- **Authors :** S. Puvaneswari, J. Chandrapriya
- **Paper ID :** IJERTCONV9IS05051
- **Volume & Issue :** ICRADL – 2021 (Volume 09 – Issue 05)
- **Published (First Online):** 27-03-2021
- **ISSN (Online) :** 2278-0181
- **Publisher Name :** IJERT