

Gas Leakage Monitoring and Alerting System

Team Members:

1. Anitha K
2. Kanimozhi J
3. Naveen Karthick R
4. Aartisha s

Introduction:

Safety plays a major role in today's world and it is necessary that good safety systems are to be implemented in places of education and work. This work modifies the existing safety model installed in industries and this system also be used in homes and offices. The main objective of the work is designing microcontroller based toxic gas detecting and alerting system. The hazardous gases like LPG and propane were sensed and displayed and notify each and every second in the LCD display. If these gases exceed the normal level then an alarm is generated immediately and also an alert message (Email) is sent to the authorized person through the INTERNET and used ARM development board. The advantage of this automated detection and alerting system over the manual method is that it offers quick response time and accurate detection of an emergency and in turn leading faster diffusion of the critical situation.

Home fires have been taking place frequently and the threat to human lives and properties is growing in recent years. Liquid petroleum gas (LPG) is highly inflammable and can burn even at some distance from the source of leakage. Most fire accidents are caused because of a poor quality rubber

tube or the regulator is not turned off when not in use. Therefore, developing the gas leakage alert system is very essential. Hence, this paper presents a gas leakage alert system to detect the gas leakage and to alarm the people onboard.

Literature review:

[1] A smart gas leakage monitoring system for use in hospitals

Due to the increase in fuel costs, we use LPG gas in most petrol/diesel vehicles. The use of LPG gas in car and home is very risky. The LPG gas cylinders used at home and elsewhere are the same condition, which is mainly due to LPG gas leakage accidents. For the protection and security of LPG gas explosion problem, we design the IoT based system to prevent home and vehicle accidents.

[2] Mobile Based Gas Leakage Monitoring Using IoT

The proposed technique has been executed in a field by constructing a remote sensor arrange (WSN). It is affirmed that the framework recognition rate comes to the highest value as 96.7% and the normal location time delay is under the 30s on the reason of low bogus caution rate. In existing framework, LPG Spillage identifier with SMS sign utilizing GSM modem venture distinguishes the LPG gas spillage. In the event that the LPG gas level crosses the edge level at that point it sends SMS to the client utilizing the GSM modem. Additionally, the LPG identifier framework turns on the ringer to demonstrate the individual close by to the framework. In the proposed framework, we actualized a framework which gives call

alert along with SMS, in the wake of recognizing Gas spillage inside 30 seconds. The discovery unit is actualized utilizing MQ 2 sensor and GSM Module. The current flexibly will be naturally shutdown before the call caution to the particular proprietor. In this technique, we beat the hindrances of the current framework, which depends on SMS alert.

[3] **Automatic Gas Leakage Monitoring System Using MQ-5**

Sensor One of the precautionary measures one has to take to avoid the danger associated with the gas leakage is to install a gas leakage system detector at susceptible places. This paper presents a liquefied petroleum gas (LPG) leakage, monitoring system. The gas detector MQ-5 used in the design is responsible for capturing the gas that is leaking. An Arduino microcontroller that is use acts as the brain of the whole research, it controls all the components used in the design. If the gas sensor detects a gas leakage, it will make an alarm-using buzzer and will send SMS messages to the registered mobile numbers with the help of the GSM module. A Liquid Crystal Display is used in the research to display the gas leakage or absence of gas leakage.

Reference:

[1]Gas Detection and Alarming System

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[2]Automatic Gas Leakage Monitoring System Using MQ-5 Sensor

MuhammadAhmadBaballe

https://www.researchgate.net/publication/354696199_Automatic_Gas_Leakage_Monitoring_System_Using_MQ-5_Sensor

[3] Implementation of Automated Gas Leakage Monitoring System Using Zigbee Indumathi S K and Prasath J.S.

https://www.researchgate.net/publication/312553762_Implementation_of_Automated_Gas_Leakage_Monitoring_System_Using_Zigbee

[4] Gas leakage detection and alert system

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[5] LPG Gas Cylinder Monitoring and GAS Leakage Alert System

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