**GAS LEAKAGE MONITORING AND ALERTING SYSTEM**

**OBJECTIVES**

To Detect the leakage of toxic gas and to trigger an alert system to activate the safety precautions using IoT devices and cloud services.

The system comprises of sensors for detecting gas leak interfaced to microcontroller that will give an alert to user whenever there is a gas leakage with exact location details. It also allows to monitor the gas levels continuously using the web UI.

**INTRODUCTION**

Internet of Things aim towards making life simpler by automating every small task around us. Safety has always been an important criteria while designing home, buildings, industries as well as cities. The increased concentration of certain gases in the atmosphere can prove to be extremely dangerous. As much is IoT helping in automating tasks, the benefits of IoT can also be extended for enhancing the existing safety standards.This system is not only capable of detecting the leakages and hence presence of excess amounts of harmful gases and alerting through audible alarms but also, with the help of IoT, alerting the concerned authority about the condition before any mishap takes place through a personal message over the internet using cloud services.

The Gas Leakage Detector System also sends the sensor reading to cloud so that the user can continuously monitor the sensor data and analytics could be carried out on the readings for increasing the precision of the system. A web UI will be developed to display the sensor data continuously where the user can monitor the sensor data.

**LITERATURE SURVEY**

**[1]**

**TITLE:** Gas Leakage Detection System using IoT with integrated notifications using Pushbullet-A Review.

**AUTHOR:** M Athish Subramanian, Naveen Selvam, Rajkumar S, R Mahalakshmi, and J Ramprabhakar

This paper reviews the previous state of art and also have

proposed a gas leakage detection system using MQ5 gas sensor and

Arduino Uno controller is incorporated with a cloud storage for data

collection and also used for storing and analysing data. Gas leaked

is converted from Parts per Million (PPM) to volts through the

Arduino IDE and results in notifying the user when the threshold

limit is crossed. The user is alerted via an application for quick

notification through the internet and also through a buzzer /LED for

physical notification. The prime novelty of the proposal may be

claimed as the usage of cloud storage for detection and notification.

The system, though is simple and straight forward, can be very

efficiently used for domestic purpose.

**[2]**

**TITLE:** Gas Leakage Detection Based on IOT

**AUTHOR:** Suma V, Ramya R Shekar, and Akshay Kumar A

The main idea of this paper is to carry out the literature review on

IoT based gas detection techniques and to ensure the safety of people

and surroundings. By presenting a simple yet reliable system, gas

leakage detection system using MQ5 gas sensor and Arduino uno

controller is incorporated with a cloud storage for data collection and

also used for storing and analysing data. Gas leaked is converted

from Parts Per Million (PPM) to volts through the Arduino IDE and

results in notifying the user when the threshold limit is crossed. The

user is alerted via an application for quick notification through the

internet and also through a buzzer /LED for physical notification.

**[3]**

**TITLE:** LPG Gas Leakage Detection Using IOT

**AUTHOR:** Arun Manhas, Neeraj Chambyal, Manish Raina, Dr. Simmi Dutta

This paper provides a brand new approach to discover LPG discharge supported microcontroller based Node MCU. To alert on Liquefied rock oil Gas (LPG) leakage and preventing any unwanted incident, we need to apply some cautions to discover the discharge. This paper aims to provide a solution to this problem by building a

device which will do the area monitoring continuously. The gas sensor provides data to Node MCU, and then the results are displayed as a warning to the user via an Android-based smart-phone device. Other than LPG gas, Air conditioner and refrigerator leaked gases are also harmful in home. Using this device users will be able to prevent accidents that occur due to harmful gas leaks so that accidents can be avoided

**[4]**

**TITLE:** Internet of Things (IOT) Based Gas Leakage Monitoring and Alerting System with MQ-2 Sensor

**AUTHOR:** Rohan Chandra Pandey, Manish Verma, Lumesh Kumar Sahu

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.

**REFERENCES**

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