IDEATION PHASE

LITERATURE SURVEY

BATCH	B12-6A2E
TEAM ID	PNT2022TMID01722
TEAM MEMBERS	GOWTHAMRAJ - 7376191EC148 (Team Lead) KARTHICK RAJ BHARATHI - 7376191EC181 KARUNRAJ - 7376191EC184 KAVI RAAJ - 7376191EC185
PROJECT	Gas Leakage Monitoring & Alerting System for Industries

INTRODUCTION:

LPG & other gases can be used in many applications in the industrial sector namely in space- and process-heating, powering industrial ovens, production of food, kilns, furnaces, production of packing material as well as in powering forklift trucks in warehouses.

The gases also power a vast range of economical and environmentally responsible machinery.

Though they have many benefits, it is also associated with high safety and environmental issues when not handled well. It can cause explosions, burns, health-related issues, and deaths. It is therefore mandatory that users of these gases be well trained or educated in the safe handling of the product.

ARTICLE TITLE:

A SURVEY PAPER ON SMART GAS LEAKAGE DETECTION WITH MONITORING AND AUTOMATIC SAFETY SYSTEM

AUTHOR:

Ms.Shinde Sayali P, Ms. Chavan Sakshi S, Ms. Dhas Snehal S

In this survey paper, we discussed the different methods used for identifying the leakages and drawbacks of the proposed system that provide precautions in the form of alert Signals or indications whenever there is leakage. Also, we have proposed a method that can automatically close the valve of the gas regulator using a stepper motor and update sensor data in an Android application using the Wi-Fi module.

REQUIREMENTS:

LPG, Wi-Fi Module, Arduino, Buzzer, Microcontroller sensor (Gas, Sound).

ARTICLE TITLE:

GAS LEAKAGE DETECTION AND SMART ALERTING SYSTEM

AUTHOR:

K.Manichandana, Simrah UmmeRuman, Harshavardhini Biderkota

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 can also be used in homes and offices. There have been many incidents like explosions of fire due to gas leakage. Such incidents can cause dangerous effects if the leakage is not detected at an early stage. The main objective of the work is designing a microcontroller based toxic gas detecting and alerting system. The hazardous gases like LPG and propane if sensed should be displayed and notify every second in the LCD display. If these gases exceed the normal level, then an alarm is generated immediately and also an alert message is sent to the authorized person through the Internet.

REQUIREMENTS:

Arduino uno, ESP8266 WIFI module, MQ-5 sensor,Buzzer, Led,Jumper wires

ARTICLE TITLE:

GAS LEAKAGE DETECTION AND PREVENTION SYSTEM

AUTHOR:

Shreyas Thorat, Neha Tonape

The objective of this project is to present the design of an automatic alarming system, which can detect and prevent liquefied petroleum gas leakage in various premises. This system alerts the user by sending him a phone call and alerting the neighbors by buzzer alarm after the gas leaks above setpoint. The servo motor is used to close the gas pipe valves. This device ensures safety and prevents suffocation and explosion due to gas leakage. This project is implemented using Arduino uno and simulated using Arduino ide and proteus software.

REQUIREMENTS:

LPG, Wi-Fi Module, Arduino, Buzzer, Microcontroller sensor (Servometer).

ARTICLE TITLE:

IOT GAS LEAKAGE DETECTOR AND WARNING GENERATOR

AUTHOR:

B. F. Alshammari, M. T. Chughtai

This paper presents an industrial monitoring system design using the Internet of Things (IoT). The gas sensor (MQ-5) captured information is posted into a data cloud. The sensor detects the leakage of gas under most atmospheric conditions. All the components are controlled by an Arduino (UNO-1) that acts as a central processor unit in the setup t. As soon as a gas leakage is detected by the sensor, the alarm is raised in the form of a buzzer. This alarm is supported by an LCD to display the location of leakage.

REQUIREMENTS:

Arduino, MQ-6 Gas Sensor,LCD, LPG, Stepper.

REFERENCES:

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3. https://ijcrt.org/papers/IJCRT22A6443.pdf