

A STUDY ON LPG OUTFLOW DETECTION AND VIGILANT WARNING USING IOT

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mortality of human lives. The number of death happens

Abstract — Incidental impacts in the house are ordinary which may be connected with gas spillage. In the high level world, human embraced to LPG (Liquid Petroleum Gas) supply system for cooking. During the utilization of the LPG system, number of occurrence that will happen around us that may cause death of people. To keep from gas spillage event by deliberately or accidentally, this paper gives the nuances of existing methods to thwart the defense behind causing hurt as a result of spillage of LPG chambers explicitly areas like kitchen.

Key words: LPG, Leakage, Sensor, Stepper motor, Aleart.

1. INTRODUCTION

Liquefied Petroleum Gas (LPG) is widely used in rural and urban areas to take place in conventional fuels because of more economy and pollution free. Sometime these harmless looking cylinders can be so dangerous. LPG cylinders can cause leakage which leads severe damage to human health and property. Due to lack of proper maintenance and safety provision there could also be incidence of gas explosions and fire hazards with

from imperfect rubber tubing, faulty regulator fitting and poor handling of gas tools. The smallest spark can ignite the fire and cause an accident of gas explosion. This paper is to presents a LPG leakage detection and alert notification to avoid from fire accidents and to provide house safety.

2. COMPARISON STUDY

Survey 1: (Luay Fraiwan, et al., (2011)) proposed “**Wireless Home Safety Gas Leakage Detection System**”. This method has the design built with detection and transmission modules for gas concentration in household devices like Gas and heaters. From this paper, we learn that depending on the sensor values showing the variation in the gas concentration measurements and audiovisual alarms were activated.

Survey 2: (Rahul Verma and et al., (2013)) proposed “**GSM Based Gas Leakage Detection System**”. This system continuously monitor leakage level of LPG gas byusing MQ6 sensor. If the gas level increase beyond threshold value then this system turn on the alarm, sendsSMS to the user by GSM module and turn of the main power supply.

Survey 3: (R.Naresh Naik, et al., (2016)) proposed “**Arduino Based LPG gas Monitoring and Automatic Cylinder Booking with Alert System**”. This system continuously monitor LPG gas leakage by MQ4 sensor and room temperature by LM-35 sensor. If the sensor value increase beyond threshold value the system alert user by sending SMS by GSM module , turn on the alarm, and open the room window and door by DC motor. In addition, load cell sensor monitor weight of the cylinder. If the weight is less than specific value the system send booking SMS to the LPG agent.

Survey 4: (Kumar Keshamoni, et al., 2017)) proposed “**Smart Gas Leakage Monitoring Booking and Gas Leakage Detector over IoT**”. This System identifies the emptiness of GAS container by creating awareness to the user, with the continuous weight measurement of the container integrated with the principle of piezo electric sensor which is interfaced with a microcontroller. The system is designed with an MQ-2(gas sensor) and LM-35 (temperature sensor), which will detect the surrounding environment for any chance of error.

Survey 5: (Shruthi Unnikrishnan, et al., (2017)) proposed “**LPG Monitoring and Leakage Detection system**” focuses on the issue of the monitoring the gas left out and leakage detection and alert the preferred user about the leakage of the gas by alerting with the buzzer and appropriate message. We have come to know how the system makes sure that the user let know the intended amount of LPG remaining in the gas. How the user can be notified about the gas leakage so that he can take preventive measures to avoid the explosion. The user gets alert buzzer whenever a small LPG gas is brought near the MQ-6 gas sensor.

Survey 6: (Ajay Kumar, et al., (2016)) proposed “**Designing and Implementation of Smart LPG Trolley with Home Safety**”. This method is defined for LPG leakage detection, and then alerting the user through a message by switching off the main power supply and turn off the cylinder Regulator.

Survey 7: (Arijit Banik, et al., (2017)) proposed “**Microcontroller based low cost gas leakage detector with SMS alert**” that can automatically detect and stop gas leakages in those permeable areas. Leakage detection is done with a gas sensor. The system then alerts the customer by sending an SMS to the specified mobile phone.

Survey 8: (Shashi Kumar, et al., (2018)) proposed “**Smart LPG Monitoring and Automatic Gas Booking System**”. This system focused on the gas leakout, temperator and continuous weight measurement of container by load cell sensor. The system designed with an MQ2 gas sensor, LM-35 temperature sensor, which will monitor the environment for any change of error. Bluetooth module is used to connect android device and the Microcontroller.

3. OVERVIEW

All existing system mainly provides the solution for the leakage detection and concerned with monitoring of the gas left out so that it prevent the user from the hazardous situations by finding the LPG level in gas container and turn off the knob after sensing the LPG gas smell using DC motor, using sensor and microcontroller later buzzer can be alarmed and exhaust fan can be made on, and notify using SMS by switching on exhaust fan.

4. CONCLUSION

In this paper we examined the various strategies utilized for recognizing the spillages and downsides of the proposed framework that give precautionary measures as ready signs or signs at whatever point there is a spillage. Likewise, we have proposed a strategy that can consequently close the valve of the gas controller utilizing Stepper Motor and update sensor information in android application utilizing wifi module.

5. REFERENCES

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