**LITERATURE SURVEY FOR GAS DETECTION SYSTEM**

1. Daudi S. Simbeye. This paper mainly focuses on the detection of gas leakage and providing security when the user is around or away from home. The system is Short Message Service (SMS) based and uses wireless technology for providing security against gas leakage to users hence cost effective and more adaptable. 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, display warning information by using Liquid Crystal Display (LCD), sending SMS to the user for notification wherever he/she might be and turning off electric power with the help of magnetic relay. This will enable the user to take precaution of explosion disaster which may result on Liquefied Petroleum Gas (LPG) cookers like loss of properties, injury or even death. GLDS provides ideal solution to gas leakage problems faced by home owners in daily life
2. Lack of mechanism to monitor and control gas leakages in households has been of greater concern with active researches moving toward the impacts of reducing the rate of gas leakages. The specifications of the gas leakage detector are being to detect the leakage of LPG in the vicinity where it is put into service. Various ways according to literature were used in detecting LPG gas such as MQ-5 or 6, electrical cables just to mention a few. Sensors were used to detect when there is a gas leakage and the amount of the gas concentration by giving out a voltage output depending on the gas leakage concentration.
3. National Natural Science Foundation. Gas leakage source detection and boundary tracking of continuous objects have received a significant research attention in the academic as well as the industries due to the loss and damage caused by toxic gas leakage in large-scale petrochemical plants. With the advance and rapid adoption of wireless sensor networks (WSNs) in the last decades, source localization and boundary estimation have became the priority of research works. In this paper, we compare the continuous object localization and boundary detection schemes with respect to complexity, energy consumption, and estimation accuracy. Moreover, this paper presents the research directions for existing and future gas leakage source localization and boundary estimation schemes with WSNs.
4. Mahalingam et.al. proposed a gas leak detector that meets the UK occupational and health standards. Gas leakage is a major concern with residential, commercial premises and gas powered transportation vehicles. One of the preventive measures to avoid the danger associated with gas leakage is to install a gas leakage detector at vulnerable locations. The objective of this work is to present the design of a cost effective automatic alarming system, which can detect liquefied petroleum gas leakage in various premises.
5. K Padma Priya et al. proposed an embedded system for Gas Cylinder maintenance, the proposed system consists of three main modules a GSM and PIC module, leakage detection module and protection circuitry. The detection module detect the gas leakage and sends SMS to the consumer through GSM. The GSM module is used to send short messages about the possibility of gas leak and as an added feature indicate that it may book a refill cylinder or can program the device to automatically book the cylinder via SMS. The weight of the cylinder is monitored by interfacing load cell to micro-controller
6. Sunithaa.J et al. designed a wireless LPG leakage monitoring system for home safety. The proposed system detects the leakage of the LPG and alerts the consumer using GSM about the leakage and it will switch on the exhaust fan. This system also has a feature that the consumption is approximately indicated in terms of the total weight. Whenever the system detects the increase in the concentration of the LPG leakage it immediately alerts by activating an alarm and simultaneously sending message to the particular mobile phones. The fan is switched on to exhaust gas and an LPG safe valve fitted to the cylinder is closed through signals to avoid further leakage. The device assures safety and prevents explosion.
7. Jolhe et al. have designed a microcontroller based system where a gas sensor (MQ6) is used in detection of LPG leakage. This unit is also integrated with an alarm unit, to sound an alarm or give a visual indication of the leakage. The sensor has high sensitivity with quick response time at affordable cost. If leakage is detected, message to the particular user or to family member using cellular network called GSM is sent automatically. It also measures the weight of LPG cylinder and displayed in LCD display. A gas quantity of less or equal to10kg, it requests for the new cylinder by automatically sending text message to a distributor. Also when cylinder weighs less than or equal to 0.5 Kg, it informs the consumer by sending a message to refill the cylinder.
8. Prof. M.Amsaveni, A.Anurupa, R.S.Anu Preetha, C.Malarvizhi, M.Gunasekaran; they told in their research paper on “GSM based LPG leakage detection and controlling system” the leakage of LPG gas is detected by the MQ-6 gas sensor. Its analog output is given to the microcontroller. It consists of predefined instruction set. Based on this, the exhaust fan is switched on. So, the concentration of gasinside the room gets decreased. Then, the stepper motor is rotated thus closing the knob of the cylinder. Because of this process, the leakage of gas is stopped. The relay is switched to off the power supply of the house. The buzzer produces an alarm to indicate the gas leakage. Then, the user is alerted by SMS through the GSM module. They proposed their methodology that the system takes an automatic control action after the detection of 0.001% of LPG leakage. This automatic control action provides a mechanical handle for closing the valve. We are increasing the security for human by means of a relay which will shut down the electric power to the house
9. B. B. Did paye, Prof. S. K. Nanda; in this paper they told about their research on leakage detection and review of“Automated unified system for LPG using microcontroller and GSM module”. Their paper proposed an advance and innovative approach for LPG leakage detection,prevention and automatic booking for refill. In advance, the system provides the automatic controlling of LPG regulator also if leakage is detected the system will automatically turn off the main switch of power supply. Hence it helps to avoid the explosion and blast.
10. Srinivasan, Leela, Jeya bharathi, Kirthik,Rajasree; in this research paper they told about gas leakage detection and control. In this paper, the gas leakage resulting into fatal inferno has become a serious problem in household and other areas where household gas is handled and used. It alerts the subscriber through the alarm and the status display besides turning off the gas supply valve as a primary safety measure.