

LITERATURE SURVEY

Authors: Nuga, Olubusola Olufunke and Amusa, Kamoli Akinwale and Olanipekun, Ayorinde Joseph "Gsm-based gas leakage detection and alert system" in the year 2017, an efficient method of detecting the leakage of cooking gas and alerting people about its occurrence via the use of existing Global System for Mobile Communication (GSM) infrastructure was developed. The GSM-based gas leakage alert system utilizes a gas sensor to detect leakages in the event that it occurs and then send short message to a predefined telephone number. MQ2 gas sensor, PIC 16F877A microcontroller, GSM modem and a DC stepper motor are the main hardware components employed in the development the gas leakage detection and alert system. The proposed system plays two roles in the event of gas leakage: alerting people about the leakage of gas by sending short message to the predefined telephone number and by closing of the cylinder head to prevent further leakage by using the stepper motor. The developed GSM-based gas leakage detection and alert systems is suitable for deployment in homes, laboratories and restaurants to check undesirable event of gas leakages and attendant risks.

Authors: Kodali, Ravi Kishore and Greeshma, RNV and Nimmanapalli, Kusuma Priya and Borra, Yatish Krishna Yogi "IOT based industrial plant safety gas leakage detection system" in the year 2018, 4th international conference on computing communication and automation (ICCCA), This low cost project includes MQ6, MQ4 and MQ135 gas sensors which detect LPG, Methane and Benzene gas leaks respectively and uses ESP-32 as a Wi-Fi module. The concentration levels of the above mentioned gases are uploaded in the UBIDOTS cloud and the login details are included in the alert message so that the user can check, if needed. The prototype of the proposed system generates a sound alert using buzzer on detection of a dangerous leakage and sends an SMS to the concerned person using IFTTT web service. Different color LEDS are used to specify the gas leaked for example, RED LED indicates the presence of LPG.

Authors: Khan, Mohammad Monirujjaman "Sensor-based gas leakage detector system" in the year 2020, Liquefied Petroleum Gas (LPG) is a main source of fuel, especially in urban areas because it is clean compared to firewood and charcoal. Gas leakage is a major problem in the industrial sector, residential premises, etc. Nowadays, home security has become a major issue because of increasing gas leakage. Gas leakage is a source of great anxiety with ateliers, residential areas and vehicles like Compressed Natural Gas (CNG), buses, and cars which are run on gas power. One of the preventive methods to stop accidents associated with the gas leakage is to install a gas leakage detection kit at vulnerable places. The aim of this paper is to propose and discuss a design of a gas leakage detection system that can automatically detect, alert and control gas leakage. This proposed system also includes an alerting system for the users. The system is based on a sensor that easily detects a gas leakage.

Authors: Shrivastava, Ashish and Prabhaker, Ratnesh and Kumar, Rajeev and Verma, Rahul
"GSM based gas leakage detection system" in the year 2013, Gas leakage is a major problem with industrial sector, residential premises and gas powered vehicles like CNG (compressed natural gas) buses, cars. One of the preventive methods to stop accident associated with the gas leakage is to install gas leakage detection kit at vulnerable places. The aim of this paper is to present such a design that can automatically detect and stop gas leakage in vulnerable premises. In particular gas sensor has been used which has high sensitivity for propane (C_3H_8) and butane (C_4H_{10}). Gas leakage system consists of GSM (Global System for mobile communications) module, which warns by sending SMS. However, the former gas leakage system cannot react in time. This paper provides the design approach on both software and hardware.