

LITERATURE SURVEY

Developed in 2017 using the Global System for Mobile Communication (GSM) infrastructure, an efficient method was developed to detect and alert people about the leakage of cooking gas via the use of an existing GSM network. Authors: Nuga, Olubusola Olufunke; Amusa, Kamoli Akinwale; Olanipekun, Ayorinde Joseph; “GSM-based gas leakage detection and alert system”. As soon as a leak is detected, a gas sensor sends short messages to a predefined telephone number using the GSM-based gas leakage alert system. Gas leakage detection and alert system hardware components include an MQ2 gas sensor, PIC16F877A microcontroller, GSM modem, and DC stepper motor. During a gas leak, the proposed system performs two functions: it first alerts people to the leakage by sending short messages to the predefined telephone number, and then it closes the cylinder head by using a stepper motor to prevent additional leaks. Gas leakage detection and alert systems developed using GSM technology are suitable for use in homes, laboratories, and restaurants to monitor unwanted gas leakage events.

IOT-based industrial plant safety gas leakage detection system by Kodali, Ravi Kishore, Greeshma, RNV, Nimmanapalli, Kusuma Priya, and Borra, Yatish Krishna Yogi published in the Fourth International Conference on Computing, Communication, and Automation (ICCCA). The smart gas leak detector includes MQ6, MQ4 and MQ135 sensors that detect LPG, Methane, and Benzene leaks, respectively. When an alert message is sent, the login information is included in the alert message so the user can check the concentration levels of the above mentioned gases.. By using the IFTTT web service, the prototype generates a sound alert with the use of a buzzer after a leak is detected and sends an SMS to the concerned person. A different colour LED is used to indicate the type of gas being leaked, for example, a RED LED indicates the presence of gasoline.

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 area of concern in the industrial sector, residential buildings, and so on. Because of increasing gas leakage, home security has emerged as a major concern. Gas leakage is a major source of

concern in ateliers, residential areas, and vehicles such as Compressed Natural Gas (CNG), buses, and cars that run on gas power. Installing a gas leakage detection kit in vulnerable areas is one of the preventive methods for preventing accidents caused by gas leakage. The goal of this paper is to propose and discuss a design for a gas leakage detection system that can detect, alert, and control gas leakage automatically. The proposed system also includes a user alerting system. The system is based on a sensor that detects gas leaks quickly.

Ashish Shrivastava, Ratnesh Prabhaker, Rajeev Kumar, and Rahul Verma are the authors. In 2013, there was a "GSM based gas leakage detecting system." With regard to the industrial sector, residential structures, and gas-powered vehicles like CNG (compressed natural gas) buses and autos, gas leakage is a significant issue. Installing gas leakage detection kits in possible risk sites is one of the preventive measures to stop accidents brought on by gas leaks. The aim of this research is to offer a design that can automatically find and stop gas leaks in premises that are susceptible to them. In particular, a gas sensor with excellent sensitivity for propane (C_3H_8) and butane has been deployed (C_4H_{10}). The GSM (Global System for Mobile Communications) module of the gas leak detection system sends SMS alerts as a warning. The previous gas leaking system, however, is unable to respond quickly. The design methodology for both software and hardware is provided in this document.