# GAS LEAKAGE MONITORING & ALERTING SYSTEM

## INTRODUCTION

A gas detector may be a device that detects the presence of gases in a part, usually as a part of a security system. Therefore this kind of kit is employed to find a gas leak or alternative emissions and might interface with a sway system so a method harmful to organic life, like humans or animals. Gas finders are often accustomed detect flammable, ignitable and hepatotoxic gases, and chemical element depletion. This kind of device is employed wide in business and might be found in locations, like on oil rigs, to watch manufacture processes and rising technologies like electrical phenomenon. They will be employed in firefighting. MQ-6 may be a gas device that is employed during this project.

## LITERATURE REVIEW

**[1]** A number of reviews on the subject of gas leakage detection techniques were done in the past either as part of research papers/technical reports on a certain leak detection method and other gas related subjects. A. Mahalingam, r. T. Naayagi, n. E. Mastorakis 7 March 2012;

They introduce design and implementation of an economic gas leakage detector. They gave the formulation of many problems in previous gas leakage detectors. They told that several standards have been formulated for the design of a gas leakage detection system such as IEEE, BS 5730, and IEC. For this work, the recommended UK are often mechanically pack up. A gas detector will sound an alarm to operators within the space wherever the leak is going on, giving them the chance to depart. This kind of device is very important as a result of their area unit several gases that may be safety standards have been adopted. The proposed alarm system is mainly meant to detect LPG leakage, which is most commonly used in residential and commercial premises.

**Advantages:** The system detects not only the presence of gas (gas leak), but also the amount of leakage in the air, and accordingly raises an appropriate audiovisual alarm.

**Disadvantages:**In this proposed method only LPG gas leakages are identified but it cannot identify other gases like CNG.

**[2]** Prof.M.Amsaveni, A.Anurupa, R.S.AnuPreetha, C.Malarvizhi, M.Gunasekaran 23 March 2015;

They told in their research paper on "GSM based LPG leakage detection and controlling system" the leakage of LPG gas is detected by the MQ6 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 gas inside 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.

**Advantages:** In this methodology that the system takes an automatic control action after the detection of **0.001% of LPG leakage**.

**Disadvantages:**

**(1)**System only able to send SMS and alert the user only when the mobile is ON.

**(2)**This method looks very ordinary and old fashioned.

**[3]** 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" 30 January 2015;

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.

**Advantages:** The system is fully automatic.

**Disadvantages:** The system automatically book for the refill of gas without any alert or acknowledgment to the user it will lead to several misunderstandings.

**[4]** Ch. Manohar Raju and N. Sushma Rani, 2008; they introduce an android based automatic gas detection and indication robot.

They proposed prototype depicts a mini mobile robot which is capable to detect gas leakage in hazardous places. Whenever there is an occurrence of gas leakage in a particular place the robot immediately read and sends the data to android mobile through wireless communication like Bluetooth. We develop an android application for android based smart phones which can receive data from robot directly through Bluetooth.

**Advantages:**

**(1)** Presence of the human beings are not required in the place of occurance.

**(2)** We can also control the robot movements via Bluetooth by using text commands as well as voice commands

**Disadvantages:**

**(1)**Cost of the mobile robot is high and most of the people can't afford.

**(2)**This prototype uses Bluetooth for communication which can't be accessed from long distances.

**[5]** Pal-Stefan Murvaya, Ioan Sileaa, 2008; They told in their survey on gas leak detection and localization techniques various ways to detect the gas leakage.

They introduce some old or new technique to detect the gas. The proposed techniques in this paper are nontechnical methods, hardware based methods which include acoustic methods, optical methods and active methods.

**Advantages :** All external techniques which involve detection done from outside the pipeline by visual observation or portable detectors are able to detect very small leaks and the leak location, but the detection time is very long. In this tecniques these problems are rectified

**Disadvantages :** This technique only able to detect the leakage.