**GAS LEAKAGE MONOTRING SYSTEM**

**LITERATURE SURVEY:**

1.D. bhattacharjee,P. Bhatnagar, S. choudhury, “Design and Development of a Flexible Reliable Smart Gas Detection System”, IJCA, 31(2011) 1-8.

In 2011, Bhattacharjeeet designed a system entitled “Design and Development of a Flexible Reliable Smart Gas Detection System”. The system composed of three modules; the base station, wireless sensor array and an intelligent wireless alarm unit, which offers high reliability, flexibility and uninterrupted sensing. These are achieved by incorporating various intelligent protocols like auto sensor calibration, sensor handover, wireless threshold fixation and intelligent alarm mechanism. The sensor node consists of three gas sensors, one temperature sensor and one pyro-electric infrared sensor (PIR) which enhances the sensing intelligence. The sensed data are digitized and processed by the peripheral interface controller (PIC) 16f877A based centralized embedded 8 platform and wireless communication is achieved with a pair of 433 and 315 MHz amplitude shift keying (ASK) wireless module. The encoding and decoding of sensed data offer a high secured gas detection system.

## 2.L.Z. Ya, W.Z. Dong and C. Rong, “Intelligent Residential Security Alarm and Remote Control System Based on Single Chip Computer” 3rd International conference on (ICIEA- 2008), June 3-5,159-161.

Ya pointed out an “Intelligent Residential Security Alarm and Remote Control System Based on Single Chip Computer”. Their work focused on the intelligent residential burglar alarm, emergency alarm, fire alarm, toxic gas leakage remote automatic sound alarm and remote control system, which is based on 89c51 single chip computer. The system can perform an automatic alarm, which calls the police hotline number automatically. It can also be a voice alarm and shows alarm occurred address. This intelligent security system can be used to control the electrical power remotely through telephone

**3.C. Peijiang and J. Xuehhua, “Design and implementation of remote monitoring system based on GSM”, PACIIA-2008, 19-20 Dec. 678-681 Peijiang and Xuehhua developed a system namely “Design and Implementation of Remote Monitoring System Based on GSM”,** which has focused on the wireless monitoring system; a remote monitoring system based on SMS through GSM. The hardware and software architectures of the system are designed. In this system, the remote signal is transmitted through GSM network. The system includes mainly two parts; the monitoring centre and the remote monitoring station. The monitoring centre consists of a computer and a TC35 communication module for GSM. The computer and the TC35 are interfaced by RS232. The remote monitoring station consists of a TC35 communication module for GSM, a MSP430F149 MCU, a display unit, sensors and a data gathering and processing unit. The software for the monitoring center and the remote monitoring station were designed using Visual Basic.

## 4.I. Lita, I.B. Cioc and D. A. Visan, “A New Approach of Automatic Localization System Using GPS and GSM/GPRS Transmission”, 29th International Spring Seminar on (ISSE-2006), 10-14 May, 115-119.

A low cost automotive localization system using GPS and GSM-SMS services was proposed by Lita . It is concerning “A New Approach of Automatic Localization System Using GPS and GSM/GPRS Transmission”, which provides the position of the vehicle on the driver’s or owner’s mobile phone as a short message (SMS). The system can be interconnected with the car alarm 9 system that alerts the owner, on his mobile phone, about the events that occurs with his car when it is parked. The system is composed by a GPS receiver, a microcontroller and a GSM phone. In addition, the system can be settled for acquiring and transmitting the information, whenever requested about automobiles status and alerts the user about the vehicle’s started engine. The system can be used as a low cost solution for automobiles position localizing as well as in car tracking system application.

## 5.K. Galatsis, W. Wlodarsla, K.K. Zadeh and A. Trinchi, “Investigation of gas sensors for vehicle cabin air quality monitoring”, IEEE (2002) 229-232.

Investigation on vehicle cabin air quality monitoring system with metal oxide semiconductor gas sensor was the breakthrough in this field by Galatsis . Here in, commercially available gas sensors are compared with the fabricated M0O3 based sensors. The sensor has a response of 74% or higher relative to the host commercial sensor tested. The same authors have also contributed to the added vehicle safety through a vehicle cabin air quality monitor using carbon monoxide (CO) and oxygen (02) gas sensors system designed, developed and on-road tested

. The continuous monitoring of oxygen and carbon monoxide provides

added vehicle safety as alarm could be set off when dangerous gas concentrations are reached, preventing driver fatigue, drowsiness and exhaust gas suicides. CO concentrations of 30 ppm and oxygen levels lower than 19.5% were experienced whilst driving.

## 6A. Srivastava, R. Prabhukar, “GSM Based Gas leakage Detection System” Int.J.Tech.Research &Application, 1(2013) 42-45.

A “GSM Based Gas leakage Detection System” by Srivastava and Prabhukar provides a cost effective and highly accurate system, which not only detects the gas leakage but also alert and turn off the mains power and gas supplies and sends a SMS. Rammaya and Palaniappen reported an “Embedded System for Hazardous Gas Detection and Alerting”. The alerting of gas leakage is through buzzer and SMS.

## L.K. Hema, D. Murugan and M. Chitra “WSN based Smart system for detection of LPG and Combustible Gases” IJETTCS, (NCASG-2013), ISBN No. 978-93-80609-14-0

A“WSN based Smart System for Detection of LPG and Combustible Gases” has been proposed by Hema ,which identifies potentially hazardous gas leak within an area by means of various sensors based electronic systems. These systems also employ an audible alarm to alert the people whenever a dangerous gas is detected. These gas 10 detection systems are of immense use because they can be used to detect a wide range of combustible, flammable and toxic gases which have hazardous effects on human health.

## A.Mahalingam, R .T. Naayagi, “Design implementation of an economic gas leakage detector” 11th International conference on (AECE-2012), pp. 20-24.

”Design Implementation of an Economic Gas Leakage Detector” by Mahalingam et al provided a cost effective audio-visual solution for LPG leakage detection in homes and commercial premises and audibly alert the users in case of a hazardous situation and provide warning signals (beeps) .

## B.D.Jolhe, P.A. Potdukhe, N.S.Gawai, “Automatic LPG Booking, Leakage Detection and real Time Gas Measurment Monitoring System”, International Journal of Engineering Research and Technology (IJERT) Vol. 2, Issue 4, April 2013

A cost-effective, p automatic Liquefied Petroleum Gas (LPG) Programmed Liquefied Petroleum Gas (LPG) booking, spillage location and continuous gas checking framework is proposed in this paper. In this framework, the LPG spillage is distinguished through the sensor and data is sent to the client by Short Message Service (SMS) and at the same time cautions the client utilizing a GSM module, while initiating the alert and fumes fan. The extra preferred standpoint of the framework is that it ceaselessly screens the level of the LPG introduce in the chamber utilizing weight sensor and naturally books the barrel utilizing a GSM module

## Sunithaa.J, Sushmitha.D, “Embedded control system for LPG leakage detection and prevention” International Conference on Computing and Control Engineering (ICCCE 2012), 12 & 13 April, 2012

The framework distinguishes the spillage of the LPG and cautions the buyer about the release and as a crisis measure the framework will switch on the fumes fan and furthermore checks the spillage. An additional element of the framework is that the rough utilization is shown as far as the aggregate weight. At whatever point the framework recognizes the expansion in the convergence of the LPG it instantly cautions by initiating an alert and all the while sending message to the predetermined cell phones. The fumes fan is exchanged on and a LPG safe solenoid valve fitted to the chamber is given a flag to close maintaining a strategic distance from assist spillage. The gadget guarantees wellbeing and forestalls suffocation and blast because of gas spillage

## Mr. SagarShinde, Mr .S. B. Patil, Dr. A. J. Patil, “Development of movable gas tanker leakage detection using wireless sensor network based on embedded system”,International Journal of Engineering Research and Applications (IJERA) ISSN: 2248-9622 [www.ijera.com](http://www.ijera.com/) Vol. 2, Issue 6, November- December 2012, pp.1180-1183

The previous frameworks can not respond in time, even can't acquire information from a mishap and find precisely. This framework gives continuous criminologist of potential hazard territory, gather the information of hole mischance and find spillage point. This framework having insurance hardware comprises of fumes fan and a Liquefied Petroleum Gas Safe Solenoid Valve. The unsafe gasses like Liquefied Petroleum Gas and Propane were detected and shown every last second in Liquid Crystal Display. On the off chance that these gasses surpass typical level at that point alert is produced quickly. In this framework MQ-6 gas sensor used to detect harmful gas and has high affectability to LPG and furthermore reaction to flammable gas. This work adjusts the current security show introduced in businesses. It offers fast reaction time and exact discovery

## V. Ramya, B. Palaniappan,“Embedded system for hazardous gas detection and alerting” International Journal of Distributed and Parallel Systems (IJDPS) Vol.3, No.3, May 2012

Safety assumes a noteworthy part in this day and age and it is essential that great wellbeing frameworks are to be actualized in spots of training and work. This work adjusts the current wellbeing model introduced in businesses and this framework likewise be utilized as a part of homes and workplaces. The fundamental target of the work is plan in microcontroller based poisonous gas distinguishing and cautioning framework. The unsafe gasses like LPG and propane were detected and shown every single second in the LCD show. On the off chance that these gasses surpass the ordinary level then a caution is produced instantly and furthermore a ready message (SMS) is sent to the approved individual through the GSM. The upside of this robotized identification and cautioning framework over the manual technique is that it offers brisk reaction time and exact discovery of a crisis and thus driving quicker dispersion of the basic circumstance

## S. Rajitha, T .Swapna, “A Security Alert System Using GSM for Gas Leakage”, International Journal of VLSI and Embedded System (IJVES) Vol. 3, Issue 4, September –October 2012

The point of this undertaking is to screen for fluid oil gas (LPG) spillage to dodge fire mishaps giving house wellbeing highlight where security has been a vital issue. The framework recognizes the spillage of the LPG utilizing gas sensor and cautions the buyer about the gas spillage by sending SMS. The proposed framework utilizes the GSM to caution the individual about the gas spillage by means of SMS. At the point when the framework identifies the LPG fixation noticeable all around surpasses the specific level then it instantly cautions the customer by sending SMS to determined cell phone and alarm the general population at home by initiating the alert which incorporates the LED, Buzzer at the same time and show the message on LCD show to make the important move and switch on the fumes fan to diminish the gas focus noticeable all around

* 1. **A. Mahalingam, R. T. Naayagi, N. E. Mastorakis, “Design and Implementation of an Economic Gas Leakage Detector”,** Recent Researches in Applications of Electrical and Computer Engineering

Gas spillage is a noteworthy worry with private, business premises and gas controlled transportation vehicles. One of the preventive measures to stay away from the threat related with gas spillage is to introduce a gas spillage indicator at powerless areas. The goal of this work is to exhibit the plan of a practical programmed disturbing framework, which can distinguish melted oil gas spillage in different premises. Test outcomes are shown for a USB controlled gas spillage recognition framework and it gives early cautioning signals under less serious conditions and enacts a sharp alert in the event of crisis circumstances protect toclients.