INTERNET OF THINGS

GAS LEAKAGE MONITORING AND ALERTING SYSTEM FOR INDUSTRIES

IBM Project – Team ID : PNT2022TMID17268

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ABSTRACT

The presence of hazardous gas leakage in Industries, also, stored gases container gas which exhibits ideal characteristic is use. For that sake, an alarm unit is used to vibrate an alarm which is buzzer. Buzzer gives an audible sign of the presence of gas volume. The sensors are widely used to detect essence of propane, iso-butane and even smoke. The sensor has an advantage to combine a sensitivity response time. If the gas sensor senses gas leak, sensor output goes to active low (logic-0) condition. Arduino UNO is used in the project; low signals are overlooked by the Arduino and gas leakage is been noticed by the Arduino. The Arduino UNO turns on the LCD and buzzer. It even turns on the GSM modem after that, it continues to send messages SMS to mobile number specifically mentioned in the program of the source code for alerting danger to the people.

LITERATURE REVIEW

Survey 1:

Pal-Stefan Murvay,Ioan Silea(2012)

'Journal of Loss Prevention in the Process Industries'

The main purpose of this paper is to identify the state-of-the-art in leak detection and localization methods. Additionally we evaluate the capabilities of these techniques in order to identify the advantages and disadvantages of using each leak detection solution.

Survey 2:

Srinivasan, Leela, Jeyabharathi, Kirthik, Rajasree;(2014)

‘Adapted approach for Species Classification’

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. This simplicity results in a high instruction turnout and spectacular real time interrupt response from a tiny and cost-efficient processor core. The microcontroller provides the data to the coil valve to shut its knob. The coil valve consists of a disc that's in touch with the spring. Once the gas leaks the disc comes in touch with the spring so it stops the flow of gas. Finally the gases area unit thrown out the disc moves so the gas flows. At that point the buzzer starts direful thereby to alert the neighbors. A Buzzer or electronic device is a signal device, typically electronic,generally used in cars, manage appliances.such as microwave kitchen appliance or game shows.

Survey 3:

Prof.M.Amsaveni, A.Anurupa, R.S.AnuPreetha, C.Malarvizhi, M.Gunasekaran;(2015)

“GSM based LPG leakage detection and controlling system”

They proposed their methodology that the system takes an automatic control action after the detection of 0.001% of Gas 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. Also by using GSM, we are sending an alert message to the users and a buzzer is provided for alerting the neighbors about the leakage.

Survey 4:

V Suma, Ramya R Shekar, Kumar A Akshay(2019)

'Gas Leakage Detection Based on IOT'

The aim of this paper is to present a new system automatically books a cylinder when the gas is about to empty is by sending a notification to the gas agency using wifi using Internet of Things approach.

Survey 5:

Adil Ahmad, Shaik Shaheeda

Department of Information Science and Engineering, Bengaluru Gas Leakage Detection Based System(ICEA2017).

The author has observed gas leakage and LPG levels where gas leakage occurs automatically. The authors suggests that gas leakage is performed by various gas sensors. Whose author has worked on gas leaks and mentions that we can take care if a found using a sensor and gas booking can be done automatically when a small amount of gas is taken closed.

Survey 6:

Mohd Abid PG student

Design and Embedded system, VTU PG centre kalaburagi, India IJETER volume 6,issue 4,April (2018).

Through this paper important parameters are used to find the level of gas in the container. The good purpose of this project is to get notification of gas leak to user when gas leakage is started. Arduino was originally created as a tool for fast sampling and activities for students with no knowledge for electronics. This paper uses a microcontroller, buzzer and a gas sensor to detect gas leakage system. When a gas leak is detected by a gas sensor ,the microcontroller turn on the buzzer in critical condition. The author suggest that this message or instruction may be displayed using an LCD display for LPG monitoring.

Survey 7:

Kulothungan. S, Gukan. A , Arunprabu.K.B

Student, IFET College of Engineering. IJEDR 2019.

The proposed system detects LPG leaks and alerts customers. The alarm starts when the system notice and increases in LPG leakage concentration by sending an alarm and sending a message to specific mobile phone. The device assures safety and prevents explosions. A microcontroller based system based on gas sensor(MQ6) has been developed in proposed system to detect LPG leakage .The unit is also integrated with an alarm unit to detect signal a leak.

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