

**BATCH: B6-6M2E**

**TOPIC: Gas Leakage Monitoring and Alerting System**

**DOMAIN: IoT**

**TEAM MEMBERS:**

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## LITERATURE SURVEY

S.No.	Paper Title	Author name	Journal Name and year	Description
1.	Gas leakage detection and smart alerting and prediction using IoT	Asmita Varma, Prabhakar S, Kayalvizhi Jayavel	IEEE-2017 International Conference on Computing and Communications Technologies	IoT technology to make a Gas Leakage Detector having Smart Alerting techniques involving calling, sending text message and an e-mail to the concerned authority and an ability to predict hazardous situation so that people could be made aware in advance by performing data analytics on sensor readings.
2.	Gas Leakage Detection Based on IOT	Suma V, Ramya R Shekar, Akshay Kumar A	IEEE-2019 International Conference on Electronics, Communication and Aerospace Technology	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. In addition to that sensor is used to detect gas leakage at home. If the gas leakage is sensed automatically it will send SMS to the user. wifi is one of the most used networks across the world. Hence, load cell has been used to monitor the weight of the LPG gas regularly. The values are next fed to the microcontroller.

3.	LPG Monitoring and Leakage Detection System	Shruthi Unnikrishnan, Mohammed Razil, Joshua Benny, Shelvin Varghese and C.V. Hari	IEEE- 2017 International Conference on Wireless communications, Signal processing and Networking	With the large demand and use of LPG, this system would be helpful to monitor the usage of LPG on a regular basis and to alert about any hazards that may occur due to LPG leakage. This system that alerts the user of the amount of LPG left so that appropriate measures can be taken. Since LPG is a highly hazardous and inflammable gas, this system to alert the user with an alarm when there is a leakage of LPG so that measures are taken to avoid an explosion.
4	Design and Development of Gas Leakage Monitoring System using Arduino and ZigBee	Huan Hui Yan, Yusnita Rahayu	Proceeding of International Conference on Electrical Engineering, Computer Science and Informatics (EECSI 2014), Yogyakarta, Indonesia	Gas leakage in industrial area causes many health issues .Therefore, a monitoring system for gas leakage detection needs to be developed. For the development of this system, the combustible gas sensor (MQ9) was used in order to detect the present of methane and carbon monoxide gas. This sensor will detect the concentration of the gas and operated in the alarm system, autonomous control system and monitoring system by using Arduino uno as the microcontroller for the whole system and Zigbee will send the data reading from the gas sensor to monitoring system that display on LabVIEW Graphical User Interface.

5	Gas Leakage Monitoring and HVAC Automation System	Nikhil Binoy C, Abhinand G K, Syamdas A, Treesa Saji	International Journal of Engineering Research & Technology (IJERT) December-2021	Hazards due to gas leakage are a constant part of industries. These include the oil and gas industries, Petro-chemical industries and even plants which have toxic and flammable by-products. These leakages can cause serious losses to life of living things. In this paper a gas leakage monitoring system consisting of a rover which moves outside the pipeline to measure leaked gases and continuously send the monitored data to a local server using an IoT platform.
6	Implementation of Automated Gas Leakage Monitoring System Using Zigbee	Md Danish Akhter S K Indumathi, J S Prasath3	International Journal of Advances in Engineering, 2015	In this automated gas leakage monitoring system, the data transmission is carried out by using a Zigbee Network and a sensor. Sensor collects the data and the collected data is monitored in real time. The data transferring is done through Zigbee device. In this world is facing huge amount of security threat and attacks on the data transmission system. This paper will give a better way for securing from unauthorized access of the data transmitted over a certain distance. It also focuses on the wireless communication that can be used to monitor the gas leakage in a plant or industry using the Zigbee technology.

7	GAS LEAKAGE DETECTION AND SMART ALERTING SYSTEM USING IOT	Shital Imade, Priyanka Rajmanes , Aishwarya Gavali , Prof. V. N. Nayakwadi	International Journal of Innovative Research & Studies – Feb 2018	IOT technology is utilised in this research to improve the current safety requirements. The goal of creating this prototype was to revolutionise environmental safety by eliminating any major or minor hazards brought on by the release of hazardous and dangerous gases into the environment. We created a Gas Leakage Detector for society using IOT technology, and it has the ability to perform data analytics on sensors and Smart Alerting techniques that send text messages to the relevant authorities. Using gas sensors, this system will be able to identify any gases present in the surrounding area. This will stop the main dangerous issue from arising.
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8	A wireless home safety gas leakage detection system	Luay Fraiwan; Khaldon Lweesy; Aya Bani-Salma; Nour Mani	1st Middle East Conference on Biomedical Engineering – 2011	In this gadget is designed to be used in homes where heaters and appliances that run on natural gas and liquefied petroleum gas (LPG) could pose a concern. The technology can also be applied to other industrial or plant processes that depend on LPG and natural gas. The detection and transmission module and the receiving module are the two main modules that make up the system design. The detection and transmission module uses a specialised sensor circuit designed for this purpose to find the change in gas concentration.
9	Gas Leakage Detection System using IoT with integrated notifications using Pushbullet-A Review	M Athish Subramanian; Naveen Selvam; S. Rajkumar; R Mahalakshmi; J Ramprabhakar	Fourth International Conference on Inventive Systems and Control (ICISC) 2020	This paper's major goal is to conduct a review of the literature on IoT-based gas detection approaches in order to protect people and their environment. Gas leakage detection system employing MQ5 gas sensor and Arduino Uno controller is integrated with cloud storage for data collection and also utilised for storing and analysing data, giving a straightforward yet dependable solution. Through the Arduino IDE, the amount of gas being spilled is translated from parts per million (PPM) to volts, and when the threshold limit is reached, the user is alerted. Both a buzzer or LED for physical notification and an

				application for rapid notification over the internet are used to notify the user.
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