Literature Survey On The Selected Project & Information Gathering

Gas Leakage monitoring & Alerting system for Industries

The usage of the gas brings great problems in the domestic as well as in industries. The inflammable gas such as Liquidized petroleum gas (LPG), which is excessively used in the house and at work places. The leakage of the gas causes destructible impact to the lives and as well as to the heritage of the people.

So, by keeping it in the concept of the project we are determined to develop an examining system which finds the leak gas in industries and protects the work places by taking correct precaution at correct time.

This system provides the information such as when and where a gas leakage is noticed. The sensors are used to notice the gas leakage and immediately alert the person who monitors the safety of the industry. The main objective of this project is that it is extremely accurate with a least cost, this proposed system is best to detect gas leakage and to warn people in the industry. Our system enhances the safety of the industry.

Existing solutions:

Several gas sensors are integrated with the Arduino UNO board to monitor the gas leakage in particular areas. But the main downside in this technique is that we cannot monitor the area from a remote place. We have to be in close to know the status of the system since it is not using IoT technology. To overcome this drawback, we have used IoT to integrate various components to the cloud services so that we can monitor the things happening in the industry from anywhere and take actions accordingly.

Challenges:

- The most common challenge for the Internet of Things in industry is connectivity.
- All the area doesn't have proper internet connectivity.
- The second most common challenge for Internet of Things based on gas leakage monitoring is the lack of awareness among the industries.
- Due to various service providers, it becomes really difficult to maintain interoperability between different IoT systems.

Technical papers:

[1] Shrivastava, A., Prabhaker, R., Kumar, R., & Verma, R. GSM based gas leakage detection system. International Journal of Emerging Trends in Electrical and Electronics (IJETEE-ISSN: 2320-9569), 2013; 3(2):42-45.

[2] Hema, L. K., Murugan, D., & Chitra, M. WSN based Smart system for detection of LPG and Combustible gases. In

National Conf. on Architecture, Software systems and Green Computing-2013.

[3] Ramya, V., & Palaniappan, B. Embedded system for Hazardous Gas detection and Alerting. International Journal of Distributed and Parallel Systems (IJDPS), 2012; 3(3):287-300.

[4] Priya, P. D., & Rao, C. T. Hazardous Gas Pipeline Leakage Detection Based on Wireless Technology. International Journal of Professional Engineering Studies, India, 2014; 2(1).

[5] Jero, S. E., & Ganesh, A. B. 2011, March. PIC18LF4620 based customizable wireless sensor node to detect hazardous gas pipeline leakage. In 2011 International Conference on Emerging Trends in Electrical and Computer Technology (pp. 563-566). IEEE.