**GAS LEAKAGE MONITORING & ALERTING SYSTEMS FOR INDUSTRIES**

**TEAM MEMBERS: FACULTY MENTOR**

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**PROBLEM STATEMENT**

Industrial processes increasingly involve the use or manufacture of highly dangerous substances, particularly toxic and combustible gases. Inevitably, occasional escapes of gas occur, which create a potential hazard to the industrial plant, its employees and people living nearby. Worldwide incidents involving asphyxiation, explosions and loss of life are a constant reminder of this problem.

While life safety is a major benefit of gas detection, don't forget that gas monitors also contribute to worker health, property protection and operational productivity, all of which impact the bottom line.The industrial hygienist, as a proactive safety leader of the workplace, needs timely, accurate warnings of a gas leak so that building occupants can be evacuated in time, if necessary, to a safe place, and so that gas leaks can be mitigated quickly to prevent the overtaking or destruction of property.

**EFFECTS OF THE PROBLEM:**

The leakage of poisonous gas from a storage tank of LG Polymers Ltd, a South Korean company on the outskirts of the city of Visakhapatnam, in Andhra Pradesh , killed 12 people while nearly 500 were hospitalised – villagers settled near the plant continue to live in a state of fear. The GAS LEAK incident at Visakhapatnam was not the only industrial accident in the country that day. In the evening, two boilers exploded at NLC India Limited’s thermal power station at Neyveli, Tamil Nadu, injuring eight people.

So inorder to tackle the problem, we have come up with a solution which can be justifiable to a level.

**LITERATURE SURVEY**

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| Sr. No | Paper title | Author Name | Published Year | Result |
| 1. | Internet of Things (IOT) Based Gas Leakage Monitoring and Alerting System with MQ-2 Sensor | Rohan Chandra Pandey, Manish Verma, Lumesh Kumar Sahu | 2017 | This paper choice of using a real time gas leakage monitoring and Sensing the output levels of gas has been clearly observed by the help of this system. |
| 2. | Gas Leakage Detection and Smart Alerting and Prediction Using IoT | IoT Asmita Varma, Prabhakar S, Kayalvizhi Jayavel | 2017 | The proposed gas leakage detector is promising in the Field of safety. |
| 3. | IOT Based Gas Leakage Detection System with Database Logging, Prediction and Smart Alerting | Chaitali Bagwe, Vidya Ghadi, Vinayshri Naik, Neha Kunte | 2018 | The system provides constant monitoring and detection of gas leakage along with storage of data in database for predictions and analysis. The IOT components used helps in making the system much more cost effective in comparison with traditional Gas detector systems. |
| 4. | Internet of Things (IoT) Based Gas Leakage Monitoring and Alerting System with Mq-6 Sensor smarter | Rohan Chandra Pandey, Manish Verma, Lumesh Kumar Sahu, Saurabh Deshmukh | 2018 | A discussion on how the aims and objectives are met is presented. An overall conclusion IOT based toxic gas detector is it has become more efficient, more applicable to today’s applications and |
| 5. | Gas Leakage Detection and Smart Alerting System Using | Shital Imade, Priyanka Rajmanes, Aishwarya Gavali | 2018 | IoT In this paper we use IOT technology for enhancing the existing safety standards. While making this prototype has been to bring a revolution in the field of safety against the leakage of harmful and toxic gases |

**EMPATHY-MAP CANVAS**

