Project Design Phase-I
Proposed Solution

Date	22 September 2022
Team ID	PNT2022TMID17850
Project Name	Gas Leakage monitoring & Alerting system for Industries
Maximum Marks	2 Marks

Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement	Gas leakage leads to various accidents resulting into both financial loss as well as human injuries. In human's daily life, environment gives the most significant impact to their health issues. The risk of fires, explosion, suffocation, all are based on their physical properties such flammability, toxicity etc. The number of deaths due to the explosion of gas cylinders has been increasing in recent years. In other to minimize or eliminate the hazard of gas leakage there is a need for a system to detect and alert on such incidence leading to the development of this project.
2.	Idea / Solution description	Gas sensors are fitted at various parts of the pipe. Whenever there is a gas leakage detected then through a web application or notification through call, SMS or WhatsApp the leakage is notifies. The industry person can also view the status through web.
3.	Novelty / Uniqueness	The primary objective of this project is to provide a novel means for safely detecting any malfunction of a pressurized gas system in order to prevent accumulation of combustible gases so that damage or explosion due to such an accumulation of gases is prevented. Another objective is to provide a novel safety means for detecting the leakage of gas into the area of an appliance when the appliance is in a shutdown condition and not in operation. Yet another objective is to provide a novel gas detection and monitoring system which is economical to manufacture and which may be readily installed

4.	Social Impact / Customer Satisfaction	Bhopal gas tragedy was an example of gas leakage accident in India. This was world's worst gas leakage industrial accident. Gas leakage detection is not only important but also alerting the people involved is equally essential. This project provides a cost effective and highly accurate system, which not only detect gas leakage but also alert (Beep) the necessary people.
5.	Business Model (Revenue Model)	Commercialising this project would help generate lots of revenue.
6.	Scalability of the Solution	This work will go a long way to cover passed works on gas leakage detector system, how it can be achieved using a microcontroller (ATmega328) alongside MQ 7 gas sensor. It also explains the software approach of the project as the coding or program used is C programing language. It also tells its importance in both industrial activities and other applications and then give a clear step by step design approach of achieving this project.