Project Design Phase-I
Proposed Solution

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Team ID	PNT2022TMID24453
Project Name	**Gas leakage monitoring and alerting system**

Proposed Solution:

S.No.	Parameter	Description
1.	**Problem Statement (Problem to be solved)**	➢ Leaks are considered very dangerous since they can build into an explosive concentration So the proposed solution is used for the development for an efficient system & an application that can monitor and alert the workers
2.	**Idea / Solution description**	➢ In several areas, the gas sensors will be integrated to monitor the gas leakage ➢ The proposed system takes an automatic control action after the detection of 0.001% of LPG leakage. ➢ This automatic control action provides a mechanical handle driven by stepper motor for closing the valve ➢ We are increasing the security for human by using the combination of a relay and the stepper motor which will shutdown the electric power of the house .Also by using a GSM module, we are sending an alert message by SMS (Short messaging services) to warn the

		users about the LPG leakage and a buzzer is provided for alerting the neighbors in case of the absence of the users about the LPG leakage ➢ The main advantage of this system over the manual method is that, it does all the process automatically and has a quick response time.
3.	**Novelty / Uniqueness**	➢ User friendly ➢ Pioneering study of natural gas detection with CCD in visible range
4.	**Social Impact / Customer Satisfaction**	➢ Cost efficient ➢ Easy installation and provide efficient results.
5.	**Business Model (Revenue Model)**	➢ With widespread deployment of the urban natural gas industry, the energy security is now becoming one of the priorities in practice. ➢ The gas leakage model was applied to analyse the pressure, temperature and flow rate of gas leakage over time under both the steady-state and dynamic conditions. ➢ As the product usage can be understood by everyone, it is easy for them to use it properly for their safest organization.
6.	**Scalability of the Solution**	➢ Establishing fast communication equipment with the nearest fire station and other relief station to have the fastest response in case of an accident. ➢ Even when the gas leakage is more, the product sense the accurate values and alerts the workers effectively