

Project Design Phase-I
Proposed Solution

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Team ID	PNT2022TMID44793
Project Name	Gas leakage monitoring and alerting system

Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	<ul style="list-style-type: none"> ➤ 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	<p>In several areas, the gas sensors will be integrated to monitor the gas leakage</p> <ul style="list-style-type: none"> ➤ 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

		<p>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</p> <ul style="list-style-type: none"> ➤ 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	<ul style="list-style-type: none"> ➤ User friendly ➤ Pioneering study of natural gas detection with CCD in visible range
4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none"> ➤ Cost efficient ➤ Easy installation and provide efficient results.
5.	Business Model (Revenue Model)	<ul style="list-style-type: none"> ➤ 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	<p>Establishing fast communication equipment with the nearest fire station and other relief station to have the fastest response in case of an accident.</p> <ul style="list-style-type: none"> ➤ Even when the gas leakage is more, the product sense the accurate values and alerts the workers effectively