

PROJECT DESIGN PHASE-I – PROPOSED SOLUTION FIT

TEAM ID : PNT2022TMID05161

PROJECT TITLE : GAS LEAKAGE MONITORING AND ALERTING SYSTEM

COLLEGE : PSNA COLLEGE OF ENGINEERING AND TECHNOLOGY

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) <ul style="list-style-type: none">➤ The industrialists are the users or customers, who are engaged with the production of gases for their manufacturing.➤ Here industrial worker is the user or customer, who are engaged with gas related production.	2. JOBS-TO-BE-DONE / PROBLEMS <ul style="list-style-type: none">➤ Gas leakage leads to many diseases and also increases the fatality rate.➤ Heavy budget problems on buying and installing a gas detecting system➤ Having no proper maintenance or monitoring the system➤ Flammable gas leakage may lead to Secondary accident such as fire and explosion, while toxic gas.	➤ 3. TRIGGERS <ul style="list-style-type: none">➤ Identification of gas leakage will be done immediately and urges them to find out a solution as soon as possible.➤ Health issues due to the toxic gases urges them to find out a solution	Explore AS, differentiate
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4. EMOTIONS: BEFORE / AFTER

Before: The leakage of gases causes heavy losses and made them feel depressed & guilt and also lose the recognition of their products.

After: Creating awareness and safety precautions to the workers to work without any fear

5. AVAILABLE SOLUTIONS

- The monitoring and detecting the leakage of gas could be done by the manpower.
- Automatic cut off gas supply. In early days they used to identify the leakage of gas by sensing the smell of particular gas.

6. CUSTOMER CONSTRAINTS

- High cost of installing the products make them to move far from recent technologies. It is difficult to know failures. Ability to detect the wide range of gases
- Even though man power could reduce electricity cost and monitor properly, it may cause high risk for their life.

7. BEHAVIOUR

- If the gas leaked is heavily toxic, there is a chance of causing hereditary health hazards
- Monitoring the system regularly
- To determine the gas leakage area and alerts through by warning message or alerting sound
- Using manpower as the source of monitoring the leakage causes high hazards.

8. CHANNELS of BEHAVIOUR

ONLINE: Promoting through social media, With the help of social media influencer. Users can also easy to monitor the live reports.

OFFLINE: Identifying the leakage area and take precautionary actions manually. It makes call to user. Frequently check the leakage of gas

9. PROBLEM ROOT CAUSE

- Improperly installed tube fittings /poor tubing selection.
- Improper use of gas furnace, stove, or appliance, including leaking due to gas lines being hooked up incorrectly.
- Use of defective equipment.
- Behind this gas leakage problem there could be many reasons like atomic reactions between molecules and material quality.

10. YOUR SOLUTION

- ✓ Develop a cost efficient IoT based gas leakage detecting system which can be easily accessed by the workers.
- ✓ If there is gas leak then it will alert the workers by sending SMS.

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