**Project Design Phase-1**

**Solution Fit Document and Solution Architecture**

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| **Date** | 26 September 2022 |
| **Team ID** | PNT2022TMID51469 |
| **Project Name** | Gas Leakage Monitoring &Alerting System For Industries |

**SOLUTION ARCHITECTURE**:

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**1.CUSTOMER SEGMENT (S):**

* The presence of hazardous LPG gas leakage in a domestic, work place, also, stored gases container gas which exhibits ideal characteristic is use. For that sake, The sensors are widely used to detect essence of propane, iso-butane, LPG and even smoke.
* Many local manufacturers develop similar products, but these do not meet standard regulatory norms and guidelines for gas detection. Using low quality detectors or maintenance-free detectors can result in false predictions, both, positive and negative.

**2.JOBS TO BE DONE/PROBLEMS:**

* A safety has been a major issue in today’s day to day life. LPG and CNG i.e. petroleum gas and compressed natural gas are most commonly used in residential and commercial places for cooking purpose and in various vehicles as a replacement for costly fuels like diesel, petrol.
* These gases are filled in cylinders which are easily un-damageable. But leakage can take place through pipes or regulators or knobs which may cause accidents like suffocation, uneasiness or sometimes may catch fire and short circuit as well. The main aim of this project is developing a system that can detect gas leakage.

**3.PROBLEM ROOT CAUSE:**

* The usage of the gas brings great problems in the domestic as well as working places. The inflammable gas such as Liquidized petroleum gas (LPG), which is excessively used in the house and at work places.
* The leakage of the gas causes destructible impact to the lives and as well as to the heritage of the people.

**4.YOUR SOLUTION:**

* We design and develop an propose system which include some safety factors
* The main aim of this project is developing a system that can detect gas leakage
* On detection it will send and alert SMS and the gas supply knob of cylinder will be switched off automatically.

**5.EMOTIONS:BEFORE AND AFTER**

**BEFORE:** The leakage of the gas causes destructible impact to the lives and as well as to the heritage of the people.

**AFTER:** Arduino UNO is used in the project; low signals are overlooked by the Arduino and gas leakage is been noticed by the Arduino. The Arduino UNO turns on the LCD and buzzer. It even turns on the GSM modem after that, it continues to send messages SMS to mobile number specifically mentioned in the program of the source code for alerting danger to the people.