**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 03 October 2022 |
| Team ID | PNT2022TMID36136 |
| Project Name | Project – Gas leakage monitoring and alerting system |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | Arduino UNO | Open-source electronics platform  Read inputs – light on a sensor |
| FR-2 | GSM | The GSM alerts the user about the gas leakage via SMS |
| FR-3 | Gas Sensor | It detects the toxic gases which are hazardous |
| FR-4 | PIR | Detects the presence of motion |
| FR-5 | Buzzer | Buzzer is provided for alerting the neighbours in case of the absence of the user about the leakage of gas |
| FR-6 | Ultrasonic Distance Sensor | It uses acoustic sensors to identify fluctuations in noise that is imperceptible to human hearing within a process environment. |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | Detect the presence of harmful and toxic gases in an area |
| NFR-2 | **Security** | Realtime visual detection & quantification of methane emission for oil & gas industry |
| NFR-3 | **Reliability** | It detects the level of gas in air & check whether with exceeds the safety |
| NFR-4 | **Performance** | Long life , High Sensitivity, Low drift, Stable and Reliable work |
| NFR-5 | **Availability** | Environment high selectivity and fast response of high accuracy |
| NFR-6 | **Scalability** | It measures the toxic and flammable gases |