**Project Design Phase-II**

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

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| Date | 03October 2022 |
| Team ID | PNT2022TMID27778 |
| Project Name | Emerging methods for early detection of forest fire |
| 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 | User Registration | Get alert message for sensor |
| FR-2 | User Confirmation | Conform the location using navigation app |

**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** | The forest fires destroys the wildlife habitat, damages the environment, affects the climate, spoils the biological properties of the soil, etc. Temperature sensor and smoke sensor are deployed at certain distances so that the whole forest area can be kept inside the view in order to detect the ignition alarming temperature and the range of carbon dioxide gas (CO2). These sensors will send the signal or the information to the microcontroller. So the forest fire detection is a major issue in the present decade. At the same time the forest fire have to be detected as fast as possible. |
| NFR-2 | **Security** | In recent history and even the present day, several forest fire detection methods have been implemented, such as watchtowers, satellite image processing methods, optical sensors, and digital camera-based methods2, although there are many drawbacks, such as inefficiency, power consumption, latency, accuracy. |
| NFR-3 | **Reliability** | it reduces fires and awareness and tracks fired location correctly |
| NFR-4 | **Performance** | When fires gets detected in sensor it identify the fire and alert sounds within 5 sec |
| NFR-5 | **Availability** | It will detect the fire quickly and accurately 24/7, security. |
| NFR-6 | **Scalability** | It can identify the all captured fire at the same time |