**Project Design Phase-II**

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

|  |  |
| --- | --- |
| Date | 03October 2022 |
| Team ID | PNT2022TMID53615 |
| Project Name | Project – Smart Solution for Railways |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

|  |  |  |
| --- | --- | --- |
| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | **User Registration** | * Registration through Form * Registration through Email |
| FR-2 | **User Validation** | * Confirmation via Email/SMS * Confirmation via OTP |
| FR-3 | **Passenger Ticket Booking** | * Use the Application to book tickets for travelling via train |
| FR-4 | **Booking Confirmation** | * Provide confirmation of booking through Email,SMS |
| FR-5 | **Passenger Alerts** | * Reminder of journey * Passenger Chart * Updation incase of delay or cancellation of train due to various reasons |
| FR-6 | **Passenger Emergency** | * Alert the respective authorities incase of unexpected emergencies |

**Non-functional Requirements:**

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

|  |  |  |
| --- | --- | --- |
| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | * The application is very simple to use and easily understandable to layman * In hardware side,smart sensors detect problems in tracks,GPS detects live location of the train |
| NFR-2 | **Security** | * User data is protected(software side-App) * Smart sensors easily detect damage and reduce the probability of accidents |
| NFR-3 | **Reliability** | * Traffic light and signalling is relatively simple * Bug/errors in the application is resolved within a short period of time |
| NFR-4 | **Performance** | * The GPS module provides accurate location of the train * The UI of the ticket booking app is very much responsive and simple |
| NFR-5 | **Availability** | * With Internet available all over the world these days,the application is easily available at all times |
| NFR-6 | **Scalability** | * Application is very much scalable and many users can operate without crash especially during booking of tatkal tickets. * As it is an IoT and cloud based system, it is more scalable |