

Project Design Phase-II
Solution Requirements (Functional & Non-functional)

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|---------------|---------------------------------------|
| Date | 14 NOVEMBER 2022 |
| Team ID | PNT2022TMID06006 |
| 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 | <ul style="list-style-type: none">✓ Registration through Form✓ Registration through Email |
| FR-2 | User Validation | <ul style="list-style-type: none">✓ Confirmation via Email/SMS✓ Confirmation via OTP |
| FR-3 | Passenger Ticket Booking | <ul style="list-style-type: none">✓ Use the Application to book tickets for travelling via train |
| FR-4 | Booking Confirmation | <ul style="list-style-type: none">✓ Provide confirmation of booking through Email,SMS |
| FR-5 | Passenger Alerts | <ul style="list-style-type: none">✓ Reminder of journey✓ Passenger Chart✓ Updation incase of delay or cancellation of train due to various reasons |
| FR-6 | Passenger Emergency | <ul style="list-style-type: none">✓ 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 | <ul style="list-style-type: none">✓ 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 | <ul style="list-style-type: none">✓ User data is protected (software side-App)✓ Smart sensors easily detect damage and reduce the probability of accidents |
| NFR-3 | Reliability | <ul style="list-style-type: none">✓ Traffic light and signalling is relatively simple✓ Bug/errors in the application is resolved within a short period of time |
| NFR-4 | Performance | <ul style="list-style-type: none">✓ 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 | <ul style="list-style-type: none">✓ With Internet available all over the world these days, the application is easily available at all times |
| NFR-6 | Scalability | <ul style="list-style-type: none">✓ 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 |