**Project Design Phase-II**

**Solution Requirement (Functional & Non-Functional )**

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| **Date :** | **09 NOVEMBER 2022** |
| **Project Name :** | **Smart Solutions For Railways** |
| **Team ID :** | **PNT2022TMID36774** |
| **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 | Registration through Gmail  Registration through Mobile number |
| FR-2 | User Confirmation | Confirmation via Email  Confirmation via OTP Confirmation via call |
| FR-3 | Journey details | Provides From and To information and date of travel. |

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| FR-4 | Select Trains | Select the appropriate trains among the list and also based on the seat availability. |
| FR-5 | Book and add passenger | Fill the essential details such as name, contact details age, sex. |
| FR-6 | Proceed to pay | Select an appropriate payment options among UPI, Internet banking, credit card, debit card. |
| FR-7 | Ticket confirmation and Invoices | Ticket confirmation status is send to their registered email id. |
| FR-8 | GPS | Tracking the live location and the status will be updated to the passengers. |
| FR-9 | PIR | To get the information of detecting the motions in Railway Track. |
| FR-10 | Database management | Entire Journey details will be stored in the server. |
| FR-11 | E-catering | Foods are available for the registered passengers in an effective manner. |
| FR-12 | Health monitoring | Monitor the health of the loco pilot and alert when any emergency. |
| FR-13 | Ultrasonic Sensor | To calculate the distance between the Train and Station. |

**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** | Availability of e-tickets with QR generation instead of physical one. |
| NFR-2 | **Security** | It protects the details of a passenger against eavesdropping and denial of service attacks. |
| NFR-3 | **Reliability** | It enables the user to securely use the app which provides maximum trust to the user. |
| NFR-4 | **Performance** | No server down problems, many user can access at same the same time. Better performance is provided. |
| NFR-5 | **Availability** | Accessibility through website or application anytime and from anywhere. |
| NFR-6 | **Scalability** | No of users concurrently interacting with our web application with higher reliability. |