**DoD for User Story Level**

At this level, we focus on individual user stories, which are small, specific features within the system.

1. Code for the User Story Functionality is Written and Functional

All features such as booking tickets, seat availability checks, ticket cancellation and payment integration are coded.

- Responsible : Developer

1. The User Story Meets the Specified Acceptance Criteria

- Example : The system allows users to search for available trains based on their departure date and destination.

- Responsible : Developer, Product Owner(for approval)

1. Unit Tests for This Functionality are Written and Passing

- Example : These are tests confirming that the system properly calculates available seats when a user selects a train.

- Responsible : Developer (writes tests), QA (verifies)

1. Code Has Been Peer-Reviewed by Another Developer

- Example : Code is reviewed for quality, readability, and consistency with project guidelines.

- Responsible : Developer (peer review)

1. No Bugs Detected During Individual Functionality Testing

- Example : The seat selection and payment process works correctly without any crashes or errors.

- Responsible : Developer, QA (integration testing)

1. Feature Integrates Without errors into the Current System

- Example : The seat reservation functionality is successfully integrated with the booking process.

- Responsible : UX/UI Designer

1. UI/UX Design of the Feature is Approved by the Designer

- Example : The seat selection interface is clear, easy to use, and matches the design specifications.

- Responsible : UX/UI Designer

1. QA Has Testes the Feature and Resolved Any Issues Found

- Example : QA confirms that all bugs or usability issues identified during testing are fixed.

- Responsible : QA (tests the feature), Developer (resolves issues)

1. Relevant Documentation (How to use the feature ) is updated

- Example : The user guide is updated with instructions for booking tickets and selecting seats.

- Responsible: Technical Writer, Developer.

1. Signed off by product owner

**DoD for Sprint Level**

At this level, we ensure that all the user stories for the sprint are fully completed and ready for the next stage.

1. All User Stories from the Sprint Backlog are Completed and Meet Their DoD Criteria

- Example : All features related to booking, ticket cancellation, and payment processing are implemented and meet the acceptance criteria.

- Responsible : Developer, product Owner (for final validation)

1. All Developed Features are Integrated into a Test Environment

- Example : The system’s booking, cancellation, and payment features work together in a test environment without any issues.

- Responsible : Developer, QA (tests the integration)

1. Integration Tests Confirm That All Features from the Sprint Work Seamlessly Together

- Example : The booking process, seat selection, and payment processing allwork without causing errors.

- responsible : QA, Developer (conducts load testing)

1. Performance Testing Confirms the system Can Handle the Expected Load

- Example : The system can handle the peak number of concurrent users during booking times without slowing down.

- Responsible : QA, Developer (conducts load testing)

1. Regression Testing Confirms That Previous Functionalities are Not Broken by new Features

- Example : Previous features like user login and schedule viewing are still working correctly after adding new booking features.

- Responsible : QA

1. QA Testing is Completed for All Sprint Deliverable, and Bugs Are Resolved

- Example : All bugs found during testing are fixed and retested to ensure proper functionality.

- Responsible : QA (testing), Developer (bug fixing)

1. Documentation is Updated for All New Features Added in the Sprint

- Example : The documentation now includes steps for booking tickets, selecting seats, and making payments.

- Responsible : Technical Writer, Developer

1. Approval is Obtained from the Product Owner for Sprint Deliverables

- Example : The product owner reviews and approves all completed user stories before moving forward.

- Responsible : Product Owner

1. Deployment Preparations Are Made for Completed Sprint Features

- Example : The developed features are ready for deployment to the live system.

- Responsible : Developer

**DoD for Release Level**

At this level, we ensure the full version of the system, containing all the completed features, is ready for deployment to end-users.

1. All the sprints for the Release are Completed and Meet Their DoD Criteria

- Example : All features, including booking, payment, and cancellation, are fully functional and meet the requirements.

- Responsible : Developer, Product Owner

1. System is Deployed and Tested in a Production-Like Environment

- Example : The system is tested in an environment that mimics the real production environment to ensure there are no issues during deployment.

- Responsible : Developer, QA (tests in production-like environment)

1. Comprehensive End-to-End Testing is Performed for All Features in the Release

- Example : Testing ensures that users can search for trains, select seats, book tickets, and receive confirmations without issues.

- Responsible : QA

1. User help guide and training videos have been developed and updated.

Responsible technical writers, developers.

Security Testing Ensures the System Complies with Data Protection Standards

- Example : Sensitive user information (eg, payment details) is encrypted, and the system complies with security protocols.

- Responsible : QA, security specialist

1. Performance Testing Confirms the System Handles Peak User Loads

- Example : The system can handle heavy booking traffic during holidays without crashing.

- Responsible : QA

1. All Bugs Reported During Testing are Resolved,and the System is Stable

- Example : Any bugs found during testing are fixed,ensuring the system is reliable for end-users

- Responsible : QA Developer (bug fixing)

1. Deployment and Instructions Are Documented and Verified

- Example : Clear instructions are provided on how to deploy and configure the system.

- Responsible : Developer, Technical Writer

1. User Acceptance Testing (UAT) is Completed and Approved by Stakeholders

- Example : End-users (or stakeholders) have tested the system and confirmed it meets their needs.

- Responsible : ProductOwer, stakeholders

1. Final Approval for Release is Obtained from the Product Owner

- Example : The product owner reviews and approves the release for deployment to customers.

- Responsible : Product Owner

1. The Release Version is Deployed to the Live Production Environment

- Example : The system is now live and accessible to end-users for booking tickets.

- Responsible : Developer

1. Post-Deployment Testing Ensures the System is Functioning Correctly in Production

- Example : The system is monitored post-deployment to ensure everything is running smoothly.

- Responsible : Developer, QA

1. Feedback Mechanism Are Set Up for Monitoring User Issues and Collecting Feedback

- Example : A support system is in place for users to report issues and provide feedback on the booking process.

- Responsible : Product Owner, Support Team.

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| Scrum project name  | Railway Reservation System |
| Venue  | Chennai |
| Date | 01-02-2025 | 31-01-2026 | 1 year |
| Client |  |
| Stakeholders | - Project shareholders- Business Analyst (BA)- Project Manager- Development Team- Testing Team - UI Designer - Tech Experts- Operation Team (Network, Training) | - Business Stakeholders.- Project Sponsor - Business Owner - Subject Matter Expert- Operations Manager | - 3rd Party Stakeholders- Auditors - Legal Team - Vendors- Outsourcing Partners |

 SCRUM TEAM

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| --- | --- | --- | --- |
| Scrum Master | Nandini |  |  |
| Product Owner | Arjun |  |  |
| Scrum developer 1 | Vikram |  |  |
| Scrum developer 2 | Riya |  |  |
| Scrum developer 3 | Akash |  |  |
| Scrum developer 4 | Tanya |  |  |
| Scrum developer 5 | Ajay |  |  |
| UI Designer  | Shruti |  |  |
| Tester | Devansh |  |  |
| Business Analyst | Priya.M |  |  |

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| VisionThe vision for creating the railway reservation system is to streamline and automate the ticket booking process, reduce manual errors, and enhance the overall customer experience. The overarching goal is to provide a seamless, user-friendly platform that contains information about train schedules and seat availability. |
| Target Group The railway reservation system addresses the travel and transport market.The primary target users are passengers who prefer train travel, including daily commuters, long-distance travelers, and tourists.The target customers also include railway operators and agencies that manage ticket sales and customers. | Need The system solves the problem of inefficiency and inconvenience in manual ticket booking by offering an automated platform.It eliminates long queues,reduces dependency on physical counters,and minimizes booking errors.the primary benefit it provides is convenience for users,offering 24/7 access to ticket booking,payment options,and real-time updates on train availability. | Product The is a digital railway reservation system that includes features such as ticket booking,seat selection,schedule tracking,cancellation,and payment integration. What makes it desirable is its ability to offer quick and accurate services, saving time and effort for users. It is special because it integrates real-time updates with user-friendly interfaces. The feasibility of developing the product is high,as it can be built using modern software development framework\s, ApIs for payment and schedule integration,and cloud-based infrastructure for scalability. | Value The product benefits the company by increasing operational efficiency,reducing costs associated with manual processes,and enhancing customer satisfaction,leading to higher retention rates. The business goals include improving customer experience,increasing revenue through efficient ticket sales, and gaining a competitive advantage in the transportation sector.The business model can include direct revenue from ticket sales,partnerships with travel agencies,and potential advertising opportunities within the platform. |

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|  **User Story No: 1**  | **Task: 3** |  **Priority: HIGH** |
| **Value statement:**AS A USER,I WANT TO LOGIN SO THAT I CAN VIEW MY ID |
|  **BV: 500**  | **CP: 1** |
| **Acceptance Criteria:**Users can enter personal details like, email, and password.System validates the email format.User receives a confirmation email upon successful registration. |

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|  **User Story No: 2**  | **Task: 4** |  **Priority: HIGH**  |
| **Value statement:**AS A REGISTERED USER,I WANT TO LOGIN TO MY ACCOUNT SO THAT I CAN ACCESS MY BOOKING HISTORY AND PREFERENCES |
|  **BV: 700**  | **CP: 2** |
| **Acceptance Criteria:**Enter valid credentials to log in.View personalized dashboard. |

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|  **User Story No: 3**  | **Task: 5** |  **Priority: HIGH**  |
| **Value statement**AS A USER,I WANT TO SEARCH FOR AVAILABLE TRAINS,SO THAT I CAN PLAN MY JOURNEY EFFECTIVELY. |
|  **BV: 900**  | **CP: 3** |
| **Acceptance Criteria:**Users must be able to input source, destination,And data to view train options. |

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|  **User Story No:4**  | **Task: 6** |  **Priority: HIGH**  |
| **Value Statement:**AS A USER,I WANT TO BOOK TICKETS,SO THAT I CAN RESERVE A SEAT FOR MY JOURNEY. |
|  **BV: 1000**  | **CP:4** |
| **Acceptance Criteria:**Users must be able to select a train and book seats based on availability. |

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|  **User Story No: 5**  | **Task: 5** |  **Priority: HIGH**  |
| **Value Statement:**AS A USER,I WANT TO CANCEL MY BOOKED TICKETS,SO THAT I CAN GET A REFUND IF MY PLANS CHANGE. |
|  **BV: 800**  | **CP: 3** |
| **Acceptance Criteria:**Cancellation request should show refund Amount and process the request. |

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|  **User Story No:6**  | **Task: 7** |  **Priority: HIGH**  |
| **Value Statement:**AS A USER, I WANT TO PAY SECURELY FOR TICKETS,SO THAT I CAN CONFIRM MY BOOKINGS WITHOUT ISSUES. |
|  **BV: 1000**  | **CP: 5** |
| **Acceptance Criteria:**Payment options should include credit cards,Debit cards, UPI, and wallets. |

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|  **User Story No: 7**  | **Task: 3** |  **Priority: MEDIUM** |
| **Value Statements:**AS A USER,I WANT TO VIEW MY TICKET DETAILS,SO THAT I CAN VERIFY MY BOOKING. |
|  **BV: 600**  | **CP: 2** |
| **Acceptance Criteria:**Confirmation should include PNR number, Journey date, and train details. |

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|  **User Story No: 8**  | **Task: 4** |  **Priority: MEDIUM**  |
| **Value Statement:**AS A USER, I WANT TO MANAGE MY PROFILE,SO THAT I CAN UPDATE PERSONAL DETAILS WHEN NEEDED. |
|  **BV: 700**  | **CP: 3** |
| **Acceptance Criteria:**Users must be able to update their name,Contact information, and preferences. |

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|  **User Story No:9**  | **Task: 6** |  **Priority: HIGH**  |
| **Value statement:**AS A USER,I WANT TO CHECK REAL-TIME TRAIN STATUS,SO THAT I CAN STAY UPDATED ON DELAYS. |
|  **BV: 900**  | **CP: 4** |
| **Acceptance Criteria:**Train status should include location updatesand expected arrival times. |

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|  **User Story No: 10**  | **Task: 3** |  **Priority: MEDIUM**  |
| **Value Statement:**AS A USER,I WANT TO ACCESS MY BOOKING HISTORY,SO THAT I CAN REVIEW PAST RESERVATIONS. |
|  **BV: 700**  | **CP: 2** |
| **Acceptance Criteria:**Users must see a list of past bookings with journey details. |

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|  **User Story No: 11**  | **Task: 5** |  **Priority: HIGH**  |
| **Value Statement:**AS A USER, I WANT TO RECEIVE UPDATES ON MY WAITLIST OR RAC STATUS,SO THAT I CAN PLAN ACCORDINGLY. |
|  **BV: 800**  | **CP: 3** |
| **Acceptance Criteria:**Notifications should inform users of changes in ticket status. |

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|  **User Story No: 12**  | **Task: 6** |  **Priority: HIGH**  |
| **Value statement:**AS A USER,I WANT TO CHOOSE MY SEAT,SO THAT I CAN TRAVEL COMFORTABLY |
|  **BV: 900**  | **CP: 4** |
| **Acceptance Criteria:**Users should see a seat map and Select from available options. |

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|  **User Story No: 13**  | **Task: 7** |  **Priority: MEDIUM**  |
| **Value Statement:**AS A USER,I WANT TO USE THE SYSTEM IN MY PREFERRED LANGUAGE,SO THAT I CAN NAVIGATE EASILY.  |
|  **BV: 700**  | **CP: 5** |
| **Acceptance Criteria:**Users can switch between English, Hindi,and regional languages. |

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|  **User Story No: 14**  | **Task: 3** |  **Priority: MEDIUM** |
| **Value Statement:**AS A USER,I WANT TO PROVIDE FEEDBACK OR SEEK HELP,SO THAT I CAN RESOLVE ISSUES EFFECTIVELY. |
|  **BV: 600**  | **CP: 2** |
| **Acceptance Criteria:**Users must be able to submit feedback or raise queries via a form. |

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|  **User Story No:15**  | **Task: 6** |  **Priority: HIGH** |
| **Value Statement:**AS A USER,I WANT TO BOOK TICKETS FOR A GROUP,SO THAT I CAN TRAVEL WITH FAMILY OR FRIENDS. |
|  **BV: 900**  | **CP: 4** |
| **Acceptance Criteria:**Group booking should support selecting multiple passengers and seats. |

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|  **User Story No: 16**  | **Task: 4** |  **Priority: MEDIUM** |
| **Value Statement:**AS A PASSENGER,I WANT TO PRINT OR DOWNLOAD MY TICKET AFTER BOOKING,SO THAT I CAN HAVE A HARD COPY OR OFFLINE ACCESS. |
|  **BV: 800**  | **CP: 3** |
| **Acceptance Criteria:** |

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|  **User Story No: 17**  | **Task: 7** |  **Priority: HIGH**  |
| **Value Statement:**AS A ADMIN,I WANT TO UPDATE TRAIN SCHEDULES IN REAL TIME,SO THAT PASSENGERS ARE AWARE OF ANY CHANGES. |
|  **BV: 1000**  | **CP: 5** |
| **Acceptance Criteria:**Admin can update train schedules.Updated schedules are reflected immediately for users. |

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|  **User Story No: 18**  | **Task: 4** |  **Priority: MEDIUM**  |
| **Value Statement:**AS A FREQUENT TRAVELER,I WANT TO SAVE MY FAVORITE ROUTES,SO THAT I CAN BOOK TICKETS FASTER NEXT TIME. |
|  **BV: 700**  | **CP: 3** |
| **Acceptance Criteria:**Users can mark routes as favourites.Favorite routes are displayed on the user dashboard. |

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|  **User Story No: 19**  | **Task: 6** |  **Priority: HIGH** |
| **Value Statement:**AS A TICKET INSPECTOR,I WANT TO VERIFY E-TICKETS WITH A QR CODE SCANNER,SO THAT I CAN QUICKLY CONFIRM BOOKINGS. |
|  **BV: 900**  | **CP: 4** |
| **Acceptance Criteria:**Tickets display a unique QR code.QR codes are scannable and show booking details. |

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|  **User Story No: 20**  | **Task: 5** |  **Priority: MEDIUM** |
| **Value Statement:**AS A SENIOR CITIZEN,I WANT TO RECEIVE A DISCOUNT AUTOMATICALLY DURING BOOKING,SO THAT I DON’T MISS OUT ON BENEFITS. |
|  **BV: 800**  | **CP: 4** |
| **Acceptance Criteria:**Senior citizens automatically receive discounts.Discounts are reflected in the final ticket price. |

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|  **User Story No:21**  | **Task: 5**  |  **Priority: HIGH** |
| **Value Statement:**AS A USER,I WANT TO RECEIVE EMAIL AND SMS NOTIFICATION ABOUT TICKET BOOKING STATUS,SO THAT I STAY INFORMED. |
|  **BV: 900**  | **CP: 3** |
| **Acceptance Criteria:**Users receive email and SMS notifications after booking.Notifications include ticket details and status updates. |

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|  **User Story No: 22**  | **Task: 6** |  **Priority: HIGH** |
| **Value Statement:**AS A PASSENGER,I WANT TO RECEIVE UPDATES ABOUT TRAIN DELAYS OR CANCELLATIONS,SO THAT I CAN PLAN ACCORDINGLY. |
|  **BV: 1000**  | **CP: 4** |
| **Acceptance Criteria:**Users are notified of delays or cancellations.Notifications include revised schedules or refund options. |

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|  **User Story No: 23**  | **Task: 7** |  **Priority: HIGH** |
| **Value Statement:**AS A ADMIN,I WANT TO ADD NEW TRAINS TO THE SYSTEM,SO THAT PASSENGERS HAVE MORE TRAVEL OPTIONS. |
|  **BV: 1000**  | **CP: 5** |
| **Acceptance Criteria:**Admin login with appropriate permission.Train details form with validation |

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|  **User Story No: 24**  | **Task: 6** |  **Priority: HIGH**  |
| **Value Statement:**AS A ADMIN,I WANT TO VIEW AND MANAGE EXISTING TRAIN SCHEDULES,SO THAT I CAN UPDATES IF NECESSARY. |
|  **BV: 900**  | **CP: 4** |
| **Acceptance Criteria:**List of all trains with edit and delete options.Ability to update schedules and stops. |

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|  **User Story No: 25**  | **Task: 4** |  **Priority: MEDIUM**  |
| **Value Statement:**AS A PASSENGER,I WANT TO VIEW THE LAYOUT OF A SPECIFIC TRAIN COMPARTMENTS,SO THAT I CAN CHOOSE MY PREFERRED SEAT.  |
|  **BV: 800**  | **CP: 3** |
| **Acceptance Criteria:**Display a visual representation of train compartments and seats.Allow seat selection based on availability. |

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|  **User Story No: 26**  | **Task: 6** |  **PriorityHIGH**  |
| **Value Statement:**AS AN ADMIN,I WANT TO GENERATE REPORTS ON TICKET SALES AND POPULAR ROUTES,SO THAT I CAN MAKE DATA DRIVEN DECISIONS. |
|  **BV: 900**  | **CP: 4** |
| **Acceptance Criteria:**Provide a reporting dashboard for admins.Include filters for specific time periods and routes. |

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|  **User Story No: 27**  | **Task: 4** |  **Priority: MEDIUM**  |
| **Value Statement:**AS AN ADMIN,I WANT TO RESPOND TO PASSENGER FEEDBACK,SO THAT I CAN CONCERNS AND IMPROVE CUSTOMER SATISFACTION. |
|  **BV: 700**  | **CP: 3** |
| **Acceptance Criteria:**Admin dashboard with a section for reviewing and responding to feedback.Notify users about admin response. |

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|  **User Story No: 28**  | **Task: 7** |  **Priority: HIGH**  |
| **Value Statement:**AS AN ADMIN,I WANT TO SET UP AND MANAGE DISCOUNT PROMOTIONS,SO THAT WE CAN ATTRACT MORE PASSENGERS DURING OFF PEAK TIMES. |
|  **BV: 900**  | **CP: 5** |
| **Acceptance Criteria:**Admin interface for creating and managing promotions.Define promotion periods and conditions. |

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|  **User Story No: 29**  | **Task: 4** |  **Priority: MEDIUM**  |
| **Value Statement:**AS A PASSENGER,I WANT TO VIEW THE AMENITIES AVAILABLE ON A SPECIFIC TRAIN,SO THAT I CAN PLAN ACCORDINGLY |
|  **BV: 800**  | **CP: 3** |
| **Acceptance Criteria:**Display a list of amenities for each train.Include information on Wi-Fi, food services, etc. |

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|  **User Story No: 30**  | **Task: 7** |  **Priority: HIGH**  |
| **Value Statement:**AS A USER,I WANT TO HAVE A MOBILE FRIENDLY INTERFACE FOR BOOKING TICKETS,SO THAT I CAN MAKE RESERVATIONS ON THE GO. |
|  **BV: 1000**  | **CP: 5** |
| **Acceptance Criteria:**Responsive design for various devices.Easy navigation on mobile screens. |

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|  **User Story No: 31**  | **Task: 6** |  **Priority: HIGH**  |
| **Value Statement:**AS A PASSENGER,I WANT TO HAVE THE OPTION TO BOOK A ROUND TRIP TICKET,SO THAT I CAN PLAN MY RETURN JOURNEY AT THE SAME TIME. |
|  **BV: 900**  | **CP: 4** |
| **Acceptance Criteria:**Round-trip booking option ticket selection.Choose the return date and class. |

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|  **User Story No: 32**  | **Task: 5** |  **Priority: MEDIUM** |
| **Value Statement:**AS AN ADMIN,I WANT TO SET UP AND MANAGE PREFERENCE,SUCH AS WINDOW OR AISLE,SO THAT PASSENGERS HAVE PERSONALIZED OPTIONS. |
|  **BV: 800**  | **CP: 4** |
| **Acceptance Criteria:**Admin interface for configuring seat preferencesDisplay seat options based on preferences during booking.. |

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|  **User Story No: 33**  | **Task: 6** |  **Priority: HIGH**  |
| **Value statement:**AS A PASSENGER,I WANT TO VIEW THE TRAINS OCCUPANCY STATUS,SO THAT I CAN CHOOSE LESS CROWDED JOURNEYS. |
|  **BV: 900**  | **CP: 4** |
| **Acceptance Criteria:** Display a graphical representation of seat occupancy.Provide information on crowded or less crowded trains. |

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|  **User Story No: 34**  | **Task: 4** |  **Priority: MEDIUM** |
| **Value Statement:**AS A PASSENGER,I WANT TO CANCEL A BOOKING TICKET AND RECEIVE A REFUND,SO THAT I IF APPLICABLE. |
|  **BV: 800**  | **CP: 3** |
| **Acceptance Criteria:**Provide a cancellation option.Refunds should follow the company’s refund policy. |

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|  **User Story No: 35**  | **Task: 4** |  **Priority:MEDIUM**  |
| **Value Statement:**AS A USER,I WANT TO RESET PASSWORD IF I FORGET IT,SO THAT I CAN REGAIN ACCESS TO MY ACCOUNT. |
|  **BV: 700**  | **CP: 3** |
| **Acceptance Criteria:**Provide a “Forgot Password” link.Send a password reset email with instructions. |

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|  **User Story No: 36**  | **Task: 7** |  **Priority: HIGH**  |
| **Value Statement:**AS A ADMIN,I WANT TO VIEW AND MANAGE USER ACCOUNTS,SO THAT WE CAN ENSURE SYSTEM SECURITY AND COMPLIANCE |
|  **BV: 900**  | **CP: 5** |
| **Acceptance Criteria:**Admin interface with user account details.Ability to suspend or deactivate accounts if necessary. |

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|  **User Story No: 37**  | **Task: 6** |  **Priority: HIGH** |
| **Value Statement:**AS A PASSENGER,I WANT TO HAVE A CHAT SUPPORT OPTION FOR ASSISTANCE DURING THE BOOKING PROCESS,SO THAT I CAN GET REAL TIME HELP. |
|  **BV: 900**  | **CP: 4** |
| **Acceptance Criteria:**Chat support available during booking hours.Connect passengers with customer support representatives. |

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|  **User Story No: 38**  | **Task: 6** |  **Priority: HIGH**  |
| **Value Statement:**AS A PASSENGER,I WANT TO VIEW THE TRAINS ROUTE AND STOPS ON A MAP,SO THAT I CAN BETTER UNDERSTAND THE JOURNEY. |
|  **BV: 900**  | **CP: 4** |
| **Acceptance Criteria:**Display a map with the train’s route and scheduled stops.Provide additional information on each stop. |

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|  **User Story No: 39**  | **Task: 4** |  **Priority: MEDIUM** |
| **Value Statement:**AS A PASSENGER,I WANT TO SHARE MY TRAVEL ITINERARY WITH OTHERS,SO THAT THEY CAN TRACK MY JOURNEY. |
|  **BV: 800**  | **CP: 3** |
| **Acceptance Criteria:**Generate a shareable link or code for the travel itinerary.Allow others to view real-time train status. |

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|  **User Story No: 40**  | **Task: 7** |  **Priority: HIGH** |
| **Value Statement:**AS AN ADMIN,I WANT TO SET UP AND MANAGE SEASONAL PROMOTIONS,SO THAT WE CAN ATTRACT MORE PASSENGERS DURING SPECIFIC TIMES OF THE YEAR. |
|  **BV: 900**  | **CP: 5** |
| **Acceptance Criteria:**Admin interface for creating and managing seasonal promotions.Define Promotion periods and conditions. |

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|  **User Story No: 41**  | **Task:4** |  **Priority: MEDIUM** |
| **Value Statement:**AS A USER,I WANT TO VIEW AND DOWNLOAD ELECTRONIC RECEIPTS FOR MY BOOKINGS,SO THAT I HAVE RECORD FOR REIMBURSEMENT OR TAX PURPOSES. |
|  **BV: 800**  | **CP: 3** |
| **Acceptance Criteria:**Display a downloadable electronic receipt for each booking.Include relevant details for reimbursement or tax purposes. |

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|  **User Story No: 42**  | **Task: 4** |  **Priority: MEDIUM** |
| **Value Statement:**AS A PASSENGER,I WANT TO BE ABLE TO SAVE MY PREFERRED TRAVEL DETAILS FOR FUTURE BOOKINGS,SO THAT I CAN QUICKLY BOOK TICKETS FOR FREQUENT ROUTES. |
|  **BV: 700**  | **CP: 3** |
| **Acceptance Criteria:**System shall allow passengers to save their frequently used source,destination,and travel dates.Saved preferences shall be easily accessible during the booking process. |

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|  **User Story No: 43**  | **Task: 7** |  **Priority: HIGH** |
| **Value Statement:**AS A PASSENGER,I WANT TO BE ABLE TO TRACK THE REFUND STATUS ONLINE,SO THAT I CAN STAY INFORMED ABOUT THE PROCESS. |
|  **BV: 1000**  | **CP: 5** |
| **Acceptance Criteria:**System shall display the current status of the refund request.System shall send notifications about the refund status via email/SMS. |

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|  **User Story No: 44**  | **Task: 7** |  **Priority: HIGH** |
| **Value Statement:**AS A PASSENGER,I WANT TO BE ABLE TO SAVE MY FREQUENTLY USED PAYMENT METHODS,SO THAT I CAN MAKE ONLINE PAYMENTS QUICKLY AND SECURELY. |
|  **BV: 1000**  | **CP: 5** |
| **Acceptance Criteria:**System shall allow users to save credit/debit card details and UPI details.Saved payment methods shall be easily accessible during the booking process. |

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|  **User Story No: 45**  | **Task: 7** |  **Priority: HIGH** |
| **Value Statement:**AS A SYSTEM ADMINISTRATOR,I WANT TO BE ABLE TO MANAGE TRAIN SCHEDULES AND SEAT AVAILABILITY,SO THAT THE SYSTEM CAN PROVIDE ACCURATE INFORMATION TO PASSENGERS. |
|  **BV: 900**  | **CP: 5** |
| **Acceptance Criteria:**System shall allow administrators to add,edit,and delete train schedules.System shall allow administrators to update seat availability in real-time.System shall provide tools for data analysis and reporting on seat availability. |

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|  **User Story No: 46**  | **Task: 4** |  **Priority: MEDIUM** |
| **Value Statement:**AS A SYSTEM ADMINISTRATOR,I WANT TO BE ABLE TO CONFIGURE PRICING RULES AND FARE STRUCTURES,SO THAT THE SYSTEM CAN CALCULATE FARES ACCURATELY. |
|  **BV: 800**  | **CP: 4** |
| **Acceptance Criteria:**System shall allow administrators to define fare rules based on class, quota, distance, and other factors.System shall automatically calculate fares based on the defined rules. |

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|  **User Story No: 47**  | **Task:** |  **Priority**  |
| **Value Statement:**AS A SYSTEM ADMINISTRATOR,I WANT TO BE ABLE TO GENERATE REPORTS ON BOOKING TRENDS AND PASSENGER DEMOGRAPHICS,SO THAT I CAN ANALYZE DATA AND IMPROVE SERVICES. |
|  **BV: High**  | **CP: Medium** |
| **Acceptance Criteria:**System shall generate reports on daily/monthly/yearly booking trends.System shall provide insights into passenger demographics, travel preferences, and revenue. |

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|  **User Story No: 48**  | **Task:** |  **Priority**  |
| **Value Statement:**AS A SYSTEM ADMINISTRATOR,I WANT TO BE ABLE TO MONITOR SYSTEM PERFORMANCE AND IDENTIFY ANY ISSUES,SO THAT I CAN ENSURE THE SYSTEM IS RUNNING SMOOTHLY. |
|  **BV: High**  | **CP: Medium** |
| **Acceptance Criteria:**System shall provide real-time monitoring of system performance metrics.System shall generate alerts for any system errors or performance issues.System shall provide logs for troubleshooting and debugging. |

**Market Analysis**

Definition:

Market analysis involves studying the market to identify customer needs, demand patterns, and competitors to design a product that aligns with the market’s expectations.

- Identify gaps in the current railway ticketing systems, such as long queues or lack of real-time updates.

- Assess customer preferences like ease of booking, mobile-friendly interfaces, and integration with payment gateways.

- Evaluate competing solutions, such as private bus booking platforms, to understand their strengths and weaknesses.

**Enterprise Analysis**

Definition:

Enterprise analysis is the process of assessing a market opportunity to ensure a product aligns with organizational goals and market needs.

- Conduct a feasibility study to analyze if investing in a modern railway reservation system would improve customer satisfaction.

- evaluate passenger travel patterns, peak booking times, and revenue generation possibilities.

**Product Vision and Roadmap**

A Product vision outlines the purpose of a product, while a roadmap defines the steps and timeline to achieve this vision.

- Develop a vision for the railway reservation system to address customer pain points.

- Create a roadmap for phased feature implementation, such as ticket booking, real-time updates, and advanced analytics.

**Managing Product Features**

Managing product features involves prioritizing, planning, and overseeing functionalities to ensure alignment with stakeholder expectations and business objectives.

- Work closely with stakeholders to gather requirements and prioritize features like instant booking.

- Break down features into epics and stories for better management and development.

* Market research and user research
* Idea management
* Technical specification
* Road mapping
* Product development
* Mvp release and customer feedback collection and iterations.

**Managing Product Backlog**

The Product backlog is a prioritized list of tasks and features that need to be completed in a project.

- Regularly update and prioritize the backlog based on changing needs, such as during peak travel seasons.

Delete the items that aren't required and keep the ones that aren’t ready to be backlog

- Group related stories into epics for better planning and tracking.

**Managing Overall Iteration Progress**

This involves tracking the progress of development iterations (sprints) to ensure timely delivery and adaptation to changes.

- conduct sprint reviews to evaluate completed features.

* Set Iteration Goals: Focus on features like real-time seat availability, smoother booking workflows, or passenger notifications based on feedback or roadmap priorities.
* Estimate User Stories: Break down features into stories, such as “view available seats in real-time”, and estimate effort using story points.
* Establish Capacity: Evaluate the team’s capacity to allocate tasks effectively ensuring no overcommitment.
* Prioritize Features: Focus on high-impact features, like payment gateway integration, over less critical ones, like delay notifications.
* Break Down Tasks: Covert stories into tasks, eg, building APIs, designing interfaces, and testing seat availability updates.

**Sprint Meeting**

As a project manager for the railway reservation system, I learned how to conduct sprint meetings effectively to keep the team aligned and ensure smooth progress. Here’s what we typically discuss in each meeting and what I learned:

Sprint Planning Meeting:

We discuss the sprint’s goals, prioritize tasks, and break them into user stories. I learned how to guide the team in estimating efforts and assigning tasks. For example, while planning the ticket booking feature, we discussed the steps, timelines, and dependencies to ensure clarity.

Daily Scrum Meeting:

These are short daily check-ins where we discuss three key points: what was completed yesterday, what will be done today, and any blockers. I learned to quickly identify and resolve issues. For example, when a developer faced challenges with payment gateway integration, I coordinated support to avoid delays.

Sprint Review meeting:

In this meeting, we demonstrate the completed work to stakeholders and gather their feedback. I improved my skills in presenting progress and discussing adjustments. For instance,stakeholders suggested changes to the user interface, and I ensured their feedback was incorporated into the next sprint.

Sprint Retrospective Meeting:

Here, the team reflects on what went well, what didn’t, and what can be improved. I learned to foster open discussions and implement solutions. For example, after identifying delays caused by unclear requirements, we improved our requirement-gathering process.

Backlog Refinement Meeting:

We review and update the backlog, reprioritizing tasks and preparing high-priority items for upcoming sprints. I learned to ensure the backlog remains organized and aligned with project goals. For example, we added a seasonal ticket feature after discussing its importance in the meeting.

**User Story Creation**

A user story describes a feature from the user’s perspective, outlining what they need and why. It helps the team understand the user’s goals.

- Example: As a passenger, I want to book a train ticket through the system so that I can travel to my desired destination without hassle.

**Acceptance Criteria**

Acceptance criteria are specific conditions that must be fulfilled for a user story to be considered complete. They define the expected outcomes.

- Example: The system should allow the passenger to view available trains, select a train, enter personal details, and complete payment successfully without errors.

**- BV:** Business Value

Scenario Feature: Real-time seat availability updates

Business value is the benefit or value the feature provides to the business or user. It aligns with organizational goals, such as increasing customer satisfaction or revenue.

Eg high, as it directly impacts customer satisfaction and booking efficiency.

**- CP:** Complex points refer to challenges or difficult aspects of implementing the feature.

These can involve technical, logistical, or time-related issues.

Scenario Feature: Real-time seat availability updates

Eg high, as this task depends on API integration and feeds data to other critical features like booking and cancellation.

**Task**

Tasks are the specific actions or steps the team must take to implement a user story. These can be technical tasks or actionable items.

Example: Tasks include designing the ticket selection UI, integrating the payment gateway, and setting up backend logic for checking seat availability.

Priority- Priority indicates the importance of the user story in relation to other tasks. It helps the team decide the order in which to work on features.

Eg High Priority- The ticket booking feature should be prioritized to ensure it is fully operational before peak travel seasons.

**Role of the Product Owner in Scrum**

Definition:

A product owner is responsible for maximizing the product’s value by managing the product backlog and ensuring effective communication between stakeholder and the Scrum team.

- Act as a bridge between stakeholders (railway management, clerks) and the Scrum team.

- Define product features and translate high-level ideas into actionable user stories.

SPRINT BACKLOG

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| User story id | User story | task | owner | status | Estimated efforts |
|  |  |  |  |  |  |
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PRODUCT BACKLOG

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| User story ID | User story | Tasks | Priority | BV | CP | Sprint |
|  | 1. As a user, I want to log in so that i can view my ID.  | Implement login module  | High | 500 | 1 | 1 |
|  | 2. As a registered user, I want to log in to my account so that i can access my booking history and preferences. | Develop account management system | High | 900 | 2 | 1 |
|  | 3. As a user, I want to search for available trains so that i can plan my journey effectively. | Implement train search functionality | High | 1000 | 2 | 1 |
|  | 4. As a user, I want to book tickets so that i can reserve a seat for my journey. | Develop ticket booking system | High | 1200 | 3 | 1 |
|  | 5. As a user, I want to view my ticket details so that i can verify my booking. | Create booking confirmation page | High | 800 | 3 | 1 |
|  | 6. As a user, I want to pay securely for tickets so that i can confirm my bookings without issues. | Integrate secure payment gateway | High | 1500 | 4 | 1 |
|  | 7. As a user, I want to manage my profile so that i can update personal details when needed | Develop user profile management | Medium | 700 | 3 | 1 |
|  | 8. As a user, I want to cancel my booked tickets so that i can get a refund if my plans change | Implement cancellation feature | High | 1000 | 4 | 2 |
|  | 9. As a user, I want to track refund status so that i stay informed about the process | Develop refund tracking system | Medium | 900 | 3 | 2 |
|  | 10. As a user, I want tp receive updates on my waitlist/RAC status so that i can plan accordingly | Implement notification system | Medium | 800 | 2 | 2 |
|  | 11. As a passenger, I want to print /download my ticket after booking so that i have a hard copy or offline access | Enable ticket PDF generation | High | 700 | 2 | 2 |
|  | 12. As a passenger, I want to receive email and SMS notifications about ticket booking status so that i stay informed | Develop notificstion module | Medium | 600 | 2 | 2 |
|  | 13. As a passenger, I want to view my booking history so that i can review past reservations | Implement booking history page | Medium | 800 | 3 |  |
|  | 14. As an admin, I want to update train schedules in real - time so that passengers are aware of any changes | Implement schedule management | High | 1200 | 4 | 3 |
|  | 15. As an admin, I want to add new trains to the system so that passengers have more travel options | Develop train addition feature | Medium | 1000 | 3 | 3 |
|  | 16. As an admin, I want to generate reports on ticket sales and popular routes so that i can make data-driven decisions | Implement report generation module | Medium | 900 | 3 | 3 |
|  | 17. As a frequent traveler, I want to save my favorite routes so that i can book tickets faster next time. | Develop route preference saving feature | Medium | 700 | 2 | 3 |
|  | 18. As a system administrator, I want to manage train schedules and seat availability so that the system can provide accurate information to passengers. | Develop admin panel for seat management | High | 1200 | 4 | 3 |
|  | 19. As a system administrator, I want to configure pricing rules and fare structures so that the system can calculate taxes accurately. | Implement fare rules engine | High | 1100 | 4 | 3 |
|  | 20. As a ticket inspector, I want to verify a tickets with a QR code scanner so that i can quickly confirm bookings | Implement QR code scanning feature | High | 1000 | 3 | 4 |
|  | 21. As a passenger, I want to check real-time train status so that i can stay updated on delays. | Integrate real-time train tracking systmen | High | 1200 | 4 | 4 |
|  | 22. As a passenger, I want to view the layout of specific train compartments so that i can choose my preferred seat. | Develop seat layout feature | Medium | 900 | 3 | 4 |
|  | 23. As a system administrator, I want to generate reports on booking trends and passenger demographics so that i can analyse data and improve service. | Implement analytics dashboard | Medium | 1100 | 4 | 4 |
|  | 24. As a passenger, I want to access my booking history so that i can review past reservations. | Finalize booking history module | High | 900 | 3 | 4 |
|  | 25. As an admin, I want to respond to passenger feedback so that i can improve customer satisfaction. | Implement feedback management system | Medium | 800 | 3 | 5 |
|  | 26. As a user, I want a mobile-friendly interface for booking tickets so that i can make reservations on the go. | Optimize UI for mobile | High | 1300 | 5 | 5 |
|  | 27. As user, I want to reset my password if i forget it so that i can regain access to my account | Develop password reset module | High | 800 | 3 | 5 |
|  | 28. As a passenger, I want to be able to save my preferred travel details for future bookings so that i can quickly book tickets for frequent routes. | Implement saved preference feature. | Medium  | 1000 | 3 | 5 |
|  | 29. As an admin, I want to set up and manage seasonal promotion so that we can attract more passengers during specific times of the year | Develop promotion management module | Medium | 900 | 3 | 5 |
|  | 30. As a user, I want to have chat support during the booking process so that i can get real-time help | Integrate chatbot/live support | High | 1200 | 4 | 5 |





Document 6: Sprint meetings

Meeting type 1: sprint planning meeting

|  |  |
| --- | --- |
|  Date | time |
| Time | 10.00 AM to 12 .00 PM |
| Location | Chennai, india |
| Prepared by | Divya K (BA) |
| Attendees | Ananya (scrum master)Varun (product owner)Akash (dev 1)Meera ( dev 2)Divya ( BA )Neha (UI designer)Ashwin ( tester) |

Agenda topics

|  |  |  |
| --- | --- | --- |
| Topic | Presenter | Time allotted |
| Scopes | Divya | 10:00 AM – 10:15 AM |
| Strategy & planning | SM, BA,PO | 10:15 AM – 10: 45 AM |
| Resources management | Scrum master | 10:45 AM – 11:00 AM |
| Billing & in voices | BA | 11:00 AM- 11:30 AM |
| GD | Product owner | 11:30 AM – 12: 00 PM |

Other information

|  |  |
| --- | --- |
| Observers | Tester team, SME |
| Resources | Manpower: business stakeholders, BA, developers, testerProject: 1 yearBudget: 42,00,000Other: APIs, reports, real time tracking system |
| Special notes | Clients will be onboarded gradually in phases |

Meeting type 2: sprint review meeting

|  |  |
| --- | --- |
| Date | 25/3/2025 |
| Time | 10:00AM to 12:00 pm |
| Location | Chennai , india |
| Prepared by | Divya K (BA) |
| attendees | Ananya (scrum master)Varun (product owner)Akash (dev 1)Meera ( dev 2)Divya ( BA )Neha (UI designer)Ashwin ( tester) |

|  |  |  |  |
| --- | --- | --- | --- |
| Sprint status | Things to demo | QUICK updated | Whats next |
| Sprint 1 : done | Login & sign up module, train search feature, ticket booking | All features enabled  | Deploy in live testing |

Sprint retrospective meeting

|  |  |
| --- | --- |
| Date | 26/3/2025 |
| Time | 11:00AM to 12:30PM |
| Location | Chennai, india |
| Prepared by | Divya K (BA) |
| attendees | Ananya (scrum master)Varun (product owner)Akash (dev 1)Meera ( dev 2)Divya ( BA )Neha (UI designer)Ashwin ( tester |

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| --- | --- | --- | --- | --- |
| Agenda | What went well  | What didn’t go well  | Questions | reference |
| Sprint analysis | Backlog covered on time, UI approved | Delay in database integration | UAT testing pending | SME, PO |

Daily standup meeting

|  |  |
| --- | --- |
| Question | Week 'X' (from dd-mm-yyyy to dd-mm-yyyy) |
| Name/Role | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |  |
| What did you do yesterday? | Developer 1 | Designed login and registration page | Developed authentication API | Completed login validation | Integrated user session management | Debugged login issues |  |  |  |
| Developer 2 | Created train search UI | Integrated filters | Completed sorting and filtering options | Linked train data base | Fixed UI responsiveness |  |  |  |
| Developer 3 | Implemented seat availability logic | Implemented seat availability logic | Integrated train schedule API | Optimized database queries | Performed intial testing |  |  |  |
| What will you do today? | Developer 1 | Finalize login and implement password reset | Connect login with backened API | Test login and session timeout | Implement error handling | Review and any issues |  |  |  |
| Developer 2 | Start working on payment gateway | Implement transaction security checks | Design booking confirmation page | Connect payment API  | Run UI test and fix issue |  |  |  |
| Developer 3 |  |  |  |  |  |  |  |  |
| What (if any) is blocking your progress? | Developer 1 |  |  |  |  |  |  |  |  |
| Developer 2 |  |  |  |  |  |  |  |  |
| Developer 3 |  |  |  |  |  |  |  |  |