Railway Reservation Management Project

to

Project Synopsis Submitted

MANIPAL ACADEMY OF HIGHER EDUCATION

For Partial Fulfillment of the Requirement for the

Award of the Degree

Of

Bachelor of Technology

in

Computer and Communication Engineering

by

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Objective:

The objective of a Railway Reservation Management System project is to design and implement a robust and efficient system that facilitates the ease of making railway reservations and availing services. The system handles various aspects of reservation such as seat availability, booking confirmation, cancellation and availing enroute services.

Scope:

This project aims to simplify railway bookings by providing real time train status, booking confirmations and various other services collated into user account management. Furthermore, it would also give insights on the footfall on different train routes so that the Railway admins can plan for train services.

Project Description:

The Railway Reservation Management System is designed to streamline the process of booking train tickets, managing reservations, and enhancing the overall journey experience for passengers. This system introduces two primary user roles: the User and the Administrator, each with distinct responsibilities and access privileges within the system.

Train Booking and Management: Users can search for trains by entering their journey details, view seat availability in real-time, and book tickets online with immediate booking confirmation. They can choose their preferred seat and class based on availability.

User Account Management: Users can create and manage their accounts, where they can track their booking history, update personal information, and manage bookings, including cancellations and modifications.

Enroute Services Booking: Through their user account, passengers can also book enroute services such as meals, bedding, and Wi-Fi access, enhancing their travel experience.

Real-Time Train Status: Users have access to real-time train status, including arrival/departure times, delays, platform information, and current train location, ensuring they are always informed.

Train and Schedule Management: Administrators have the authority to add, modify, or delete train schedules, manage train routes, and update service information to ensure accurate and timely information is available to users.

User and Booking Oversight: Administrators can monitor user activities, bookings, cancellations, and feedback to ensure smooth operation of the system and identify areas for improvement.

Financial Reporting: The system provides administrators with access to financial reports, including revenue from bookings and expenses related to enroute services, aiding in financial planning and analysis.

Advanced Booking System: Incorporates pricing, seat selection, and easy modifications or cancellations.

Real-Time Information and Analytics: Offers real-time updates on train status and comprehensive analytics for administrators to make data-driven decisions.

Automated Alerts and Notifications: Sends out automated alerts for booking confirmations, cancellations, and reminders for upcoming journeys.

Hardware Requirements:

Processor: Intel i5 core or above
Processor Speed: 1.0GHZ or above
RAM: 4 GB RAM or above
Hard Disk: 512 GB hard disk or above

Software Requirements:

Language: React.js (Javascript), Node.js
Database: MySQL
Operating System: Unix Based (MacOS) and Windows 10 for local testing
User Interface Design Tools: Figma

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