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ONLINE BUS TICKETING RESERVATION SYSTEM

https://youtu.be/9xwD$_Z$du1qM

Problem Statement:

Public transportation in many regions still relies on outdated,manual ticketing systems. where passengers physically, or book tickets, leading to;
Time wastage due to long queues
Inconvenient and inaccessible booking processes
Overbooking or disorganized seat management

System Overview and Features

To provide a reliable, web-based platform where passengers can search for bus routes, check seat availability, and book or cancel tickets, while administrators manage buses, routes, and bookings.

Key Features
Passenger Features:

User registration and login
Search available routes by location and date
View bus schedules and seat availability
Book and cancel tickets with instant seat updates
View booking history and payment details

Administrator Features:

Login to secure admin dashboard
Manage buses (add, edit, delete)
Create and manage travel routes and schedules
View and manage all bookings and user data
Generate basic reports
Demonstrated Pages Homepage: Clean layout with quick search bar and upcoming trips
Search Results Page: Displays matching trips with filters
Booking Page: Interactive seat map with selection options

Dashboard (Admin):

Allows CRUD operations on buses, routes, and bookings

Special Functionalities/Innovations

Real-time seat status updates upon selection
Role-based user access (Admin vs Passenger)
Responsive user interface using Bootstrap

Technical Implementation

System Architecture (Django MTV Pattern) Models: Represent real-world entities including:
Models: User, Bus, Route, Schedule, Booking, Payment
Views: Handle request processing like:
Displaying available trips, handling seat booking logic
Templates: HTML pages rendering dynamic content via Django templating language
Static Files: Includes CSS, JavaScript, and image files styled using Bootstrap

Pitch and Future Work.

Pitch to Stakeholders Our system revolutionizes how passengers interact with public transport operators. It cuts down on manual work, improves accuracy, and enhances user satisfaction. The simplicity of its design makes it ideal for:
Bus companies operating inter-city routes
Shuttle services in institutions or corporations
Private tour operators
It's scalable and ready for deployment in both rural and urban setups, supporting cashless transactions and structured schedule management.

Future Enhancements

Integration with mobile payment platforms (e.g., MTN/Airtel Money)
Development of mobile apps (Android/iOS)
Multilingual interface
GPS-based live bus tracking
Advanced analytics and revenue dashboards