

Superjet Management System

Project Description

This project is a web application designed to manage the core operations of a bus service, specifically routes, bus assignments, and passenger ticketing. Built using the ASP.NET Core MVC framework, it provides an efficient interface for handling common operations like creating, reading, updating, and deleting (CRUD) route schedules, bus details, and ticket sales. The system is a responsive web application that utilizes HTML, CSS, and JavaScript for the front-end experience and incorporates features such as scheduling, search, and secure user management.

Project Features

1. Route & Schedule Management

- Each route has unique details including a unique ID, route name, origin, destination, scheduled departure/arrival times, and fare price.
- Full CRUD functionality is included to define new routes, update existing schedules, view a complete list of all routes, and suspend/delete seasonal routes. All data handling is server-driven.

2. Bus (Vehicle) Management

- Each bus has a unique ID, license plate, model, capacity, and current operational status (in service, maintenance, etc.).
- Full CRUD functionality is provided to register new vehicles, update maintenance records, view a list of all buses, and assign buses to specific routes.

3. Ticketing & Passenger Management

- Tickets link passengers to a specific bus and route with details such as seat number, purchase date, passenger name, and status (valid, cancelled).
- Full CRUD functionality allows creating new ticket reservations, processing cancellations, viewing manifest lists for a specific trip, and managing passenger records.

4. Search and Filtering

- The system utilizes HTML forms and MVC routing to handle search queries and filtering based on route name, departure time, bus license plate, or passenger name.
- The server re-renders the page with the relevant, filtered results, and JavaScript assists with any necessary input masking or basic client-side validations.

5. Fare Discounts & Offers Management

- Allow admin to create promotional discounts.
- Allow Client to apply discount.

Bonus Features

- Manifest Generation: Server-side generation of print-ready lists of passengers for a specific trip for driver use.
- Driver Assignment: Functionality to assign drivers to specific bus schedules, managed via standard server-side forms.
- Multi-language Support: Enable localization of the UI to a second language, enhancing usability for diverse users.

Technology Stack

- ASP.NET Core MVC: For building the web application and managing views, models, and controllers.
- Entity Framework Core: To interact with the database for CRUD operations.
- HTML, CSS, & JavaScript (JS): For structuring, styling, and basic client-side interactivity of the user interface.
- ASP.NET Core Identity: For handling user authentication and authorization.
- Bootstrap: For responsive design and user-friendly interfaces.

Summary

This project offers a complete bus service management system with a focus on scheduling, fleet management, and ticketing. By combining the MVC design pattern, robust server-side data processing, and Identity-based authentication, this project delivers a professional solution for managing routes, buses, and ticket sales efficiently.