

Assignments (Mini Project)

Online Bus Ticket Reservation System

Develop the application using the following technologies and tools:

- ASP.NET MVC
- Entity Framework
- VS 2013 and SQL Server 2012 (use LocalDb to attach .mdf to App_Data folder)

The application should meet the following requirements:

1. System Requirements

- I. The system should allow anonymous/authenticated users to search bus.
- II. The system should allow search bus using categories such as All, AC/Non-AC/Sleeper/Semi-Sleeper.
- III. The system should ask user to set source and destination while searching bus.
- IV. The system should ask user to set date of journey while searching bus.
- V. The system should ask user to set return date while searching bus in case user is interested in return journey.
- VI. The system should take user to login page when user wants to book a ticket.
- VII. The system should allow user to register and take the user to registration page in case the user is not already registered.
- VIII. The system should redirect user to booking page/search results after successful login/register.
- IX. The system should calculate and update available seats after each booking. The system should allow new booking against available seats only.
- X. The system should record and display list of persons travelling for each booking.
- XI. System should calculate fare using the below rate card for tickets.

categories	Above 16	Below 16	Below 5
AC	2 * distance	1.75 * distance	free
Non-AC	1.2 * distance	1.05 * distance	Free
Sleeper	1.5 * distance	1.25 * distance	Free
Semi-Sleeper	1.35 * distance	1.25 * distance	Free

2. Data Validation Requirements

- I. The system should validate data using client side and server side both.
- II. The system should validate all the required fields and display appropriate error messages.
- III. The system should validate user's date of birth at the time of registration, which should not be more than 100 years and less than 18 years.
- IV. The system should validate source and destination city and display appropriate error message in case both are same.
- V. The system should validate date of journey and display appropriate error message in case the date is in the past.
- VI. The system should validate return date of journey and display appropriate error message in case return date is before the date of journey.
- VII. System should not allow to book tickets for the same seats.
- VIII. System should not allow a single user to book more than 5 tickets.

3. The application should support two roles – User and Admin.

4. User Activities

- a. The user can search for the bus/seat by providing source, destination and date of journey. Time of journey and type of bus should be optional.
- b. The user can login or register with the system.
- c. The user can book/cancel tickets.
- d. Only registered user can complete the booking process.
- e. While booking tickets, user should be able to view seating arrangement in the bus.
- f. The user should be able to see list of all bookings he/she has done so far.
- g. The user should be able to view ticket as a print view.
- h. For booking tickets of round trip journey a separate view should be available to user for booking tickets.

5. Admin Activities

- a. The admin can manage the details of bus.
- b. The admin can manage the details of customer.
- c. Admin manages the allowed bus routes in the system.

Good to have features

1. Discrete seat booking should be allowed.
2. Cancellation
3. Storing and retrieving user details in order page.
4. Allow user to visualize sitting arrangement and selecting seats of their choice just by checking check boxes.

5. System should not allow removing buses or routes if any booking exist on that bus and the bus is using the same route.
6. If any bus is cancelled or postponed and the passengers booked tickets for that trip should be getting appropriate message as intimation in the system after they log in to the system.
7. Write a single page application (SPA) that should allow the user to perform all the functionalities. In other words, the front end should be in Angular JS and the backend should be Web API.