ROYAL UNIVERSITY OF LAW AND ECONOMIC

BOOK ME BUS SYSTEM

Subject : NET web Programming

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Class : IT3C01

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1. Introduction

Objective

- **Purpose: Simplify bus ticket booking.**
- **Features: Search tickets, passengerDetail.**
- **Benefits: Enhanced convenience and efficiency.**

Scope

- **User Registration & Login**
- **Search Tickets**
- **passenger Detail**
- **Payment Processing**

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2. Background

Context

- **Current Issue: Manual booking methods are inefficient.**
- **Solution: Automates booking with real-time information.**

Existing Solutions

- **Limitations: User-unfriendly interfaces and lack of advanced features.**
- **Our Solution: Addresses these gaps with an integrated, user-friendly platform.**

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3. Challenges and opportunities

Challenges

- **Scalability: Efficient handling of user load.**
- **User Experience: Designing a straightforward interface.**
- **Security: Safeguarding user data and payments.**

Opportunities

- **Integration: Add travel service expansions.**
- **Advanced Features: Real-time tracking, dynamic pricing.**
- **Data Analytics: Insights from booking data.**

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4. Functionalities and features

Core Features

- **User Management: Registration, login, password recovery.**
- **Search Tickets: Filter and view bus routes.**
- **Seat Selection: Interactive seat map.**
- **Booking Management: View, modify, cancel bookings.**
- **Payment Processing: Secure transactions.**

Additional Features

- **Email Notifications**
- **User Dashboard**
- **Admin Panel: Route and user management.**

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5. UX/UI

Design Principles

- **Simplicity: Easy navigation and interaction.**
- **Consistency: Uniform design elements.**
- **Accessibility: Inclusive design.**

User Flow

- **Registration/Login: Access to user accounts.**
- **Route Search: Find routes by criteria.**
- **Seat Selection: Choose available seats.**
- **Payment: Secure payment and confirmation.**

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6. System Design

Architecture

- **Front-End: ASP.NET for web interface.**
- **Back-End: C# for business logic.**
- **Database: SQL Server for data storage.**

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7. Back-end functionalities Implementation

Key Functions

- **User Management: Registration and login.**
- **Route Management: CRUD operations.**
- **Booking System: Seat availability and booking logic.**
- **Payment Processing: Payment gateway integration.**

Sample Code

- **User Authentication: C# login code.**
- **Booking Management: C# booking code.**
- **Payment Integration: Example payment processing code.**

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8. Technologies

Front-End

- **ASP.NET: Framework for web interfaces.**

Back-End

- **C#: Server-side logic.**
- **SQL Server: Data management.**

Additional Tools

- **Entity Framework: ORM for database operations.**
- **ASP.NET Identity: User authentication.**

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9. Summery

Overview

- **Solution: Comprehensive online bus ticket booking system.**
- **Features: User-friendly with robust back-end management.**

Future Directions

- **Improvements: Mobile apps, additional payment methods, advanced analytics.**

Appendices

- **Database Schema: SQL scripts.**
- **Code Samples: Key snippets.**
- **Wireframes and Mockups: Design assets.**

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