Project Report: Ticket Booking System

Project Title: Online Ticket Booking System

Team Members:

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Supervision

We would like to acknowledge the guidance and support of Eng. Gehad Abdo .

during our time working on this project. She provided invaluable insights, helped us navigate challenges, and offered constructive feedback that was essential to the success of this project. Her supervision played a key role in shaping the final outcome.

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Introduction

The Online Ticket Booking System aims to provide a convenient platform for users to book tickets for matches. The application allows users to register, log in, and log out view available matches, and manage their bookings while offering administrative functionalities to manage match details.

Objectives

- **To create an intuitive platform for users to view and book tickets for matches.**
- **To implement user authentication and role-based access control for admins and regular users.**
- **To allow admins to manage events (create, update, delete).**
- **To provide users with personalized experience, including viewing their booking history.**

Project Features

User Authentication

- **Users can register and log in using ASP.NET Core Identity.**
- **Role-based authorization differentiates between regular users and admin users.**

Ticket Management

- **Users can see available matches and book tickets.**
- **Admins can add new matches, update existing match details, and delete matches as needed.**

User Interface

- **A navbar that enables easy navigation to the login, registration, and match listing pages.**
- **Minimalistic Design: Show only essential information and functionality to avoid overwhelming users.**
- **Clean Layout: Keep the interface clean by using white space effectively.**

Booking History

- **Users can view their previously booked tickets and details related to each booking.**

Event Listings

- **Users can see a list of upcoming matches along with relevant details such as date, teams involved, location, and available tickets.**

Technologies Used

- **Backend: ASP.NET Core MVC**
- **Frontend: HTML, CSS, JavaScript**
- **Database: SQL Server (Entity Framework Core)**
- **Authentication: ASP.NET Core Identity**
- **Development Tools: Visual Studio**

Implementation

Project Structure

The project is structured using the MVC pattern to separate concerns effectively:

- **Models: Represents data structures (e.g., User Application, Match, Ticket).**
- **Views: Contains UI elements (e.g., Admin Panel, Account, Content).**
- **Controllers: Manages user requests, interacts with models, and returns appropriate views.**

User Experience Design

The UI focuses on ease of use, featuring:

- **Clear navigation menus for users to access their bookings and view available matches.**
- **Consistent design elements: Use the same fonts, colors, and icons throughout the app to create familiarity.**

Challenges Faced

- **Authentication: Setting up role-based access and claims required thorough understanding and implementation of ASP.NET Core Identity.**
- **Data Relationships: Ensuring the proper relationships between users, tickets, and matches in the database schema was complex but crucial.**

Future Enhancements

- **Payment Gateway Integration: To facilitate online payments for ticket bookings.**
- **Notifications: Implementing email notifications for users regarding their bookings and upcoming matches.**
- **Enhanced Search Functionality: Allowing users to filter matches by date, team, or location.**
- **User Reviews: Enabling users to provide feedback on matches and their booking experience.**

Conclusion

The Online Ticket Booking System provides an effective solution for users to manage ticket bookings for matches while allowing admins to control event details efficiently. The project has strengthened our skills in ASP.NET Core MVC development and provided insights into user experience design.

ERD Explanation

Entities

1. **Application User**
    - **Attributes:**
        - **Id: Inherited from Identity User, uniquely identifies the user.**
        - **Phone: A string representing the user's phone number.**
    - **Relationships:**
        - **Has a one-to-many relationship with the Ticket entity. One user can book multiple tickets.**

2. **Match**
    - **Attributes:**
        - **Match_Id: The primary key uniquely identifying each match.**
        - **Name: The name of the match.**
        - **Team A: Name of the first team.**
        - **Team B: Name of the second team.**
        - **Date: The date and time of the match.**
        - **Available Tickets: The number of tickets available for the match.**
        - **Location: The location where the match will take place.**
    - **Relationships:**
        - **Has a one-to-many relationship with the Ticket entity. A match can have multiple tickets associated with it.**

3. Ticket

- **Attributes**:
  - **Ticket_Id: The primary key that uniquely identifies each ticket.**
  - **User Id: A foreign key linking to the Application User.**
  - **Match Id: A foreign key linking to the Match.**
  - **Booking Date: The date when the ticket was booked.**
- **Relationships:**
  - **Has a many-to-one relationship with the Application User entity (each ticket is associated with one user).**
  - **Has a many-to-one relationship with the Match entity (each ticket is associated with one match).**