BOOK SHOPPING CART SYSTEM

1.Overview

The Books Shopping Cart project is an ASP.NET web application designed to facilitate the online purchase of books. The application will allow users to browse, search, and purchase books, manage their shopping cart, and complete transactions. The project will include user authentication, book management, order processing, and administrative functionalities.

Here are the titles for the modules:

1. User Management and Security
2. Book Inventory and Catalog
3. Shopping Cart Management
4. Order Processing
5. Administrative Control Panel

2.Assumptions

Here are some assumptions for the Books Shopping Cart project:

1. User Base: The application will have two types of users: regular users (customers) and administrators.
2. Book Data: Initial book data will be provided and can be managed through the admin panel.
3. Security: User data, including passwords, will be securely stored and managed using ASP.NET Identity.
4. Scalability: The application is designed to handle a moderate number of users and transactions, with potential for future scalability.
5. Deployment Environment: The application will be deployed on a local server for development and testing, with plans for future deployment to a cloud service.
6. Responsive Design: The application will be designed to be responsive and accessible on both desktop and mobile devices.

3.Module-Level Design

Here are the core modules for the Books Shopping Cart project in ASP.NET, along with their respective model and controller names:

1. User Management and Security

- Model: User, Role
    - User: Represents the application users with properties like UserID, Username, Password, Email, Role, CreatedAt, and UpdatedAt.
    - Role: Defines different roles within the application, such as Admin and User.
- Controller: AccountController, RoleController
    - AccountController: Manages user registration, login, logout, and profile management.
    - RoleController: Handles role management, including creating, updating, and deleting roles.

2. Book Inventory and Catalog

- Model: Book
    - Book: Represents a book with properties like BookID, Title, Author, Description, Price, Category, StockQuantity, Creat edAt, and UpdatedAt.
- Controller: BookController
    - BookController: Manages book-related operations such as adding, editing, deleting, and viewing books.

3. Shopping Cart Management

- Model: CartItem
    - CartItem: Represents an item in the shopping cart with properties like CartItemID, BookID, Quantity, and Price.
- Controller: CartController
    - CartController: Manages the shopping cart, including adding items to the cart, updating quantities, and removing items.

4. Order Processing

- Model: Order, OrderDetail
    - Order: Represents an order with properties like OrderID, UserID, TotalAmount, and Status.
- Controller: OrderController
    - OrderController: Manages the order process, including checkout, order summary.

5. Administrative Control Panel

- Model: Admin

    - Admin: Represents administrative users with properties similar to the User model but with additional administrative privileges.
- Controller: AdminController
    - AdminController: Provides CRUD Operations and adds to home page.

4.Database Schema

Here's a suggested database schema for the Books Shopping Cart project:

1. Users Table

- Columns:
    - UserID (Primary Key, int, Identity)
    - Username (varchar, Unique)
    - Password (varchar)
    - Email (varchar, Unique)
    - Role (varchar)

2. Roles Table

- Columns:
    - RoleID (Primary Key, int, Identity)
    - RoleName (varchar, Unique)

3. Books Table

- Columns:
    - BookID (Primary Key, int, Identity)
    - Title (varchar)
    - Author (varchar)
    - Description (varchar)
    - Price (decimal)

4. Orders Table

- Columns:

    - OrderID (Primary Key, int, Identity)
    - UserID (Foreign Key, int)
    - TotalAmount (decimal)

5. Cart Items Table

- Columns:
    - CartItemID (Primary Key, int, Identity)
    - UserID (Foreign Key, int)
    - BookID (Foreign Key, int)
    - Quantity (int)
    - Price (decimal)

This schema covers the essential entities and relationships needed for the Books Shopping Cart project.

5.Conclusion

The Books Shopping Cart project in ASP.NET provides a user-friendly platform for purchasing books online. It includes essential features like user authentication, book management, shopping cart functionality, and order processing. The project is designed to be secure, scalable, and easy to maintain, making it a solid foundation for an online bookstore.