**Book App**

Bookapp Corp. is a leading publishing house in the US. The company headquarter is located in Atlanta. It has been publishing books, articles, journals, novels, magazines, and encyclopedias for the past fifteen years. The customers of the company include students, IT professionals, and research scholars. The company enjoys a dominant position in the publishing business with 15 retail stores in all major cities in the US.

Presently, the company depends on the print and electronic media to advertise its books. There is a static website that is periodically updated whenever a new book is released. Many competitors of the company already have their e-commerce stores and are selling books online. Bookapp is losing its customers to competitors because people prefer buying books online, without having to visit a retail store. Customers often complain that due to an inadequate number of stores in their city, they have to travel a long distance to reach a store. In addition, customers visiting a store complain that, at times, the books that they are looking for are not available in the stores.

Hence, many orders remain unplaced and customers are dissatisfied. As a result, there has been a loss in the company's revenue.

**The Proposed System**

It is evident that the existing business model is insufficient to meet customer demands.

To address the current limitations, the management has tied up with a software development organization. The management has instructed the organization to create an online book store application that can be globally used to order books. In the first phase, the Bookapp application will simplify the process of managing stocks and enable the organization to sell books online. The application should provide a consistent mechanism to enable customers to buy books online and administrators to manage book stocks online. Currently, the management wants that all orders should be processed at a centralized location and delivered through the relevant store. Later, each store will have its own interface through which it will be able to manage the orders pertaining to that store.

To provide the envisioned functionalities, the Bookapp application should have the following features during

**Functional Requirements**

1. The application should be accessible to the customer and the administrator. The customer role should be applicable to any user accessing the application to order books online.
2. The system should allow a customer to perform the following activities:
   * 1. Browse through book categories.
     2. View details of a book.
     3. Add and remove books from a shopping basket while browsing the categories.
     4. Place an order of books by providing delivery information.
3. The system should have an authentication mechanism to verify the credentials of a Bookapp employee assigned with the administrator role.
4. The system should allow an administrator to perform the following activities:
   * 1. View details of books.
     2. Add new books to the book catalogue.
     3. Delete books from the book catalogue.
     4. Update book information, such as book category, availability, and price.
     5. View status of orders placed by customers.
     6. Update the status of an order once the order is delivered.
5. To fulfill the preceding requirements, the following specifications have been laid down to design the Bookapp application:
6. Application should be developed in React and Asp.net Dot Net Core Rest API
7. Database Layer can be SQL Server or MongoDB
8. Design, layout, and navigation of the application should be uniform across all Components
9. Order details of a customer should be persisted in a database.
10. User authentication should be token based
11. User authorization should be role-based.
12. Data provided by the user must be validated.

### Architecture Diagram

Design the application ideally with a typical 3-tier architecture with a presentation layer (view), business tier and the data access tier (where you’d use ADO.Net/EF)

