

Architecture

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Presentation Layer: This layer is responsible for handling the user interface and user interactions. It includes the web pages, forms, and other elements that users interact with when using the system. The presentation layer communicates with the business logic layer to retrieve and display data.

Business Logic Layer: This layer contains the business logic of the system. It handles the application flow, data validation, and other business rules. The business logic layer communicates with the data access layer to retrieve and update data.

Data Access Layer: This layer is responsible for accessing the database and retrieving or updating data. It includes the database schema, stored procedures, and other database-related elements. The data access layer communicates with the business logic layer to retrieve and update data.

Database: This layer contains the actual data stored in the system. It includes the user data, book data, and other system-related data. The database communicates with the data access layer to store and retrieve data.

Regarding user authorization, here's an architecture:

Authentication Module: This module handles user authentication. When a user logs in, the entered password is hashed and compared against the hashed password stored in the database. If the passwords match, a session ID is generated and stored in the session table.

Authorization Module: This module handles user authorization. Different user roles can be defined like admin or member, with different levels of access. When a user logs in, their role is checked, and they are granted access to the appropriate features based on their role.

Access Control Module: This module handles access control. It ensures that users can only access the features they are authorized to access based on their role. If a user tries to access a feature they are not authorized to access, they are denied access.

User Management Module: This module handles user management. It allows administrators to create, update, or delete user accounts, as well as define user roles and permissions.