

The Library Book Inventory System

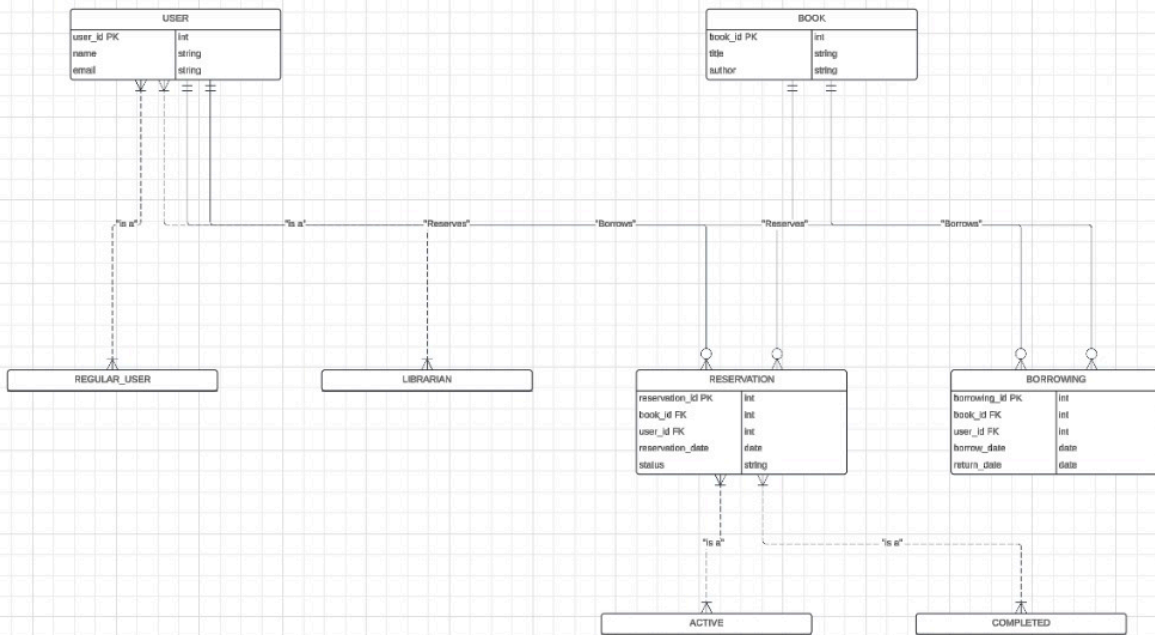
BOOKed

The Library Book Inventory System offers a platform for users and librarians to efficiently manage and engage with a library's book collection. Users can register, log in, and enjoy personalized features like borrowing books, tracking their borrowing history, and reviewing/rating books. The system enables users to search for books by title, author, genre, ISBN, and more, and apply filters like availability and popularity. If a book is currently checked out, users can reserve it and receive notifications when it becomes available.

For borrowing, users can browse available books, borrow them, and track return dates, while librarians have additional features to manage the entire inventory. Librarians can add new books, update book details, and oversee the borrowing and returning process. Users can also leave reviews and ratings to help others make informed decisions.

The system provides users with account management features to update personal info, view borrowing history, and manage reservations. To ensure security, user data and passwords are stored securely, and the system has proper input validation to prevent unauthorized access or misuse. Overall, the system offers a user-friendly and secure environment for managing library resources.

ER Diagram



Here is also the link where you can find the ER diagram :

https://lucid.app/lucidchart/d33020d8-ff33-46e2-9d7b-5ef67c2ccf5f/edit?viewport_loc=-175%2C47%2C3129%2C1362%2C0_0&invitationId=inv_9e61f6b1-0c44-4087-9284-0399ecb06fd8

User Interactions

Account Management

- Users can register for an account using their email, username, and password.
- Once logged in, users can access their account features, including:
 - Viewing borrowing history
 - Managing reservations
 - Leaving reviews
 - Editing profile details

Book Management

- Users can search for books by title, author, or genre, and filter results by rating, publication date, or availability.
- If a book is unavailable, users can reserve it and receive an email notification when it becomes available.
- Users can borrow available books and view a list of their borrowed books.
- Users can return borrowed books, and librarians can update the borrowing status.

Reviews and Ratings

- Users can leave a review and rating for a book after borrowing it, but only one review per book is allowed.
- The system blocks inappropriate reviews.

Librarian Features

- Librarians can manage the book inventory by:
 - Adding new books
 - Updating existing book details (e.g., number of copies available)
 - Removing outdated titles
- Error messages are triggered for invalid or incomplete data.

Illegal Input/Actions:

- Attempting to access restricted features (e.g., regular users trying to manage inventory) results in an "access denied" error.
- Invalid or malicious input during registration, login, or other interactions generates error messages and blocks the action.
- Attempts to exploit security vulnerabilities like SQL injection or XSS are blocked, and users may face account suspension or termination for such actions.

