

Exercise 7: Use Case

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Actors:

User

Represents a student or teacher, who can use the library (borrow & return books, signup & login, view profile etc.)

Library

Physical entity where the books are collected from and returned to.

Use Cases & Actions:

View Profile

The user logs into the system and navigates to their profile page, where they can view personal details and reservation history.

Login

The user enters their credentials, such as a username and password. The system verifies the credentials and grants access if they are correct.

Sign Up

The user provides personal details for registration. The system validates the information and registers the user.

Search Book

The user enters book details, such as title, author or category. The system retrieves matching books, displaying their availability.

Search by Author

The user inputs the author's name, and the system displays all books written by that author.

Search by Language

The user selects a specific language, and the system filters and displays books available in that language.

Search by Category

The user selects a category, and the system retrieves and lists books belonging to that category.

Reserve Book

The user selects a book to reserve from a list of available books. The system checks whether the user has exceeded the book reservation limit (5 books for student, 30 books for teacher). If eligible, the system confirms the reservation.

Extend Reservation (Included in Reserve Book)

The user requests an extension for a reserved book. The system extends the reservation period for a fixed time.

Collecting Book

The user arrives at the library to collect a reserved book. The library verifies the reservation before handing over the book.

Return Book

The user returns a borrowed book to the library. The library system marks the book as returned, updating its availability.

Library Database

The system maintains book details, user information, and reservation records, supporting all system operations.

Book Count (Extended by Reserve Book)

When reserving a book, the system checks how many books the user has already reserved. If the limit is exceeded, the reservation is restricted.

Notification (Extended by Reserve Book)

The system sends a notification when a reservation is about to expire, reminding the user to take necessary action.

