

Activity Diagram

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Use Case Chosen: Reserve Book

Activity Diagram Description

1. **Search Book by Title Keyword:** As a user, I can search for books by entering keywords in the title field.
2. **Send Search Request to Database:** If entering keywords, the system sends a request to the database to fetch books that match the keywords in their titles.
3. **Fetch Books including Keywords in Title:** The database retrieves a list of books whose titles contain the specified keywords.
4. **Display Retrieved Books:** The system displays the list of books fetched from the database to the user.
5. **Disable "See Details" Button:** The "See Details" button is disabled if no books are available in the library.
6. **Show "See Details" Button:** The "See Details" button is enabled where there are books available in the library.
7. **Select Book:** As a user, I can select a book from the displayed list to view more details about it.
8. **Request Book Details:** If selecting a book, the system requests detailed information about the chosen book from the database.
9. **Return Book Details and Penalty Status:** The database returns detailed information of the selected book along with the user's penalty status.
10. **Display Book Details:** The system displays detailed information about the selected book to the user.
11. **Show Return Overdue Book Warning:** If the user has any overdue book, the system displays a warning message to the user.
12. **Return Overdue Books:** As a user, I can return overdue books to avoid penalties.

13. **Show the "Reserve Book" Button:** The system displays a "Reserve Book" button for books that are available for reservations.
14. **Click the "Reserve Book" Button:** As a user, I can click the "Reserve Book" button to initiate the reservation process.
15. **Update Reservation in Database:** If clicking the "Reserve Book" button, the system updates the reservation status of the selected book in the database.
16. **Store Reservation Data:** The database stores reservation details, including user information and reservation date.
17. **Display Reserved Book in Dashboard:** The system displays the reserved book in the user's dashboard for easy access.
18. **Display Error Message:** If the fetching, returning, or reservation of books fails at any point, the system displays an appropriate error message to the user.

