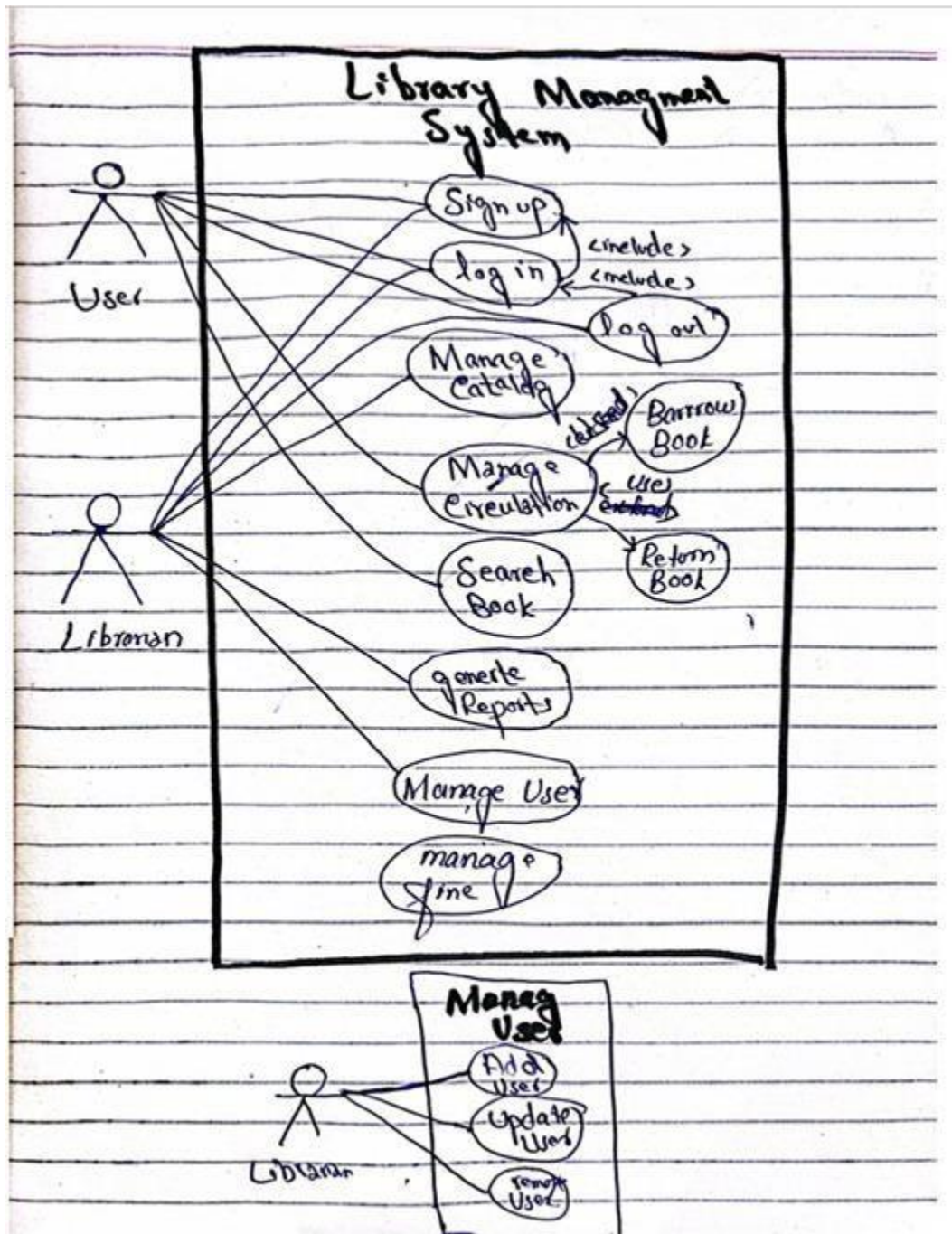


# Library Management System

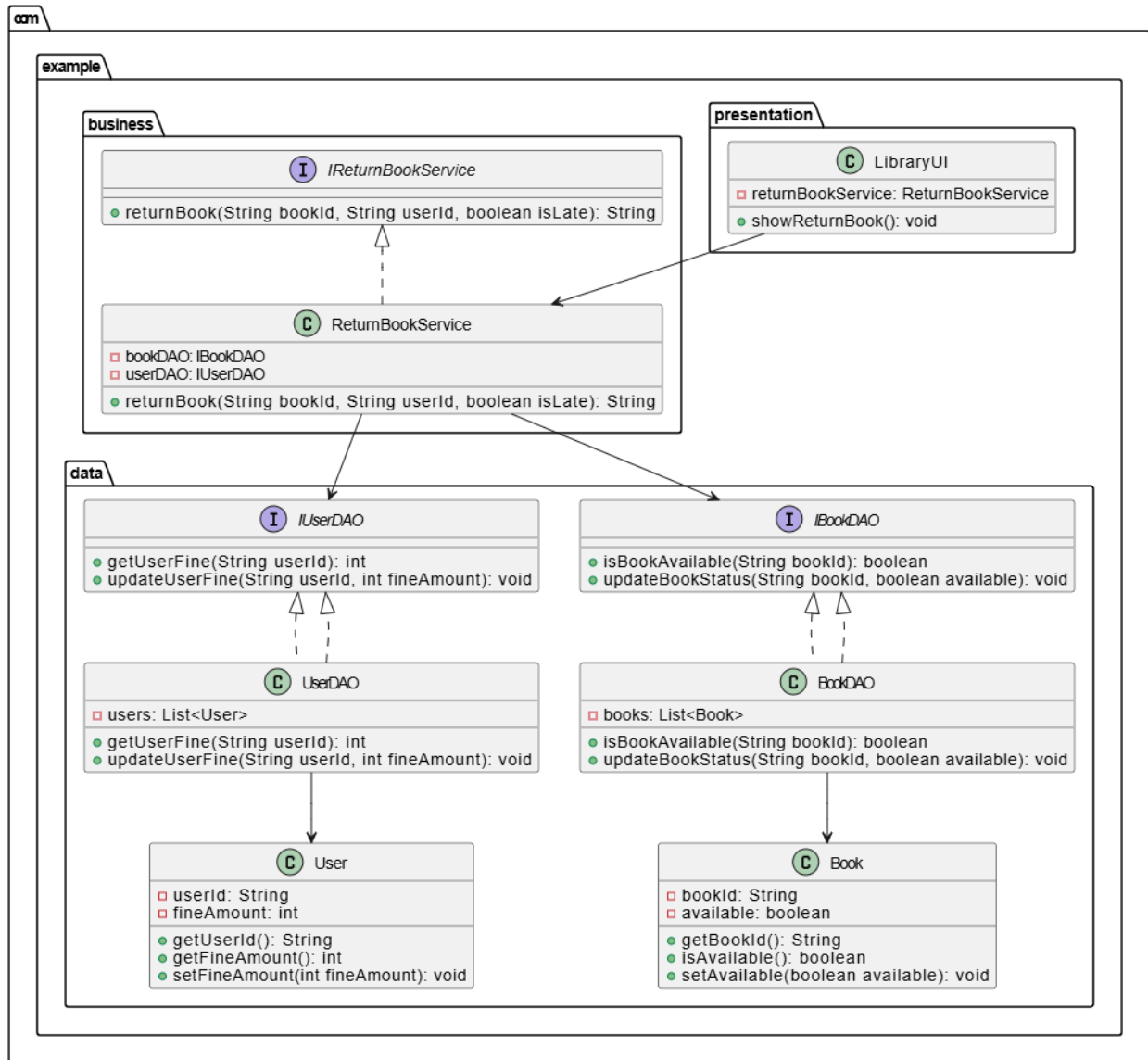
## Use Case Diagram:



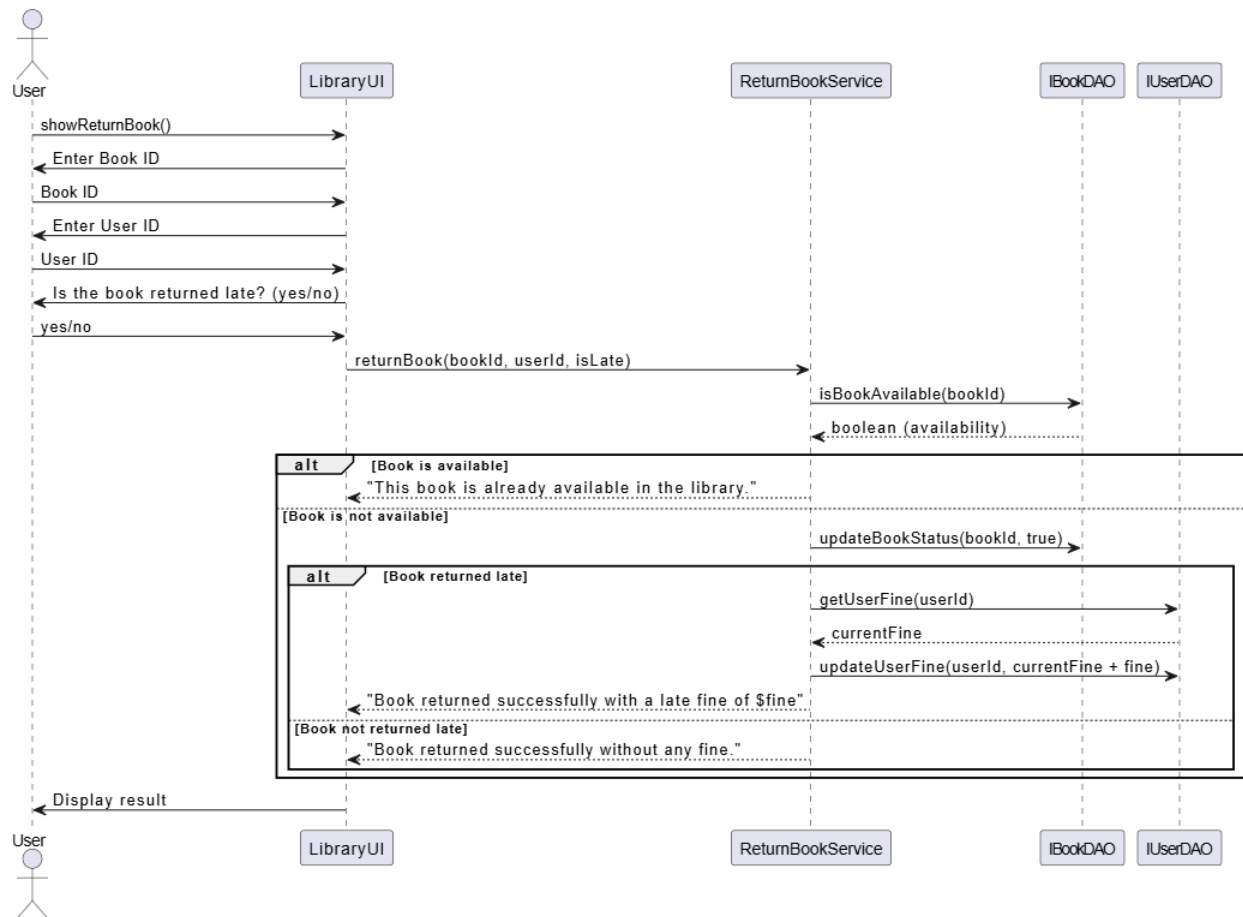
## Fully Dressed use Case of *Return Book*:

- **Use Case Name:** Return Book •
- **Actors:**
  - **Primary Actor:** Member
  - **Secondary Actor:** Librarian
- **Goal in Context:** Enable a library member to successfully return a borrowed book.
- **Preconditions:**
  - The member must be registered in the library system.
  - The member must have borrowed the book they wish to return.
- **Postconditions:**
  - The book is marked as returned in the system.
  - The transaction record is updated to reflect the return.
  - The book's availability is updated to indicate it is available for borrowing.
- **Main Success Scenario (MSS):**
  - The member selects the book they wish to return.
  - The member requests to return the book through the library system.
  - The system verifies the member's borrowing history.
  - The system confirms the book is eligible for return.
  - The librarian is notified of the return request.
  - The librarian confirms the return.
  - The system updates the transaction record to reflect the return. ○
  - The system updates the book's availability status.
  - The system provides the member with a confirmation receipt for the return.
- **Extensions:**
  - **E1: Book Not Borrowed:**
    - ✦ If the book was not borrowed by the member, the system informs the member and cancels the return process.
  - **E2: Late Return:**
    - ✦ If the book is returned after the due date, the system may apply late fees. ✦ The system informs the member of any fees incurred.
  - **E3: Transaction Failure:**
    - ✦ If an error occurs during the return process, the system informs the librarian. ✦ The transaction is aborted, and the member is notified.
- **Special Requirements:**
  - The system must handle concurrent return requests efficiently.
  - Maintain data integrity during the return process.
  - Provide clear and user-friendly notifications for all scenarios.
- **Frequency of Use:** Expected to occur multiple times daily as members return books.
- **Open Issues:**
  - What is the policy for lost or damaged books during the return process?
  - How will the system handle reservations for books that are returned and have pending requests?

## Class Diagram:



## System Sequence Diagram:



## Package Diagram:

