

# **IT-314**

## **Software Engineering**

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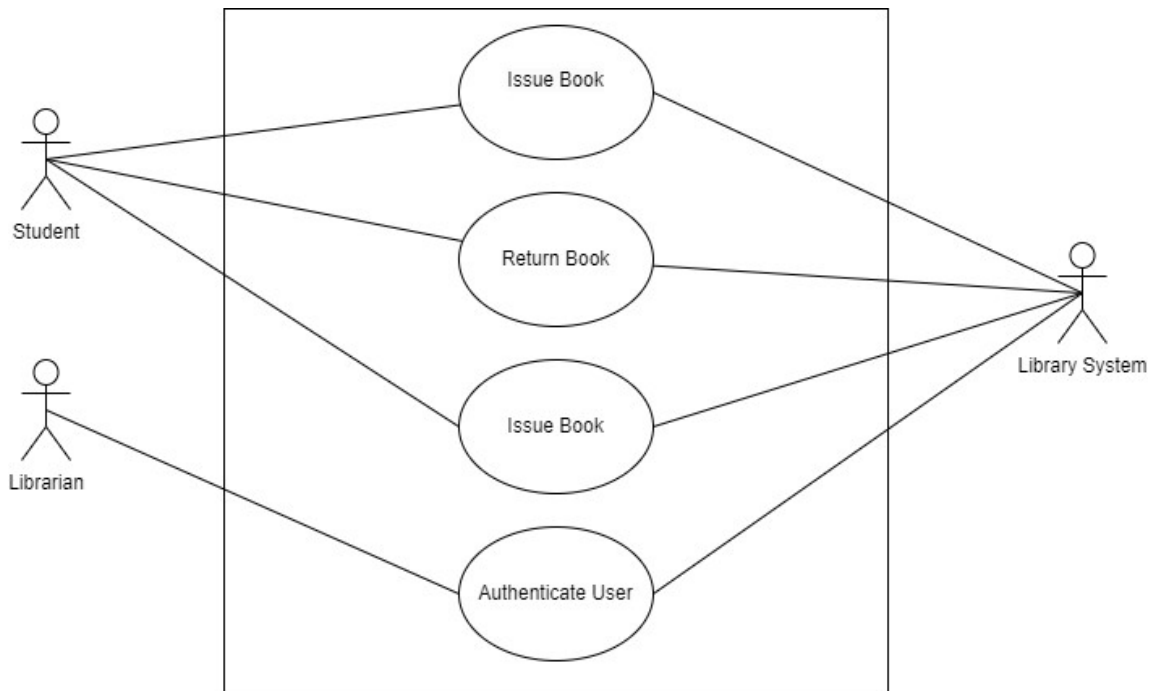
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**LAB : 7**

**Q-1 :**

**1 : The Use Case Diagram**



**Documenting "Issue Book" Use Case:**

**Use Case Name:** Issuing a Book

**Description:** This use case outlines the process by which a registered student borrows a book from the library.

**Primary Actor:** Registered Student

**Secondary Actors:** Library System and Librarian

**Preconditions:** - The registered student must log in and be verified by the librarian. - The desired book must be available in the library's collection.

**Postconditions:** - The book is marked as issued to the student. - A due date for book return is established. - The student receives a notification confirming the successful issuance.

**Main Flow:**

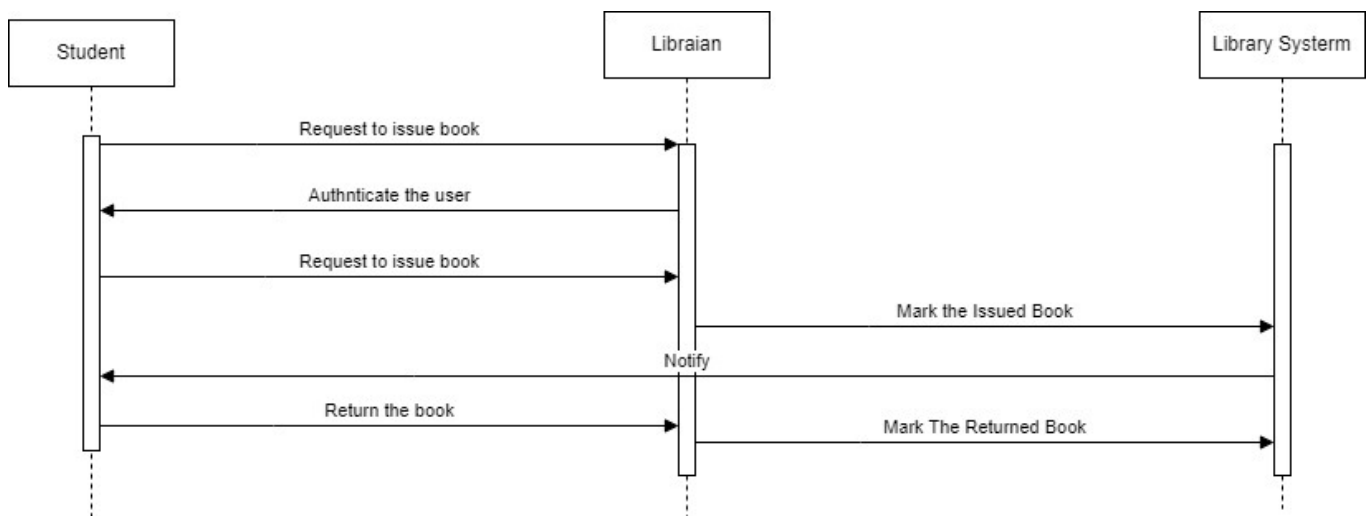
- The registered student initiates a book issuance request.
- The system verifies the student's authentication status.
- The system checks the availability of the requested book.

- If the book is available, the system records it as issued to the 1 student.
- The system sets a due date for the book's return. 6
- Notifications are sent to both the student and the librarian to confirm the successful issuance.

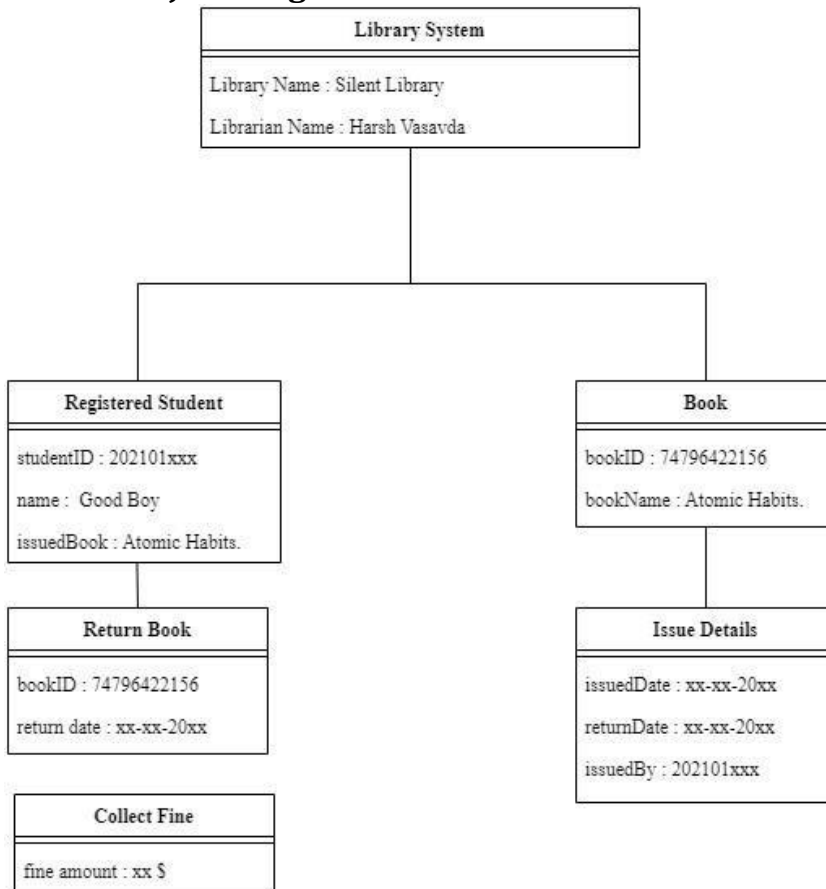
### Alternate Flows: -

- If the requested book is unavailable, the system notifies the student that it cannot be issued at the moment.
- In case the user's authentication fails, the system informs the librarian of the issue.

### 2 : The Sequence Diagram for the “issue Book” use case :



### 3 : The Object Diagram for the “issue Book” use case



## Q-2. The Sequence Diagram and Operations

