

Lab-7

IT-314

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Q. 1

1. Complete the use case diagram for the above problem text along with use case documentation for “issueBook” 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.

Post conditions:

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:

- 1) The registered student initiates a book issuance request.
- 2) The system verifies the student's authentication status.
- 3) The system checks the availability of the requested book.
- 4) If the book is available, the system records it as issued to the student.
- 5) 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.

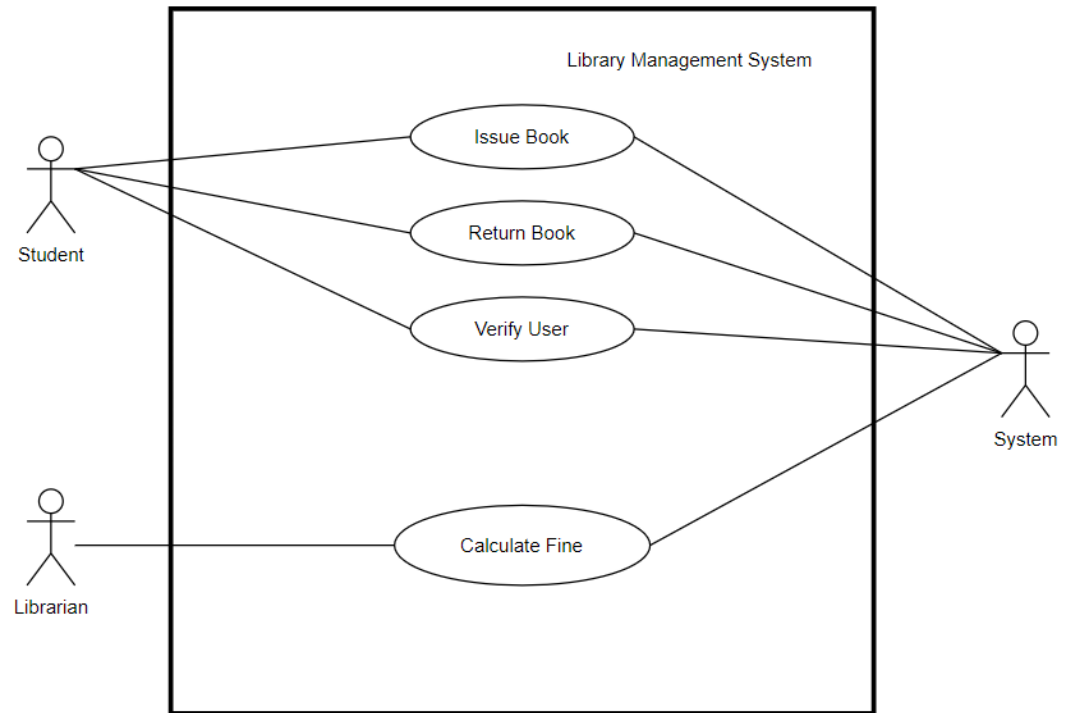
Alternate Flows:

If the requested book is unavailable, the system notifies the student that it cannot be issued at the moment.

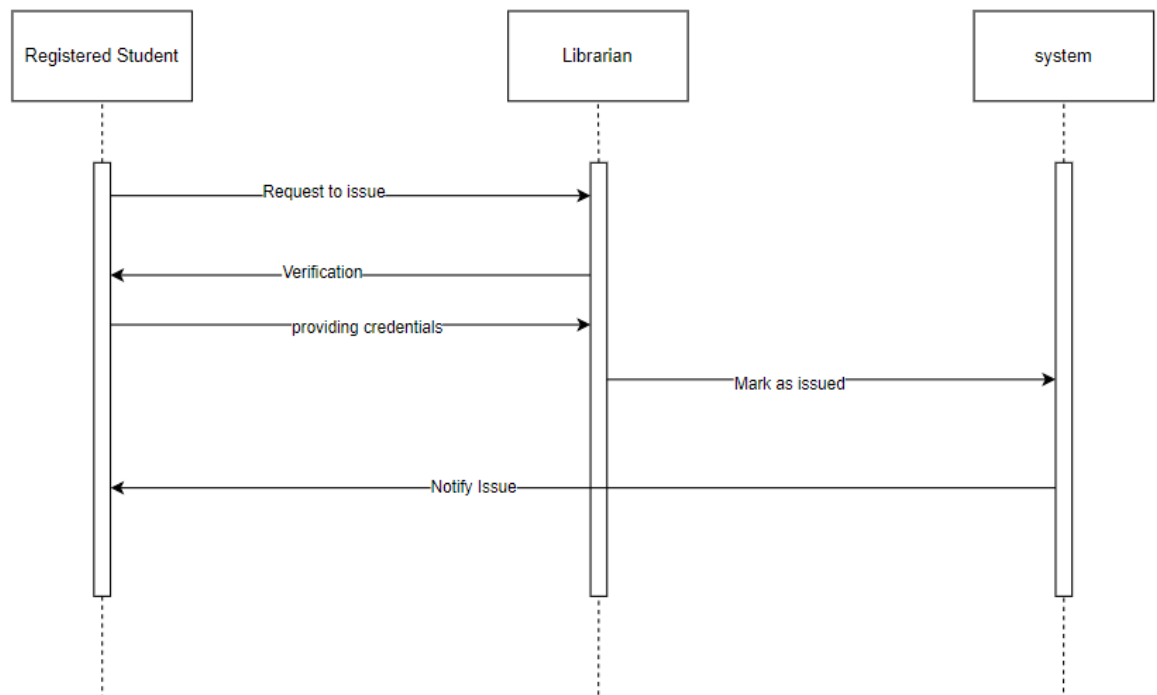
In case the user's authentication fails, the system informs the librarian of the issue.

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2. The sequence diagram for the “issueBook” use case.



Entity Object :

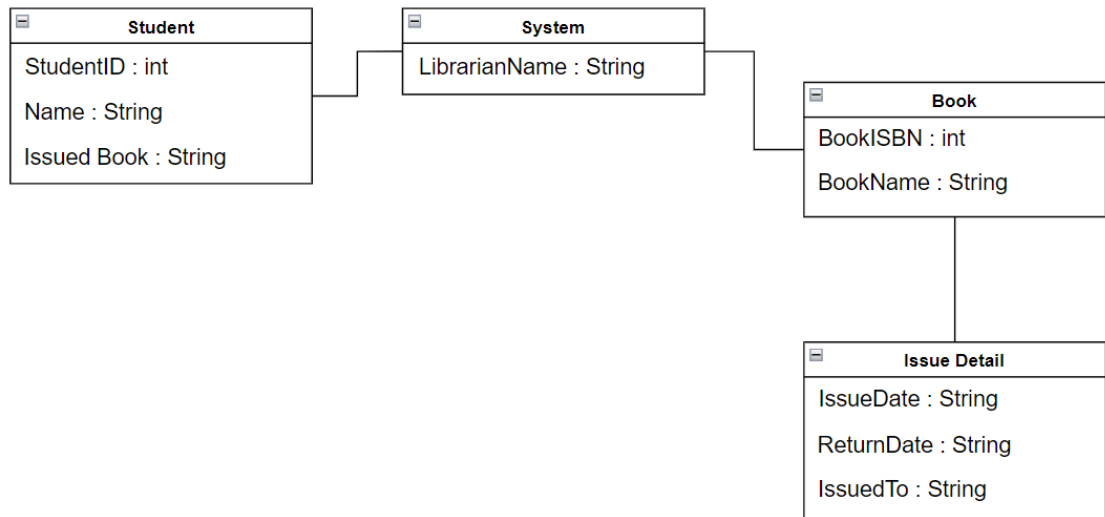
RegisteredStudent: Represents a registered student in the library. It contains data like the student's name, ID, and a list of borrowed books.

Boundary Object:

Librarian: Represents the librarian who is responsible for managing book issuance and return requests. The Librarian acts as a boundary object because they interact directly with users and the library system.

System: Here, System acts as a boundary object because it represents the external interface through which Librarians and Registered Students communicate with the system.

3. Draw the analysis object diagram for the “issueBook” use case analysis.



Q. 2 Sequence Diagrams

