

Lab Session - 7

Domain Analysis Modeling & Sequence Diagram

IT313: Software Engineering

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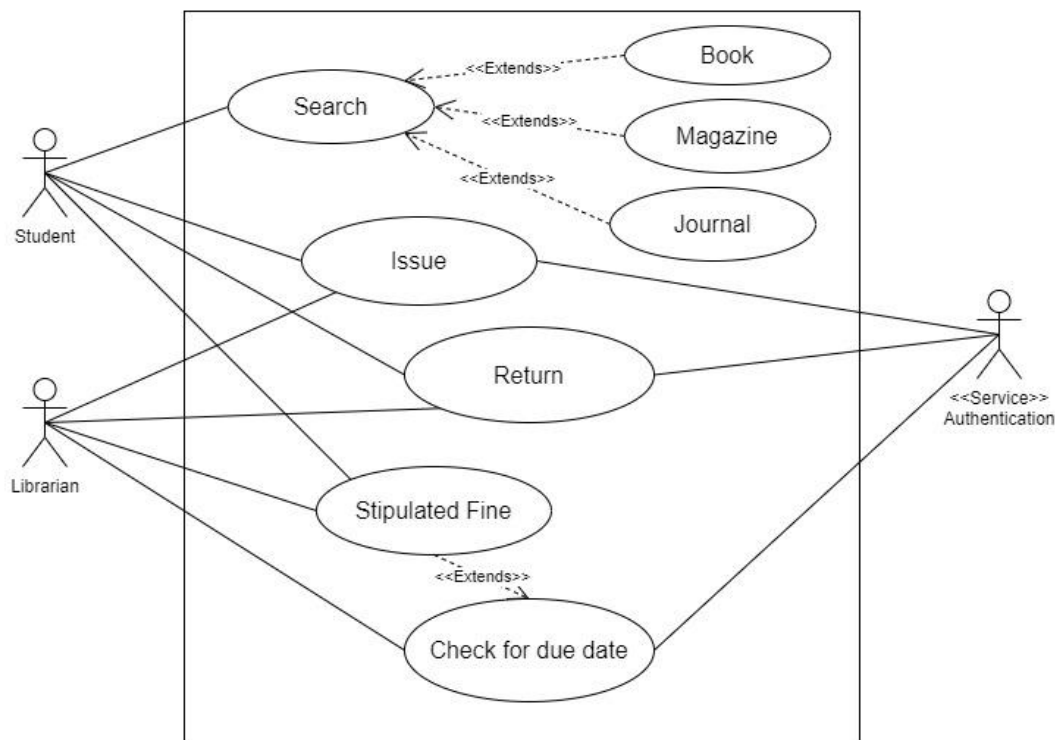
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Group no.: 8

Lab GroupNo.: 2

Question 1:

Use Case Diagram:



Use Case Documentation:

Use Case Name: Issue Book

Description:

This use case represents the process of a librarian issuing a book to a registered student for a specified period.

Actors:

Primary Actor: Registered Student

Secondary Actor: Librarian, Library Management System(Authentication)

Preconditions:

- 1) The Librarian is logged into the Library Management System.
- 2) The student is registered with the institute.
- 3) The book is available in the library's collection.

Postconditions:

- 1) The book is marked as "issued" to the Registered Student.
- 2) The due date for returning the book is set.
- 3) The issuance is recorded in the system.

Main Flow:

- 1) The student searches for a book, journal or magazine.
- 2) If a book is available, the Librarian selects the "Issue Book" option in the Library Management System.
- 3) The system prompts the Librarian to enter the following information:
 - Student ID or name to identify the Registered Student.
 - Book title or ISBN to identify the book to be issued.
 - Issue date
 - Due date
- 4) The Librarian enters the required information.
- 5) The system validates the entered information.
- 6) If the validation fails, an error message is displayed, and the process returns to step 3.
- 7) If the validation is successful:
 - The system marks the book as "issued" to the student.
 - The due date is recorded in the system.
 - A record of the issuance is created in the system.
- 8) The Librarian confirms the issuance.

- 9) The system updates the book's status and notifies the Librarian and the Registered Student of the successful issuance.

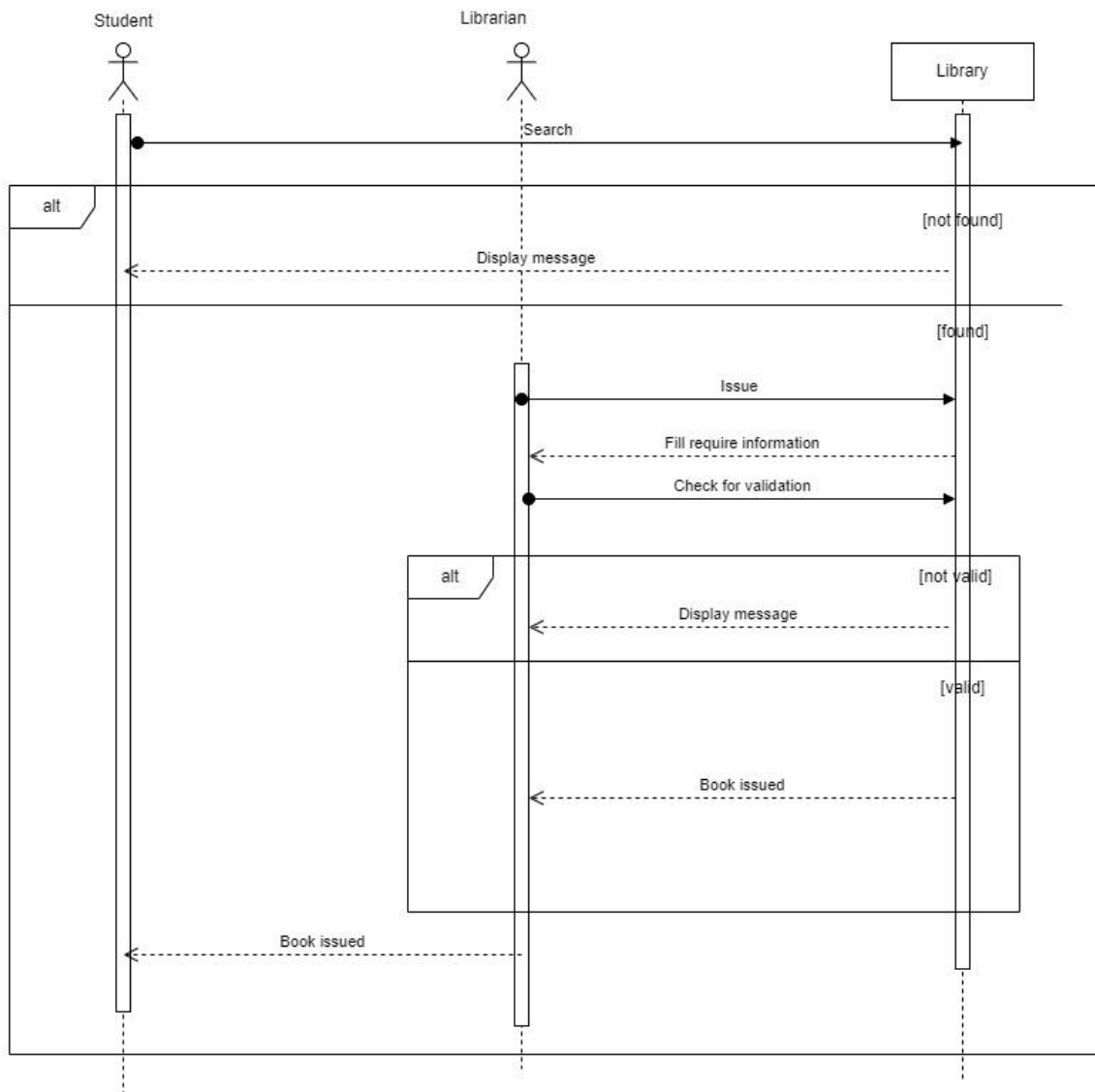
Alternative Flow:

1a. If book is not available then the system should display a message accordingly.

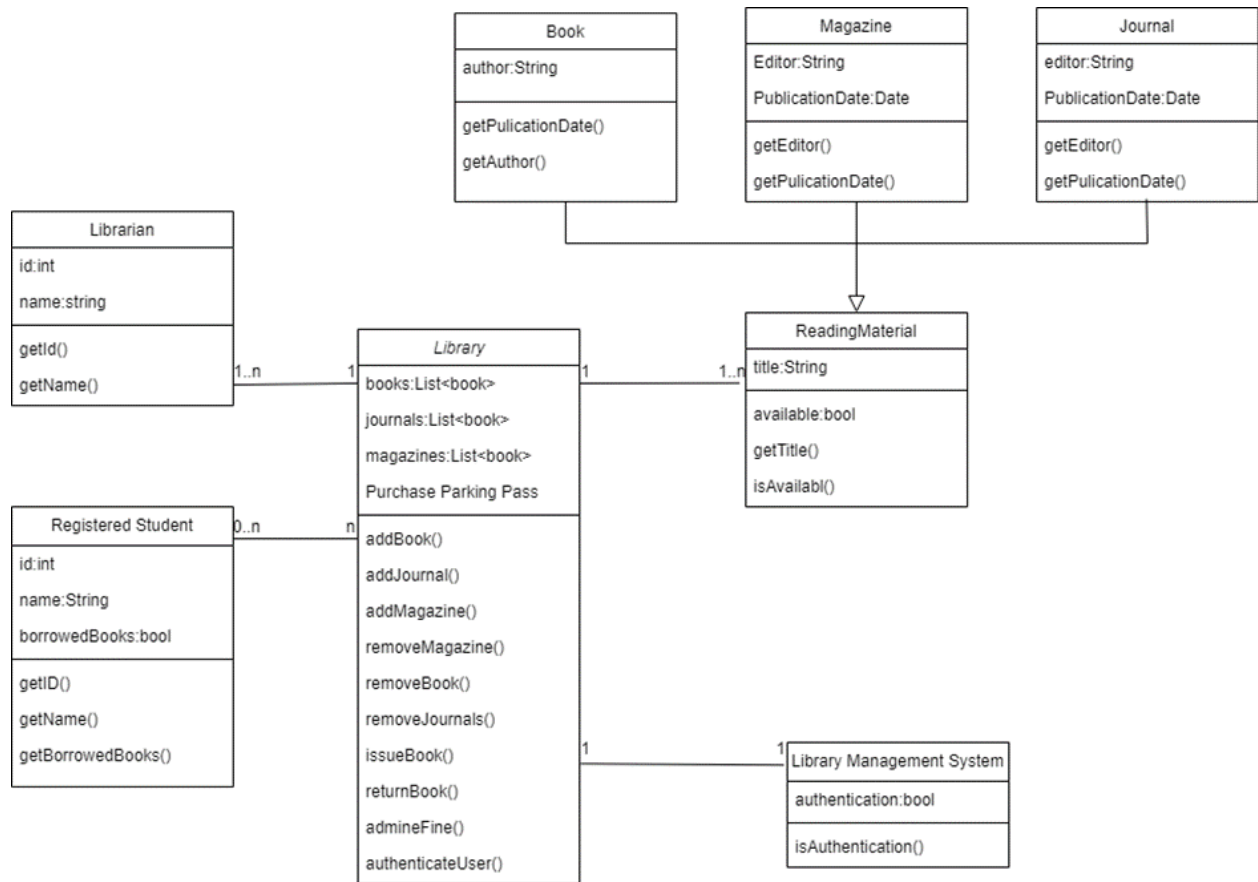
7a. If the validation fails:

- The system displays an error message.
- The Librarian can either correct the information or cancel the issuance process.

Sequence Diagram:



Class Diagram:



Question 2:

Sequence Diagram:

