IT314: Software Engineering

Lab Assignment 7

Sabva Jay Dilipbhai - 202101224

Course instructor: Prof. Saurabh Tiwari

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Domain Analysis Modeling & Sequence Diagram

Problem 1

Consider the following piece of text "A library maintains multiple reading materials which include books, journals, and magazines. The books are issued to the registered students of the institute, for a specified period of time. The issued books are to be returned back to the library. Delayed returns are subjected to stipulated fines. The issue-return process is administered by one of the librarians through an authenticated Library Management System."

Solution.
Use Case Documentation for 'Issue Book' use case:
Use case name: Issue Book
Description: Represents the process Issuing Book
Primary Actors: Registered Students
Secondary Actors: Library, Librarian

Pre-Conditions:

- Registered Student must be logged in and authenticated by the librarian.

- The book being issue demist be available in the library.

Post-Conditions:

- The book is marked as issued to the student.

- The due date for returning the book is set.
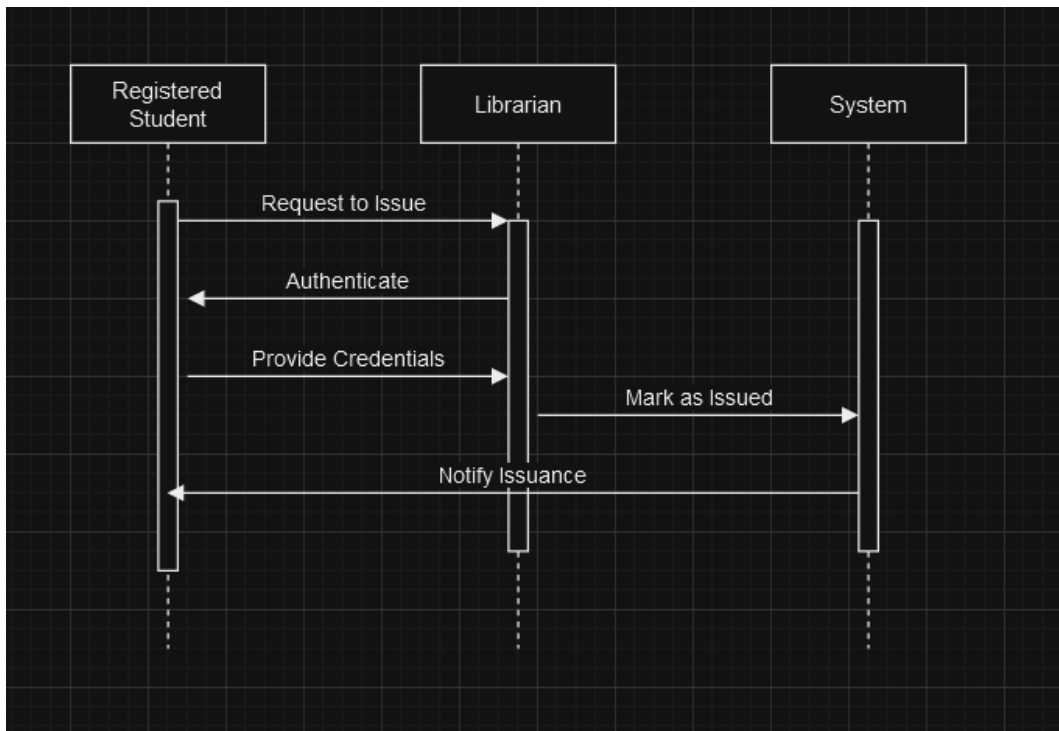
- The student is notified of the successful issuance.

Main Flow:

- The Registered student requests to issue a book.

- The system validates the student's authentication status.

- The system checks if the requested book is available.

- If the book is available, the system marks it as issued to the student.

- The system sets the due date for returning the book.

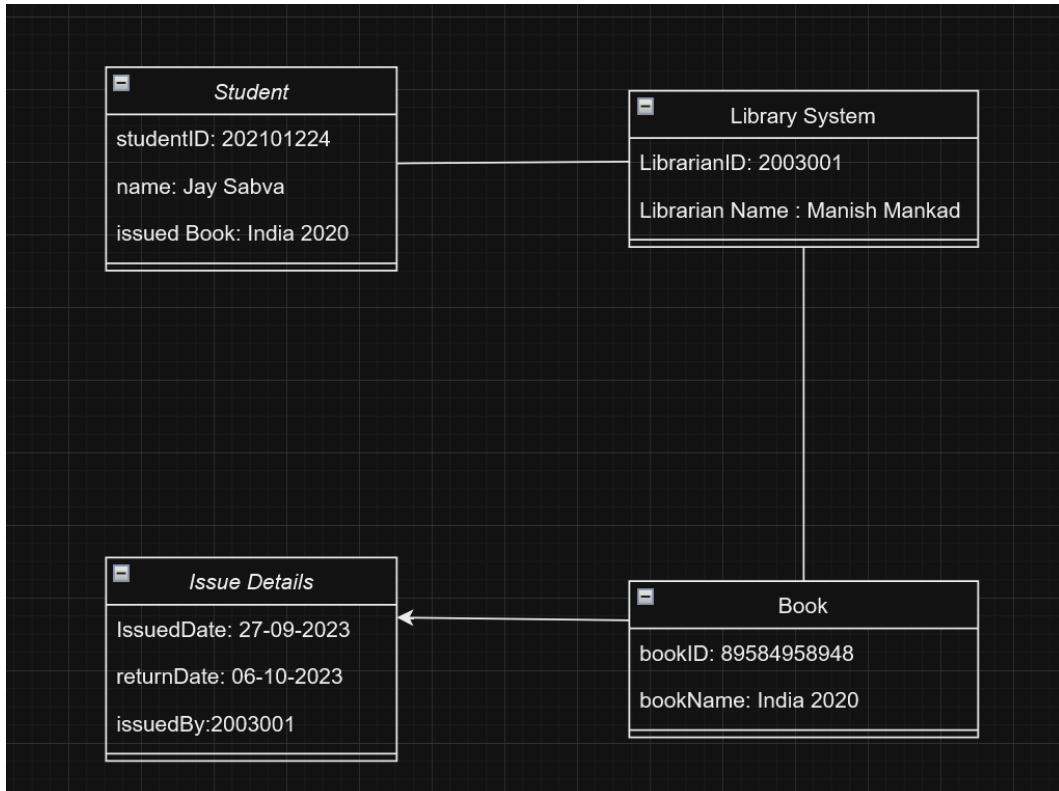- The system notifies the student and the librarian about the successful issuance.

Alternate Flow:

- The book is marked as issued to the student.

- If the user is not authenticated, the system notifies the librarian.

1.2 - Sequence Diagram

1.3 - Analysis Object Diagram

Problem 2

Sequence Diagram

Solution.