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# IT314 - Software Engineering



## Lab 7

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# 1 Library Management

Actors:

- 1) Registered student
- 2) Librarian

Use Cases:

- 1) Issue book
- 2) Return book
- 3) Calculate fine
- 4) Authenticate user

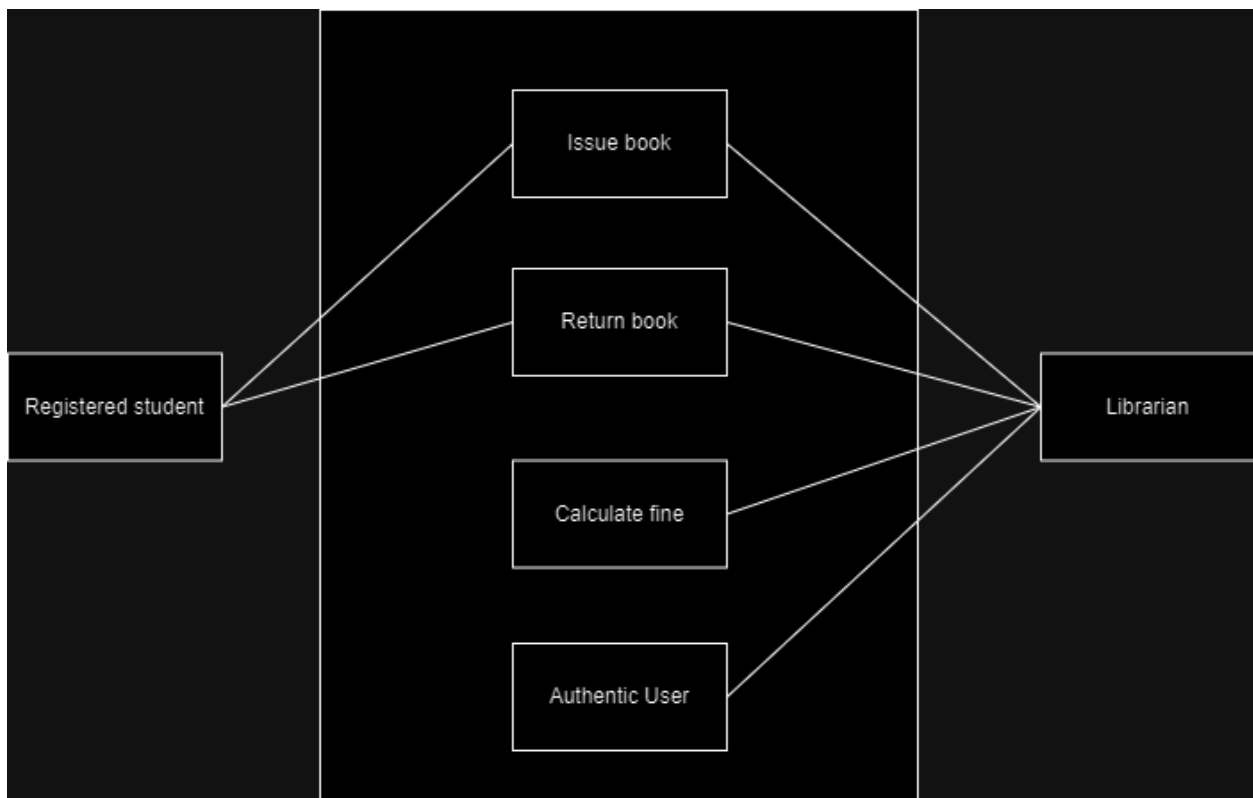


Figure 1: Use Case diagram

## **Use Case Documentation for "Issue book":**

**Use Case Name:** Issue Book

**Description:** This use case represents the process of a registered student borrowing a book from the library for a specified period.

**Primary Actor:** Registered Student

### **Preconditions:**

The registered student must be logged in and authenticated by the librarian. The book being issued must be available in the library. The student's account should be in good standing (no overdue books or fines).

### **Postconditions:**

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 (using "Authenticate User" use case). 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 about the successful issuance.

### **Alternate Flows:**

If the book is not available, the system notifies the student that the book cannot be issued at the moment.

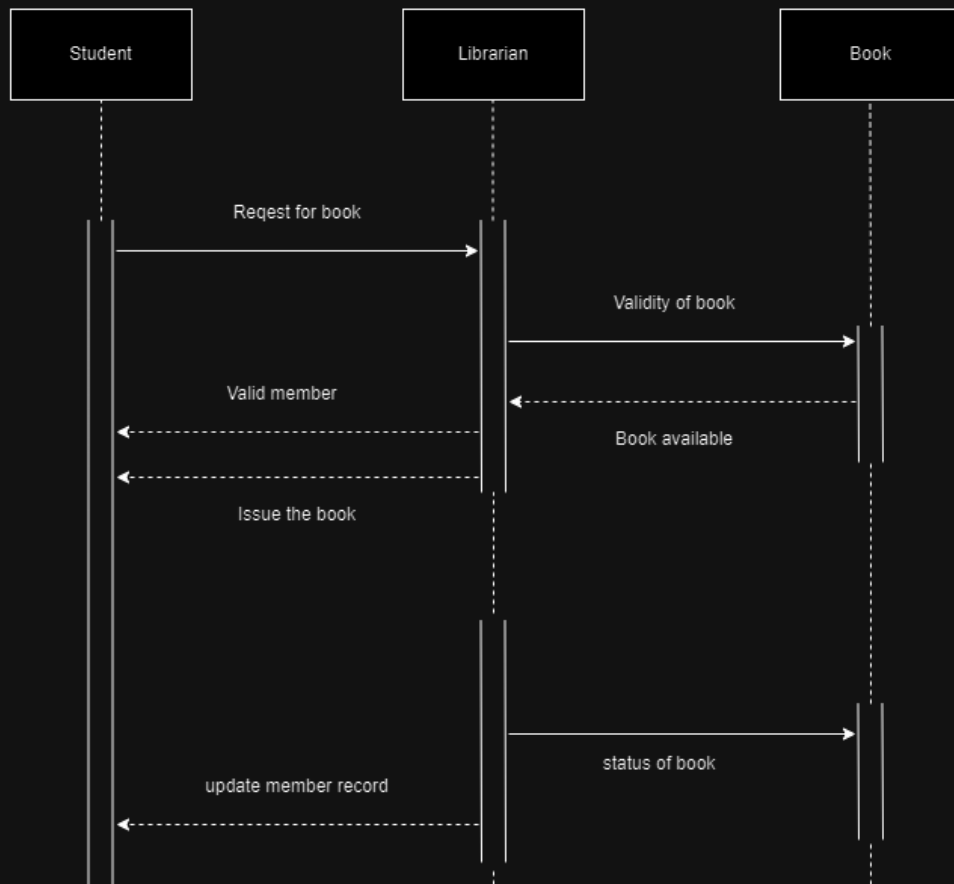


Figure 2: Sequence diagram

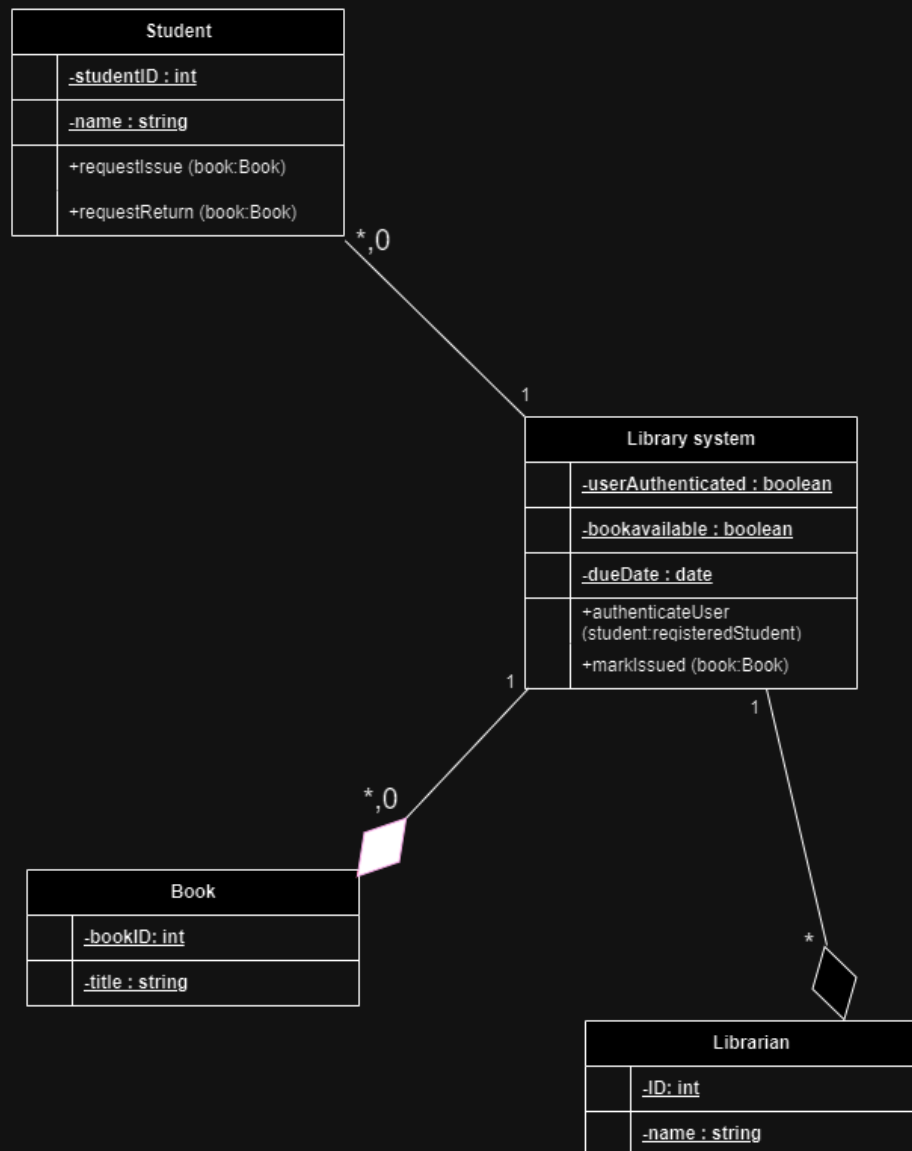


Figure 3: Class diagram

## 2 Exam Management

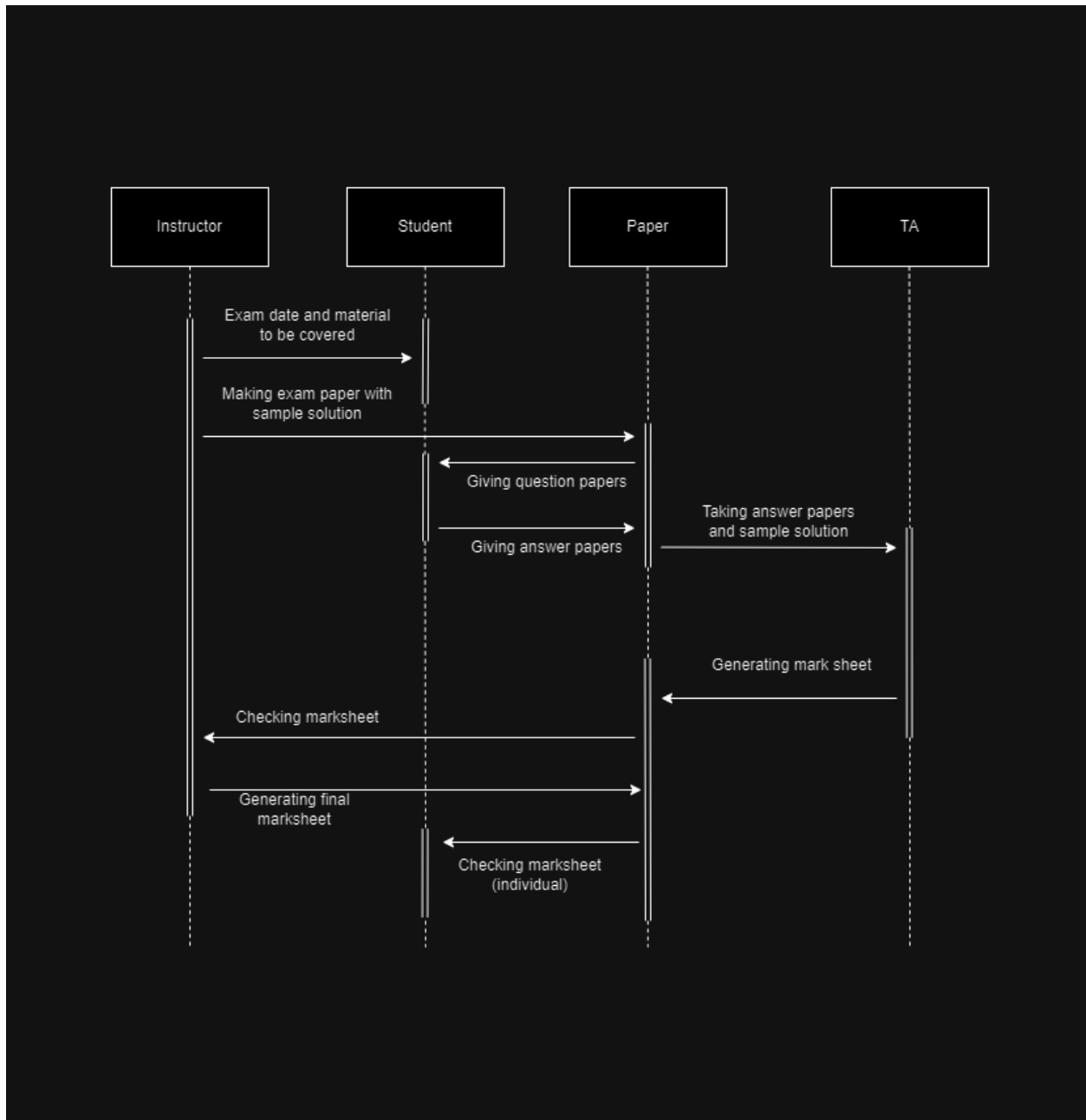


Figure 4: Sequence diagram