

IT314 Software Engineering

Lab 7

Course Instructor : Proff. Saurabh Tiwari



***Dhirubhai Ambani Institute of
Information and Communication
Technology***

Name :	BARAIYA BHAVESH HIMMATBHAI
Stud Id. :	202101241
Lab Group :	4
Date of Sub. :	2023.09.28

Question - 1

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

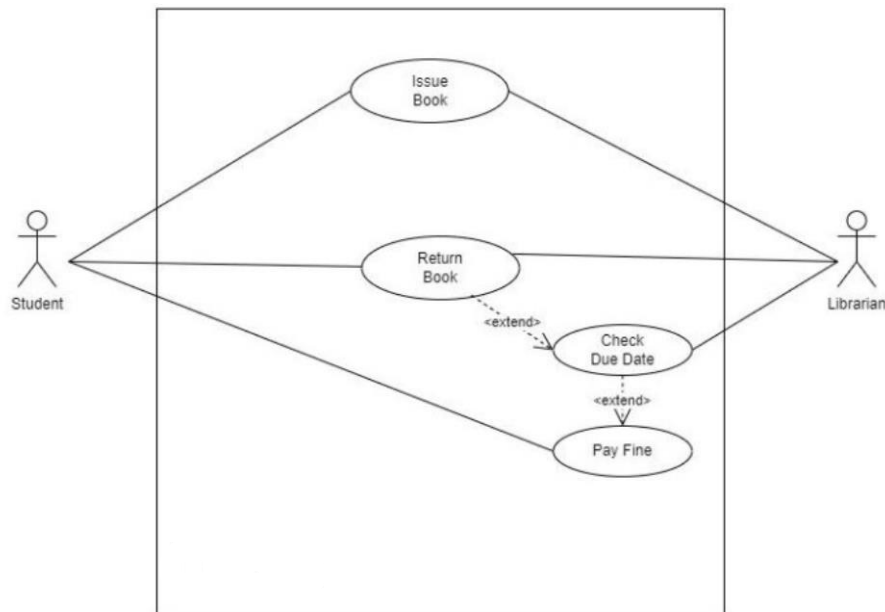


Figure : Use Case Diagram

Brief Description: This use case allows a registered student to issue a book from the library. It involves the following steps: selecting a book, verifying the student's identity, checking the availability of the book, issuing the book, and updating the library's records.

Actors: Student, Library System, Librarian

Preconditions:

1. The student must be registered with the library system.
2. The student must be logged in.

Main Flow:

1. The student selects a book from the library's catalogue.

2. The system verifies the student's identity and ensures that the student is eligible to issue books.
3. The system checks if the selected book is available for issuing.
4. If the book is available, the system records the book as issued to the student.
5. The system updates its records to reflect the issuance of the book.
6. The book is given to the student.

Postconditions:

1. The book is marked as issued to the student.
2. The student is responsible for returning the book within the specified period.
3. The system updates its records to reflect the issued book.

Alternative Flows:

Step 3a: If the selected book is not available, the system informs the student that the book is currently unavailable, and the use case ends.

Step 4a: If the student has reached their maximum allowable book limit, the system informs the student that they cannot issue more books until they return some, and the use case ends.

2. The sequence diagram for the “issue Book” use case.

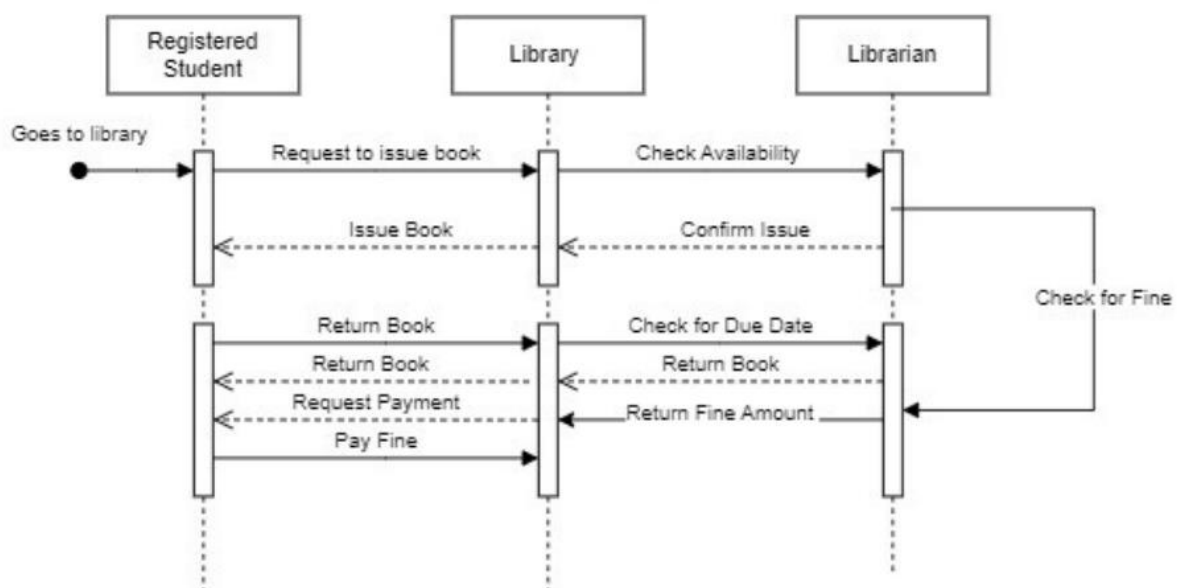


Figure : Sequence Diagram

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

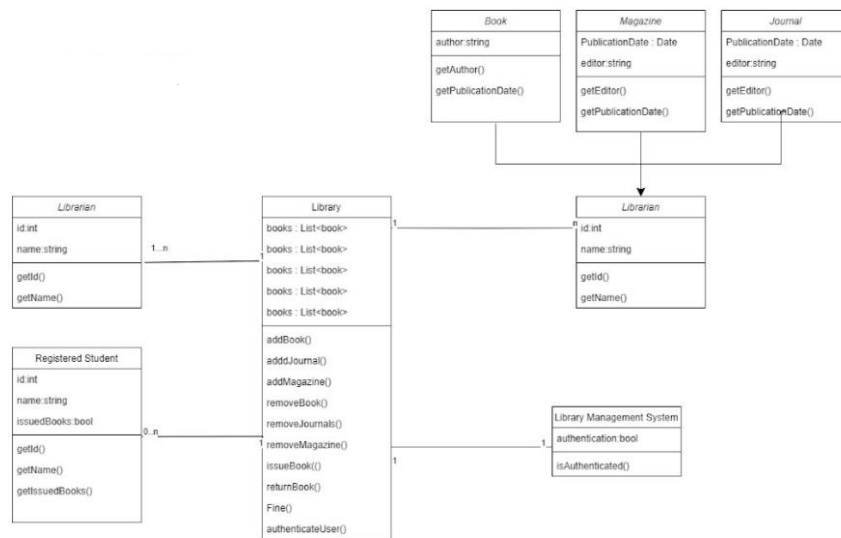


Figure : Analysis Object Diagram

Question – 2

Draw a sequence diagram that represents this process. Make sure to show when is each actor participating in the process. Also, show the operation that is carried out during each interaction, and what its arguments are.

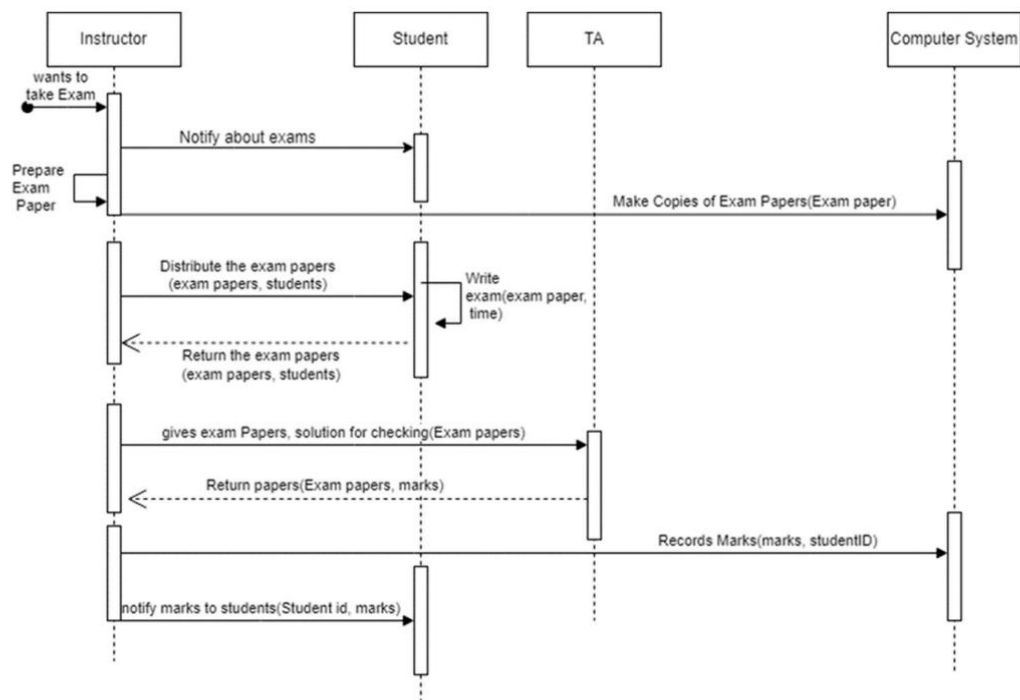


Figure : Sequence Diagram