



Dhirubhai Ambani
Institute of Information and Communication Technology

Renting System

Group 6

Subject: Software Engineering

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Domain Analysis Modeling & Sequence Diagram

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Q1.

“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.”

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

⇒ Library Management System

Actors: Student, Librarian, Library Database

Student:

- A. Student can login to the system
- B. Student can search the books
- C. Student can visit Librarian

Librarian:

- A. Librarian Check student is Registered or not.
- B. Librarian need to check whether a book is available or not.
- C. Issue book and input due date in system

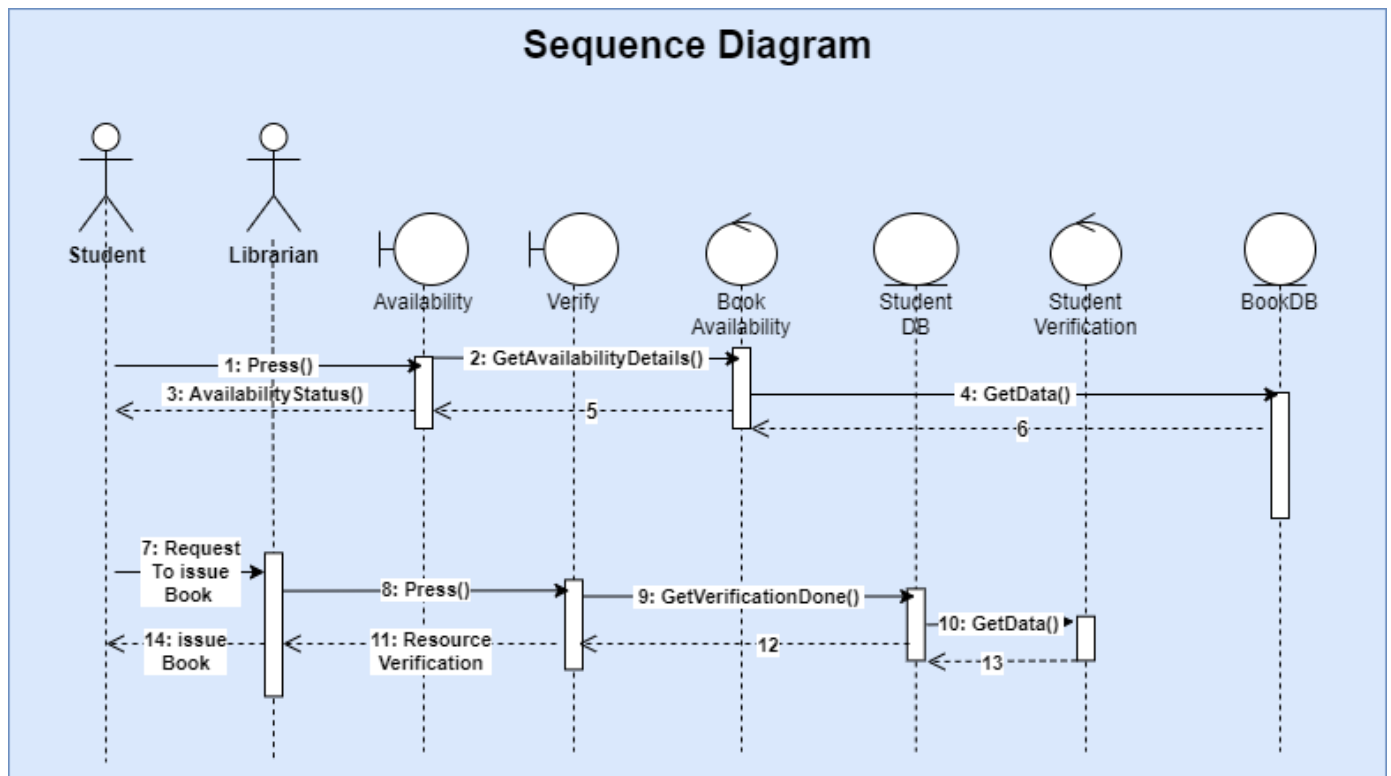
Precondition: The use should be registered and login is also required.

Postcondition: Book should be issued and every issued book should be signed with a due date.

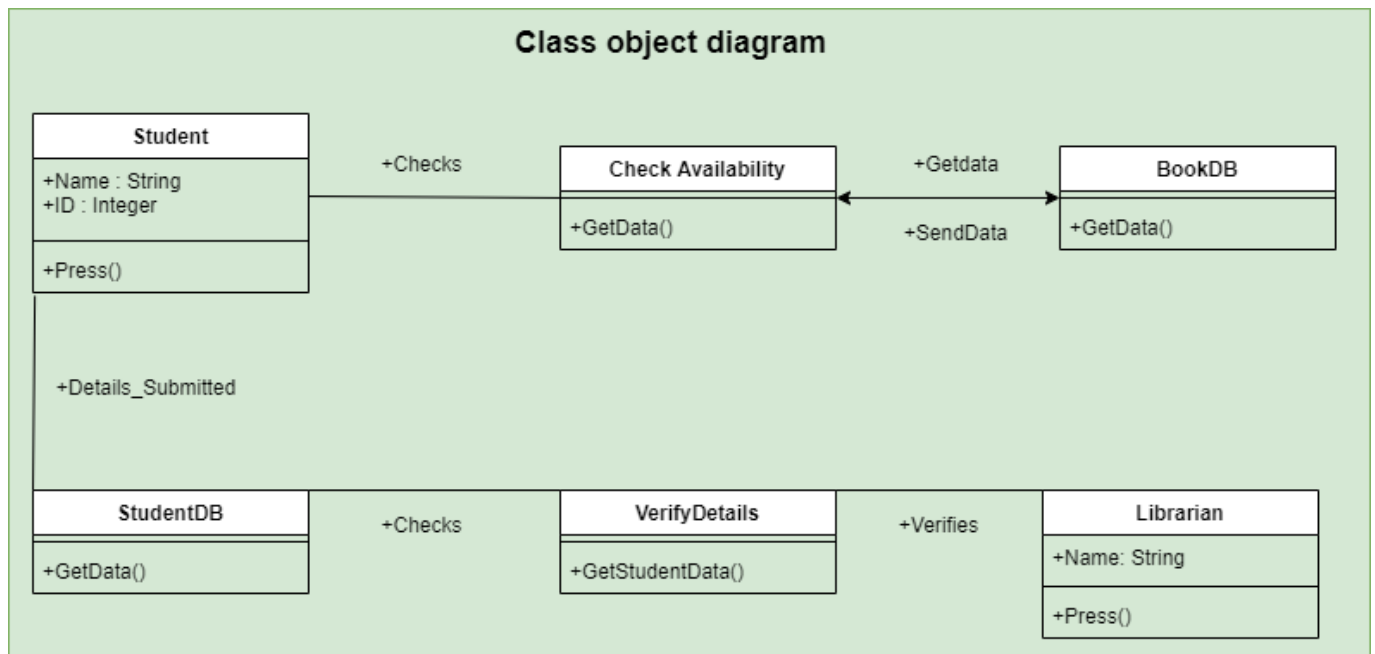
Description: The student would request to issue a book, first the student details would be verified, and then the availability of the book would be verified, if both are verified the book would be issued and the librarian would mark the due date. Otherwise, the request will be pending and the student will get an appropriate message.



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



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



Q2.

To give an exam, an instructor first notifies the students of the exam date and the material to be covered. She then prepares the exam paper (with sample solutions), gets it copied to produce enough copies for the class, and hands it out to students on the designated time and location. The students write their answers to exam questions and hand in their papers to the instructor. The instructor then gives the exam papers to the TAs, along with sample solutions to each question, and gets them to mark it. She then records all marks and returns the papers to the students. She then records all marks and returns the papers to the students.

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.

