

1. Library Management System

a. SRS Document:

SRS Document:

- 3. Library management system
- 4. stock maintenance system
- 5. Passport automation system.

Library Management System

1. Introduction:

1.1 Purpose of the Document:

The purpose of this document is to provide insights on Library Management System (LMS) its requirements, attributes and budget.

1.2 Scope of the Document:

The document provides the comprehensive description of LMS, the development of this system is to make the process smoother and the budget required is 25 Lac and the time taken to develop is 6 months.

1.3 Overview:

The Library Management System acts as the facilitator of all process that a Library faculty take care of and have a digital copy of the Library stock to make the custom experience smoother.

2. General description:

The LMS has 3 parts/functions:

1. provides

Library Management Front:

This feature is used by the Library staff to organize books and keep the track of the location, price, no. of genre & other such details of the book.

Customer Front:

This feature is used by the customer to find the books in the Library. The customer can check availability of book, borrowing rate, price etc and also renew their subscription to the Library through this domain.

Library - Customer Interaction front:

This domain is used by the Library staff to see which book is borrowed by the customer, due date, fine to be paid, renewal etc.

Additional Requirements:

The Library staff and the customer should be able to login through a special no. assigned to them. & part The customers can use their Library card no. & the Librarians through their employee no. & pwd. The Librarian must be able to enter the details of the book & the no.

of books & update accordingly. to the DB
 - The customer should be able to search for books & also borrow them & return them.
 - The Librarian must enter the details of the customer & the book borrowed by the customer & receive the payment & fine if necessary.
 - The customer should be able to renew the borrowed book & also chose to renew their library membership if they want to do so.

4. Interface requirements:

The system should be developed for Windows system only using Java/JSP Object oriented coding language and an SQL based application for maintaining the Database.

5. Performance Requirements:

The search algorithm must perform fast and take about 5sec to search for books.
 The response time data entered to the system must be stored immediately without any effect.

6. Design Constraints

Only 75 customers & 20 Librarians must be able to use the system at a time.
 The hardware used to store data must be SSD drive and must have a secure storage also.

The search algorithm used should have time complexity of $O(\log n)$ or lower.

7. Non functional Requirements:

The encrypted details must be encrypted using RSA - 2048 algorithm.
 Only the Librarian must be able to modify the details of books.
 While registering a book borrowing customer only the Cust ID must be used.
 either of the class of user must not be able to see the others details.
 A backup of the database must be taken at all times.

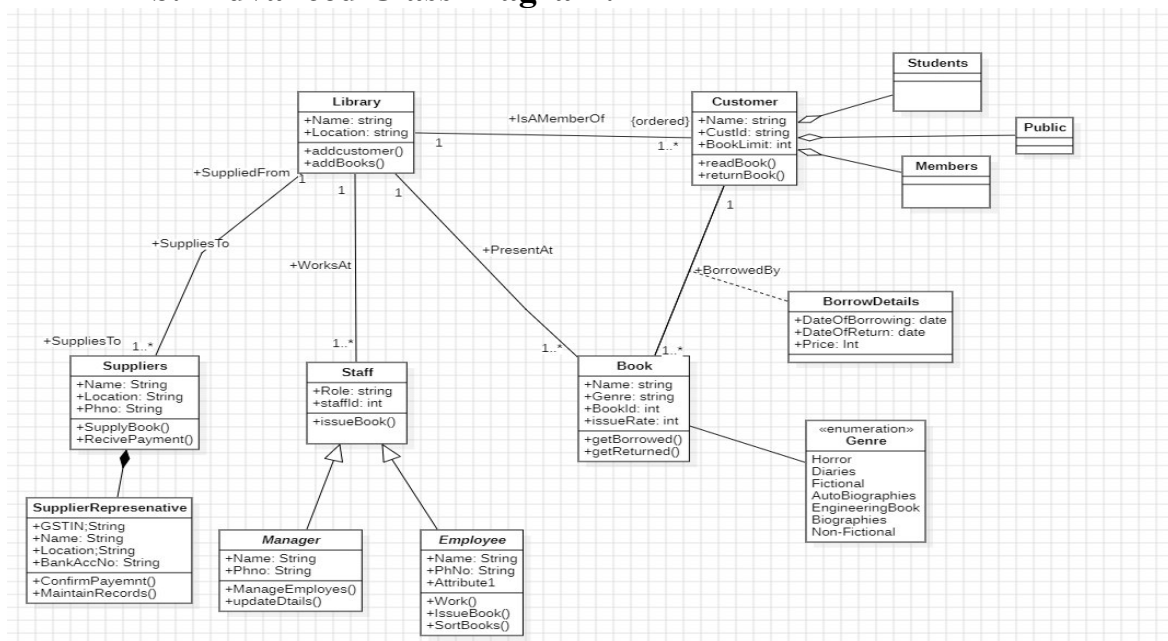
8. Preliminary schedule & Budget:

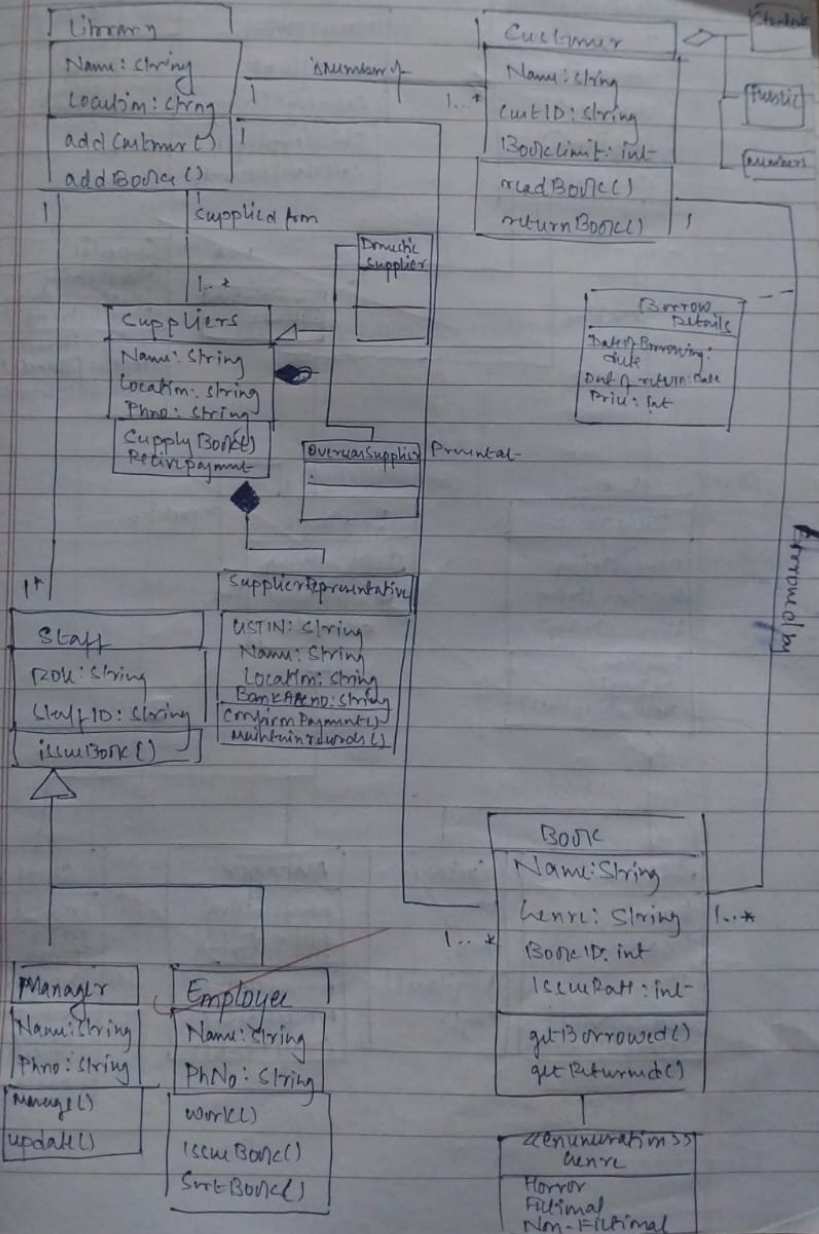
The project will be executed with a budget of ₹5 Lacs out of which ₹1 Lacs will be used to procure library.

The time taken to implement is 6 months.

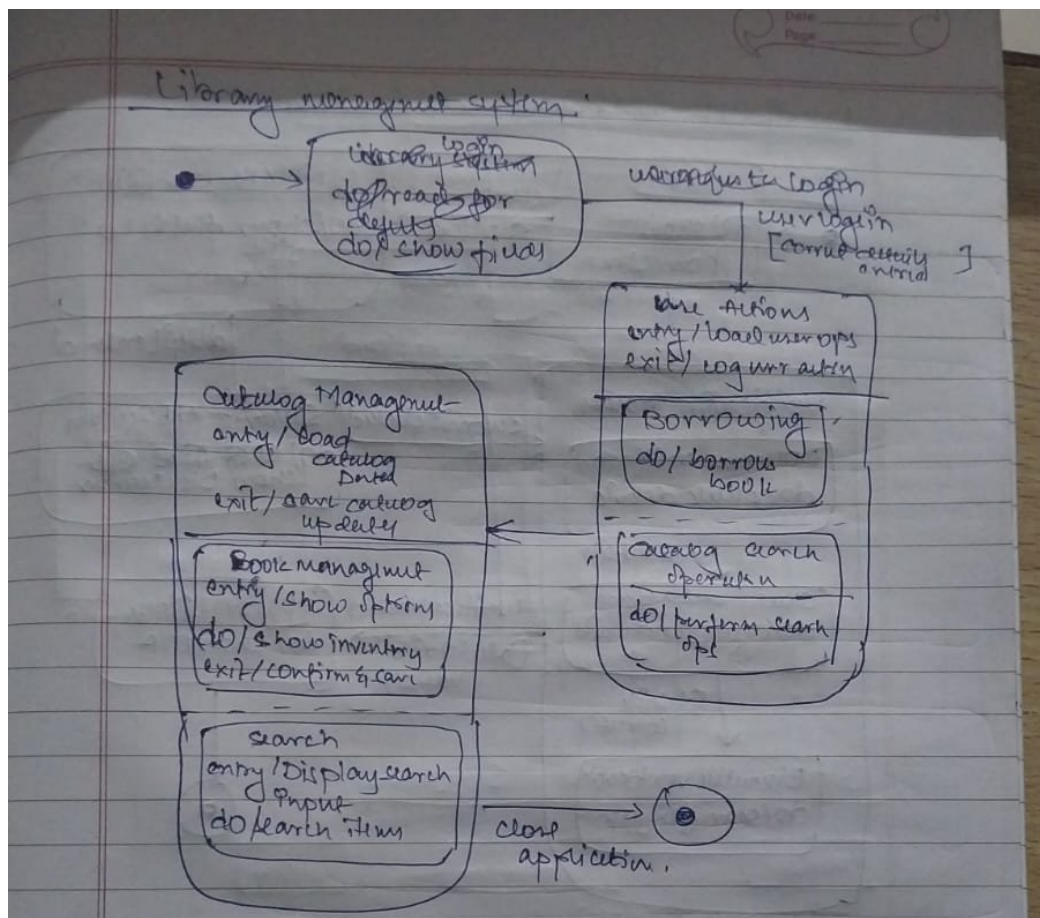
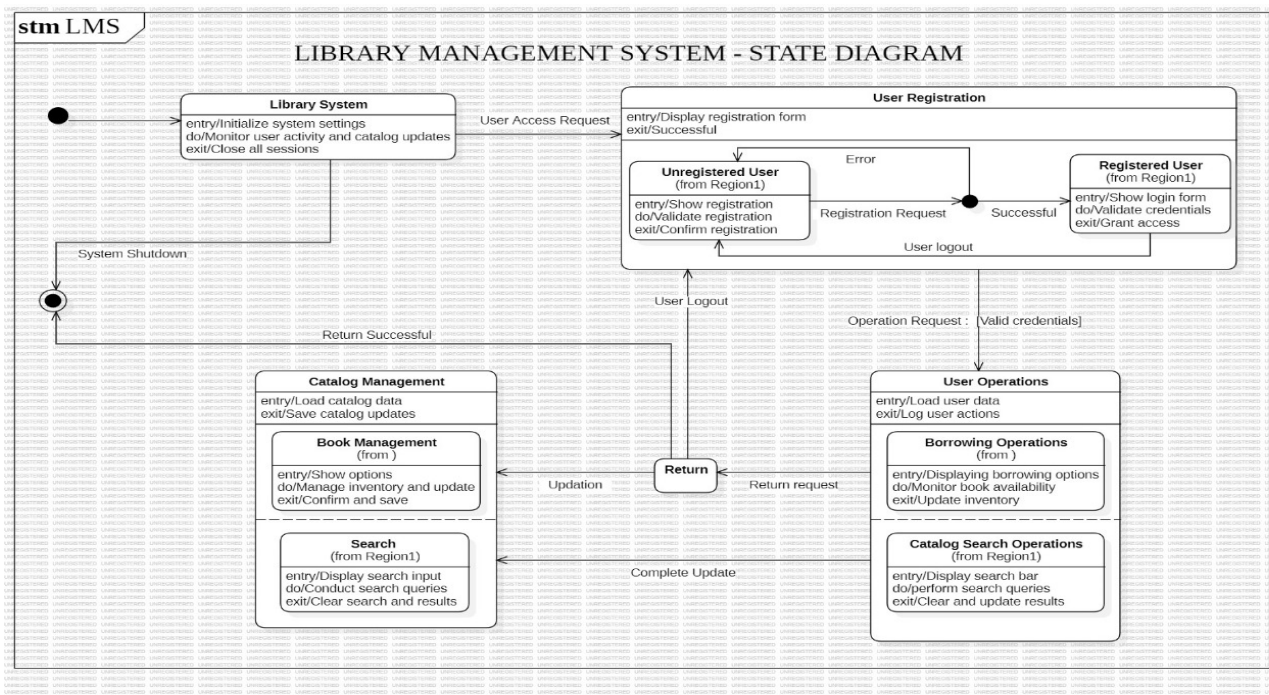
From 1st Month - Develop Library management
 1 - 1.5 month - Testing & entering of data
 1.5 - 2.5 month - Develop Customer interface
 2.5 - 3.5 month - Testing & Data entry
 3.5 - 4.0 month - Develop library Customer interaction
 4.0 - 6.0 month - Testing, integration & Deployment

b. Advanced Class Diagram:

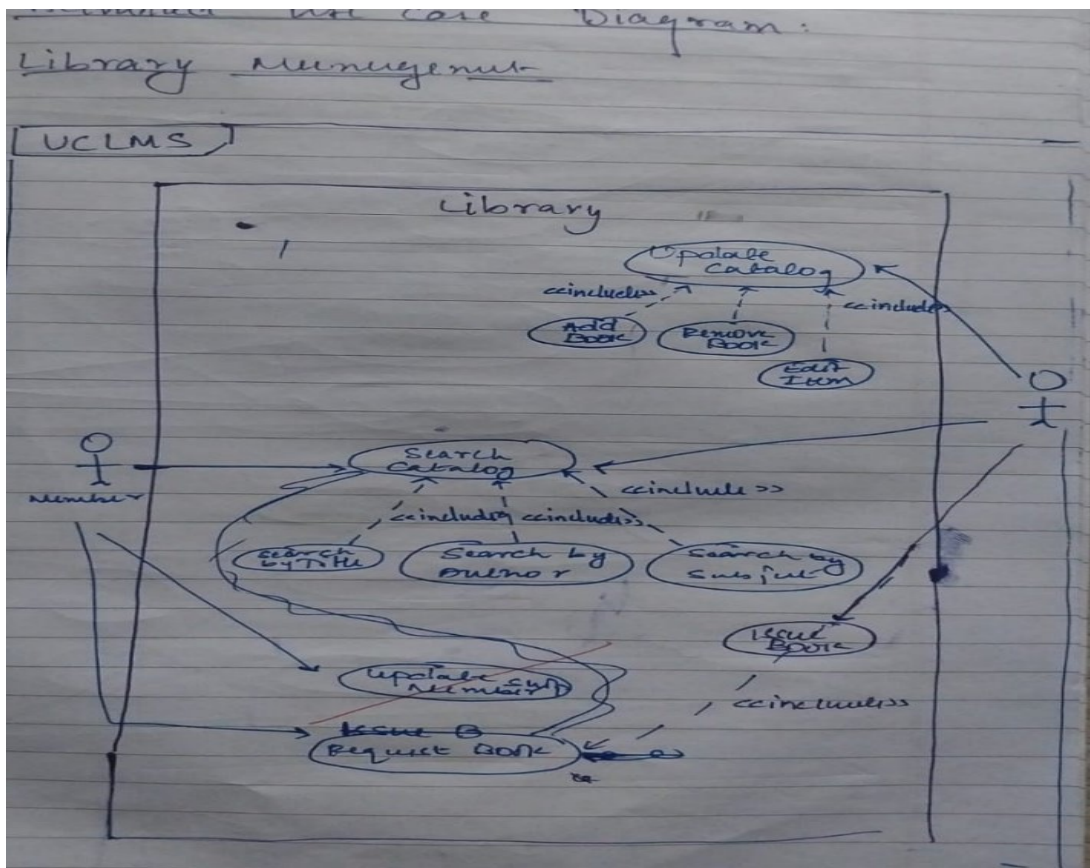
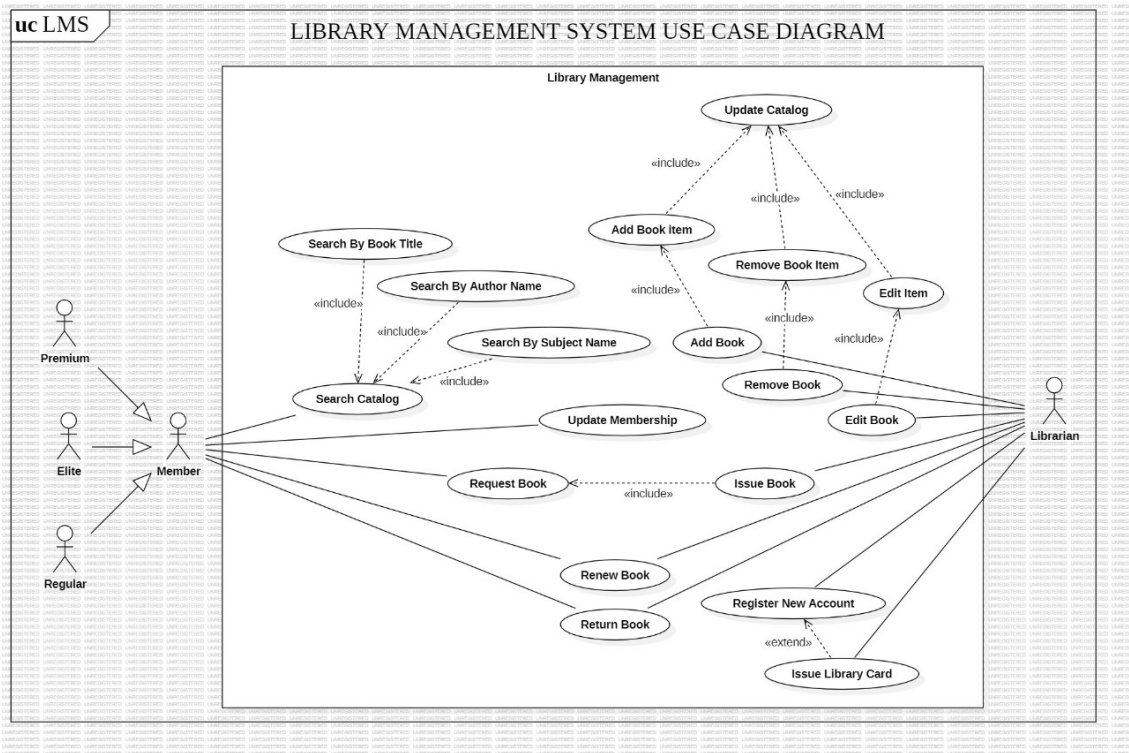




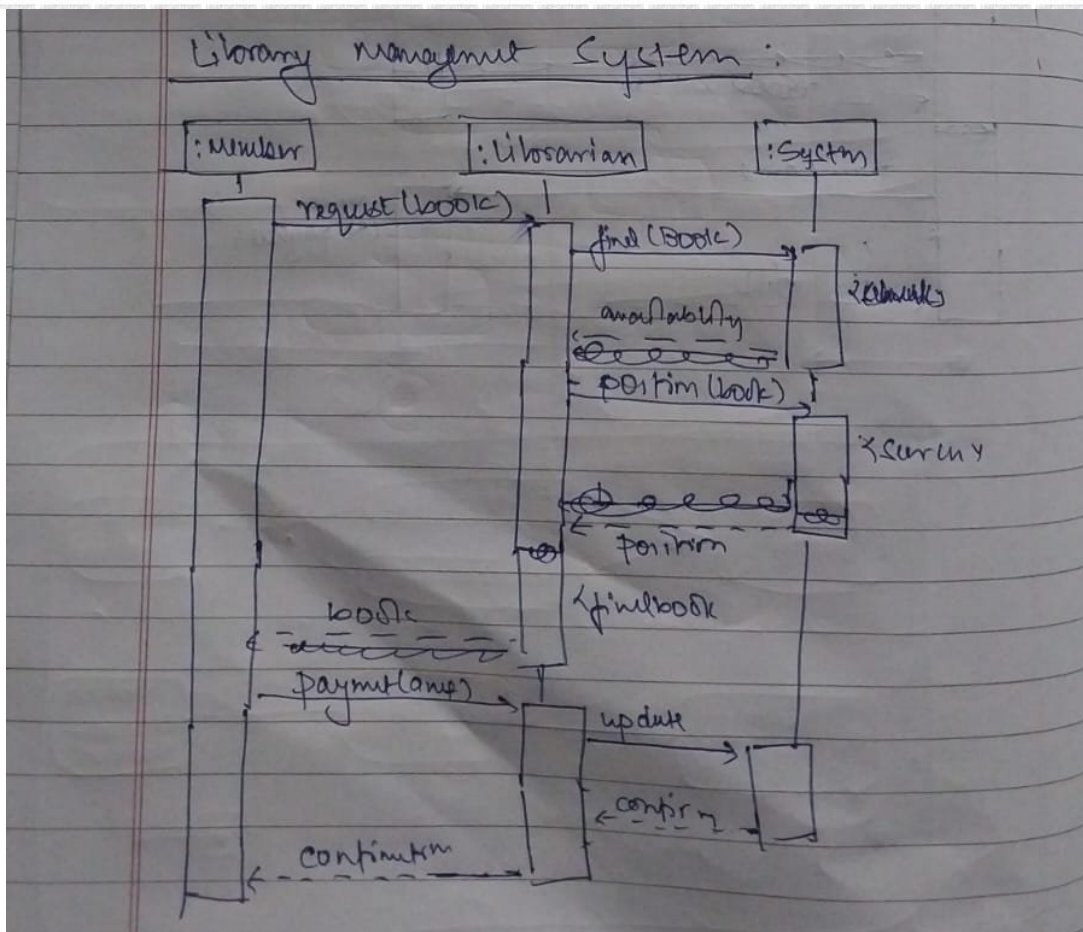
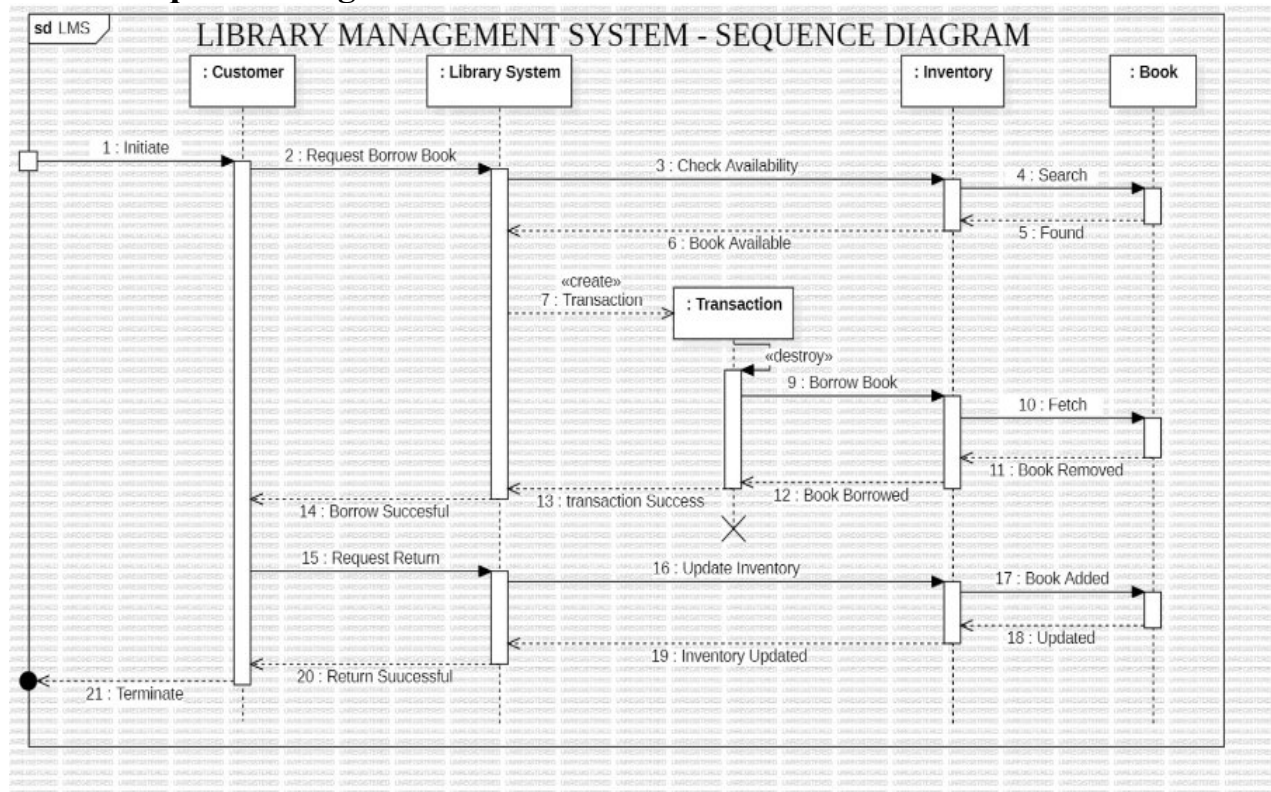
c. Advanced State Diagram:



d. Use Case Diagram:



e. Sequence Diagram:



f. Activity Diagram:

