

MIDTERM PROJECT

**ONLINE LIBRARY
MANAGEMENT SYSTEM**

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Introduction

The project “ Online Library Management System” is developed in , which mainly focuses on basic operations in a library like adding new member, new books, and updating new information, searching books and members and facility to issue and return books. Using this application user can issue books and can look for the book either it is available in library or not.

Every software development methodology approach acts as a basis for applying specific frameworks to develop and maintain software.

Several software development approaches have been used since the origin of information technology. These are:

- **Waterfall**: a linear framework
- **Prototyping**: an iterative framework
- **Evolutionary**: a combined linear iterative framework
- **Spiral**: a combined linear framework
- **Rapid application development (RAD)**: an iterative framework
- **Extreme Programming**

CASE STUDY

As the name suggests, the library management system project is related to the storage of information regarding the library. Library is the place with the huge collection of books. It is place from where the students and the faculties issue the books for their reference purposes. But the maintenance of keeping the records of issuing and borrowing is difficult if you use a normal book as a registry. To make this task easier, the library management system will be very useful. It helps in maintaining the information regarding the issuing and borrowing of books by the students and the faculties. The library management system case study gives the case study of the library management system.

The students and the faculty will be able to issue the books from the library. There will be different limitations on the number of days that the books can be renewed for. If the library management system is implemented it will help the librarians in simplifying the work. In the case of libraries with huge collection of books it will be difficult in locating the position of the book. It will be helpful in simplifying the work at the library. The project can have the following features:

- **Book id:** This is a unique id through which the book can be tracked.
- **Borrower:** It is the person who will borrow the book from the library.
- **Issuer:** The person who issues the book like the librarian.
- **Date of issuing:** It is the date that will be recorded on which the book will be issued.
- **Date of return:** It is the date on which the particular book will be returned.
- **Fine:** Extra amount received for the late return of the book.

OBJECTIVE

- a) To build a system that can receive input and generate automatically output in easy way and short time.
- b) To build a monitoring system that is able to monitor and manage all library operations efficiently.
- c) Give an opportunity to librarians to reduce mistakes that always happen during manual method.
- d) To store properly the library items in order to maintain their security.
- e) To enter and preserve details of the various issues and keep a track on their returns

REQUIREMENT SPECIFICATION

Functional Requirements :

- **Librarian Login:** Librarian can login and access the required information.
- **Security:** No normal user should be able to login except the librarian
- **Update member information:** Librarian can update the bill for payment of fine, the number of books issued ,any change in personal details.
- **Update book details:** Librarian can add new book details and also change the status of the book (whether **available** or notavailable).

Non-Functional Requirements :

- Secure access of confidential data (user's details).
- Better component design to get better performance at peak time
- Flexible service based architecture will be highly desirable for future extension.

System Requirements :

Hardware Requirements :

To develop or implement this project we need different types of hardware configuration for server and client.

The Client Machines: -

Processor	RAM	Hard Disk
Intel Pentium III or AMD-800 MHz	128 MB	100 MB

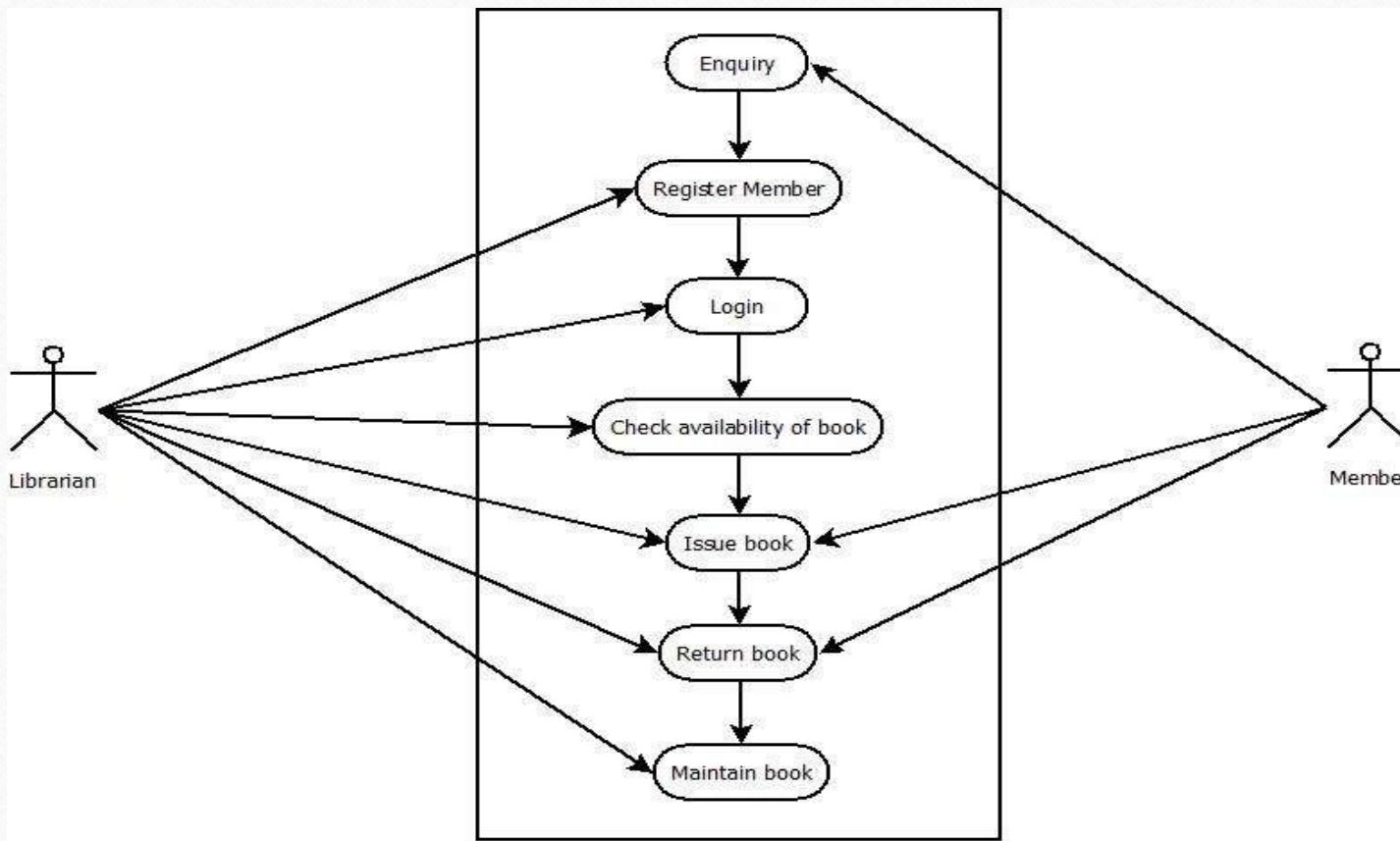
The Server Machines: -

Processor	RAM	Hard Disk
Intel Pentium III or AMD-800 MHz	512 MB	300 MB

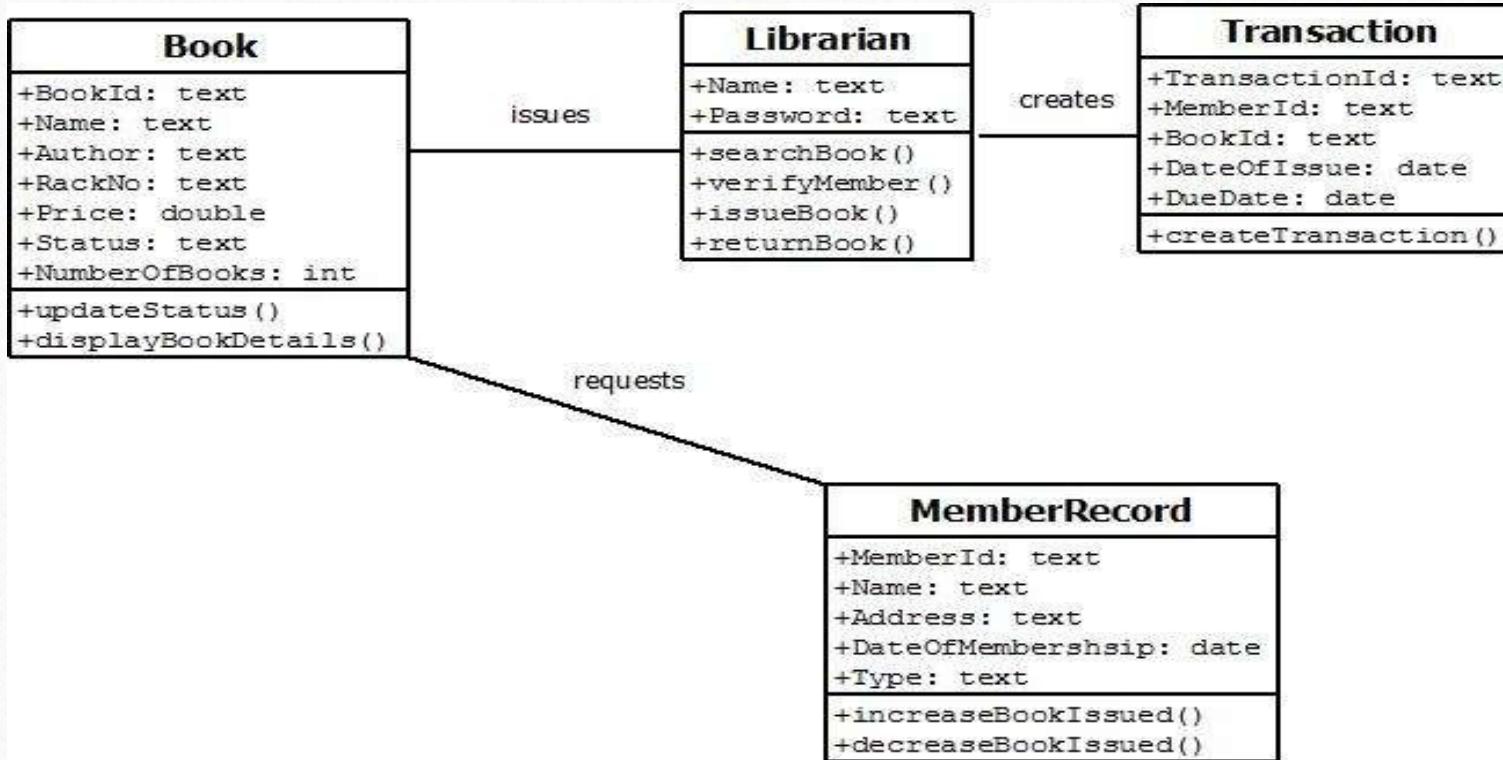
Software Requirements :

- JAVA
- Eclipse/NetBeans
- MySQL

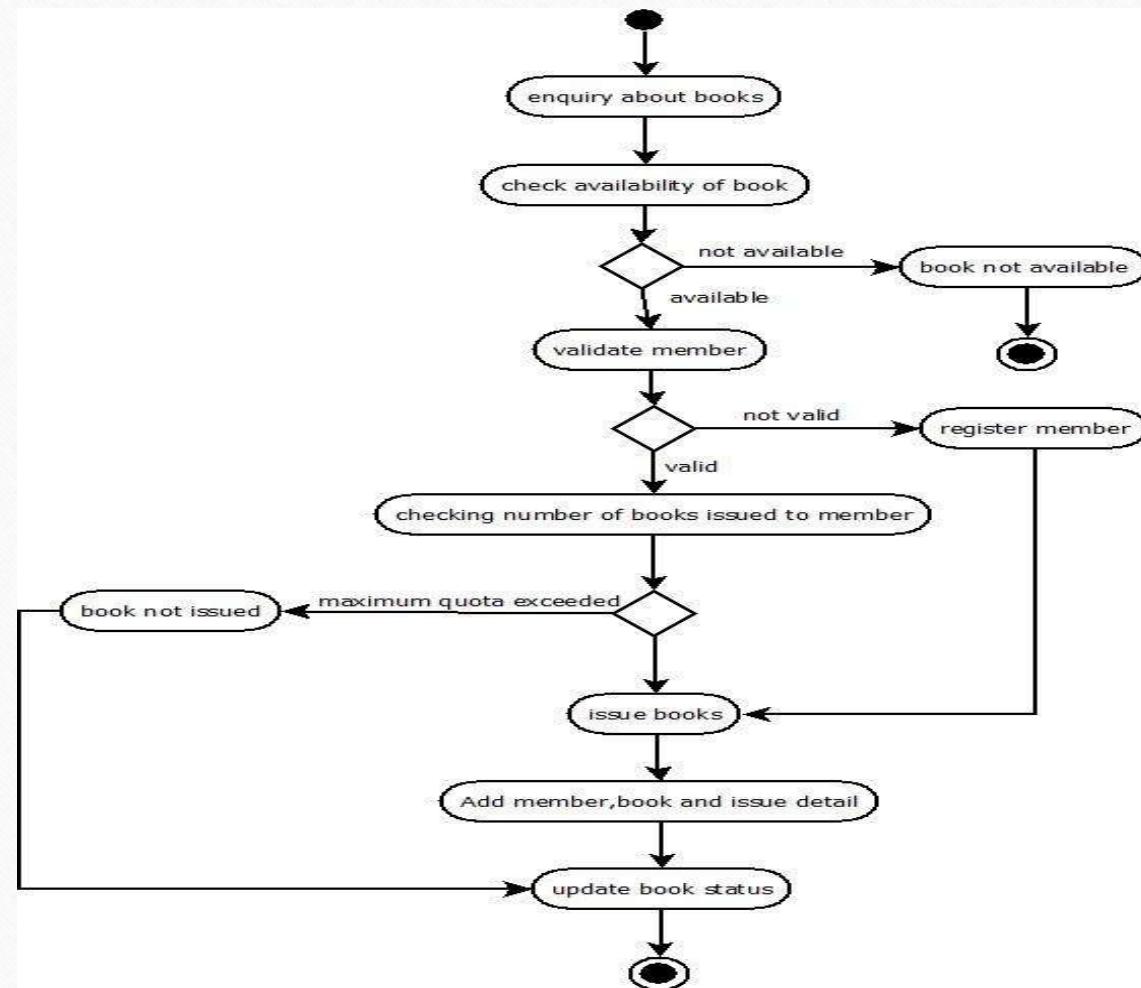
USE CASE DIAGRAM



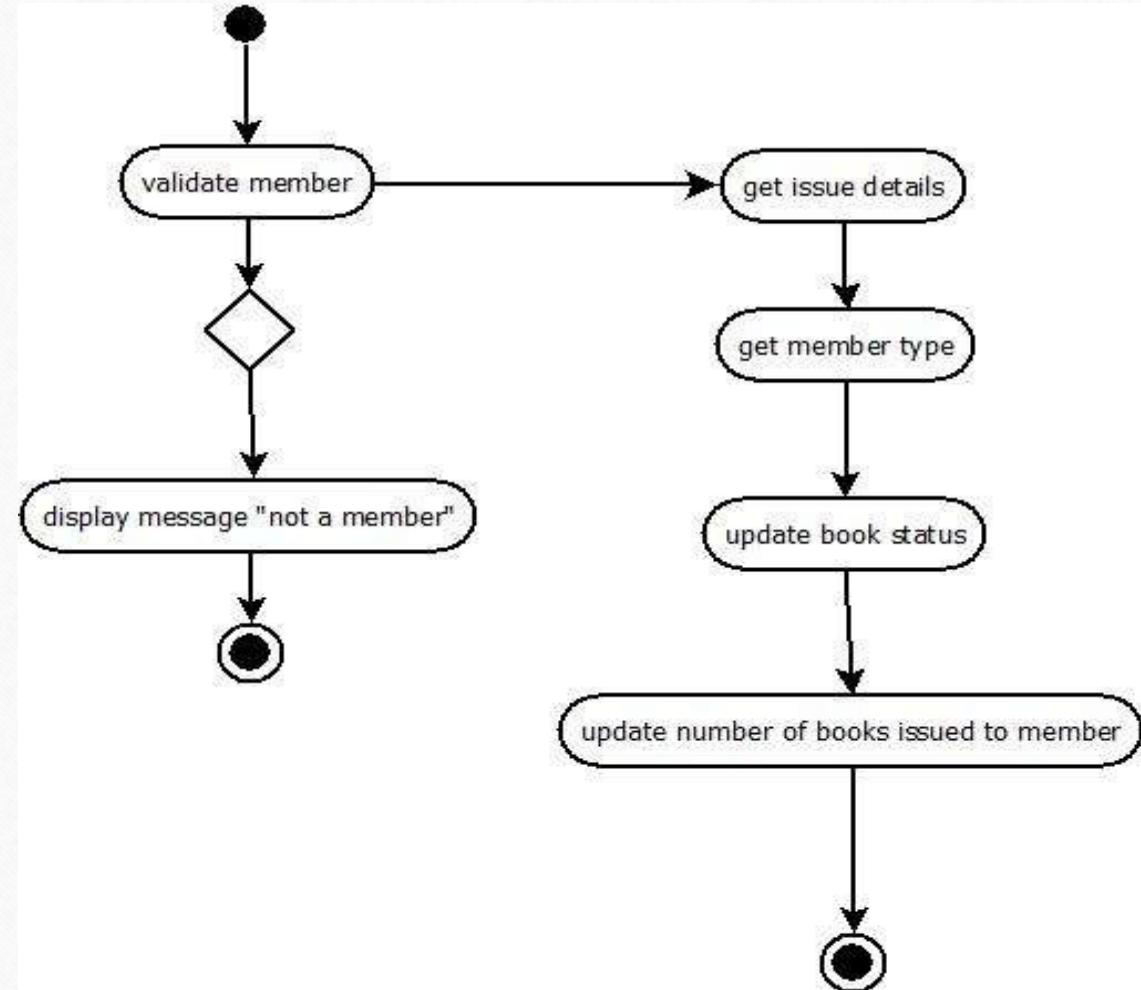
C L A S S D I A G R A M



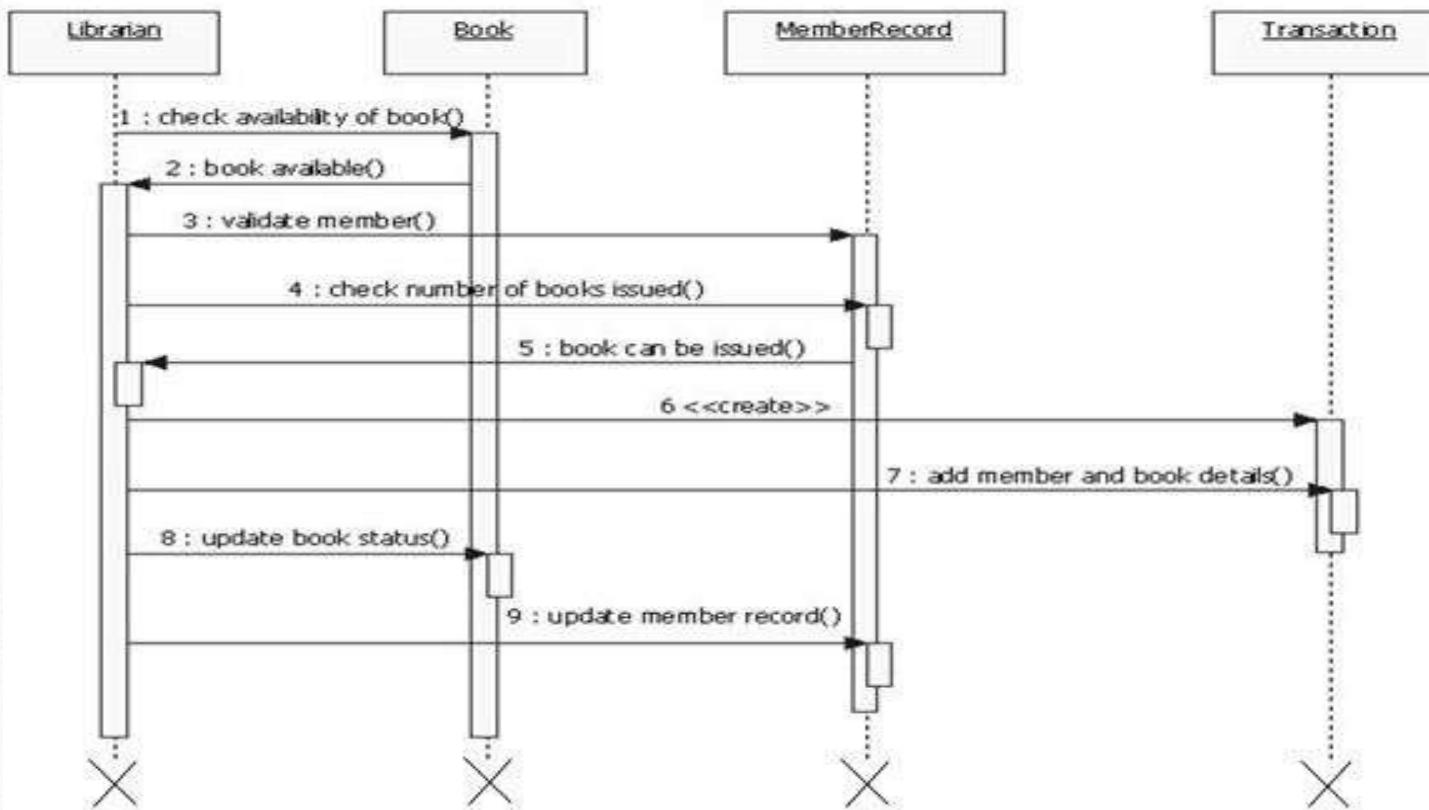
Activity diagram for issuing book in library



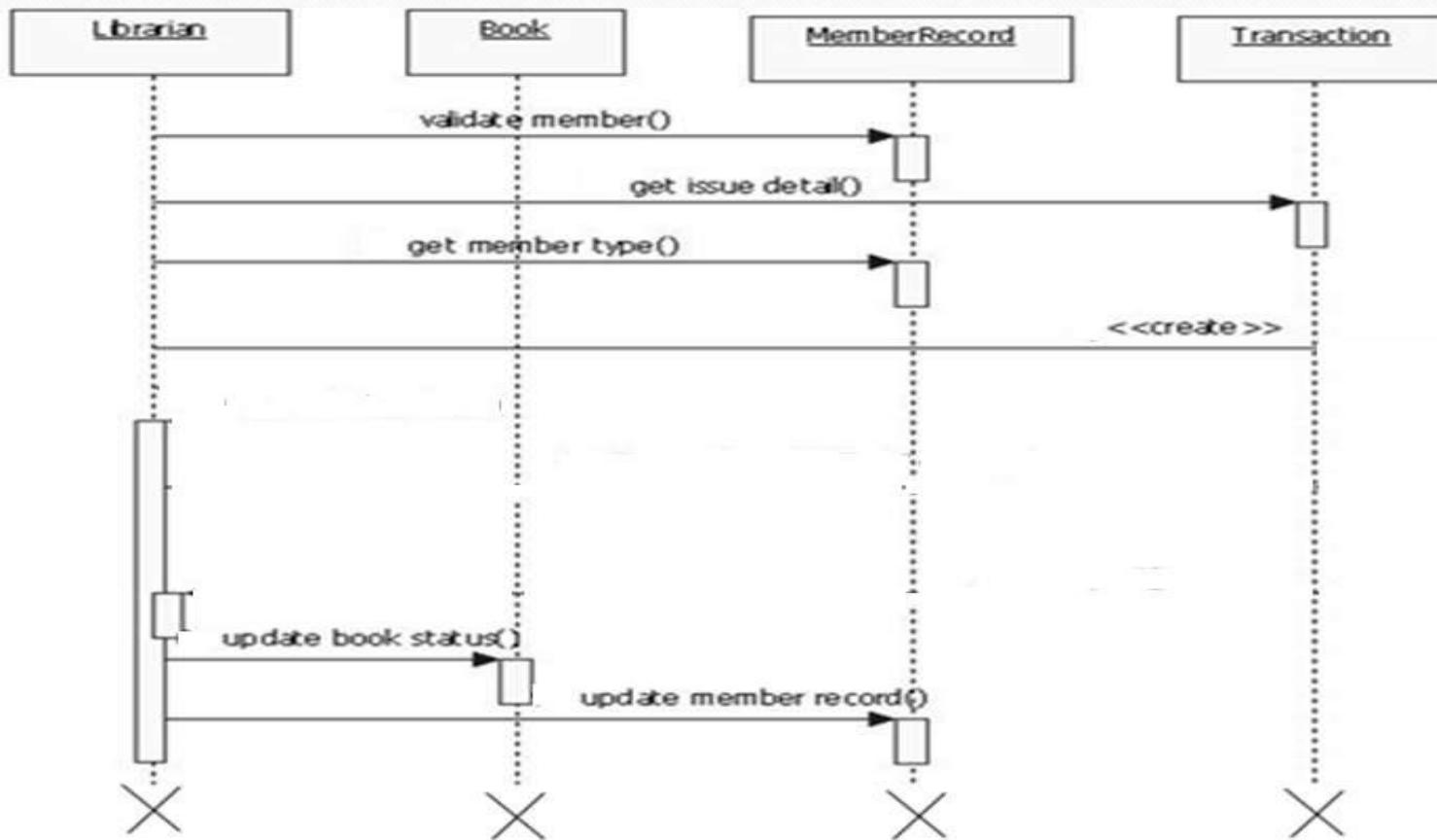
Activity diagram for returning book in library



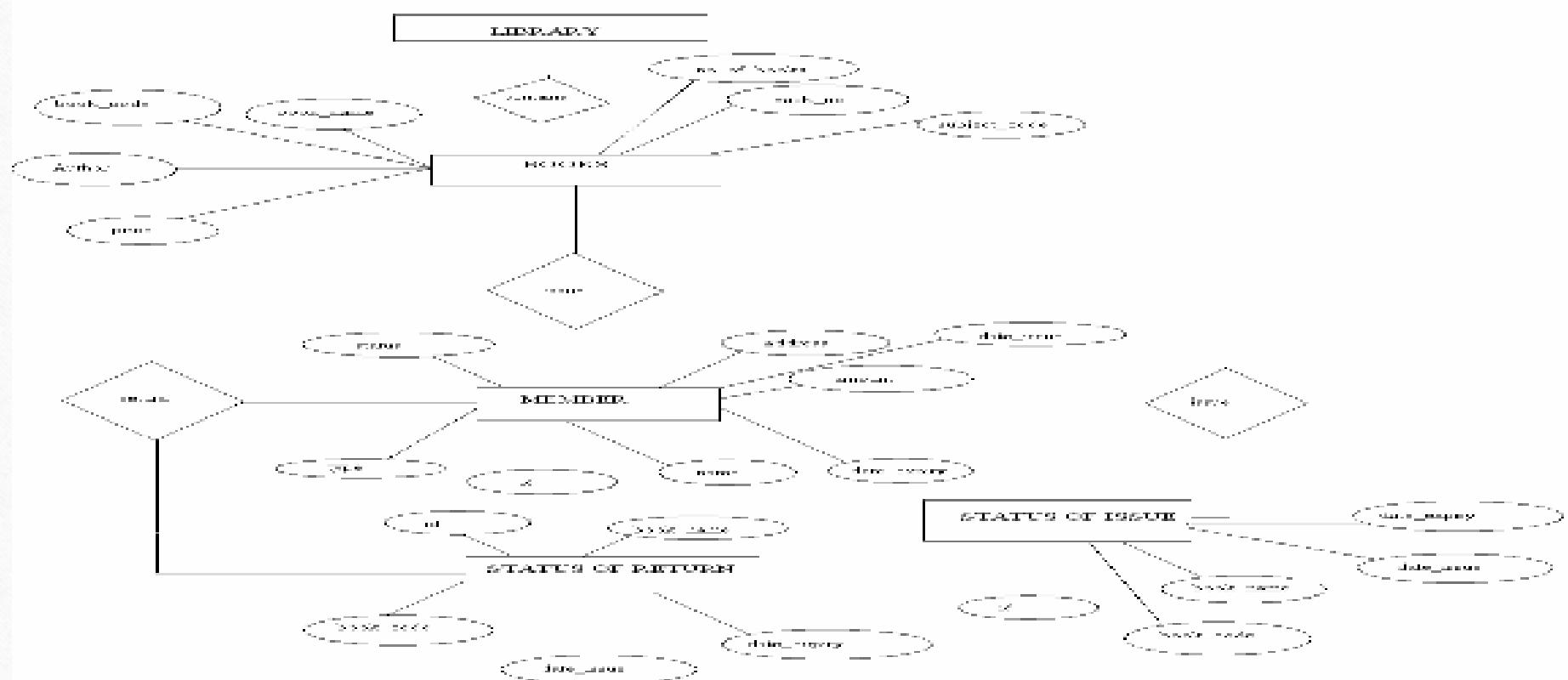
Sequence diagram for issuing book



Sequence diagram for returning book



ER - DIAGRAM



Application

- User friendly.
- Highly flexibility.
- Highly secure.
- Risk reduction.
- Inventory and stock management
- Complete reports.
- No filling errors.

Conclusion

- From a proper analysis of positive points and constraints on the component, it can be safely concluded that the product is a highly efficient GUI based component. This application is working properly and meeting to all user requirements. This component can be easily plugged in many other systems.

References

- Creately and lucidchart for diagrams
- Wikipedia
- W3schools.com

Thank you
