

Software Requirements Specifications *for* **LIBRARY MANAGEMENT SYSTEM**

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Chapter 1:

1. INTRODUCTION

With the increase in the number of readers and also in the number of books, better management systems of libraries are required. This ***Library Management System*** focuses on improving the management of a Library, particularly in a university. “What if you could check whether a book is available in the Library through a simple interface?”. The integrated *Library Management System* provides you the ease of issuing, returning, or reserving a book from a Library within your campus through a simple application.

The purpose of the project is to maintain the details of books and members of a Library in a structured way. The principal motive is to maintain an easy circulation system between the individuals who use the Library and the management staff that comprises members and the Librarian. The fundamental tasks that form the foundation of this application are issuing, returning, and reserving a book; analyzing the popularity of books, and maintaining the histories of all activities that are associated with some of these.

This document describes the hardware and software interface requirements along with UML diagrams. The document gives a detailed description of the both functional and non-functional requirements proposed by the client.

INTERFACE REQUIREMENT

USER INTERFACES

- LOGIN INTERFACE

On the *homepage* of the application, there should be three modules through which a *Librarian* and a *member* can respectively sign in. The *log-in page* should ask for *Library ID Code* from the users along with their respective passwords to sign in successfully.

- SEARCH INTERFACE

The search criteria should include a search by book's *title*, *author* and *ISBN code number*. A hybrid/mixing of two search criteria need not be implemented, i.e, for a particular search query, exactly one search criterion out of the three should be used.

- LIBRARIAN'S CONTROL PANEL

When the *Librarian* logs into her account, she should have certain modules displayed on the *first page*. Modules for each of the following interfaces must be available.

- *Register a new member*
- *De-register an existing member*
- *See popularity of certain books*
- *See all currently issued books*
- *See all books issued in the past*
- *See all current members of the Library*
- *Reset password*

- MEMBER'S CONTROL PANEL

When a *member* logs into her account, she should have certain modules displayed on the *first page*. Modules for each of the following interfaces must be available.

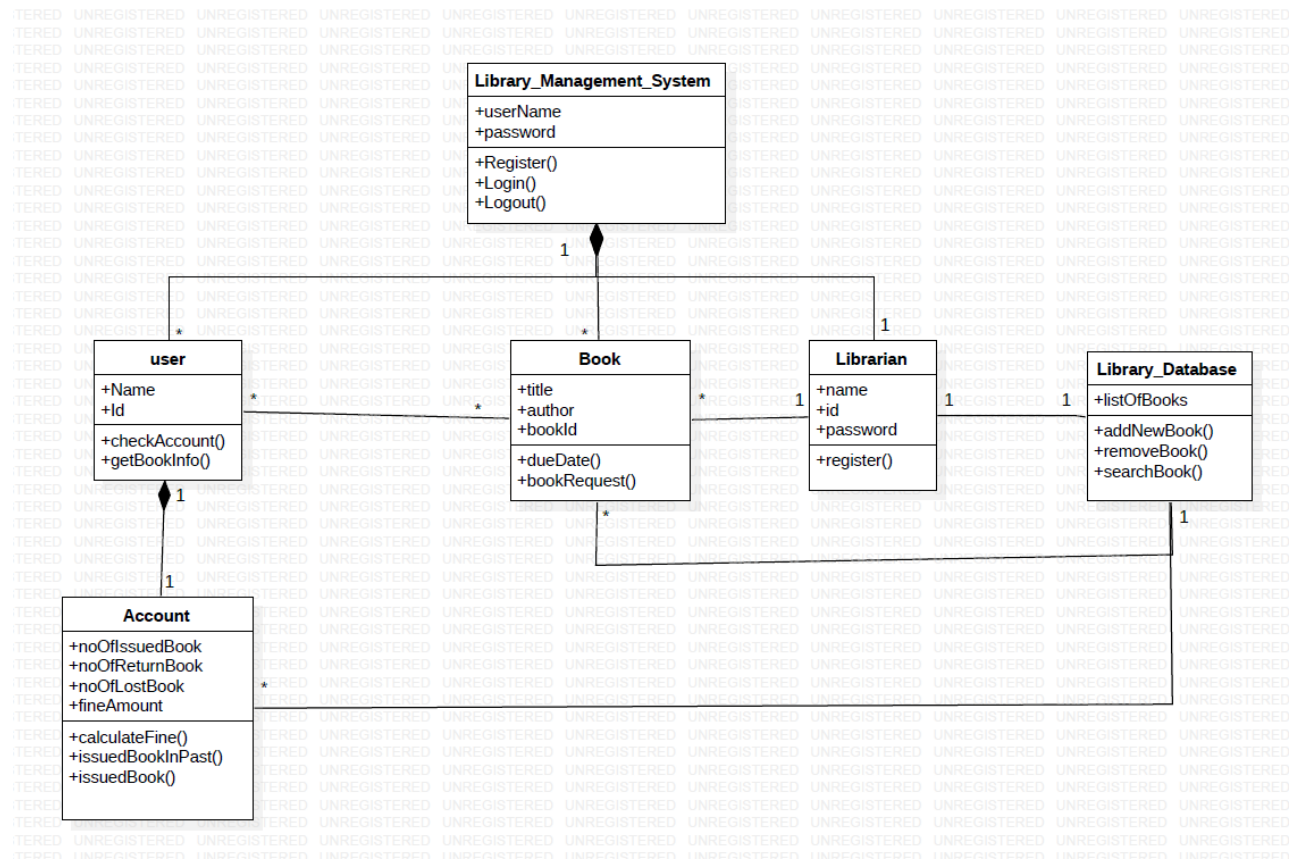
- *Show messages*
- *Show currently issued books –*
- *Show books issued in the past --*
- *Reset password –*

| User Interface | Database Table | Interface Type |
|-----------------------------------|---|--|
| <i>Login</i> | <i>Accounts, Administrators FacultyMembers, NonFacultyMembers</i> | <i>Read-only Read-only Read-only only Read</i> |
| <i>Search Book</i> | <i>Catalogue</i> | <i>Read-only</i> |
| <i>Register</i> | <i>FacultyMembers NonFacultyMembers</i> | <i>Write (Insertion) Write (Insertion)</i> |
| <i>See Currently Issued Books</i> | <i>BooksCurrentlyIssued</i> | <i>Read-only</i> |
| <i>See Books Issued In Past</i> | <i>BooksIssuedInPast</i> | <i>Read-only</i> |
| <i>Reset Password</i> | <i>Administrators FacultyMembers NonFacultyMembers</i> | <i>Write (Update) Write (Update) Write (Update)</i> |
| <i>Issue Book</i> | <i>FacultyMembers NonFacultyMembersMessage Catalogue BooksCurrentlyIssued ReservedBooks</i> | <i>Write (Update) Write (Update) Write (Insertion) Write (Update) Write (Insertion) Write (Deletion)</i> |
| <i>Return Book</i> | <i>BooksCurrentlyIssued BooksIssuedInPast ReservedBooks Catalogue, Messages</i> | <i>Write (Deletion) Write (Insertion) Write (Update) Write (Update) Write (Insertion)</i> |
| <i>Pay Fine</i> | <i>BooksIssuedInPast Messages</i> | <i>Write (Update) Write (Insertion)</i> |
| <i>Add New Book</i> | <i>Catalogue</i> | <i>Write (Insertion)</i> |
| <i>Remove Book</i> | <i>Catalogue</i> | <i>Write (Deletion)</i> |

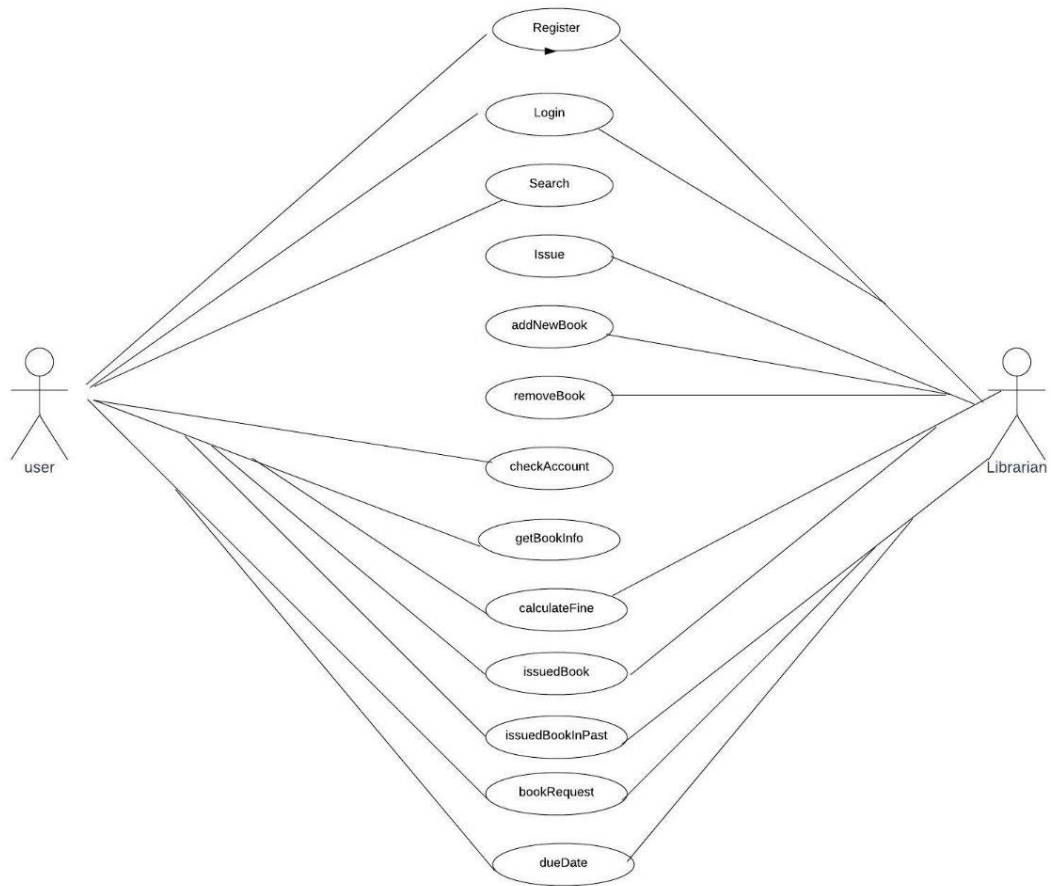
Chapter 3:

Analysis Modelling:

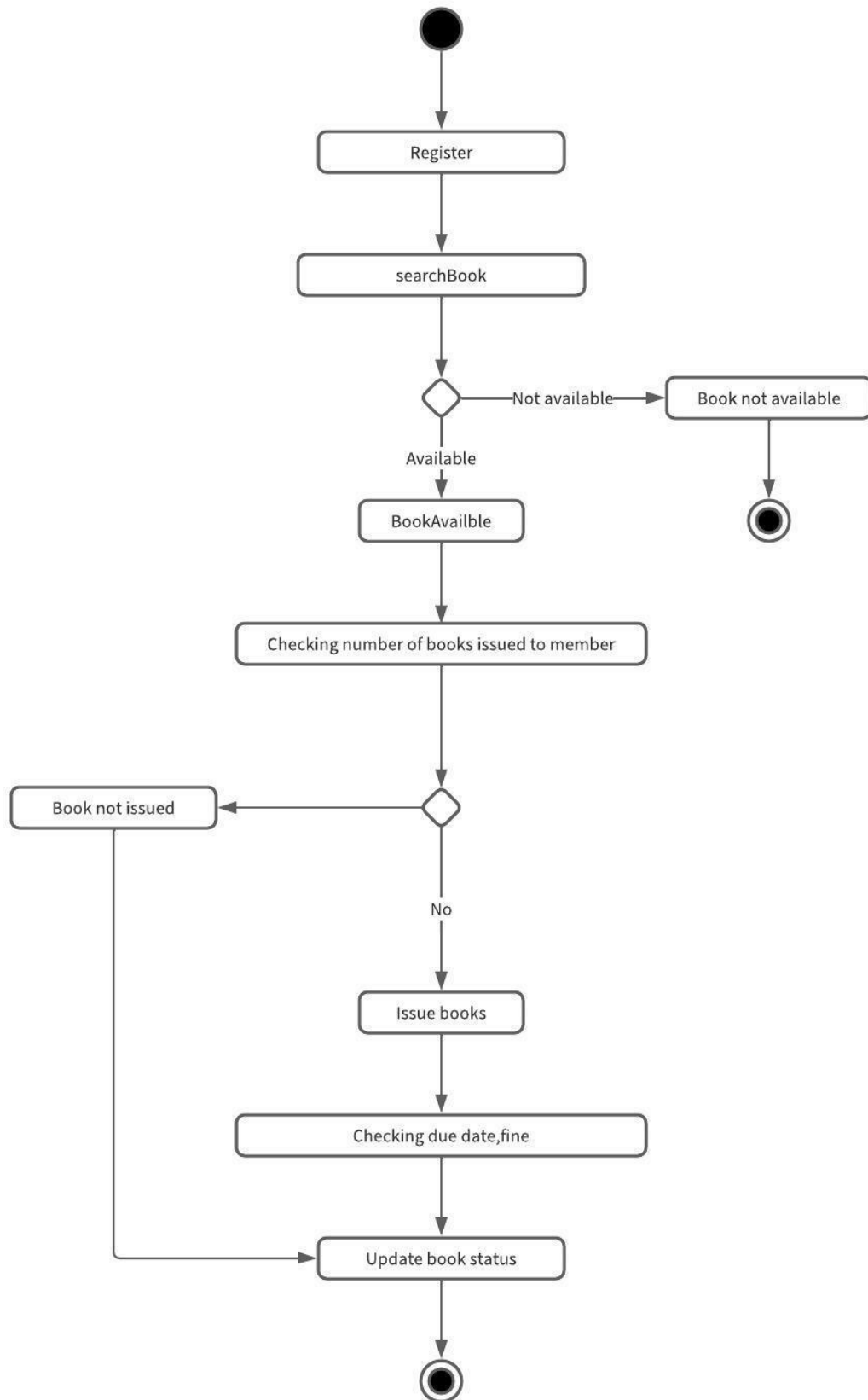
CLASS DIAGRAM:



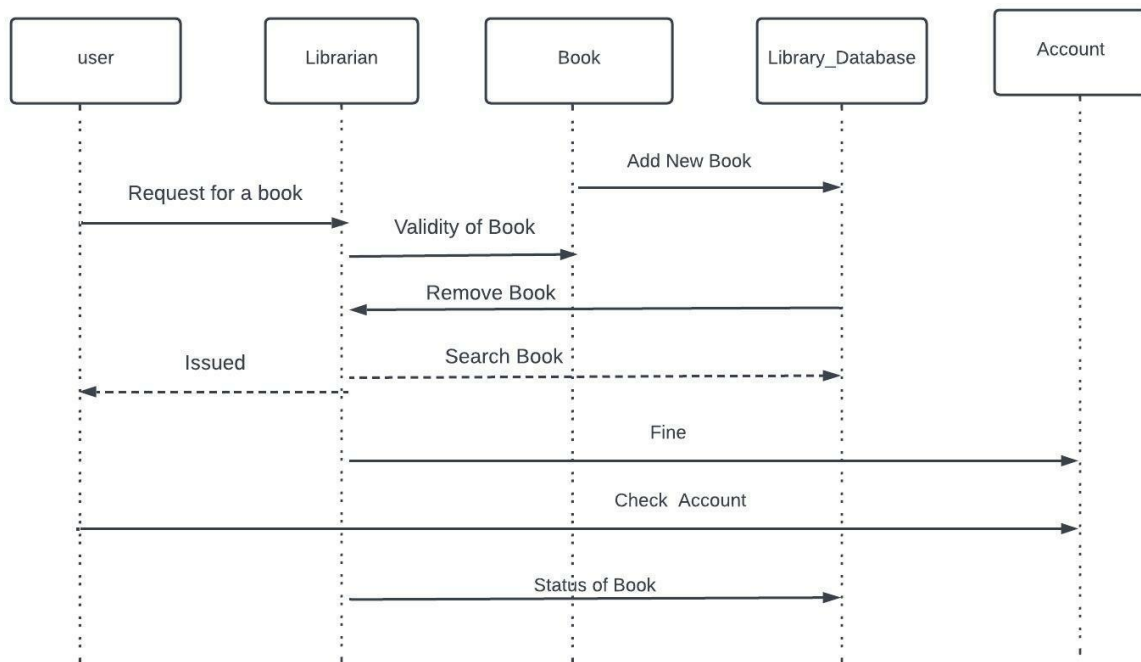
USE CASE DIAGRAM:



STATE DIAGRAM(ACTIVITY DIAGRAM):



SEQUENCE DIAGRAM:



COMPONENT DIAGRAM:

