

PROJECT REPORT
ON
LIBRARY MANAGEMENT SYSTEM

B.Tech (CE) Sem-IV
In the Subject of
Software Project (CE-419)

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CERTIFICATE

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Abstract

Library is important part of society. It is helping people to educate about world , science , arts and many more knowledge.

1. Introduction

1.1 Introduction of Library Management System

A library management system is a software that manages and stores books information electronically according to readers needs. The system helps both readers and library manager to keep a constant track of all the books available in the library. It allows both the admin and the reader to search for the desired book.

Features of Library Management System :-

- It removes manual process of issuing books by easy and simplified way of issuing book saving time and effort
- The librarian can issue, return and reserve book for a particular student through the software's interface
- The software automatically shows fine levied by automatically counting days from the date of issue in case of late return of the book
- Add, update, search and view library items online
- It is user-friendly software
- Keep record of complete info of a book like title, author name, publisher name etc.

1.2 Technology/Platform/Tools Used

Django:

Django is an open-source python web framework used for rapid development, pragmatic, maintainable, clean design, and secures websites. A web application framework is a toolkit of all components need for application development.

2. Software Requirement Specifications

Library Management System

USERS OF THE SYSTEM:

- 1) Librarian
- 2) Reader

FUNCTIONALITIES REQUIREMENT:

1. MANAGE READER

R.1 Login / Registration

Description: If the reader is new, he should register first otherwise Reader have should login for issue book, renew book and other facilities.

R.1.1 Registration

Description: for registration reader have should enter the detail

Input: enter the first name, last name, mobile no, email id, password

Output: display successful message and reader id

R.1.2 login

Description: Readers must enter id and password for the login

Input: Enter reader id and password

Output: all options are display(select issue book, return book, etc...)

Next state: Reader will choose any option if password is valid re-login if password is invalid

R.2 Display information about the reader

Description: Librarian can see the information about the reader using

reader id, reader name.

R.2.1 Select information about the reader

Input: Enter reader id

Output: display the information of reader such as name, id, mobile no, address, email id.

R.3 Update the reader details

Description: The information of reader is change at detail is updated.

R.3.1 Select update reader detail

Input: changes needed

Output: Updated details with confirmation of the changes.

R.4 show fine of reader

Description: Reader have should returned book within a given days. If

he/she returned book after given days then according to days his/her fine is display.

R.4.1 Select fine of reader

Input: Enter reader Id

Output: display fine of reader

2. MANAGE BOOK DETAIL

R.1 Issue the book

Description: check total number of books are less than three or not, if less than three then issue book.

R.1.1 Display outstanding book

Description: How many books are taken by reader is show using the reader name.

Input: Enter the reader name

Output: List of books taken by reader

R.1.2 Select issue the book

Description: Librarian will provide the book to librarian

Input: Enter book id

Output: Confirmation issue book

R.2 Return the book

Description: Reader have should returned book within a given days
and this record will be saved.

R.2.1 Select return the book

Input: Enter book id

Output: book returned successfully

R.3 Renew the book

Description: if reader want renew the book then select this option.

R.3.1 Select renew book

Input: Enter book id

Output: book is successfully renewed

R.4 Display information about the book

Description: Librarian and reader can see the information about the book
using book id, book name and author name

R.4.1 Select information about the book

Input: Enter book id/ book name/ author name *Output:*

display information of the book.

(name of book , author of book ,pages...)

R.5 Update the book details

Description: The information of book is change at detail is updated.

R.5.1 Select update book detail

Input: changes needed

Output: Updated details with confirmation of the changes.

R.6 Check availability of the book

Description: Librarian and reader can check the book is available or not

using the book id, book name and author name.

R.6.1 Check the book is available or not

Input: Enter the book id

Output: display message regarding availability of the book

3. MANAGE STATISTICS

R.1 Display total number of the transaction

Description: display the total number of books which are issued and returned by the reader using his/her reader id.

Input: Enter the reader id

Output: Total number of the book issued and total number of the book returned

R.2 Display total number of reader

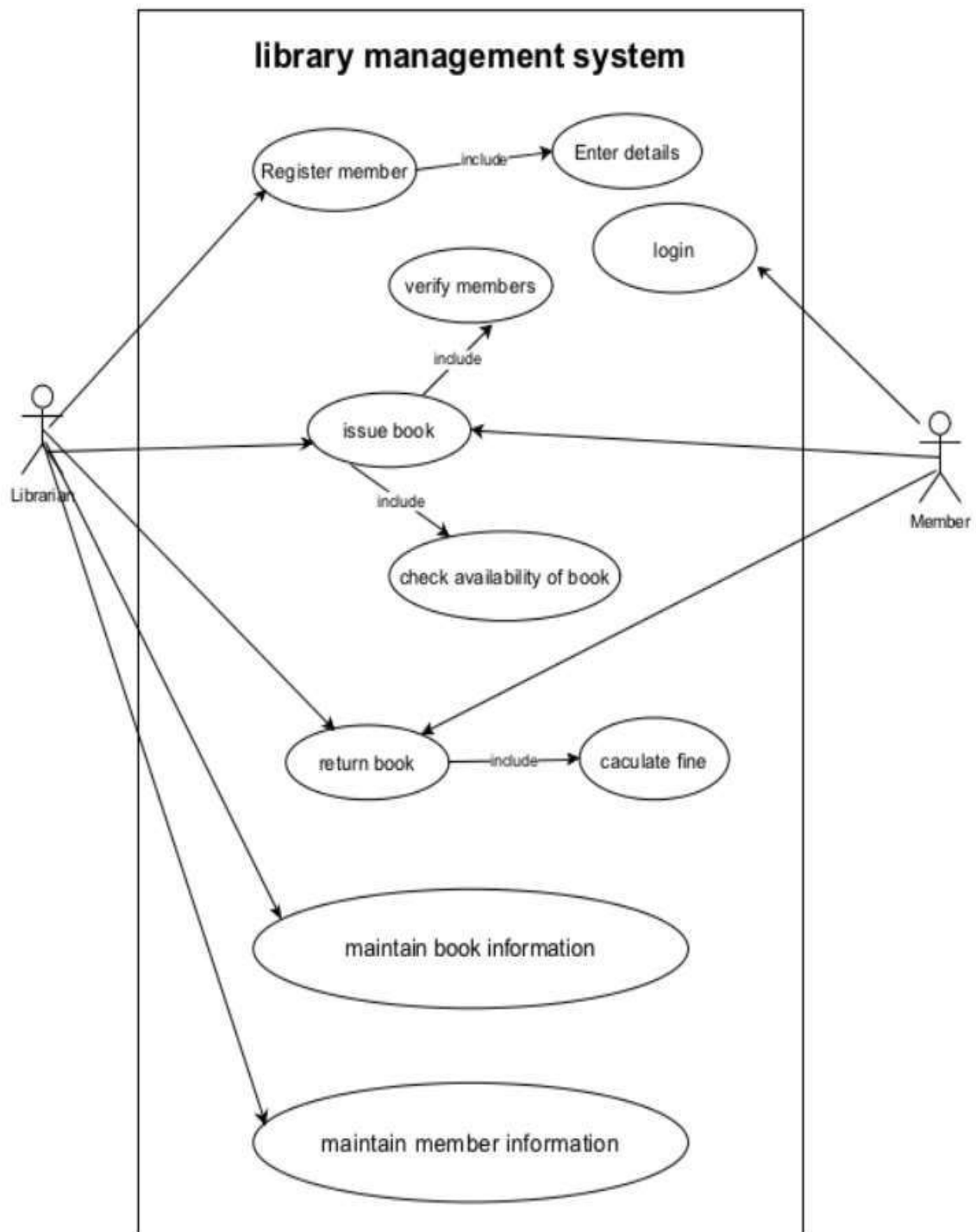
Description: display the total number of reader and list out all reader Name and id.

Input: choose total number of reader

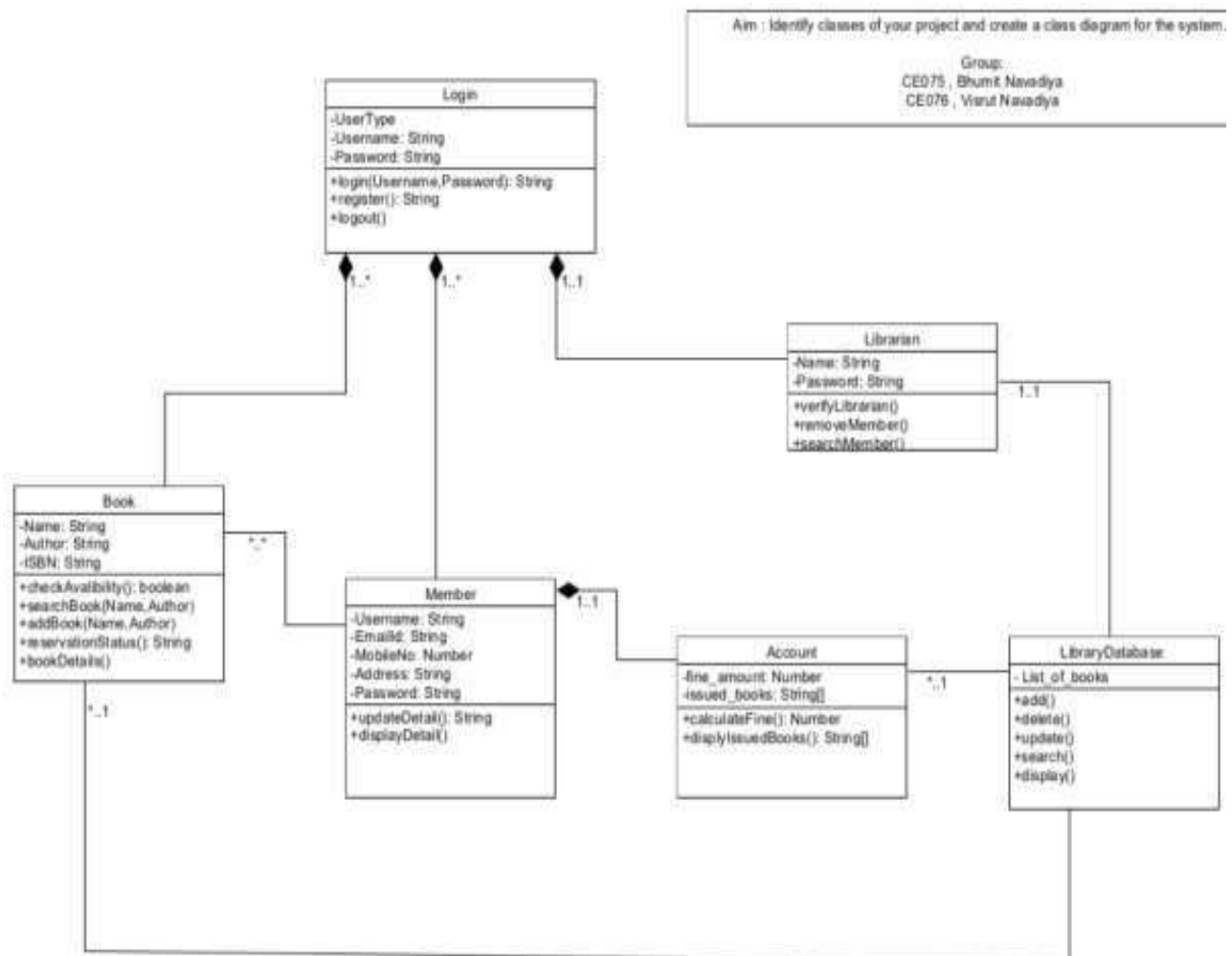
Output: display total number of reader and display list of all reader's name and id.

3. Designs

1. Usecase Diagram :-

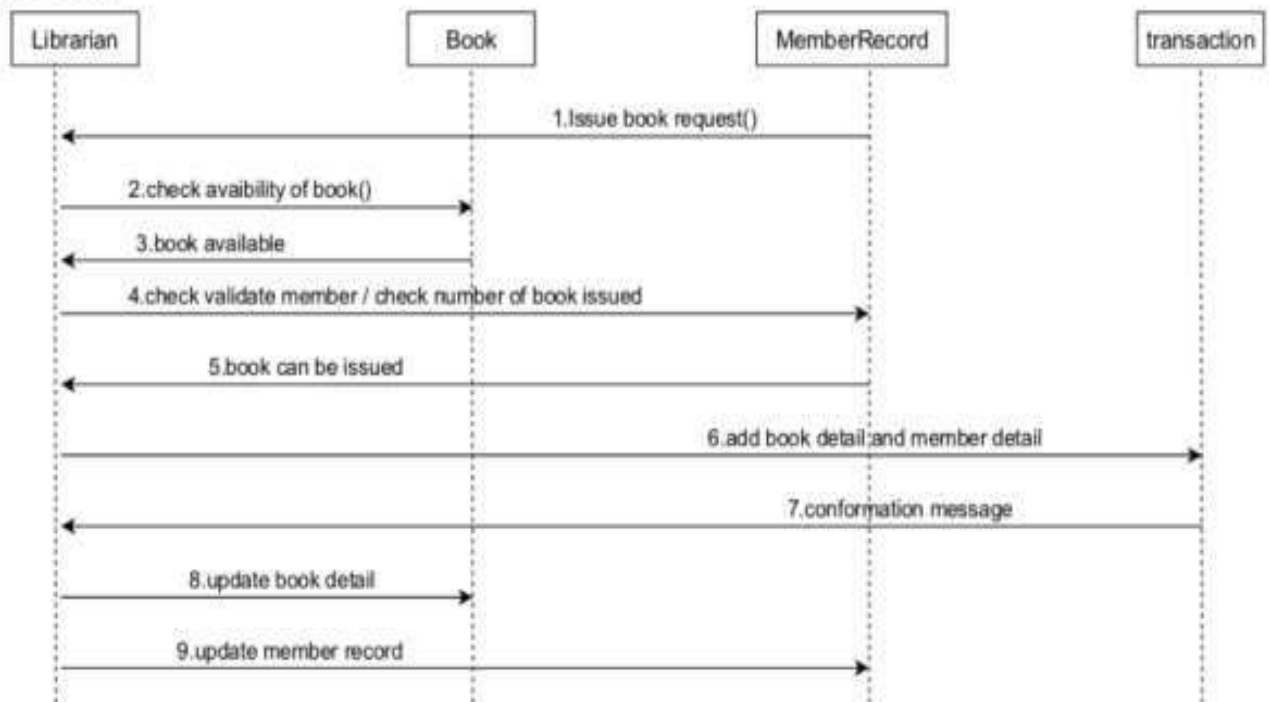


2. Class Diagram :-

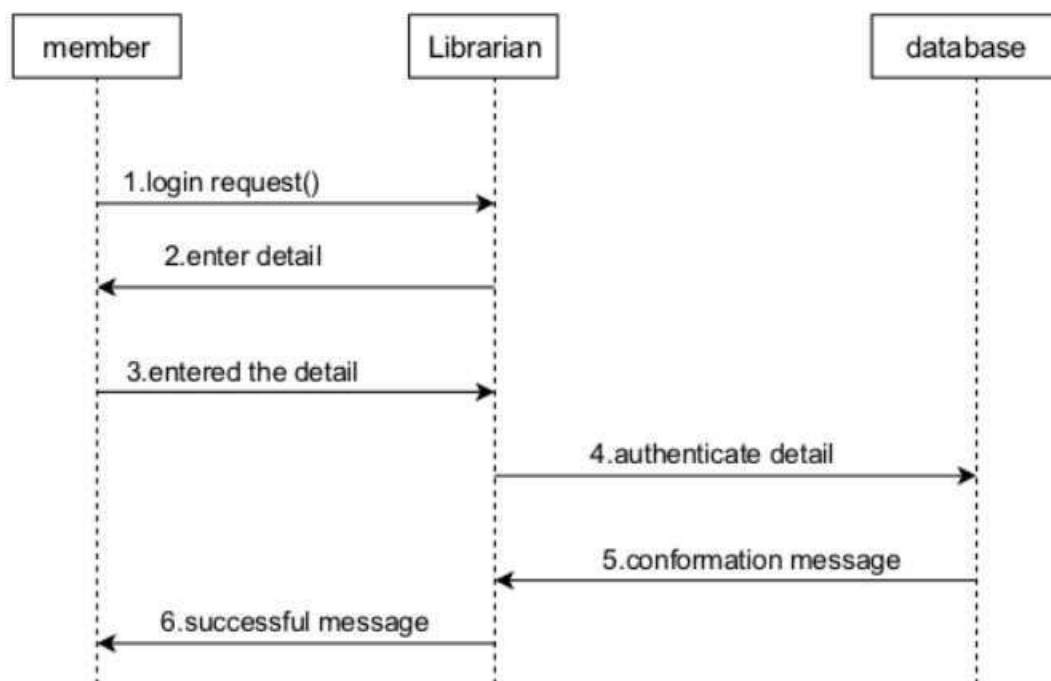


3. Sequence Diagram :-

Issue book

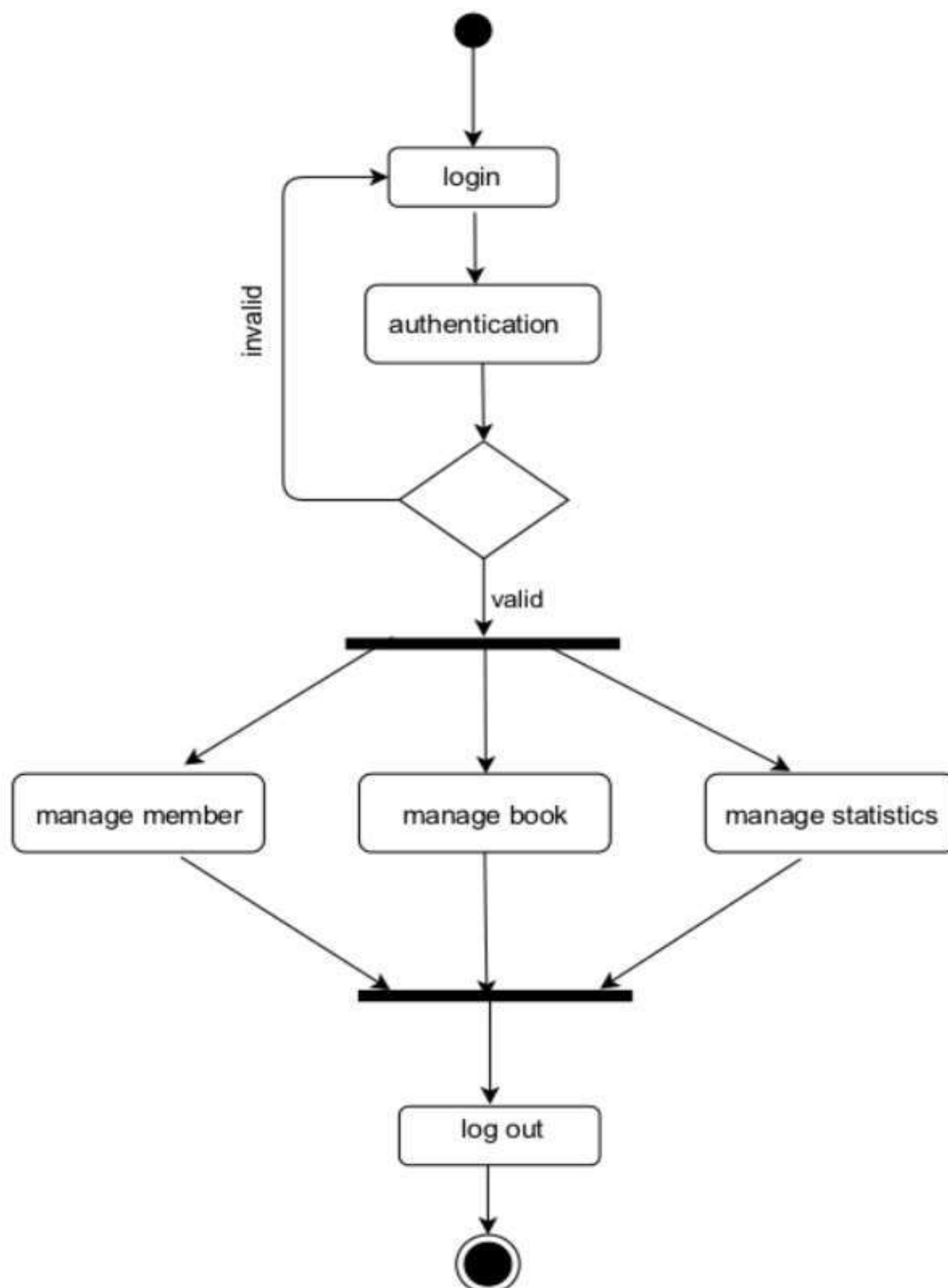


login

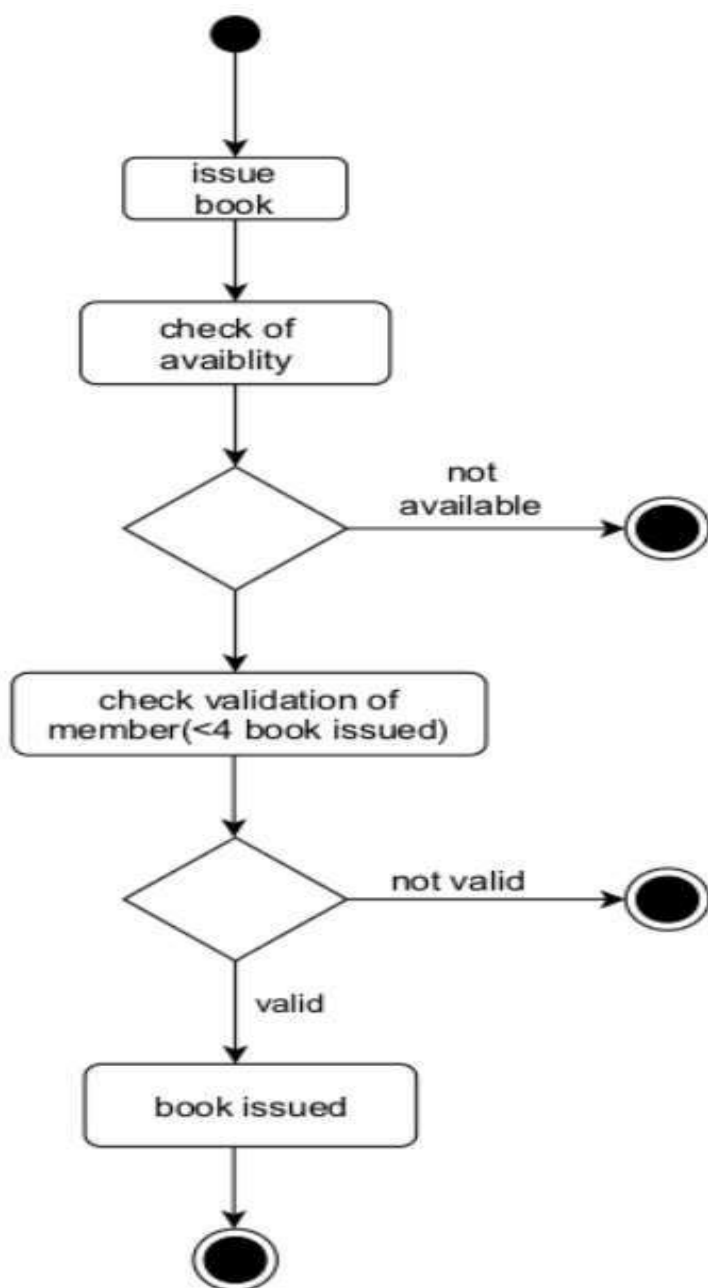


4. Activity Diagram :-

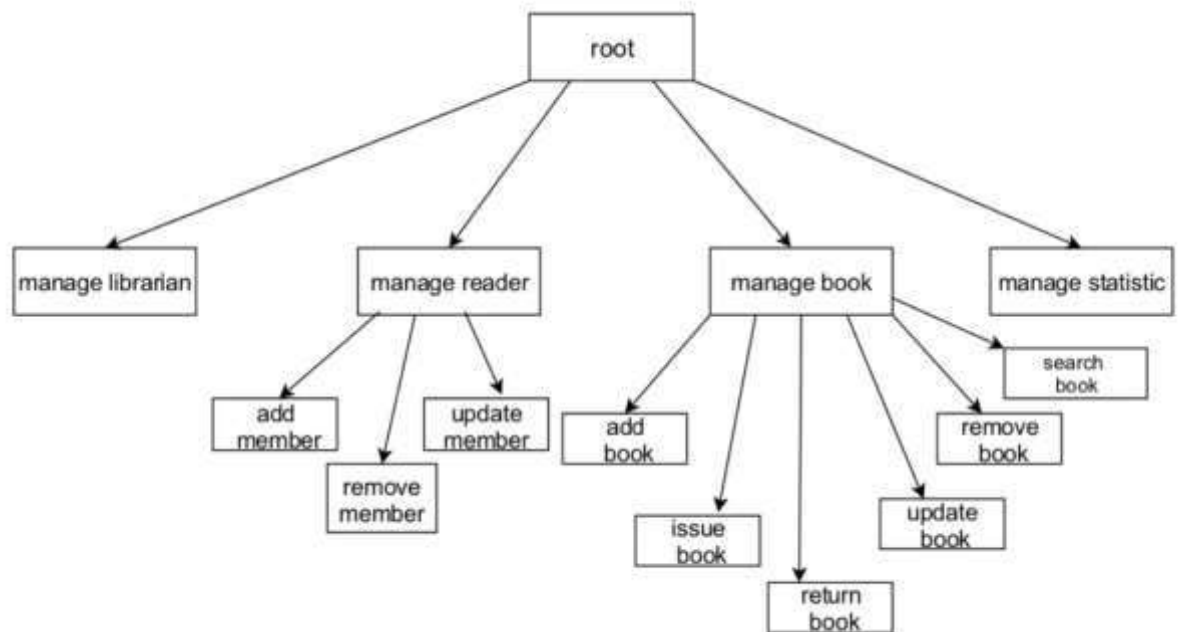
1. For Admin :-



2. For Student :-

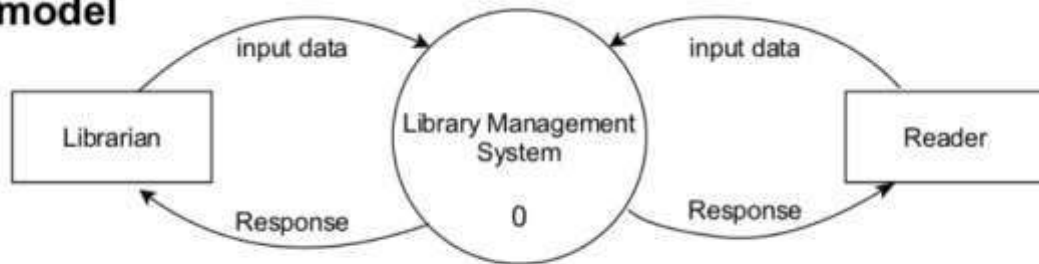


5. Structure Chart :-

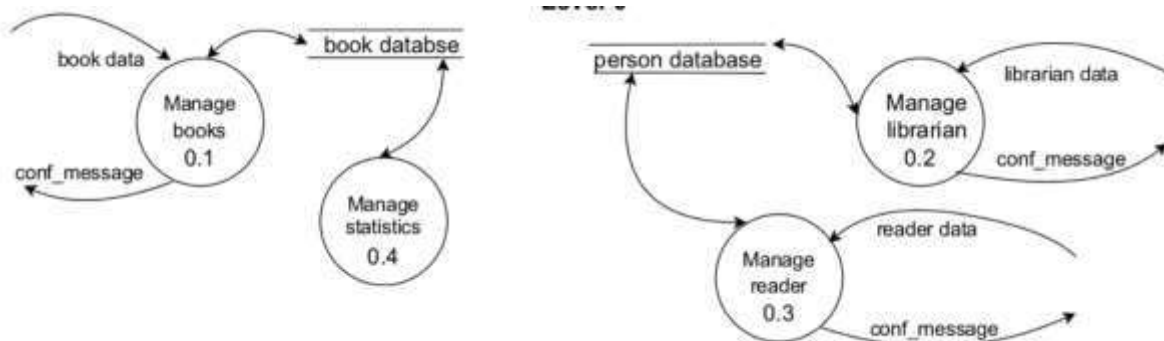


5. DFD Model :-

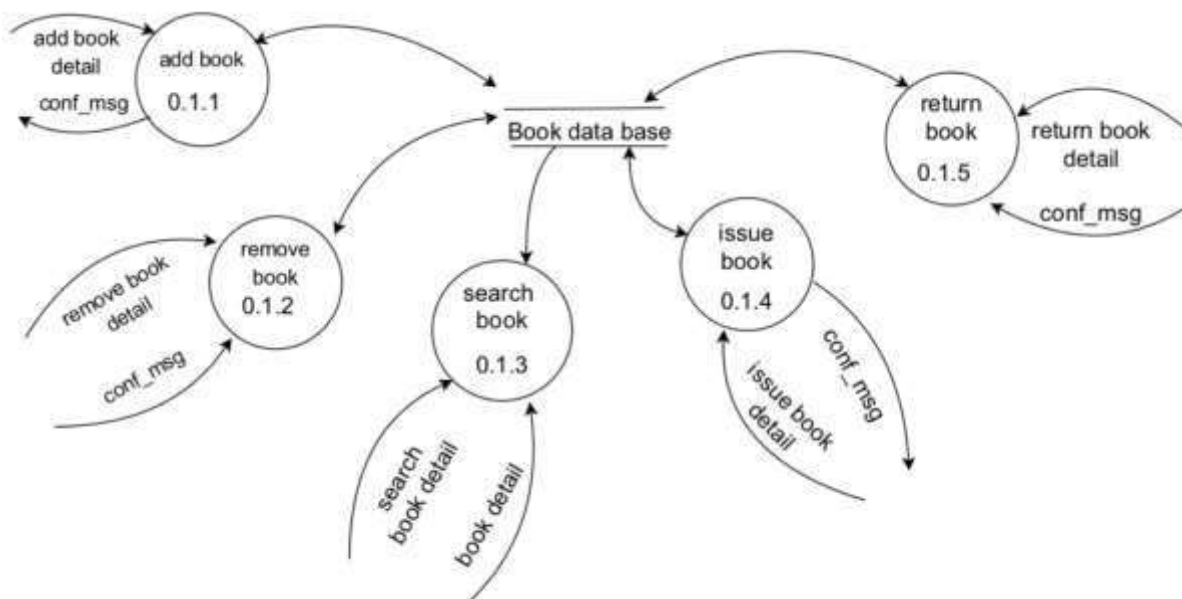
DFD model

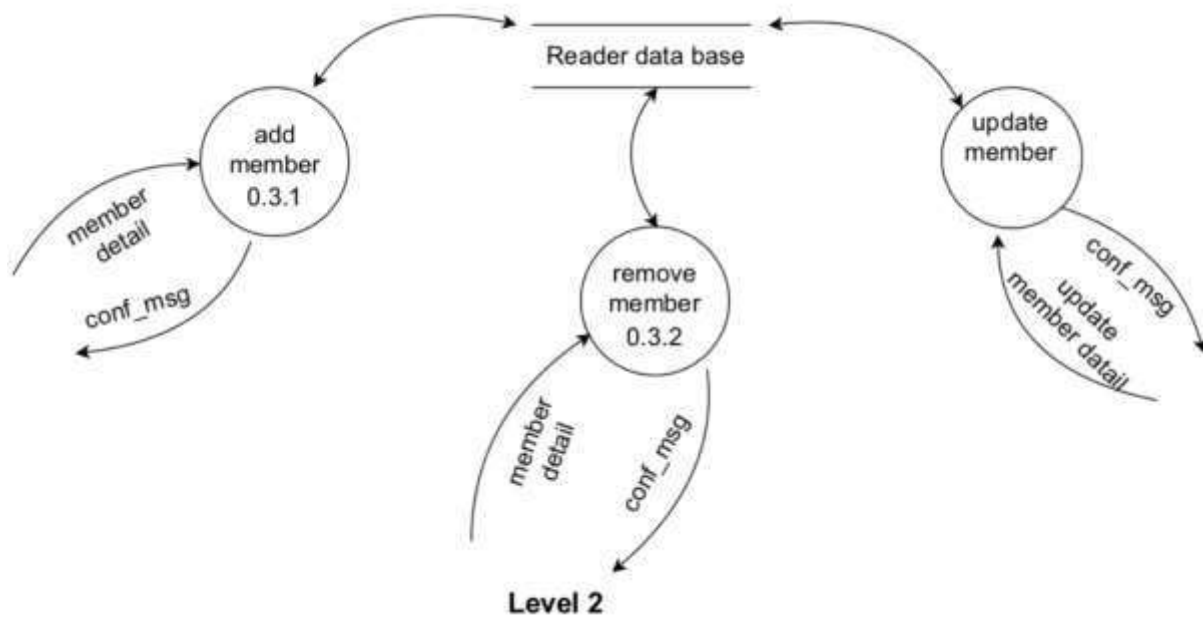


Level 0



Level 1





6. Data Dictionary :-

Reader

Name field	DataType	Length
username	Varchar2	20
First_name	Varchar2	20
Last_name	Varchar2	20
email	Varchar2	20
password	Varchar2	20

Book

Name field	DataType	Length
Book_id	Int	
Book_name	Varchar2	20
Author_name	Varchar2	20
Publish_year	Int	
Is_book_available	tinyint	

Issue book

Name field	DataType	Length
id	Int	
Reader_name	Varchar2	20
Issue_id	Int	
Issue_date	date	

4. Implementation Details

4.1 Description of Modules :-

1.Login module

Basic information of user taken by system and stored in database. When user is try to login in system , system authenticate to user and then user entered in system.

2.Book module

System take the basic information of the book and it store in the database. When user want to issue the book then system will check all validation and then doing the further processes.

5. Testing

For Testing the System, a mixed approach comprised of Integration Testing and Regression Testing is used.

Every module is tested using Integration Testing where we test the unit parts and then combine those unit parts to form a module.

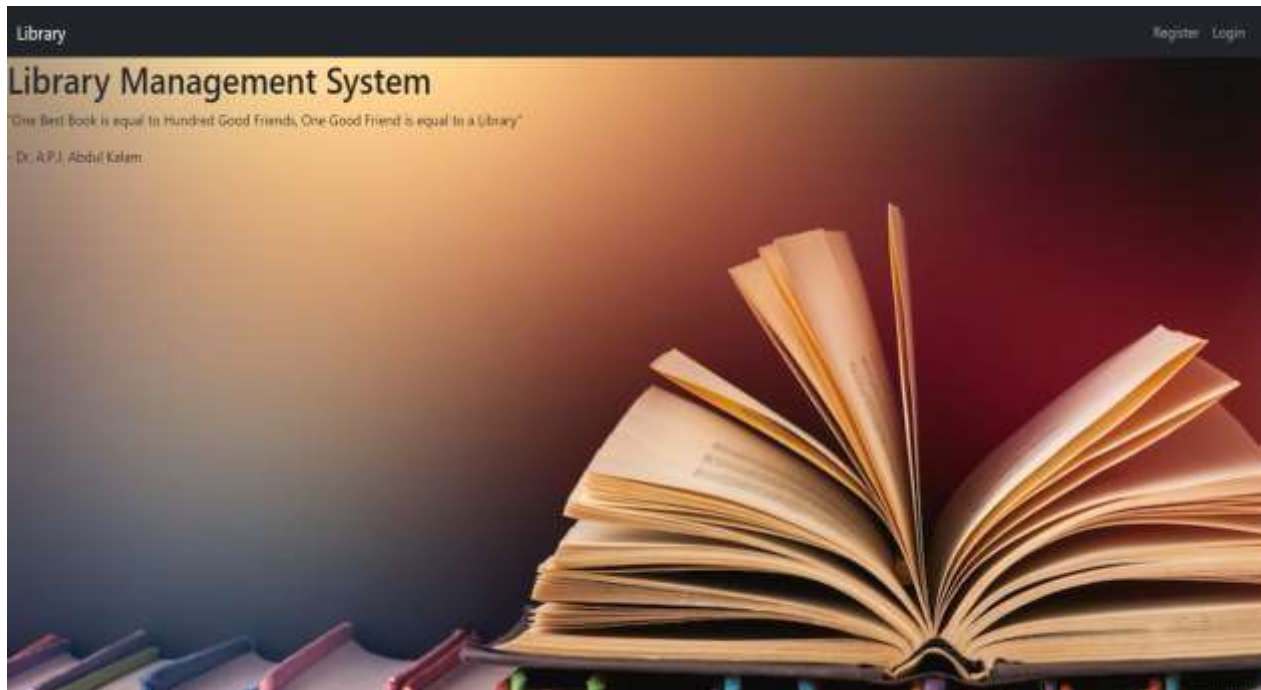
For ex. For creating logion module, first basic functions like login, register and logout are tested, then the login Module is Created and Tested if it works properly.

After any module is created, now by the rules of Regression Testing, this module is added to the whole system and then whole system is tested and it is made sure that the whole system works as desired after adding module to system.

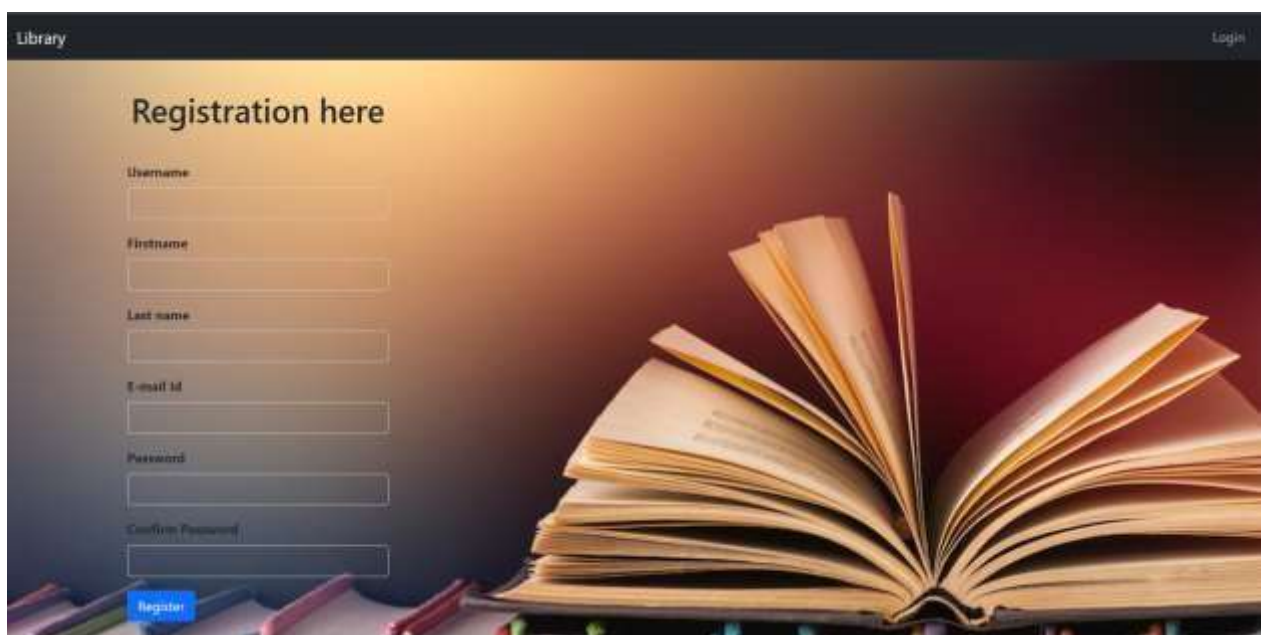
For ex. After successfully creating LoginModule, it is added to System and then whole current System is tested to ensure proper working.

6. Screenshots

1. Home page:



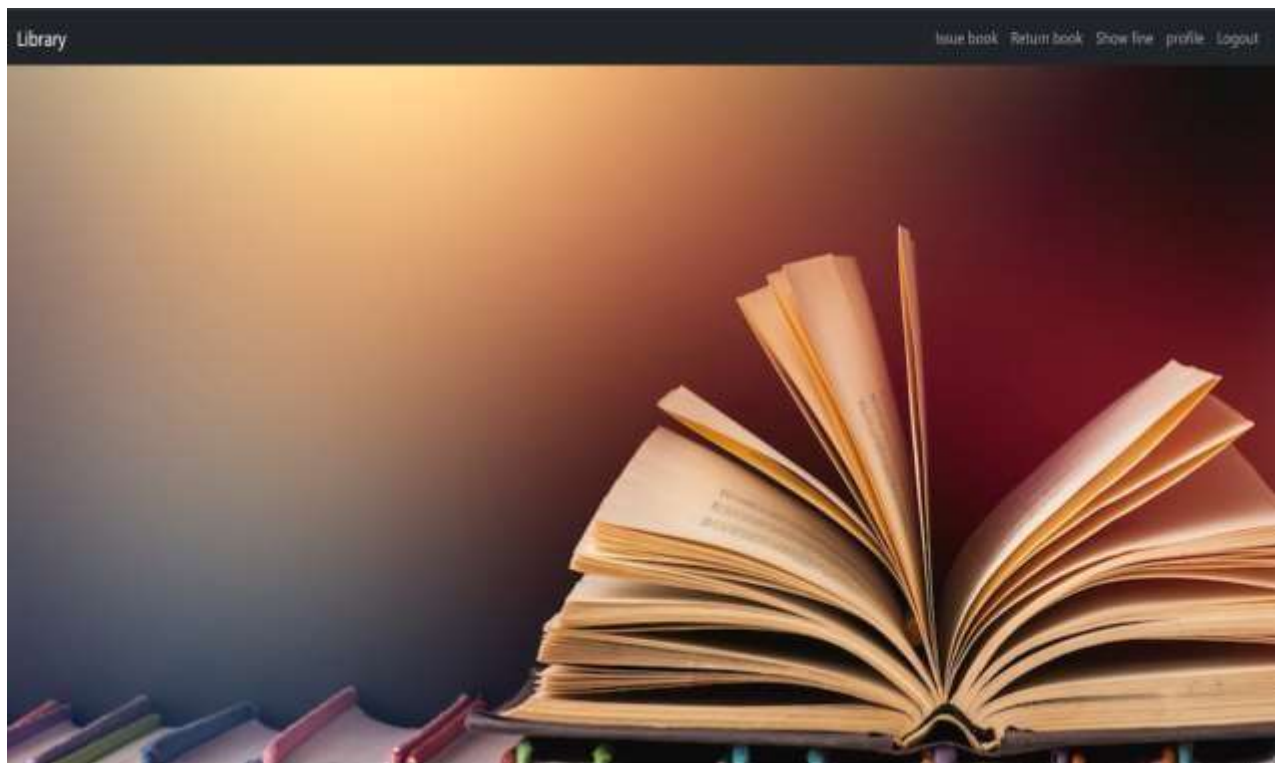
2. Registration page :-



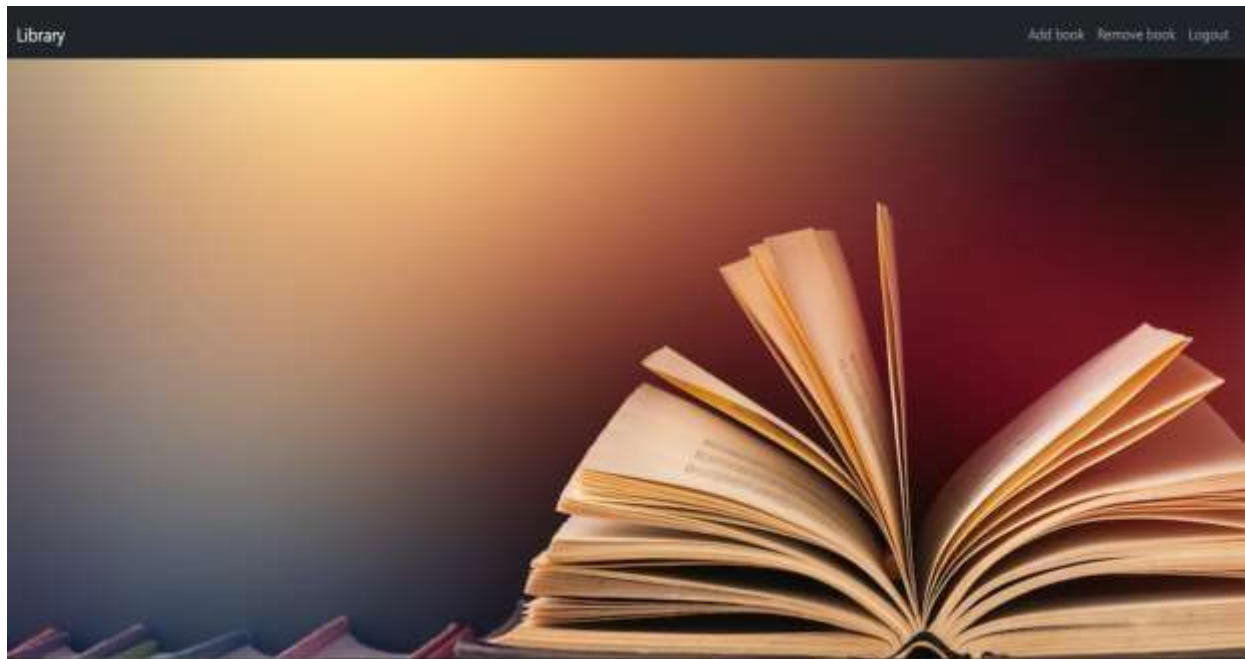
3. Login page:-



4. Member login :-



5. Admin login :-



6. Add book page:-



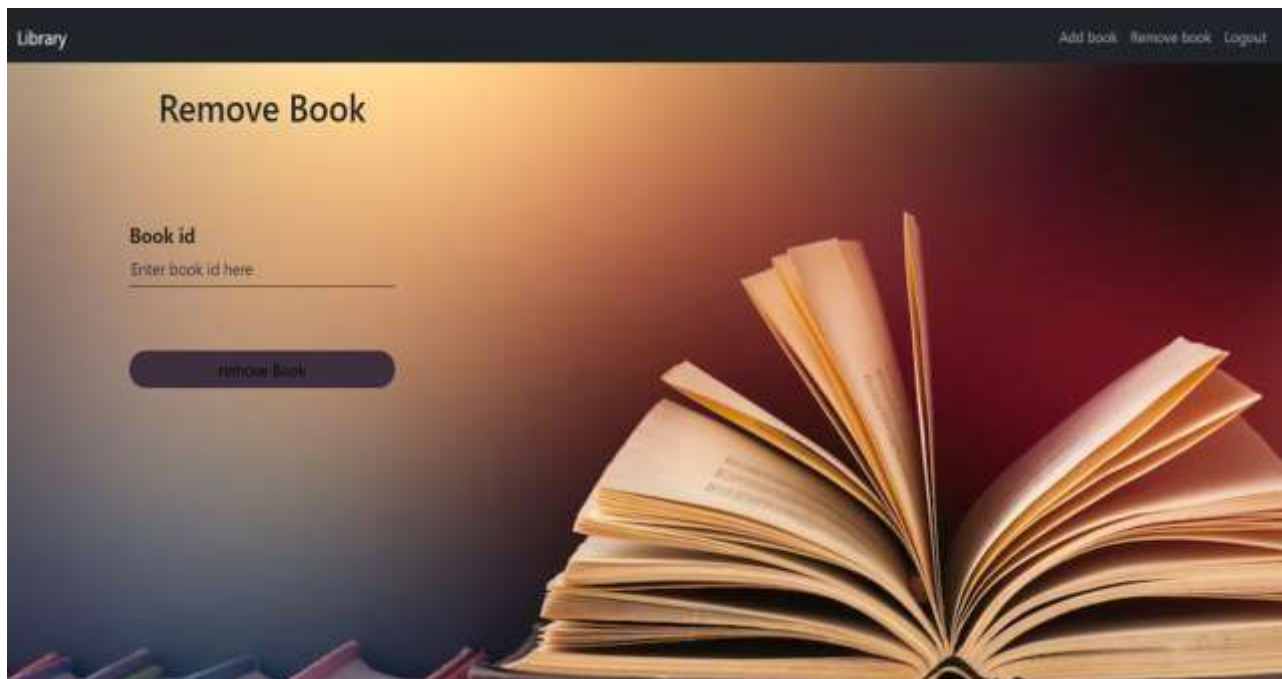
7.Remove book :-

Library Add book Remove book Logout

Remove Book

Book id
Enter book id here

remove Book

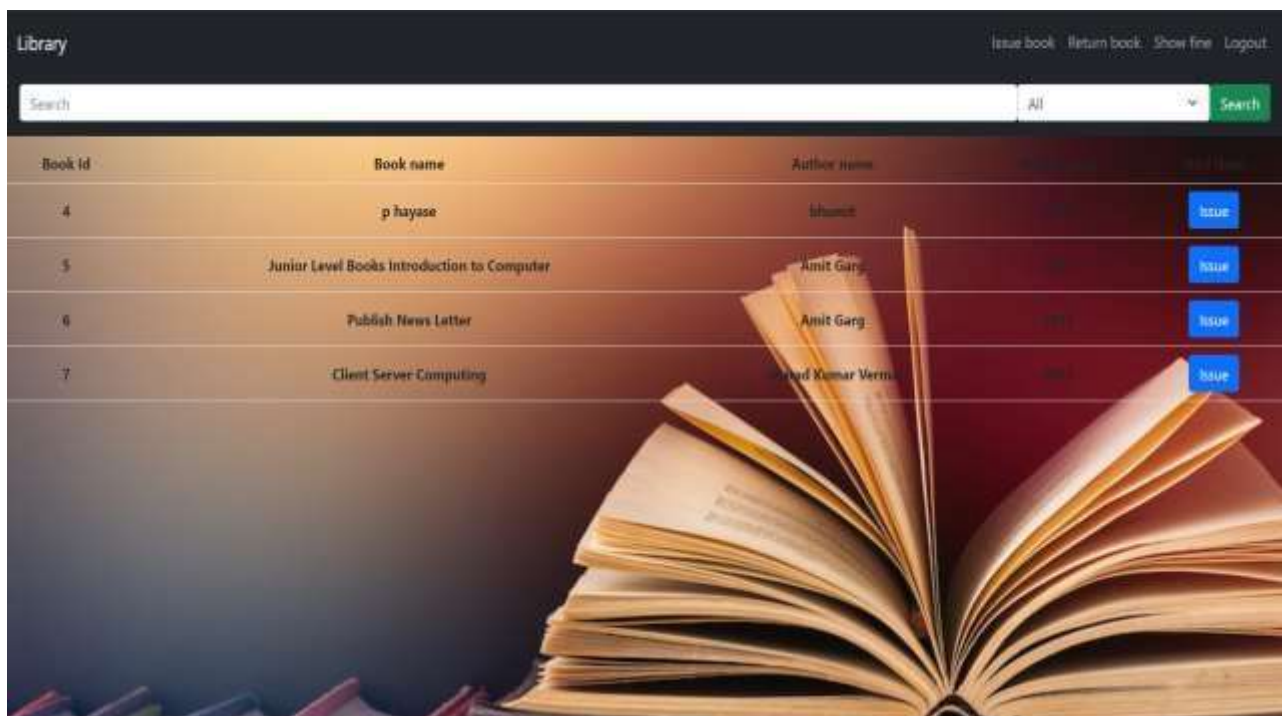


8.Issue book :-

Library Issue book Return book Show fine Logout


Search All

Book id	Book name	Author name	Issue status	Issue
4	p hayase	ishant	not	<input type="button" value="Issue"/>
5	Juniar Level Books Introduction to Computer	Amit Garg	not	<input type="button" value="Issue"/>
6	Publish News Letter	Amit Garg	not	<input type="button" value="Issue"/>
7	Client Server Computing	Arshad Kumar Verma	not	<input type="button" value="Issue"/>



9.Return book :-

Library					
Issue book Return book Show fine Logout					
Book Id	Return date	Book name	Author name	Fine due	Action
3	March 18, 2021	morris mano	Idumil	1000	Return
1	March 18, 2021	abc	aha	1000	Return
2	March 18, 2021	xyz	xyz	1000	Return



10.Show fine:-

Library					
Issue book Return book Show fine Logout					
Your fine is 30					



11.show/update profile:-



Library

Issue book Return book Show fine Logout



Username

First name

Last name

Email

[Update Profile](#)

7. Conclusion

The library management system allow the user to store the book detail and person's detail also. Library management system which may be useful in a Library to insert, store, handle and retrieve information about book. This software is working properly and meeting to all user requirements.

8. Limitation and future extension

Limitation:

In this software not facility of QR code for issuing or returning the book. Reader have to remember the issued book id because when reader come for returning book then he have to enter the id.

Future Extension:

For improved the reader's facility we will include QR code in the project.

9. Bibliography

Websites :

<https://stackoverflow.com>

<https://www.djangoproject.com/>

Search Engine: www.google.com