St. Joseph's College of Engineering and Technology Palai

CST204 | Database Management Systems

GROUP PROJECT

LIBRARY MANAGEMENT SYSTEM

lms Program report

Group 5

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Contents

Introduction

Our project library management system is a complete DBMS-based solution for data management for a library. This system efficiently maintains, organizes, and handles countless books systematically to implement a library management interface. This system is to provide instant and accurate data regarding any type of book, thereby saving a lot of time and effort.

The main objective of the project is

- To develop a library data management system with logins for admin, faculty and student.

Problem Statement

Library Data Management

If you're an avid reader, then chances are, you must've gone to a library. And you may already know how many books a library has to keep track of. Libraries don't have a lot of staff, but they have to keep a record of all the books they have and the books they have lent. You can simplify the management of a library's data.

You should start with students and faculties, i.e., people can get books from the library. Now, there would be a significant difference between the number of books a student can get and the number of books a faculty can get. So, add those limits in your system as well. Then, every book would have a unique ID.

Books with the same title and author would have different IDs according to their copies. You'll have to add entries for every book. And then, add the details of who issued the book and when with the duration of their ownership. Your DBMS-based solution should also have details on the books that people haven't returned and the due fines.

Requirements

Functional Requirements:

The users are required to enter user id and password before they are allowed to enter the system. The user id and password is verified with the database to enter the system.

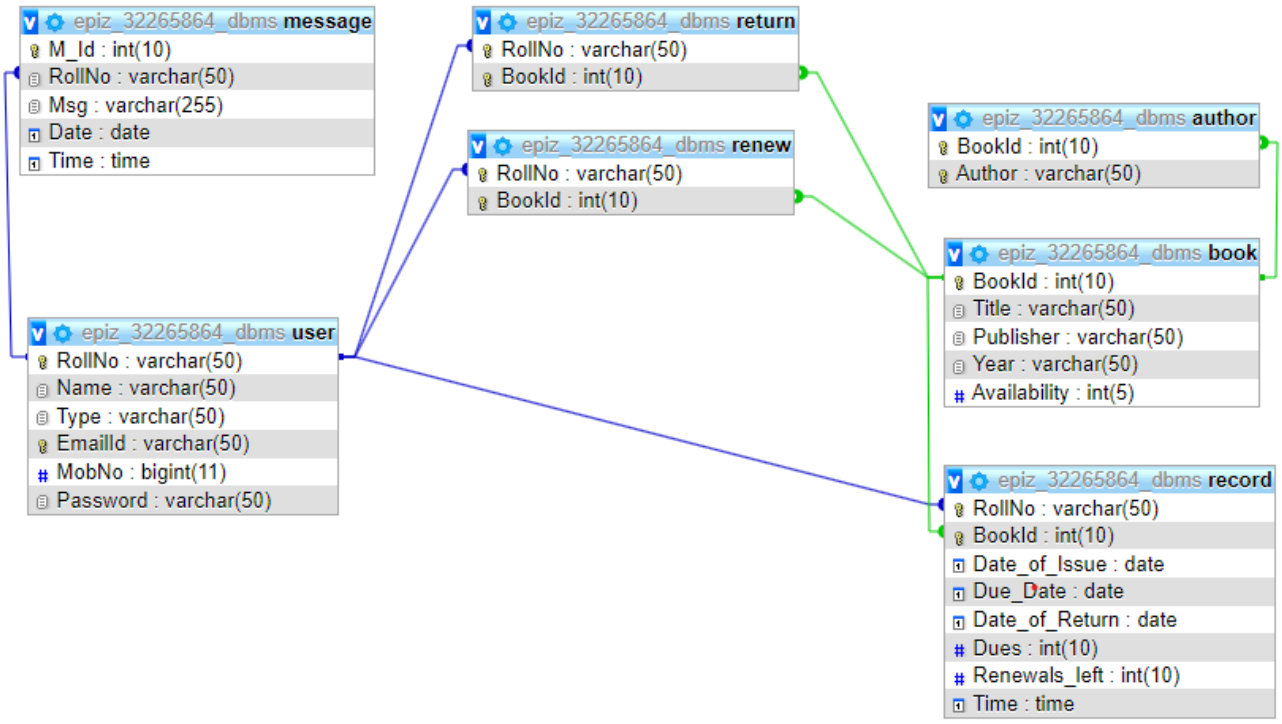
- User account is provided when they register
- The system must only allow user with unique valid id and password to enter the system
- The system performs an authorization process which decides what user level can access to.
- The user must be able to logout after they finished using the system.

System Requirements:

The website can be accessed on any device with browser support with backend or internet service.

- PC / Phone
- Web Browser
- My SQL
- local database / Internet Connection

Schema Diagram



Project Overview

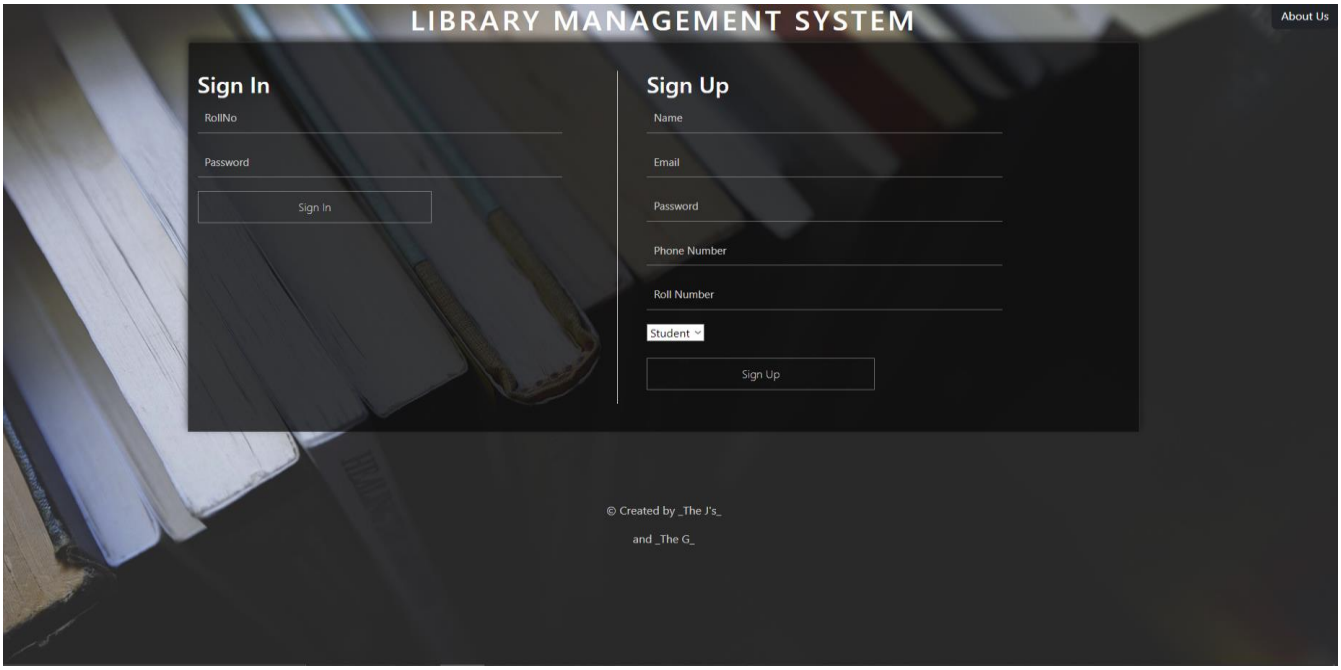
LMS:

The library management system is designed to manage all the functions of a library. It helps librarians to maintain the database of new books and the books that are borrowed by members along with their due dates.

This system efficiently maintains, organizes, and handles countless books systematically to implement a library management interface.

The system allows the Admin/Librarian to track the records of the number of books in the library, how many books are issued, or how many books have been returned or renewed or late fine charges, etc.

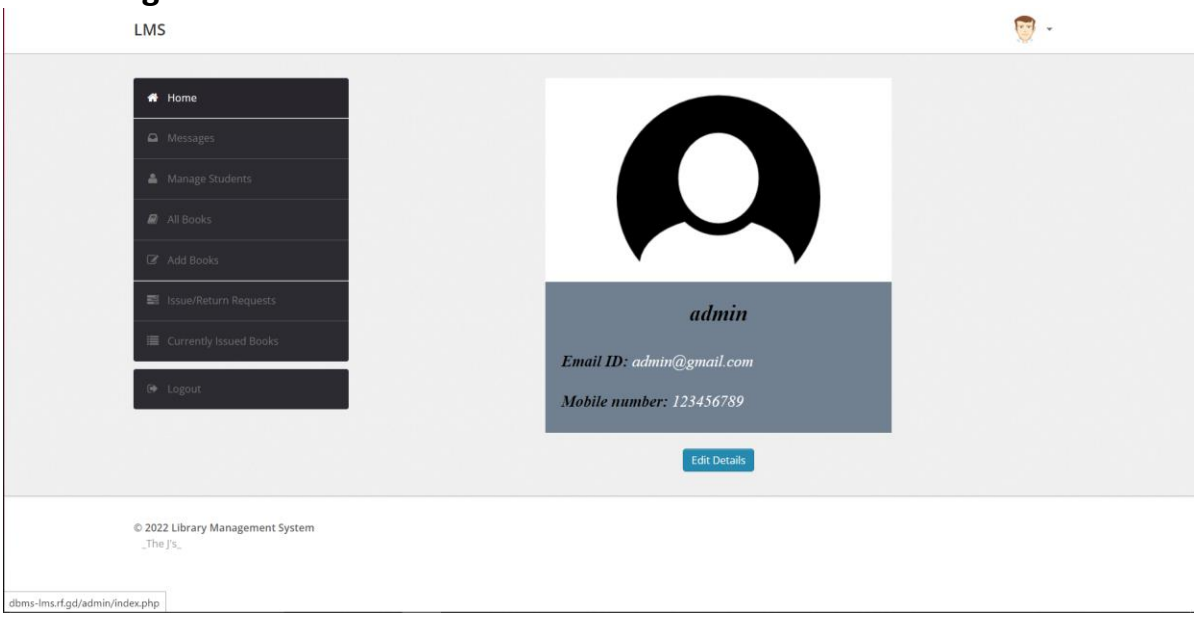
You can find books in an instant, issue/reissue books quickly, and manage all the data efficiently and orderly using this system. The purpose of a library management system is to provide instant and accurate data regarding any type of book, thereby saving a lot of time and effort.



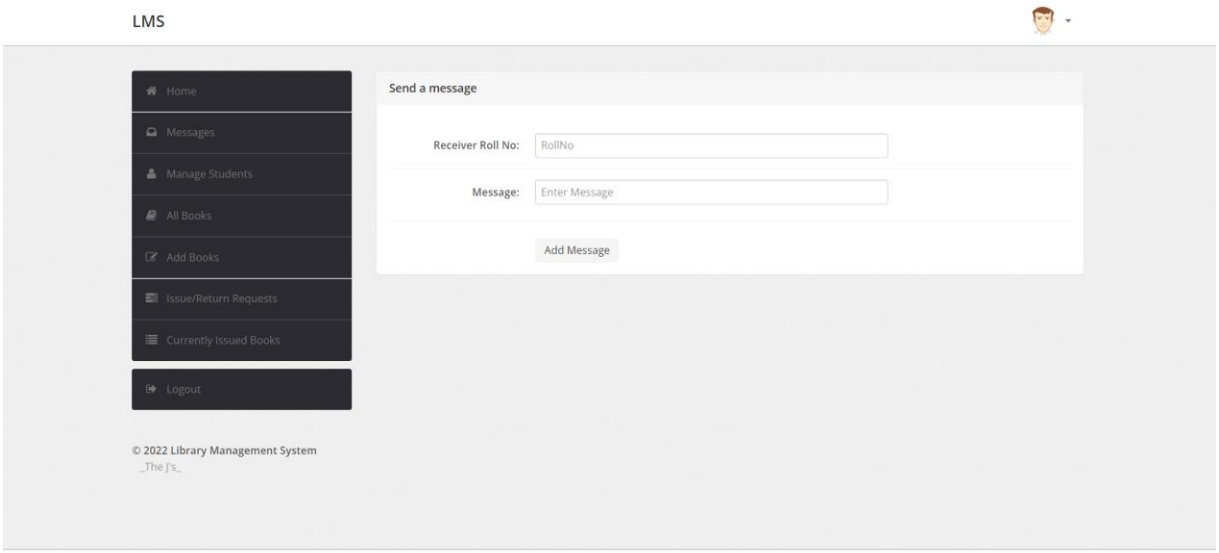
Admin :

The Admin/librarian maintains the whole system. Admin manages the requests of the user to use the library system. Admin can accept or limit the requests of the students or faculty. Only the admin can modify the records in the system.

Home Page

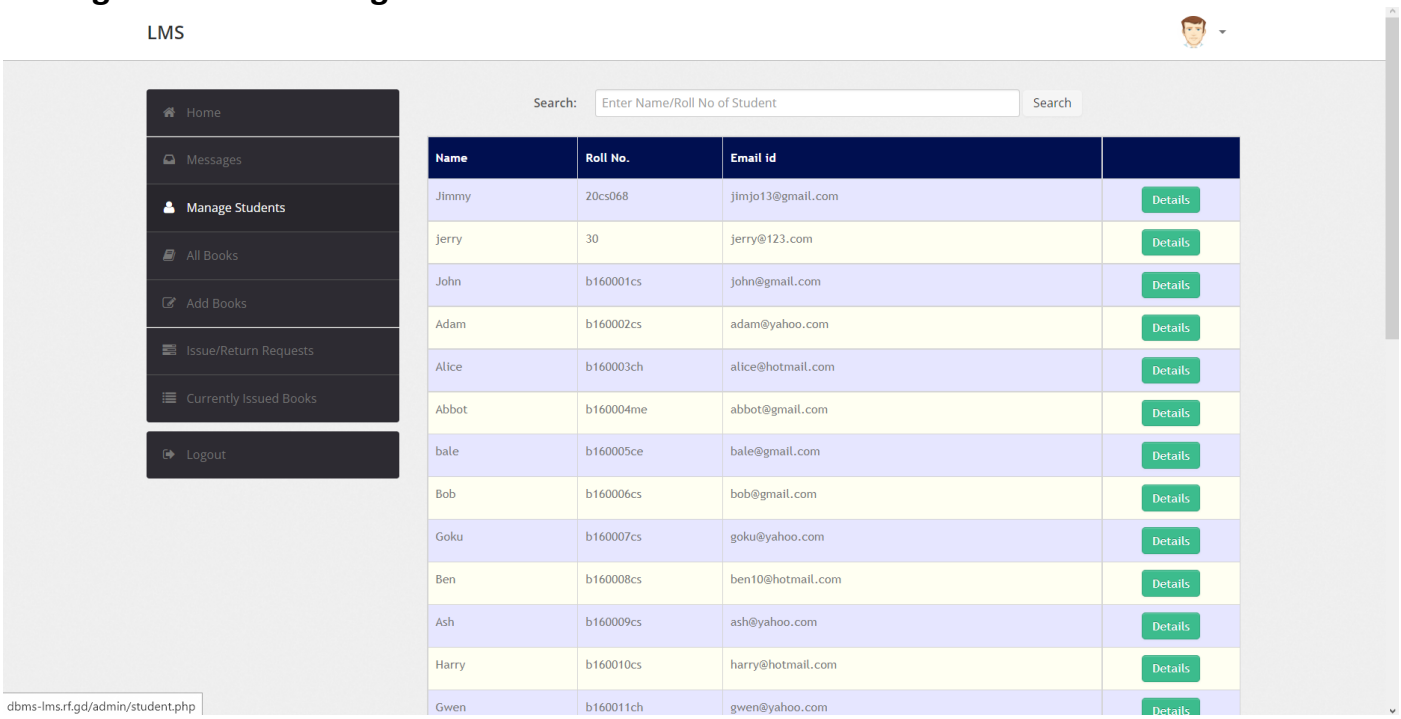


Message Page

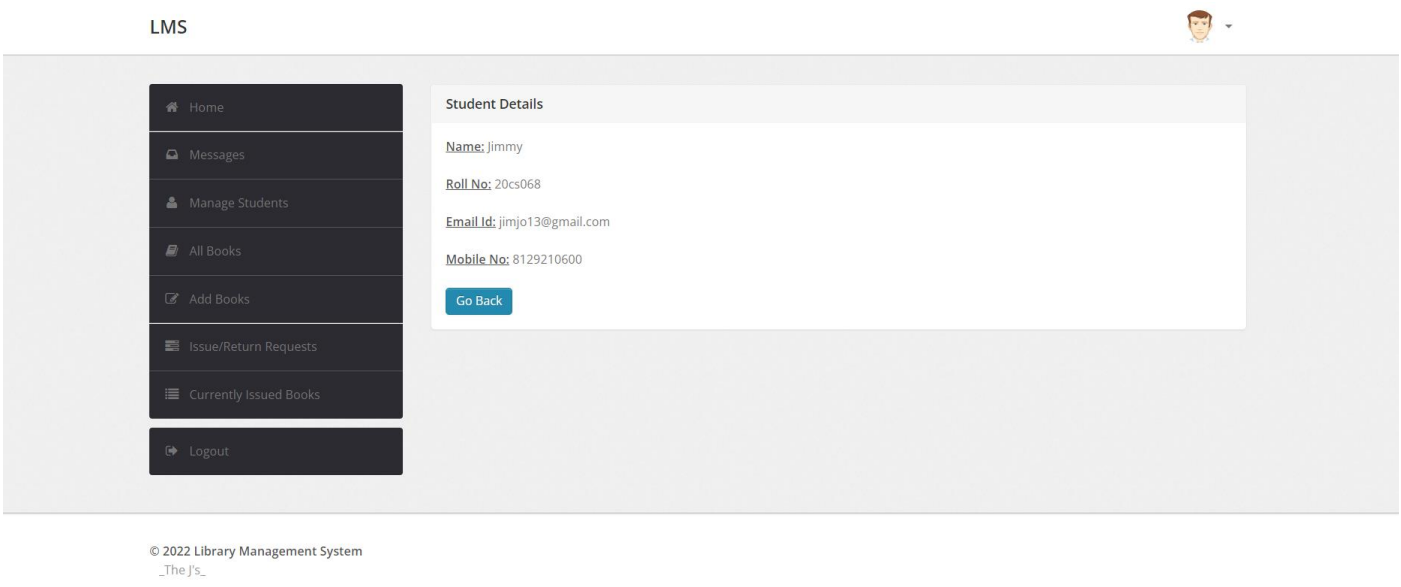


- In this page the admin can send messages to a specific user.

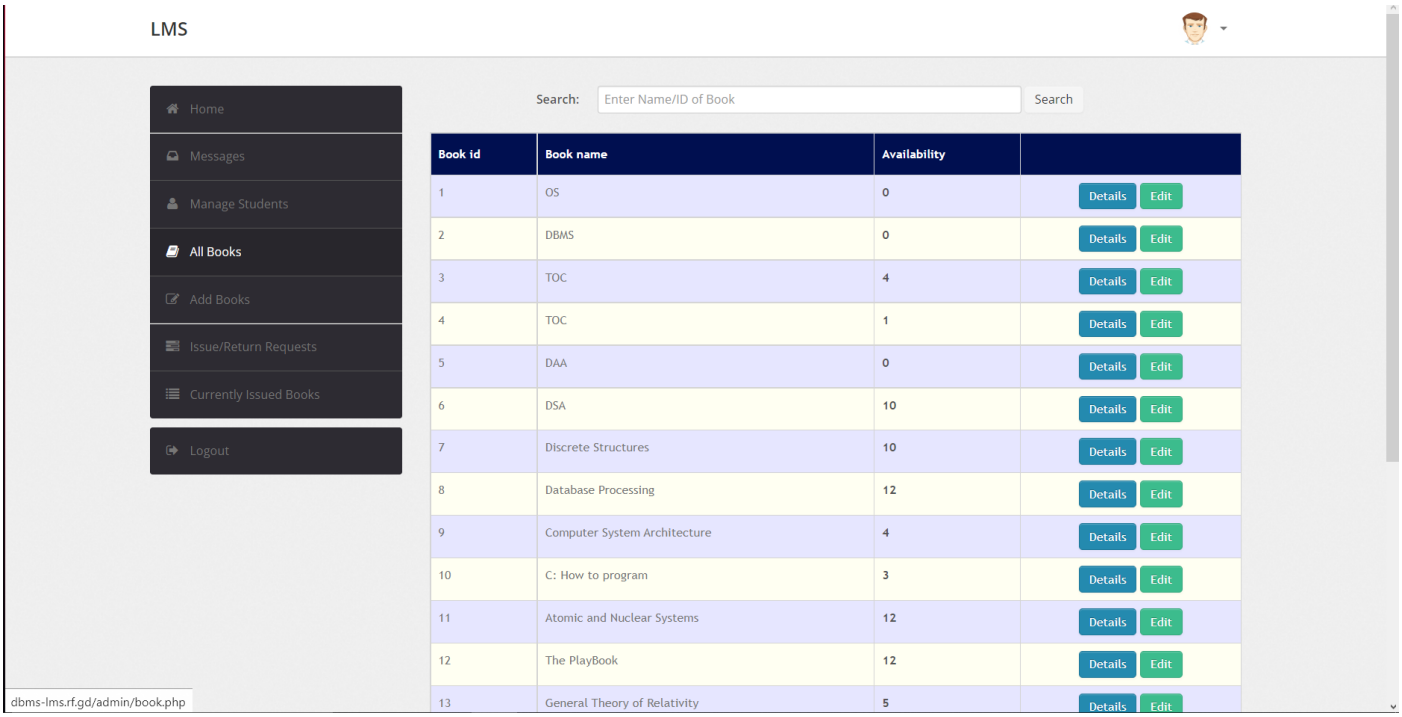
Manage User Details Page



- In this page the Admin can get the details of any student or faculty.
- The Admin can also delete the details of a student/faculty.

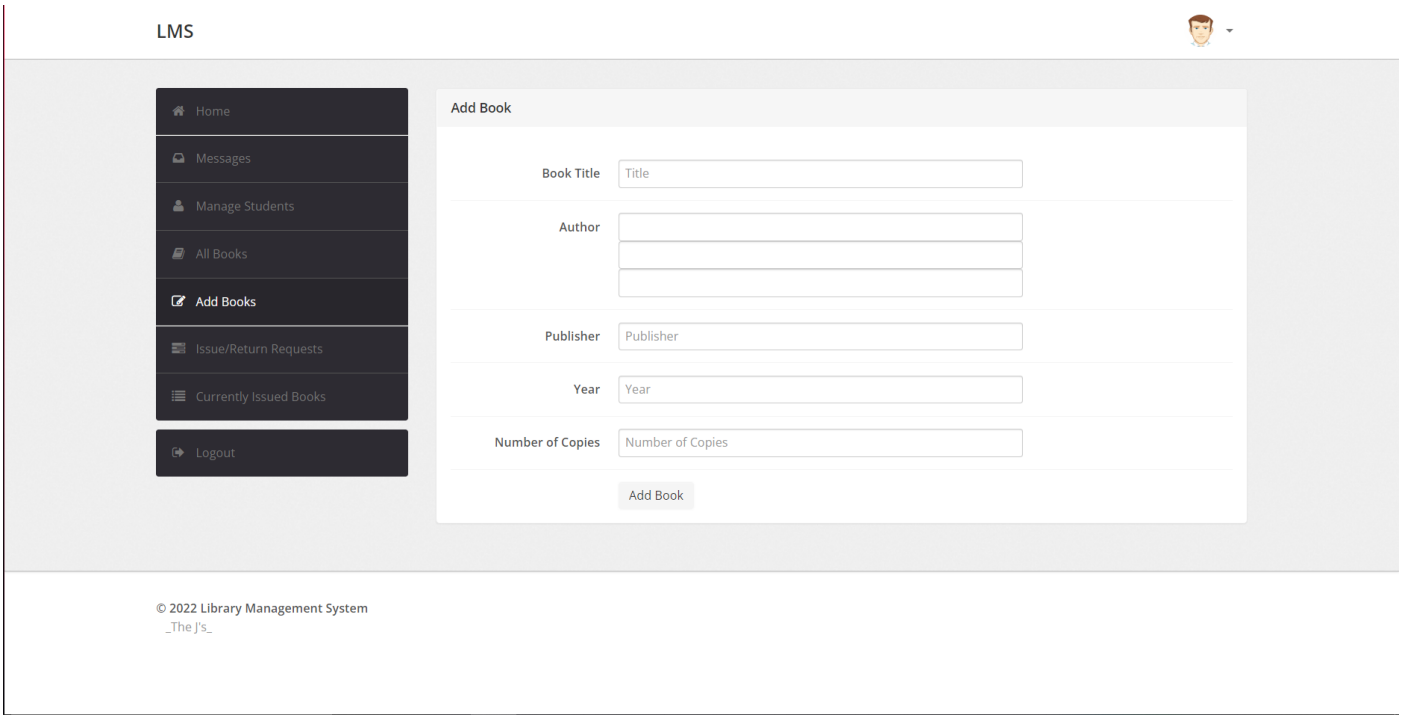


All Books



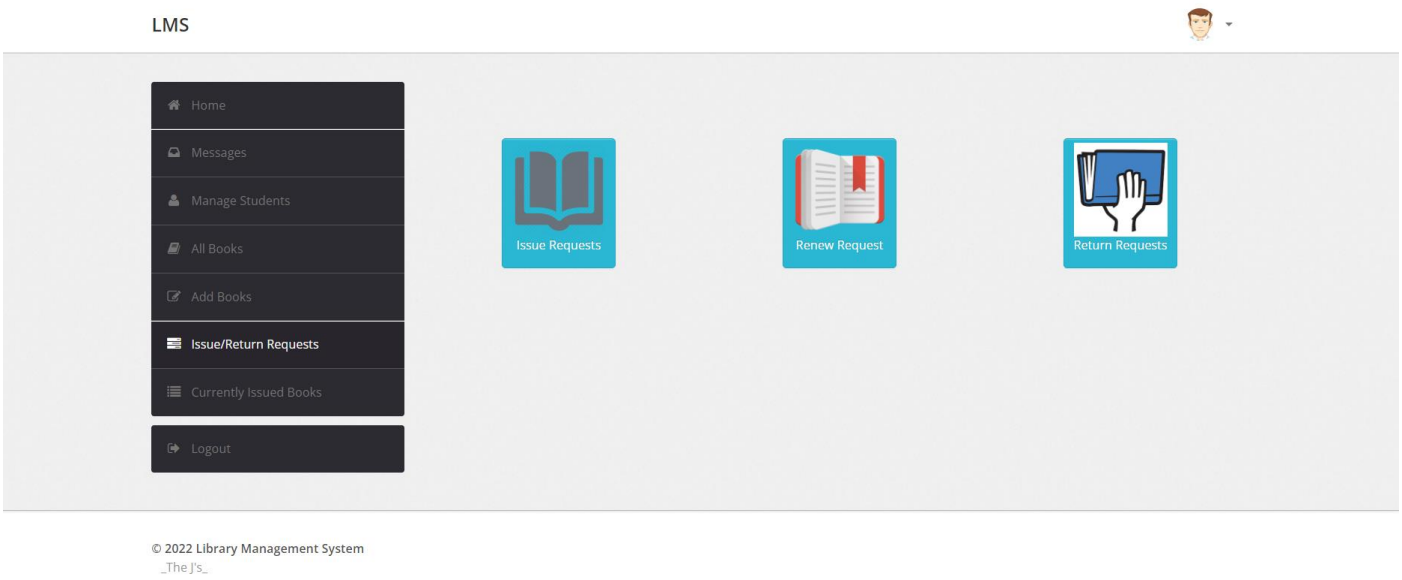
- In this page the Admin can access the details of the book.
- The Admin can edit the details of the book such as availability, name, etc.

Add Books

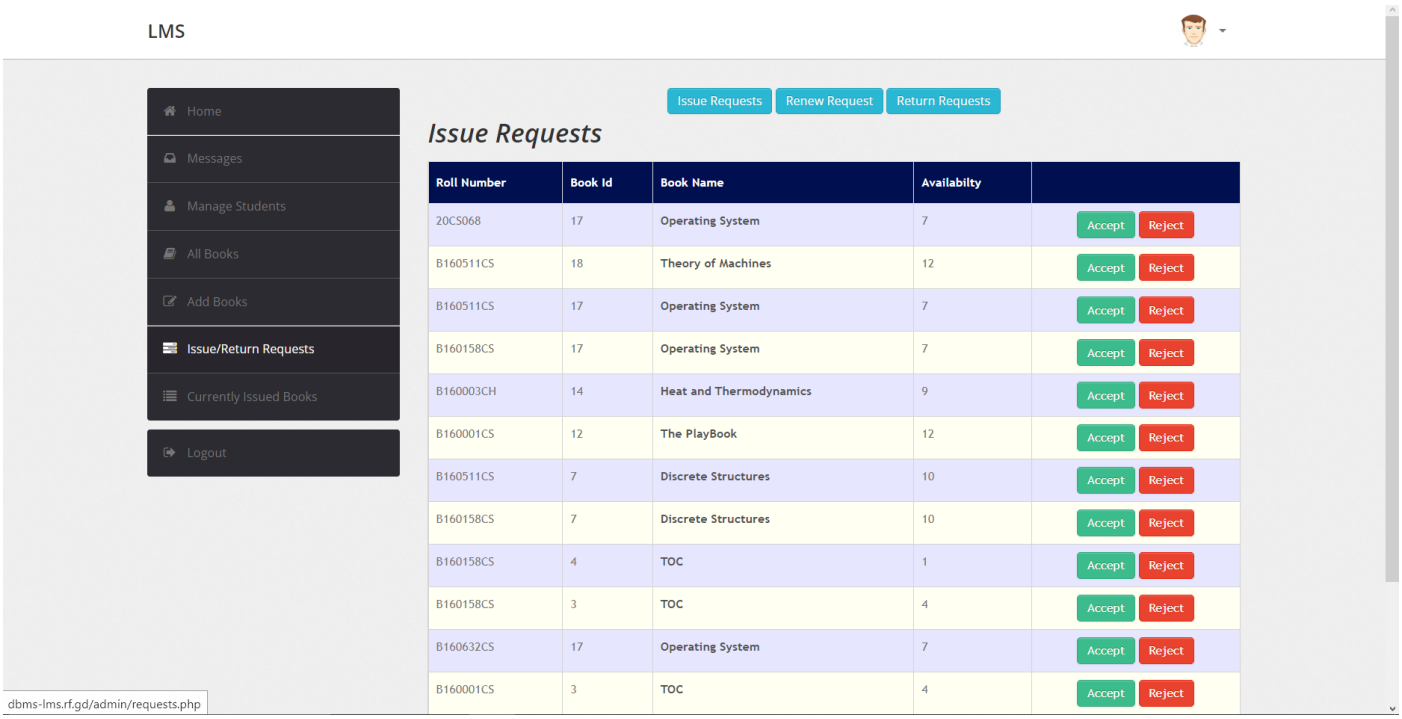


- In this page the Admin can add a new book and enter details.

Issue/Return Requests

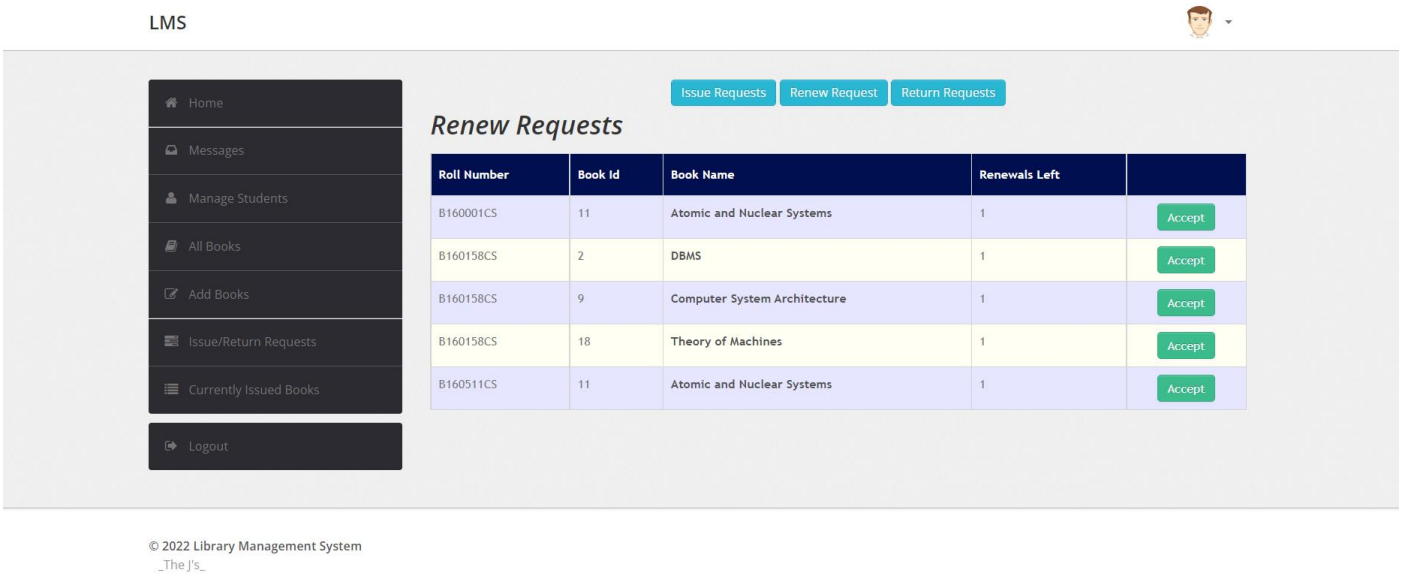


Issue Requests



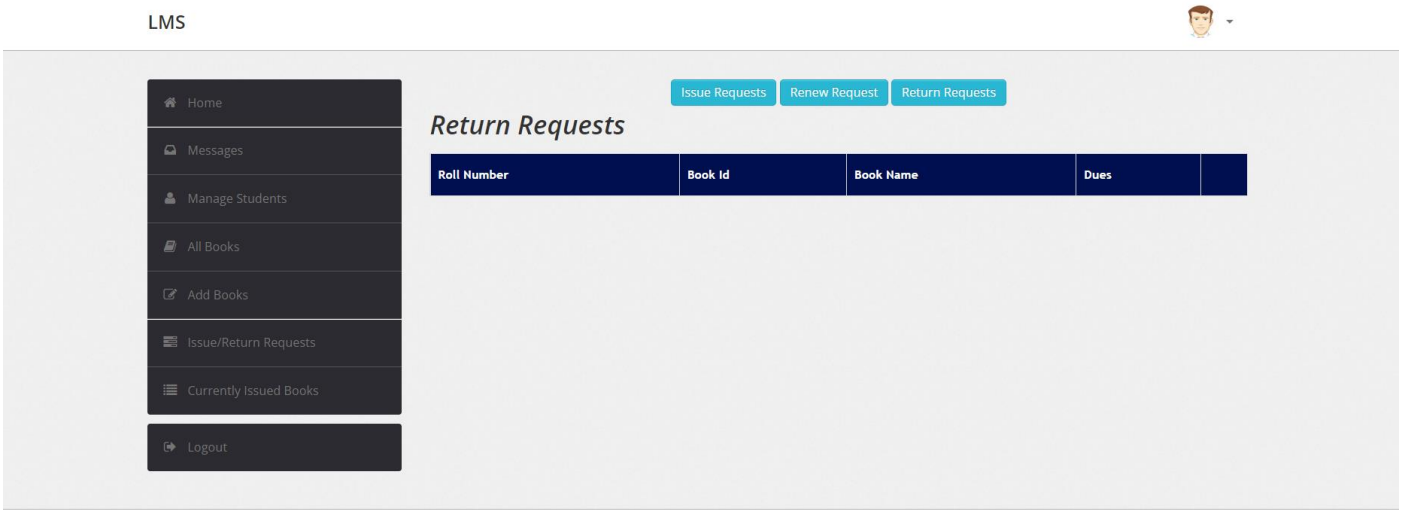
- In this page the Admin can accept or reject issue requests sent by faculties and students.

Renew Requests



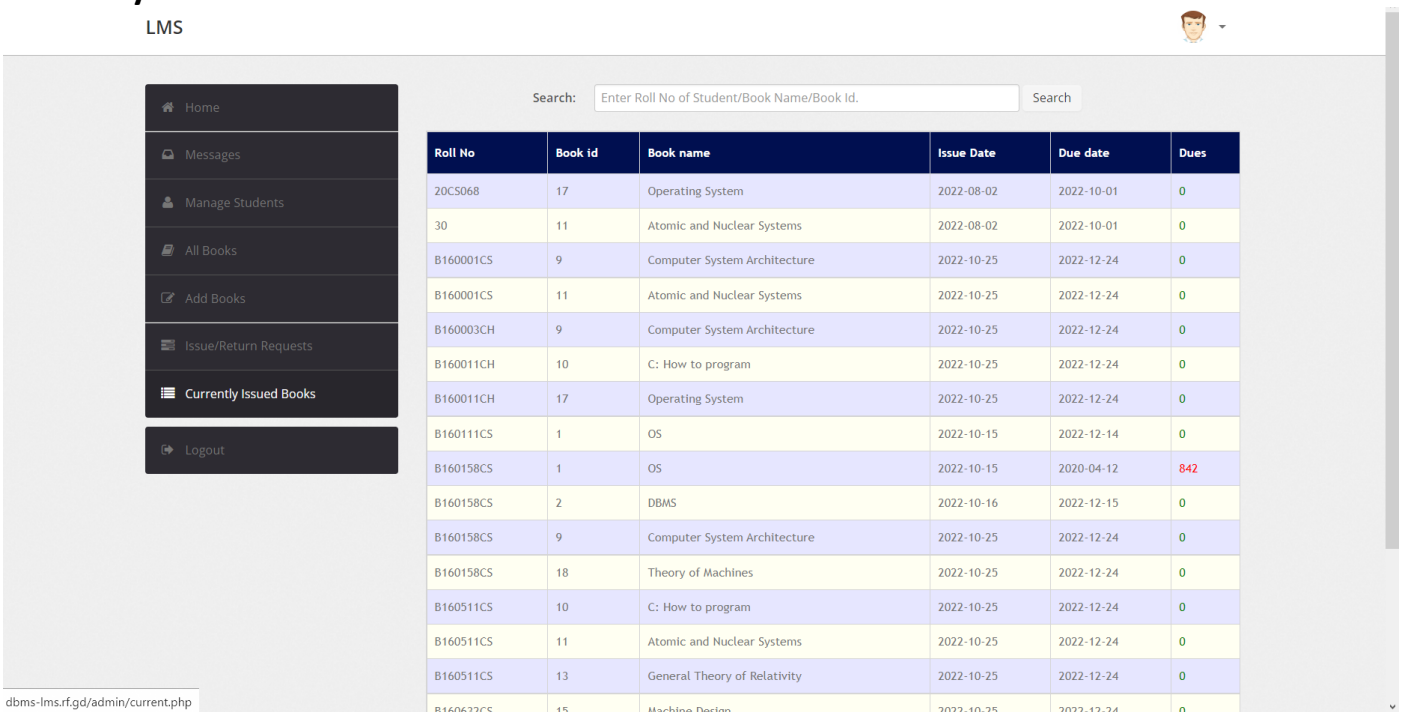
- In this page the Admin can accept renew requests sent by faculties and students.

Return Requests



- In this page the Admin can accept return requests sent by faculties and students.

Currently Issued Books

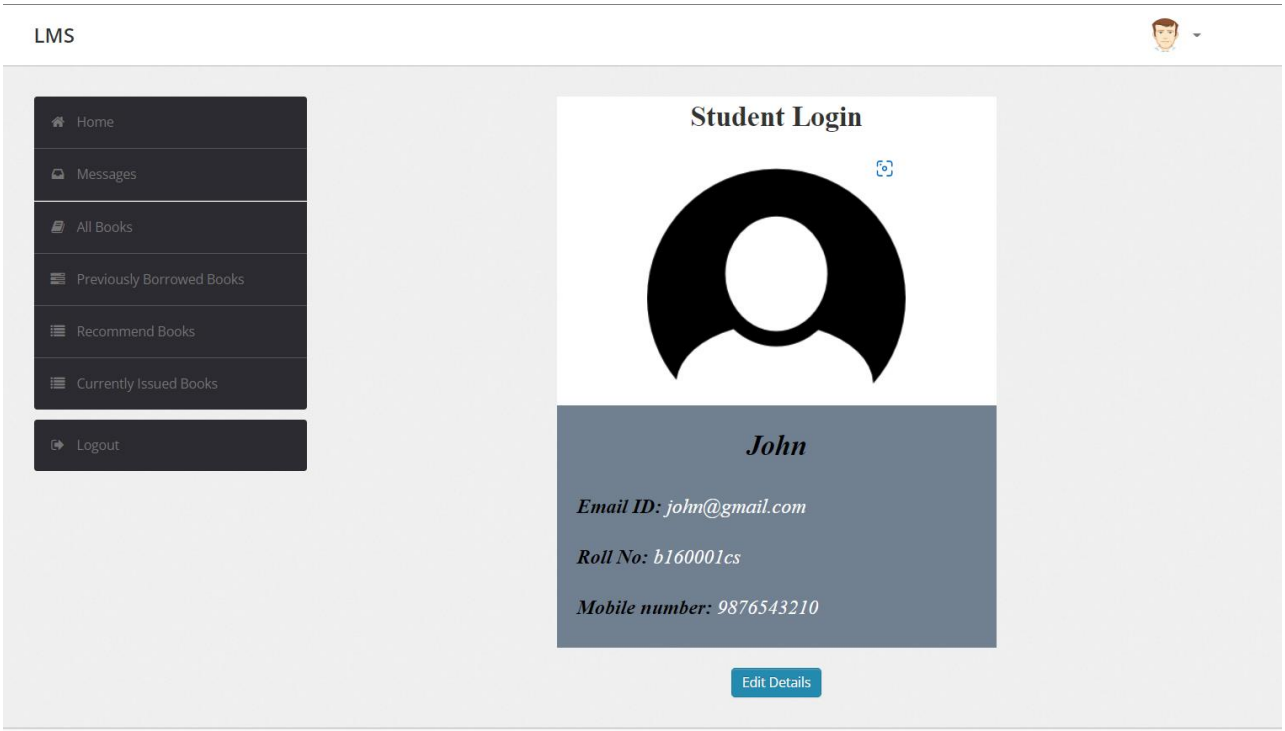


- In this page admin can see the details of the currently issued books.

Student User:

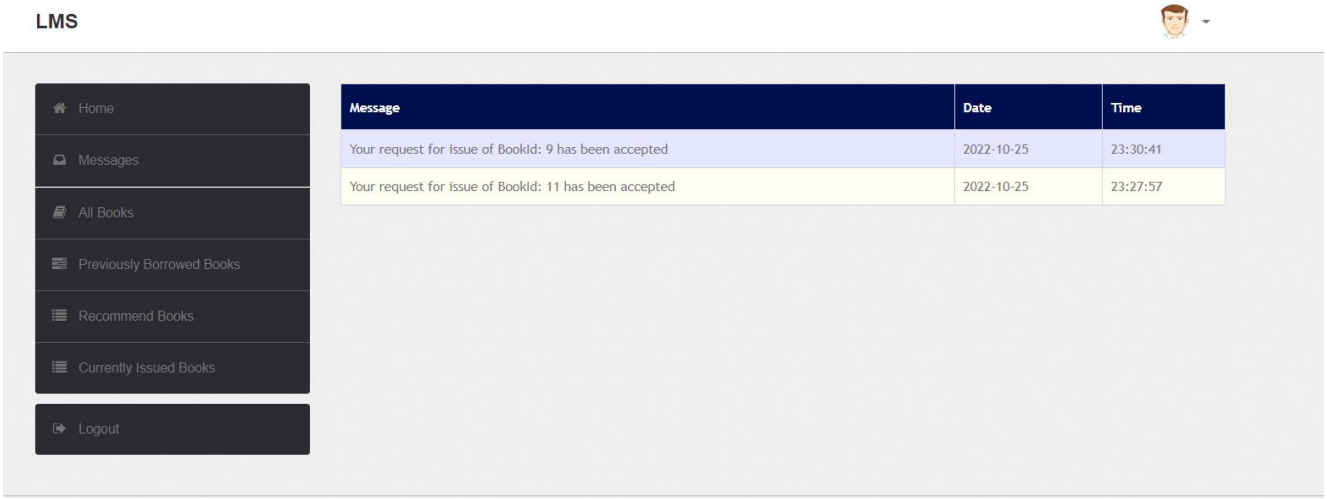
New users can register a new account using signup and existing users can login with their roll no and password.
Logged in students have access to the library management system.
The features include view messages, view all books, previously borrowed books, recommended books and currently issued books. Aso, students have restricted access to the library and have a limit in requesting more than 3 books at a time.
A student user can keep a book upto a period of 60 days. Late submission will have a fine of 60rs and increases with 1rs/day.

Home Page



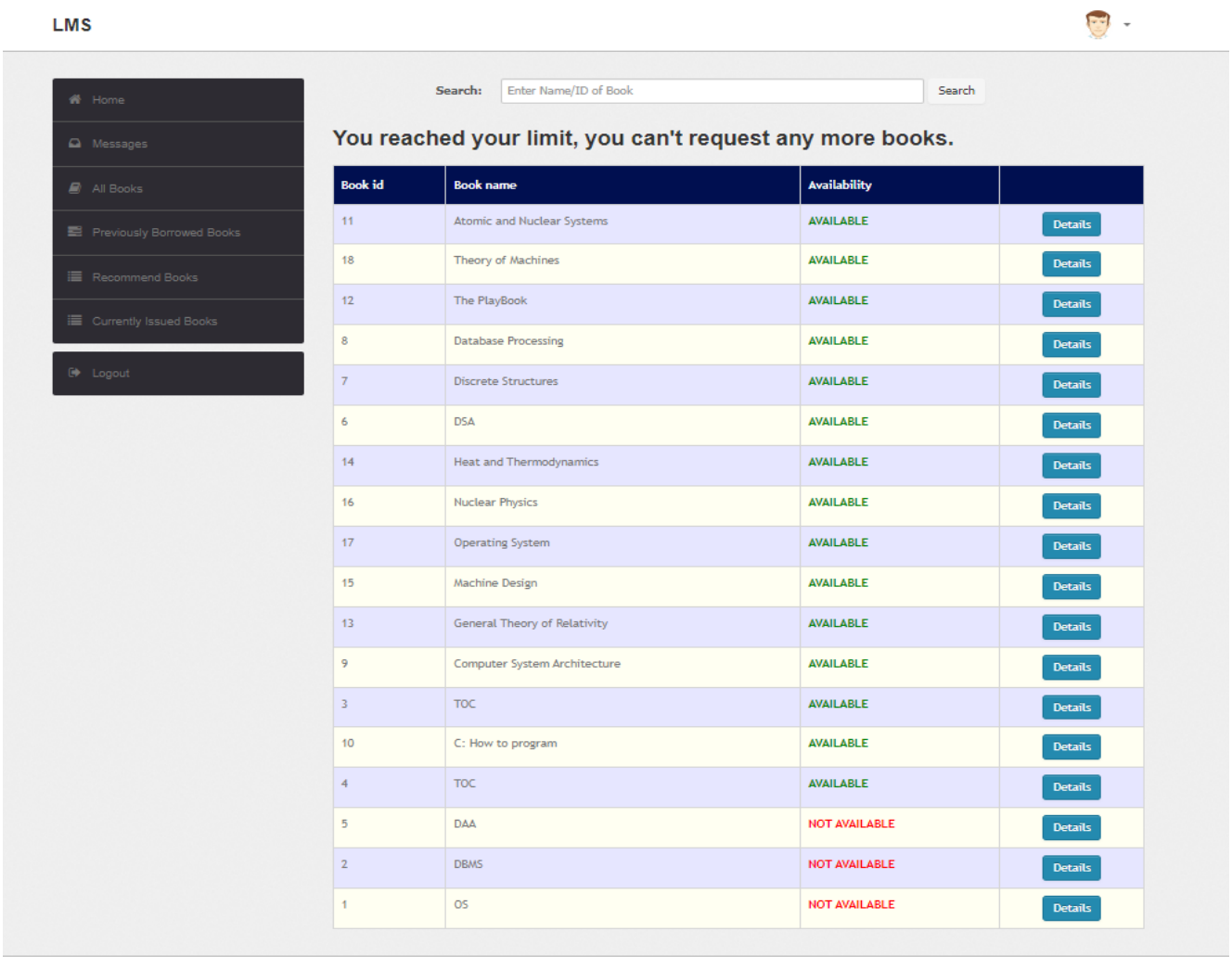
- students can view and edit their details on the profile page.

Message Page



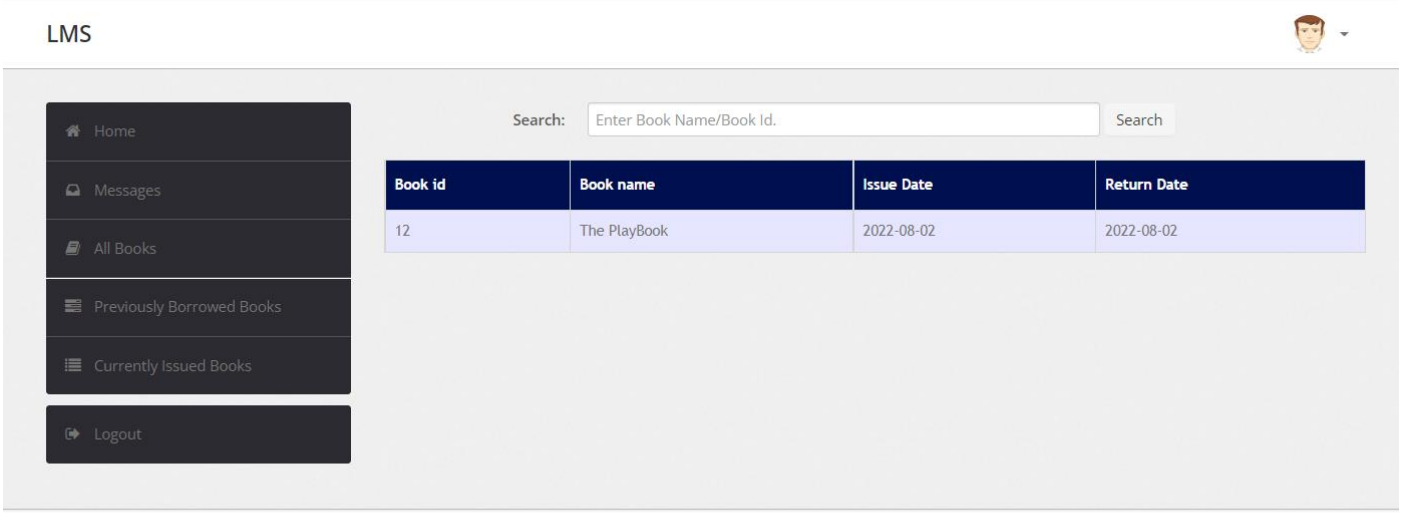
- students can see the messages received from the admin.
- Here the student can see whether their request for issue/renew/return has been approved or rejected.

All Books Page



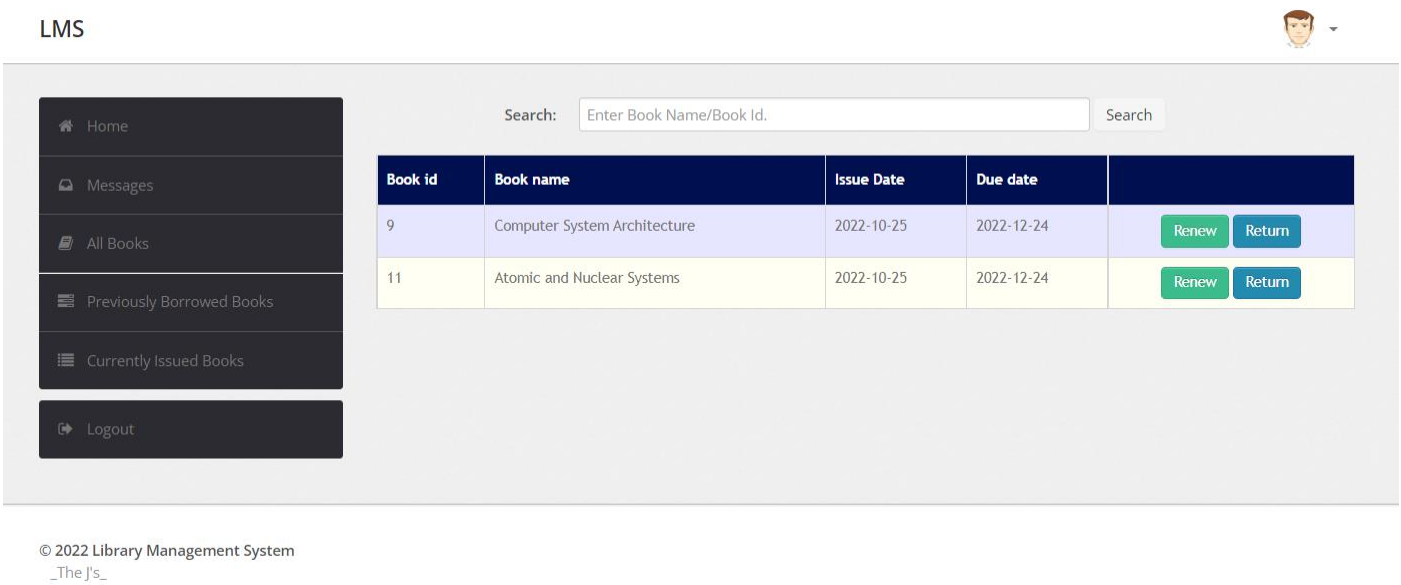
- In this page the student can get the details and check the availability of any books.
- Here they can request for a book.
- A student can only request 3 books maximum.

Previously Borrowed Books Page



- The 'Previously Borrowed Books' page shows the details of the books borrowed.
- Details include Book id, Book name, Issued Date, Return Date.

Currently Issued Books Page

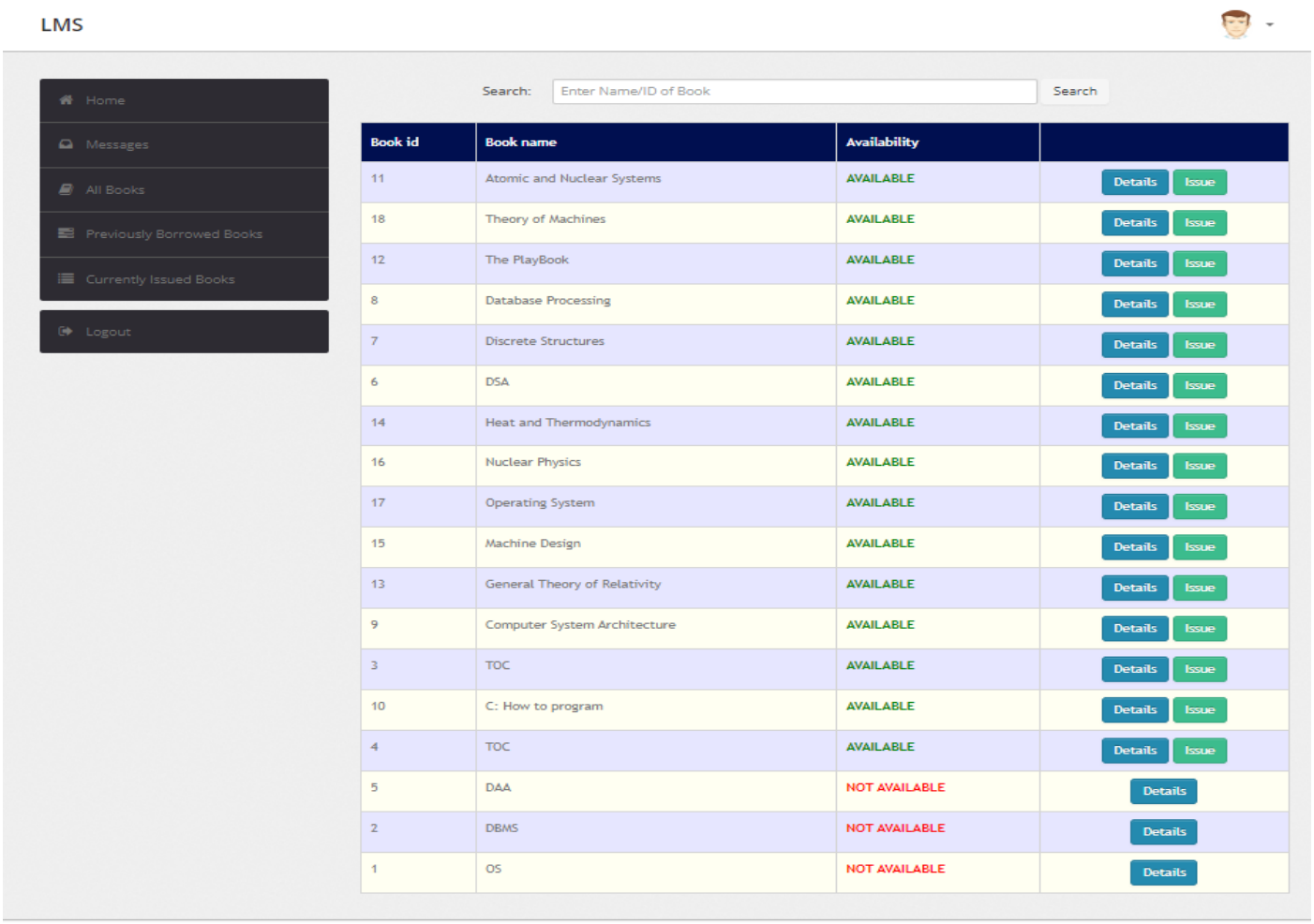


- In this page the student gets details of the books currently issued.
- The student can also request for renew/return of issued books.

Faculty User:

Faculty have elevated privileges than student users.
Logged in faculty users have access to the library management system with no constraints like student users. Faculty have unlimited access to books without any limit.

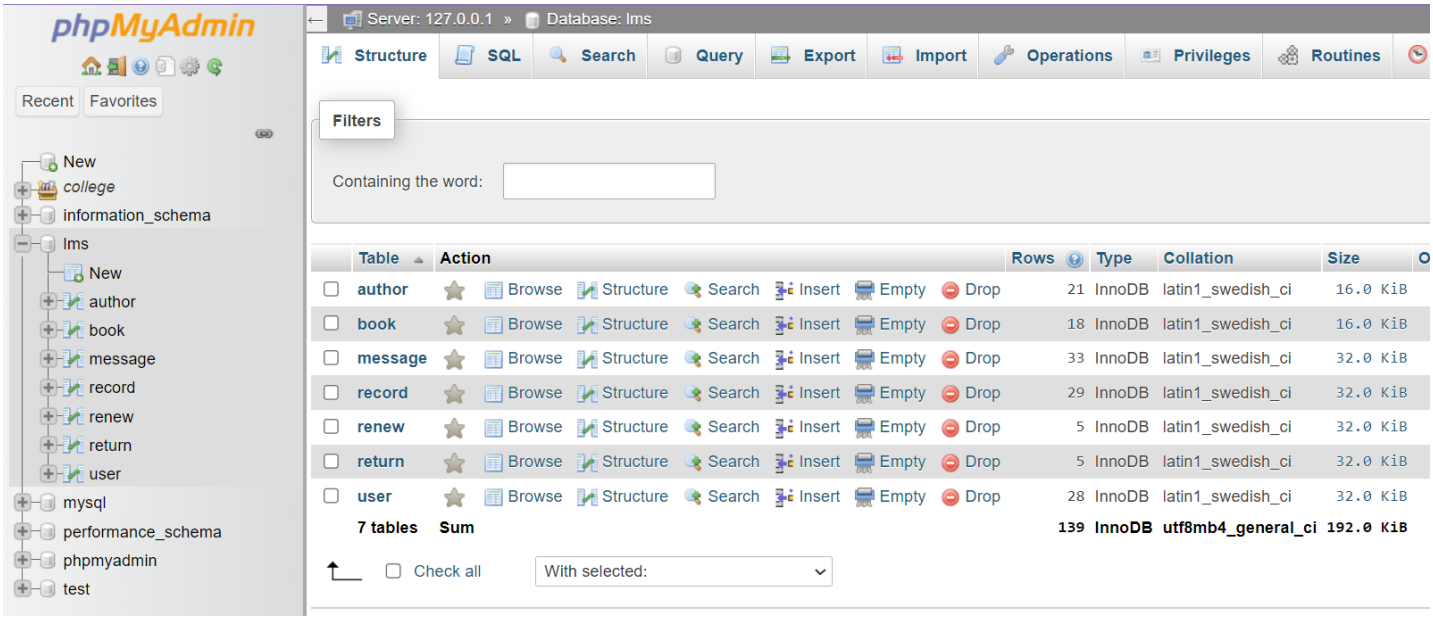
All Books Page



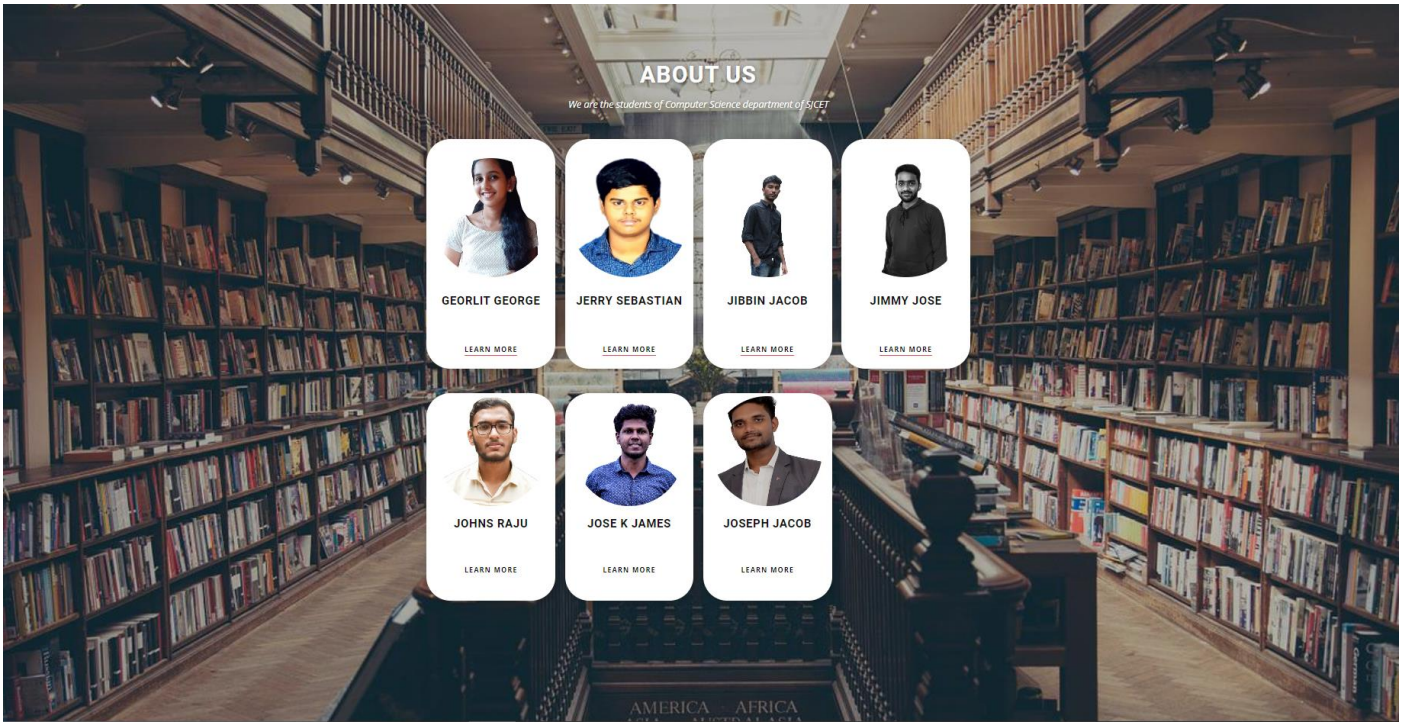
- In this page the faculty can get details of the books in the system.
- The faculty can request more than 3 books.
- All other access is the same as the student user.

Database using MYSQL

A glance to the tables in the local database created using SQL queries.
There are 7 different tables to handle the management system.
Database serves the request from the front-end to modify or fetch the data.



About Us


ABOUT US
We are the students of Computer Science department of SJCET
GEORLIT GEORGE
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JERRY SEBASTIAN
LEARN MORE
JIBBIN JACOB
LEARN MORE
JIMMY JOSE
LEARN MORE
JOHNS RAJU
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JOSE K JAMES
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A Glance to our Project

website link
http://dbms-lms.rf.gd/

GitHub link
https://github.com/cyberianzed/lms

Conclusion

The library data management system has been developed and deployed as per the requirements stated in the problem statement. The website provides a computerized version of library management system which will benefit the students as well as the staff of the library. It has different logins with upgraded privileges and functionalities.

The requirements used in preparing this code,

- Frontend – HTML, CSS, JS, PHP
- Backend – PHP, MySQL
- IDE used – VS Code
- Operating System - Windows 11

Appendix

For this project we use all possible resources to extend our knowledge on this topic.

References

www.w3resource.com

Steven Feuerstein, Bill Pribyl ., PL/SQL Programming, O'Reilly Media, 2014

Fundamentals of Database Systems by R., Navathe,S.B. Elmasri