Software Engineering Lab (CSE1005)

LIBRARY MANAGEMENT SYSTEM

FACULTY:

Dr.Hussain Ahmed Coudhary

TEAM MEMBERS:

Saketh - 19BCN7148
Gokul - 19BCD7006
Lohith - 19BCD7070
Harsha Ganesh - 19BCE7696

INTRODUCTION:

- Library management systems are designed to manage the movement of books and maintain records of the members in a library.
- The system should provide details on the books held by the members.
- The system should limit the number of books that can be taken and the number of days that a book can be kept for.
- The library management system software should be user-friendly and cost effective. It should be in tune with the establishment's needs and compatible with the existing technology.
- A library system is implemented, parameters like loan period must be established by those in charge of implementation.
- Library management system allows the librarian to maintain library resources in a more operative manner that will help to save their time. It is also convenient for the librarian to manage the process of books allotting and making payment. Library management system is also useful for students as well as a librarian to keep the constant track of the availability of all books in a store.

Literature Survey:

- A Library Management System (LMS) is a tool to help any libraries which are still using the old way to manage their library.
- The old way like searching for a book using manual work is hassle, fast report generation is not possible, information about issue/return of the books are not properly maintained, no central database can be created as information is not available in database. But by using the LMS, user can overcome all the problems mentioned above.
- This system can manage all the happenings of the library. Book transactions including book searching, availability of the book, details and appearance of the book, personal book borrowing history and etc. can be very easily handled by this system.
- This system is suitable for small to big libraries including medical and legal libraries, colleges, schools, universities, corporate houses and other academic resource centers.

Problem Statement

- A library database system is an infrastructure that allows users to search books and book content, add/remove, and download selected books.
- The problem faced is that library users require an efficient method to find a specific book or keyword(s) within a book given a continuously expanding library.
- The purpose of the Library Management system is to allow for storing details of a large number of books, magazines, Journals, thesis and allow for add, search, borrow, return facilities separately to administrator/Librarian, staff and students.

OBJECTIVE:

- The main objective of the Library Management System is to manage the details of Address, Member, Issues, Books,Student.
- It manages all the information about Address, Librarian, Student, Address.
- The project is totally built at administrative end and thus only the administrator is guaranteed the access.

Feasibility Study:

- **Market feasibility**

Users can easily use this software
for accessing books online. This project will be very
helpful for students and also for faculties. By using this we can easily access, download the books,materials .Each users can have your own profile. Now a days this type of software's would be very feasible.

- **Technology feasibility**

Technology Requirements – for accessing software mobile or PC

Specific Requirements

Functional Requirements

Librarian:

Insert book: This action is done to add new book to library book collection.

Delete / modify book : This event is to delete an existing book or modify its information.

Delete member: Admin can delete a member due to **some specific rules.**

Return book: Admin should confirm the return of books borrowed by users

Normal User :

Register:

When new user enters for the first time then he has to register.

Search:

User can search for their require book and request that book

Common Functions :

Login: Both Admin and members must be logged in before they modify any information

Search for book : When user or admin wants to search on some book by name,author or subject etc.

Non-functional Requirements

- **Error handling :-** Library Management System shall handle expected and nonexpected errors in ways that prevent loss in information and long downtime period.
- **Performance Requirements:-** The system shall accommodate high number of books and users without any fault.
- **Safety Requirements :-** System use should not cause any harm to human users
- **Security Requirements:-** System will use secured database Normal users can just read information but they cannot edit or modify anything except their personal and some other information. System will have different types of users and every user has access constraints

Library Management System
INTERFACE

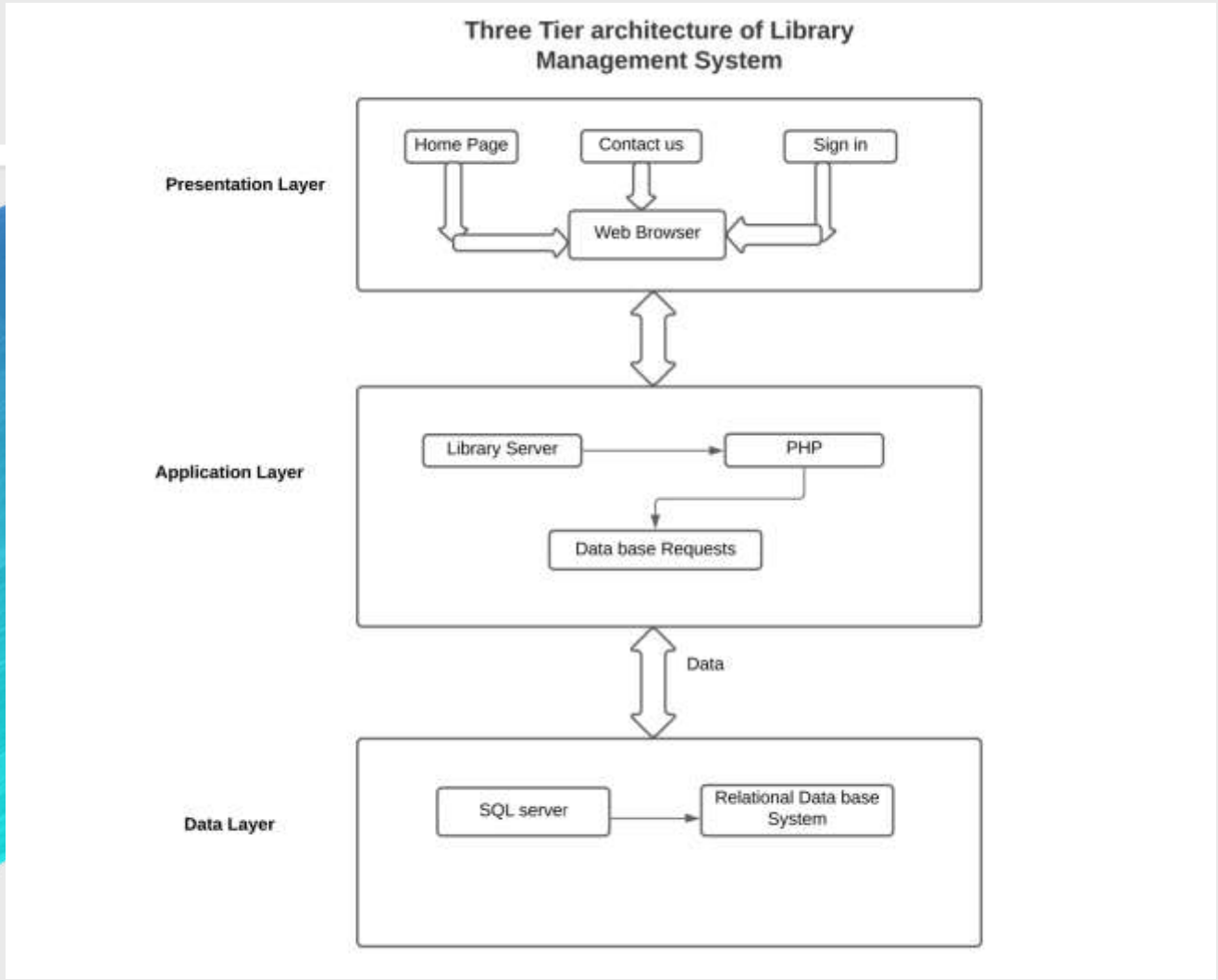
Login Interface :
In case the user is not registered yet, he can enter the details and register.Which asks the user to type his username and password . If the user entered either his username or password incorrectly then an error message occurs.

Search : The member or librarian can enter the type of book he is looking for and the title he is interested in them ,then he can search for the required book by entering the book name.

Librarian's Control Panel : This control panel will allow librarians to add, confirm, or remove users; add, edit, or remove a medium. And manage lending options.

Methodology and design


Use case Diagram for Library management system
USER LOGIN
MEMBER LOGIN
SEARCH MEMBER
MAINTAIN USER DETAILS
MAINTAIN MEMBER DETAILS
MAINTAIN BOOK DETAILS
LEND BOOK
RETURN BOOK
REMOVE RESERVATION
PAY FINE
<<extend>>
<<include>>
RESERVE BOOK
SEARCH BOOK
VIEW PROFILE
GENERATE REPORT
FILE COMPLAINT
ADD BOOK
DELETE BOOK
EDIT BOOK
Text
MEMBER
LIBRARIAN
SYSTEM
SEND OVERDUE NOTIFICATION
SEND RESERVATION AVAILABLE NOTIFICATION
SEND RESERVATION CANCEL NOTIFICATION


Three Tier architecture of Library Management System
Presentation Layer
Home Page
Contact us
Sign in
Web Browser
Application Layer
Library Server
PHP
Data base Requests
Data
Data Layer
SQL server
Relational Data base System

Presentation Layer:

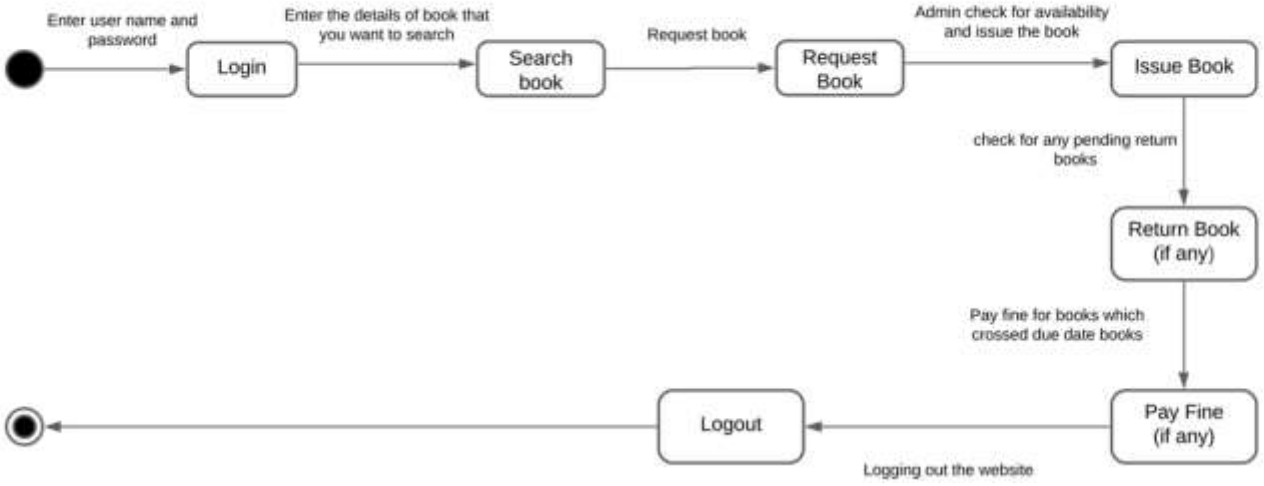
In this Layer User interfaces will be there. Home page, Contact us page, Sign in page and other pages like book search, profile page, etc pages will be there in this layer.

Application Layer:

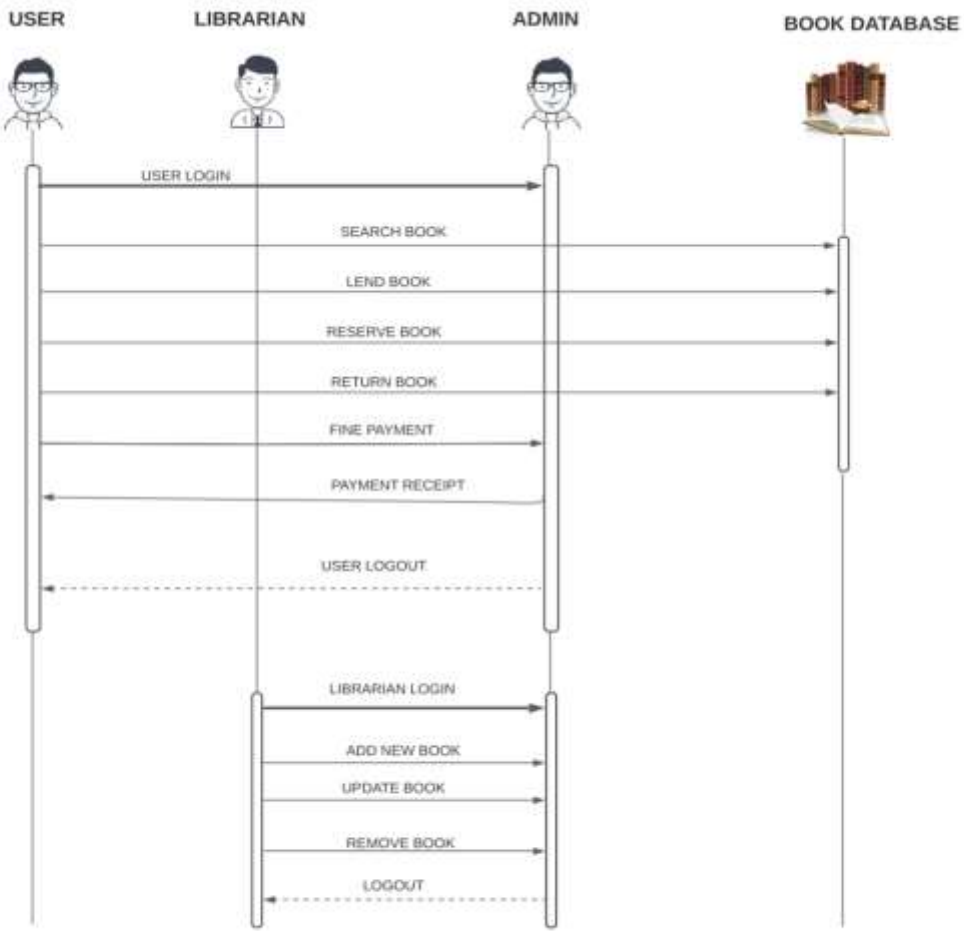
All users database requests are send in this layer. Using PHP and other programming language, we use as data base requests. Then we will use this according to our need to retrive data.

Data Layer:

In this layer the data like login credentials ,user details, book details, reports is stored in Relational data base. According to our needs we retrive the data by using the data which is stored in this data base.

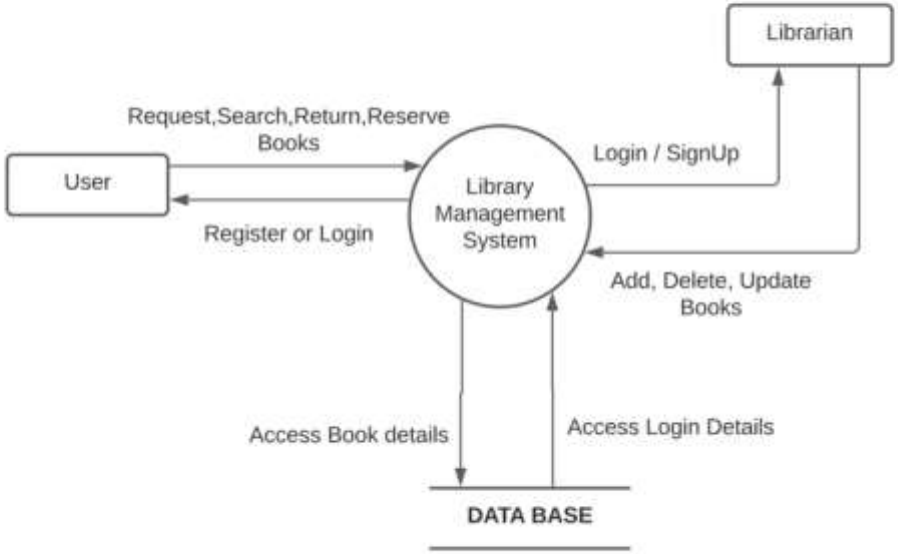


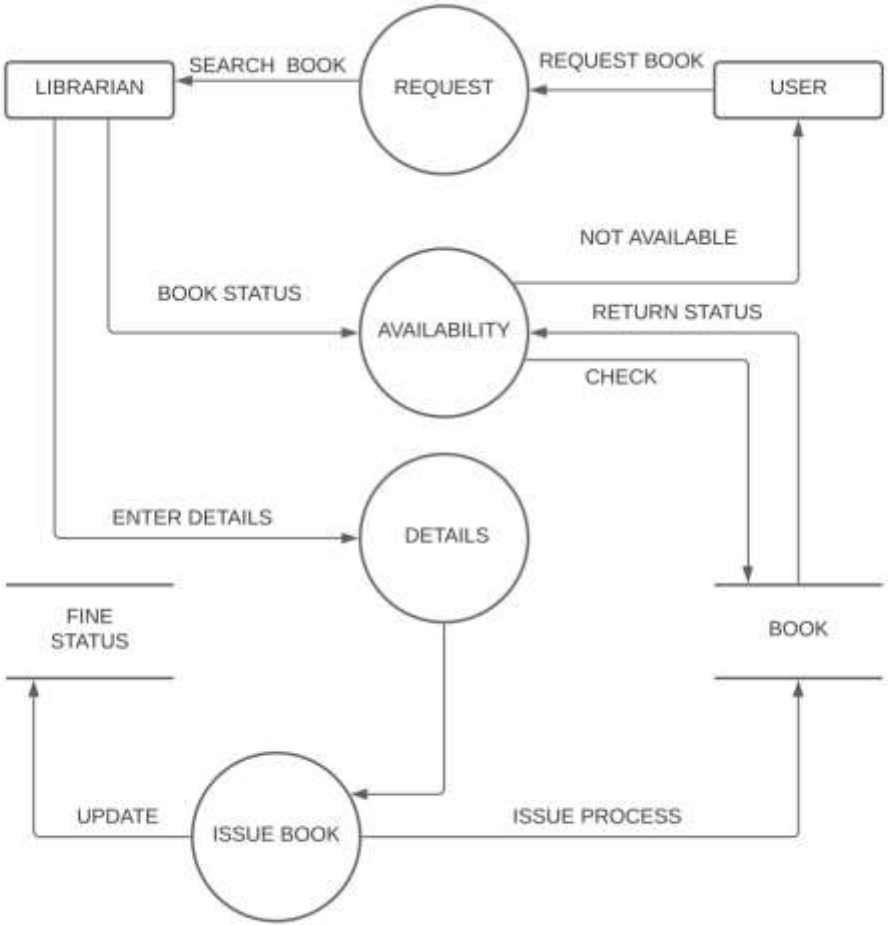
State Chart Diagram for Library Management System



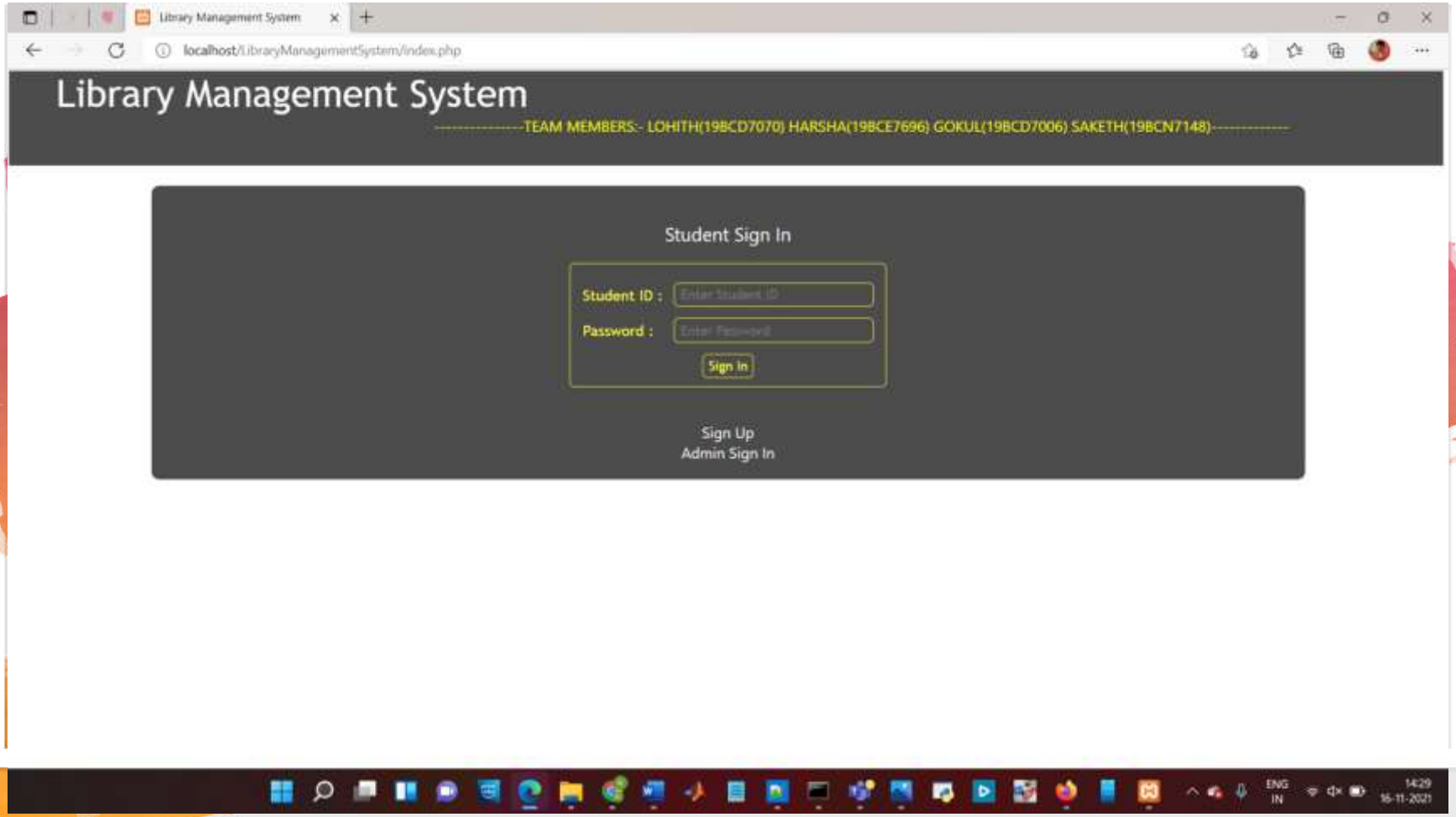
SEQUENCE DIAGRAM FOR LIBRARY MANAGEMENT SYSTEM

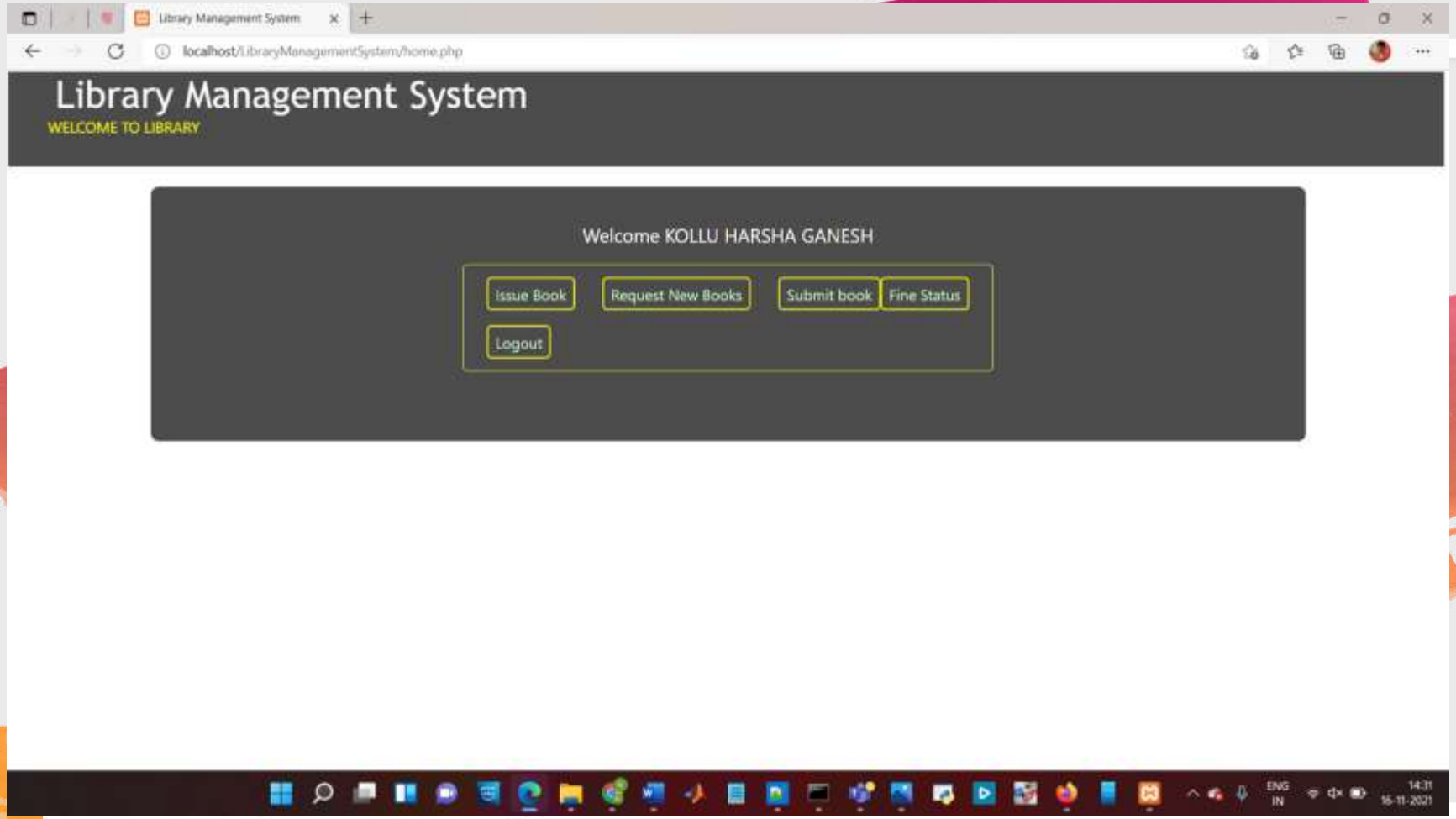
Zero Level Data Flow Diagram for Library Management System

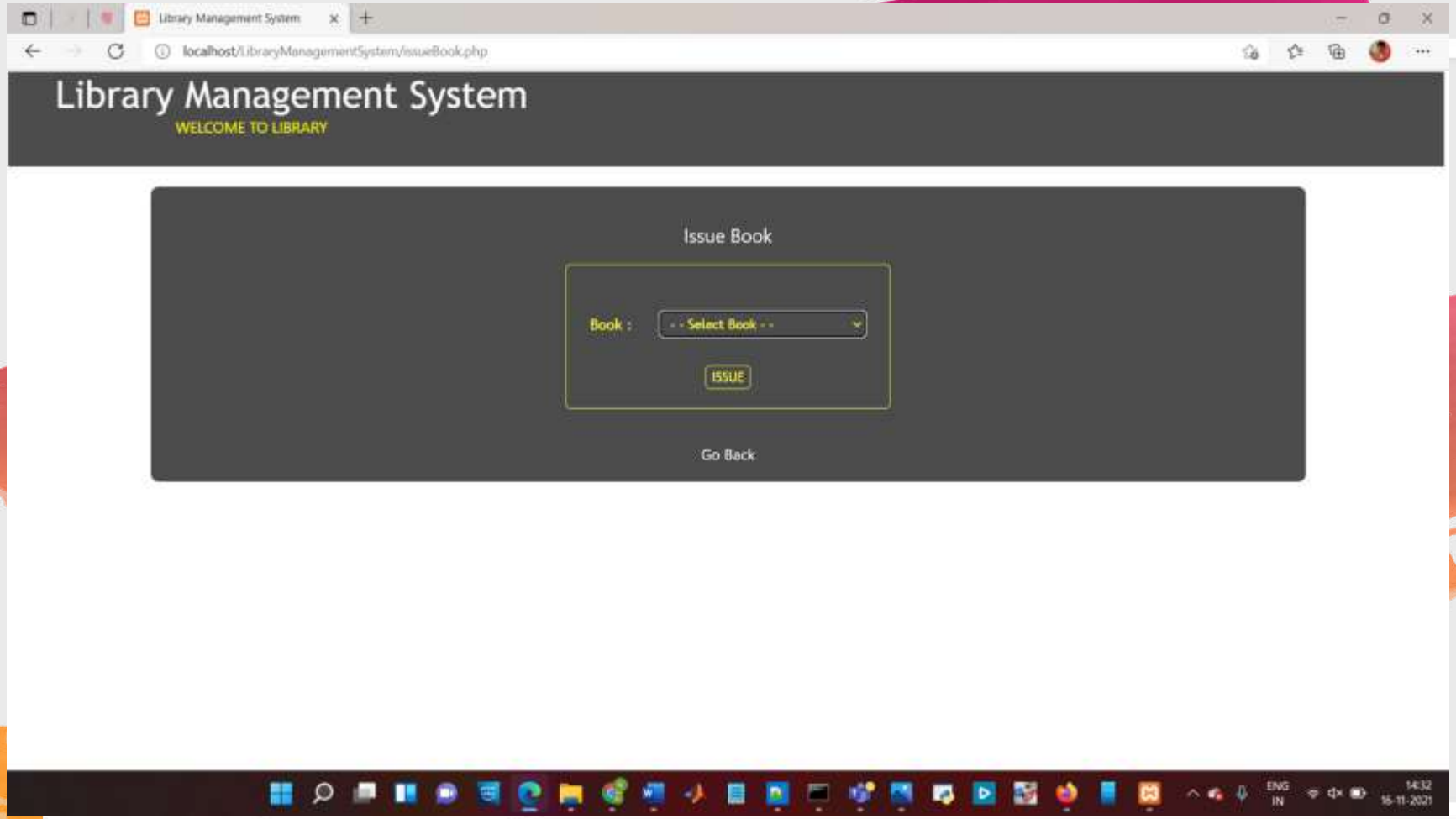


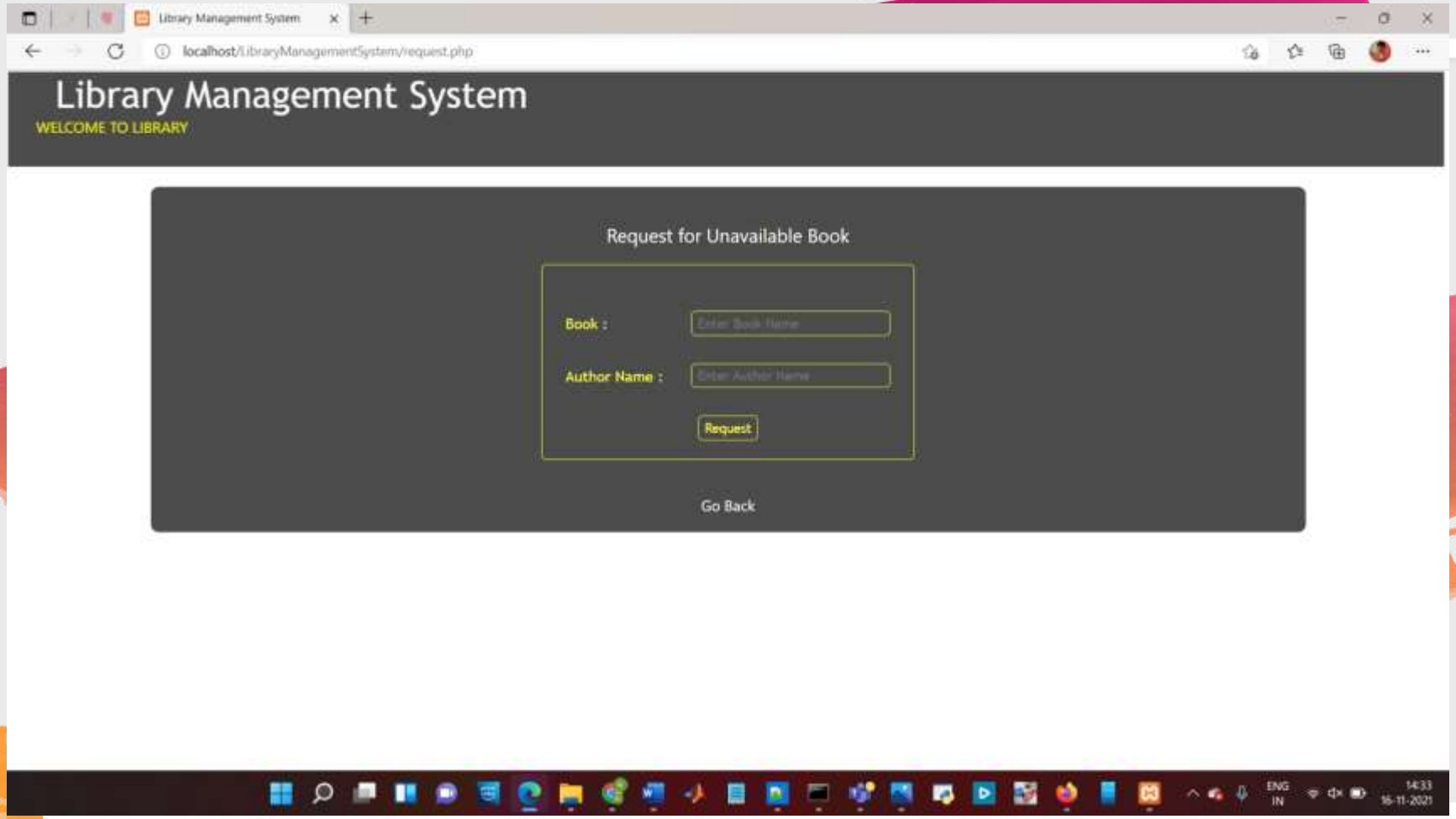


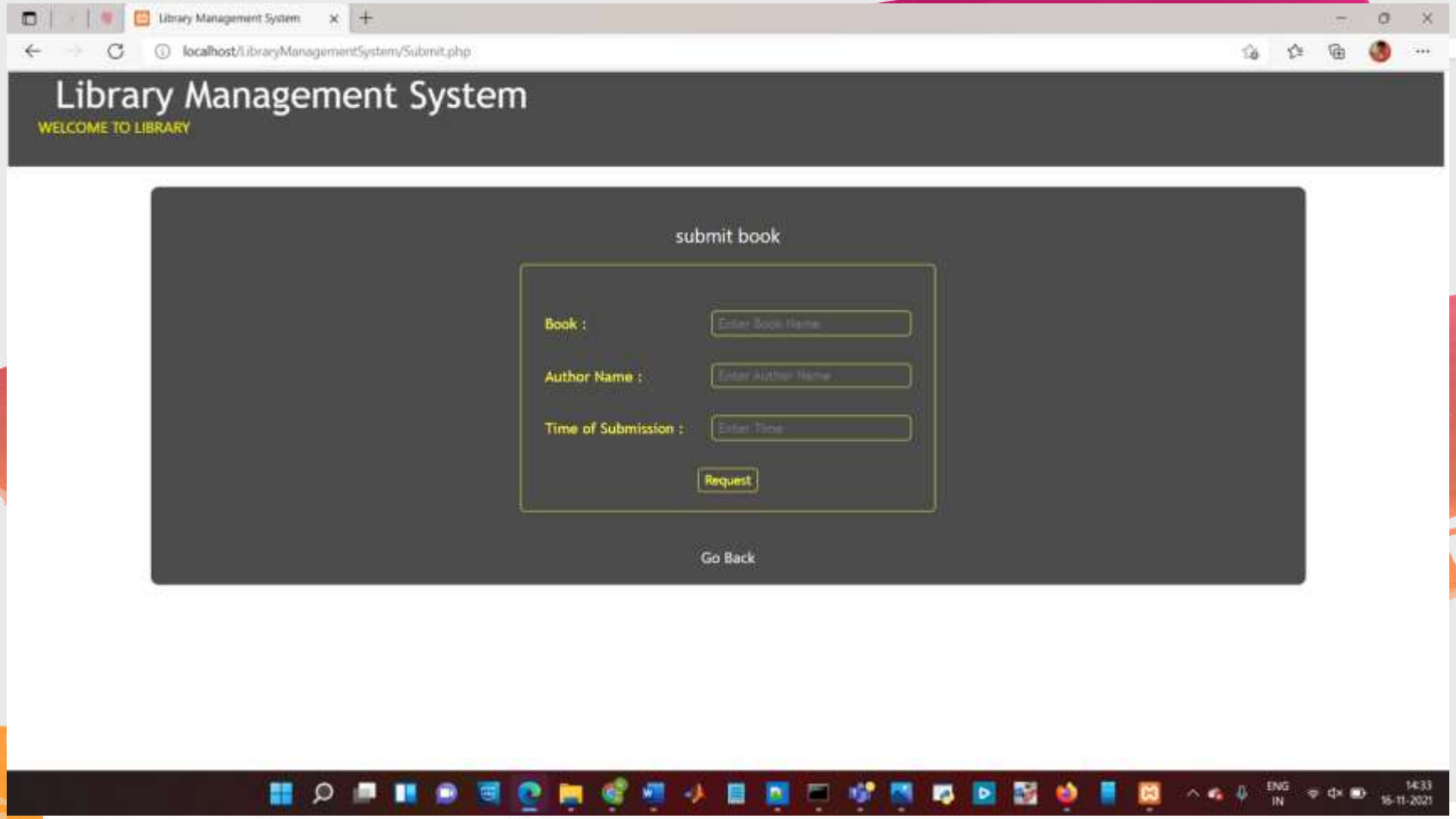
Level-One Data Flow Diagram for Library Management System

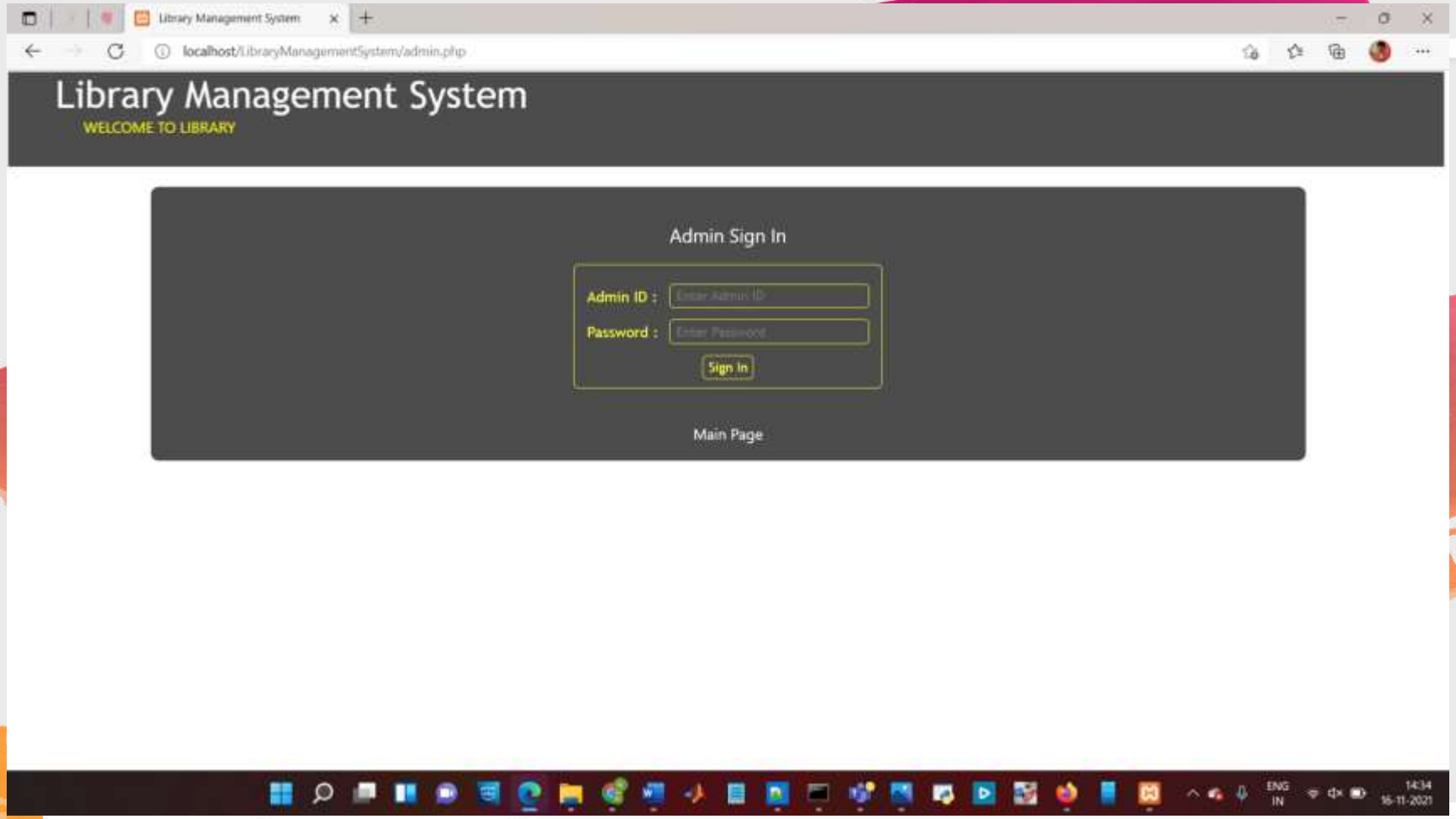

Library Management System
localhost/LibraryManagementSystem/index.php
Library Management System
----------TEAM MEMBERS:- LOHITH(19BCD7070) HARSHA(19BCE7696) GOKUL(19BCD7006) SAKETH(19BCN7148)----------
Student Sign In
Student ID :
Password :
Sign In
Sign Up
Admin Sign In

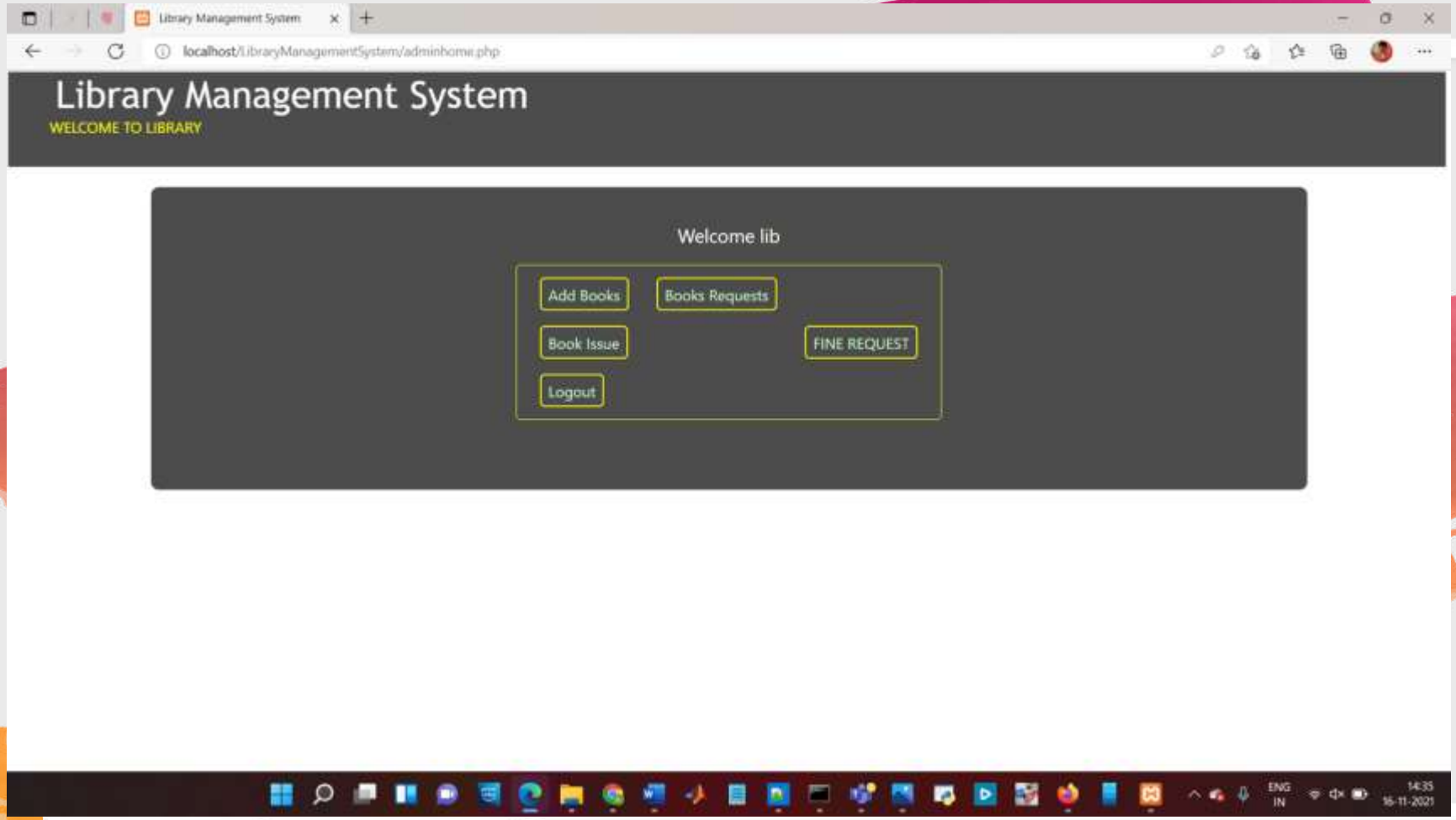

Library Management System
localhost/LibraryManagementSystem/home.php
Library Management System
WELCOME TO LIBRARY
Welcome KOLLU HARSHA GANESH
Issue Book
Request New Books
Submit book
Fine Status
Logout

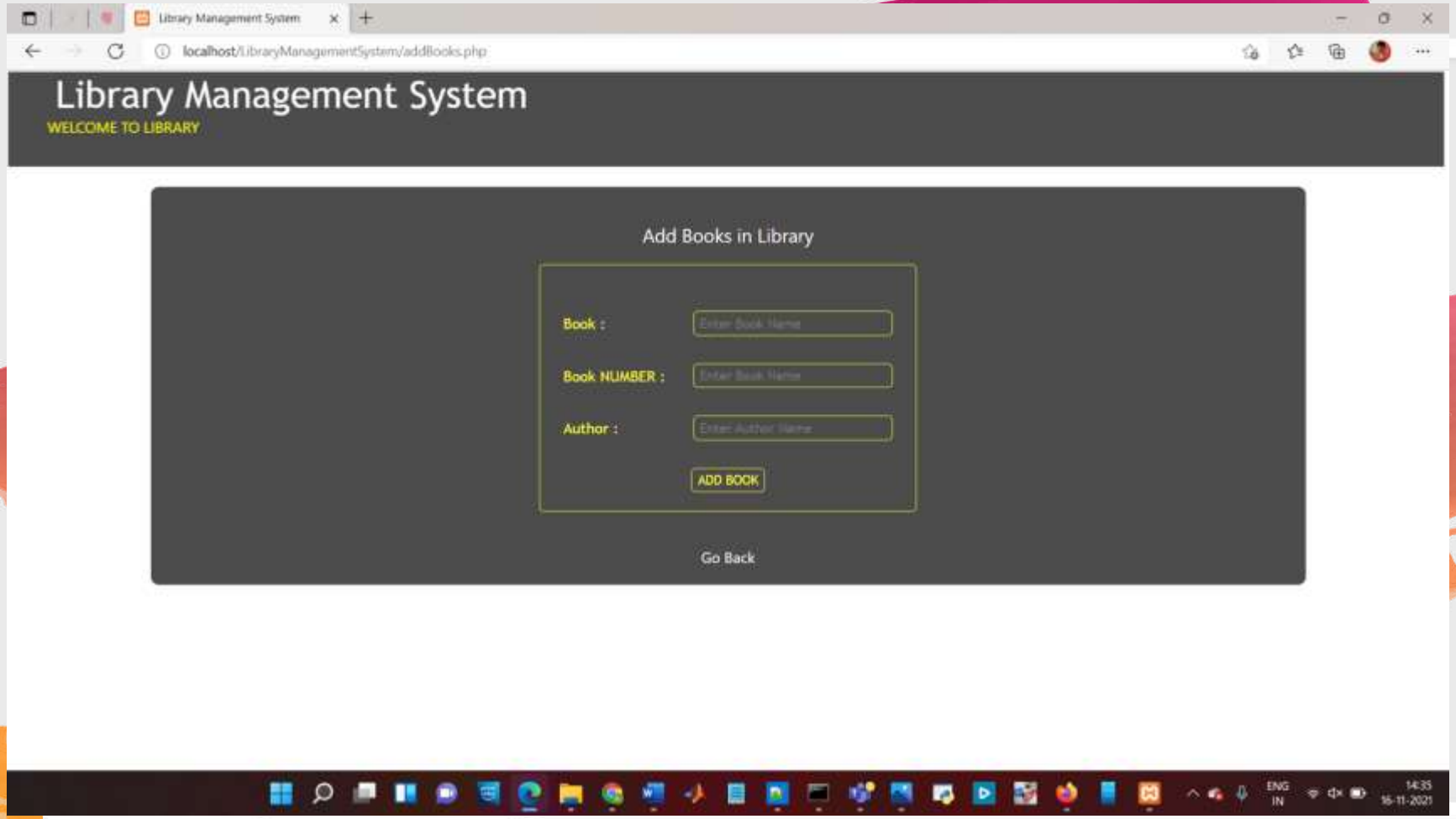

Library Management System
localhost/LibraryManagementSystem/issueBook.php
Library Management System
WELCOME TO LIBRARY
Issue Book
Book :
- - Select Book - -
ISSUE
Go Back
ENG
IN
14:32
16-11-2021

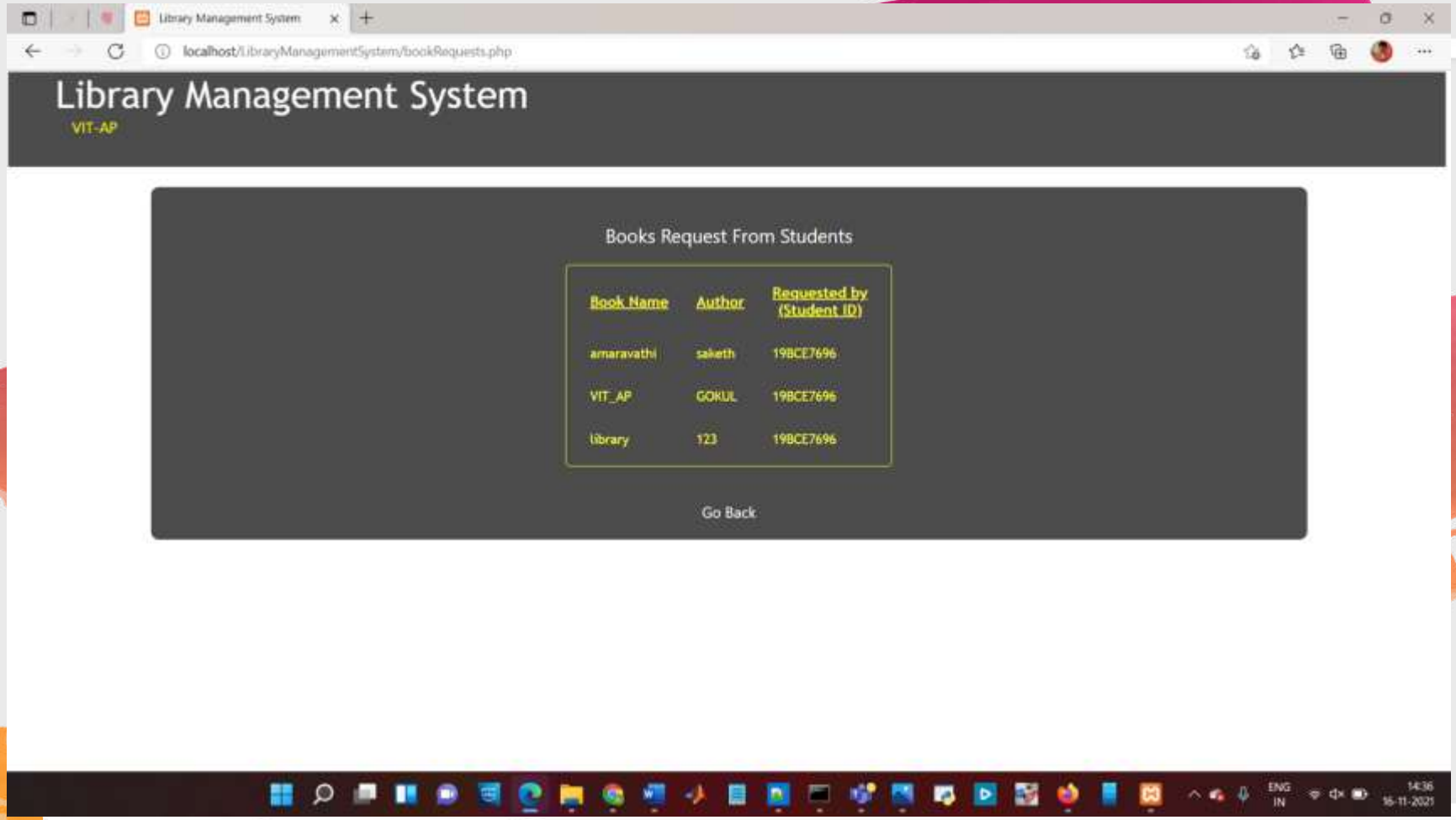

Library Management System
localhost/LibraryManagementSystem/request.php
Library Management System
WELCOME TO LIBRARY
Request for Unavailable Book
Book :
Author Name :
Request
Go Back

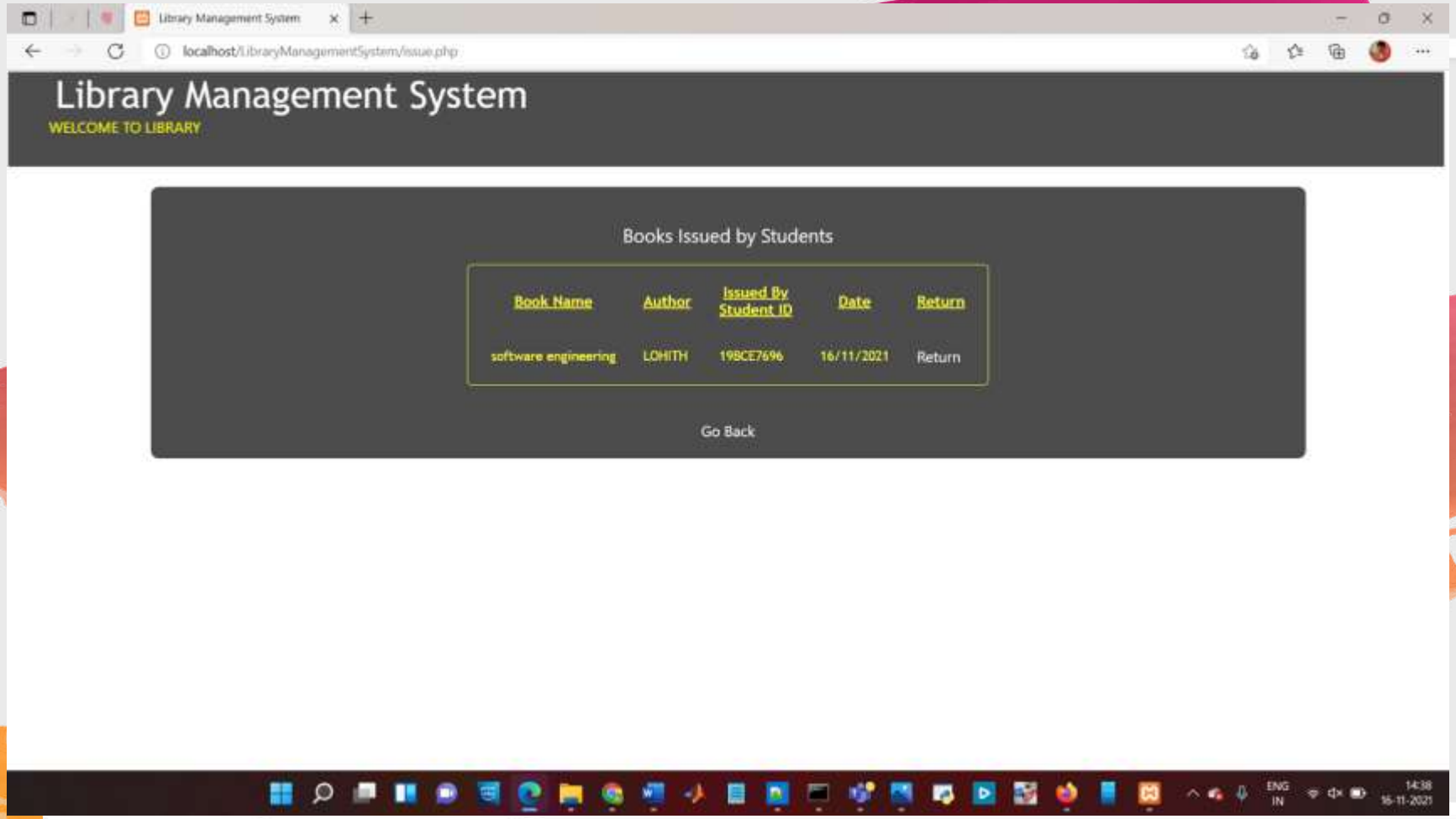

Library Management System
localhost/LibraryManagementSystem/Submit.php
Library Management System
WELCOME TO LIBRARY
submit book
Book :
Author Name :
Time of Submission :
Request
Go Back

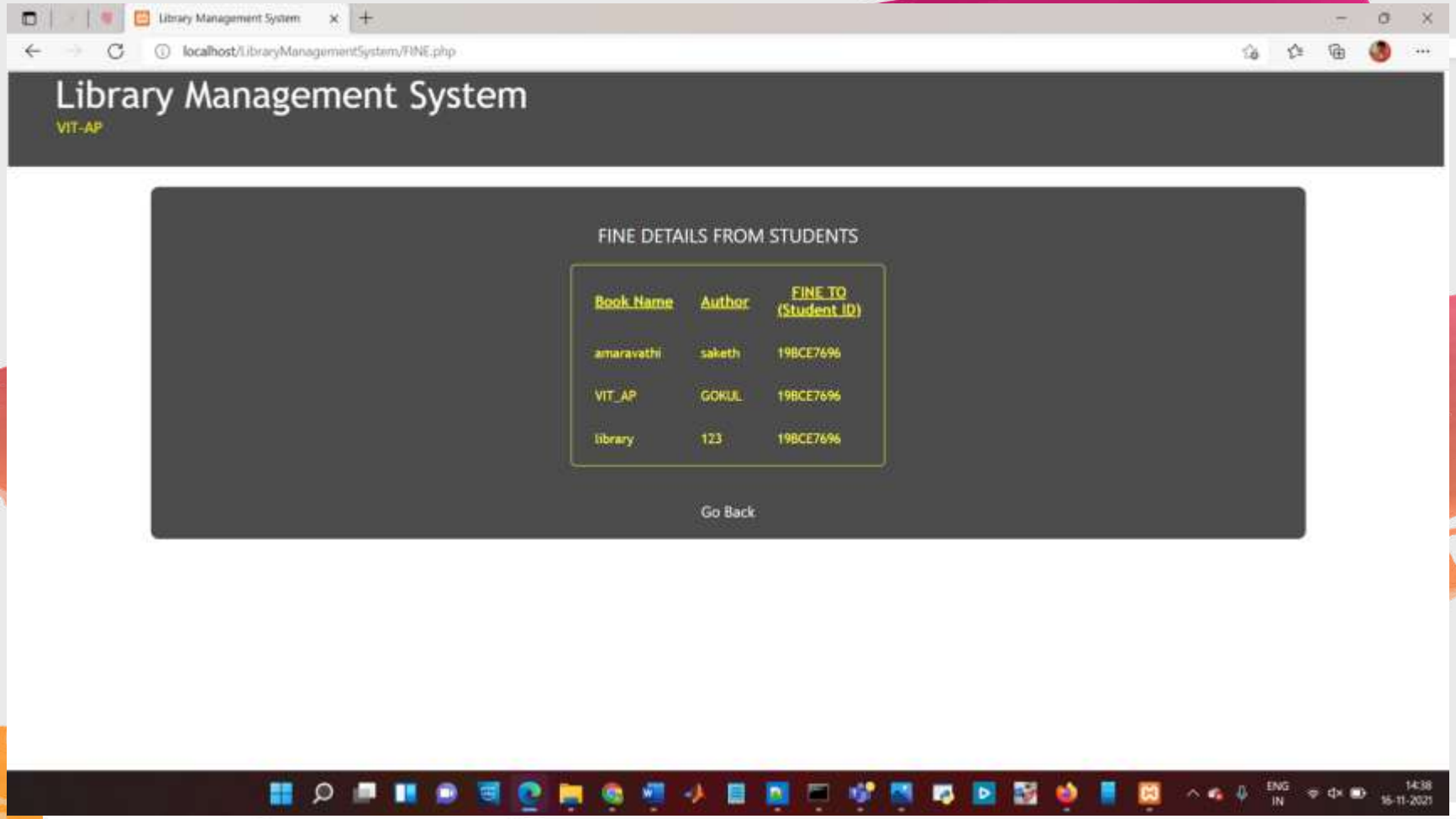

Library Management System
localhost/LibraryManagementSystem/admin.php
Library Management System
WELCOME TO LIBRARY
Admin Sign In
Admin ID :
Password :
Sign In
Main Page

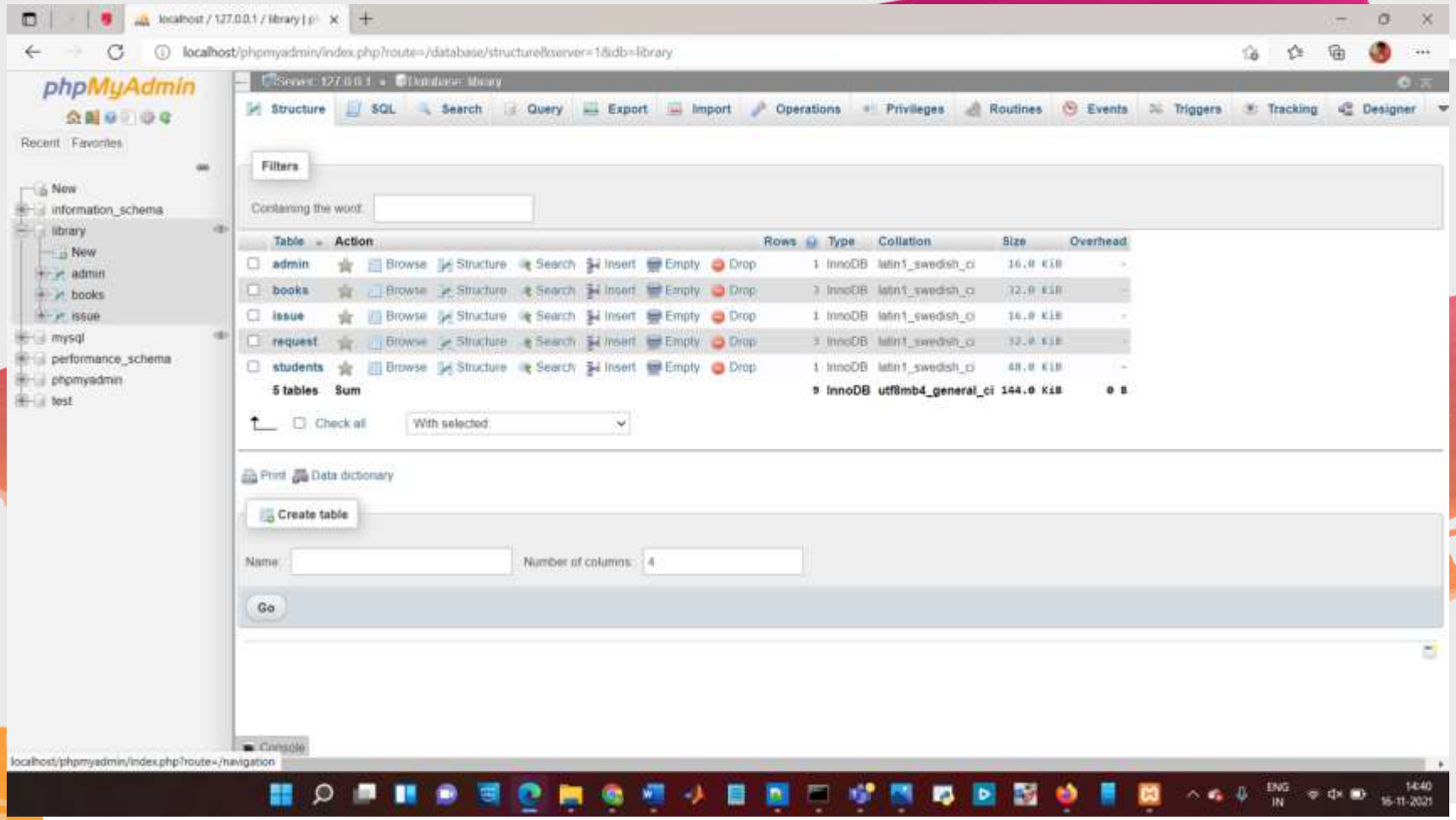

Library Management System
localhost/LibraryManagementSystem/adminhome.php
Library Management System
WELCOME TO LIBRARY
Welcome lib
Add Books
Books Requests
Book Issue
FINE REQUEST
Logout

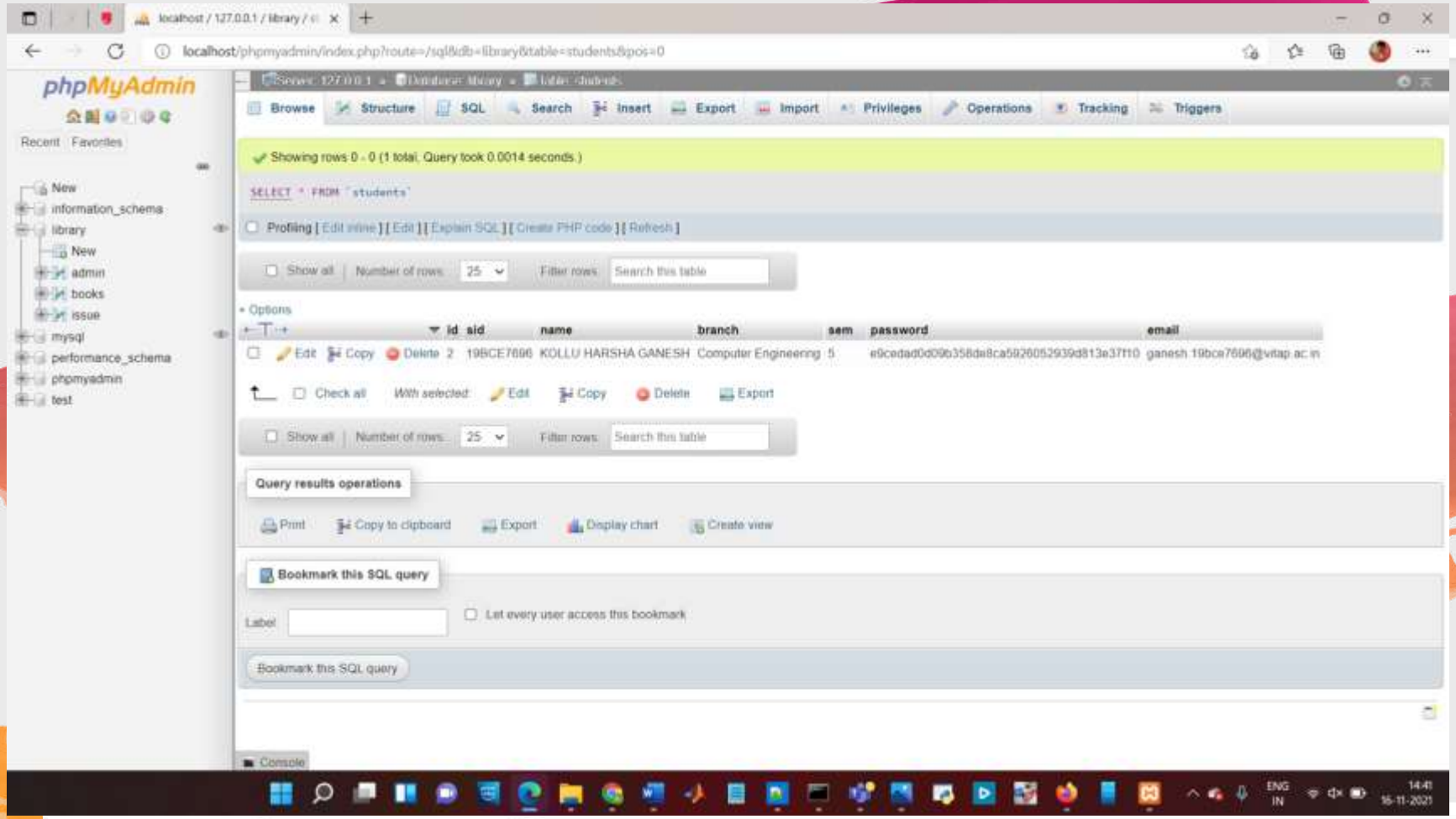

Library Management System
localhost/LibraryManagementSystem/addBooks.php
Library Management System
WELCOME TO LIBRARY
Add Books in Library
Book :
Book NUMBER :
Author :
ADD BOOK
Go Back

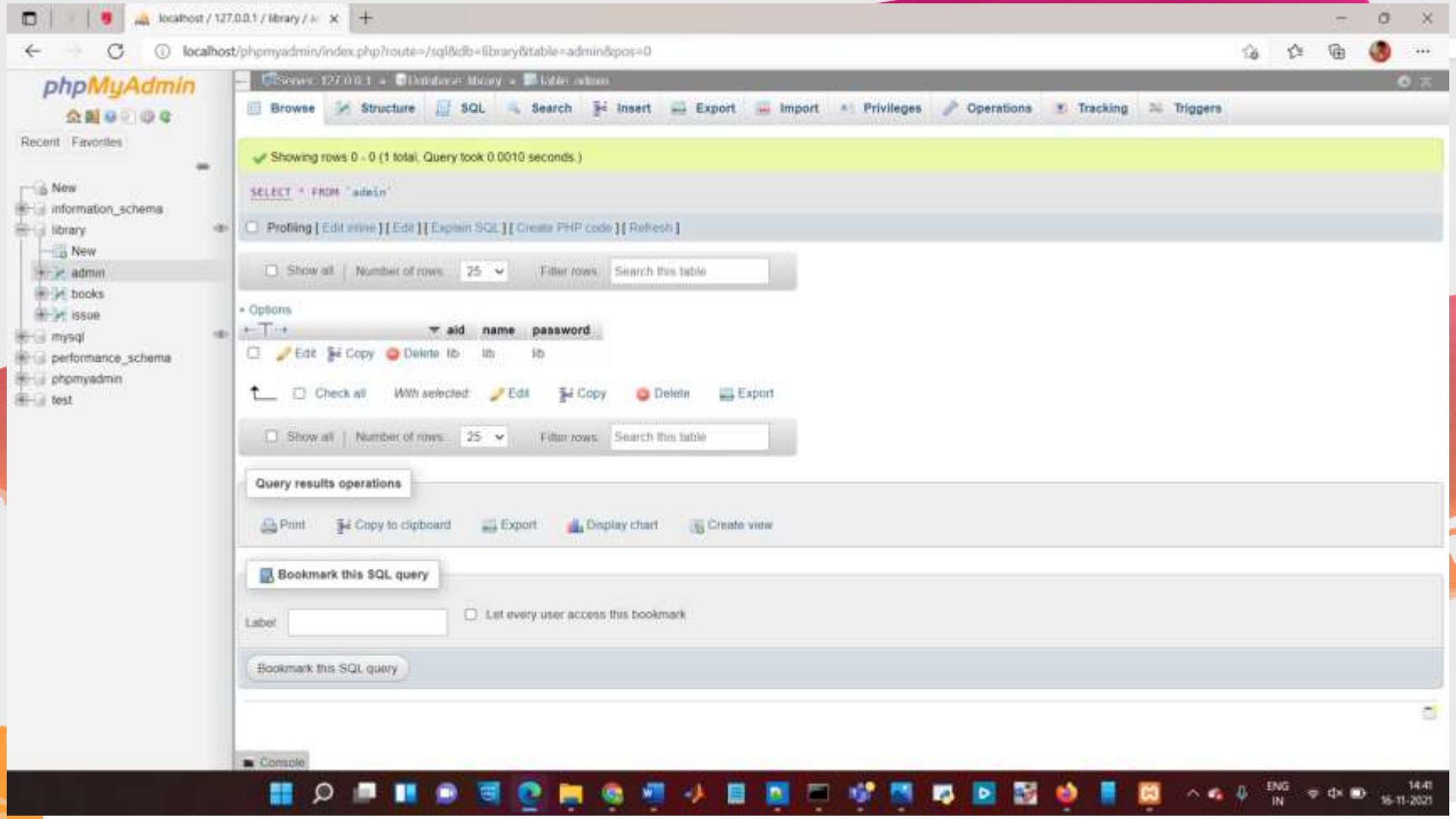

Library Management System
localhost/LibraryManagementSystem/bookRequests.php
Library Management System
VIT-AP
Books Request From Students
Book Name
Author
Requested by (Student ID)
amaravathi
saketh
19BCE7696
VIT_AP
GOKUL
19BCE7696
library
123
19BCE7696
Go Back


Library Management System
localhost/LibraryManagementSystem/issue.php
Library Management System
WELCOME TO LIBRARY
Books Issued by Students
Book Name
Author
Issued By Student ID
Date
Return
software engineering
LOHITH
19BCE7696
16/11/2021
Return
Go Back


Library Management System
localhost/LibraryManagementSystem/FINE.php
Library Management System
VIT-AP
FINE DETAILS FROM STUDENTS
Book Name
Author
FINE TO (Student ID)
amaravathi
saketh
19BCE7696
VIT_AP
GOKUL
19BCE7696
library
123
19BCE7696
Go Back


localhost / 127.0.0.1 / library
localhost/phpmyadmin/index.php?route=/database/structure&server=1&db=library
phpMyAdmin
Recent Favorites
New
information_schema
library
New
admin
books
issue
mysql
performance_schema
phpmyadmin
test
Server: 127.0.0.1 » Database: library
Structure SQL Search Query Export Import Operations Privileges Routines Events Triggers Tracking Designer
Filters
Containing the word:
Table Action Rows Type Collation Size Overhead
admin Browse Structure Search Insert Empty Drop 1 InnoDB latin1_swedish_ci 16.0 KiB -
books Browse Structure Search Insert Empty Drop 3 InnoDB latin1_swedish_ci 32.0 KiB -
issue Browse Structure Search Insert Empty Drop 1 InnoDB latin1_swedish_ci 16.0 KiB -
request Browse Structure Search Insert Empty Drop 3 InnoDB latin1_swedish_ci 32.0 KiB -
students Browse Structure Search Insert Empty Drop 1 InnoDB latin1_swedish_ci 48.0 KiB -
5 tables Sum 9 InnoDB utf8mb4_general_ci 144.0 KiB 0 B
Check all With selected:
Print Data dictionary
Create table
Name: Number of columns: 4
Go
Console
localhost/phpmyadmin/index.php?route=/navigation
ENG IN
14:40 16-11-2021


localhost / 127.0.0.1 / library /
localhost/phpmyadmin/index.php?route=/sql&db=library&table=students&pos=0
phpMyAdmin
Recent Favorites
New
information_schema
library
New
admin
books
issue
mysql
performance_schema
phpmyadmin
test
Browse
Structure
SQL
Search
Insert
Export
Import
Privileges
Operations
Tracking
Triggers
Showing rows 0 - 0 (1 total, Query took 0.0014 seconds.)
SELECT * FROM `students`
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all | Number of rows: 25 | Filter rows: Search this table
Options
id sid name branch sem password email
Edit Copy Delete 2 19BCE7696 KOLLU HARSHA GANESH Computer Engineering 5 e9cedad0d09b358da8ca5926052939d813e37f10 ganesh.19bce7696@vitap.ac.in
Check all With selected: Edit Copy Delete Export
Show all | Number of rows: 25 | Filter rows: Search this table
Query results operations
Print Copy to clipboard Export Display chart Create view
Bookmark this SQL query
Label
Let every user access this bookmark
Bookmark this SQL query
Console
ENG IN
14:41
16-11-2021


localhost / 127.0.0.1 / library /
localhost/phpmyadmin/index.php?route=/sql&db=library&table=admin&pos=0
phpMyAdmin
Recent Favorites
New
information_schema
library
New
admin
books
issue
mysql
performance_schema
phpmyadmin
test
Browse
Structure
SQL
Search
Insert
Export
Import
Privileges
Operations
Tracking
Triggers
Showing rows 0 - 0 (1 total, Query took 0.0010 seconds.)
SELECT * FROM `admin`
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all
Number of rows:
25
Filter rows:
Search this table
Options
aid
name
password
Edit
Copy
Delete
lib
Check all
With selected:
Edit
Copy
Delete
Export
Query results operations
Print
Copy to clipboard
Export
Display chart
Create view
Bookmark this SQL query
Label:
Let every user access this bookmark
Bookmark this SQL query
Console

RESULT

This website provides a computerized version of library management system which will benefit the students as well as the staff of the library. It makes entire process online where student can search books, staff can generate reports and do book transactions. It also has a facility for student login where student can login and can see status of books issued

FUTURE SCOPE:

There is a future scope of this facility that many more features such as online lectures video tutorials can be added by teachers as well as online assignments submission facility , a feature Of group chat where students can discuss various issues of engineering can be added to this project thus making it more interactive more user friendly and project which fulfills each users need in the best way possible.

References

[1] http://www.w3schools.com/html/html_intro.asp

[2] https://app.creately.com/diagram/cOBN5mVKsCa/edit

[3] https://www.w3schools.com/php/php_intro.asp

[4] https://www.myschoolr.com/blog/why-need-a-librarymanagementsystem.html