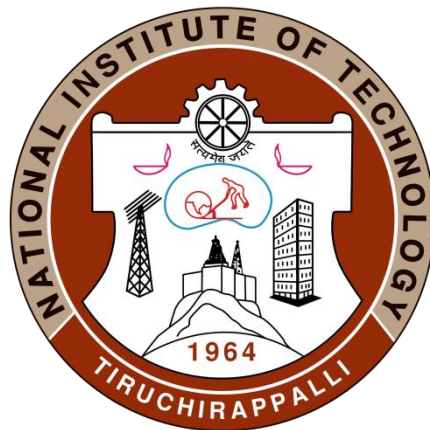


NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

Tamil Nadu-620015



‘Database Management system’

PROJECT REPORT

Department Of Computer Applications

Submitted To:

Dr. U. Vignesh

Submitted By:

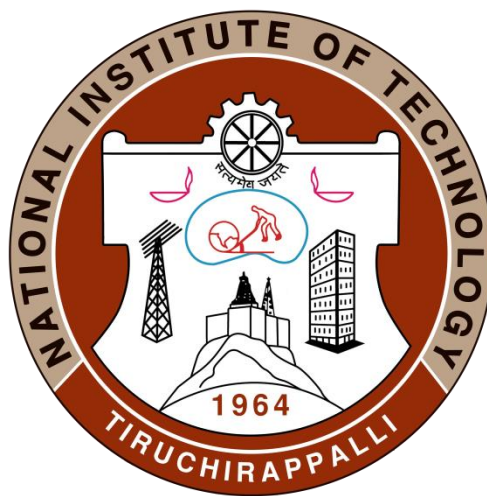
Roll No. – 205119051

Name – Lakshay

MCA – First year

Section - A

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI



CERTIFICATE

This is to certify that **Mr. LAKSHAY**, student of 2nd semester MCA (batch 2019-2022) of National Institute of Technology, Tiruchirappalli has successfully completed the project **E-LIBRARY MANAGEMENT SYSTEM** in PHP & SQL.

(Signature)
Dr. U. Vignesh

Abstract

E- Library Management System is a system which maintains the information about the books present in the library, their authors, the members of library to whom books are issued and all. This is very difficult to organize manually. Maintenance of all this information manually is a very complex task.

Owing to the advancement of technology, organization of an Online Library becomes much simple. The Online Library Management has been designed to computerize and automate the operations performed over the information about the members, book issues and returns and all other operations. This computerization of library helps in many instances of its maintenances. It reduces the workload of management as most of the manual work done is reduced

PROJECT AIMS AND OBJECTIVES:

The project aims and objectives that will be achieved after completion of this project are discussed in this subchapter. The aims and objectives are as follows:

- Online book reading.
- A search column to search availability of books.
- Facility to download required book.
- Video tutorial for students.(If further added)
- An Admin login page where admin can add books, categories or users.
- Open link for Learning Websites.

GENERAL DESCRIPTION:

E- Library Management System is a computerized system which helps user (librarian) to manage the library daily activity in electronic format. It reduces the risk of paper work such as file lost, file damaged and time consuming.

It can help user to manage the transaction or record more effectively and time- saving.

REQUIREMENTS:

PROCESSOR	INTEL CORE PROCESSOR OR BETTER PERFORMANCE
OPERATING SYSTEM	WINDOWS 7,WINDOWS 10, LINUX
MEMORY	1GB RAM OR MORE
HARD DISK SPACE	MINIMUM 3 GB FOR DATABASE USAGE FOR FUTURE
DATABASE	PHP My SQL Database

The whole Project is divided in two parts the front end and the back end.

- ✓ Front end
- ✓ The front end is designed using of HTML,CSS, Bootstrap 4
- ✓ Back end is developed by using PHP My SQL and managed by phpMyAdmin

HTML- (Hyper Text Markup Language) :

This is the main markup language for creating web pages and other information that can be displayed in a web browser. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. It can embed scripts written in languages such as JavaScript which affect the behavior of HTML web pages.

CSS- Cascading Style Sheets:

A style sheet language used for describing the look and formatting of a document written in a markup language. While most often used to style web pages and interfaces written in HTML and XHTML, the language can be applied to any kind of XML document, including plain XML, SVG and XUL..CSS is designed primarily to enable the separation of document content from document presentation, including elements such as the layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification.

PHP-(Hypertext Preprocessor):

A server-side scripting language designed for web development but also used as a general-purpose programming language. PHP is now installed on more than 244 million websites and 2.1 million web servers. Originally created by Rasmus Lerdorf in 1995 PHP code is interpreted by a webserver with a PHP processor module, which generates the resulting web page.

MYSQL :

("My S-Q-L", officially, but also called "My Sequel") is (as of July 2013) the world's second most widely used open-source relational database management system (RDBMS). The SQL phrase stands for Structured Query Language. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements.

.MySQL is a popular choice of database for use in web applications, and is a central component of the widely used LAMP open source web application software stack (and other 'AMP' stacks). LAMP is an acronym for "Linux, Apache, MySQL, Perl/PHP/Python"



I have used XAMPP for this project.

Schema and Tables Description

Following tables are used in the project :-

1. Name of Table: ADMINS

<u>Attributes</u>	<u>Data Type</u>	<u>Allow Null</u>
ID	INT	No
NAME	VARCHAR	No
EMAIL	VARCHAR	No
ADDRESS	TEXT	No
MOBILE	INT	No

2. Name of Table: AUTHORS

<u>Attributes</u>	<u>Data Type</u>	<u>Allow Null</u>
AUTHOR_ID	VARCHAR	No
AUTHOR_NAME	VARCHAR	No

3. Name of Table: BOOKS

<u>Attribute</u>	<u>Data Type</u>	<u>Allow Null</u>
BOOKS_ID	INT	No
BOOK_NAME	Varchar	No
AUTHOR_ID	INT	No
CAT_ID	INT	No
BOOK_NO	INT	No
BOOK_PRICE	INT	No

4. Name of Table: CATEGORY

<u>Attribute</u>	<u>Data Type</u>	<u>Allow Null</u>
CAT_ID	INT	No
CAT_NAME	VARCHAR	No

5. Name of Table: ISSUED_BOOKS

<u>Attribute</u>	<u>Data Type</u>	<u>Allow Null</u>
S_NO	INT	No
BOOK_NO	INT	No
BOOK_NAME	VARCHAR	No
BOOK_AUTHOR	VARCHAR	No
STUDENT_ID	INT	No
STATUS	INT	No
ISSUE_DATE	LONG TEXT	No

6. Name of Table: USERS

<u>Attribute</u>	<u>Data Type</u>	<u>Allow Null</u>
ID	INT	No
NAME	VARCHAR	No
EMAIL	VARCHAR	No
PASSWORD	VARCHAR	No
MOBILE	INT	No
ADDRESS	VARCHAR	No

Creating Tables

1. ADMINS

Create table **ADMINS**(ID varchar(11), NAME varchar2(20),EMAIL varchar(25),PASSWORD varchar(15),ADDRESS varchar(60));

Alter table add constraint prim_ak primary key(EMAIL);

2. AUTHORS

Create table **AUTHORS**(AUTHOR_ID int(10),AUTHOR_NAME varchar(20)) ;

Alter table add constraint prim_ak primary key(AUTHOR_ID);

3. BOOKS

Create table **BOOKS** (BOOK_ID int(4),BOOK_NAME varchar(30),AUTHOR_ID int(10), CAT_ID number, BOOK_NO int(5) , BOOK_PRICE int);

ALTER TABLE BOOKS ADD

FOREIGN KEY (AUTHOR_ID)

REFERENCES AUTHORS(AUTHOR_ID);

4. CATEGORY

create table **CATEGORY**(CAT_ID int(5),CAT_NAME varchar(15));

Alter table **CATEGORY** add constraint prim_ak1 primary key(CAT_ID);

5. ISSUED BOOKS

Create table **ISSUED_BOOKS**(S_NO int(4), BOOK_NO int(5) ,BOOK_AUTHOR varchar(25) , STUDENT_ID int(10), STATUS int(1),ISSUE_DATE longtext);

ALTER TABLE ISSUED_BOOKS

ADD FOREIGN KEY (BOOK_NO)

REFERENCES BOOKS(BOOK_NO);

6. USERS

Create table **USERS**(ID int(4),NAME varchar(25), EMAIL varchar(35) ,PASSWORD varchar(15), MOBILE INT(10), ADDRESS varchar(60));

Database shown in phpMyAdmin:

The screenshot shows the phpMyAdmin interface for the 'lms' database, specifically the 'issued_books' table. The left sidebar shows the database structure with 'lms' selected. The main panel displays the table structure and data. The table has columns: s_no, book_no, book_name, book_author, student_id, status, and issue_date. Two rows of data are visible.

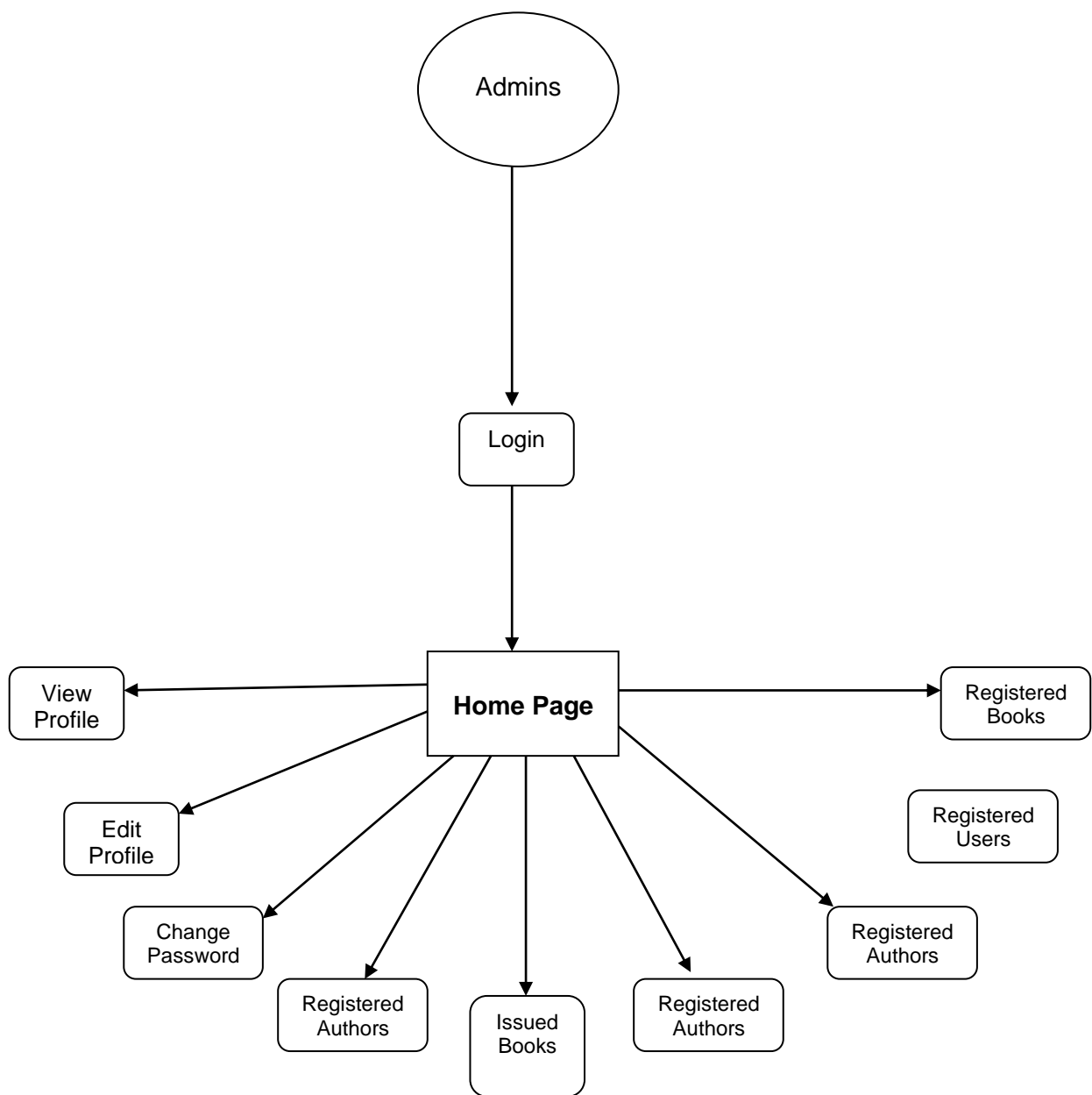
s_no	book_no	book_name	book_author	student_id	status	issue_date
1	6541	Data structure	D S Gupta	4	1	2020-07-08
18	7845	Introduction To Algorithm	Sushil Goel	2	1	2020-04-22

The screenshot shows the phpMyAdmin interface for the 'lms' database, specifically the 'users' table. The left sidebar shows the database structure with 'lms' selected. The main panel displays the table structure and data. The table has columns: id, name, email, password, mobile, and address. Two rows of data are visible.

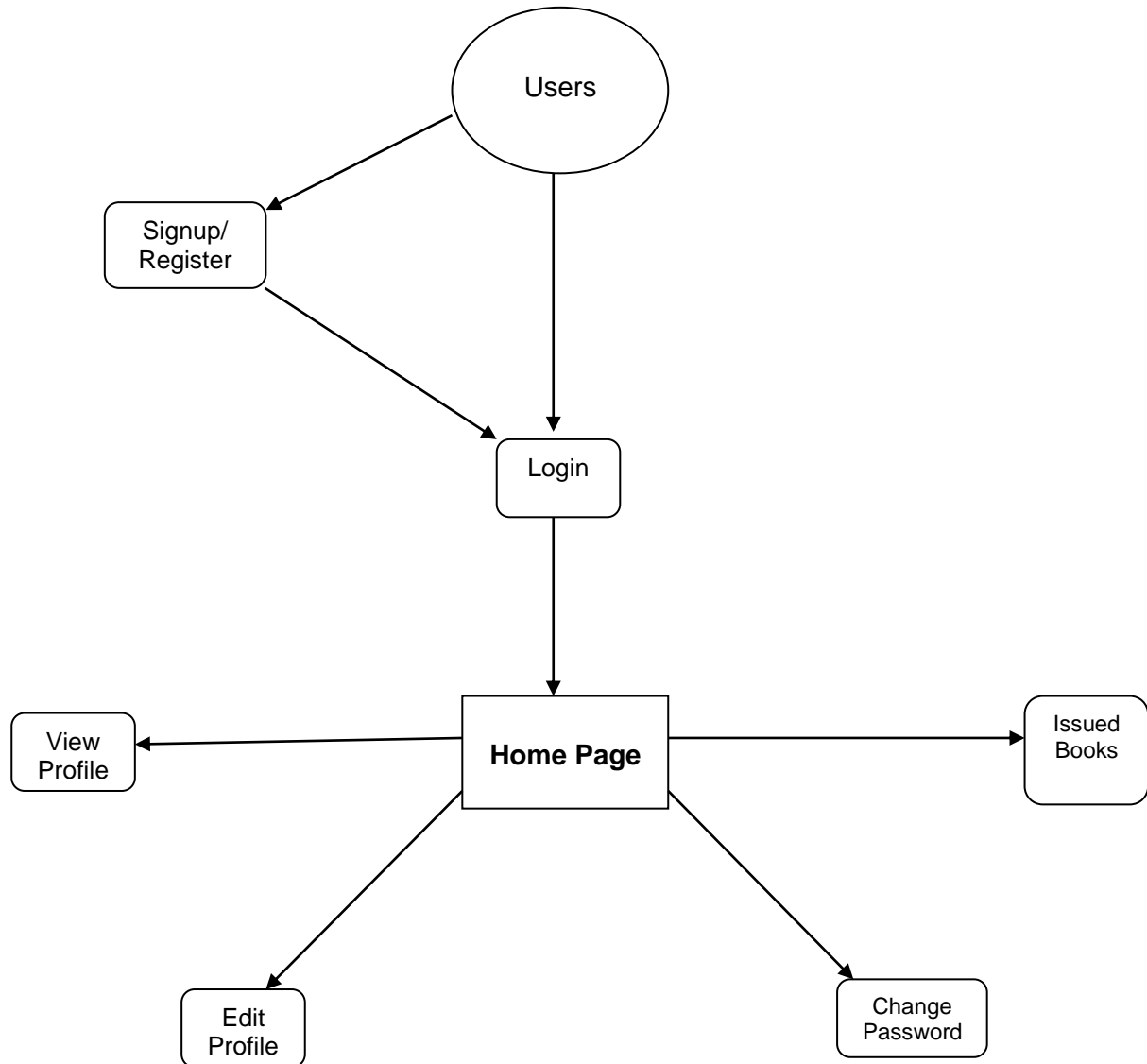
id	name	email	password	mobile	address
4	Lakshay	Lakshay@gmail.com	lakshay@123	989658745	Model Town, Panipat, Haryana
7	Aman	Aman@gmail.com	aman@123	2147483644	NK Tower, Ram Nagar, Jaipur

Context Diagrams:

Admin's Dashboard



User's Dashboard



Relational Schema:

Authors

<u>Attributes</u>	<u>Data Type</u>	<u>Allow Null</u>
AUTHOR_ID	VARCHAR	No
AUTHOR_NAME	VARCHAR	No

Category

<u>Attribute</u>	<u>Data Type</u>	<u>Allow Null</u>
CAT_ID	INT	No
CAT_NAME	VARCHAR	No

Books

<u>Attribute</u>	<u>Data Type</u>	<u>Allow Null</u>
BOOKS_ID	INT	No
BOOK_NAME	Varchar	No
AUTHOR_ID	INT	No
CAT_ID	INT	No
BOOK_NO	INT	No
BOOK_PRICE	INT	No

Issued Books

<u>Attribute</u>	<u>Data Type</u>	<u>Allow Null</u>
S_NO	INT	No
BOOK_NO	INT	No
BOOK_NAME	VARCHAR	No
BOOK_AUTHOR	VARCHAR	No
STUDENT_ID	INT	No
STATUS	INT	No
ISSUE_DATE	LONG TEXT	No

Functions Used:

```
function get_user_count(){
    $connection = mysqli_connect("localhost","root","");
    $db = mysqli_select_db($connection,"lms");
    $user_count = "";
    $query = "select count(*) as user_count from users";
    $query_run = mysqli_query($connection,$query);
    while($row = mysqli_fetch_assoc($query_run)){
        $user_count = $row['user_count'];
    }
    return($user_count);
}
```

```
function get_book_count(){
    $connection = mysqli_connect("localhost","root","");
    $db = mysqli_select_db($connection,"lms");
    $book_count = "";
    $query = "select count(*) as book_count from books";
    $query_run = mysqli_query($connection,$query);
    while($row = mysqli_fetch_assoc($query_run)){
        $book_count = $row['book_count'];
    }
    return($book_count);
}
```

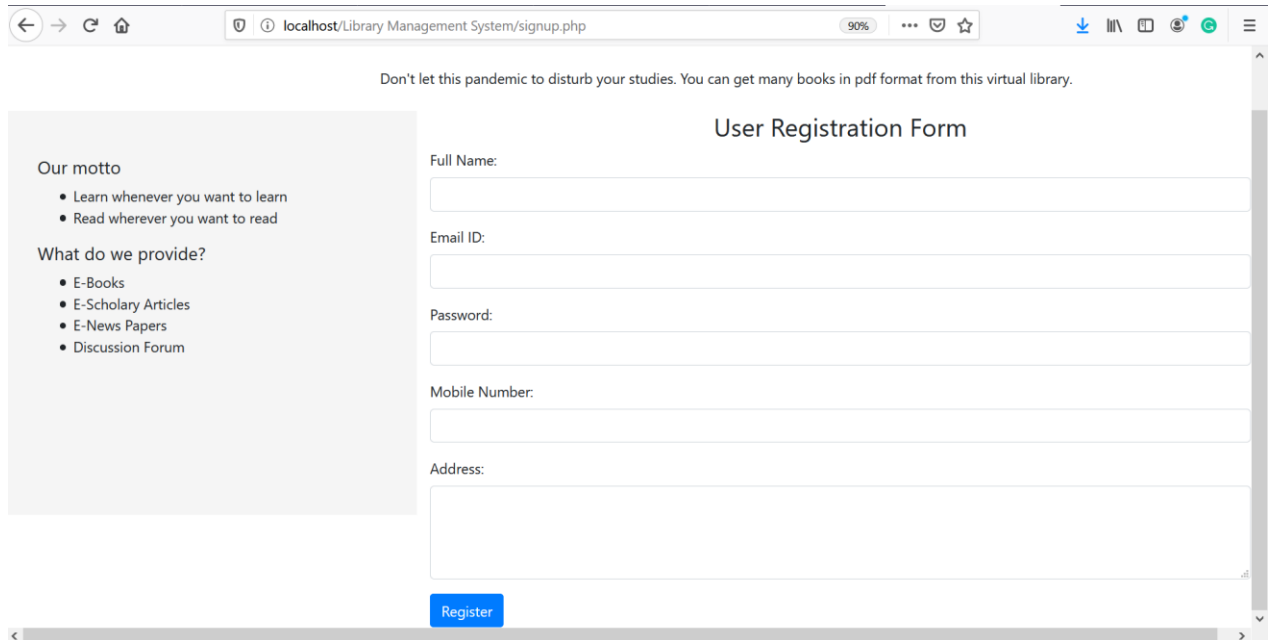
```
function get_category_count(){
    $connection = mysqli_connect("localhost","root","");
    $db = mysqli_select_db($connection,"lms");
    $cat_count = "";
    $query = "select count(*) as cat_count from category";
    $query_run = mysqli_query($connection,$query);
    while($row = mysqli_fetch_assoc($query_run)){
        $cat_count = $row['cat_count'];
    }
}
```

```
        return($cat_count);
    }
```

```
function get_author_count(){
    $connection = mysqli_connect("localhost","root","");
    $db = mysqli_select_db($connection,"lms");
    $author_count = "";
    $query = "select count(*) as author_count from authors";
    $query_run = mysqli_query($connection,$query);
    while($row = mysqli_fetch_assoc($query_run)){
        $author_count = $row['author_count'];
    }
    return($author_count);
}
```

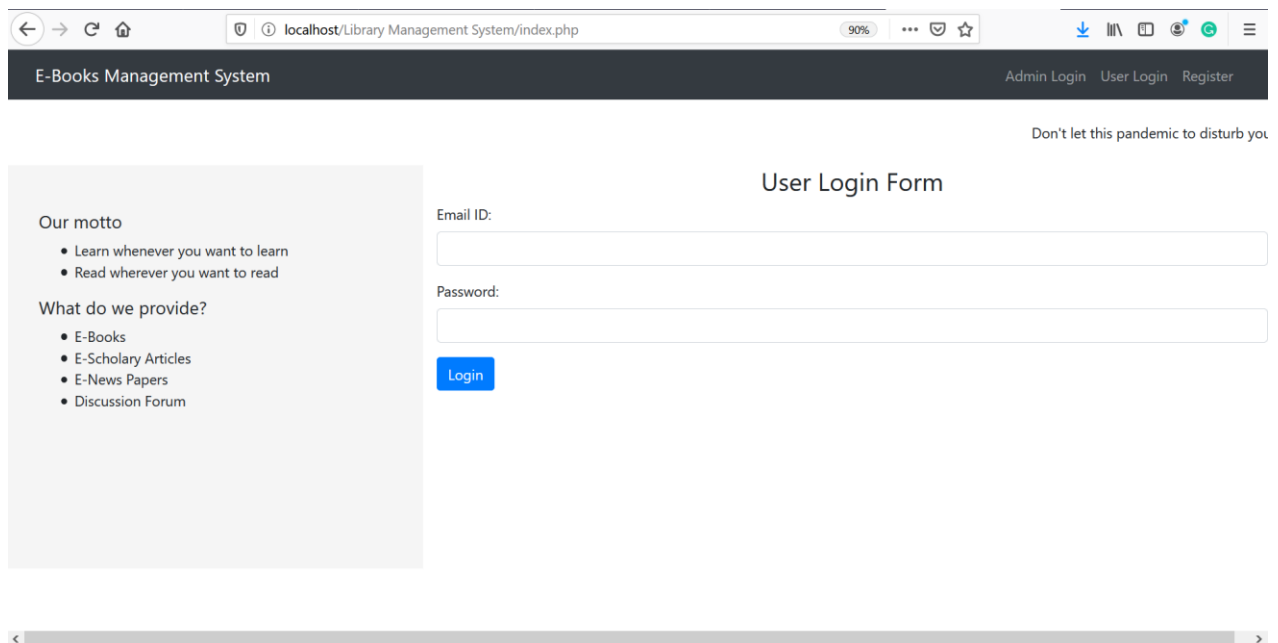
```
function get_issued_book_count(){
    $connection = mysqli_connect("localhost","root","");
    $db = mysqli_select_db($connection,"lms");
    $issued_book_count = "";
    $query = "select count(*) as issued_book_count from
issued_books";
    $query_run = mysqli_query($connection,$query);
    while($row = mysqli_fetch_assoc($query_run)){
        $issued_book_count = $row['issued_book_count'];
    }
    return($issued_book_count);
}
```


Images of front end implementation :



The screenshot shows a web browser window with the address bar displaying "localhost/Library Management System/signup.php". The page content includes a header with the text "Don't let this pandemic to disturb your studies. You can get many books in pdf format from this virtual library." Below this, the "User Registration Form" is displayed. On the left, there is a sidebar with the heading "Our motto" and a list of bullet points: "Learn whenever you want to learn" and "Read wherever you want to read". Below this, the heading "What do we provide?" is followed by a list of bullet points: "E-Books", "E-Scholarly Articles", "E-News Papers", and "Discussion Forum". The registration form itself consists of several input fields: "Full Name:", "Email ID:", "Password:", "Mobile Number:", and "Address:". A blue "Register" button is located at the bottom of the form.

Signup Page



The screenshot shows a web browser window with the address bar displaying "localhost/Library Management System/index.php". The page content includes a header with the text "Don't let this pandemic to disturb you". Below this, the "User Login Form" is displayed. On the left, there is a sidebar with the heading "Our motto" and a list of bullet points: "Learn whenever you want to learn" and "Read wherever you want to read". Below this, the heading "What do we provide?" is followed by a list of bullet points: "E-Books", "E-Scholarly Articles", "E-News Papers", and "Discussion Forum". The login form consists of two input fields: "Email ID:" and "Password:". A blue "Login" button is located below the password field. At the top of the page, there is a navigation bar with the text "E-Books Management System" on the left and "Admin Login User Login Register" on the right.

User's Login Page

The screenshot shows the Admin Login Form of the E-Books Management System. The browser address bar indicates the URL is localhost/Library Management System/admin/index.php. The page header includes the system name and links for Admin Login, User Login, and Register. A message at the top right says, "Don't let this pandemic to disturb your studies. You can". On the left, there is a sidebar with the motto "Learn whenever you want to learn, Read wherever you want to read" and a list of services: E-Books, E-Scholarly Articles, E-News Papers, and Discussion Forum. The main form area is titled "Admin Login Form" and contains fields for "Email ID:" and "Password:", followed by a blue "Login" button.

E-Books Management System

Admin Login User Login Register

Don't let this pandemic to disturb your studies. You can

Our motto

- Learn whenever you want to learn
- Read wherever you want to read

What do we provide?

- E-Books
- E-Scholarly Articles
- E-News Papers
- Discussion Forum

Admin Login Form

Email ID:

Password:

Login

Admin's Login Page

The screenshot shows the Admin's Dashboard of the E-Books Management System. The browser address bar indicates the URL is localhost/Library Management System/admin/admin_dashboard.php. The page header includes the system name, a welcome message for 'admin', the email 'admin@gmail.com', and links for 'My Profile' and 'Logout'. A navigation bar contains links for Dashboard, Book, Category, Author, and Issue Book. A message at the top right says, "Don't let this pandemic t". The dashboard features several summary cards: "Registered Users" (2 total, View Registered Users), "Registered Books" (3 available, View Registered Books), "Registered Category" (4 books, View Categories), "Registered Authors" (3 available, View Authors), and "Issued Books" (2 issued, View Issued books).

E-Books Management System

Welcome: admin Email: admin@gmail.com My Profile Logout

Dashboard Book Category Author Issue Book

Don't let this pandemic t

Registered Users:

No. of total users: 2

View Registered Users

Registered Books:

No. of availbale books: 3

View Registered Books

Registered Category:

No. of book's category: 4

View Categories

Registered Authors:

No. of availbale authors: 3

View Authors

Issued Books:

No. Issued Books: 2

View Issued books

Admin's Dashboard

localhost/Library Management System/admin/add_book.php

E-Books Management System Welcome: admin Email: admin@gmail.com My Profile Logout

Dashboard Book Category Author Issue Book

Don't let this pandemic to disturb your studies. You can get many books in pdf format from this virtual library.

Book Name:
C++ Reference

Book Author:
R S Aggarwal

Category Name:
Programming

Book No:
1225

Book Price:
350

Add Book

Add Book Page

localhost/Library Management System/admin/manage_book.php

E-Books Management System Welcome: admin Email: admin@gmail.com My Profile Logout

Dashboard Book Category Author Issue Book

Don't let this pandemic to di

Name	Author ID	Category	Number	Price	Action
Software engineering	101	1	4518	270	Edit Delete
Data structure	102	2	6541	300	Edit Delete
C++ Reference	154	3	1221	350	Edit Delete

Manage Book Page

← → ↻ 🏠 | 🛡️ ⓘ localhost/Library Management System/admin/add_cat.php | 90% | ⋮ 📄 ⭐ | 📄 📄 📄 📄 📄 ⋮

E-Books Management System Welcome: admin Email: admin@gmail.com My Profile ▾ Logout

Dashboard Book ▾ Category ▾ Author ▾ Issue Book

Don't let this pandemic to disturb your studies. You can get many books in pdf format from this virtual library.

Category Name:

[Add Category](#)

Add Category Page

← → ↻ 🏠 | 🛡️ ⓘ localhost/Library Management System/admin/manage_cat.php | 90% | ⋮ 📄 ⭐ | 📄 📄 📄 📄 📄 ⋮

E-Books Management System Welcome: admin Email: admin@gmail.com My Profile ▾ Logout

Dashboard Book ▾ Category ▾ Author ▾ Issue Book

Don't let this pandemic to disturb your s

Name	Action
Computer Science Engineering	Edit Delete
Novel	Edit Delete
Motivational	Edit Delete
Story	Edit Delete

Manage Category Page

localhost/Library Management System/admin/add_author.php

E-Books Management System Welcome: admin Email: admin@gmail.com My Profile ▾ Logout

Dashboard ▾ Book ▾ Category ▾ Author ▾ Issue Book

Don't let this pandemic to disturb your studies. You can get many books in pdf form

Author Name:

Add Author

Add Author Page

localhost/Library Management System/admin/manage_author.php

E-Books Management System Welcome: admin Email: admin@gmail.com My Profile ▾ Logout

Dashboard ▾ Book ▾ Category ▾ Author ▾ Issue Book

Don't let this pandemic to disturb your studies. You can

Author ID	Name	Action
102	M D Guptaa	Edit Delete
103	Chetan Bhagat	Edit Delete
104	Munshi Prem Chand	Edit Delete

Manage Author Page

localhost/Library Management System/admin/issue_book.php

E-Books Management System Welcome: admin Email: admin@gmail.com My Profile Logout

Dashboard Book Category Author Issue Book

Don't let this pandemic to disturb your studies. You ca

Book Name:

Book Author:

Munshi Prem Chand

Book Number:

Student ID:

Issue Date:

2020-07-09

Issue Book

Issue Book Page

localhost/Library Management System/admin/view_profile.php

E-Books Management System Welcome: admin Email: admin@gmail.com My Profile Logout

Don't let this pandemic to disturb your studies. You

Name:

admin

Email:

admin@gmail.com

Mobile:

1148458757

View Profile Page

The screenshot shows a web browser window with the address bar displaying 'localhost/Library Management System/admin/change_password.php'. The page has a dark header with 'E-Books Management System' on the left, 'Welcome: admin' and 'Email: admin@gmail.com' in the center, and 'My Profile' and 'Logout' on the right. Below the header, there is a message: 'Don't let this pandemic to dis'. The main content area contains two text input fields labeled 'Enter Current Password:' and 'Enter New Password:', followed by a blue 'Update Password' button.

Change Password Page

The screenshot shows a web browser window with the address bar displaying 'localhost/Library Management System/admin/edit_profile.php'. The page has a dark header with 'E-Books Management System' on the left, 'Welcome: admin' and 'Email: admin@gmail.com' in the center, and 'My Profile' and 'Logout' on the right. Below the header, there is a message: 'Don't let this pandemic to disturb your studies. You can get many books in pdf format from this virtual library.' The main content area contains three text input fields labeled 'Name:', 'Email:', and 'Mobile:', with the 'Name' and 'Email' fields pre-filled with 'admin' and 'admin@gmail.com' respectively. Below the 'Mobile' field is a blue 'Update' button.

Edit Profile Page

Conclusion & Future Scope:

- ✓ 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 as well request for book or give some suggestions.
- ✓ It can have facility of teacher's login where teachers can add lectures notes and also give necessary suggestion to library and also add info about workshops or events happening in our college or nearby college in the online notice board.

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 and Bibliography

 <https://www.w3schools.com/php/default.asp>

 <https://www.w3schools.com/bootstrap4/default.asp4>