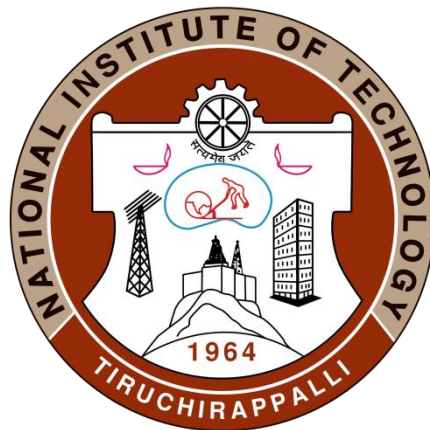# NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

Tamil Nadu-620015

⬜

'Database Management system'

PROJECT REPORT

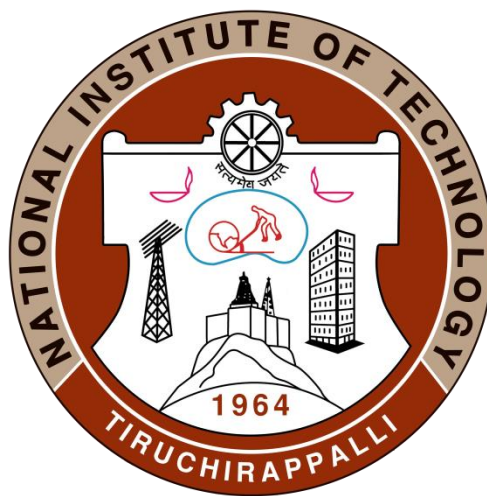Department Of Computer Applications

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

Attributes	Data Type	Allow Null
ID	INT	No
NAME	VARCHAR	No
EMAIL	VARCHAR	No
ADDRESS	TEXT	No
MOBILE	INT	No

2. Name of Table: AUTHORS

Attributes	Data Type	Allow Null
AUTHOR_ID	VARCHAR	No
AUTHOR_NAME	VARCHAR	No

3. Name of Table: BOOKS

Attribute	Data Type	Allow Null
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

Attribute	Data Type	Allow Null
CAT_ID	INT	No
CAT_NAME	VARCHAR	No

5. Name of Table: ISSUED_BOOKS

Attribute	Data Type	Allow Null
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

Attribute	Data Type	Allow Null
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:

Context Diagrams:

Admin's Dashboard

Admins

Login

Home Page

View Profile

Edit Profile

Change Password

Registered Authors

Issued Books

Registered Authors

Registered Authors

Registered Books

Registered Users

User's Dashboard
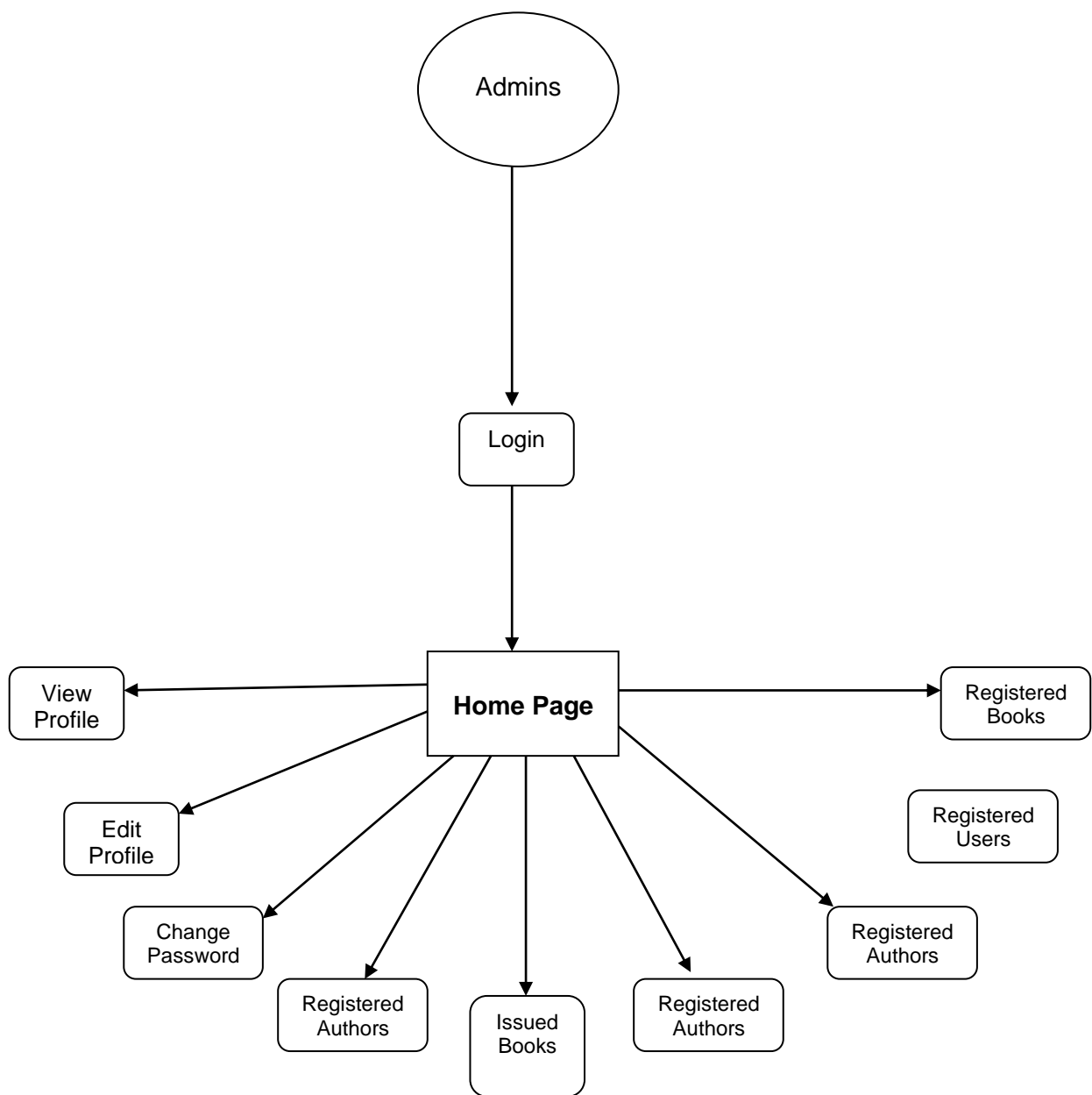
```
                        ┌─────────┐
                        │  Users  │
                        └─────────┘
                       /           \
                      /             \
          ┌───────────┐              \
          │ Signup/   │               \
          │ Register  │                \
          └───────────┘                 \
                       \                  \
                        \                  \
                         ┌─────────┐
                         │  Login  │
                         └─────────┘
                              │
                              │
                         ┌───────────┐
    ┌──────────┐         │           │         ┌──────────┐
    │  View    │◄────────│ Home Page │────────►│  Issued  │
    │  Profile │         │           │         │  Books   │
    └──────────┘         └───────────┘         └──────────┘
                        /             \
              ┌──────────┐          ┌──────────┐
              │  Edit    │          │  Change  │
              │  Profile │          │ Password │
              └──────────┘          └──────────┘
```
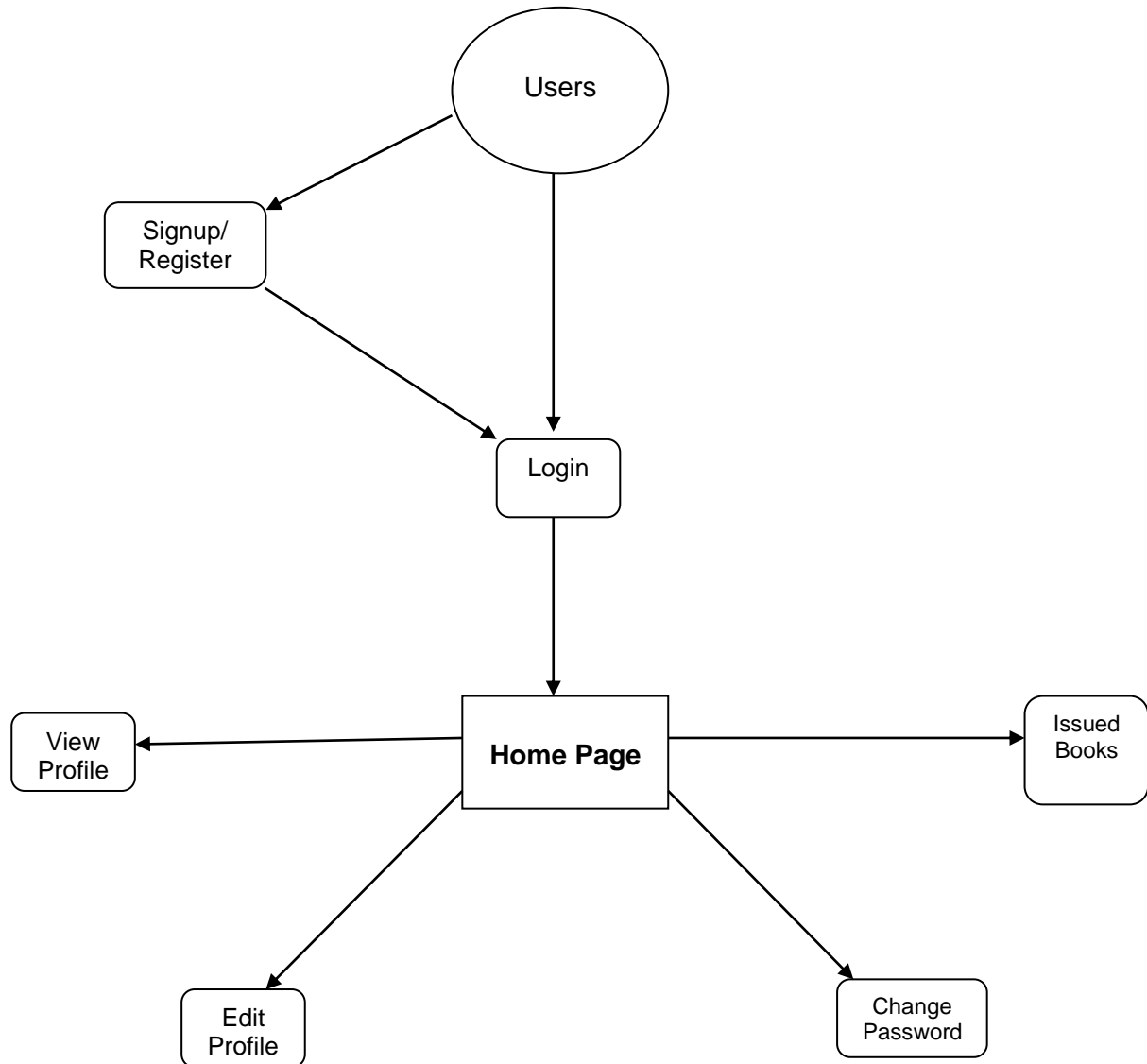
Relational Schema:

Authors

Attributes	Data Type	Allow Null
AUTHOR_ID	VARCHAR	No
AUTHOR_NAME	VARCHAR	No

Category

Attribute	Data Type	Allow Null
CAT_ID	INT	No
CAT_NAME	VARCHAR	No

Books

Attribute	Data Type	Allow Null
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

Attribute	Data Type	Allow Null
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:

```php
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 = $row['cat_count'];
        }
```
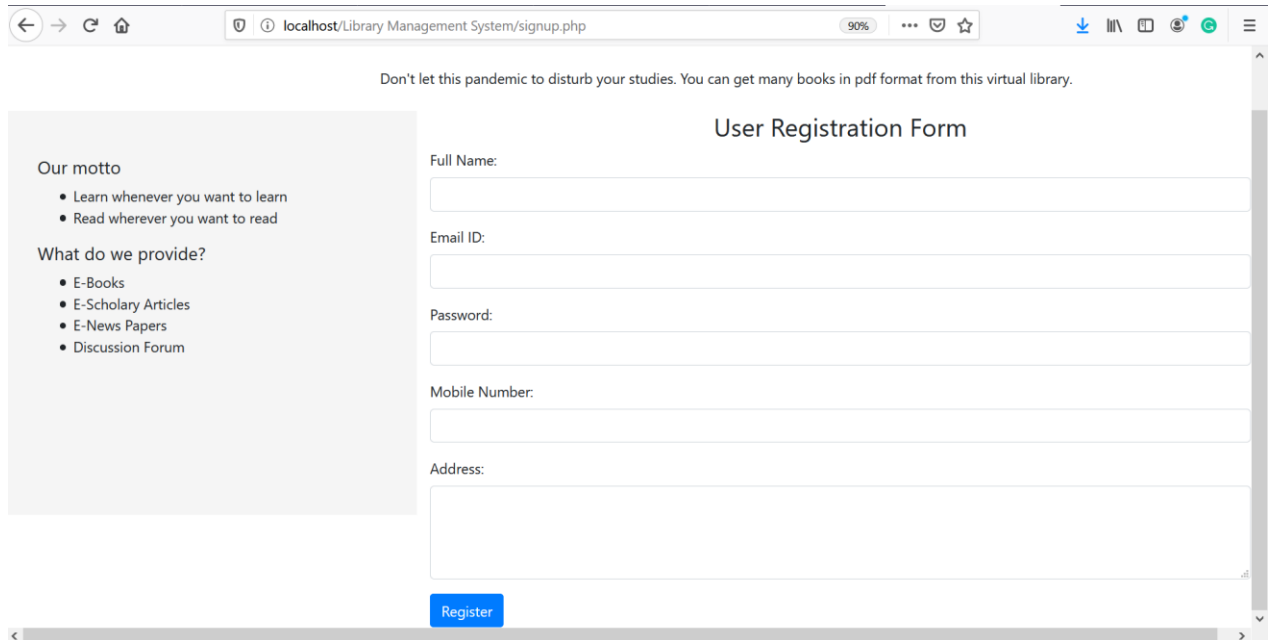
```php
            return($cat_count);
    }

    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);
    }
```
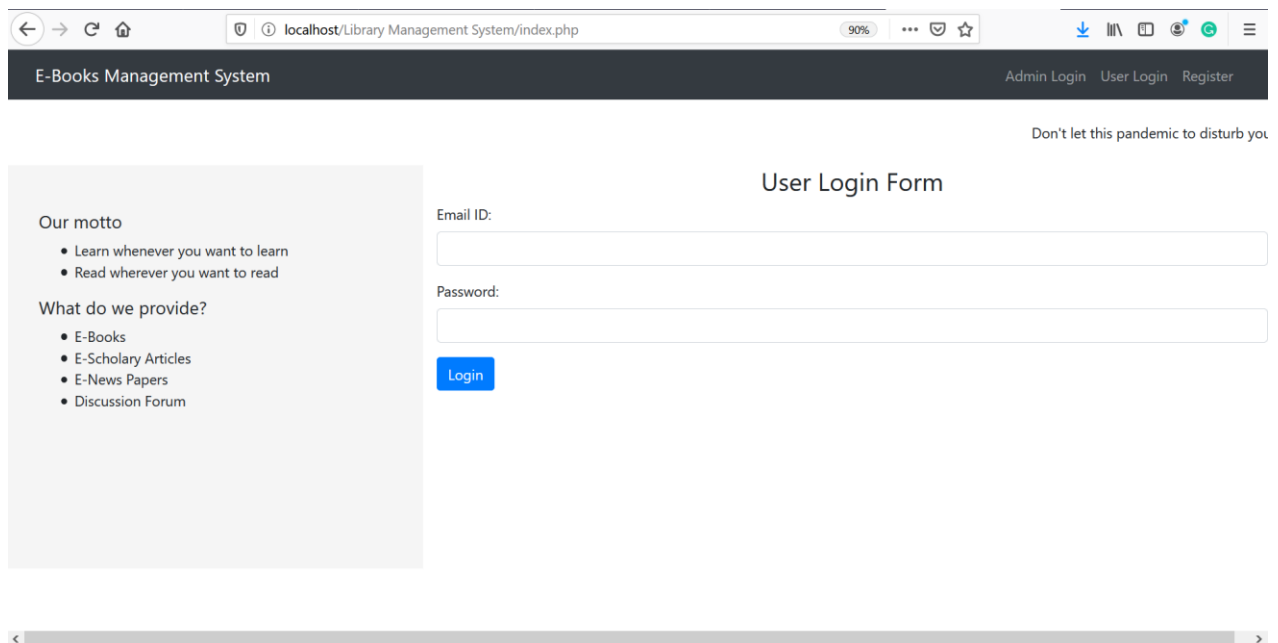
Images of front end implementation :

Signup Page

User's Login Page

Admin's Login Page

Admin's Dashboard

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

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

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

Category Name:

Motivational

Add Category

Add Category Page

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

Add Author Page

Manage Author Page

Issue Book Page

View Profile Page

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

Don't let this pandemic to dist

Enter Current Password:

[   ]

Enter New Password:

[   ]

Update Password

Change Password Page

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

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

Name:

[admin   ]

Email:

[admin@gmail.com   ]

Mobile:

[|]

Update

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