

University of Liberal Arts Bangladesh

Course Title: Web Technologies

Course Code: CSE480

Online Library Management System

Submitted To:

Nazifa Tasnim Hia
Lecturer
Department of CSE, ULAB

Submitted By:

Name: Md. Mizanur Rahman

ID: 201014061

Name: Anik Paul Shuvo

ID: 201014051

Name: Morium Begum

ID: 201014072

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➤ Background Study:

Online Library Management System is an application which refers to library systems which are generally small or medium in size. It is used by librarians to manage the library using a computerized system where he/she can add new books, videos and Page sources. Books and student maintenance modules are also included in this system which would keep track of the students using the library and also a detailed description about the books a library contains. With this computerized system there will be no loss of book record or member record which generally happens when a non-computerized system is used. All these modules are able to help librarians to manage the library with more convenience and in a more efficient way as compared to library systems which are not computerized.

For developing a system we need to cover some initial study. It helps to investigate a system's background information. Also it helps to find the fault of this system so that necessary steps can be taken here to improve the project by adding and updating new features. Our main goal of this project is to get the book within a short time and without getting any trouble from any student. We developed these projects for students when they need a book by booking in online from the library.

Library Management System using PHP and MySQL is a web based application using html, CSS, JavaScript and Bootstrap. Library management system is a project which aims in developing a computerized system to maintain all the daily work of library. This project has many features which are generally not available in normal library management systems like facility of user login and a facility of admin login. It also has a facility of admin login through which the admin can monitor the whole system. It has also a facility where students after logging in their accounts can see the list of books issued and its issue date and return date.

➤ Requirement Analysis:

Hardware and Software Requirement for our system: Whenever you install a software or a hardware for your computer, you should first make sure that your computer supports the system requirements. We need internet connection based system hardware such as computers, laptops, tablets, smart phones and so on. We have used some software tools and platform for development is describe below:

- **❖** PHP5.6, PHP7.x
- ❖ Database, MySQL 5.x
- ❖ User Interface Design: HTML, AJAX, JQUERY, JAVASCRIPT
- ❖ Web Browser: Mozilla, Google Chrome, IE8, OPERA
- ❖ XAMPP / Wamp / Mamp/ Lamp (anyone)
- **❖** LMS Project Modules

➤ Function Specification:

Online library Management System divided in two modules-

*	Student
*	Admin
Studen	t:
*	Students can register themselves and after registration they will get a student id.
*	After login, students can view their own dashboard.
*	Students can also view the listed books in the library.
*	Students can update their profile.
*	Students can view issued books and book return date-time.
*	Students can also change their password.
*	Students can also recover their own password.

Admin:

- ❖ Admin can add/update/ delete category
- ❖ Admin can add/update/ delete author
- ❖ Admin can add/update/ delete books
- Admin can issue a new book to student and also update the details when student return book
- ❖ Admin can search student by using their student ID
- ❖ Admin can also view student details
- ❖ Admin can change own password

Online Library Management System

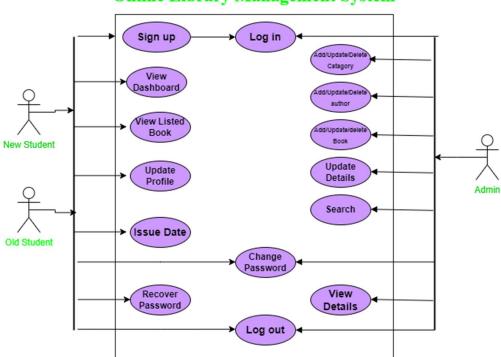


Fig: 1 Use Case Diagram

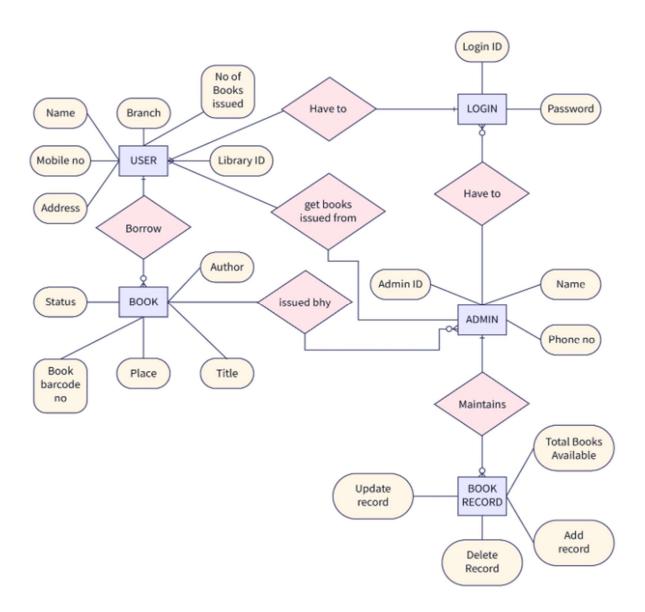


Fig: 2 ER-Diagram

> System Layout: (UI Design):

The Online Library Management System using PHP and MySQL is a web-based application that is designed to automate the processes involved in library management. The system aims to provide a centralized platform for librarians, administrators, and users to efficiently manage and access library resources.

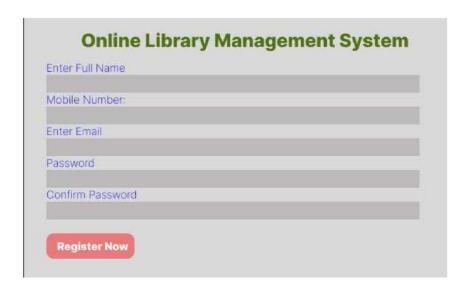
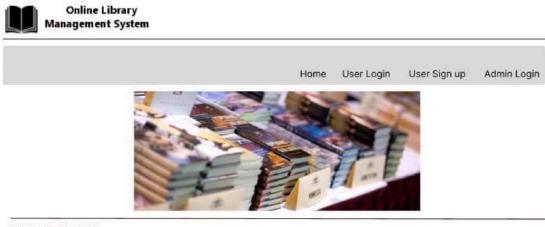


Fig: 2 Sign Up



Fig: 3 Log in page



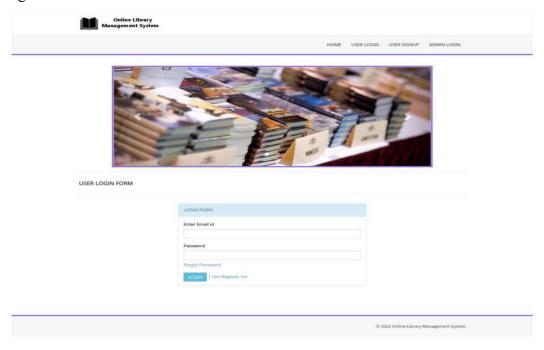
USER LOGIN FORM



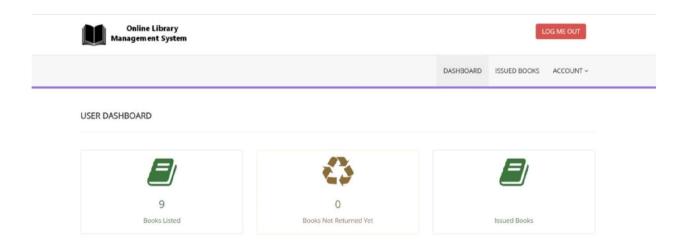
Fig 4: Home page

Project Output Screens

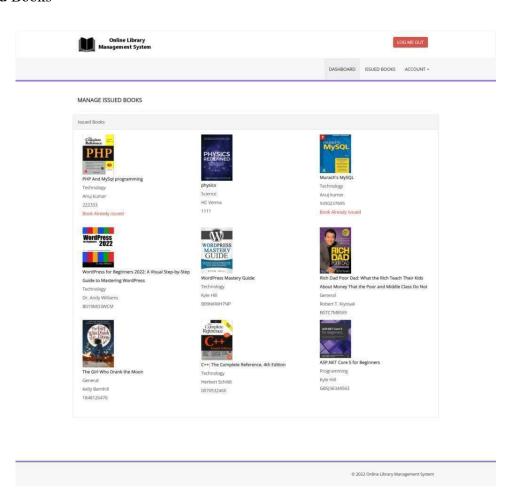
Home Page



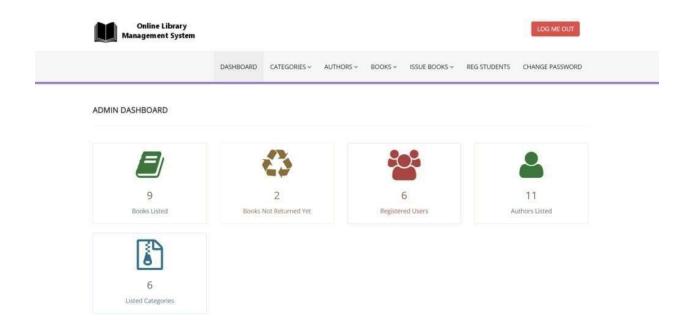
Students (User) Dashboard



Listed Books

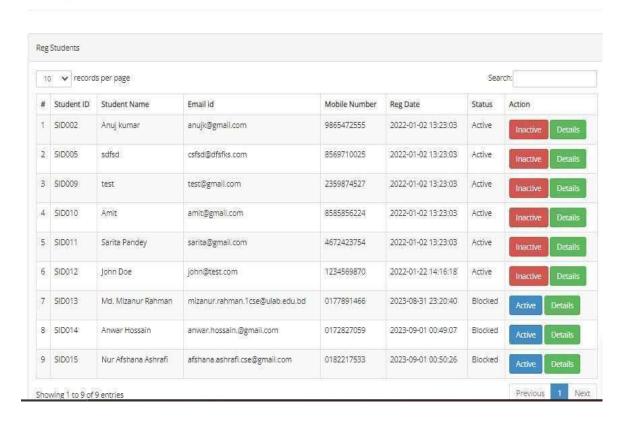


Admin Dashboard



List of registered students

MANAGE REG STUDENTS



User password change interface

USER CHANGE PASSWORD

Change Password		
Current Password		
Enter Password		
Confirm Password		
Chnage		

➤ Software Development Orientation:

Front End:

- HTML
- CSS
- **❖** JavaScript
- **❖** Bootstrap
- **❖** Ajax
- JQuery

Back End:

- **❖** PHP
- **❖** MySQL
- **❖** XAMPP

Conclusion:

In conclusion, the development of an Online Library Management System using PHP and MySQL is a significant step towards modernizing and streamlining library operations. This project aimed to provide a user-friendly interface for both librarians and library patrons, allowing for efficient book management, user registration, and borrowing processes.

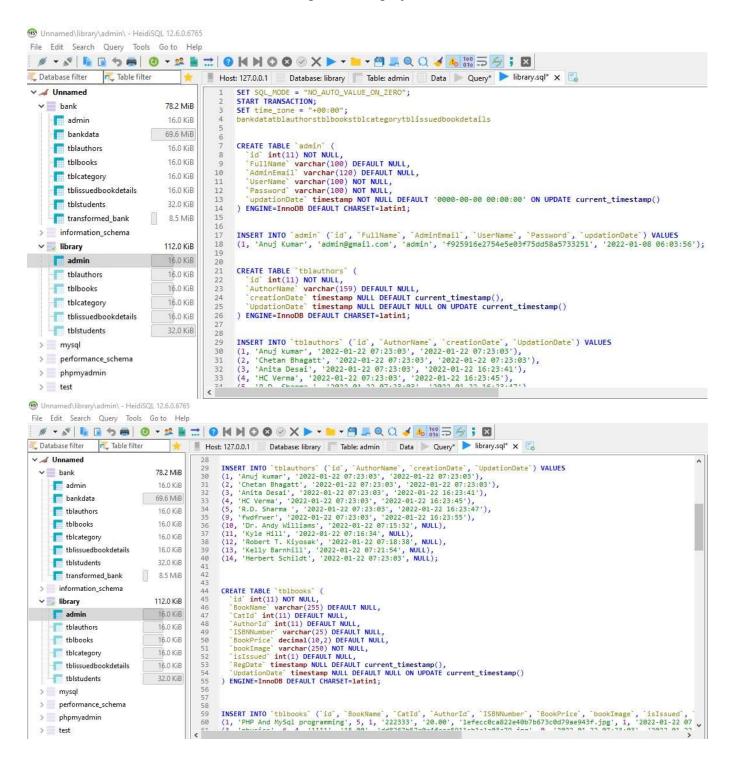
Throughout the development process, several key features were implemented, including user authentication, book search functionality, book checkout and return mechanisms, and administrative controls for librarians. The integration of a MySQL database ensures data integrity and persistence, making it possible to store and retrieve information reliably.

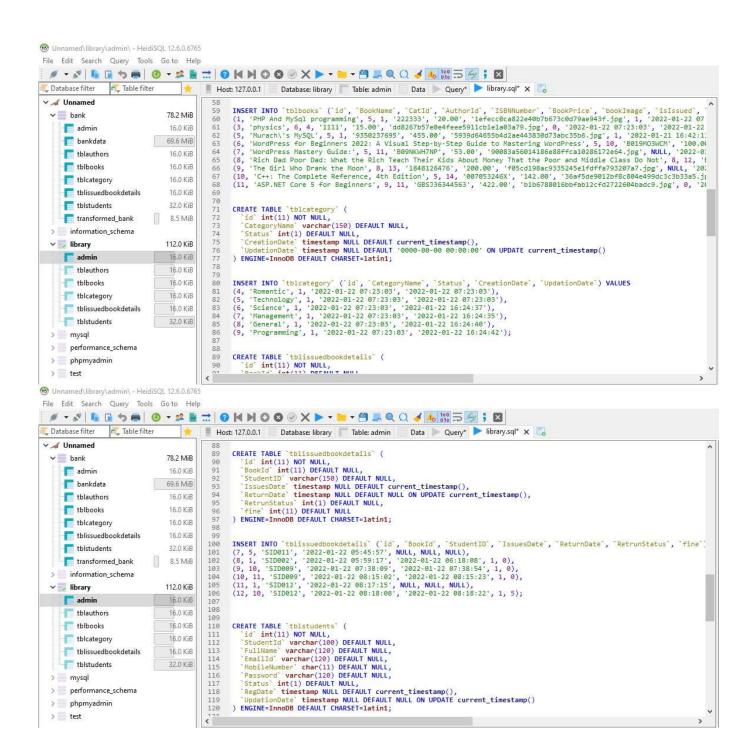
However, there is always room for improvement. Future enhancements to this system could include implementing a more robust search algorithm, incorporating online payment systems for fines or reservations, and enhancing the user experience through a responsive and mobile-friendly design.

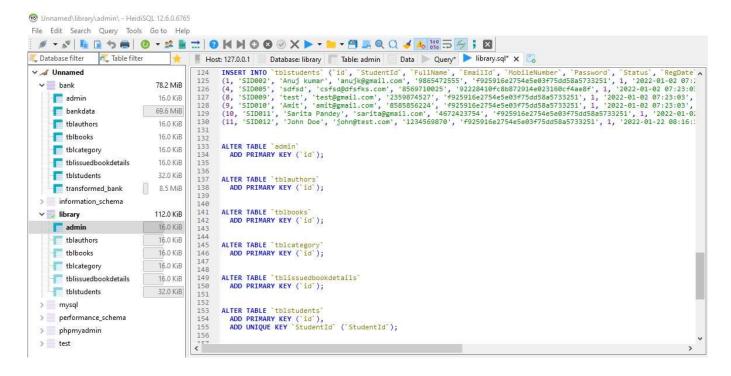
In conclusion, this Online Library Management System serves as a foundation for digitizing and automating library services, making it easier for libraries to serve their patrons and manage their collections efficiently. Its adaptability and scalability make it a valuable tool for libraries of all sizes, paving the way for a more accessible and streamlined library experience in the digital age.

Database Implementation

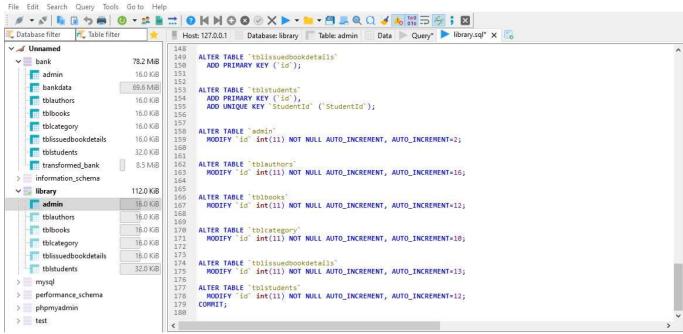
Here is the mysql part of our project where we can see some queries. We have created a proper connection between front end and back end part of our project.



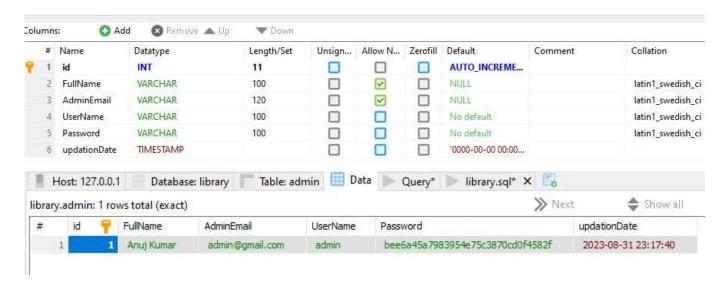




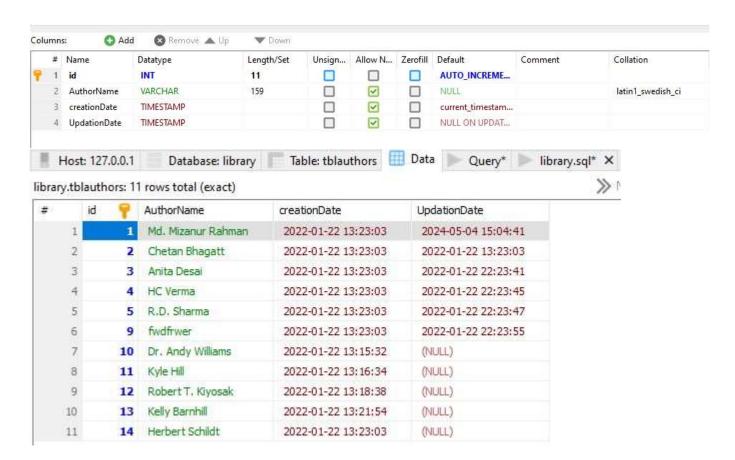
W Unnamed\library\admin\ - HeidiSQL 12.6.0.6765



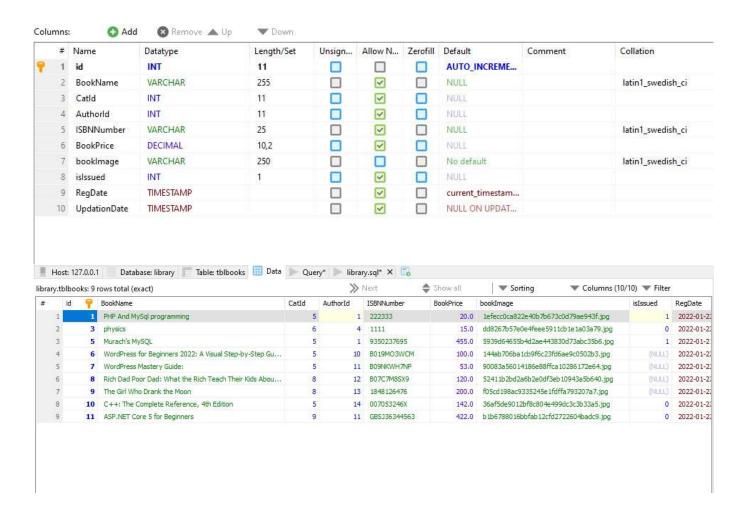
Here is the table and data on admin:



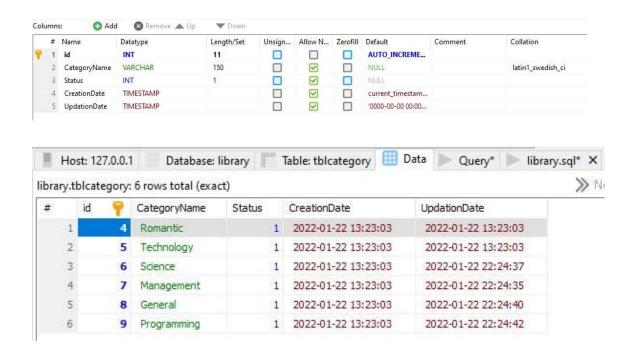
Here is the table and data of authors:



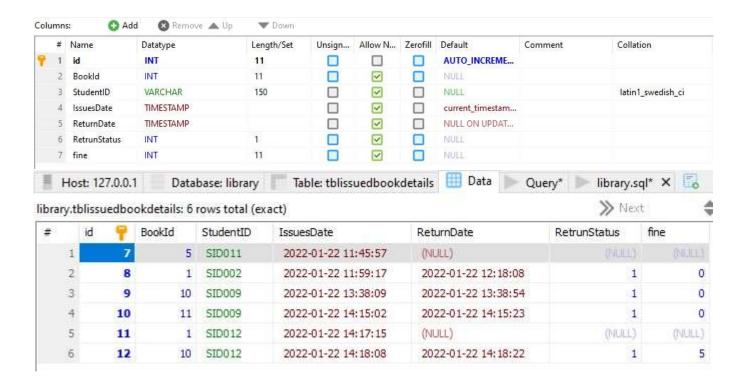
Here is the table and data of books section:



Here is the table and data of category:

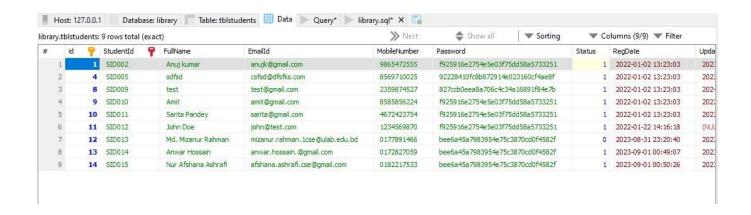


Here is the table and data of issued book section:



Here is the table and data of student section:

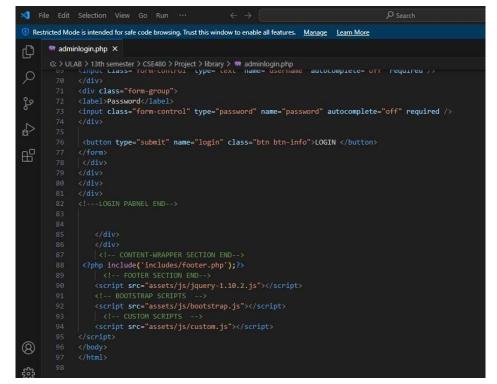




➤ Code Implementation:

Here is the some coding part of our project:

```
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. <u>Manage</u> <u>Learn More</u>
(In
                     G: > ULAB > 13th semester > CSE480 > Project > library > 🙀 adminlogin.php
                                            session_start();
                                              error_reporting(θ);
                                              if($_SESSION['alogin']!=''){
                                              if(isset($ POST['login']))
                                           $username=$_POST['username'];
                                          $password=md5($_POST['password']);
                                           $sql ="SELECT UserName,Password FROM admin WHERE UserName=:username and Password=:password";
                                            $query= $dbh -> prepare($sql);
                                           $query-> bindParam(':username', $username, PDO::PARAM_STR);
$query-> bindParam(':password', $password, PDO::PARAM_STR);
                                            $query-> execute();
                                            $results=$query->fetchAll(PDO::FETCH_OBJ);
                                              if($query->rowCount() > 0)
                                           $_SESSION['alogin']=$_POST['username'];
echo "<script type='text/javascript'> document.location ='admin/dashboard.php'; </script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</script>";</scrip
                                              echo "<script>alert('Invalid Details');</script>";
                                           <!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
8
                                                           <meta charset="utf-8" />
```



Here is the github link of our project where all resources are uploaded:

https://github.com/Mizanur1692000/Online-Library-Management-System

Here is the some css code of our project:

```
X File Edit Selection View Go Run ··· ← →
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
                                                                                                             Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More

    ⇔ adminlogin.php  # style.css  X

    # style.css X

                                                                                                                   .chat-widget-right {
      .chat-widget-left {
                width: 100%;
                                                                                                                              border: 1px solid ■#5AA8CC;
                 height: auto;
                                                                                                                              font-size:12px;
                                                                                                             وړ
                padding: 15px;
                 -webkit-border-radius: 5px;
                border-radius: 5px;
                                                                                                                             color: #808080;
                                                                                                                              margin-top: 30px;
                 border: 1px solid ■#F70E62;
                                                                                                                              margin-left: 60px;
                 font-size:12px;
                                                                                                                              text-align:left;
             .chat-widget-right:after {
                                                                                                                              .img-left-chat {
                top: 100%:
                right: 10%;
                                                                                                                                  border:3px double ■#e1e1e1;
                 border: solid transparent;
                                                                                                                                  float:left;
                                                                                                                                  margin-right:30px;
                position: absolute;
border-top-color: ■#5AA8CC;
                                                                                                                               .img-right-chat {
                 border-width: 15px;
                                                                                                                                  border:3px double ■#e1e1e1;
                 margin-left: -15px;
                                                                                                                                  margin-left:30px;
                                                                                                                               .chat-widget-main img-right {
  border:3px double ■#e1e1e1;
  float:left;
             .chat-widget-right {
                width: 100%:
                 padding: 15px;
                 -webkit-border-radius: 5px;
                                                                                                                          .chat-widget-name-left h4 {
                                                                                                             8
                 -moz-border-radius: 5px;
                                                                                                                              font-weight:normal;
                                                                                                             £
                 position: relative;
```

```
XI File Edit Selection View Go Run …
                                                                                            O Search
Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More
      adminlogin.php
                           # style.css X
       G: > ULAB > 13th semester > CSE480 > Project > library > admin > assets > css > # style.css > ...
D
             .chat-widget-name-right {
وړ
              .recent-users-sec img {
                  max-height:80px;
                  margin:15px;
出
              .back-widget-set {
                  background-color:transparent;
             .footer-section {
                  padding:25px 50px 25px 50px;
                  color: □#000;
                  font-size:13px;
                   background-color: ■#f7f7f7;
                    text-align:right;
                    border-top:5px solid ■#9170E4;
                  .footer-section a, .footer-section a:hover {
                      color: □#000;
```

➤ Planned vs Actual:

We have planned to do a well-planned and well-designed online library management system where have a lot of features. Our plan was to develop such a system from where students can see the book list and can borrow books from the library. Students also can see the category with the author name of books. We are able to develop the system accurately. From our project admin can able to log in and see a dashboard. Admin can also see how many student which type of books borrowed already and which books are remain in the library. Admin can add, update and remove books. Student and Admin will be able to change their password if they think something has happened with their account. The organization of our project is outstanding. But there is some security issues. We could not ensure the security issue yet. We are trying to fix it. We also face another problem. When we were developing our project we saw new student registration was not working. We hope we will be able to fix it soon. We are still working on the system and our upgrading process is ongoing.

> Contribution:

- * Front-end: Md. Mizanur Rahman, Morium Begum
- ❖ Back-end: Md. Mizanur Rahman, Anik Paul Shuvo
- * Report: Md. Mizanur Rahman, Anik Paul Shuvo, Morium Begum