

# **SOFTWARE ENGINEERING PROJECT REPORT**

**SOFTWARE ENGINEERING – CSE1005**



## **PROJECT: LIBRARY MANAGEMENT SYSTEM**

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## **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.

## **Purpose**

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

- Libraries are a critical part of an educational institute. Usually, it has to roll out fine but complex tasks to maintain records of the books.

When the institute is focusing on delivering quality educational services, a well- managed library is part of the service.

- 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.

- The library automation system automates the typical procedures of libraries and reduces the workload for library staffs and the technology changed the expectations of library patrons.
- Library automation will increase the productivity. With the growing ease of doing work, staffs can engage in their activities in the library without the library incurring any additional cost.

## **Intended Audience**

- The system provides a sophisticated platform for the user to enter their account information as to login to their account.
- If a user enters wrong account information i.e. wrong username or wrong password, an error will pop up showing that they entered the wrong information.
- If there is a new user who needs to register into the library and wishes to become a member, they can simply sign up.
- If a user does not remember their password, they can retrieve their password after answering to a security question.
- Library Management System will be PC-base with a internet, allowing library users to search for books, seminars and library staff members to manage the book inventory and user database.
- the Intended audience are:
  - 1. Students
  - 2. Faculties
  - 3. Scholars
- And who ever use the library are the intended audience for this project.

## **Intended Use**

- A Library Management System is a software built to handle the primary housekeeping functions of a library. Libraries rely on library management systems to manage asset collections as well as relationships with their members. Library management systems help libraries keep track of the books and their checkouts, as well as members' subscriptions and profile.
- Library management systems also involve maintaining the database for entering new books and recording books that have been borrowed with their respective due dates.
- The software is intended to reduce the manual work to manage library functions which have various features. Based on your requirements, you can also customize the software. The commonly used library management software is customized software-based functionality, opensource, cloud-based system, database creation software, and many more.

## **Scope**

The Software Requirements Specification captures all the requirements in a single document. The Online Library System that is to be developed provides the members of the Library and employees of the library with books information, online blocking of books and many other facilities. The Online Library System is supposed to have the following features.

- 1)The product provides the members with online blocking of books capabilities and the Online Library System is up and running all day.
- 2)The system provides login facility to the users.

3)The system provides the members with the option to check their account and/or change their options like password of the account whenever needed all through the day during the library hours.

4)The system updates the billing system as and when the member borrows or returns a book.The book catalog is automated and the decision of offering the book based on the category of the book is automatically decided.

The Library Management System is an application for assisting a librarian in managing a book library in a university. The system would provide basic set of features to add/update members, add/update books, and manage check in specifications for the systems based on the client's statement of need.

**The scope of Online Library Management System includes:**

- \* Create distinct product users based on their roles and permissions.
- \* Authenticate users at their login.
- \* Provide the list of books the users can borrow.
- \* Facility to reserve books that are available.
- \* A status page for all users to view books reserved by them.
- \* Facility to cancel the reservation for a book made earlier.
- \* A status page for all users to view books borrowed by them, their individual  
due dates and their individual penalties if any.
- \* An interface to view and edit the own profile.
- \* Provide method for adjusting account settings such as passwords.
- \* Mechanism to reset the password in case user forgets it.
- \* Providing interface to add or delete books to staffs

## **Problem identification**

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.

In many library management systems there is no proper maintenance in updating

data in database such as delay in updating where user will not able track his statistics and moreover security is major issue now a days we access the book just

by id card where there is no security to user account.

## **Problem description**

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.

By using library management system, the operation of borrowing and managing

inventories is paperless. This system provides a user-friendly data entry with dropdown button menu, list box and checkbox in purpose to make the input entry

easier to understand and use. It is also created to ensure that the library items are

sorted properly in order to maintain their security.

This system should store all the books and members information that consist of

book numbers, book titles, author names and racks to the system database. It also

provides search function to help students find the book by number of books.

Search function will search through the books database to look for the book and

view where the book is situated.

## **Problem Analysis:**

The library management system is a software system that issues books and magazines to registered students only. The student has to login after getting registered to the system. The borrower of the book can perform various



functions such as searching for desired book, get the issued book and return the book.

Library Management System is an application which refers to library systems which are generally small or medium in size. It is used by librarian to manage the library using a computerized system where he/she can record various transactions like issue of books, return of books, addition of new books, addition of new students etc. 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. In addition, report module is also included in Library Management System. If user's position is admin, the user is able to generate different kinds of reports like lists of students registered, list of books, issue and return reports. All these modules are able to help librarian to manage the library with more convenience and in a more efficient way as compared to library systems which are not computerized.

## **Feasibility Study:**

The feasibility study was carried out under the following these areas :

- **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

Using Technologies:

>**HTML or Hyper Text Markup Language** is the main mark up language for creating web pages and other information that can be displayed in a web browser.

>**JAVA SCRIPT(JS)** is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed.

>**PHP** is a server-side scripting language designed for web development but also used as a general-purpose programming language.

>**MYSQL** is the world's second most widely used open-source relational database management system (RDBMS).

- **Operational feasibility**

This project will be well suited for Education sector and can also be useful for public libraries. People can also check if a book is available in the library beforehand before going to the library. Users can also maintain their profile, they can easily access the books instead of searching on web.

- **Time feasibility**

This project can be developed within 1 month. In this period of time, we are going to develop a website by identifying what are all the requirements we can address in a website and make it available to the users. We develop Module wise and each module can take 5-6 days of time.

## **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 a 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.

LMS has three modules which are Students Module, Staff Module, and Administration Module.

First of all, Students Module allows students to search material by title, name/author, subject, publication, series, ISBN/ISSN and etc. it also allow students to find recently arrived material. In Staff Module, staff can issue book and receive book with bar code. Staff also can fine for books received after due date. Lastly, the administration module help administrator to register/reassign shelf and category, change book status, issue library card, configuration to register users, and database backup/restore. Overall this system can be very helpful and it can make things easier.

### **Features of Library Management System**

- Maintain any media
- Can define a number of things that one wants to keep track of.
- Can define the specification you want for that media, for book like pages, ISBN number, type, volume.
- One can maintain media with its own specifications rather than common.
- Powerful search engine
- Includes searches for words, phrases and more within single sentences in a book, or the entire library.
- Find media by any keyword typed in text box or by selecting the name of media author, publisher or subject also find different combinations of author, publisher, subject and sub subject.
- Define search field and select particular fields to display the result.
- Set criteria for the group of members against the media type so that it is easy to maintain and track the criteria data and particular group.
- Help and User's Guide
- It gives information help and makes it easy to understand.
- Provides information help for each form of the system and also describes each field on the form.
- Define the time duration for which the library is closed, so while calculating the fine of member those days can be subtracted.
- Reports

## **Infrastructure:**

Here are the List of Modules that will have in the Library Management System Infrastructure:

- **Book Information Recording:** All the information of each books should be recorded into the system to provide the borrowers or the students the book references that they want to borrow.
- **Administrator Login:** The admin login will require the school librarian their email and password to have the main access to the system and secure every information ang transaction done in the system.
- **Users/Borrowers' Login:** This will also require the users or students email and password provided when they were registered into the system. Their email and password will serve as their access to the system in terms of borrowing books or inquiring for books.
- **Book Monitoring and Updates:** The system should save the borrowers info and the count of books that are borrowed. These records should also be updatable when the books are returned.
- **View and Check Information:** The admin can view and check the books that are borrowed and who were the students that borrowed them. Students can also view their borrowing transactions just like the book information, date of book borrowing and returning.
- **Borrowing Information:** The borrowing information should consist the important details of the borrowers and the books borrowed by each borrowers. This information should also record the day of borrowing as well as the returning of the book.
- **Borrowing Records:** This will record all the transaction made and are stored for a period v of time to serve as reference for important matters

## **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.

Categories view shows the books categories view with ability to Librarian to add/edit or delete category from the list.

### **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.

### **Hardware Interfaces**

Only the recommended configuration (basic requirements of a computer system no other specific hardware is required to run the software.

## **System design specifications**

### **System Modules**

Library Book Management System is separated into a number of modules. Each module has an interface

within which a number of functions are enabled. The system has access rights to control access to the modules.

#### **a)Circulation Module**

This module has functionality to enable the borrowing and return of books. Fines are also automatically calculated through this module. It enables easy retrieval of information concerning available, overdue,lost, returned, damaged, and issued books. It displays information about a member alongside the books they borrow. It notifies a member if the book in their possession is overdue.

#### b)Cataloging Module

This module enables the librarian to capture a book details in the most appropriate manner. This enables ease of retrieval of information concerning the book to the end users. With regard to this module, the system captures all the book details, the respective authors, publishers, category, and its section within the library. This module

#### c)Online Public Access Catalogue (OPAC) Module

This module enables members to access books from the convenience of their location. A number of search criteria are presented to the users where one can search a book by its category, the author, the publisher, the book code, or the title of the book.

#### d)Reservation Module

This module enables a member to reserve a book and check the status. It enables librarian to respond to reservations.

#### e)Reports Module

This module enables the librarian to generate reports from the system using the reports functionality. The reports are then displayed in Microsoft Excel formats.

#### f)User Management Module

Using this module, a librarian can create new users to the system. It also enables them to update the userdetails

## **Overall Description**

### **User Needs:**

Library Management System is a replacement for the ordinary library management systems which depend on paper work for recording book and users information.

### **Administrators:**

- ☐ Admin should be able to insert, modify and delete books.

- ☐ Can accept or reject a new user according to the library policy or payment methods.
- ☐ Increase the period for borrowing a book for specific type or group of users.
- ☐ Can get the information (status report) of any member who has borrowed a book.
- ☐ Add and edit book categories and arrange books by categories.
- ☐ Add and edit authors and publishers information.
- ☐ Can send lateness warnings to people who have exceeded deadline date.
- ☐ Can record books returned by users.

### **Normal Users (Library Members)**

- ☐ The member should be provided with the updated information about the books catalog.
- ☐ Members are given a access to check their account's information and change it.
- ☐ Members have the ability to search through books by subject, title, authors or any information related to the book.
- ☐ Can extend the period of borrowing books according to the library policy.
- ☐ The customer may suggest a book to be brought to the library book collection.

### **Operating Environment:**

The Library Management System is a website and shall operate in all famous browsers, for a model we are taking Microsoft Internet Explorer

,Google Chrome,Mozilla Firefox with Flash Player and JavaScript.

### **User Characteristics :**

Users of this Library Management System are members, librarians and the administrators who maintain the website. Members and librarians are assumed to have basic knowledge of computers and Internet browsing.

Administrators of the system should have more knowledge of internal modules of the system and are able to rectify small problems that may arise due to disk crashes, power failures and other catastrophes.

### **Design and Implementation Constraints**

- ☐ The information of all users, books and libraries must be stored in a database that is accessible by the website.
- ☐ MS SQL Server will be used as SQL engine and database. ☐ The Online Library System is running 24 hours a day.
- ☐ Users may access from any computer that has Internet browsing capabilities and an Internet connection.
- ☐ Users must have their correct usernames and passwords to enter into their online accounts and do actions.

### **Assumptions and Dependencies**

The product needs the following third party products.

- ☐ Microsoft SQL server to store the database.
- ☐ ASP.net to develop the Product.

The following is a list of assumptions and dependencies that would affect



- o the software requirements if they turned out to be false:
- o Users have basic understanding to PC and Windows and internet.

## **Specific requirements**

### **1)Functional Requirements**

#### **Librarian:**

##### **1)Insert book:**

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

##### **2)Delete / modify book :**

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

##### **3)Delete member:**

Admin can delete a member due to some specific rules.

##### **4)Return book:**

Admin should confirm the return of books borrowed by users

#### **Normal User :**

##### **1)Register:**

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

#### **Common Functions**

##### **1)Login:**

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

## **2)Search for book :**

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

## **2)Non-functional Requirements**

### **Error handling :**

Library Management System shall handle expected and non expected 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

### **Availability Requirement:**

The system is available 100% for the user and is used 24 hrs a day and 365 days a year. The system shall be operational 24 hours a day and 7 days a week.

### **Accuracy:**

The system should accurately provide real time information taking into consideration various concurrency issues. The system shall provide 100% access reliability.

### **Performance Requirement:**

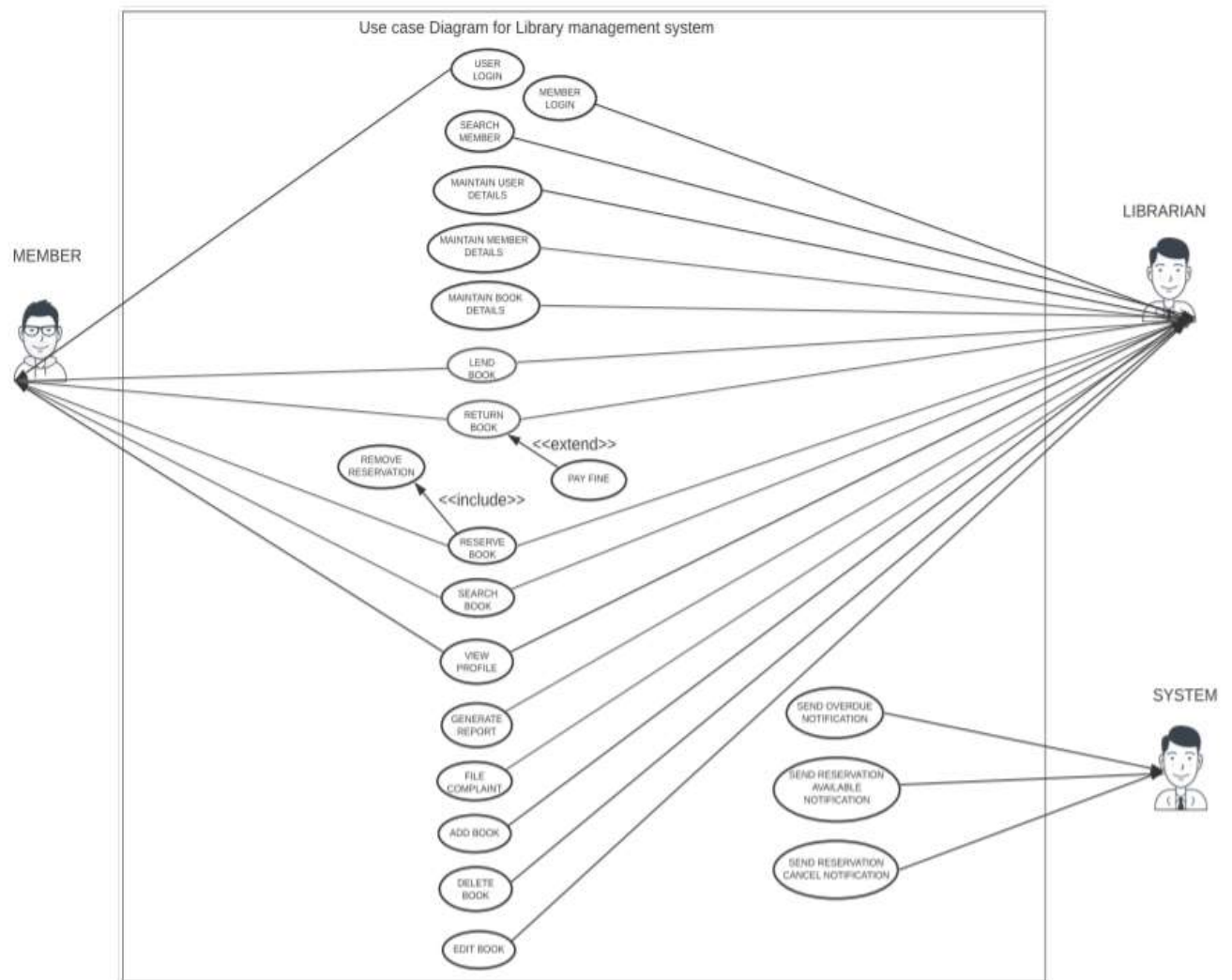
- ☐ The information is refreshed at regular intervals depending upon whether some updates have occurred or not.
- ☐ The system shall respond to the member in not less than two seconds from the time of the request submittal.
- ☐ The system shall be allowed to take more time when doing large processing jobs.

### **Reliability Requirement :**

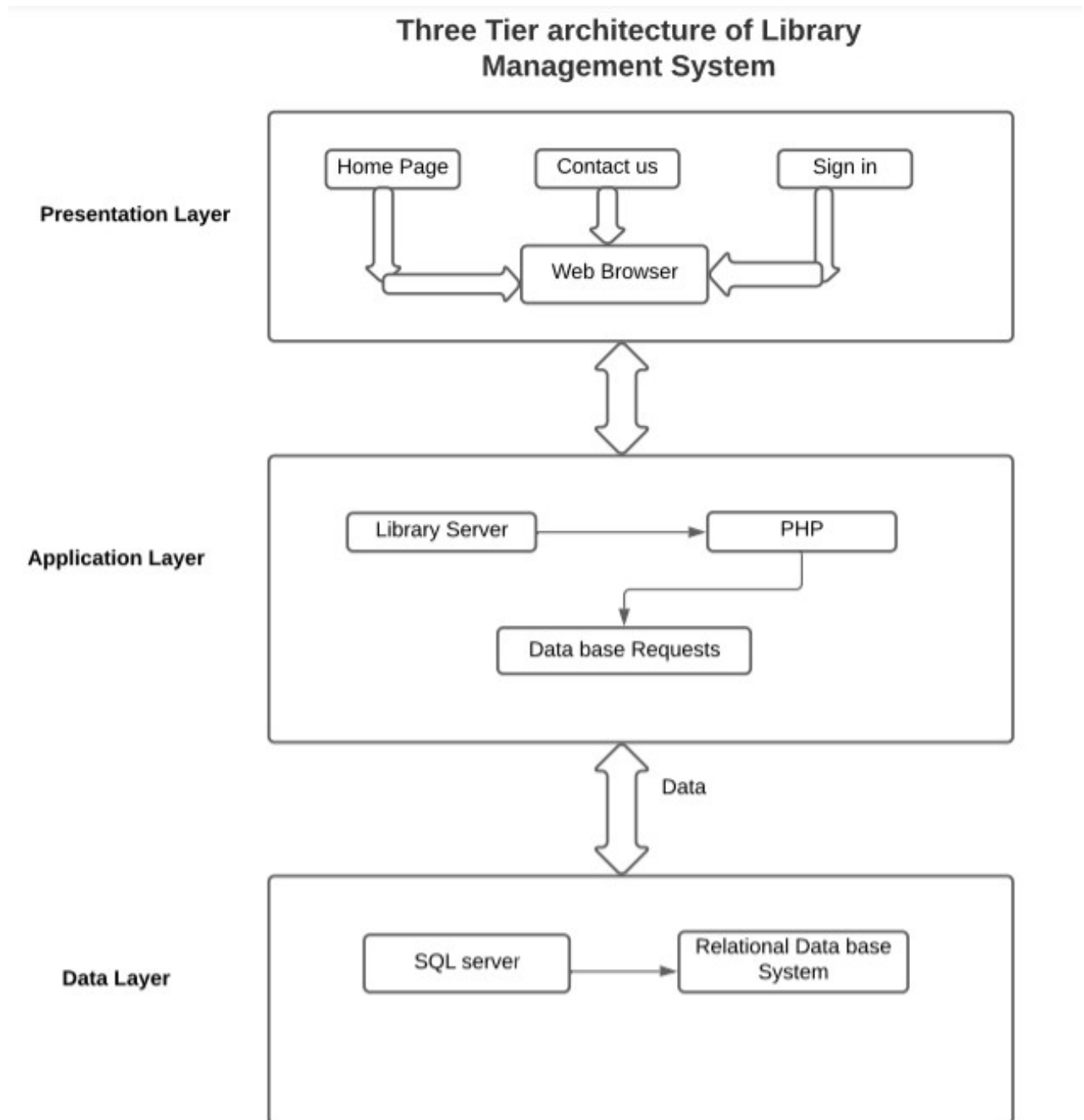
The system has to be 100% reliable due to the importance of data and the damages that can be caused by incorrect or incomplete data. The system will run 7 days a week, 24 hours a day.

## Methodology and design:

### Usecase diagram of Library Management System



### 3 Tier Architecture of Library Management 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.

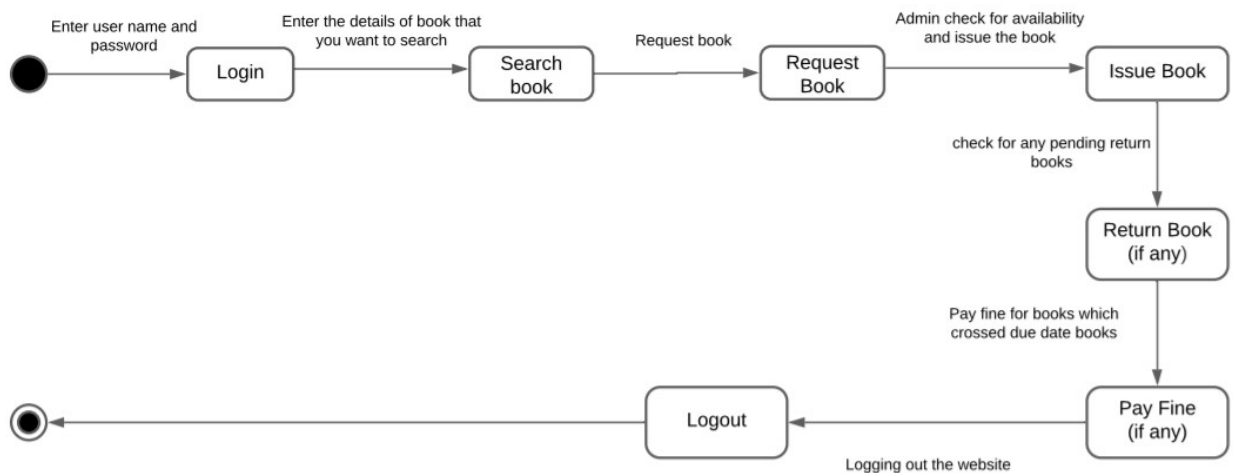
### Application Layer:

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 retrieve data.

### Data Layer:

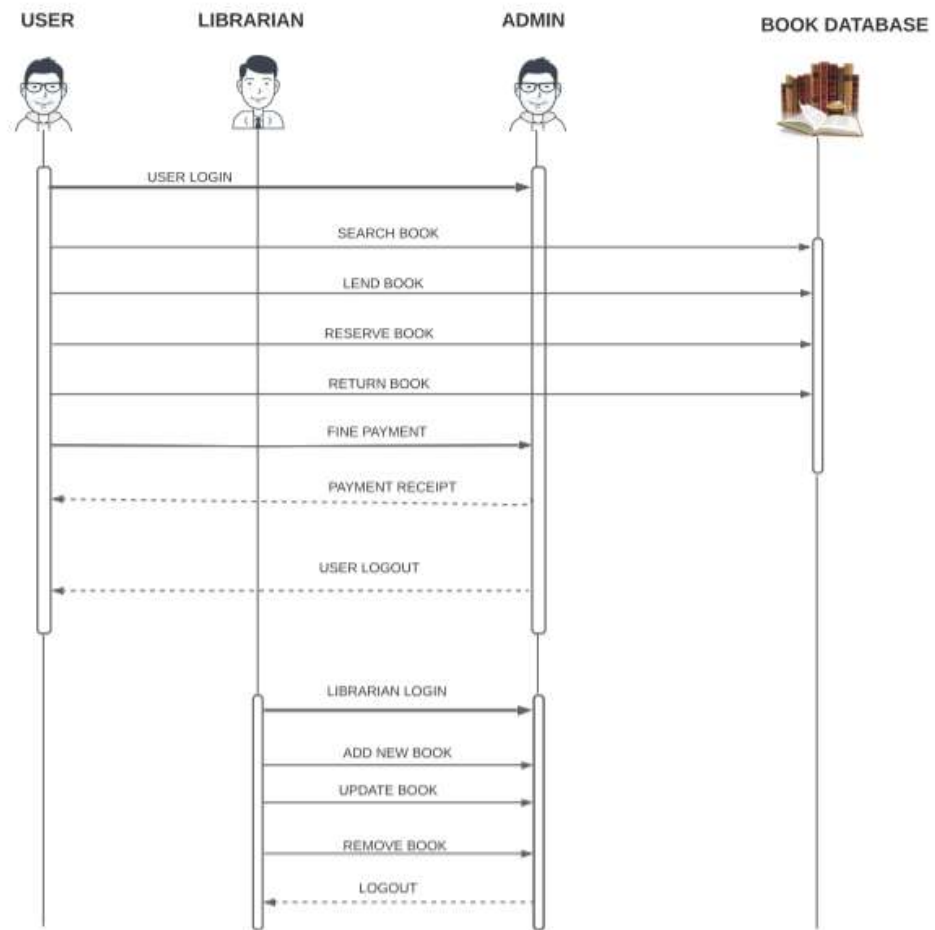
In this layer the data like login credentials ,user details, book details, reports is stored in Relational data base. According to our needs we retrieve the data by using the data which is stored in this data base.

## State Chart diagram of Library Management System



**State Chart Diagram for Library Management System**

# Sequence diagram of Library Management System

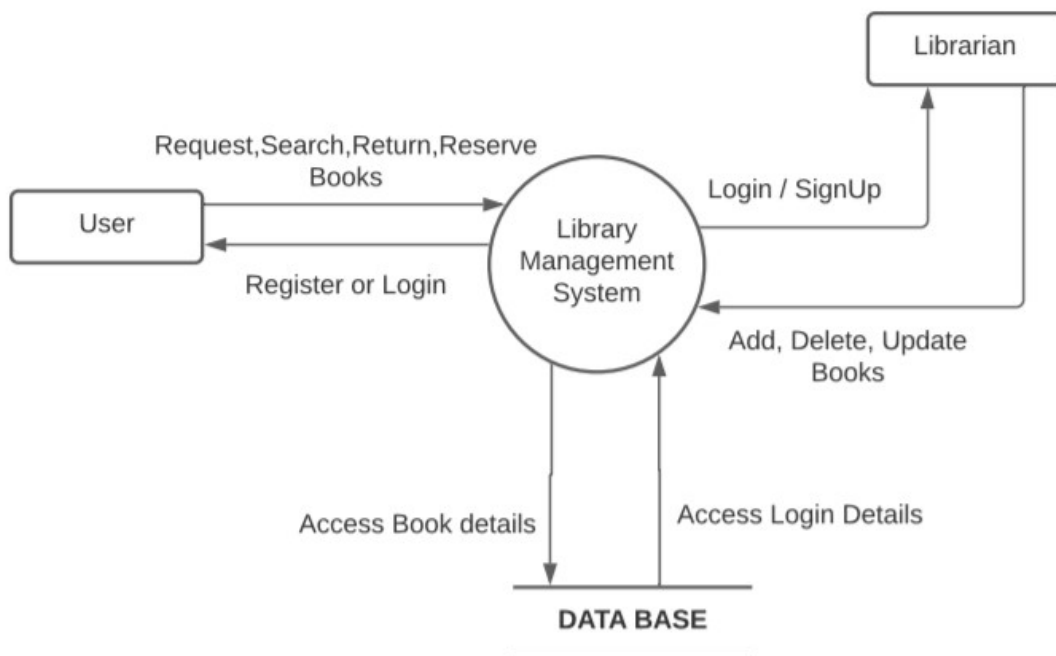


SEQUENCE DIAGRAM FOR LIBRARY MANAGEMENT SYSTEM

# Data Flow Diagram of Library Management System

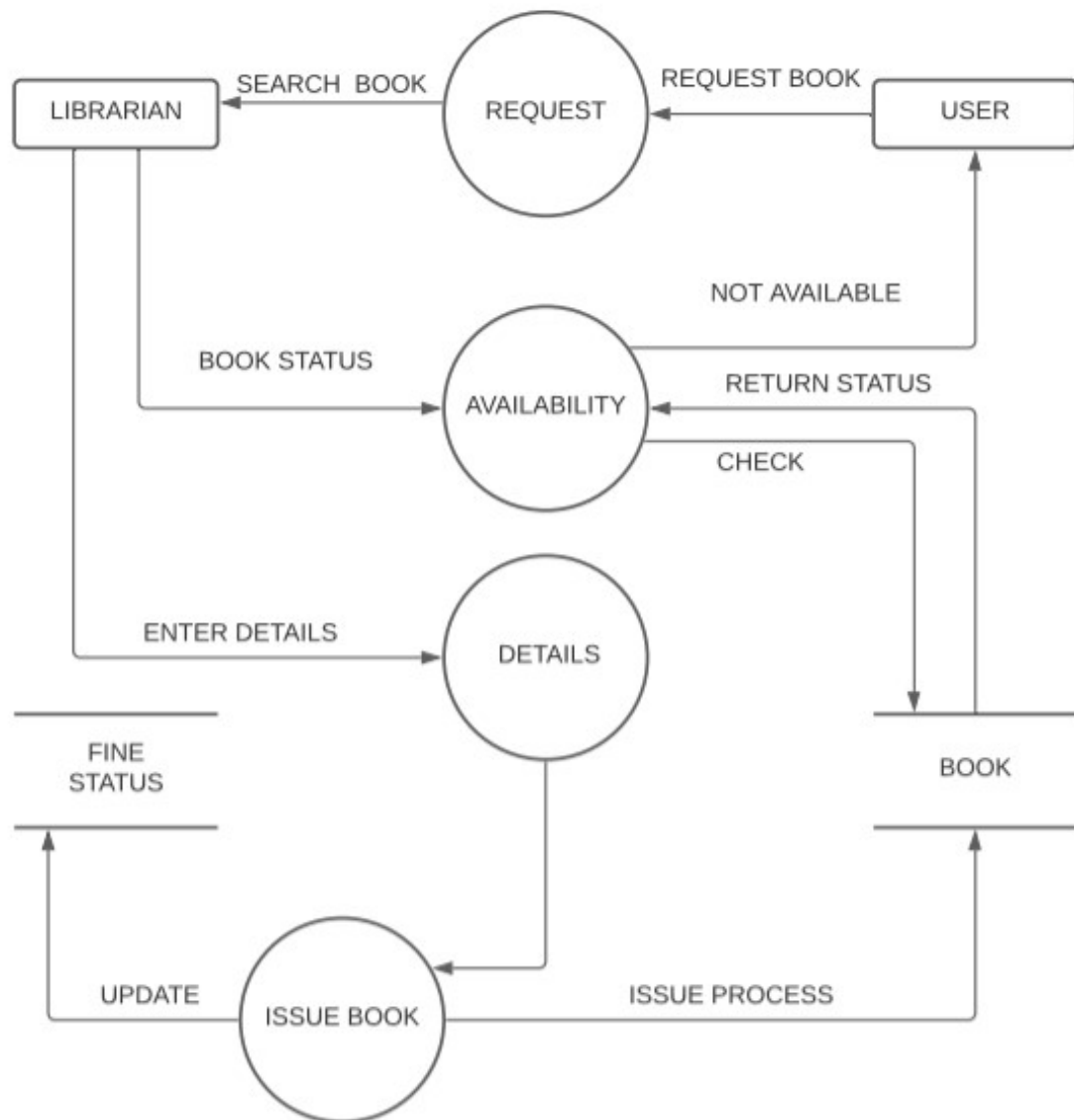
## >Level – Zero

Zero Level Data Flow Diagram for Library Management System





## >Level – One



**Level-One Data Flow Diagram for Library Management System**

# Code:

## 1)addBooks.php

```
C:\Users\del\Downloads\addBooks.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change log basic.html anchors.html tables.html forms.html frames.html sample_project.html css_ext.html Div.html CSI Sample Website.html addBooks.php

1 <?php
2 include("setting.php");
3 session_start();
4 if(!isset($_SESSION['aid']))
5 {
6     header("location:index.php");
7 }
8 $aid=$_SESSION['aid'];
9 $a=mysqli_query($set,"SELECT * FROM admin WHERE aid='$aid'");
10 $b=mysqli_fetch_array($a);
11 $name=$b['name'];
12 $bn=$_POST['name'];
13 $au=$_POST['auth'];
14 if($bn!=NULL && $au!=NULL)
15 {
16     $sql=mysqli_query($set,"INSERT INTO books (name,author) VALUES ('$bn','$au')");
17     if($sql)
18     {
19         $msg="Successfully Added";
20     }
21     else
22     {
23         $msg="Book Already Exists";
24     }
25 }
26 }
27 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
28 <html xmlns="http://www.w3.org/1999/xhtml">
29 <head>
30 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
31 <title>Library Management System</title>
32 <link href="stylesheet.css" rel="stylesheet" type="text/css" />
33 </head>
34
```

## 2)admin.php

```
C:\Users\del\Downloads\admin.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change log basic.html anchors.html tables.html forms.html frames.html sample_project.html css_ext.html Div.html CSI Sample Website.html addBooks.php admin.php

1 <?php
2 include("setting.php");
3 session_start();
4 if(isset($_SESSION['aid']))
5 {
6     header("location:home.php");
7 }
8 $aid=mysqli_real_escape_string($set,$_POST['aid']);
9 $pass=mysqli_real_escape_string($set,$_POST['pass']);
10
11 if($aid==NULL || $_POST['pass']==NULL)
12 {
13     //
14 }
15 else
16 {
17     $p=sha1($pass);
18     $sql=mysqli_query($set,"SELECT * FROM admin WHERE aid='$aid' AND password='$pass'");
19     if(mysqli_num_rows($sql)==1)
20     {
21         $_SESSION['aid']=$_POST['aid'];
22         header("location:adminhome.php");
23     }
24     else
25     {
26         $msg="Incorrect Details";
27     }
28 }
29 }
30 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
31 <html xmlns="http://www.w3.org/1999/xhtml">
32 <head>
33 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
34 <title>Library Management System</title>
```

### 3)adminhome.php

```
C:\Users\deli\Downloads\adminhome.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change.log basic.html anchorTags.html tables.html forms.html frames.html sample_project.html css_ext.html Div.html CSI Sample Website.html addBooks.php admin.php adminhome.php
1 <?php
2 include("setting.php");
3 session_start();
4 if(!isset($_SESSION['aid']))
5 {
6     header("location:index.php");
7 }
8 $aid=$_SESSION['aid'];
9 $a=mysqli_query($set,"SELECT * FROM admin WHERE aid='$aid'");
10 $b=mysqli_fetch_array($a);
11 $name=$b['name'];
12 ?>
13 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
14 <html xmlns="http://www.w3.org/1999/xhtml">
15 <head>
16 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
17 <title>Library Management System</title>
18 <link href="stylesheet.css" rel="stylesheet" type="text/css" />
19 </head>
20
21 <body>
22 <div id="banner">
23 <span class="head">Library Management System</span><br />
24 <marquee class="clg" direction="right" behavior="alternate" scrollamount="1">WELCOME TO LIBRARY</marquee>
25 </div>
26 <br />
27
28 <div align="center">
29 <div id="wrapper">
30 <br />
31 <br />
32
33 <span class="SubHead">Welcome <?php echo $name;?></span>
34 <br />
```

### 4)bookRequests.php

```
C:\Users\deli\Downloads\bookRequests.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change.log basic.html anchorTags.html tables.html forms.html frames.html sample_project.html css_ext.html Div.html CSI Sample Website.html addBooks.php admin.php adminhome.php bookRequests.php
1 <?php
2 include("setting.php");
3 session_start();
4 if(!isset($_SESSION['aid']))
5 {
6     header("location:index.php");
7 }
8 $aid=$_SESSION['aid'];
9 $a=mysqli_query($set,"SELECT * FROM admin WHERE aid='$aid'");
10 $b=mysqli_fetch_array($a);
11 $name=$b['name'];
12 $bn=$_POST['name'];
13 $au=$_POST['auth'];
14 if($bn!=NULL && $au!=NULL)
15 {
16     $sql=mysqli_query($set,"INSERT INTO books(name,author) VALUES('$bn','$au')");
17     if($sql)
18     {
19         $msg="Successfully Added";
20     }
21     else
22     {
23         $msg="Book Already Exists";
24     }
25 }
26 ?>
27 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
28 <html xmlns="http://www.w3.org/1999/xhtml">
29 <head>
30 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
31 <title>Library Management System</title>
32 <link href="stylesheet.css" rel="stylesheet" type="text/css" />
33 </head>
34
```

## 5)Fine.php

```
C:\Users\del\Downloads\FINE.PHP - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
base.html anchorTags.html tables.html forms.html frames.html sample_project.html css_ext.html Div.html CSI Sample Website.html addBooks.php admin.php adminhome.php bookRequests.php FINE.PHP
1 <?php
2 include("setting.php");
3 session_start();
4 if(!isset($_SESSION['aid']))
5 {
6     header("location:index.php");
7 }
8 $aid=$_SESSION['aid'];
9 $a=mysqli_query($set,"SELECT * FROM admin WHERE aid='$aid'");
10 $b=mysqli_fetch_array($a);
11 $name=$b['name'];
12 $bn=$_POST['name'];
13 $au=$_POST['auth'];
14 if($bn!=NULL && $au!=NULL)
15 {
16     $sql=mysqli_query($set,"INSERT INTO books(name,author) VALUES('$bn','$au')");
17     if($sql)
18     {
19         $msg="Successfully Added";
20     }
21     else
22     {
23         $msg="Book Already Exists";
24     }
25 }
26 ?>
27 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
28 <html xmlns="http://www.w3.org/1999/xhtml">
29 <head>
30 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
31 <title>Library Management System</title>
32 <link href="stylesheet.css" rel="stylesheet" type="text/css" />
33 </head>
```

## 6)fineStatus.php

```
C:\Users\del\Downloads\FineStatus.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
tables.html forms.html frames.html sample_project.html css_ext.html Div.html CSI Sample Website.html addBooks.php admin.php adminhome.php bookRequests.php FINE.PHP FineStatus.php
1 <?php
2 include("setting.php");
3 session_start();
4 if(!isset($_SESSION['aid']))
5 {
6     header("location:index.php");
7 }
8 $aid=$_SESSION['aid'];
9 $a=mysqli_query($set,"SELECT * FROM admin WHERE aid='$aid'");
10 $b=mysqli_fetch_array($a);
11 $name=$b['name'];
12 $bn=$_POST['name'];
13 $au=$_POST['auth'];
14 if($bn!=NULL && $au!=NULL)
15 {
16     $sql=mysqli_query($set,"INSERT INTO Fine(name,author) VALUES('$bn','$au')");
17     if($sql)
18     {
19         $msg="Successfully Paid";
20     }
21     else
22     {
23         $msg=" Already Paid";
24     }
25 }
26 ?>
27 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
28 <html xmlns="http://www.w3.org/1999/xhtml">
29 <head>
30 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
31 <title>Library Management System</title>
32 <link href="stylesheet.css" rel="stylesheet" type="text/css" />
33 </head>
34 <body>
```

## 7)home.php

```
C:\Users\dell\Downloads\home.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change.log basic.html anchor tags.html tables.html forms.html frames.html sample_project.html css_ext.html Div.html CSI Sample Website.html home.php
1 <?php
2 include("setting.php");
3 session_start();
4 if(!isset($_SESSION['sid']))
5 {
6     header("location:index.php");
7 }
8 $sid=$_SESSION['sid'];
9 $a=mysqli_query($set,"SELECT * FROM students WHERE sid='$sid'");
10 $b=mysqli_fetch_array($a);
11 $name=$b['name'];
12 >
13 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
14 <html xmlns="http://www.w3.org/1999/xhtml">
15 <head>
16 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
17 <title>Library Management System</title>
18 <link href="stylesheet.css" rel="stylesheet" type="text/css" />
19 </head>
20
21 <body>
22 <div id="banner">
23 <span class="head">Library Management System</span><br />
24 <marquee class="clg" direction="right" behavior="alternate" scrollamount="1">WELCOME TO LIBRARY </marquee>
25 </div>
26 <br />
27
28 <div align="center">
29 <div id="wrapper">
30 <br />
31 <br />
32
33 <span class="SubHead">Welcome <?php echo $name;?></span>
34 <br />
```

## 8)index.php

```
C:\Users\dell\Downloads\index.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change.log basic.html anchor tags.html tables.html forms.html frames.html sample_project.html css_ext.html Div.html CSI Sample Website.html home.php index.php
1 <?php
2 include("setting.php");
3 session_start();
4 if(isset($_SESSION['sid']))
5 {
6     header("location:home.php");
7 }
8 $sid=mysqli_real_escape_string($set,$_POST['sid']);
9 $pass=mysqli_real_escape_string($set,$_POST['pass']);
10
11 if($sid==NULL || $_POST['pass']==NULL)
12 {
13     //
14 }
15 else
16 {
17     $p=sha1($pass);
18     $sql=mysqli_query($set,"SELECT * FROM students WHERE sid='$sid' AND password='$p'");
19     if(mysqli_num_rows($sql)==1)
20     {
21         $_SESSION['sid']=$_POST['sid'];
22         header("location:home.php");
23     }
24     else
25     {
26         $msg="Incorrect Details";
27     }
28 }
29 >
30 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
31 <html xmlns="http://www.w3.org/1999/xhtml">
32 <head>
33 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
34 <title>Library Management System</title>
```



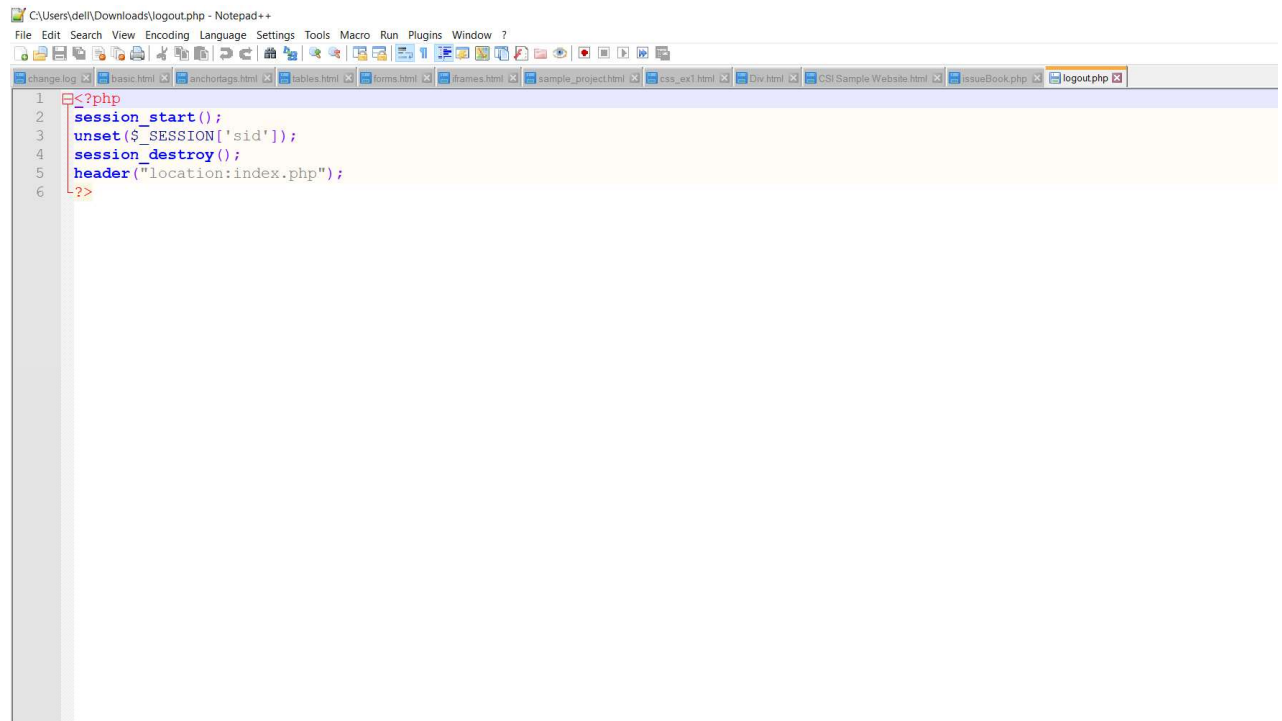
## 9)issue.php

```
C:\Users\dell\Downloads\issue.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change log basic.html anchor tags.html tables.html forms.html frames.html sample_project.html css_ext.html Div.html CSI Sample Website.html home.php index.php issue.php
1 <?php
2 include("setting.php");
3 session_start();
4 if(!isset($_SESSION['aid']))
5 {
6     header("location:index.php");
7 }
8 $aid=$_SESSION['aid'];
9 $a=mysqli_query($set,"SELECT * FROM admin WHERE aid='$aid'");
10 $b=mysqli_fetch_array($a);
11 $name=$b['name'];
12 $bn=$_POST['name'];
13 $au=$_POST['auth'];
14 if($bn!=NULL && $au!=NULL)
15 {
16     $sql=mysqli_query($set,"INSERT INTO books(name,author) VALUES('$bn','$au')");
17     if($sql)
18     {
19         $msg="Successfully Added";
20     }
21     else
22     {
23         $msg="Book Already Exists";
24     }
25 }
26 ?>
27 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
28 <html xmlns="http://www.w3.org/1999/xhtml">
29 <head>
30 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
31 <title>Library Management System</title>
32 <link href="stylesheet.css" rel="stylesheet" type="text/css" />
33 </head>
34 <body>
```

## 10)issueBook.php

```
C:\Users\dell\Downloads\issueBook.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change log basic.html anchor tags.html tables.html forms.html frames.html sample_project.html css_ext.html Div.html CSI Sample Website.html issueBook.php
1 <?php
2 include("setting.php");
3 session_start();
4 if(!isset($_SESSION['sid']))
5 {
6     header("location:index.php");
7 }
8 $sid=$_SESSION['sid'];
9 $a=mysqli_query($set,"SELECT * FROM students WHERE sid='$sid'");
10 $b=mysqli_fetch_array($a);
11 $name=$b['name'];
12 $date=date('d/m/Y');
13 $bn=$_POST['name'];
14 if($bn!=NULL)
15 {
16     $p=mysqli_query($set,"SELECT * FROM books WHERE id='$bn'");
17     $q=mysqli_fetch_array($p);
18     $bk=$q['name'];
19     $ba=$q['author'];
20     $sql=mysqli_query($set,"INSERT INTO issue(sid,name,author,date) VALUES('$sid','$bk','$ba','$date')");
21     if($sql)
22     {
23         $msg="Successfully Issued";
24     }
25     else
26     {
27         $msg="Error Please Try Later";
28     }
29 }
30 ?>
31 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
32 <html xmlns="http://www.w3.org/1999/xhtml">
33 <head>
34 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
```

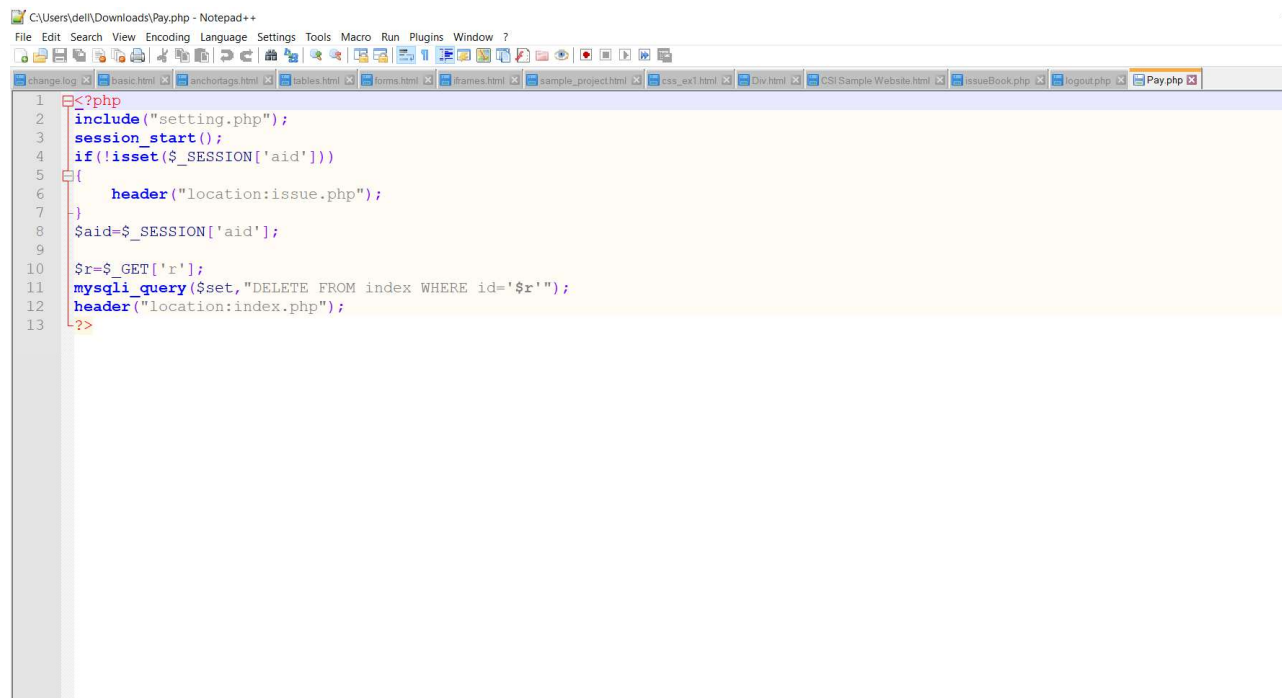
## 11)logout.php



The screenshot shows a Notepad++ window with the file path C:\Users\del\Downloads\logout.php. The code is as follows:

```
1 <?php
2 session_start();
3 unset($_SESSION['sid']);
4 session_destroy();
5 header("location:index.php");
6 ?>
```

## 12)Pay.php



The screenshot shows a Notepad++ window with the file path C:\Users\del\Downloads\Pay.php. The code is as follows:

```
1 <?php
2 include("setting.php");
3 session_start();
4 if(!isset($_SESSION['aid']))
5 {
6     header("location:issue.php");
7 }
8 $aid=$_SESSION['aid'];
9
10 $r=$_GET['r'];
11 mysqli_query($set,"DELETE FROM index WHERE id='$r'");
12 header("location:index.php");
13 ?>
```

## 13)register.php

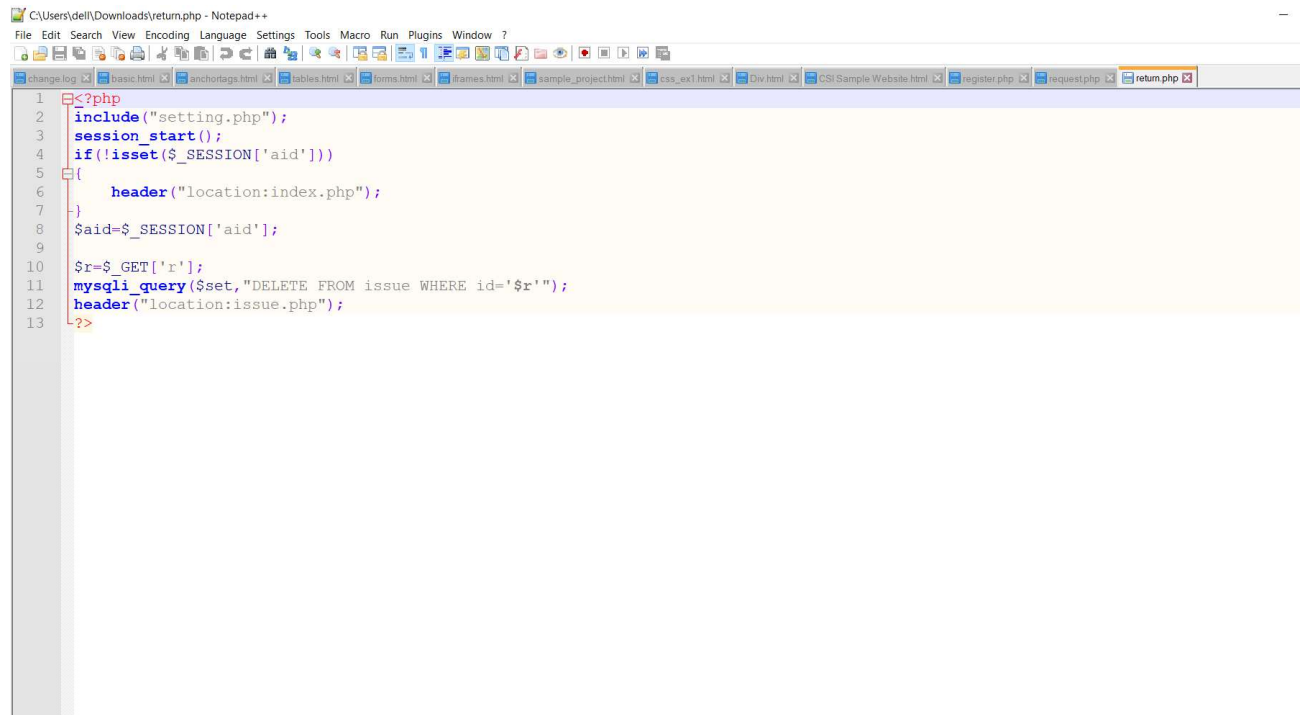
```
C:\Users\dehl\Downloads\register.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change log basic.html anchor tags.html tables.html forms.html frames.html sample_project.html css_ext.html Div.html CSI Sample Website.html register.php
1 <?php
2 include("setting.php");
3 $name=$_POST['name'];
4 $email=$_POST['email'];
5 $sem=$_POST['sem'];
6 $branch=$_POST['branch'];
7 $sid=$_POST['sid'];
8 $pas=sha1($_POST['pass']);
9 if($name==NULL || $email==NULL || $sem==NULL || $branch==NULL || $sid==NULL || $_POST['pass']==NULL)
10 {
11     //
12 }
13 else
14 {
15     $sql=mysqli_query($set,"INSERT INTO students(sid,name,branch,sem,password,email) VALUES('$sid','$name','$branch','$sem','$pas','$email')");
16     if($sql)
17     {
18         $msg="Successfully Registered";
19     }
20     else
21     {
22         $msg="User Already Exists";
23     }
24 }
25 ?>
26 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
27 <html xmlns="http://www.w3.org/1999/xhtml">
28 <head>
29 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
30 <title>Library Management System</title>
31 <link href="stylesheet.css" rel="stylesheet" type="text/css" />
32 </head>
33 <body>
```

## 14)request.php

```
C:\Users\dehl\Downloads\request.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change log basic.html anchor tags.html tables.html forms.html frames.html sample_project.html css_ext.html Div.html CSI Sample Website.html register.php request.php
1 <?php
2 include("setting.php");
3 session_start();
4 if(!isset($_SESSION['sid']))
5 {
6     header("location:index.php");
7 }
8 $sid=$_SESSION['sid'];
9 $a=mysqli_query($set,"SELECT * FROM students WHERE sid='$sid'");
10 $b=mysqli_fetch_array($a);
11 $name=$b['name'];
12 $bn=$_POST['name'];
13 $ba=$_POST['author'];
14 if($bn!=NULL && $ba!=NULL)
15 {
16     $sql=mysqli_query($set,"INSERT INTO request(name,author,sid) VALUES('$bn','$ba','$sid')");
17     if($sql)
18     {
19         $msg="Successfully Requested";
20     }
21     else
22     {
23         $msg="Request Already Exists";
24     }
25 }
26 ?>
27 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
28 <html xmlns="http://www.w3.org/1999/xhtml">
29 <head>
30 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
31 <title>Library Management System</title>
32 <link href="stylesheet.css" rel="stylesheet" type="text/css" />
33 </head>
34 <body>
```

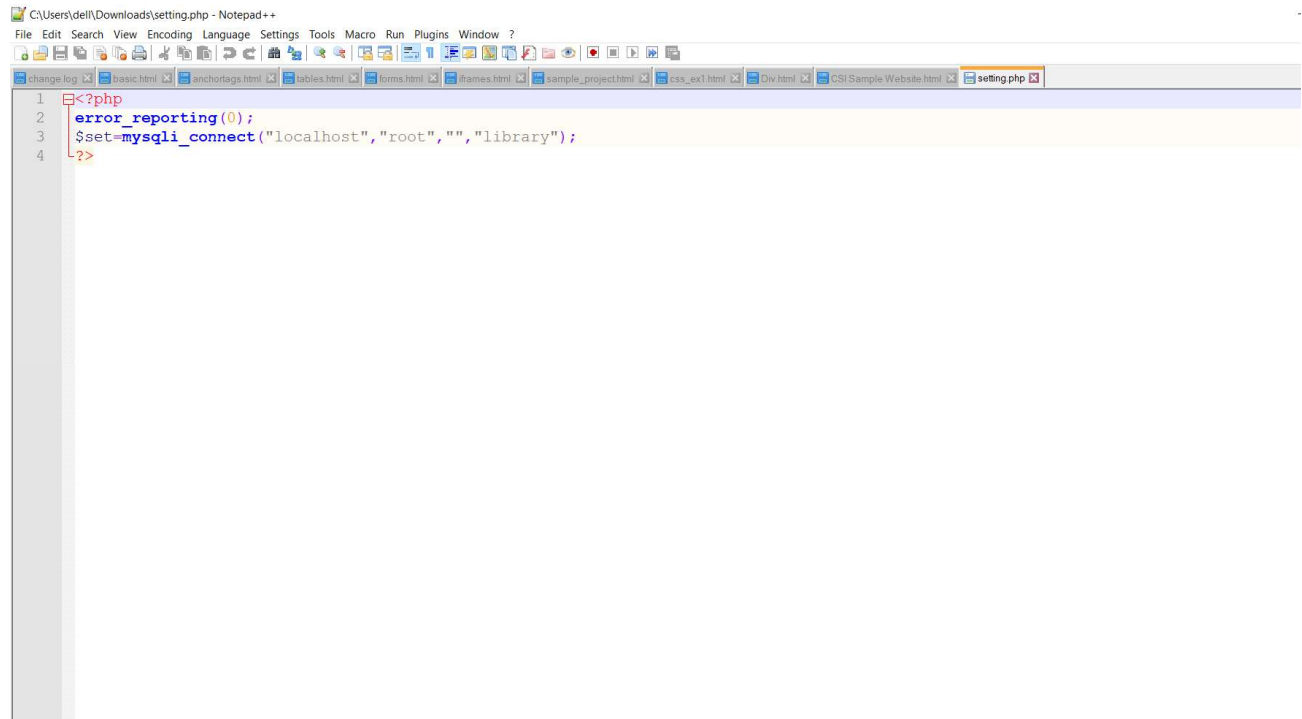


## 15) return.php



```
1 <?php
2 include("setting.php");
3 session_start();
4 if(!isset($_SESSION['aid']))
5 {
6     header("location:index.php");
7 }
8 $aid=$_SESSION['aid'];
9
10 $r=$_GET['r'];
11 mysqli_query($set,"DELETE FROM issue WHERE id='$r'");
12 header("location:issue.php");
13 ?>
```

## 16) setting.php



```
1 <?php
2 error_reporting(0);
3 $set=mysqli_connect("localhost","root","","library");
4 ?>
```

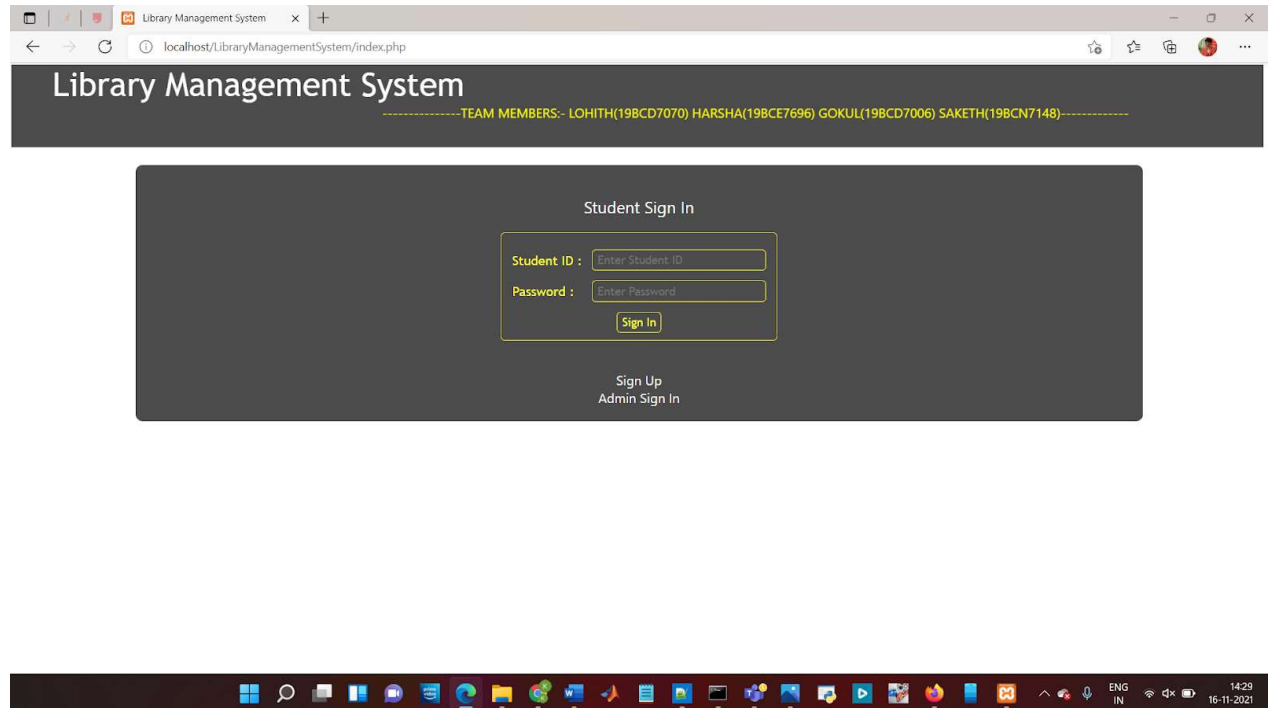
## 17)stylesheet.css

```
C:\Users\dell\Downloads\stylesheet.css - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change.log basic.html anchor tags.html tables.html forms.html #ames.html sample_project.html css_ex1.html Div.html CSI Sample Website.html setting.php stylesheet.css
1 @charset "utf-8";
2 /* CSS Document */
3 body {
4     margin: 0;
5     font-family: Arial, Helvetica, sans-serif;
6 }
7
8 .hero-image {
9     background-image: url("/IMAGES/lib.jpg");
10    background-color: #cccccc;
11    height: 500px;
12    background-position: center;
13    background-repeat: no-repeat;
14    background-size: cover;
15    position: relative;
16 }
17
18 .head
19 {
20     font-family:"Calisto mt";
21     font-size:40px;
22     color:#FFF;
23     margin-left:50px;
24 }
25 #banner
26 {
27     width:99.5%;
28     height:100px;
29     border:2px solid #FFF;
30     background-color:rgba(0,0,0,0.7);
31 }
32 .clg
33 {
34     font-family:"Segoe UI";
35     font-size:16px;
```

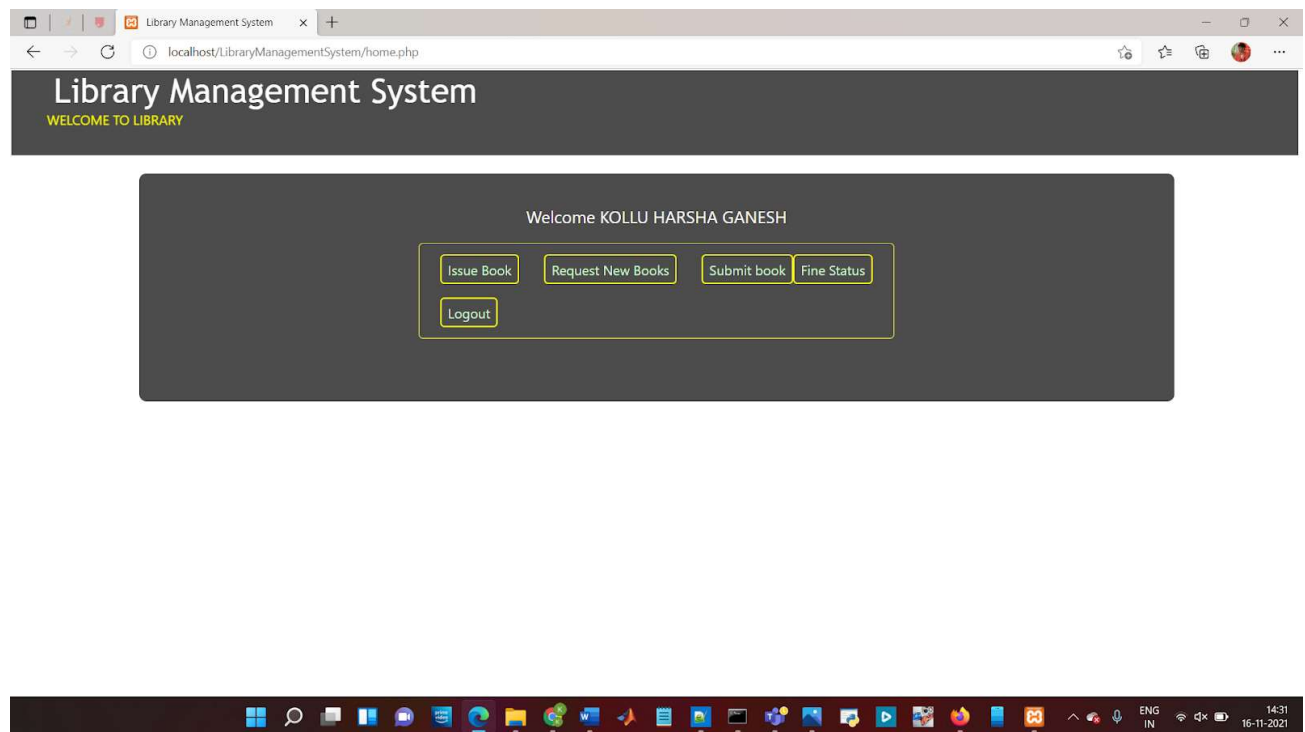
## 18)Submit.php

```
C:\Users\dell\Downloads\Submit.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
change.log basic.html anchor tags.html tables.html forms.html frames.html sample_project.html css_ex1.html Div.html CSI Sample Website.html setting.php stylesheet.css Submit.php
1 <?php
2 include("setting.php");
3 session_start();
4 if(!isset($_SESSION['sid']))
5 {
6     header("location:index.php");
7 }
8 $sid=$_SESSION['sid'];
9 $a=mysqli_query($set,"SELECT * FROM students WHERE sid='$sid'");
10 $b=mysqli_fetch_array($a);
11 $name=$b['name'];
12 $bn=$_POST['name'];
13 $ba=$_POST['author'];
14 if($bn!=NULL && $ba!=NULL)
15 {
16     $sql=mysqli_query($set,"INSERT INTO Submit(name,author,sid) VALUES('$bn','$ba','$sid')");
17     if($sql)
18     {
19         $msg="Successfully Submitted";
20     }
21     else
22     {
23         $msg="Already Submitted";
24     }
25 }
26 -?>
27 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
28 <html xmlns="http://www.w3.org/1999/xhtml">
29 <head>
30 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
31 <title>Library Management System</title>
32 <link href="stylesheet.css" rel="stylesheet" type="text/css" />
33 </head>
34 <body>
```

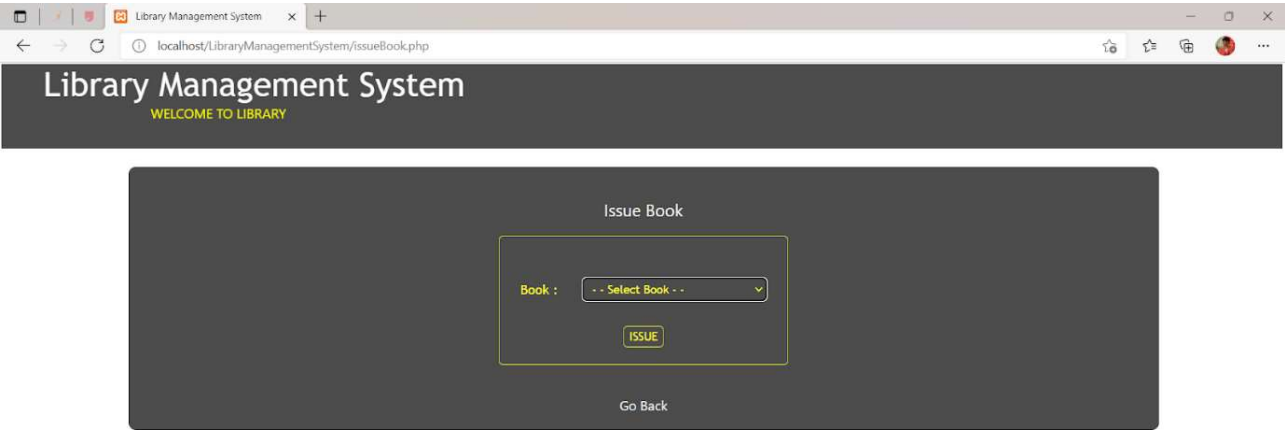
# Library Management System Website



## User Sign In Page



## Issue Book Page



Library Management System  
WELCOME TO LIBRARY

### Issue Book

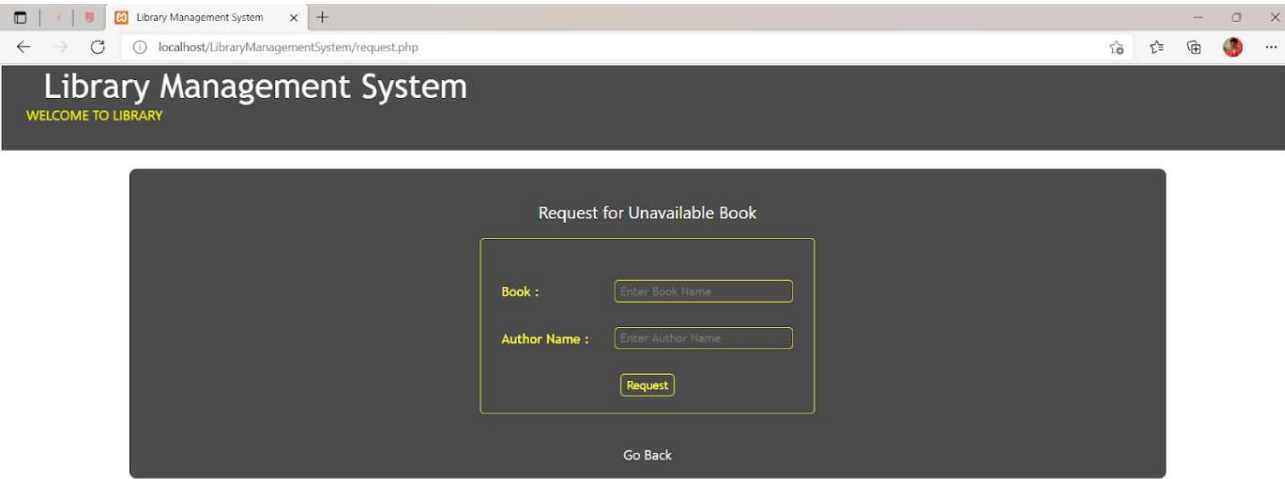
Book : -- Select Book --

ISSUE

Go Back

Windows taskbar: 14:32 16-11-2021

## Unavailable Book Request Page



Library Management System  
WELCOME TO LIBRARY

### Request for Unavailable Book

Book : Enter Book Name

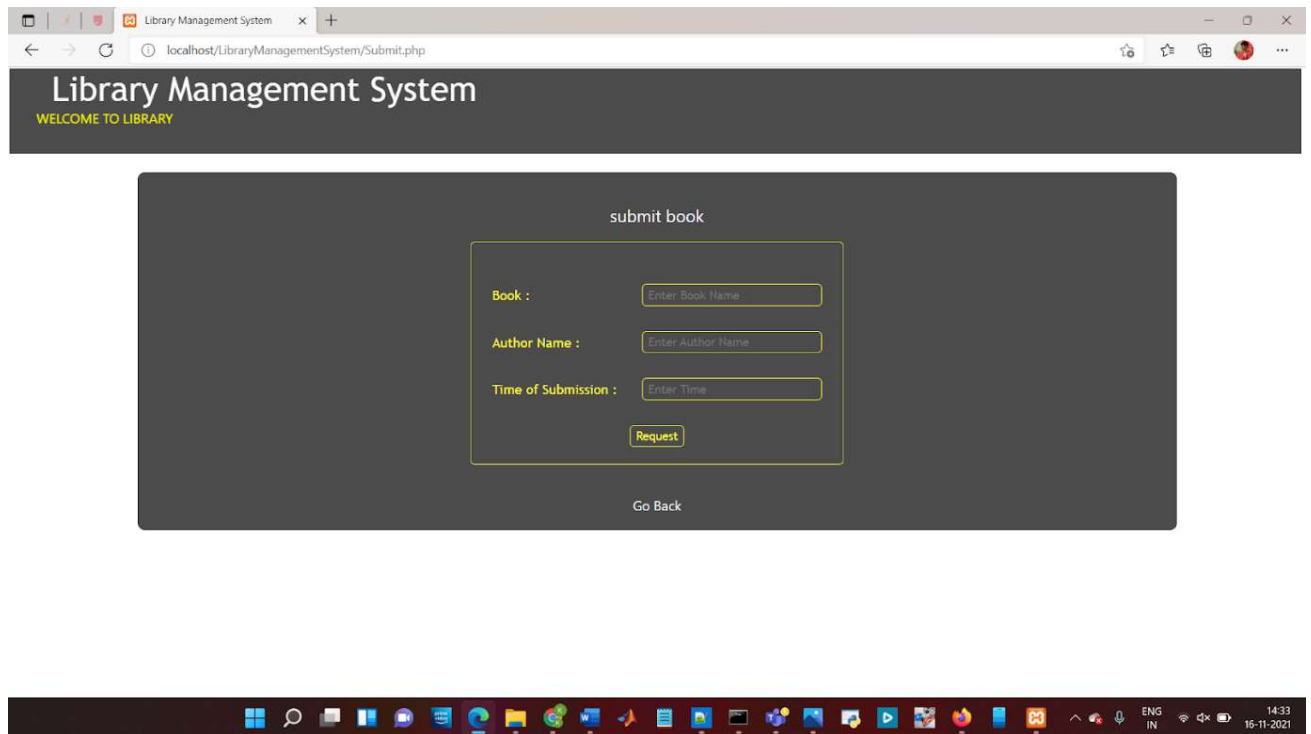
Author Name : Enter Author Name

Request

Go Back

Windows taskbar: 14:33 16-11-2021

## Book Upload Page



The screenshot shows a web browser window with the title "Library Management System" and the URL "localhost/LibraryManagementSystem/Submit.php". The page has a dark header with the text "Library Management System" and "WELCOME TO LIBRARY" in yellow. The main content area is a dark gray box with the title "submit book" in white. Inside this box is a form with three input fields: "Book :", "Author Name :", and "Time of Submission :". Each field has a placeholder text "Enter Book Name", "Enter Author Name", and "Enter Time" respectively. Below the input fields is a yellow "Request" button. At the bottom of the form box is a "Go Back" link. The Windows taskbar is visible at the bottom of the screen, showing various application icons and the system clock indicating 14:33 on 16-11-2021.

Library Management System  
WELCOME TO LIBRARY

submit book

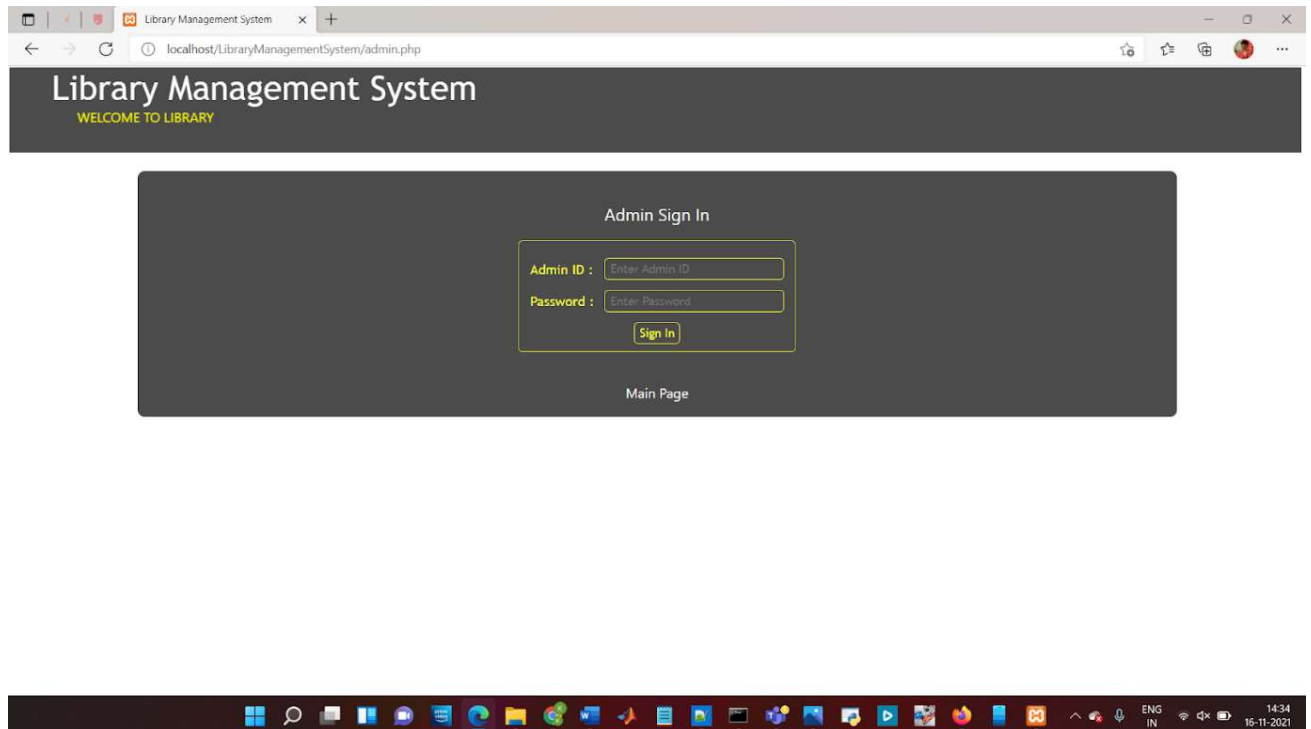
Book :

Author Name :

Time of Submission :

[Go Back](#)

## Admin Sign In Page



The screenshot shows a web browser window with the title "Library Management System" and the URL "localhost/LibraryManagementSystem/admin.php". The page has a dark header with the text "Library Management System" and "WELCOME TO LIBRARY" in yellow. The main content area is a dark gray box with the title "Admin Sign In" in white. Inside this box is a form with two input fields: "Admin ID :" and "Password :". Each field has a placeholder text "Enter Admin ID" and "Enter Password" respectively. Below the input fields is a yellow "Sign In" button. At the bottom of the form box is a "Main Page" link. The Windows taskbar is visible at the bottom of the screen, showing various application icons and the system clock indicating 14:34 on 16-11-2021.

Library Management System  
WELCOME TO LIBRARY

Admin Sign In

Admin ID :

Password :

[Main Page](#)

## Book Requested Users Page

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

14:36 16-11-2021

## Book Issued by Users Page

Library Management System  
WELCOME TO LIBRARY

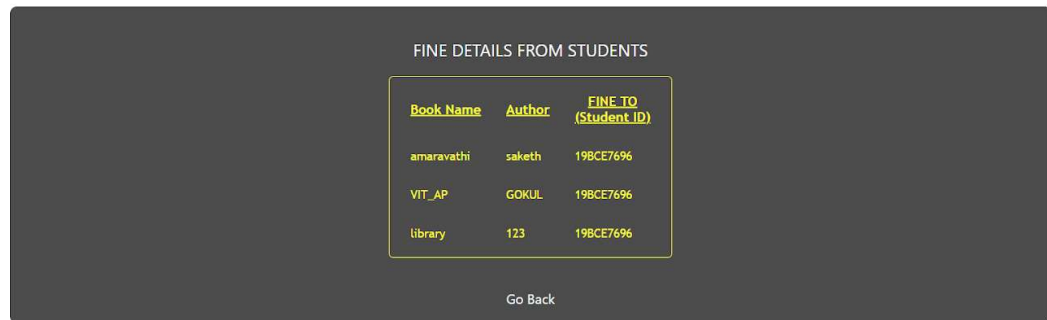
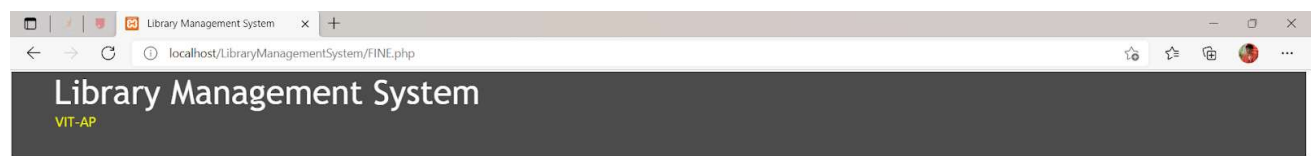
Books Issued by Students

Book Name	Author	Issued By Student ID	Date	Return
software engineering	LOHITH	19BCE7696	16/11/2021	Return

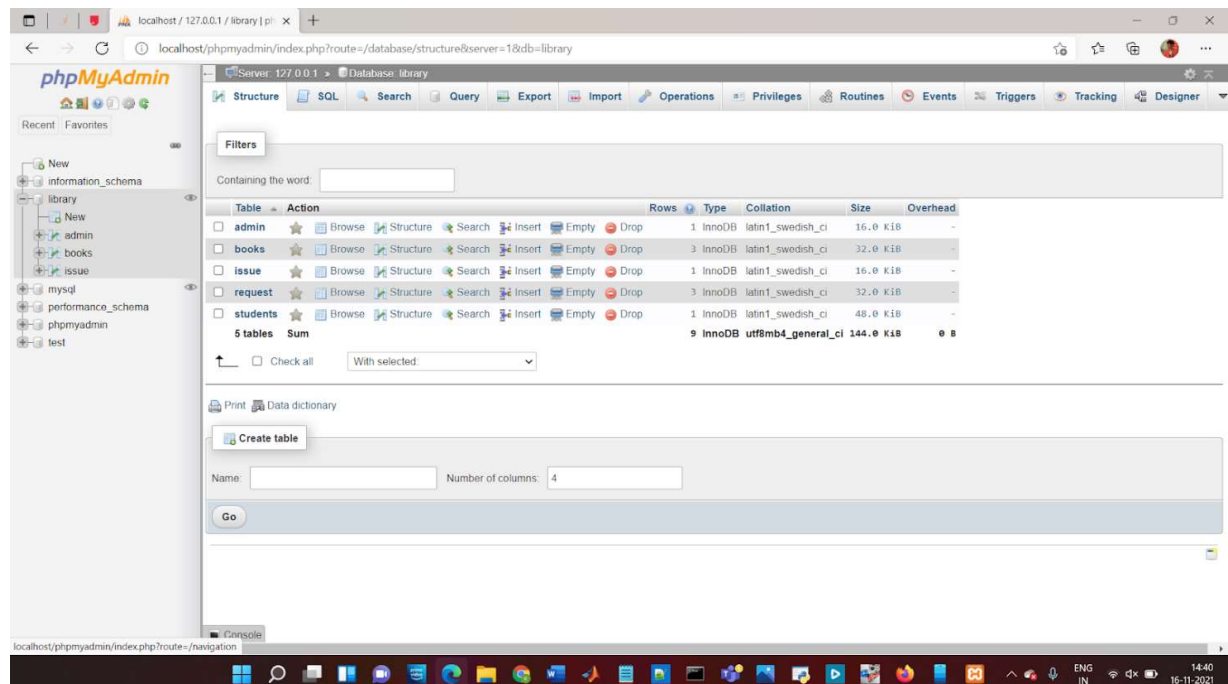
Go Back

14:38 16-11-2021

## Fine Details Page



## Database



## User details which is stored in database

The screenshot shows the phpMyAdmin interface for the 'library' database, specifically the 'students' table. The table structure is as follows:

id	sid	name	branch	sem	password	email
2	19BCE7696	KOLLU HARSHA GANESH	Computer Engineering	5	e6cedad0d09b358de8ca5926052639d813e37f10	ganesh.19bce7696@vitap.ac.in

The interface includes a left sidebar with a database tree, a top navigation bar with tabs like 'Browse', 'Structure', 'SQL', 'Search', 'Insert', 'Export', 'Import', 'Privileges', 'Operations', 'Tracking', and 'Triggers'. The main area displays the table data with options to show all rows, filter, and perform various operations like print, copy to clipboard, export, display chart, and create view. A console window is visible at the bottom.

## Admin details which is stored in database

The screenshot shows the phpMyAdmin interface for the 'library' database, specifically the 'admin' table. The table structure is as follows:

aid	name	password
lib	lib	lib

The interface is similar to the previous screenshot, showing the 'admin' table with its columns and a single row of data. The left sidebar, top navigation bar, and main area options are consistent with the previous image. A console window is also visible at the bottom.



## Testing:

Test Case Page	Test Case Name	Pass/Fail
Home Page	User Login	Passed
Admin Page	Admin Login	Passed
Sign In Page	Registering a new user	Passed
Book Issue User	Issuing a book for user	Passed
Request a new book	Request Book	Passed
Add a new book	Add Book	Passed
Change Password	Change Password	Passed
Fine page	Issue Fine	Passed

## 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

After completing our project, we have a website where a user can check what are all the books available in the library, He can request admin for new books by entering book details and book a book.

An admin can view the new book requests, add books, and can also see issue requests. Users who want to sign up newly can sign up by entering their details.

By doing this project we have understood how a Library Management System works. Also, with the help of UML diagrams we got to know how to plan what are all the features we are going to have at the end of the project.

## **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**

These are the some reference website and course links which we used in order to complete this Library management System website.

### **Links:**

- [1] [http://www.w3schools.com/html/html\\_intro.asp](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](https://www.w3schools.com/php/php_intro.asp)
- [4] <https://www.myschoolr.com/blog/why-need-a-library-managementsystem.html>
- [5] [https://www.lucidchart.com/pages/landing?utm\\_source=google&utm\\_medium=cpc&utm\\_campaign=branded\\_sitelink\\_en\\_lucidchart&km\\_CPC\\_CampaignId=1484560207&km\\_CPC\\_AdGroupID=60168114871&km\\_CPC\\_Keyword=lucidchart%20free&km\\_CPC\\_MatchType=e&km\\_CPC\\_ExtensionID=43826296855&km\\_CPC\\_Network=g&km\\_CPC\\_AdPosition=&km\\_CPC\\_Creative=442433234351&km\\_CPC\\_TargetID=aud-921551090622:kwd-320011564236&km\\_CPC\\_Country=1007741&km\\_CPC\\_Device=c&km\\_CPC\\_Placement=&km\\_CPC\\_target=&mkwid=sQqUhZAY4\\_pcrId\\_442433234351\\_pkw\\_lucidchart%20free\\_pmt\\_e\\_pdv\\_c\\_slid\\_8JVw2jyM\\_pgrid\\_60168114871\\_ptaid\\_aud-921551090622:kwd-320011564236\\_&gclid=CjwKCAiAqIKNBhAIEiwAu\\_ZLDmK\\_yfogDavK\\_ZL8rytHdm5AAVNs0sDP0ceyLbEKW7mo3zyd8r80b2RoC1ZYQAvD\\_BwE](https://www.lucidchart.com/pages/landing?utm_source=google&utm_medium=cpc&utm_campaign=branded_sitelink_en_lucidchart&km_CPC_CampaignId=1484560207&km_CPC_AdGroupID=60168114871&km_CPC_Keyword=lucidchart%20free&km_CPC_MatchType=e&km_CPC_ExtensionID=43826296855&km_CPC_Network=g&km_CPC_AdPosition=&km_CPC_Creative=442433234351&km_CPC_TargetID=aud-921551090622:kwd-320011564236&km_CPC_Country=1007741&km_CPC_Device=c&km_CPC_Placement=&km_CPC_target=&mkwid=sQqUhZAY4_pcrId_442433234351_pkw_lucidchart%20free_pmt_e_pdv_c_slid_8JVw2jyM_pgrid_60168114871_ptaid_aud-921551090622:kwd-320011564236_&gclid=CjwKCAiAqIKNBhAIEiwAu_ZLDmK_yfogDavK_ZL8rytHdm5AAVNs0sDP0ceyLbEKW7mo3zyd8r80b2RoC1ZYQAvD_BwE)