

भारतीय स्चना प्रौघोगिकी संस्थान भागलपुर Indian Institute of Information Technology Bhagalpur

LIBRARY MANAGEMENT SYSTEM

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For the course

Course Code: CS311

Course Name: Software Engineering Laboratory

Semester: Autumn' 19

Certificate

This is to certify that the group of following students of 3rd year 5th semester in the Branch of Computer Science and Engineering has successfully completed a project entitled "<u>Library Management System</u>" under the guidance of Dr. Biswajit R. Bhowmik during the academic year 2019-2020. The project had been prescribed towards automation of the existing system at the Institute and for consideration in partial fulfillment of the Software Engineering course curriculum of the Institute leading to the award of semester examination of July - December 2019.

The project work is originally carried out by them, a bona fide work of them, and may be considered as their mark of proficiency at the beginning level in Software Development.

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Contents

Certificate	2
Contents	3
ABSTRACT	5
Core Features	6
Additional Features	6
Technology Stack Used	7
Requirement	7
Steps to Install XAMPP:	7
Steps to Install PHP:	7
Steps to Install MySQL from a ZIP Archive package:	8
INTRODUCTION	9
Module 1 – Member Module	9
Module 2 – Books Module	10
Module 3 – Search Module	10
Module 4 – Login and Logout	11
Module 5 - Signup for New Uses	11
Architecture Diagram:	12
DATA BASE DESIGN	14
Table: Members	14
Table: Add Books	15
Table: Issue	16
CODE	17
Members Module	17
add_member.php	17
update_member.php	20
delete_member.php	20
BOOK MODULE	21
Books.php Code	21
SEARCH MODULE	24
AdvanceSearch.php	24
SESSIONS, SIGNUP,LOGIN MODULE	27

Session.php	27
Login.php	
Logout.php	
CREEN SHOTS	
ONCLUSION	
uture Aspects	
EFERENCES	42

ABSTRACT

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. Manual process of keeping student records, book records, account details, managing employee is very difficult. There are various problems also faced by the student in library such as finding any particular book, information whether book is available or not, searching of books using ISBN number etc. To eliminate this manual system, library management system has been developed. Library Management System will handle all the current issues faced by the students and by its admin personnel.

It has a facility of admin login through which the admin can monitor the whole system. It has a facility where student after logging in their accounts can see list of books issued and its issue date and return date.

Overall, this project of ours is being developed to help the staff of library to maintain the library in the best way possible and also reduce the human efforts.

Core Features

- Searching of books
- Issuing and returning books
- Check fines (if any)
- Librarian can read information about any member
- Librarian can track the books issued by a particular student
- Librarian can add/remove any member(student).
- Librarian can add/delete books
- Librarian can update the availability status of the books

Additional Features

Admin Dashboard deal with the following:

- Displaying all members records.
- Displaying all books records.
- Update Book Records.
- Delete Book Records
- Add Book Records
- Add Member/Student Records
- Delete Member/Student Records
- Update Member/Student Records.

Technology Stack Used

- Front End HTML, CSS, JavaScript
- Back End PHP
- Database MySql

Requirement

The source code of this project is written in PHP. So, you'll require WAMP/XAMPP/MAMP to run this project.

Steps to Install XAMPP:

- 1. Click XAMPP for Windows. It's a grey button near the bottom of the page.
- 2. Double-click the downloaded file.
- 3. Click Yes when prompted.
- 4. Click Next.
- 5. Select aspects of XAMPP to install.
- 6. Click Next.
- 7. Select an installation location.
- 8. Click OK.

Steps to Install PHP:

- 1. Step 1: Download the files. Download the latest PHP 5 ZIP package from www.php.net/downloads.php.
- 2. Step 2: Extract the files.
- 3. Step 3: Configure php.

- 4. Step 4: Add C:\php to the path environment variable. ...
- 5. Step 5: Configure PHP as an Apache module. ...
- 6. Step 6: Test a PHP file.

Steps to Install MySQL from a ZIP Archive package:

- 1. Extract the archive to the desired install directory
- 2. Create an option file
- 3. Choose a MySQL server type
- 4. Start the MySQL server
- 5. Secure the default user accounts

INTRODUCTION

Module 1 – Member Module

In this module, we are displaying information from the database regarding all the members that are registered. In this module the librarian can add or delete the members registered in the library and only the members who are registered can view the information.

The first part is Adding of members. The initial page displays all the registers members present in our database. In this file the librarian can add a member by filling up all the details such as its address, name, phone number etc.

The second part is Updating of the member. If the member wants to update his/her phone number this could be done with the help of the update option available, after filling up all the new details the database will be updated using the appropriate query.

The third part is Deletion of the member. We have provided an option for the librarian to permanently delete a member from the database. When the librarian clicks on delete option button present in-front of the member than that particular member will be deleted from the database and the list will be updated.

Module 2 – Books Module

In this module we are displaying information from the database regarding all the books that are available in the library. This option is divided into various categories like books which are lost, damaged, that are subject to replacement etc.

The first file that is books.php displays the books that are not archive. Second tab that is of new_books.php displays information of new books available in library. Then, it includes option of old_books.php containing information regarding the old books. Similarly, there is option for lost books and then for damage books. It includes another option for books that are subject to replacement.

This module provides admin a systematic view of all the books divided into various categories, making the task easier for the admin.

In every file of books module, there is an option provided Add Books, which enables the admin to add books in various categories defined above.

Module 3 – Search Module

The search module lets users search for specific book on the site. You can search both for author and for particular book. When you are on the search tab of website, you will be able to search for authors and book available on the library management system.

- Books present in the library can be searched
- The books can be searched on various parameters such as

- Subject wise Search- If a student wants a book related to open source programming then system will show all the books related to osp present in the library.
- Author Wise Search- Can search a book on particular author. The system will show all the books on that author available in the library
- Year Wise Search- Searching a book based on particular edition will be available.

Module 4 – Login and Logout

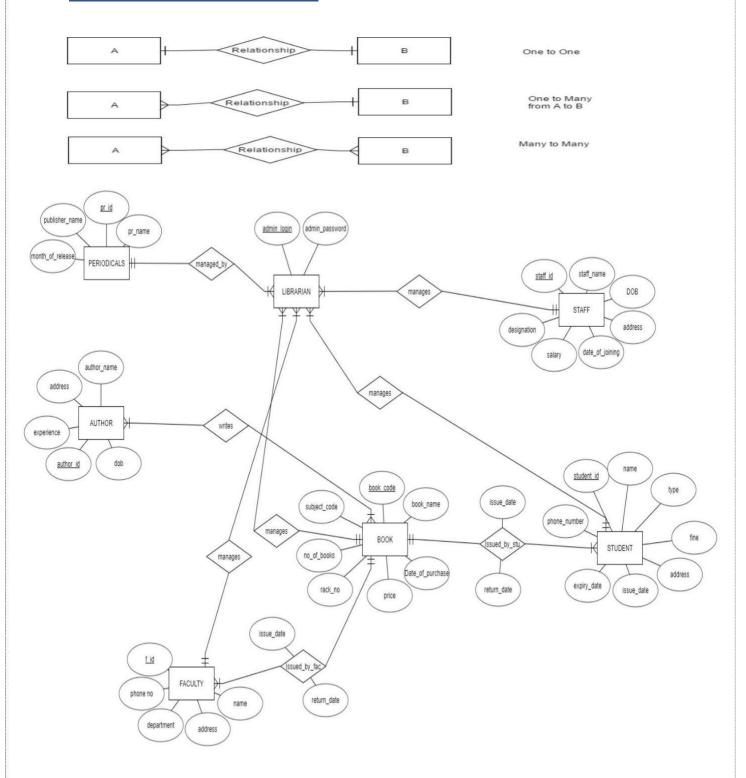
The default user for our project is admin. Our project provides the facility for the admin to login and then review all the books and members in the library database. Admin also has an option of adding another person as admin to the system.

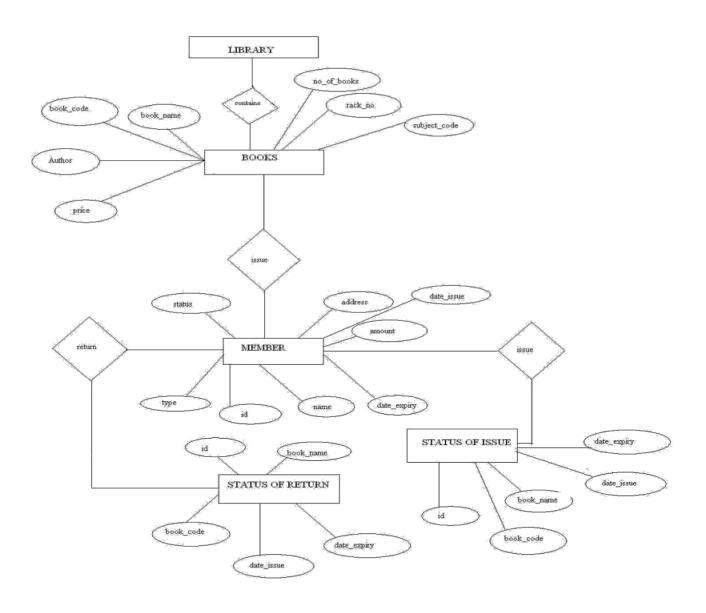
- Authentication of the user will be there.
- Username and password will be matched from our database. Once both username and password matches, then only a user is allowed to enter into the system.
- Similarly, for admin there will be an authentication system.

Module 5 - Signup for New Uses

- For new users there will be sign up option
- Various details like member id, username, password, email, year level etc. will be taken from the user and then it will be updated in our database.
- After this, the user will be redirected to the login page.

Architecture Diagram: -





DATA BASE DESIGN

Table: Members

S.no.	Coloum Name	Data Type	Length	Description
1	Id_no	Text	50	Unique identification of the members
2	Name	Text	70	Name of members
3	Address	Text	100	Location of Members
4	Date of Issue	Date/Time		Date of Registration
5	Date of Expiry	Date/Time		Registration expiry date
6	Status	Text	50	Permanent/Temporary

Table: Add Books

s.no.	Column Name	Date- Type	Description
		71	
1	Book_name	Text	Title of the book
2	Book_code	Text	Book identification number
3	Author	Text	Author of books
4	Date of arrival	Date/time	Date on which book was received
5	Price	Text	Cost of books
6	Rack_no	Text	Almirah no
7	No_of_books	Text	Quantity of books
8	Subject_code	Text	Unique identification no of particular subject

Table: Issue

s.no.	Column		Date	Description
	Туре		Type	
1	Id_no		Text	User identification number
2	Book_name		Text	Title of books
3	Issue_date		Date/time	Date on which book is issued
4	Due_date		Date/time	Due date on which book is to be
				returned

CODE

Members Module

add_member.php

```
<?php include('header.php'); ?>
<?php include('session.php'); ?>
<?php include('navbar_member.php'); ?>
  <div class="container">
              <div class="margin-top">
                     <div class="row">
                     <div class="span12">
       <div class="alert alert-danger">Add Member</div>
                     <a href="member.php" class="btn-default"><i class="icon-arrow-
left icon-large"></i>&nbsp;Back</a>
       <div class="addstudent">
       <div class="details">Please Enter Details Below</div>
       <form class="form-horizontal" method="POST" action="member_save.php"</pre>
enctype="multipart/form-data">
              <div class="control-group">
                     <label class="control-label" for="inputEmail">Member ID:</label>
                     <div class="controls">
                     <input type="text" id="inputEmail" name="mem_id"</pre>
placeholder="ID" required>
                     </div>
              </div>
              <div class="control-group">
                     <label class="control-label" for="inputEmail">Firstname:</label>
                     <div class="controls">
                     <input type="text" id="inputEmail" name="firstname"</pre>
placeholder="Firstname" required>
                     </div>
              </div>
              <div class="control-group">
                     <label class="control-label" for="inputPassword">Lastname:</label>
                     <div class="controls">
                     <input type="text" id="inputPassword" name="lastname"</pre>
placeholder="Lastname" required>
                     </div>
              </div>
```

```
<div class="control-group">
                     <label class="control-label" for="inputPassword">Gender:</label>
                     <div class="controls">
                     <select name="gender" required>
                            <option>Male
                            <option>Female
                     </select>
                     </div>
              </div>
              <div class="control-group">
                     <label class="control-label" for="inputPassword">Address:</label>
                     <div class="controls">
                     <input type="text" id="inputPassword" name="address"</pre>
placeholder="Address" required>
                     </div>
              </div>
              <div class="control-group">
                     <label class="control-label" for="inputEmail">Email ID:</label>
                     <div class="controls">
                     <input type="email" id="inputEmail" name="Email"</pre>
placeholder="Email" required>
                     </div>
              </div>
              <div class="control-group">
                     <label class="control-label" for="inputPassword">Cellphone
Number:</label>
                     <div class="controls">
                     <input type='tel' pattern="[0-9]{10,10}" class="search"</pre>
name="contact" placeholder="Phone Number" autocomplete="off" maxlength="11" >
                     </div>
              </div>
              <div class="control-group">
                     <label class="control-label" for="inputPassword">Type:</label>
                     <div class="controls">
                     <select name="type" required>
       <option>Student
       <option>Teacher</option>
                                                               <option></option>
                            </select>
                     </div>
```

```
</div>
              <div class="control-group">
                     <label class="control-label" for="inputPassword">Year Level:</label>
                     <div class="controls">
                            <select name="year_level" >
                                                                <option> </option>
                                                                <option>First
Year</option>
                                                                <option>Second
Year</option>
                                                                <option>Third
Year</option>
                                                                <option>Fourth
Year</option>
       <option>Faculty</option>
                            </select>
                     </div>
              </div>
              <div class="control-group">
                     <div class="controls">
                     <button name="submit" type="submit" class="btn btn-default"><i
class="icon-save icon-large"></i>&nbsp;Save</button>
                     </div>
              </div>
  </form>
                     </div>
                     </div>
                     </div>
              </div>
  </div>
<?php include('footer.php') ?>
```

```
update_member.php
```

```
<?php
include('dbcon.php');
if (isset($_POST['submit'])){
$id=$_POST['id'];
$member_id=$_POST['mem_id'];
$firstname=$_POST['firstname'];
$lastname=$_POST['lastname'];
$gender=$_POST['gender'];
$address=$_POST['address'];
$contact=$_POST['contact'];
$type=$_POST['type'];
$year_level=$_POST['year_level'];
$status=$_POST['status'];
mysqli_query($con,"update member set
member_id='$member_id',firstname='$firstname',lastname='$lastname',gender='$gender',add
ress = '$address',contact = '$contact',type = '$type',year_level = '$year_level',status = '$status'
where member_id='$id''')or die(mysql_error());
header('location:member.php');
}
?>
delete_member.php
<?php
include('dbcon.php');
$id=$_GET['id'];
mysqli_query($con,"delete from member where member_id='$id''') or die(mysql_error());
```

```
header('location:member.php');
?>
```

BOOK MODULE

Books.php Code

```
<?php include('header.php'); ?>
<?php include('session.php'); ?>
<?php include('navbar_books.php'); ?>
  <div class="container">
            <div class="margin-top">
                  <div class="row">
                  <div class="span12">
                    <div class="alert alert-danger">
                  <button type="button" class="close" data-
dismiss="alert">×</button>
                  <strong><i class="icon-user icon-large"></i>&nbsp;Books
Table</strong>
                </div>
                                     <!-->
                                                   justified">
                                                              li
class="active"><a href="books.php">All</a>
                                                              <a
href="new_books.php">New Books</a>
                                                              <a
href="old_books.php">Old Books</a>
                                                              <a
href="lost.php">Lost Books</a>
                                                              <a
href="damage.php">Damage Books</a>
                                                              <a
href="sub_rep.php">Subject for Replacement</a>
                                                        <!-- -->
                                     <center class="title">
```

```
<h1>Books List</h1>
                                    </center>
              <table cellpadding="0" cellspacing="0" border="0" class="table table-
bordered" id="example">
                                               <div class="pull-right">
                                               <a href=""
onclick="window.print()" class="btn-deafult"></i> Print</a>
                                               </div>
                                               <a href="add_books.php"
class="btn-default"> Add Books</a>
                <thead>
                  S No.
                    Book Title
                   Category
                                                           Author
                                                           <th
class="action">copies
                                                           Book
Pub
                                                           Publisher
Name
                                                           ISBN
                                                           Copyright
Year
                                                           Date
Added
                                                           Status
                                                           <th
class="action">Action
                  </thead>
                <?php $user_query=mysqli_query($con,"select * from book where</pre>
status != 'lost'")or die(mysql_error());
      while($row=mysqli_fetch_array($user_query)){
                                                     $id=$row['book_id'];
      $cat_id=$row['category_id'];
                                                     $book_copies =
$row['book_copies'];
```

```
$borrow details =
mysqli_query($con,"select * from borrowdetails where book_id = '$id' and borrow_status =
'pending'");
                                                        \text{$row11} =
mysqli_fetch_array($borrow_details);
                                                        sount =
mysqli_num_rows($borrow_details);
                                                        $total = $book_copies -
$count;
                                                        $cat_query =
mysqli_query($con, "select * from category where category_id = '$cat_id''')or
die(mysql_error());
                                                        $cat_row =
mysqli_fetch_array($cat_query);
                                                        ?>
                                                        <tr class="del<?php echo
$id ?>">
                  <?php echo $row['book_id']; ?>
                  <?php echo $row['book_title']; ?>
                                                        row
['classname']; ?> 
                  <?php echo $row['author']; ?> 
                  <?php echo /* $row['book_copies']; */ $total; ?>
<?php echo $row['book_pub']; ?>
                                                        echo
$row['publisher_name']; ?>
                                                        echo
$row['isbn']; ?>
                                                        ><?php echo
$row['copyright_year']; ?>
                                                        echo
$row['date_added']; ?>
                                                        ><?php echo
$row['status']; ?>
                                                        <?php
include('toolttip_edit_delete.php'); ?>
                  <div class="span2">
                    <a rel="tooltip" title="Delete" id="<?php echo $id; ?>"
href="#delete_book<?php echo $id; ?>" data-toggle="modal"
                                                     class="btn-default"><i
class="icon-trash icon-large"></i></a>
                    <?php include('delete_book_modal.php'); ?>
```

```
<div
class="span1">
                                                                 <a rel="tooltip"
title="Edit" id="e<?php echo $id; ?>" href="edit_book.php<?php echo '?id='.$id; ?>"
class="btn-default"><i class="icon-pencil icon-large"></i></a>
                                                                 </div></div>
                    <?php } ?>
                 </div>
                   </div>
             </div>
  </div>
<?php include('footer.php') ?>
```

SEARCH MODULE

AdvanceSearch.php

```
<div class="alert alert-danger">
                 <button type="button" class="close" data-</pre>
dismiss="alert">×</button>
                 <strong><i class="icon-user icon-large"></i>&nbsp;Books Table</strong>
               </div>
                                      <!-- -->
                                                     class="active"><a href="books.php">All</a>
                                                                <a
href="new_books.php">New Books</a>
                                                                <a
href="old_books.php">Old Books</a>
                                                                <a
href="lost.php">Lost Books</a>
                                                                <a
href="damage.php">Damage Books</a>
                                                                <a
href="sub_rep.php">Subject for Replacement</a>
                                                          <!-- -->
                                      <center class="title">
                                      <h1>Books List</h1>
                                      </center>
             <table cellpadding="0" cellspacing="0" border="0" class="table table-bordered"
id="example">
                                                   <div class="pull-right">
<a href=""
onclick="window.print()" class="btn-default"> Print</a>
                                                   </div>
                                                   <a href="add_books.php"</p>
class="btn-default"> Add Books</a>
               <thead>
                 S No.
                  Book Title
                  Category
                                                                Author
                                                                <th
class="action">copies
                                                                Book
Pub
                                                                Publisher
Name
                                                                ISBN
                                                                Copyright
Year
                                                                Date
Added
                                                                Status
                                                                <th
class="action">Action
                 </thead>
               <?php
$user_query=mysqli_query($con,"select * from book where status != 'Archive' and book_title LIKE '%$title%'
                                                    OR status != 'Archive' and author
LIKE '%$author%'")or die(mysql error());
      while($row=mysqli_fetch_array($user_query)){
                                                          $id=$row['book id'];
```

```
$cat id=$row['category id'];
                                                               $book copies =
$row['book copies'];
$borrow_details = mysqli_query($con,"select * from borrowdetails where book_id = '$id' and borrow_status = 'pending'");
                                                               $row11 =
mysqli_fetch_array($borrow_details);
                                                                $count =
mysqli num rows($borrow details);
                                                               $total = $book copies -
$count;
                                                               /* $t4otal = $book copies
- $borrow details;
                                                               echo $total; */
                                                                              $cat_query
= mysqli query($con,"select * from category where category id = '$cat id'")or
die(mysql_error());
                                                                              $cat row =
mysgli fetch array($cat query);
                                                                <tr class="del<?php echo
$id ?>">
                  <?php echo $row['book_id']; ?>
                  <?php echo $row['book_title']; ?>
                                                               <?php echo $cat row
['classname']; ?> 
                  <?php echo $row['author']; ?> 
<<td>< copies']; */ $total; ?> 
< copies']; */ $total; ?> 
< copies']; */ $total; ?> 
                                                                <eho
$row['publisher name']; ?>
                                                                <?php echo
$row['isbn']; ?>
                                                                ><php echo
$row['copyright year']; ?>
                                                                echo
$row['date_added']; ?>
                                                                <?php echo
$row['status']; ?>
                                                                <?php
include('toolttip_edit_delete.php'); ?>
                  class="action">
<a rel="tooltip"
title="Edit" id="e<?php echo $id; ?>" href="edit_book.php<?php echo '?id='.$id; ?>" class="btn btn-success"><i class="icon-pencil icon-large"></i>/i></a>
                  <?php } ?>
                </div>
                     </div>
              </div>
  </div>
<?php include('footer.php') ?>
```

SESSIONS, SIGNUP, LOGIN MODULE

```
Session.php
```

<?php

```
<?php
//Start session
session_start();
//Check whether the session variable SESS MEMBER ID is present or not
if (!isset($_SESSION['id']) || (trim($_SESSION['id']) == "))
  header("location: index.php");
  exit();
$session_id=$_SESSION['id'];
?>
Login.php
       <?php
       if (isset($_POST['submit']))
       session start();
       $username = $_POST['username'];
       $password = $ POST['password'];
       $query = "SELECT * FROM users WHERE username='$username' AND
       password='$password'";
       $result = mysqli_query($con,$query)or die(mysql_error());
       $num row = mysqli num rows($result);
              $row=mysqli fetch array($result);
              if($num row > 0){
                     header('location:dashboard.php');
                     $ SESSION['id']=$row['user id'];
              }
              else{ ?>
       <div class="alert alert-danger">Access Denied</div>
```

```
}}
?>
```

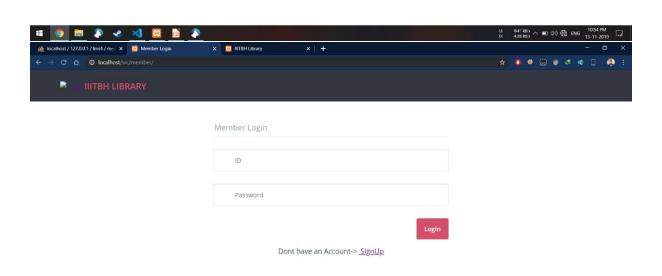
Logout.php

```
<?php
session_start();
session_destroy();
header('location:../index.php');
?>
```

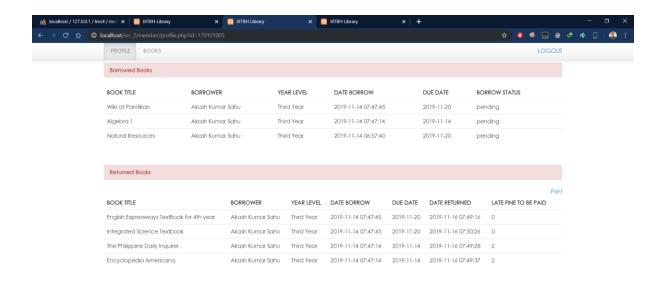
SCREEN SHOTS

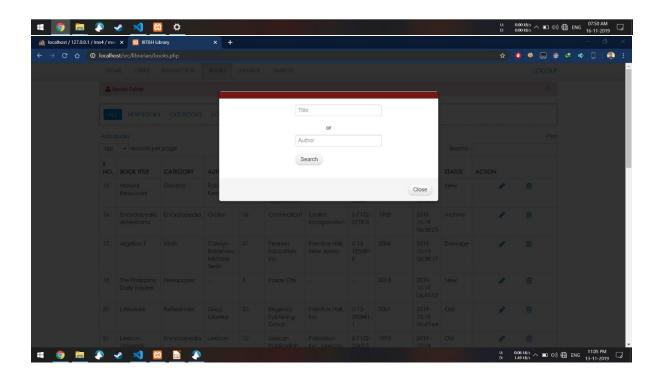


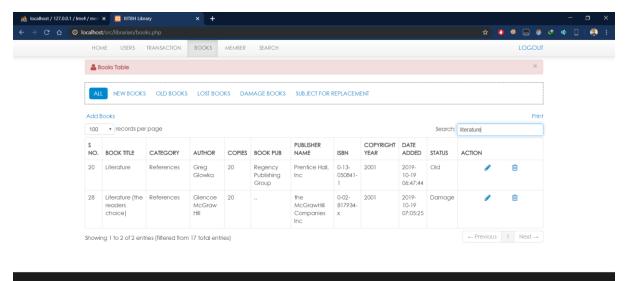




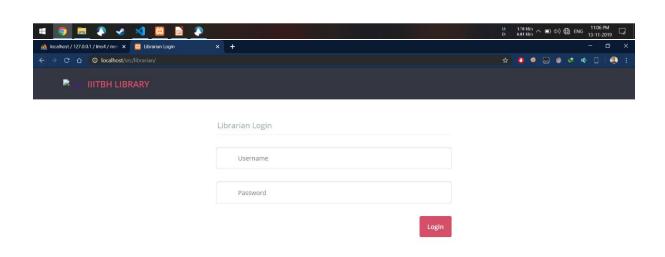




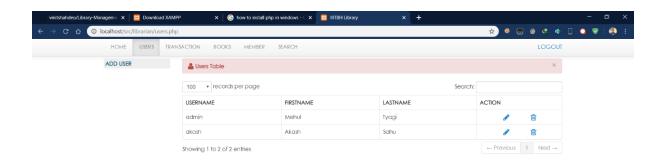




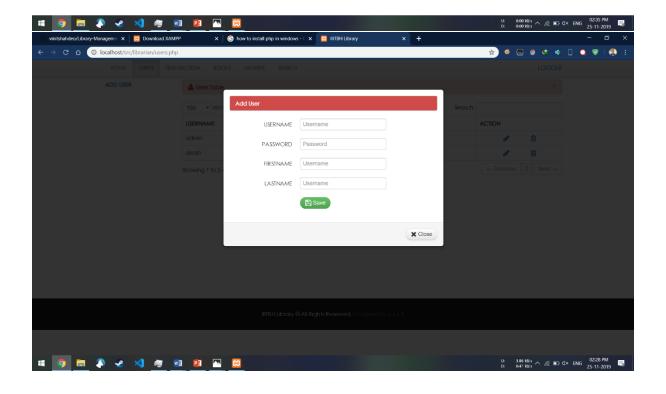
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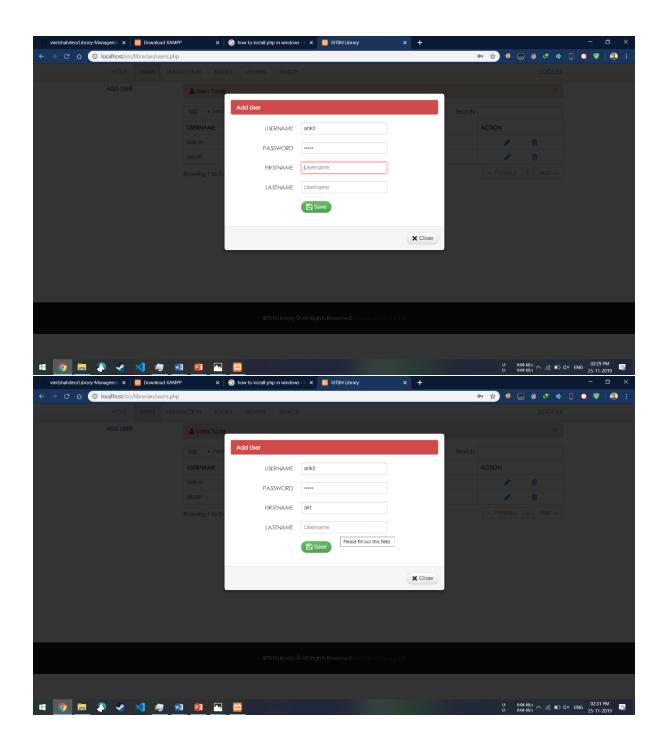


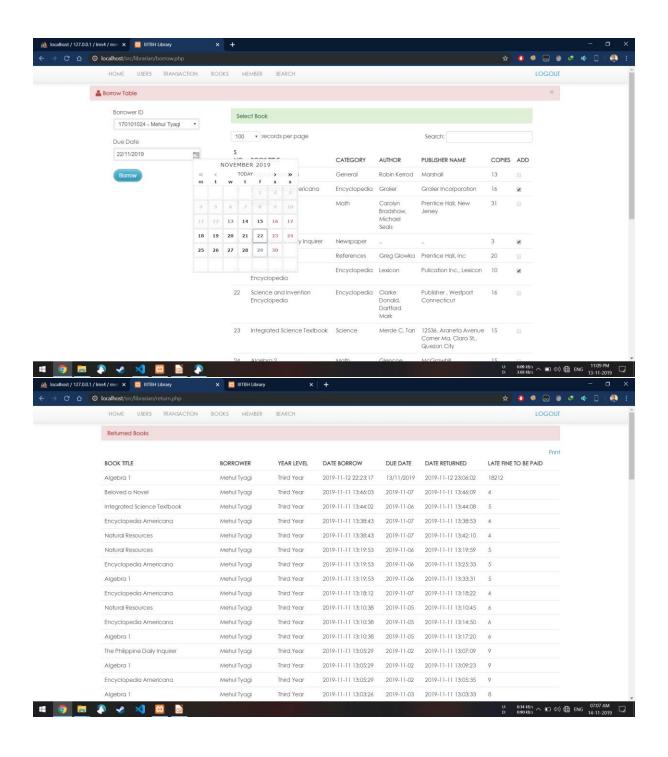


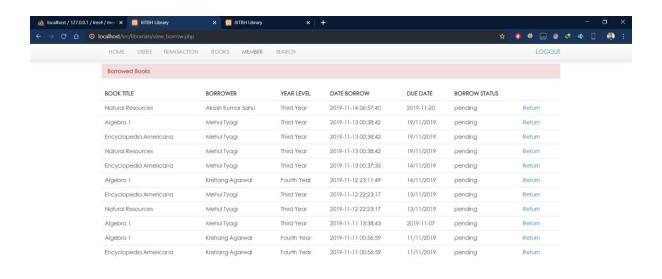


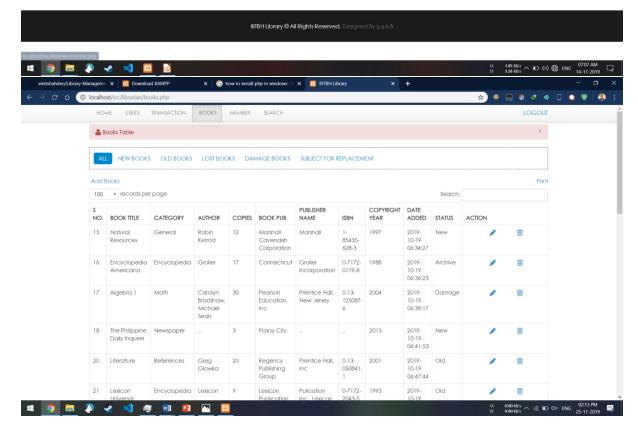
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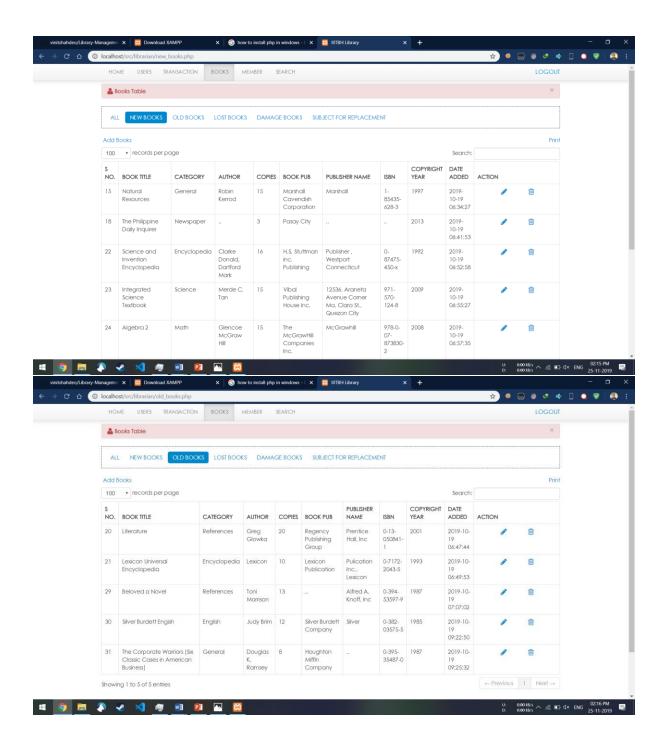


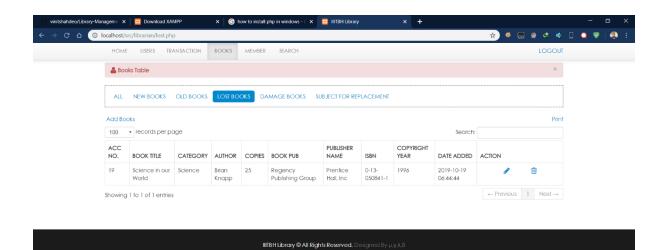


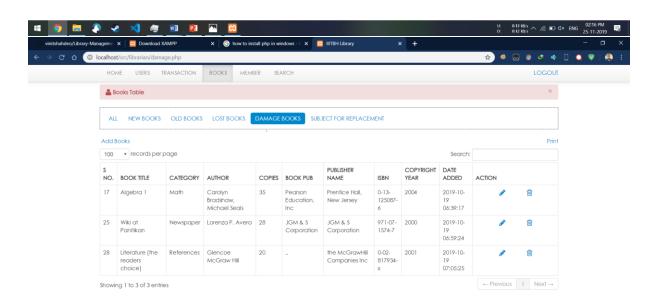




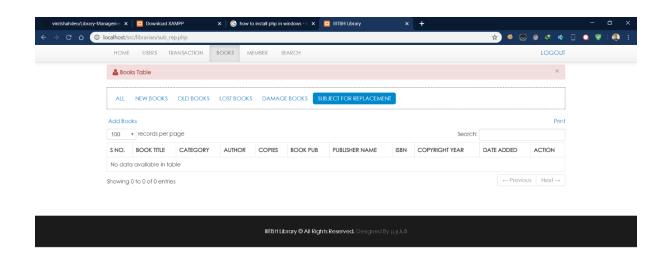


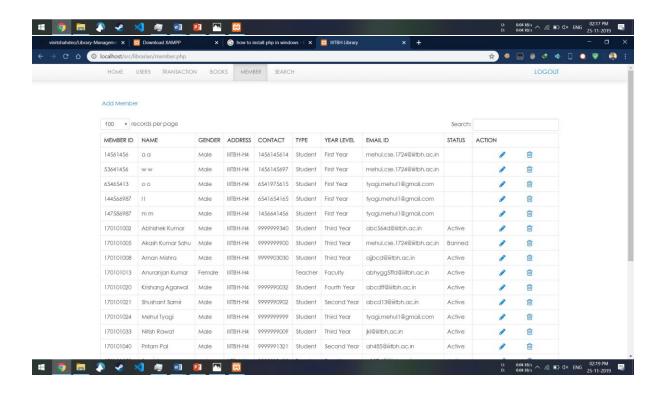


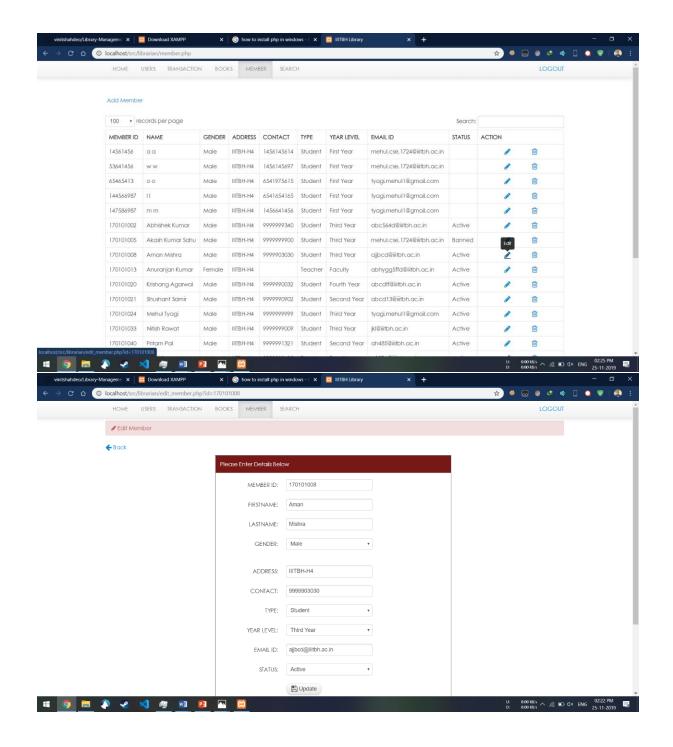


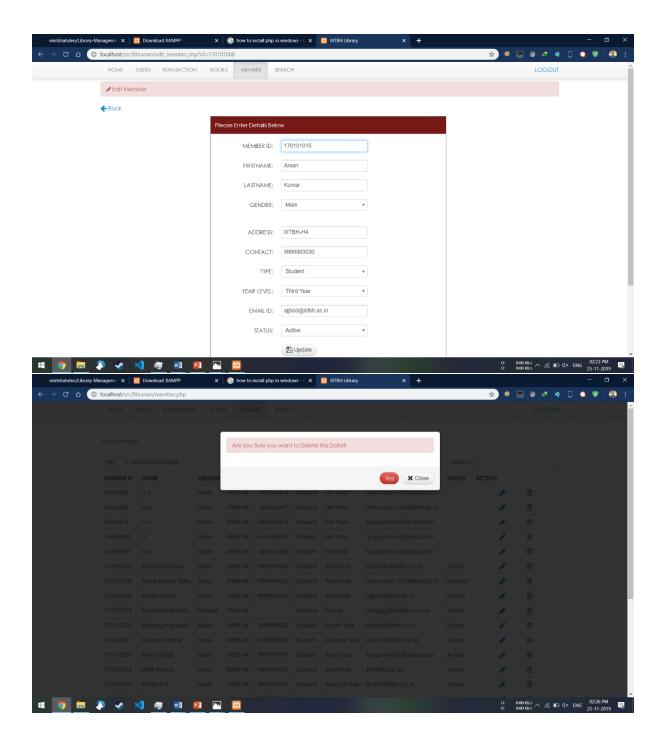












CONCLUSION

This website provides a computerized version of library management system which will benefits the staff of the library.

It makes entire process online where librarian can search books. Through this project, librarian can digitally monitor the status of books. It also helps in maintaining a systematic and structured database for newly issued, old as well as damaged books.

It also provides an opportunity to the librarian to maintain a student database and manage it accordingly, reducing the paper work.

Future Aspects

There are many future scopes of this facility that many provide more features such as online lectures video tutorials can be added by teachers as well online assignments submissions facility. A feature of group chat where student can discuss various issues can be added to this project thus making it more interactive.

There can be online fine payment functionality which can be added along with a smartphone version of this website making it more future proof.

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