**A**

**PROJECT REPORT**

**ON**

**Library Management SySTem**

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# Acknowledgement

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# Abstract

Library Management System is a system which maintains the information about the books present in the library, their authors and the members of library to whom books are issued. This is very difficult to organize manually. Maintenance of all this information manually is a very complex task. Owing to the advancement of technology, organization of Computerized based Library management becomes much simple. The Library Management has been designed to computerize and automate the operations performed over the information about the members, book issues and returns and all other operations. This computerization of library helps in many instances of its maintenances. It reduces the workload of management as most of the manual work done is reduced.

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# Introduction

## Introduction

Library Management System is a web based application which maintain record of every book transaction automatically. It is used by library admin and users. Library admin use this system to manage the library using a computerized system where he/she can add new book, view issued book list with borrower username, view book requested list, decide whether a specific book can be view in the list or not. User use this system to request book, view book rented by them.

## Problem Statement

Traditionally book records, transaction records are recorded in file which can be lost and searching of record are not efficient. For requesting a book, user has to physically check if the book is present in the library or not. Daily keeping a manual record of changes taking place in the library such as book being issued, book being returned etc. can become cumbersome if the Library size is bigger.

## Project Aims and Objective

The project objectives and aims are as follows:

* + - To eliminate the paper-work in library
    - To record every book transaction in computerized system so that problem such as file record missing won’t happen again
    - To design a user friendly graphical user interface which suit the users.

# Requirement and Design

Library management system mainly has two modules for functioning:

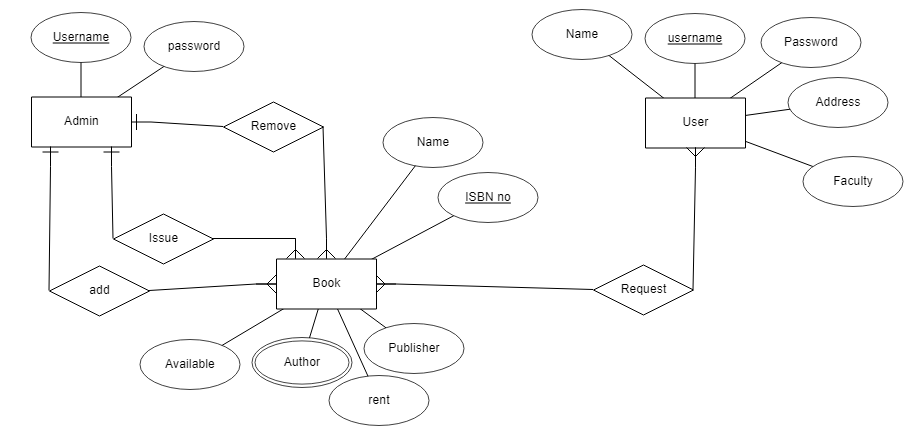
First module is for admin who add books, view book rented list, view book requested list and decide whether book can be view by user or not.

Second module is for student who can request a book and view book rented by him/her.

## Requirement

* Only authentic user have the access to the system.
* Admin should be able to add book, view book rented report, view book requested list and able to decide whether user can view a specific book or not.
* Library member should be able to request book and view book rented by him/her.
* After member return book rented by him or her, admin should delete his or her record form book rent list.

## System Design



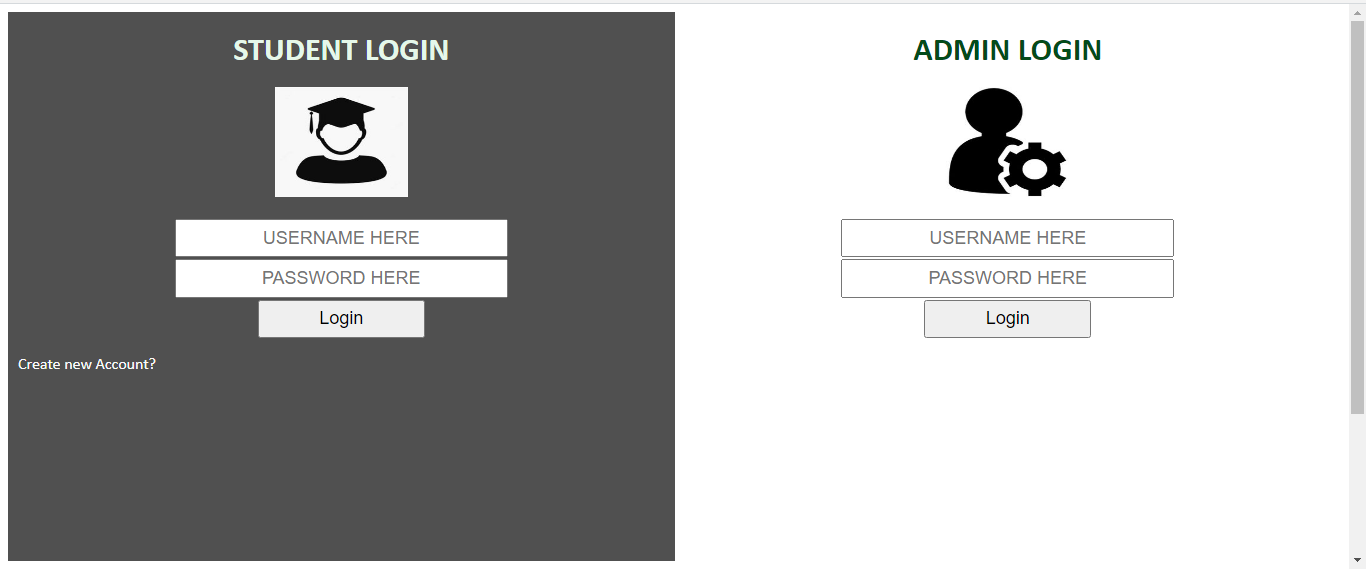
### List of Entity Set and Attribute Set

|  |  |
| --- | --- |
| **Entity Set** | **Attribute Set** |
| Admin | Username  Password |
| User | Name  Password  Username  Address |
| Book | Rent  Available  Publisher  Author  Name  ISBN\_No |
| Issued\_book | Issued\_id  ISBN\_NO  Username  Issued\_date |
| Requested\_book | Request\_id  ISBN\_NO  Username  Requested\_date |

# Development and Testing

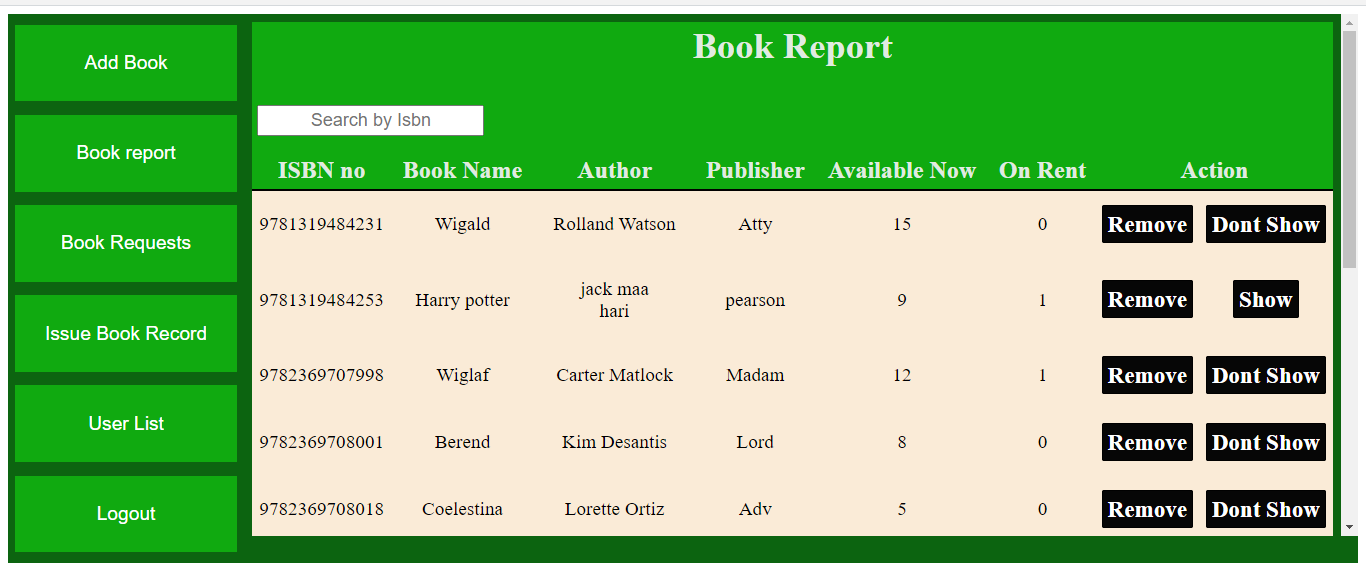
## Development

1. **Login Form**

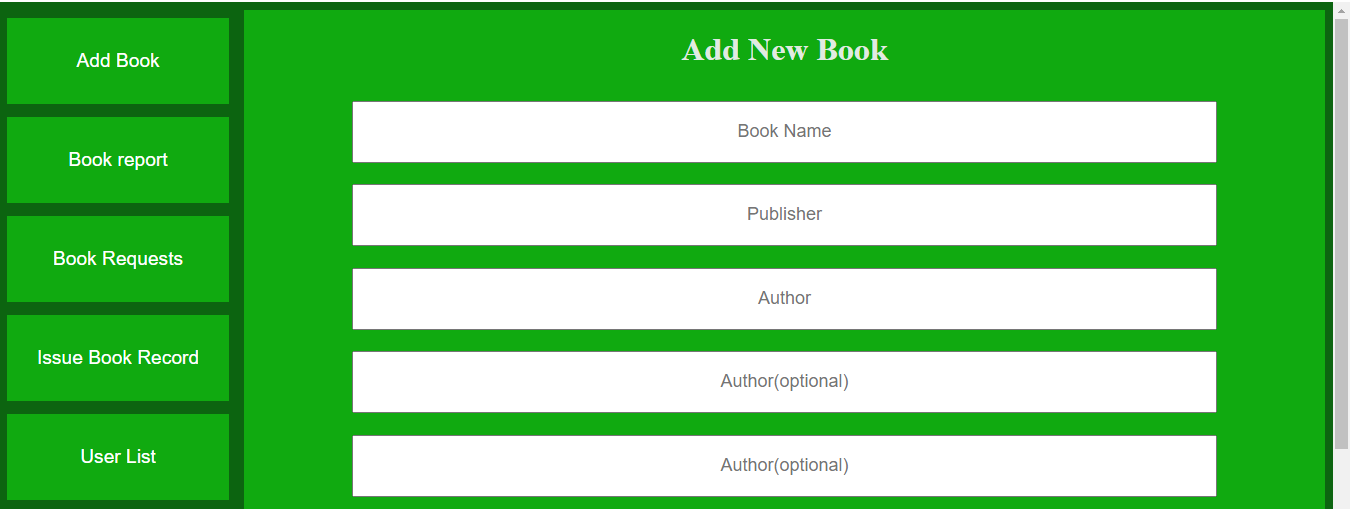
The login from is for security purpose. Only authorized user are allowed to proceed further.

1. **Book List**

Here admin can remove book from list or decide whether book should be shown to user or not.



1. **Add Book**

Here admin can add new book.

1. **Issued Book Record**

Here Admin can view book issued list

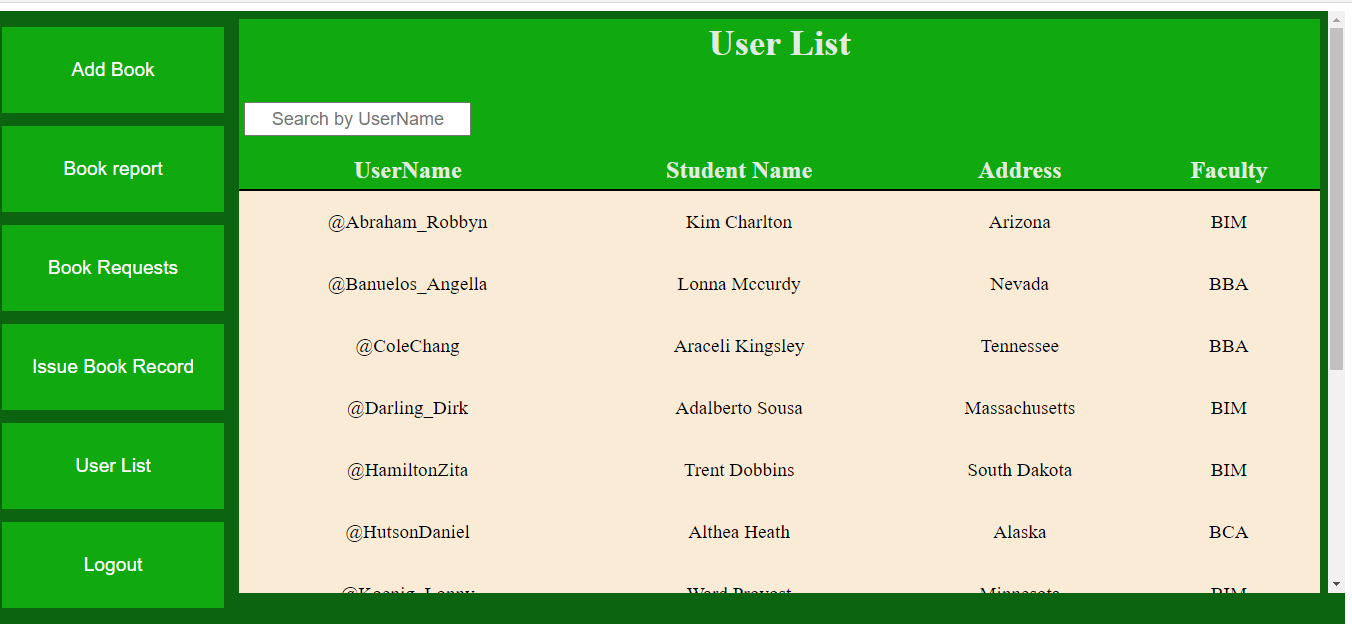


1. **Book Request List**

Here User can view requested book list



1. **User list**

Here user can view registered user list.

1. **Available Book List**

Here user can view available book list

1. **Book rented**

Here user can view book rented by him or her

## Test Cases

#### Table 4.2.1: Test case for admin login

|  |  |  |  |
| --- | --- | --- | --- |
| Test case id | 1 | | |
| Test case description | Login for admin | | |
| Prerequisites | Enter the username and password.  Click login | | |
| Test scenario 1 | User click login button without entering username and password | | |
| Test data | Username:  Password: | | |
| Step | Expected output | Actual Result | Pass/fail |
|  | Username or  Password is Invalid | Username or  Password is Invalid | Pass |
|  | | | |
| Test scenario 2 | User enter a wrong password | | |
| Test data | Username: admin  Password: 123 | | |
| Step | Expected output | Actual Result | Pass/fail |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Username or Password is Invalid | | Username or Password is Invalid | Pass |
|  | | | | |
| Test scenario 3 | | Admin enter wrong username | | |
| Test data | | Username: root  Password: root@123 | | |
| Step | | Expected output | Actual Result | Pass/fail |
|  | | Username or Password is Invalid | Username or Password is Invalid | Pass |
|  | |  |  |  |
| Test scenario 4 | | Admin enter valid username and password | | |
| Test data | | Username: admin123  Password: root@123 | | |
| Step | | Expected output | Actual Result | Pass/fail |
|  | | Login successful | Login successful | Pass |
|  | |  |  |  |

#### Table 4.2.2: Test case for user login

|  |  |  |  |
| --- | --- | --- | --- |
| Test case id | 2 | | |
| Test case description | Login for user | | |
| Prerequisites | Enter the username and password.  Click login | | |
| Test scenario 1 | User click login button without entering username and password | | |
| Test data | Username:  Password: | | |
| Step | Expected output | Actual Result | Pass/fail |
| 1. | Username or  Password is Invalid | Username or  Password is Invalid | Pass |
|  | | | |
| Test scenario 2 | User enter a wrong password | | |
| Test data | Username: roshan123  Password: 123 | | |
| Step | Expected output | Actual Result | Pass/fail |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. | Username or Password is Invalid | | Username or Password is Invalid | Pass |
|  | | | | |
| Test scenario 3 | | Admin enter wrong username | | |
| Test data | | Username: roshan123  Password: roshan@1234 | | |
| Step | | Expected output | Actual Result | Pass/fail |
| 1 | | Username or Password is Invalid | Username or Password is Invalid | Pass |
|  | |  |  |  |
| Test scenario 4 | | Admin enter valid username and password | | |
| Test data | | Username: roshan123  Password: roshan@123 | | |
| Step | | Expected output | Actual Result | Pass/fail |
| 1 | | Login successful | Login successful | Pass |
|  | |  |  |  |

#### Table 4.2.3: Test case for add and delete book

|  |  |
| --- | --- |
| Test Case ID | 2 |
| Test Case Description | Add, delete book |
| Prerequisites: | All the field must be filled. |
| Test Scenario | 1. Enter all the required fields. 2. Click Add button. |

|  |  |  |  |
| --- | --- | --- | --- |
|  | 3. Delete the student if necessary. | | |
| Test Data | Book Name: Harry  Publisher: Pearson  Author: jack ma  ISBN No: 9781319484231  Quantity:10  **Delete data:**  Book name: harry | | |
| Step | Expected Result | Actual Result | Pass/Fail |
| 1. | Book added | Book added. | Pass |
|  |  |  |  |
|  |  |  |  |
| 2. | Book remove from list | Book remove from list | Pass |
|  |  |  |  |

#### Table 4.2.4: Test case for requested book

|  |  |
| --- | --- |
| Test Case ID | 3 |
| Test Case Description | User request a book |
| Prerequisites: | Logged in to system |
| Test Scenario | 1. Click on request button |

|  |  |  |  |
| --- | --- | --- | --- |
| Test Data | **Requested Book:**  Name :harry potter  ISBN :9781319484253 | | |
| Step | Expected Result | Actual Result | Pass/Fail |
|  | One book requested | One book requested | Pass |
|  | Show in book requested list | Show in book requested list |  |
|  |  |  |  |

##### Table 4.2.5: Test case for book issue or decline

|  |  |
| --- | --- |
| Test Case ID | 4 |
| Test Case Description | Admin issued requested book to user or decline it |
| Prerequisites: | Logged in to system |
| Test Scenario | 1. Click on issued button |

|  |  |  |  |
| --- | --- | --- | --- |
| Test Data | **Issued Book:**  Name :harry potter  ISBN :9781319484253  Username:roshan123  **Decline if needed** | | |
| Step | Expected Result | Actual Result | Pass/Fail |
| 1. | One book issued | One book issued | Pass |
|  | Show in issue book record | Show in issue book record |  |
|  | Show in user module book rented | Show in user module book rented |  |
| 2. | doesn’t show in issued book record | doesn’t show in issued book record | Pass |

# Conclusion

After we have completed the project we are sure the problems in the existing system would overcome. The **“LIBRARY MANAGEMENT SYSTEM”** process made computerized to reduce human errors and to increase the efficiency. The main focus of this project is to lessen human efforts. The maintenance of the records is made efficient, as all the records are stored in the ACCESS database, through which data can be retrieved easily. If the numbers of records are very large then user has to just type in the search box and user gets the results immediately. The editing is also made simpler.

The Books and Students are given a particular unique id no.  So that they can be accessed correctly and without errors. Our main aim of the project is to get the correct information about a particular student and books available in the library.

The problems, which existed in the earlier system, have been removed to a large extent. And it is expected that this project will go a long way in satisfying user’s requirements. The computerization of the Library Management will not only improves the efficiency but will also reduce human stress thereby indirectly improving human recourses.