

**A  
PROJECT REPORT  
ON  
LIBRARY MANAGEMENT SYSTEM**

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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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# **Chapter 1: Introduction**

## **1.1: 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.

## **1.2: 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.

## **1.3: 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.

## Chapter 2: Requirement and Design

Library management system mainly has two modules for functioning:

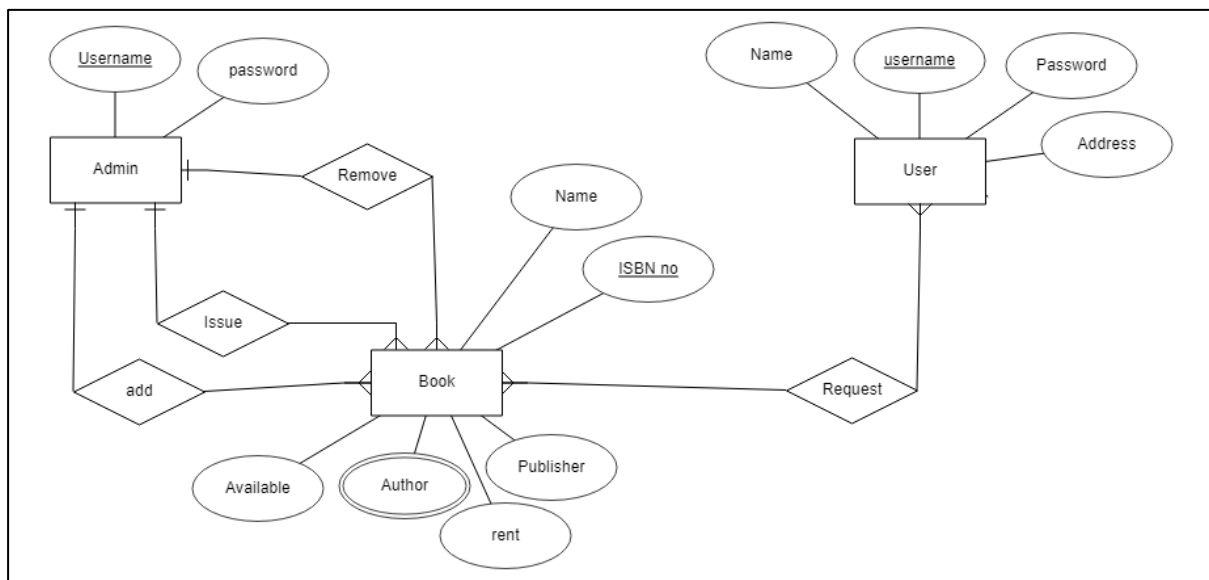
First module is for admin who add books, view book rented list, view book requested list and decide whether book can be view by user or not.

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

### 2.1: 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.

### 2.2: System Design



#### 2.2.1: List of Entity Set and Attribute Set

Entity Set	Attribute Set
Admin	Username Password
User	Name

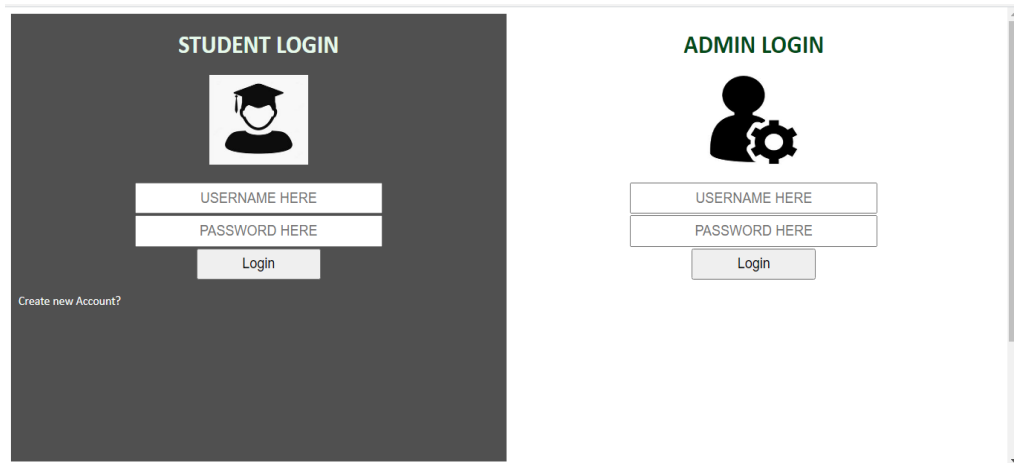
	Password Username Address
Book	Rent Available Publisher Author Name ISBN_No
Issued_book	Issued_id ISBN_NO Username Issued_date
Requested_book	Request_id ISBN_NO Username Requested_date

## Chapter 3: Development and Testing

### 3.1: Development

#### 1. Login Form

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



The image displays two side-by-side login forms within a web browser window. The left form, titled "STUDENT LOGIN" in green, features a dark gray background. It includes a white icon of a person wearing a graduation cap, followed by two white input fields labeled "USERNAME HERE" and "PASSWORD HERE", and a "Login" button. A link "Create new Account?" is visible at the bottom left. The right form, titled "ADMIN LOGIN" in green, has a light gray background. It features a black icon of a person with a gear, followed by two white input fields labeled "USERNAME HERE" and "PASSWORD HERE", and a "Login" button. A vertical scrollbar is visible on the right side of the browser window.



## 2. Book List

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

Add Book	Book Report							
Book report	Search by isbn							
Book Requests	ISBN no	Book Name	Author	Publisher	Available Now	On Rent	Action	
Issue Book Record	9781319484231	Wigald	Rolland Watson	Atty	15	0	Remove	Dont Show
User List	9781319484253	Harry potter	jack maa hari	pearson	9	1	Remove	Show
Logout	9782369707998	Wiglaf	Carter Matlock	Madam	12	1	Remove	Dont Show
	9782369708001	Berend	Kim Desantis	Lord	8	0	Remove	Dont Show
	9782369708018	Coelestina	Lorette Ortiz	Adv	5	0	Remove	Dont Show

## 3. Add Book

Here admin can add new book.

Add Book	Add New Book	
Book report	<input type="text" value="Book Name"/>	
Book Requests	<input type="text" value="Publisher"/>	
Issue Book Record	<input type="text" value="Author"/>	
User List	<input type="text" value="Author(optional)"/>	
	<input type="text" value="Author(optional)"/>	

#### 4. Issued Book Record

Here Admin can view book issued list

Add Book	Issued Book Record					
	Search by IsbnNo	Search by Username				
Book report	ISBN	BookName	UserName	Faculty	IssuedDate	
Book Requests	9781319484253	Harry potter	prajwal@123	BCA	2022-06-16	Return by
	9782369707998	Wiglaf	prajwal@123	BCA	2022-06-16	Return by
Issue Book Record	9783369708015	Jochem	prajwal@123	BCA	2022-06-30	Return by
User List						
Logout						

## 5. Book Request List

Here User can view requested book list

Add Book	Book Request						
	Search by isbnNo		Search by Username				
Book report	ISBN No	Book Name	Available Now	Request Date	UserName	Issue	Decline
Book Requests	9782369708001	Berend	8	2022-06-16	prajwal@123	Issue	Decline
	9782369708001	Berend	8	2022-06-16	prajwal@123	Issue	Decline
Issue Book Record	9782369708001	Berend	8	2022-06-16	prajwal@123	Issue	Decline
	9782369708001	Berend	8	2022-06-16	prajwal@123	Issue	Decline
User List	9782369708001	Berend	8	2022-06-16	prajwal@123	Issue	Decline
	9782369708001	Berend	8	2022-06-16	prajwal@123	Issue	Decline
Logout	9782369708001	Berend	8	2022-06-16	prajwal@123	Issue	Decline

## 6. User list

Here user can view registered user list.

Add Book Book report Book Requests Issue Book Record User List Logout	User List			
	Search by UserName			
	UserName	Student Name	Address	Faculty
	@Abraham_Robbyn	Kim Charlton	Arizona	BIM
	@Banuelos_Angella	Lonna Mccurdy	Nevada	BBA
	@ColeChang	Araceli Kingsley	Tennessee	BBA
	@Darling_Dirk	Adalberto Sousa	Massachusetts	BIM
	@HamiltonZita	Trent Dobbins	South Dakota	BIM
	@HutsonDaniel	Althea Heath	Alaska	BCA
	@Harris_Tanya	Wood Dearest	Minnesota	BIM

## 7. Available Book List

Here user can view available book list

Available Book List Book Rented Logout	Book List					
	Search by isbnNo					
	ISBN No	Book Name	Author	Publisher	Available Now	Request
	9781319484231	Wigald	Rolland Watson	Atty	15	Requested
	9782369707998	Wiglaf	Carter Matlock	Madam	12	Request
	9782369708001	Berend	Kim Desantis	Lord	8	Request
	9782369708018	Coolestina	Lorette Ortiz	Adv	5	Request
	9783369708008	Chestine	Raul Palma	Sr	2	Request
	9783369708015	Jochem	Lavonia Whiteside	Lord	15	Request

## 8. Book rented

Here user can view book rented by him or her

	Book Report				
	Search by isbnNo				
	ISBN	Book Name	Author	Publisher	Issued Date
	9781319484231	Wigald	Rolland Watson	Atty	2022-08-24
Available Book List					
Book Rented					
Logout					

### 3.2: 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
1.	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

1.	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
1.	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
1.	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 <b>Delete data:</b> 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	<b>Requested Book:</b> Name :harry potter ISBN :9781319484253		
Step	Expected Result	Actual Result	Pass/Fail
1.	One book requested Show in book requested list	One book requested Show in book requested list	Pass

**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	2. Click on issued button

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

## **Chapter 4: 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.