A SOCIETAL RELATED Project Report on

LIBRARY MANAGEMENT SYSTEM

Submitted in partial fulfillment of the requirements for the award of the degree of

BACHELOR OF TECHNOLOGY

In

CSE (DATA SCIENCE)

By

P.DHANUSH	**(22AG1A6752)**
KALVA KASAIAHA	**(22AG1A6730)**
B.HARISH	**(23AG5A6702)**
V.ARCHANA	**(22AG1A6764)**

Under the guidance of
SHAIK.NAGURVALI
(Asst.professor)

DEPARTMENT OF CSE (DATA SCIENCE)

Engineering College

Ankushapur(V), Ghatkesar(M), Medchal Dist - 501 301

(An Autonomous Institution, Affiliated to JNTUH, Hyderabad)

www.aceec.ac.in

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DEPARTMENT OF CSE (DATA SCIENCE)

CERTIFICATE

This is to certify that the Societal Related project report entitled ***"Library Management System"*** *is a bonafide work done by* ***P.Dhanush(22AG1A6752) ,Kalva Kasaiaha(22AG1A6730),B.Harish(23AG5A6702),V.Archana(22AG1A6764)*** *in partial fulfillment for the award of Degree of BACHELOR OF TECHNOLOGY in CSE (Data Science) from JNTUH University, Hyderabad during the academic year 2023- 2024. This record of bonafide work carried out by them under our guidance and supervision.*

The results embodied in this report have not been submitted by the student to any other University or Institution for the award of any degree or diploma.

(Shaik.NagurVali)
Asst.Professor
Supervisor

(Dr . P. Chiranjeevi)
Associate Professor
H.O.D. , CSE-DS.

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P.DHANUSH -22AG1A6752
KALVA KASAIAHA-22AG1A6730
B.HARISH -23AG5A6702
V.ARCHANA -22AG1A6764

LIBRARY MANAGEMENT SYSTEM.

ABSTRACT

In today's digital age, libraries need to adapt to meet the changing needs of their users. This project introduces a Library Management System (LMS) that uses Gmail automation to make library operations smoother and improve communication with users. By automating tasks like sending reminders for overdue books, reservation notifications, and announcements of new books, the system ensures that users get timely updates without the need for manual effort.

The system uses the Gmail API to automatically send emails, saving time for both library staff and users. Key features include automated reminders for book returns, alerts for reserved books, notifications for library events, and personalized book recommendations.

The system has a user-friendly interface for both librarians and users.This system enhances user engagement by providing personalized and timely communication, and it reduces the workload for library staff, allowing them to focus on more important tasks. By using Gmail automation, the Library Management System modernizes library operations and sets a new standard for future improvements in library services.

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CHAPTER-1

INTRODUCTION

Libraries have long been integral to education, research, and community enrichment, serving as repositories of knowledge and hubs for information dissemination. Traditionally, library management involved numerous manual tasks such as cataloging books, tracking borrowings, managing reservations, and sending notifications to users. However, with the advent of digital technology, these processes have been increasingly automated to enhance efficiency and user satisfaction.

A Library Management System (LMS) is a comprehensive software solution designed to facilitate the management and automation of library functions. It streamlines various tasks involved in the day-to-day operations of a library, ensuring that resources are utilized effectively and services are delivered efficiently. An LMS typically includes features such as catalog management, user management, circulation management, acquisition, and reporting.

1.1 MOTIVATION

A robust Library Management System (LMS) is essential to address these challenges. By automating the cataloging, borrowing, and returning processes, an LMS streamlines library operations, making it easier for both librarians and patrons to access and manage information.

Furthermore, an LMS allows for better tracking of resource utilization, enabling libraries to make data-driven decisions about acquisitions and resource allocation. It leads to more informed management, ensuring that the library remains relevant and responsive to the needs of its users.

1.2 PROBLEM DEFINITION

Libraries have long been the custodians of knowledge, housing vast collections of books, journals, and other resources. However, as the volume of information grows and user expectations evolve, traditional methods of managing these resources are proving inadequate. The manual processes involved in cataloging, tracking, and lending resources are time-consuming, prone to human error, and often lead to inefficiencies that hamper the overall user experience.

1.3 OBJECTIVE OF PROJECT

1. **To automate the cataloging process** by implementing an advanced system that efficiently records, organizes, and manages the library's inventory of physical and digital resources.

2. **To develop a user-friendly interface** that allows users to easily search for, reserve, and check out library resources, improving overall user experience.

3. **To integrate real-time tracking features** for monitoring the availability and location of resources, enabling quicker fulfillment of user requests and better inventory management.

1.4 LIMITATIONS OF PROJECT

1. **initial Setup and Data Migration:** The process of setting up the system and migrating existing data from a manual or legacy system to the new Library Management System can be time-consuming and may require significant effort from library staff.

2. **Data Security and Privacy Concerns:** Storing user data and digital resources online introduces potential security risks. Ensuring robust data protection measures and complying with privacy regulations can be challenging and require ongoing attention.

CHAPTER-2

LITERATURE SURVEY

2.1 EXISTING SYSTEM

A library management system (LMS) is a software application designed to manage library operations and services. The components listed in your image are key features or modules typically found in an LMS. Here is an explanation of each:

1. **Library Catalog**:

- **Description**: This is a database of all the materials (books, journals, CDs, etc.) that the library owns. It includes bibliographic information such as title, author, subject, and publication details.
- **Function**: Allows users to search and locate library materials. It also helps librarians manage the acquisition, inventory, and weeding of library resources.

2. **Member Records**:

- **Description**: This module maintains detailed records of library members, including personal information, membership status, and borrowing history.
- **Function**: Manages member registration, updates member information, tracks loan histories, and handles membership renewals. It helps ensure that only authorized members can borrow materials.

3. **Circulation Management**:

- **Description**: This involves the process of lending library materials to users and managing the return of these materials.
- **Function**: Tracks the issuance and return of items, handles renewals and reservations, and manages fines for overdue items. It ensures efficient and fair distribution of library resources.

4. **Cataloging and Classification**:

- **Description**: This module involves the systematic arrangement of library materials according to a classification scheme (like Dewey Decimal System or Library of Congress Classification).
- **Function**: Helps librarians organize materials so that users can easily find them. It includes assigning call numbers, subject headings, and other metadata to library items.

5. **Integration with Other Systems**:

- **Description**: This involves connecting the LMS with other systems and platforms, such as external databases, academic management systems, or digital repositories.

2.1.1 Existing system Drawbacks

While a Library Management System (LMS) offers numerous benefits, there are several drawbacks and challenges associated with existing systems. Here are some common issues:

1. **Complexity and Usability**:

- **User Training Required**: Both staff and patrons may need training to effectively use the system, which can be time-consuming and resource-intensive.

- **Steep Learning Curve**: Complex interfaces and multiple features can overwhelm users, leading to underutilization of the system's capabilities.

2. **Integration Issues**:

- **Compatibility Problems**: Integrating the LMS with other existing systems (e.g., institutional databases, e-learning platforms) can be challenging, potentially leading to data silos.
- **Standardization Gaps**: Different systems may use various standards, making seamless data exchange difficult without extensive customization.

2.2 PROPOSED SYSTEM

This feature is an example of how modern LMS can integrate with external services to enhance functionality. By using Gmail's API (Application Programming Interface), the LMS can automate the process of sending email reminders to library patrons. This integration ensures that patrons are notified promptly about overdue items, reducing the likelihood of late returns.

Benefits:

1. **Automation**: Reduces the manual workload for library staff, who would otherwise need to track overdue items and send reminders individually.
2. **Timely Notifications**: Ensures that patrons receive timely notifications about their overdue items, which can help them avoid fines and manage their borrowed materials more effectively.
3. **Personalization**: Allows the system to personalize emails, making communication more effective and user-friendly.
4. **Improved Return Rates**: Encourages patrons to return items on time, improving the availability of materials for other users.
5. **Efficiency**: Streamlines the process of managing overdue items, allowing library staff to focus on other important tasks.

2.3 FEASIBILITY STUDY

The feasibility of the project is analysed in this phase and business proposal is put forth with a very general plan for the project and some cost estimates. During system analysis the feasibility study of the proposed system is to be carried out. This is to ensure that the proposed system is not a burden to the company.

Three key considerations involved in the feasibility analysis are:

- Economical Feasibility
- Technical Feasibility
- Social Feasibility

Economical Feasibility

This study is carried out to check the economic impact that the system will have on the organization. The amount of fund that the company can pour into the research and development of the system is limited. The expenditures must be justified. Thus, the developed system as well within the budget and this was achieved because most of the technologies used are freely available.

Technical Feasibility

This study is carried out to check the technical feasibility, that is, the technical requirements of the system. Any system developed must not have a high demand on the available technical resources. This will lead to high demands being placed on the client. The developed system must have a modest requirement, as only minimal or null changes are required for implementing this system.

Social Feasibility

The aspect of study is to check the level of acceptance of the system by the user. This includes the process of training the user to use the system efficiently. The user must not feel threatened by the system, instead must accept it as a necessity. The level of acceptance by the users solely depends on the methods that are employed to educate the user about the system and to make him familiar with it. His level of confidence must be raised so that he is also able to make some constructive criticism, which is welcomed, as he is the final user of the system.

2.4 FEATURES OF THE PROJECT

Key Features

1. Automated Cataloging and Classification

- **Efficient Resource Organization:** The system automates the process of cataloging and classifying books, journals, e-books, and other resources, ensuring that all items are systematically organized according to standardized classification schemes (e.g., Dewey Decimal System, Library of Congress Classification).

- **Metadata Management:** Supports the entry and management of detailed metadata for each resource, including author, title, publisher, publication date, and subject categories

2. **User-Friendly Search and Retrieval**

- **Advanced Search Functionality:** Provides users with robust search options, including keyword search, filters by category, author, publication year, and more, to quickly locate desired resources.
- **Search Suggestions and Auto-Completion:** Enhances user experience by offering suggestions and auto-completing search queries based on available resources.

3. **Automated Notifications and Alerts**
- **Due Date Reminders:** Automatically sends notifications to users when their borrowed items are nearing the due date, helping them avoid late fees.

- **Availability Alerts:** Notifies users when a reserved book or resource becomes available for pick-up.

4. **Data Security and Backup**

- **Encryption and Security Protocols:** Implements robust data security measures, including encryption, to protect sensitive user data and library records.

- **Regular Backups:** Ensures that all data is regularly backed up to prevent data loss in case of system failures or other emergencies.

5. **Scalability and Customization**
- **Modular Design:** The system is designed with a modular architecture, allowing easy integration of additional features and scalability to accommodate the library's growth.

- **Customizable Interface:** Offers the ability to customize the user interface and system settings to meet the specific needs of different libraries.

CHAPTER-3

ANALYSIS
(REQUIREMENT SPECIFICATION)

The purpose of this document is to outline the requirements for an artificial neural network (ANN) approach to lung cancer identification. This system will utilize chest X-ray images to detect and classify lung cancer. The system should be accurate, efficient, and user-friendly.

3.1 Functional Requirements

1) User Registration and Authentication: Allow users to register for an account and authenticate themselves to access the system.
2) Check-out and Check-in: Allow users to borrow books from the library by checking them out and return them by checking them in. Ensure that the system updates the availability status of books accordingly.
3) Fines and Fees: Implement a system to calculate fines for late returns and manage payment of fines by users.
4) Notifications: Send automated notifications to users for overdue items, reservation pickups, or other relevant updates.

3.2 Non-Functional Requirements

1) **Performance :**

- **Response Time:** The system should respond to user actions within a defined timeframe, typically milliseconds or seconds**.**
- **Scalability:** The system should be able to handle increased loads without significant degradation in performance**.**

2) **Reliability:**

- **Backup and Recovery:** Regular backups of data should be performed, and there should be procedures in place to recover data in case of loss or corruption**.**

3) **Security:**

Data Encryption: Sensitive data such as user information, borrowing history, and financial transactions should be encrypted to protect against unauthorized access.

3.3 SOFTWARE REQUIREMENTS:

1. **Operating System** : windows ,Linux.
2. **Database** :MySQL
3. **Programming Languages**: php, html , css.
4. **Text Editor**: vs code , notepad++
5. **Browser**: Google chrome , Microsoft edge.

3.4 HARDWARE REQUIREMENTS

1. **Processor:** A multi-core processor (e.g., Intel Core i3 or above)
2. **RAM**:At least 4 GB of RAM is recommended to ensure smooth operation.
3. **Storage:** A solid-state drive (SSD) or hard disk drive (HDD) with sufficient storage capacity (e.g., 128 GB or more).
4. **Network Interface**:A Gigabit Ethernet interface for fast network connectivity

CHAPTER 4
DESIGN

4.1 DATAFLOW DIAGRAM:

DFD is the abbreviation for **Data Flow Diagram**. The flow of data in a system or process is represented by a Data Flow Diagram (DFD). It also gives insight into the inputs and outputs of each entity and the process itself. Data Flow Diagram (DFD) does not have a control flow and no loops or decision rules are present. Specific operations, depending on the type of data, can be explained by a flowchart. It is a graphical tool, useful for communicating with users, managers and other personnel. it is useful for analyzing existing as well as proposed systems.

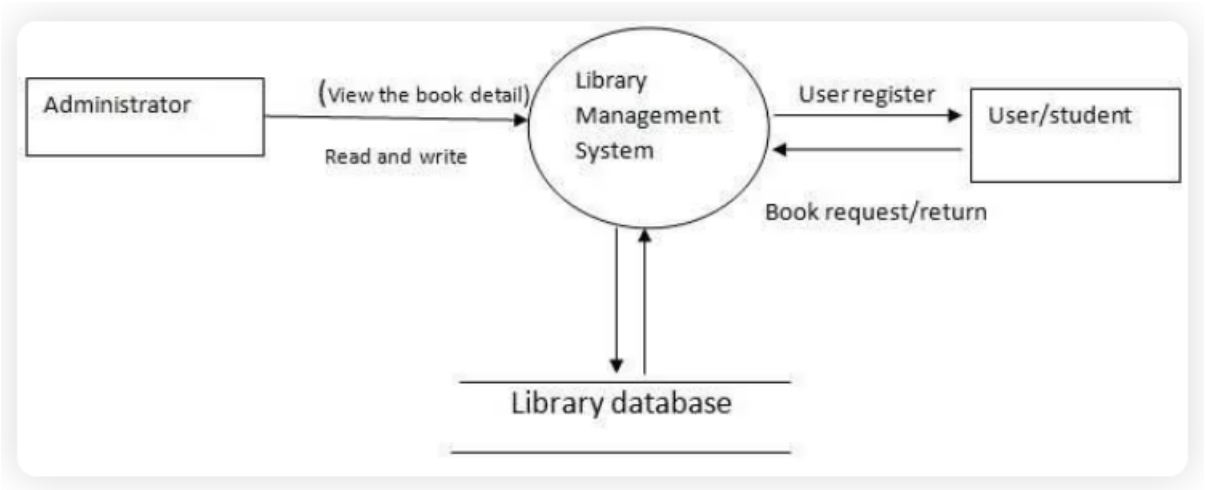
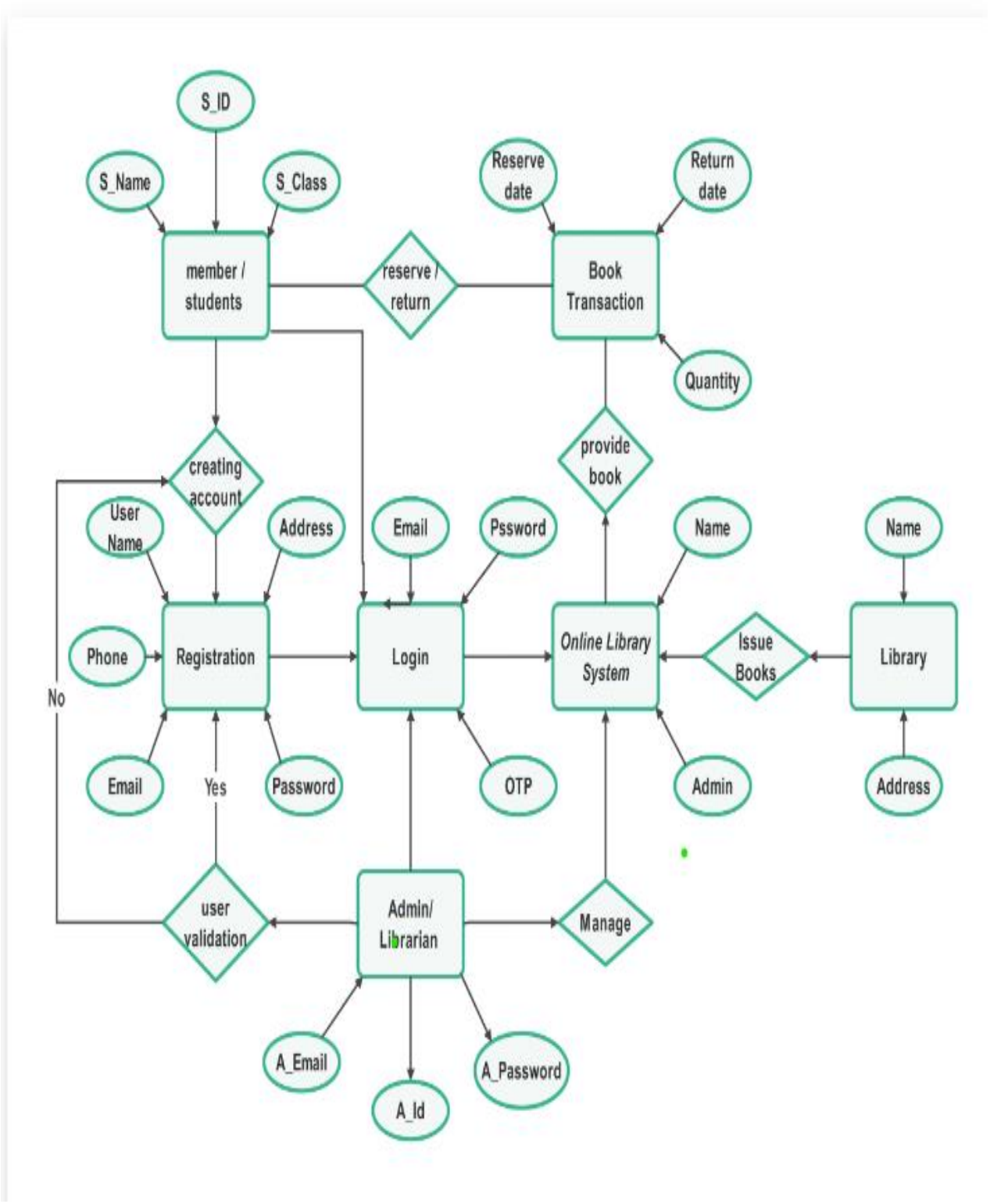


Fig 1:DATA FLOW DIAGRAM

4.2 ER DIAGRAMS(ENTIY RELATIONSHIP DIAGRAMS)

The Entity Relationship Diagram explains the relationship among the entities present in the database. ER models are used to model real-world objects like a person, a car, or a company and the relation between these real-world objects. In short, the ER Diagram is the structural format of the database.


S_ID
S_Name
S_Class
member / students
reserve / return
Reserve date
Return date
Book Transaction
Quantity
provide book
creating account
User Name
Address
Email
Pssword
Name
Name
Phone
Registration
Login
Online Library System
Issue Books
Library
No
Email
Yes
Password
OTP
Admin
Address
user validation
Admin/ Librarian
Manage
A_Email
A_Password
A_Id

4.3 UML DIAGRAMS

UML stands for Unified Modelling Language. UML is a standardized general purpose modelling language in the field of object-oriented software engineering. The standard is managed, and was created by, the Object Management Group. The goal is for UML to become a common language for creating models of object-oriented computer software. In its current form UML is comprised of two major components: a Meta-model and a notation. In the future, some form of method or process may also be added to; or associated with, UML. The Unified Modelling Language is a standard language for specifying, Visualization, Constructing and documenting the artifacts of

software system, as well as for business modelling and other non-software systems. The UML is a very important part of developing object-oriented software and the software development rocess. The UML uses mostly graphical notations to express the design of software projects.

Goals:

The Primary goals in the design of the UML are as follows:

1. Provide users a ready-to-use, expressive visual modelling Language so that they can develop and exchange meaningful models.
2. Provide extendibility and specialization mechanisms to extend the core concepts.
3. Be independent of particular programming languages and development process.
4. Provide a formal basis for understanding the modelling language.
5. Support higher level development concepts such as collaborations,

frameworks, patterns and components.

6. Integrate best practices

4.3.1 Use Case

A use case diagram in the Unified Modelling Language (UML) is a type of behavioural diagram defined by and created from a Use-case analysis. Its purpose is to present a graphical overview of the functionality provided by a system in terms of actors, their goals (represented as use cases), and any dependencies between those use
cases. The main purpose of a use case diagram is to show what system functions are performed for which actor. Roles of the actors in the system can be depicted.

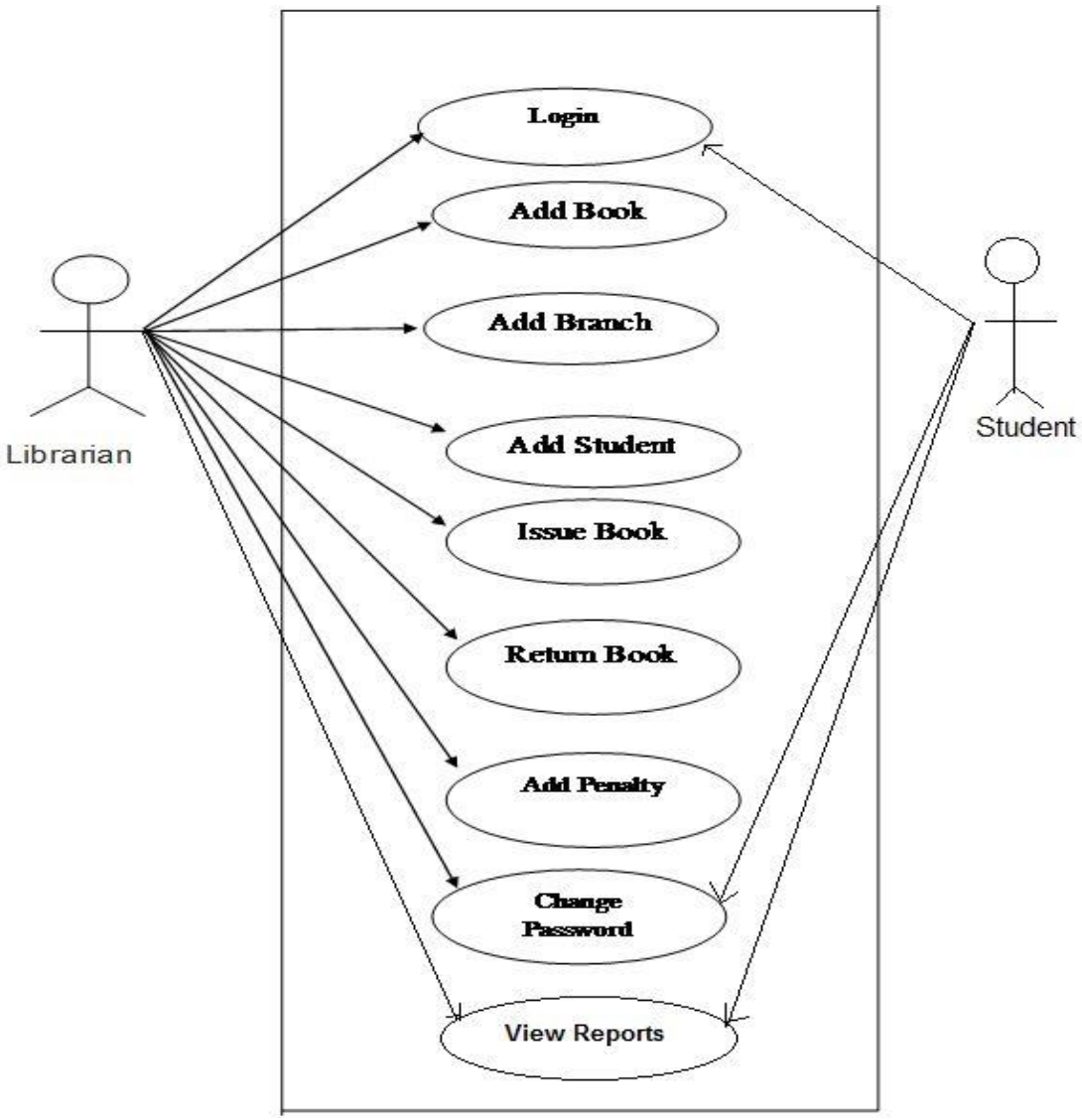
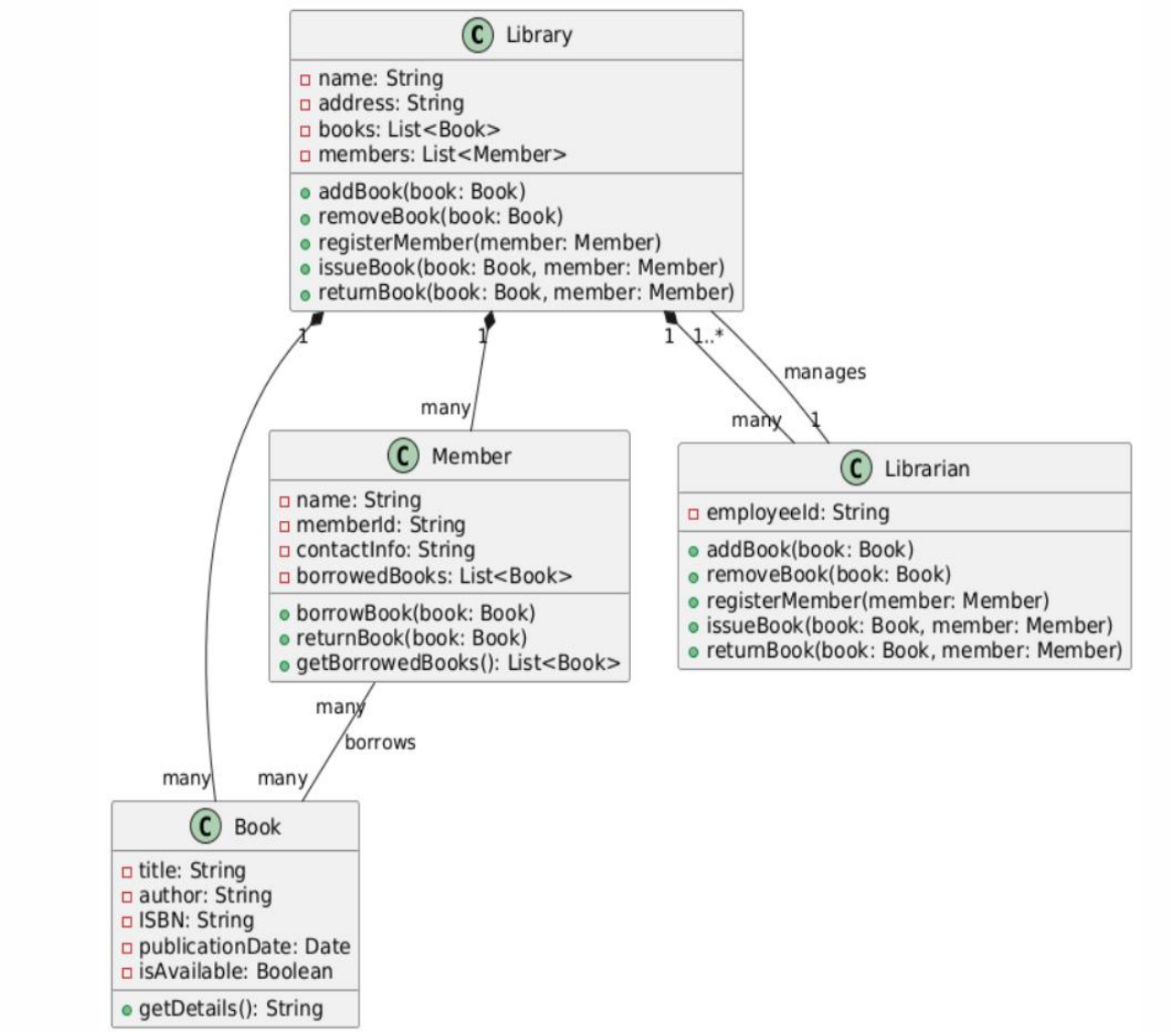


Fig 3:USE CASE DIAGRAM

4.3.2 Class Diagram

In software engineering, a class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among the classes. It explains which class contains information



4.3.3 Sequence Diagram

A sequence diagram in Unified Modeling Language (UML) is a kind of interaction diagram that shows how processes operate with oneanother and in what order. It is a construct of a Message Sequence Chart.Sequence diagrams are sometimes called event diagrams, event scenarios,and timing diagrams.

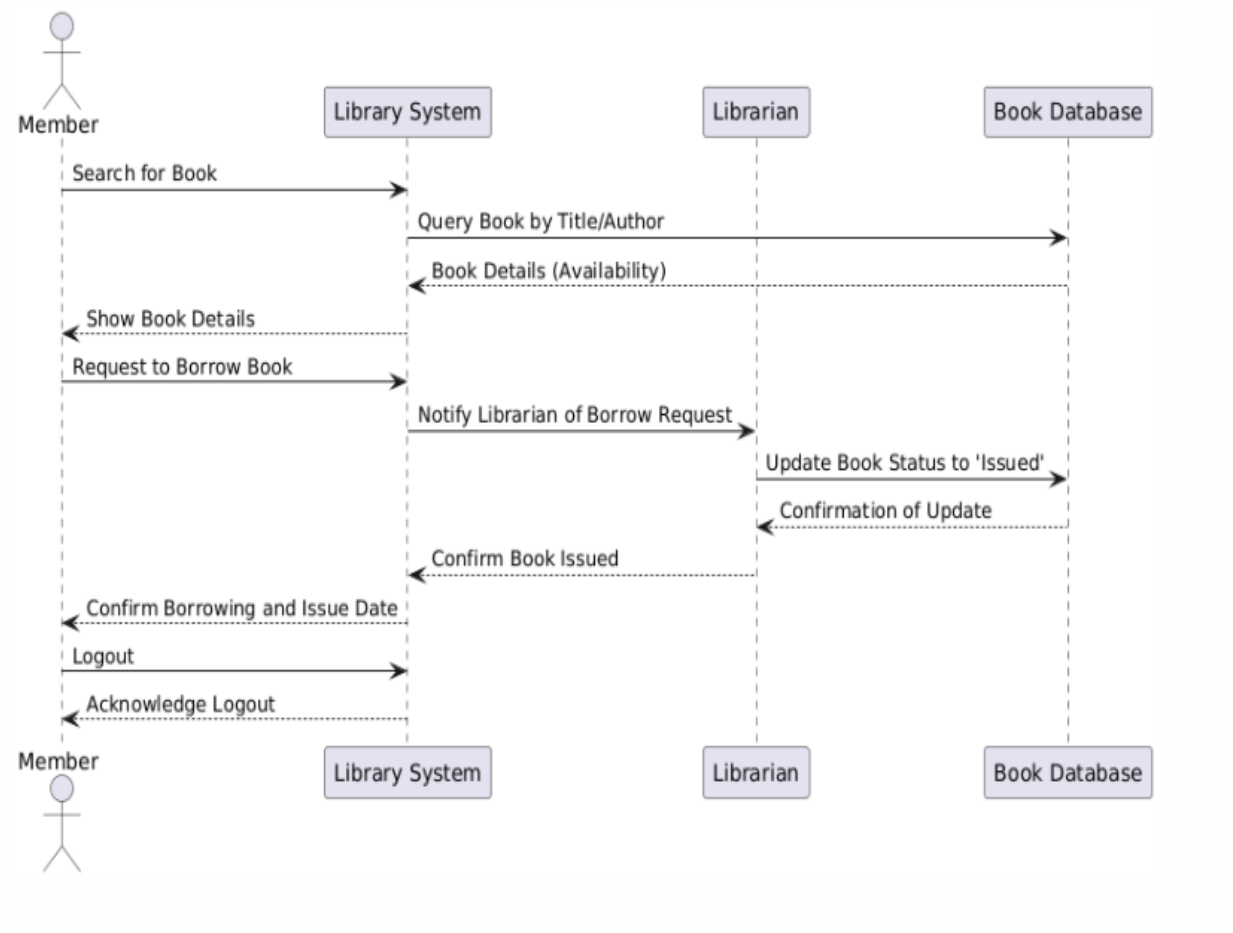


Fig 5:SEQUENCE DIAGRAM

4.3.4 Collaboration Diagram

The collaboration diagram is used to show the relationship between the objects in a system. Both the sequence and the collaboration diagrams represent the same information but differently. Instead of showing the flow of messages, it depicts the architecture of the object residing in the system as it is based on object-oriented programming. An object consists of several features. Multiple objects present in the system are connected to each other. The collaboration diagram, which is also known as a communication diagram, is used to portray the object's architecture in the system.

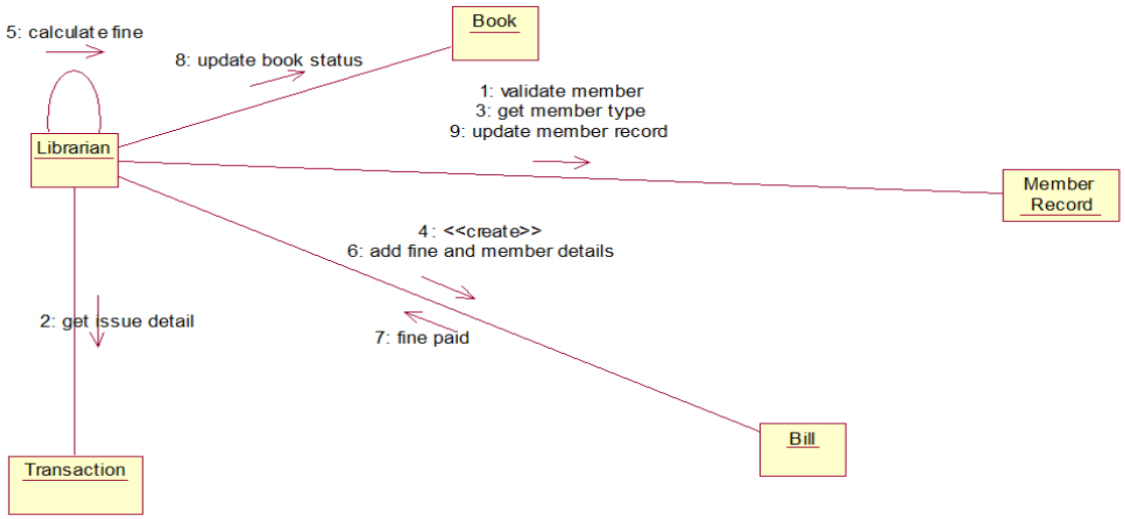
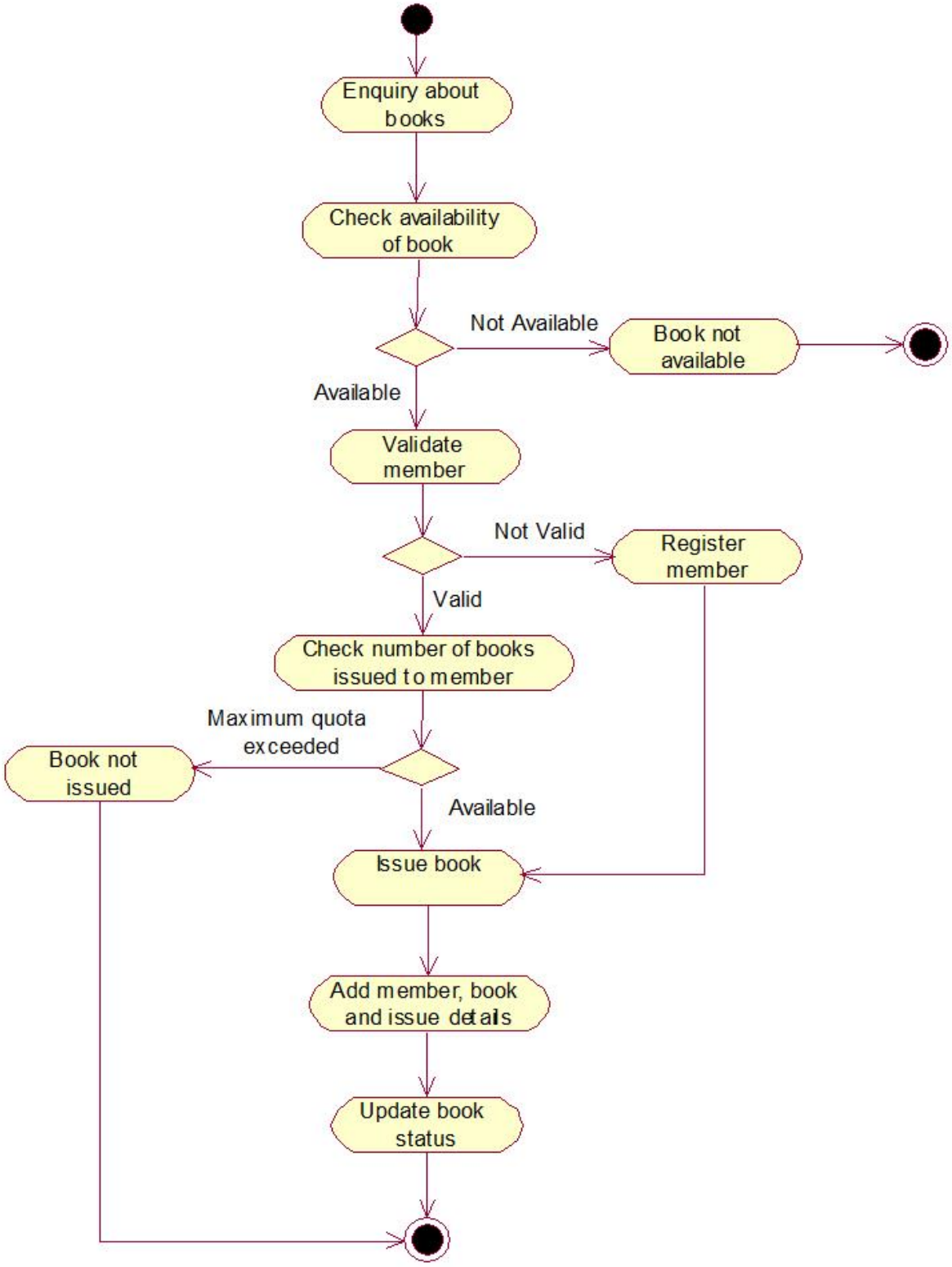


Fig 6:COLLABORATION DIAGRAM

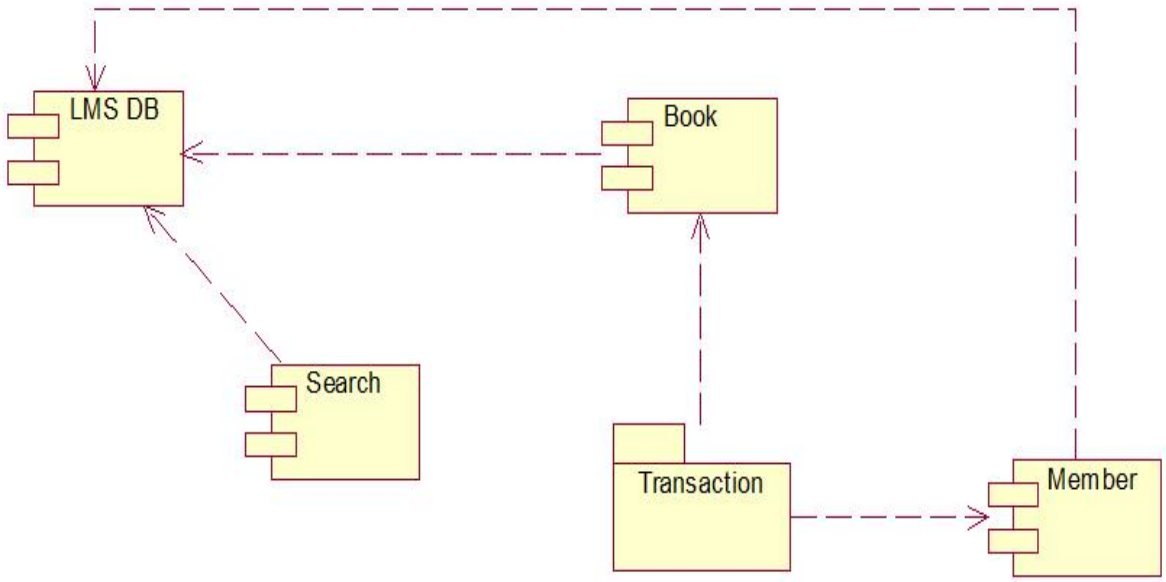
4.3.5 Activity Diagram

In UML, the activity diagram is used to demonstrate the flow of control within the system rather than the implementation. It models the concurrent and sequential activities. The activity diagram helps in envisioning the workflow from one activity to another. It put emphasis on the condition of flow and the order in which it occurs. The flow can be sequential, branched, or concurrent, and to deal with such kinds of flows, the activity diagram has come up with a fork, join, etc. It is also termed as an object oriented flowchart. It encompasses activities composed of a set of actions or operations that are applied to model the behavioural diagram.


Enquiry about books
Check availability of book
Not Available
Book not available
Available
Validate member
Not Valid
Register member
Valid
Check number of books issued to member
Maximum quota exceeded
Book not issued
Available
Issue book
Add member, book and issue details
Update book status

4.3.6 Component Diagram

A component diagram is used to break down a large object-oriented system into the smaller components, so as to make them more manageable. It models the physical view of a system such as executables, files, libraries, etc. that resides within the node. It visualizes the relationships as well as the organization between the components present in the system. It helps in forming an executable system. A component is a single unit of the system, which is replaceable and executable. The implementation details of a component are hidden, and it necessitates an interface to execute a function. It is like a black box whose behavior is explained by the provided and required interfaces.



4.3.7 DEPLOYMENT Diagram

The deployment diagram visualizes the physical hardware on which the software will be deployed. It portrays the static deployment view of a system. It involves the nodes and their relationships. It ascertains how software is deployed on the hardware. It maps the software architecture created in design to the physical system architecture, where the software will be executed as a node. Since it involves many nodes, the relationship is shown by utilizing communication paths.

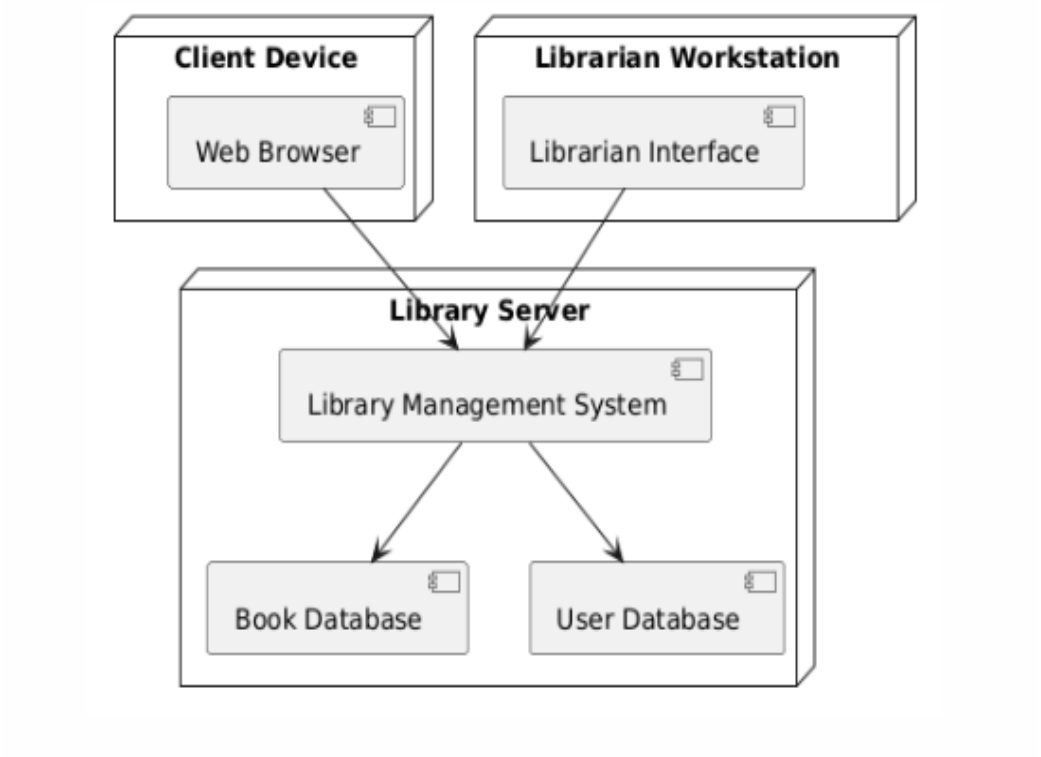


Fig 9:DEPLOYMENT DIAGRAM

4.4 MODULE DESIGN AND ORGANISATION

Module 1: User Management

- **Objective**: Manage all user-related operations, including member and librarian accounts.

Module 2: Book Management

- **Objective**: Handle all operations related to books, including cataloging, searching, and managing book data..

Module 3: Notification and Communication

- **Objective**: Handle all communication with users, including notifications and alerts.

Module 4: System Administration

- **Objective**: Provide tools and interfaces for system administrators to manage and configure the library management system.

CHAPTER 5
IMPLEMENTATION

5.1 ALGORITHMS USED

1. **Search Algorithms:**
   - Inverted Index (for fast querying of books by title, author, etc.)
   - Exact Match Algorithms (Boyer-Moore, Knuth-Morris-Pratt) for precise searches

2. **Sorting and Ranking Algorithms**:
   - Bubble Sort, Quick Sort, or Merge Sort for sorting books by title,author, etc.

3. **Borrowing and Returning Algorithms:**
   - First-Come-First-Served (FCFS) or Last-In-First-Out (LIFO) for managing book borrowing.

4. **User Management Algorithms:**
   - Authentication algorithms (e.g., username/password, library card number)
   - Authorization algorithms (e.g., access control, permission management)

5. **Reporting and Analytics Algorithms:**
   - Data aggregation algorithms (e.g., book borrowing statistics, user activity)
   - Data visualization algorithms (e.g., charts, graphs, tables)

-

5.2 KEY FUNCTIONS

It involves several key functions that collectively contribute to its successful operation. These key functions include:

1. User management
2. Book management
3. Fine and fee management
4. Notification and communication
5. System administration

5.2.1.USER MANAGEMENT

- **User Registration**: Allows the registration of new users, including members and staff (e.g., librarians).
- **Authentication**: Manages user login, logout, and session security.
- **Profile Management**: Allows users to update personal information, view borrowing history, and manage account details.
- **Role-Based Access Control**: Assigns roles (e.g., member, librarian, admin) and manages permissions accordingly

5.2.2 BOOK MANAGEMENT

- **Cataloging**: Facilitates the addition of new books to the library's catalog with details like title, author, ISBN, genre, and availability.
- **Inventory Management**: Tracks the status of books (available, issued, reserved, lost) and manages the number of copies.
- **Search and Browse**: Enables users to search for books by various criteria (e.g., title, author, genre) and browse through the catalog.
- **Book Details**: Displays detailed information about each book, including its status and location..

5.2.3 NOTIFICATION AND GMAIL AUTOMATION

- **Due Date Reminders**: Sends automated reminders to members about upcoming due dates for borrowed books.
- **Overdue Alerts**: Notifies members of overdue books and any associated fines.
- **Reservation Notifications**: Alerts members when a reserved book becomes available.
- **General Announcements**: Manages communication for library events, updates, and other important information.

5.2.4 SYSTEM ADMINSTRATION

- **System Configuration**: Allows administrators to manage system settings like borrowing limits, fine rates, and notification preferences.
- **User Management**: Provides tools for managing user roles, resetting passwords, and handling account issues.
- **Backup and Recovery**: Implements regular data backup processes and provides tools for data recovery.
- **System Monitoring**: Monitors system performance, uptime, and detects issues that require administrative attention.

5.3 SOURCE CODE

INDEX.PHP

```
<?php
require('dbconn.php');
?>

<?php
if ($_SESSION['RollNo']) {
   ?>

<!DOCTYPE html>
<html lang="en">

   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
      <meta name="viewport" content="width=device-width, initial-scale=1.0">
      <title>LMS</title>
      <link type="text/css" href="bootstrap/css/bootstrap.min.css" rel="stylesheet">
      <link type="text/css" href="bootstrap/css/bootstrap-responsive.min.css"
rel="stylesheet">
      <link type="text/css" href="css/theme.css" rel="stylesheet">
      <link type="text/css" href="images/icons/css/font-awesome.css"
rel="stylesheet">
      <link type="text/css"
href='http://fonts.googleapis.com/css?family=Open+Sans:400italic,600italic,400,600'
         rel='stylesheet'>
   </head>
   <body>
      <div class="navbar navbar-fixed-top">
         <div class="navbar-inner">
            <div class="container">
               <a class="btn btn-navbar" data-toggle="collapse" data-target=".navbar-
inverse-collapse">
                  <i class="icon-reorder shaded"></i></a><a class="brand"
href="index.php">LMS </a>
                  <div class="nav-collapse collapse navbar-inverse-collapse">
                     <ul class="nav pull-right">
                        <li class="nav-user dropdown"><a href="#" class="dropdown-
toggle" data-toggle="dropdown">
                           <img src="images/user.png" class="nav-avatar" />
                           <b class="caret"></b></a>
                           <ul class="dropdown-menu">
                              <li><a href="index.php">Your Profile</a></li>
                              <!--li><a href="#">Edit Profile</a></li>
                              <li><a href="#">Account Settings</a></li-->
                              <li class="divider"></li>
                              <li><a href="logout.php">Logout</a></li>
```

```
                        </ul>
                      </li>
                    </ul>
                  </div>
                  <!-- /.nav-collapse -->
                </div>
              </div>
              <!-- /navbar-inner -->
            </div>
            <!-- /navbar -->
            <div class="wrapper">
              <div class="container">
                <div class="row">
                  <div class="span3">
                    <div class="sidebar">
                      <ul class="widget widget-menu unstyled">
                        <li class="active"><a href="index.php"><i class="menu-icon
icon-home"></i>Home
                        </a></li>
                         <li><a href="message.php"><i class="menu-icon icon-
inbox"></i>Messages</a>
                        </li>
                        <li><a href="student.php"><i class="menu-icon icon-
user"></i>Manage Students </a>
                        </li>
                        <li><a href="book.php"><i class="menu-icon icon-
book"></i>All Books </a></li>
                        <li><a href="addbook.php"><i class="menu-icon icon-
edit"></i>Add Books </a></li>
                        <li><a href="requests.php"><i class="menu-icon icon-
tasks"></i>Issue/Return Requests </a></li>
                        <li><a href="recommendations.php"><i class="menu-icon icon-
list"></i>Book Recommendations </a></li>
                        <li><a href="current.php"><i class="menu-icon icon-
list"></i>Currently Issued Books </a></li>
                      </ul>
                      <ul class="widget widget-menu unstyled">
                        <li><a href="logout.php"><i class="menu-icon icon-
signout"></i>Logout </a></li>
                      </ul>
                    </div>
                    <!--/.sidebar-->
                  </div>
                  <!--/.span3-->

                  <div class="span9">
                    <center>
                      <div class="card" style="width: 50%;">
                        <img class="card-img-top" src="images/profile2.png" alt="Card
```

```
image cap">
                                <div class="card-body">

                                <?php
                                $rollno = $_SESSION['RollNo'];
                                $sql="select * from LMS.user where RollNo='$rollno'";
                                $result=$conn->query($sql);
                                $row=$result->fetch_assoc();

                                $name=$row['Name'];
                                $category=$row['Category'];
                                $email=$row['EmailId'];
                                $mobno=$row['MobNo'];
                                ?>
                                   <i>
                                   <h1 class="card-title"><center><?php echo $name
?></center></h1>
                                   <br>
                                   <p><b>Email ID: </b><?php echo $email ?></p>
                                   <br>
                                   <p><b>Mobile number: </b><?php echo $mobno ?></p>
                                   </b>
                                </i>

                                   </div>
                               </div>
                            <br>
                            <a href="edit_admin_details.php" class="btn btn-primary">Edit
Details</a>
                            </center>
                          </div>

                            <!--/.span9-->
                        </div>
                    </div>
                    <!--/.container-->
                </div>
            <div class="footer">
                    <div class="container">
                       <b class="copyright">&copy; 2018 Library Management System </b>All
rights reserved.
                    </div>
                </div>

                <!--/.wrapper-->
                <script src="scripts/jquery-1.9.1.min.js" type="text/javascript"></script>
                <script src="scripts/jquery-ui-1.10.1.custom.min.js"
type="text/javascript"></script>
                <script src="bootstrap/js/bootstrap.min.js" type="text/javascript"></script>
```

```
            <script src="scripts/flot/jquery.flot.js" type="text/javascript"></script>
            <script src="scripts/flot/jquery.flot.resize.js" type="text/javascript"></script>
            <script src="scripts/datatables/jquery.dataTables.js"
type="text/javascript"></script>
            <script src="scripts/common.js" type="text/javascript"></script>

        </body>

    </html>

    <?php }
    else {
        echo "<script type='text/javascript'>alert('Access Denied!!!')</script>";
    } ?>
```

5.4 RESULT ANALYSIS

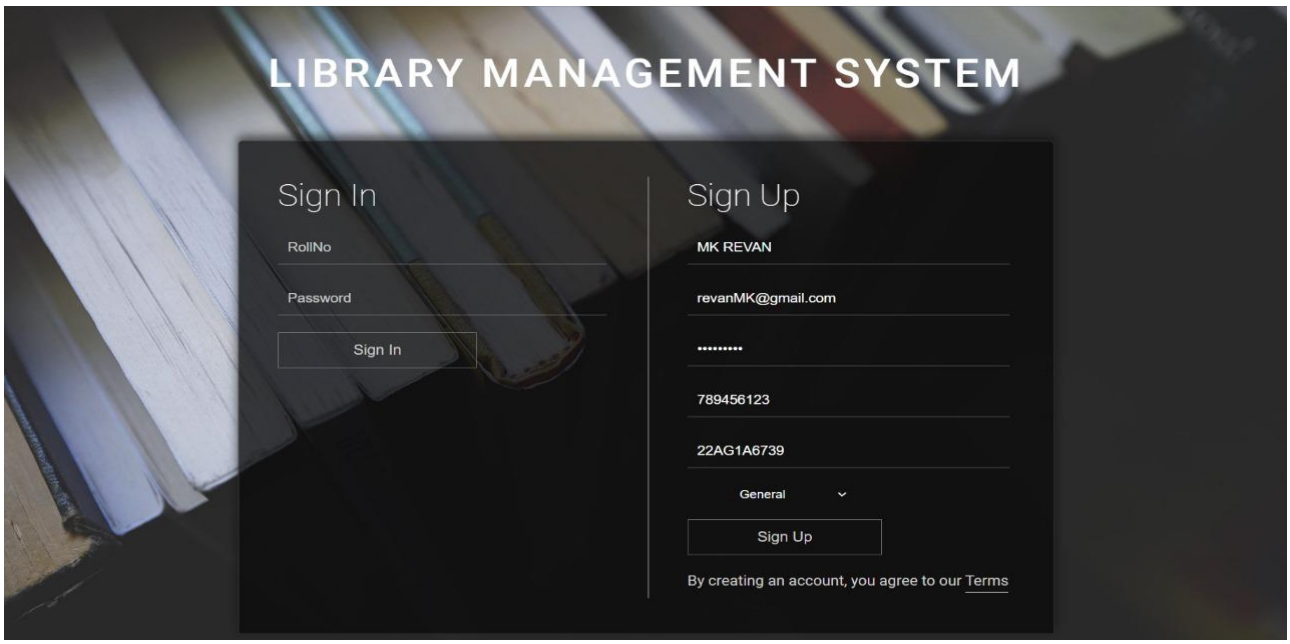
Result analysis for a Library Management System (LMS) provides a comprehensive view of library performance and user engagement, essential for optimizing library operations and services. By analyzing check-out and return patterns, libraries can identify popular and frequently used resources, helping to manage stock levels and plan future acquisitions. Reservation trends highlight high-demand items, allowing for better inventory management and reduced wait times for users.

User activity data, including logins, search queries, and digital resource usage, offers insights into patron behavior and preferences, enabling libraries to tailor their offerings to meet diverse needs. Demographic analysis further refines service delivery, ensuring resources and programs are aligned with the community's characteristics.

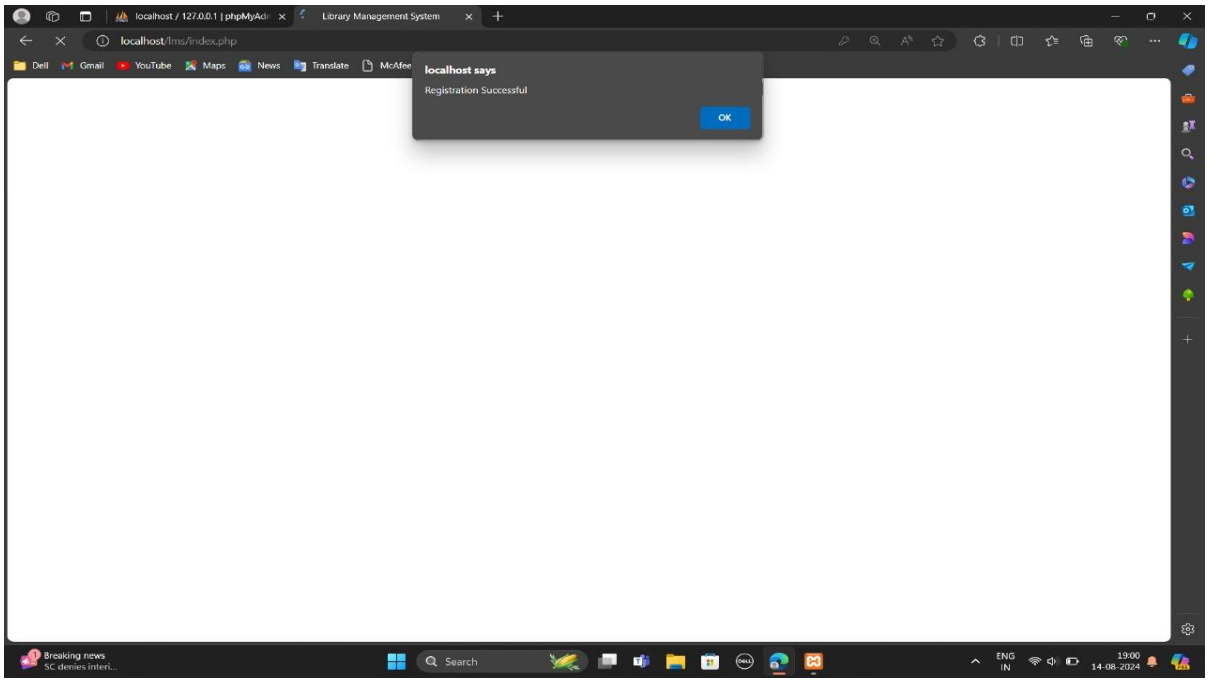
Resource management is enhanced by evaluating the circulation and usage of library materials, identifying which items are underutilized or overused. This information supports strategic decisions about collection development and the deaccession of outdated or redundant resources. Inventory tracking, including monitoring lost or damaged items, ensures the collection remains accurate and up-to-date.

5.5 OUTPUT SCREENS

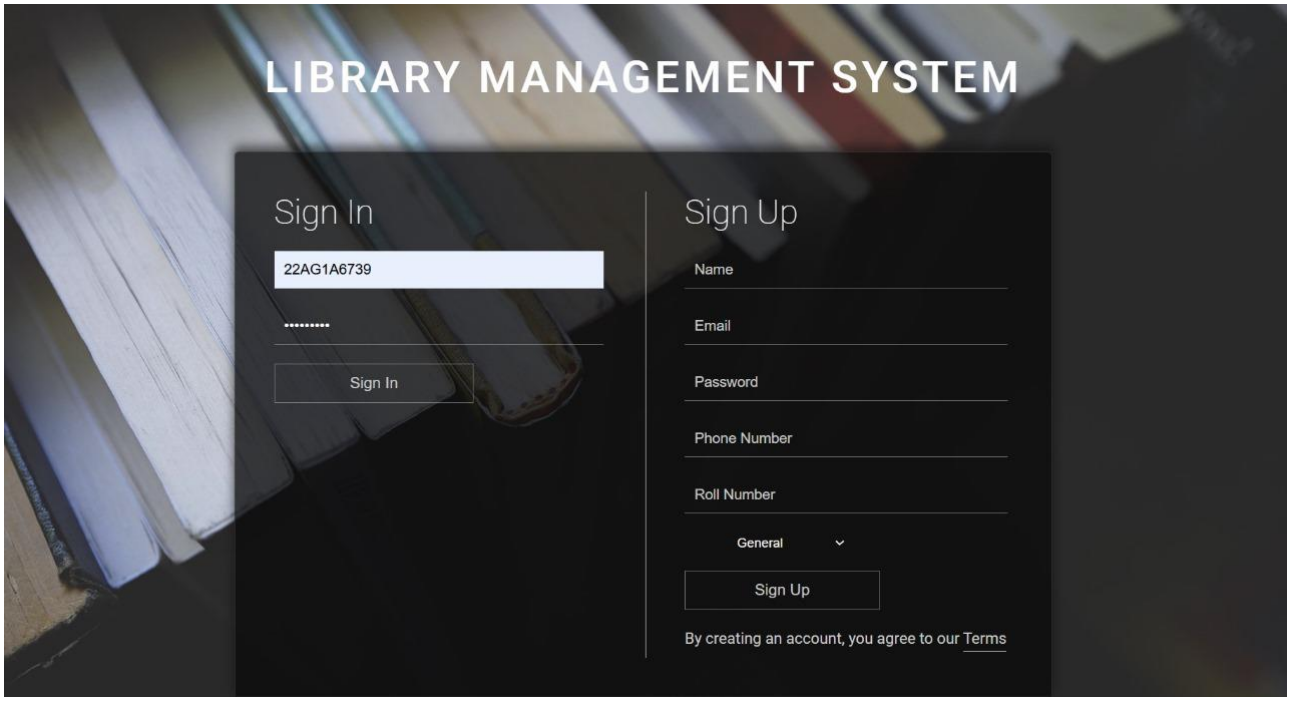
(USER REGISTRATION)



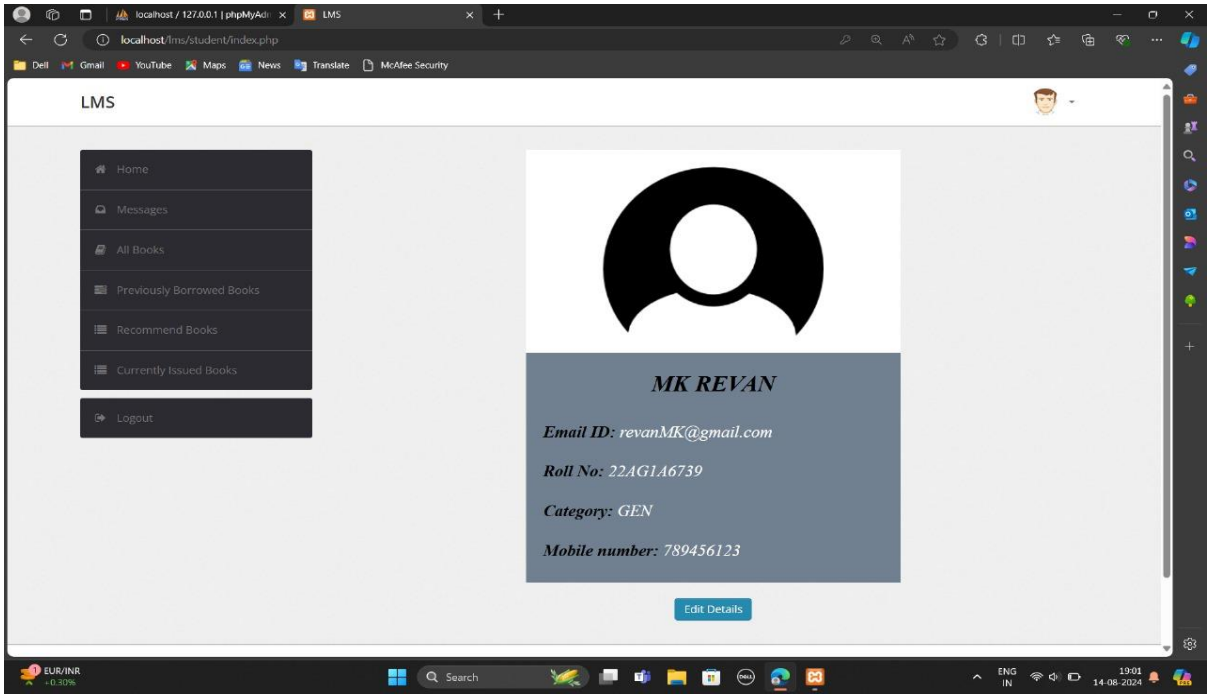
(USER REGISTRATION SUCCESSFULL)



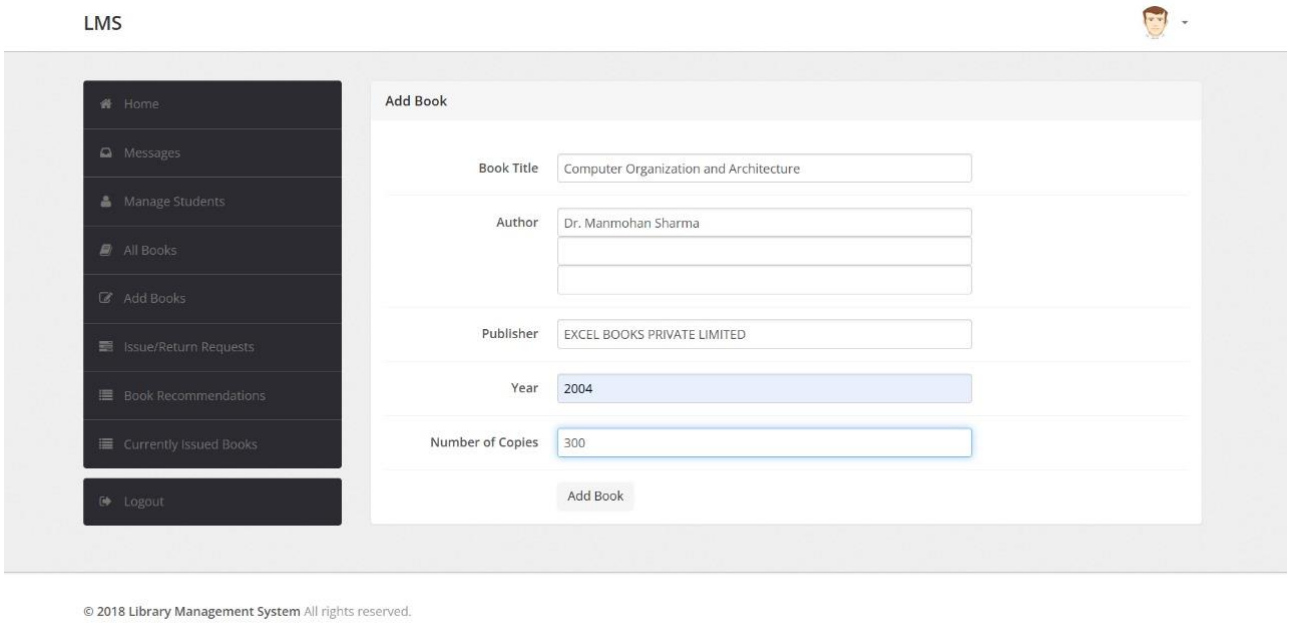
(USER LOGIN)



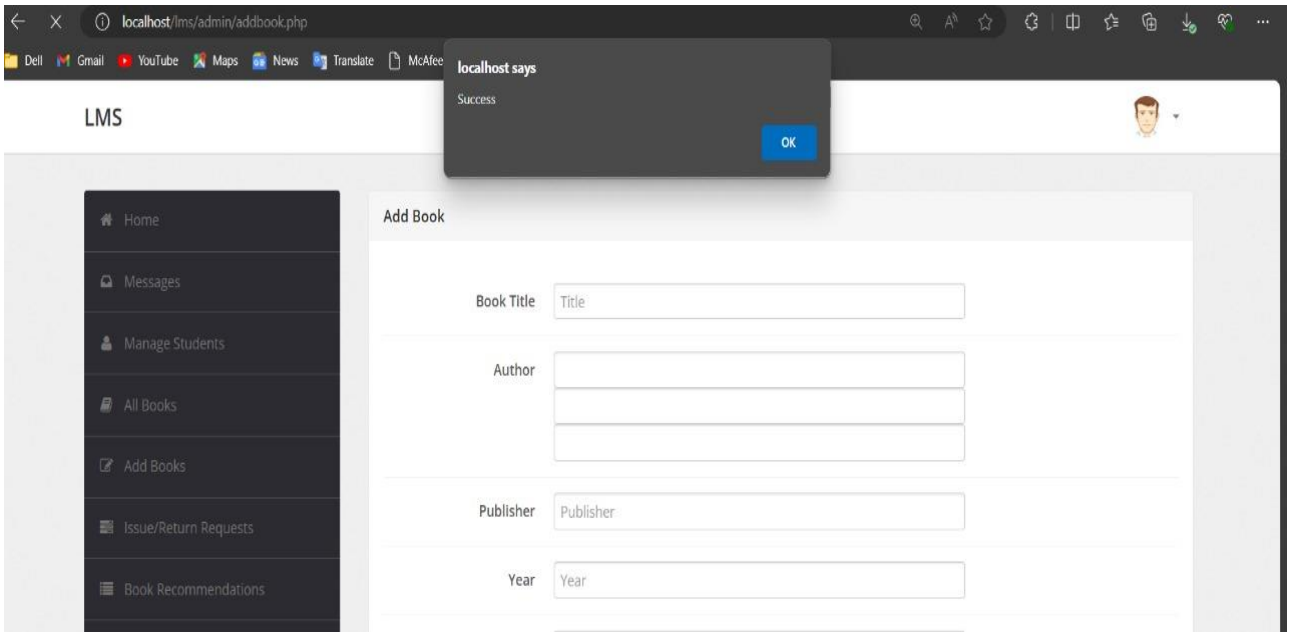
(USER PROFILE)



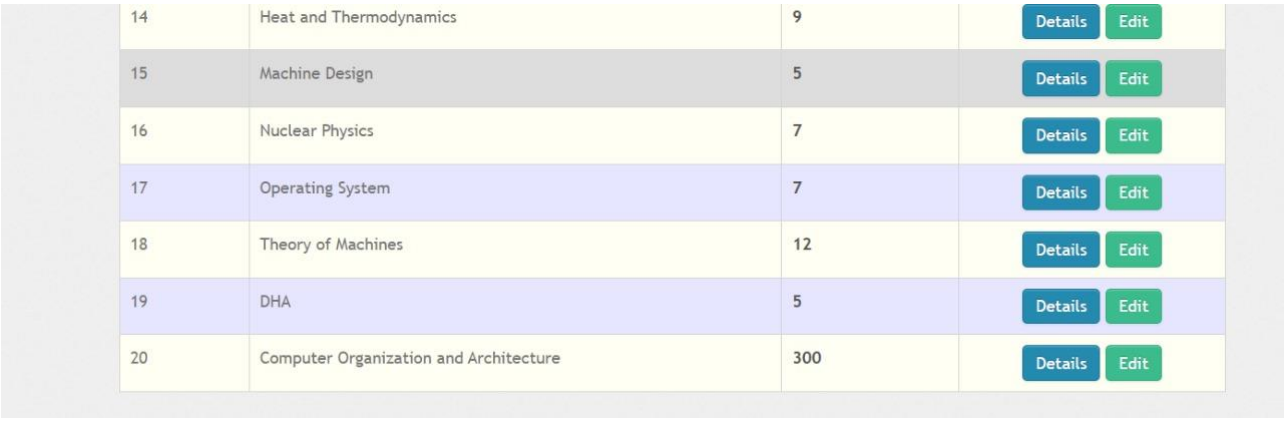
(ADDING THE BOOK)



(BOOK SUCCESSFUL ADDED)



(SHOWING BOOK IN ADD BOOK SECTION)



14	Heat and Thermodynamics	9	Details Edit
15	Machine Design	5	Details Edit
16	Nuclear Physics	7	Details Edit
17	Operating System	7	Details Edit
18	Theory of Machines	12	Details Edit
19	DHA	5	Details Edit
20	Computer Organization and Architecture	300	Details Edit

CHAPTER 6

CONCLUSION & FUTURE SCOPE

6.1 . CONCLUSION

In conclusion, effective result analysis for a Library Management System (LMS) is crucial for optimizing library operations and enhancing user experience. By thoroughly examining data on resource usage, user activity, and operational efficiency, libraries can make informed decisions about acquisitions, inventory management, and service improvements. Insights gained from usage patterns, engagement metrics, and user feedback enable libraries to tailor their offerings to meet the needs of their patrons, streamline processes, and maintain an up-to-date and relevant collection. Ultimately, leveraging this data-driven approach ensures that libraries can provide exceptional service, support user satisfaction, and adapt to evolving demands, reinforcing their role as essential community hubs for information and learning.

6.2 FUTURE SCOPE

The future scope for Library Management Systems (LMS) is poised for significant advancements as technology continues to evolve and user expectations shift. Key areas for development include:

1. **Enhanced User Experience**:
   - **Personalized Services**: Developing sophisticated algorithms to tailor recommendations and services based on individual user preferences and behavior.
   - **Mobile and Remote Access**: Expanding mobile app functionalities and remote access options to provide users with seamless access to library resources anytime, anywhere.
2. **Improved Data Analytics**:
   - **Big Data**: Utilizing big data analytics to gain deeper insights into user behavior, resource usage, and trends, enabling more strategic decision-making.
   - **Real-time Analytics**: Implementing real-time data processing to monitor library operations and user interactions dynamically.

CHAPTER 7

REFERENCES

1) **K. S. Rajasekaran and M. S. Kumar, "A study on the impact of library management systems on resource utilization and user satisfaction," 2019 International Conference on Library and Information Science (ICLIS).**
2) **J. L. Smith, R. J. Brown, and A. K. Johnson, "Evaluating the effectiveness of integrated library systems: A case study," 2020 International Symposium on Information Management (ISIM).**
3) **A. M. Patel and S. R. Verma, "Modernizing library services through cloud-based LMS solutions," 2018 International Conference on Digital Libraries (ICDL).**