



THE
UNIVERSITY OF
LAHORE

Software Construction and Development

Submitted by:

Saira Arshad (70126012)

Maheen Qamar (70126610)

Section: (T)

Submitted to:

Sir Muhammad Bilal

Software Requirement Specifications (SRS)

Project Title: Library Management System (LMS)

Introduction:

Purpose:

The primary goal of this document is to explain the project's Library Management system needs. The paper provides a thorough explanation of the client's requested functional and non-functional requirements.

The goal of this project is to create a friendly atmosphere for maintaining the information on books and library users. It also aims to maintain a simple computerized circulation system and offer various reports. ER Models and UML diagrams are used to describe the hardware and software interaction requirements.

Scope of the Project:

The Library Management System essentially converts the manual library system into an internet-based web application that allows users to view account details, book availability, and borrowing limits, among other things.

The project is specifically created for librarians and library users. The software will function as a comprehensive user interface for both regular users' use of libraries and the management of libraries. Any library, whether new or established, can manage its book collection by using the Library Management System to control book insertion, borrowing, and monitoring.

The project is easily implementable in a variety of scenarios. Because each module is flexible, we may add new features as needed, allowing for possible reusability. The project is being developed in *HTML*, *Bootstrap*, *PHP*, and *MySQL* for the backend. These languages are fairly compatible in terms of performance, tools available, cross-platform compatibility, libraries, cost (free), and development process.

Overall Description:

Product Perspective:

LMS is a replacement for the ordinary library management systems which depend on paper work for recording book and users' information. LMS will provide an advanced book search mechanism and will make it easy to borrow, insert and index a book in the library.

Product Functions:

The proposed Library Management System (LMS) is designed to simplify the day-to-day activities of a library, providing features for both users and administrators.

Modules:

1. Login Page
2. Admin and User Dashboard
3. Add/Manage Book, Book Category and Issue Book

Functional Requirements

- **New User Registration:**

This feature allows new users (students, teachers, etc.) to sign up for the system by providing the necessary details.

- **Student Login:**

- 1- This feature Provides authenticated access for registered users to use the system
- 2- If the user enters email without @ sign it generates the error
- 3- If the user enters the wrong password it generates the error message.
- 4- The user must enter the strong password.
- 5- If user press the submit button without entering email or password it asks to fill the required field.
- 6- If users enter the password successfully, the dashboard opens

- **Search Book:**

This feature allows users to search for books based on criteria such as book ID, book name, or author name, enhancing the ease of locating desired materials.

- 1- You can search book by book name
- 2- You can search book by book ID
- 3- You can search book by author name
- 4- If you search the book with wrong spellings of the book name, search book with wrong id, search book with wrong spelling of author, the message displayed of no book found.
- 5- If you search the book and all the books are sold related to your search the message displayed of book sold

- **Borrow Book:**

This feature allows users in borrowing books from the library by recording the transaction and updating the availability status.

- 1- If user borrow the book, then admin update the database.

- **Return Book:**

This feature allows users to return books either before the due date or after the specified time with a late fine, ensuring proper management of borrowed materials.

- 1- The user must return the book before due date
- 2- If the user didn't return the book before due date, they will have to pay a fine.

For Admin:

Record Library Activities:

This feature allows librarians to enter various records into the system, such as book issuances, returns, and non-availability of books.

Manage Books:

This feature allows librarians to keep track of the library's books by adding new books or removing them.

- 1- The admin can add new books in the database after buying
- 2- If the user returns the book before the due date, the admin adds the book so the new user can issue the book as well.
- 3- If the user issued the book, the admin removes the book from the database.

Manage Student:

This feature allows librarians to keep track of number of students and their details.

- 1- The admin can keep records of the students in the database.

View Issued Books:

This feature allows librarians to view all Issued books with their status.

- 1- The admin can view the books which is issued by the students

Defaulter List:

This feature allows librarians to show the details of the student who did not return the books before the deadline.

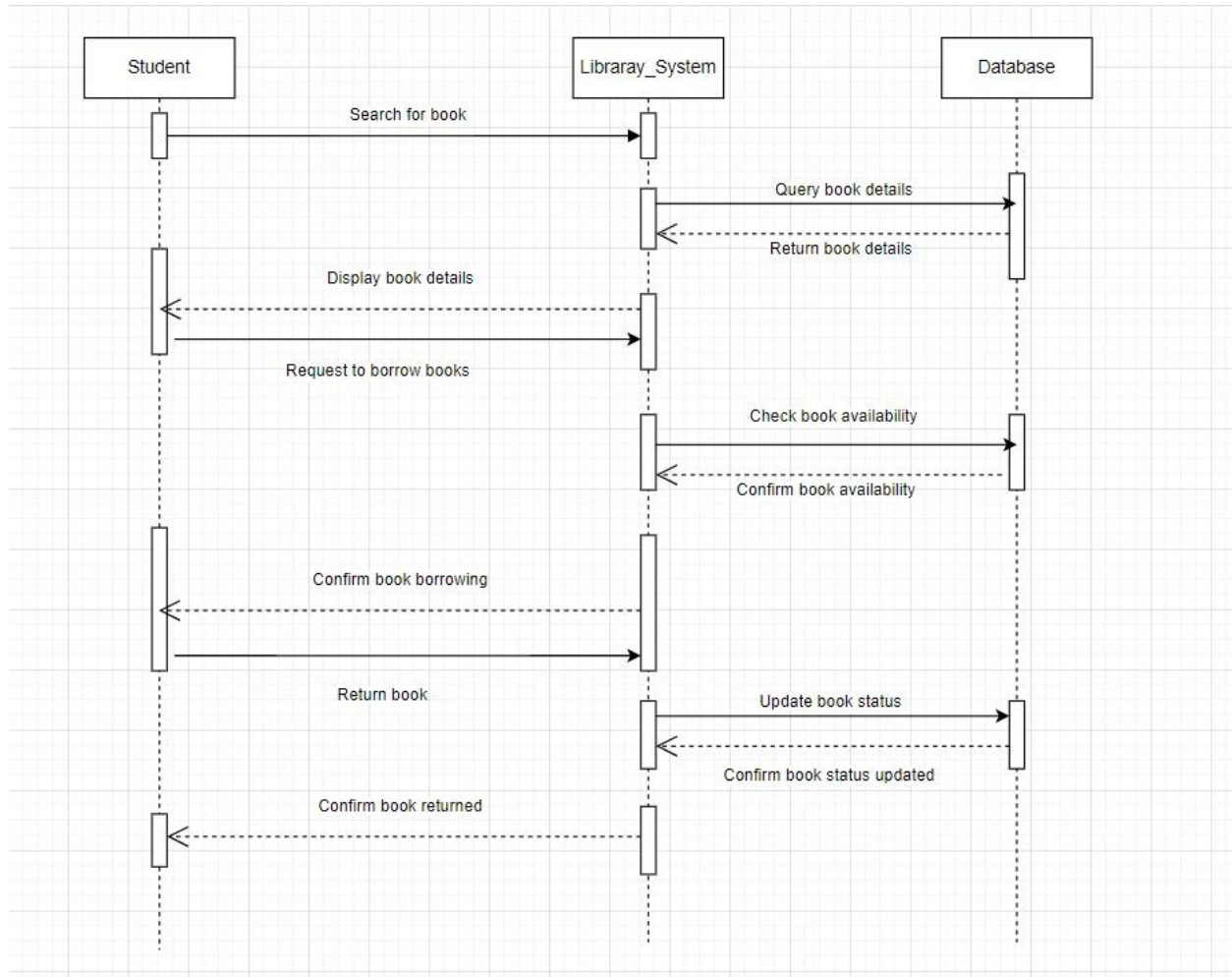
- 1- The admin can view the details of the book who did not return the book on time
- 2- The admin can fine the student who did not return the book on time.

General Constraints:

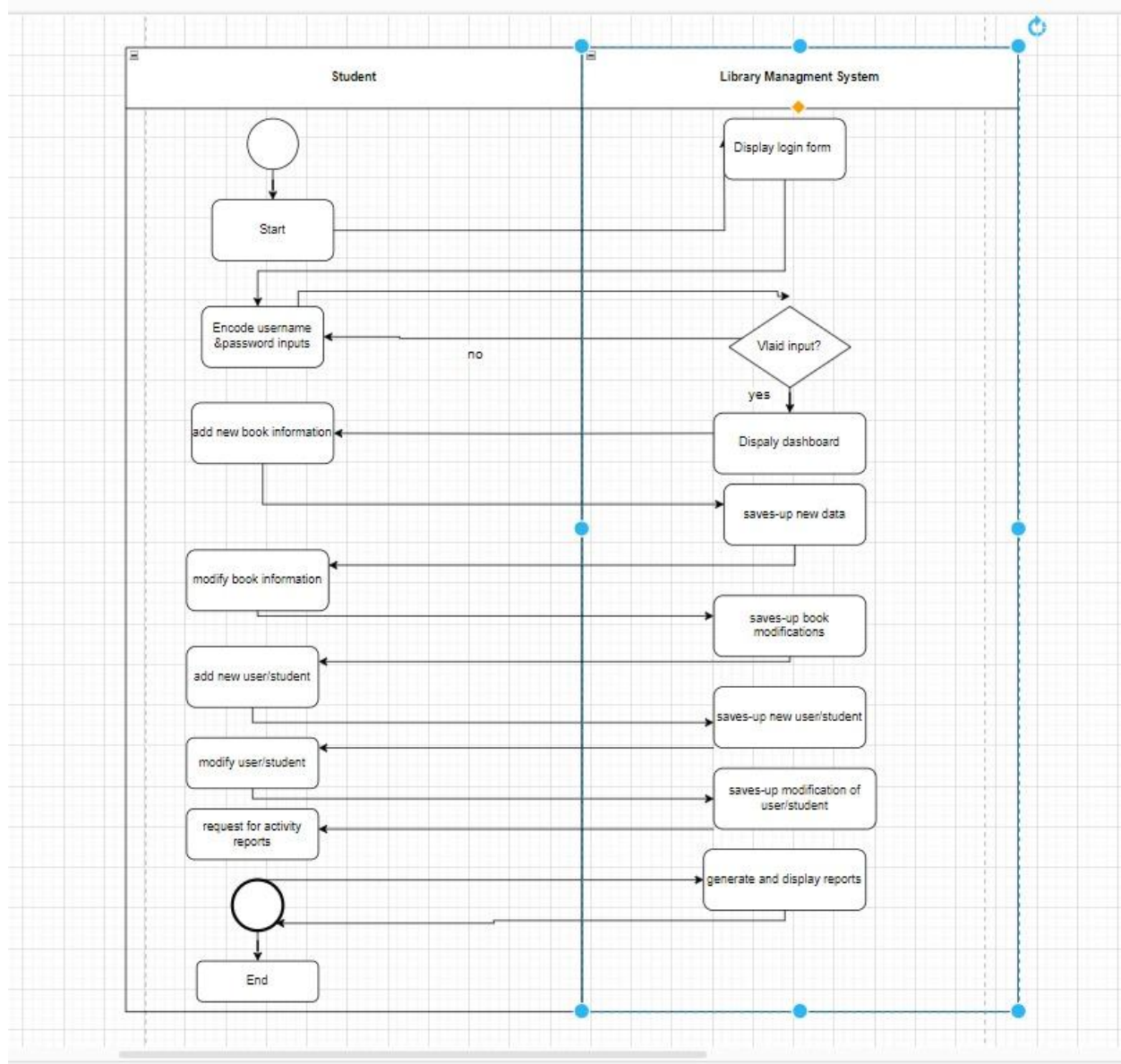
- The information of all users, books and libraries must be stored in a database that is accessible by the website.
- MS SQL Server will be used as SQL engine and database.

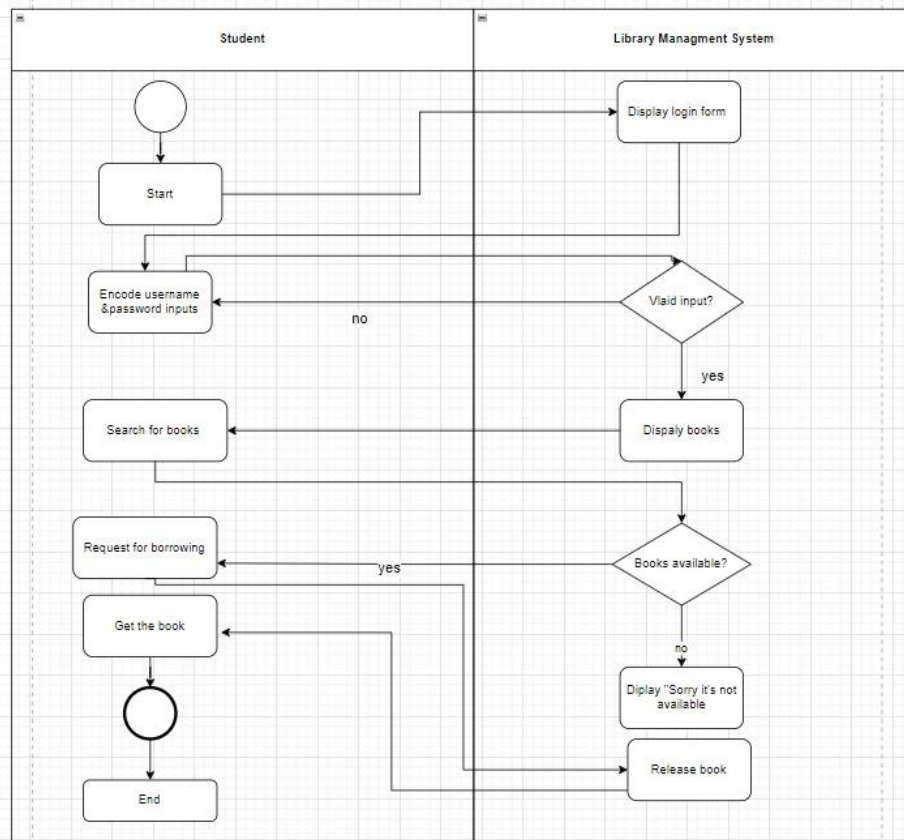
- Users must have their correct usernames and passwords to enter into their online accounts and do actions.

Sequence Diagram



Activity Diagrams





Architectural Diagram

