# CSE311 (DBMS) PROJECT

**TITLE: LIBRARY MANAGEMENT SYSTEM**

## GROUP MEMBERS:

- **Nafiz Haider Chowdhury - 1721587642**
- **Sabbir Hossain – 173190042**

## Introduction:

This library management system will be a web-based database that is designed to manage all the functions of a library. It helps librarian to maintain the database of new books and the books that are borrowed by members along with their due dates.

In this project, we plan on adding many features which are generally not available in a library management system. It will have features like user login, faculty & staff login and admin/librarian login. It will also have a facility where student after logging in their accounts can see list of books issued and its issue date and return date. And also, the staff and faculties can request the librarian to add new books through a request link which won't be available to students.

Overall, this project is being developed with best of our current ability to make sure the students, faculty members as well as staff of library to access and maintain the library in the best way possible and also reduce the human efforts.

## Motivations:

### Why this project? How this will help people or solve a problem?

Library Management System is one of the most fundamental 'problem solving' task for students to solve within a short deadline. Being able to efficiently solve this task demonstrates a level of knowledge and competence that will help in any real-life application.

### Are you trying to solve a problem from your experience?

The answer is both YES and NO. I came across this problem in a problem-solving challenge a while back, for a long time I've thought about different functionality and how I might implement them, but never got to actually work on it. So, when I got this opportunity, I instantly started working on it.

## PURPOSE

- The purpose of this project is to provide a friendly environment to maintain the details of books and library members.
- The main purpose of this project is to maintain easy circulation system using computers and to provide different reports.
- The Library System is a package to be used by Libraries to improve the efficiency of Librarians, Library employees and Users.
- The system provides books catalogue and information to members and helps them decide on the books to borrow from the library.
- The Librarian can keep the books catalogue updated all the time so that the members (students and the faculty members and staff) get the updated information all the time.

## Resources/technologies:

Online Course:

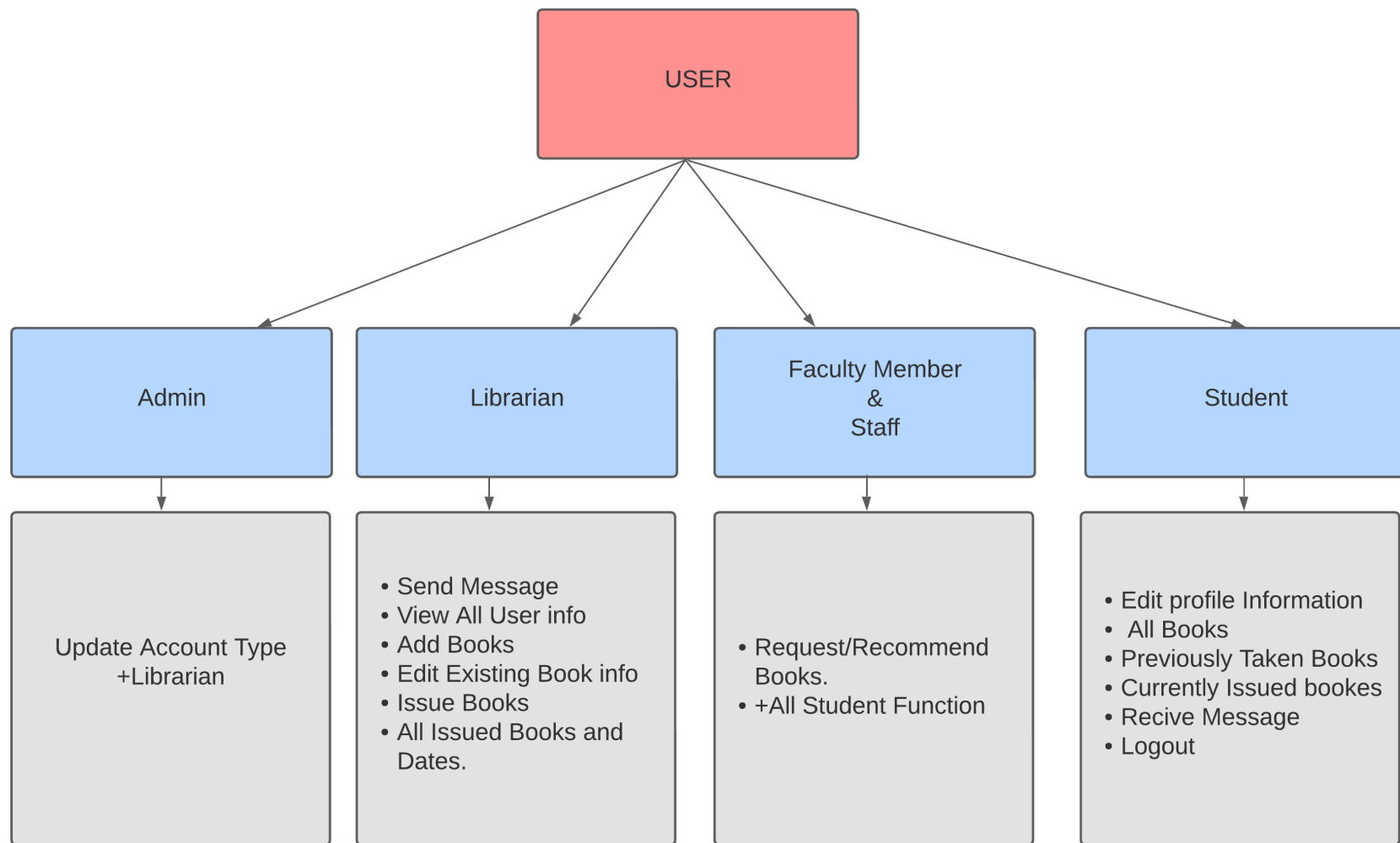- UDEMY HTML5 & CSS3 Create a Website in HTML CSS AND PHP.

Book:

- Database System Concepts. [ISBN 9780078022159]
- PHP, MySQL, & JavaScript All-in-One for Dummies.
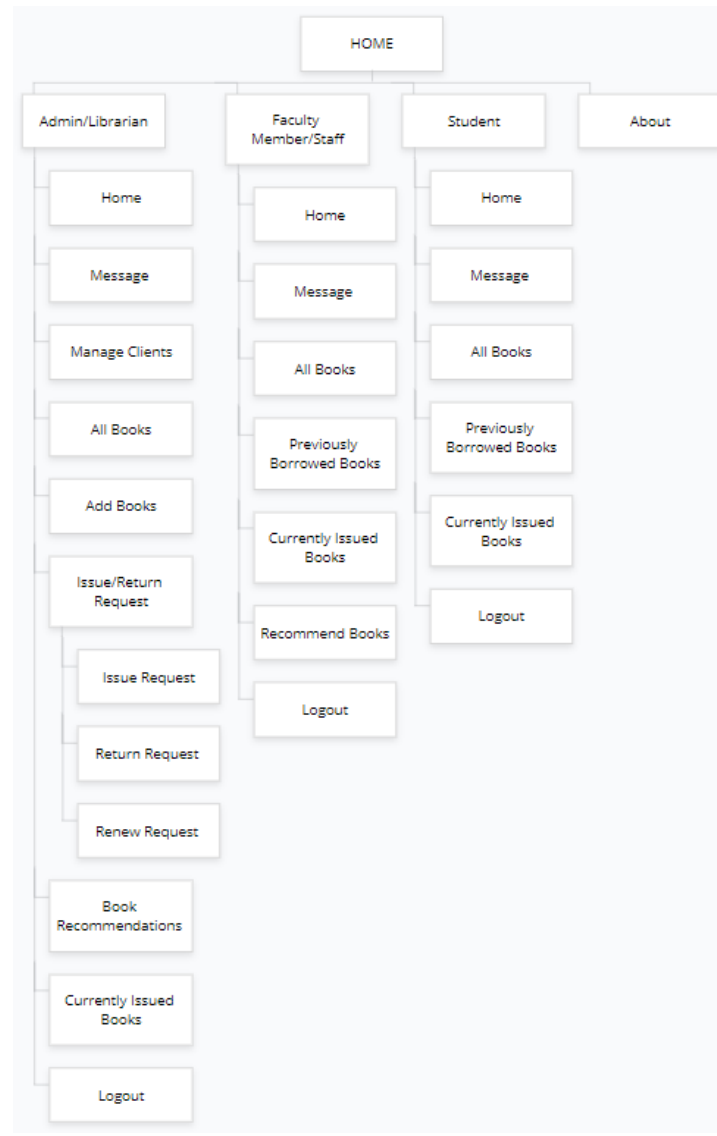
Technologies:

- Bootstrap (V2.2.2)
- CSS
- PHP
- HTML.
- JQuery (V1.9.1)
- SQL
- XAMPP (Local Hosting)

## Project Design

## User Types (their roles and features):

```
                          ┌─────────────────┐
                          │      USER       │
                          └────────┬────────┘
        ┌──────────────────┬───────┴───────┬──────────────────┐
        ▼                  ▼               ▼                  ▼
┌───────────────┐  ┌───────────────┐  ┌───────────────┐  ┌───────────────┐
│     Admin     │  │   Librarian   │  │ Faculty Member│  │    Student    │
│               │  │               │  │       &       │  │               │
│               │  │               │  │     Staff     │  │               │
└───────┬───────┘  └───────┬───────┘  └───────┬───────┘  └───────┬───────┘
        ▼                  ▼                  ▼                  ▼
```

| Admin | Librarian | Faculty Member & Staff | Student |
|---|---|---|---|
| Update Account Type +Librarian | • Send Message<br>• View All User info<br>• Add Books<br>• Edit Existing Book info<br>• Issue Books<br>• All Issued Books and Dates. | • Request/Recommend Books.<br>• +All Student Function | • Edit profile Information<br>•  All Books<br>• Previously Taken Books<br>• Currently Issued bookes<br>• Recive Message<br>• Logout |

## Sitemap:



**HOME**

**Admin/Librarian**
- Home
- Message
- Manage Clients
- All Books
- Add Books
- Issue/Return Request
  - Issue Request
  - Return Request
  - Renew Request
- Book Recommendations
- Currently Issued Books
- Logout

**Faculty Member/Staff**
- Home
- Message
- All Books
- Previously Borrowed Books
- Currently Issued Books
- Recommend Books
- Logout

**Student**
- Home
- Message
- All Books
- Previously Borrowed Books
- Currently Issued Books
- Logout

**About**

## Database Design:

**Please look In Database folder:**

| | | | | |
|---|---|---|---|---|
| 1. Control Flow.pdf | 2. ERD.pdf | 3. Relational Table.pdf | 4. DATA TABLE DESCRIPTION.pdf | LMS.sql |

# Conclusion:

We created a database that a library can use for keeping track on its user and books. Users are divided into Librarians, Students and Faculty Members/Staffs. Librarians process and maintain the users and books.

In our case we have created the database according to the basic requirements of an online library management system.

Although we have created this database according basic requirements of an online library management system, the model can also be adapted to meet other purposes and thus be used for other projects. The database structure is quite simple, which makes it easy for also other programmers to understand it.

During our database management course, we have learned about the basics of database design. This project gave us the opportunity to try our new skills in practice. While doing this project we also gained deeper understanding on database design and how it can be implemented in real life situations. We believe we can use our database designing skills also in other school projects.

## Contributions:

**Nafiz Haider Chowdhury – 1721587642**

- Entire Front-End Design (Using Bootstrap & CSS)
- Database Design
- QUERY Creation

**Sabbir Hossain – 173190042**

- Database Design
- QUERY Creation