

Metadata

1.1. Project Information to be filled by the student

Title: HU Library Management System	
Section: L5	Instructor: Dr Umer Tariq

1.2. Student(s) Information

Name: Asim Ali Khan	ID: ak06041
Section: L5	Batch: 2023

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Section: L5	Batch: 2024

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Section: L5	Batch: 2023

Project Description: *Please provide a brief introduction of the project including its scope.*

HU Library Management System

The Library Management System project aims to create an intuitive and efficient platform for managing library resources and facilitating room bookings within the library. The system focuses on automating book borrowing processes and simplifying the reservation of discussion rooms, ultimately enhancing the overall library experience for both staff and students.

This project primarily involves the development of essential features such as book cataloging, user authentication, book issuance, room reservation, and fine management ensuring a hassle-free experience for users without delving into complex data analytics or loan management.

Functional Requirements and Test Cases

This section describes each function/feature provided by your system. These functions are logically grouped into modules based on their purposes. The users in your system must be categorized such as client, customer or administrator, etc. These users will be accessing the database with the level of access that they are authorized with.

Sample Functional Requirements:

The users are categorized as administrators, librarians, and users (students and staff), each with specific access levels and functionalities within the system.

Module 1: User login

The system allows users to log in to an account as a regular student, or an admin.

Function 1: login as a Student

- The login page prompts the student to enter their details: Email, and Password.
- Upon submission, the system verifies the account as a student account and lets them access the homepage.

Function 2: login as an Admin

- The login page prompts the admin to enter their details: Email, and Password.
- Upon submission, the system verifies the account as an admin account.
- The admin lands on the page that has access to edit variables for book issuance, room issuance, fine management, and user management for both students and staff.

Test cases for Module 1:

- Email or password left empty will make a dialog box appear saying "The username or password is incorrect"
- Email and password entered but incorrect will make a dialog box appear saying "The username or password is incorrect"
- Admin email entered with the right password will take us to the Admin Panel
- Student email entered with the right password will take us to the decision screen to decide whether to issue a book or a room.

Module 2: Student Interaction

Function 1: Book Search

- Students can search for books based on title, author, or category and request book issuance.

Test Cases for Function1:

-Students have to enter all fields for the result.

-Incorrect fields give us no book.

-Just like this, students can enter either combinations of title and author name which would give us the exact specific book of the author and having the title.

-Combination of title and category would return the book with the given title and category. It won't return anything if the category is not right.

-Error if the combination is wrong.

Function 2: Book Issuance

-Students can borrow books. Brings us to Book Issued Screen.

Function 3: Discussion Room Booking

-Students can view available discussion rooms and their capacity and make reservations in the widget box.

Test Cases for Function 4:

-Blank Room ID and number will display all rooms available.

-Incorrect Room ID and number will display error

-If only ID is typed or only number is typed and it is correct, it will display an error.

-If the Room ID and number do not match, no rooms will be displayed/ error will be displayed.

Function 5: Account History/contact admin

-Students can land on the contact page and check their status for the account hold. They can submit the fine to the admin if they want to get the hold removed, and in facilitating that process, we have provided the email address of the admin. Hitting submit just brings us back to the decision screen.

Module 3: Admin Management System

The admin lands on the page that has access to edit variables for book issuance, fine management, and but not limited to user management for both students and staff.

Function 1: Check book catalog and issuance

The admin can check what books are issued to what students and what books are available.

Function 2: Check room availability and issuance

The admin can check what books are issued to what students and what books are available.

Function 3: User Management System

The admin can remove a hold of any user account from the system.

-The admin can select from table of students having hold to remove it.

Module 4: Enhancements and Future Implementations

Function 1: User-Friendly Interface:

Ensure that the system has a good-looking, intuitive, and user-friendly interface for both library staff and patrons.

Function 2: Protecting User Data:

Encrypting of user data such as user credentials and admin authority control.

Test Cases for Module 4:

When a user enters their password, the letters are not shown. “.” is shown instead.