

Project Report: Library Management System

1. Introduction

The Library Management System is a software application designed to manage and automate the operations of a library. This project aims to provide a user-friendly interface for managing books, borrowers, and borrowing activities in a library. The system allows librarians, faculty members, and students to perform various tasks such as book registration, book borrowing, fines calculation, and more.

2. Features

2.1 Login and Signup Functionality

- The system provides a login page where users can enter their credentials to access the system.
- Users can sign up as students, faculty members, or librarians to create their accounts.

2.2 Book Registration

- Library staff can register new books by entering details such as title, author, genre, and publication year.
- Each book is assigned a unique identifier (ISBN) for easy identification and retrieval.

2.3 Book Borrowing and Returning

- Members can borrow books by entering the book's identifier (ISBN) and their employee ID or roll number.
- Students are allowed to borrow a maximum of 2 books for a duration of 2 weeks.
- Faculty members can borrow a maximum of 4 books for a duration of 1 month.

2.4 Fines and Payments

- Fines are calculated for late submission of borrowed books at a rate of 50 Rs per day.
- The fine amount will not increase after 7 days.
- Members can make payments to clear their fines.

3. Implementation

3.1 Technology Stack

- Frontend: Tkinter (Python GUI Library)
- Backend: MySQL (Relational Database Management System)
- Programming Language: Python

3.2 Database Schema

- The system uses a MySQL database to store and manage the library data.
- The database schema includes tables such as users, books, borrowings, fines, etc.

4. Conclusion

The Library Management System project provides an efficient and user-friendly solution for managing library operations. It automates tasks such as book registration, borrowing, fines calculation, and more, reducing manual effort and improving overall efficiency. The system offers a seamless experience for both library staff and members, ensuring smooth library operations.

5. Future Enhancements

- Integration with external systems for online book reservations and renewals.
- Implementing a notification system to remind members about approaching due dates and fines.
- Generating reports and analytics to track book usage, member activity, and fines.

6. Acknowledgments

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