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Library Management System

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Keywords - Library Management System (LMS), Database, Relational Table, Use Case, Books, Librarians, Student.

1 INTRODUCTION

Running a library isn't as easy as it sounds. Libraries are constantly changing and evolving to keep up with the times and provide their patrons with the best possible experience. Librarians are responsible for a lot of tasks to keep everything running smoothly. They have to keep up with technology to be efficient. They need a better way of organizing their data so they can make more informed decisions that will benefit their organization as well as the patrons they serve.

Following this, the Library Management System has become an essential tool for public libraries, school libraries, and college libraries. The Library management system helps librarians manage, maintain, and monitor the library. Some benefits can be addressed:

- LMS helps With multitasking
- It makes the library cost-effective
- It eliminates/reduces errors in data management

- Provides easy accessibility
- Saves library from hacking threats

2 PROJECT SCOPE

In this project, you have to make a standard library management system application that helps librarians to maintain all the corresponding tasks that occur in real-life libraries. To make this application you might need to use a database to store data regarding the books and users (different user types). For instance, you may drop the idea of creating a complete management system that involves the management of books, staff, utility checks of the library and etc., and create a management system that serves the main idea of how a library system works in terms of borrowing a book. The following talks about the functionalities of the user categories:

2.1 There will be two use-cases:

1. Librarian
2. User/Student

2.2 Functions of Librarian:

1. Librarians can add books.
2. Librarians can add users.
3. Librarians can view users.
4. Librarians can view books.
5. Librarians can view issued books.
6. Librarians can view returned books.
7. Librarians can issue books for users.
8. Librarians can make entries of the return books of the users.

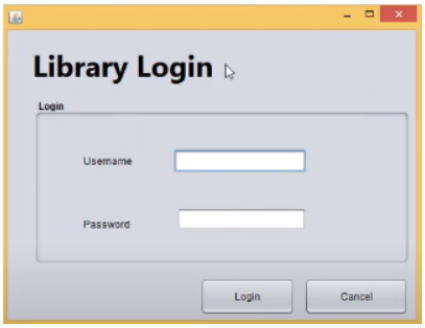
2.3 Functions of User/Student:

1. Users can check or view available books in the library
2. Users can check or view his/her issued books.

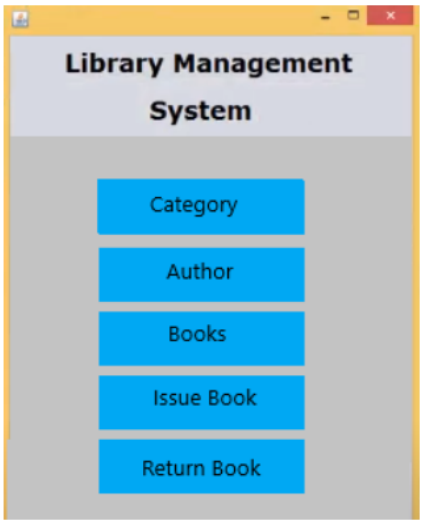
3 Project Requirements

1. IDE: Eclipse [1]/IntelliJ[3]/Visual Studio Code [4] or any of your choice.
2. Java and Oracle database[2]/MySQL[5] should be installed on the machine.
3. Java GUI

Fig. 2 & Fig. 3 show a simple GUI aspect of the application.



(a) login window



(b) user screen based on user type

Figure 2: Library Management Sytem

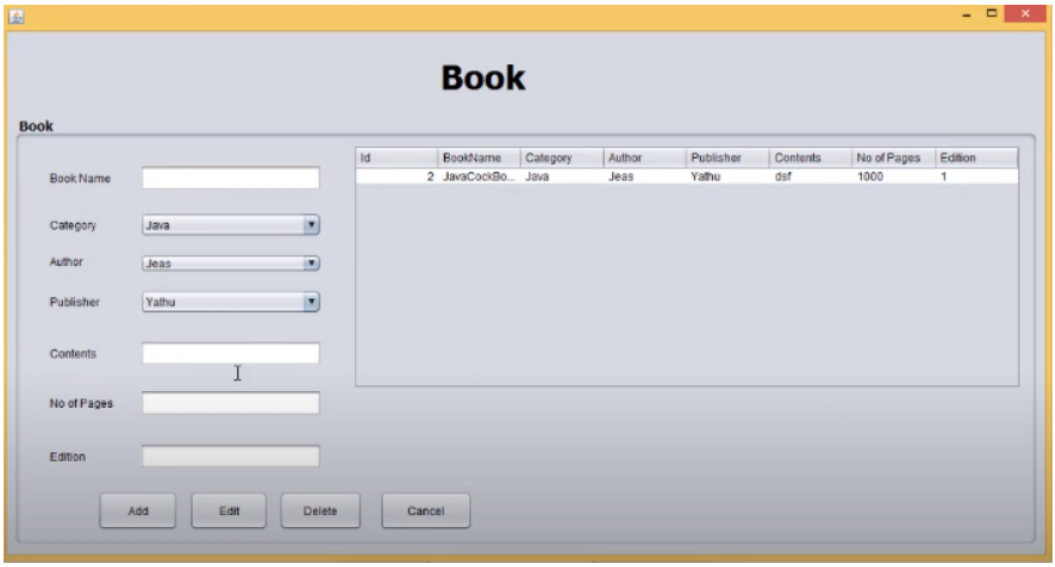


Figure 3: managing books

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