College Library

Management System

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Design a College Library Management System

**Introduction**

A College Library Management System is a software built to perform housekeeping functions of a library. Library management system helps libraries to keep track of books and their checkouts as well as the member’s profile.

Library management system also involve maintaining a database for entering new books and users. It also storing the books that have been borrowed with their respective due date, fine and book limit.

**High Level Design**

**System Requirements**

* Any library member should be able to search books by their title, author, and category with a keyword
* Each book will have unique identification number and there could be more than one copy of a book
* Each member will have unique id and password to login
* Members are categorized based on their role (student, librarian, admin)
* Students can only search for a book and access their account details (books they borrowed with due date, fine and status)
* Members can checkout maximum limit of 3 books
* There should be a maximum limit (15) days a member can keep a book.
* The System should be able to keep track of fine, due date and book limit.
* For each overdue date Rs.10 will be added in fine.
* When a member checked out a book, no of copies will be deducted
* Librarian can issue book, add, delete, and update book details, view issued books and books list.
* Admins have all the access including adding new member, updating, and deleting the member profile

**Proposed System:**

* The proposed system includes the following features:
* User-friendly interface
* Fast access to the database
* Search facility
* Quick transactions
* Database maintenance for user and book details
* Librarians can perform all book-related operations
* Admin has full access, including member registration and cancellation

**Modules**

The system consists of the following modules:

* **Admin Module:** Operated by the admin with a unique ID and password. The admin manages authentication, authorization, and can assign new admins, librarians, and students.
* **Librarian Module:** Used by library staff to enter records, manage book-related activities, and check book availability.
* **Student Login Module:** Allows students to search the catalog and view their account details.

**Hardware and Software Specifications:**

**Hardware:**

* Processor:
* Hard Disk Space:
* RAM:

**Software:**

* Operating System:
* Browsers: All industry-standard browsers
* Front-End: HTML, CSS, JavaScript, JSP
* Back-End: Java, Spring MVC, Spring Data JPA
* IDE: Spring Suite Tool, Eclipse with Spring Tool Plugin
* Database: MySQL

**Actors in the system**

We have 4 main Actors in this system

* **Student:** Search the catalog and view their account details
* **Librarian:** Mainly responsible for issuing, adding, and modifying books
* **Admin:** has all the access including adding new member, deleting, modifying existing member
* **System:** Mainly responsible for keep track of due date, fine, book limit, status of a book

**System Architecture of Library management system**

A picture containing text, diagram, plan, schematic

Description automatically generated