

# **Library management System**

## **Problem Statement**

The library management system is a software application designed to streamline the management of a library's resources, including books, journals, and other materials. The system will provide librarians with an easy-to-use interface to manage library items, track inventory, and process transactions. The primary goal of the library management system is to improve the efficiency and effectiveness of library operations by automating the manual tasks and providing real-time access to data. Additionally, the system aims to enhance the user experience by providing online services such as online catalog search, online reservations, and renewals, and the ability to pay library fees online. The system will be scalable, secure, and easy to use for librarians and patrons alike.

## **Software Requirement Specification(SRS)**

### 1.Introduction:

The software application that we will develop is a library management system designed to automate and manage library operations effectively. The system will be developed using Java programming language and deployed on a web server. The system will have a user-friendly interface and will be accessible through web browsers.

### 2.General Description:

The library management system will be designed to enable librarians to manage library resources efficiently, such as books, journals, and audio-visual materials. The system will allow librarians to manage the circulation of materials, track borrowing and returning of items, and manage user information, such as student or faculty member details. The system will also have an online catalog, enabling library patrons to search for materials, reserve items, and manage their accounts.

### 3.Functional Requirements:

### 3.1 Catalog Management:

- The system should allow librarians to add, edit, and delete materials, such as books, journals, and audio-visual materials.
- The system should allow librarians to manage item information, such as title, author, publisher, and ISBN.

### 3.2 Circulation Management:

- The system should allow librarians to manage the circulation of materials, track borrowing and returning of items, and manage user information, such as student or faculty member details.
- The system should provide an option to reserve items, renew loans, and pay fines online.

### 3.3 User Management:

- The system should allow librarians to manage user accounts securely.
- The system should provide different user roles, such as administrators and regular users, with different access levels.

### 3.4 Reporting:

The system should allow librarians to generate reports on circulation, inventory, and usage.

### 4. Interface Requirements:

- The user interface should be designed to be intuitive and user-friendly.
- The interface should have different sections for different functionalities, such as catalog management, circulation management, and user management.

### 5. Performance :

- The system should be able to handle multiple transactions simultaneously.
- The system response time should be less than 2 seconds.

## 6.Design Constraints:

- The system will be developed using Java programming language.
- The system will be deployed on a web server, and the front-end will be developed using HTML, CSS, and JavaScript.
- The system will use a MySQL database to store data.

## 7.Non-Functional Attributes:

### 7.1. Security:

- The system should use HTTPS protocol to secure data transmission.
- The system should have user authentication and authorization to ensure that only authorized users can access the system.

### 7.2. Usability:

- The system should be accessible through web browsers on multiple devices, including desktops, laptops, and mobile phones.
- The system should provide online help and documentation to assist users.

### 7.3. Reliability:

The system should have backup and restore capabilities to ensure data availability in case of system failure or data loss.

## 8.Preliminary Schedule and Budget:

- The development of the library management system is expected to take approximately 6 months.
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- The estimated budget for the project is RS.75,000, including development costs, hardware, and software.