Problem statement and SRS for library management system

**Problem Statement:**

Libraries are important educational and cultural institutions that play a significant role in our society. Managing library operations can be a complex task due to the large volume of resources and the need to ensure that the library materials are organized, available, and secure for users. With the growing demand for online library resources and digital media, it has become increasingly important for libraries to have an efficient library management system that can handle these tasks.

A library management system (LMS) is a software application designed to manage and automate library operations, including cataloging, circulation, acquisitions, and serials management. The system should be easy to use, secure, and provide the library staff with a wide range of features and functionalities to ensure efficient management of library resources.

**Software Requirements Specification (SRS):**

**Introduction:**

The library management system is a software application that will allow library staff to manage and automate library operations. The system will provide features such as cataloging, circulation, acquisitions, and serials management. The system will be accessible through a web interface, and it will be designed to be user-friendly and secure.

**Functional Requirements:**

The following are the functional requirements of the library management system:

The system should allow users to search for resources using various search criteria, such as author, title, and keyword.

The system should allow users to borrow and return items.

The system should allow library staff to catalog resources, including books, magazines, and audiovisual materials.

The system should allow library staff to manage acquisitions, including the ordering and receiving of resources.

The system should allow library staff to manage serials, including subscriptions and circulation.

The system should provide reports on library activities, such as circulation, acquisitions, and cataloging.

**Non-functional Requirements:**

The following are the non-functional requirements of the library management system:

The system should be accessible through a web interface.

The system should be designed to be user-friendly and easy to navigate.

The system should be secure, with appropriate access controls to ensure that only authorized personnel can access the system.

The system should be scalable, with the ability to handle large volumes of resources and users.

The system should be reliable, with a minimum uptime of 99%.

The system should be compatible with different browsers and operating systems.

**Performance Requirements:**

The following are the performance requirements of the library management system:

The system should be able to handle a minimum of 100 concurrent users.

The system should be able to perform searches and transactions within 5 seconds.

The system should be able to handle a minimum of 10,000 resources.

**System Design:**

The system will be designed using a three-tier architecture, with a presentation layer, application layer, and database layer. The presentation layer will be a web interface accessible through different browsers. The application layer will be responsible for implementing the business logic of the system. The database layer will store all data related to the library resources and user accounts.

**User Interface Design:**

The user interface will be designed to be user-friendly and easy to navigate. The interface will include features such as search filters, borrowing and returning resources, and managing user accounts.

**Conclusion:**

The library management system will provide an efficient and user-friendly way for library staff to manage and automate library operations. The system will include features such as cataloging, circulation, acquisitions, and serials management. The system will be accessible through a web interface and will be designed to be secure, scalable, and reliable.