# **Software Requirement Specification(SRS)**

## **PROBLEM STATEMENT:**

The current library management system is inconvenient for library members. The process of borrowing and returning books is time-consuming, and they have to wait in long queues to access library services. Members have to manually register their details and renew their membership, which takes a lot of time. The current system also lacks transparency, making it difficult for members to know the status of their borrowing activities, fines, and due dates. Members have to physically visit the library to access books, which is inconvenient for those who have busy schedules.

# **Introduction**:

## **Purpose of this Document:** The purpose of this document is to outline the software requirements for the development of a Library Management System. This document serves as a reference guide for developers, testers, and stakeholders to ensure that the system is designed and developed according to the requirements and expectations of the stakeholders.

## **Scope of this document** – This document outlines the requirements for the Library Management System, including its objectives, features, benefits, and the constraints that may impact its development. It also includes a description of the development cost and time required for the system's development.

## **Overview** – The Library Management System is a software system that is designed to automate the processes involved in managing a library. The system will provide an efficient way to manage books, library members, borrowings, and returns. It will also provide various reports and statistics on the library's activities.

# **General description:** The Library Management System will serve the following objectives:

* Automating the book management process, including book cataloging, circulation, and inventory management.
* Providing an efficient way to manage library members, including member registration, member records management, and member activities tracking.
* Providing a user-friendly interface for library staff and members to interact with the system.
* Providing reports and statistics on library activities for informed decision-making.
* Ensuring the security and integrity of library data
* The system will be used by library staff, librarians, and library members. The user community includes all members who interact with the system.

# **Functional Requirements:** The system will be used by library staff, librarians, and library members. The user community includes all members who interact with the system.

1. Book Management

* Book cataloging
* Book circulation management
* Book inventory management
* Book reservation management
* Book overdue management

1. Member Management

* Member registration
* Member records management
* Member activities tracking
* Member privileges management

1. User Interface

* User-friendly interface design
* Easy navigation
* Multi-language support
* Responsive design for various devices

1. Reporting

* Statistical reporting of library activities
* Customizable reports generation
* Reports export in various formats

# **Interface Requirements:**The Library Management System will communicate with users and other systems through the following interfaces:

1. Web interface

* Browser-based access to the system
* User login and authentication
* Session management

1. Application Programming Interface (API)

* Integration with external systems
* Data exchange between the Library Management System and other systems

# **Performance Requirements:**The Library Management System is expected to perform the following functions efficiently and effectively:

* Book management functions must complete in less than 3 seconds.
* The system must support at least 100 concurrent users.
* The system must be available 24/7 with a downtime of no more than 5 minutes per month.

# **Design Constraints:** The Library Management System will be developed using the following constraints:

* The system must be developed using Java programming language.
* The system must use the MySQL database.
* The system must be developed using the Spring Framework.
* The system must be developed using a responsive design approach.

# **Non-Functional Attributes:** The Library Management System must meet the following non-functional attributes:

* Security - The system must have robust security measures to protect user data and prevent unauthorized access.
* Portability - The system must be portable to various devices and platforms.
* Reliability - The system must be reliable, with a high level of availability and minimal downtime.
* Reusability - The system must be modular and reusable, with components that can be used in other applications.
* Application compatibility - The system must be compatible with other systems and applications.
* Data Integrity - The system must ensure the accuracy, completeness, and consistency of the data stored in the system.
* Scalability capacity - The system must be able to handle increasing volumes of data and users as the library grows.

# **Preliminary Schedule and Budget:** The development of the Library Management System is expected to take 6 months and the development team will consist of 5 developers and 1 project manager. The estimated cost of the project is 5000000 rupees, which includes salaries, software and hardware expenses, and other project-related expenses.