

Library Management System Requirement Document

1. Preface / Introduction

1.1. Overview of the Library Management System

- 1.1.1. The Library Management System (referred to as “the system”) is designed to simplify and enhance the management of library operations. It is intended to assist library managers, in efficiently managing the library’s collection, handling book borrowings, and interacting with external suppliers and libraries.

1.2. Purpose - The system aims to achieve the following objectives:

- 1.2.1. Simplify the process of managing a diverse collection of books.
- 1.2.2. Enables remote access and secure browsing for library customers.
- 1.2.3. Provide borrowing capabilities for books loan management.
- 1.2.4. Enables efficient tracking and communication of book borrowings and returns.
- 1.2.5. Support inter-library book loans and supplier management.

2. Key Features and Functionality - Functional Requirements

2.1. Book Management

- 2.1.1. When a manager adds a book to the system, the system shall require the following information: Title, Author's name, Publication year, Category (e.g., reference, textbook, reading book, children's book), Brief description, Number of available copies, Publisher's details, and Book's genre.
- 2.1.2. The system shall validate the provided information for completeness and correctness before accepting the book entry.
- 2.1.3. The system shall provide an option for library management to mark a book as rare.
- 2.1.4. For rare books, the system shall implement a special borrowing management process, which includes different handling rules and conditions compared to regular books.

2.2. Customer Access and Registration

- 2.2.1. Customers of the library will be able to register to the system by providing their details.
- 2.2.2. Customers must be able to browse the book catalog securely after registration.

2.3. Book Borrowing and Return

- 2.3.1. The system must be able to integrate with an external software system for handling book borrowings.
- 2.3.2. The system must be able to integrate with an external software system for handling e-mails.
- 2.3.3. A registered customer can borrow any book provided that it is available remotely through the system.
- 2.3.4. After borrowing a book, a reminder must be sent to the customer’s email address using the external email system.
- 2.3.5. Customers must be able to cancel their borrowings at any time.

2.3.6. Upon return, the system must record the return, ensuring the book is unavailable for borrowing until the return is properly registered.

2.4. Book Borrowing Tracking and Notifications

2.4.1. The system must allow real-time tracking of book borrowing status.

2.4.2. The system must facilitate sending email notifications to customers regarding updates and reminders about return dates.

2.5. Cross Libraries Book Loans

2.5.1. The system must support the registration of participating libraries and manage book loans between libraries.

2.5.2. Each library must be able to borrow and return books to other libraries according to agreed conditions.

2.5.3. The system must allow tracking of books borrowed from and to other libraries.

2.6. Supplier Management

2.6.1. The system must enable the management of external book suppliers, including: Supplier's name, Contact details

2.6.2. The system must allow the entry of data about books received from suppliers.

3. Non-Functional Requirements

3.1. User Interface

3.1.1. The system should feature a simple, user-friendly interface to ensure ease of operation.

3.2. Performance

3.2.1. The system must provide fast, responsive access to book information and customer records.

3.2.2. It should handle simultaneous access by multiple users without significant performance degradation.

3.3. Security

3.3.1. The system must ensure secure transmission of customer data and book information.

3.3.2. It should protect against unauthorized access and data breaches.

3.4. Integration

3.4.1. The system must integrate seamlessly with external borrowing and email systems.

3.4.2. It should support the integration with multiple external systems for managing book loans and supplier interactions.

4. System Evolution (Anticipated Future Changes)

4.1. Mobile Application Development

4.1.1. Development of a mobile app for improved access and management.

4.2. Enhanced Integration

4.2.1. Integration with additional external systems, such as online cataloging services or advanced supplier management tools.

4.3. Advanced Reporting

- 4.3.1. Implementation of detailed reporting and analytics features for tracking book borrowings, supplier interactions, and library performance.

4.4. Internationalization

- 4.4.1. Support for multiple languages and localization of currency and date/time formats.

4.5. Scalability

- 4.5.1. Infrastructure enhancements to accommodate growing user loads and expanding library collections.

4.6. User Feedback

- 4.6.1. Mechanisms for collecting user feedback and implementing iterative improvements based on input.