# SOFTWARE REQUIREMENTS SPECIFICATION

CONTENT

## 1. Introduction

### *1.1. Product Purpose and Overview*

The purpose of this document is to describe and define the system, functional, and non-functional requirements for the development of a library management system.

This site facilitates the workflow for library staff and readers. Using this system, the librarian has the opportunity to monitor his assets, and the reader can conveniently view which books are in the library

### *1.2. Audience suggestions*

This document is intended for users, developers, testers, and documentation writers, each of whom has their own needs and uses for this site.

## 2. General description

### *2.1. Product outlook*

As already mentioned, the development of the library management system is a site that will provide an opportunity to structure large volumes of books and help users search for books. Currently, there are not many such applications, since libraries in Ukraine have not yet been digitized. So, the prospects for this product may be good.

### *2.2. Features of the product*

Below is a brief description of the site's features:

- User registration
- Adding a book (title, cover photo, author and Dewey index.)
- Displaying information about books that are available in the library
- Display of library assets
- Display of branch data
- Book rental

### *2.3. User types system*

This program is intended for use by two classes of users:

- A library employee who can add a book to assets, also search for a particular book and view reader lists. This requires basic knowledge of text markup and everyday computer use.

• Readers can register on the site, view materials and rent a book. This requires basic computer skills.

### *2.4. Working environment*

• This project will be developed on the basis of the Windows 10 x64 processor. It can also be used on other operating systems.

• No memory requirements

• Computers must be equipped with web browsers such as Google Chrome.

### *2.5. Limitation*

The development of the library management system is not a resource system and will work on every computer. Its functions and features are non-computational. It does not require a powerful processor or graphics card or a lot of RAM.

## 3. Non-functional requirements

### *3.1. Usability*

The application should have an intuitive, user-friendly interface that is easy to navigate and requires minimal training.

### *3.2. Compatibility*

The application should be compatible with a wide range of devices and browsers, including desktops, laptops, tablets, and smartphones, running on different operating systems. A functional standard keyboard and mouse is required.

### *3.3. Performance*

The application should be responsive and perform efficiently even during peak usage times, with load times of no more than 2 seconds for any page or action.

### *3.4. Security*

The application should be secure against unauthorized access, data breaches, and other forms of cyber attacks. It should use industry-standard encryption protocols and have a robust authentication and authorization system.

### 3.5. *Compliance*

The application should comply with relevant laws and regulations, such as data protection laws and copyright laws.

### 3.6. *Data backup and recovery*

The application should have a reliable and secure data backup and recovery mechanism to ensure that all data is protected and can be recovered in the event of a disaster or system failure.

### 3.7. *Maintainability*

The application should be easy to maintain and update, with clear documentation and well-structured code that adheres to best practices and coding standards.

## 4. Functional requirements

### 4.1. *Catalog Management*

The program should allow librarians to create and maintain a comprehensive catalog of all the books, journals, and other materials available in the library.

### 4.2. *User Management*

The program should allow librarians to manage user accounts, including registering new users, updating user information, and tracking borrowing and return activity.

### 4.3. *Check-in and Check-out*

The program should allow librarians to check out and check in books, and other materials. This should include tracking the due date for each item and notifying the user when an item is overdue.

### 4.4. *Reservation Management*

The program should allow users to reserve materials that are currently checked out, and librarians should be able to manage the reservation queue.

### 4.5. *Fine Management*

The program should be able to calculate and track fines for overdue items, and the librarian should be able to manage payment and waive fines if necessary.

### *4.6. Reporting*

The program should generate reports on the library's collection, user activity, and other metrics that can help administrators make informed decisions about the library's operations.

## 5. Use cases

1) User logs in to their account
2) User search the library's database by book title, author, or keyword
3) User views a list of books by a specific author
4) User views a list of all books in the library
5) User checks out a book
6) User returns a book
7) User renews a book loan
8) User reserves a book
9) User cancels a book reservation
10) User views their checkout history
11) User views their book loan status
12) User views their book reservation status
13) User adds a book to their "to read" list
14) User removes a book from their "to read" list
15) User marks a book as lost
16) User pays for a lost book
17) User gives feedback on a book
18) User receive notifications when a book is overdue for return
19) User rate books and leave reviews
20) User read book reviews and ratings
21) User view library event calendar
22) User register for library events
23) User donates books to the library

24) User updates their personal information

25) User check list of recommendations from librarians

26) Librarian adds a new book to the library

27) Librarian removes a book from the library

28) Librarian updates book details (e.g. author, genre, publication date) in the library's database

29) Librarian recommends books to users

30) Librarian views user checkout history

31) Librarian views book loan status

32) Librarian views book reservation status

33) Librarian approves a user's book reservation

34) Librarian view a list of all reserved books

35) Librarian assign categories and tags to books

36) Librarian mark books as lost or damaged

37) Librarian create and manage library events

38) Librarian manage book donations

39) Librarian sends a notification to a user

40) Librarian adds a new user account

41) Librarian deactivates a user account

42) Librarian views a list of all user accounts

43) Librarian set a due date for a book that is checked out by a library member

44) Librarian views a report of library activity over a specific time period

45) Librarian generate a report of all overdue books

46) Librarian generate a report of the library's most popular books

47) Librarian generate a report of the library's least popular books

48) Librarian generate a report of the library's most active library members

49) Librarian generate a report of the library's least active library members

50) Filter search results by genre, publication date, or availability