2022 Cyber Group - 2

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Software Requirements Specification [SRS] Document

Library Management System

Creating a Software Requirements Specification (SRS) document for a library management app involves detailing the functionality, features, and constraints of the system.

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1. Introduction:

1.1 Purpose:

The objective of this document is to outline the necessary requirements for the development of a Library Management Application. The purpose of the application is to facilitate and manage library operations, including the cataloging, categorization, and tracking of books.

1.2 Scope:

With the Library Management Application, you can effortlessly manage books, users, and transactions within your library. This powerful tool streamlines book tracking, user management, and reporting, making your job easier and your library more efficient. Say goodbye to tedious administrative tasks and hello to a more organized and productive library experience.

1.3 Definitions, Acronyms and Abbreviations:

Customer/ User: A user of the system who reads and pays for a book.

Administrator: A user of the system who manages books inventory and transactions.

LMS: Library Management System

SRS: Software Requirements Specification

1.4 References:

Gives a brief note about the list of any references that were used in creating the SRS, such as technical reports or design documents.

IEEE Std 830-2019: IEEE Recommended Practice for Software Requirements Specifications

2. General Description:

2.1 Product Perspective:

The Library Management App will allow the librarians to manage book inventory, handle user registrations.

The library management system will provide a web-based interface that can be accessed by users and administrators.

2.2 Product Functions:

Describes the major functions or capabilities of the system.

->Book cataloging and categorization.

->User registration and management.

-> Check-in and check-out functionality.

->Reservation and renewal of books.

->Reporting and analytics.

2.3 User Characteristics:

Customers: Customers/Users will be the individuals who want a book from Library. Thay will be able to use the system with the basic computer skills and internet access.

Administrators: Administrators manage the books and transactions. They need to have the administrative privileges and gives instructions about how to use the system.

2.4 Assumptions and Dependencies:

Describe the environment in which the software will operate, including the hardware platform, operating system and versions, and any other software components or applications with which it must peacefully coexist.

Availability of necessary hardware infrastructure.Database management system for data storage.

3. Specific Requirements:

System Features:

3.1 Book Management:

- Add, edit, and delete books with details such as title, author, ISBN, and genre.

- Track book availability, location, and status (e.g., available, checked out, reserved).

- Categorize books based on genres, authors, and other relevant criteria.

3.2 User Management:

- User registration and profile management.

- Differentiate between librarian and regular user roles.

- Track user borrowing history.

3.3 Check-in and Check-out:

- Facilitate the borrowing and returning of books.

- Automatically update book availability status.

- Handle overdue fines and notifications.

3.4 Reservation and Renewal:

- Allow users to reserve books that are currently checked out.

- Enable users to renew their borrowed books if no reservations exist.

3.5 Reporting and Analytics:

- Generate reports on book usage, popularity, and overdue items.

- Provide analytics to optimize library operations.

4. External Interface Requirements:

4.1 User Interfaces:

-> Intuitive GUI for librarians and users.

-> Mobile responsiveness for on-the-go access.

4.2 Hardware Interfaces:

-> Compatible with standard hardware configurations.

-> Barcode scanners for efficient book check-in and check-out.

4.3 Software Interfaces:

-> Integration with a database for storing book and user information.

5. Other Non-Functional Requirements:

5.1 Performance Requirements:

- *Ability to handle concurrent user access.*
- *Fast response times for searches and other operations.*
- *Scalability to accommodate future growth.*

5.2 Logical Database Requirements:

Database for LMS application depends on various factors such as complexity of data relationships and performance requirements.

NoSQL Databases:

a. *MongoDB Atlas*

5.3 Legal and Compliance Requirements:

-> Compliance with data protection regulations.

-> Support for ISBN standards.

5.4 Documentation:

-> User manuals for librarians and users.

-> Record of changes made to the document.

5.5 Performance and Reliability:

-> Response time: Within 3 seconds for any action.

-> System availability: 99% uptime.

5.6 Security:

-> User authentication and authorization.

-> Data encryption during transmission.

6. Other Requirements:

Define any other requirements not covered elsewhere in the SRS. This might include database requirements, internationalization requirements, legal requirements, reuse objectives for the project, and so on. Add any new sections that are pertinent to the project.

Appendix A: Glossary

Define all the terms necessary to properly interpret the SRS, including acronyms and abbreviations. You may wish to build a separate glossary that spans multiple projects or the entire organization, and just include terms specific to a single project in each SRS.

Appendix B: Analysis Models

Optionally, include any pertinent analysis models, such as data flow diagrams, class diagrams, state-transition diagrams, or entity-relationship diagrams.

Appendix C: Issues List

This is a dynamic list of the open requirements issues that remain to be resolved, including TBDs, pending decisions, information that is needed, conflicts awaiting resolution, and the like.