Requirement Specification Document

A Proposed Library Management System at Navotas City Library

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BSIT 3E

Introduction

This section explains the purpose, overview, and scope of the Library Management System.

Purpose of the Document:

The purpose of this document is to define the functional and non-functional requirements for a Library Management System. The system will provide a digital way to store and track books as well as manage borrowing and returning Books.

Overview of the Software System:

The Library Management System will enable librarians to register, update books and delete books in the system, track book location, and process borrow/return books. It will also allow visitors to borrow and return books efficiently and reduce manual errors of librarians in record-keeping.

Scope of the Requirements Specification:

The system will:

- Store book details (title, author, publication, location).
- Track the borrowing and returning of books.
- Provide simple search functionality for books.
- This system does not cover fines, reservations, digital books, or advanced reporting.

Functional Requirements

This section defines the core features of the system, such as adding books, updating records, borrowing, returning, and searching for books.

Requirement ID	Requirement Description	Priority	Dependencies	Acceptance Criteria
FR-01	The system shall allow librarians to add new books with details (title, author, publication, location).	High	None	A new book record is successfully stored and visible in the database.
FR-02	The system shall allow librarians to update book information.	Medium	FR-01	Updated information is reflected correctly in the system.
FR-03	The system shall allow librarians to remove books from the system.	Low	FR-01	The selected book is removed and no longer appears in search results.
FR-04	The system shall track how many books are available	High	FR-01	System displays correct status after borrowing/returning.

FR-05	The system shall allow visitors to borrow books.	High	FR-01, FR-04	The book is stored in the visitors information.
FR-06	The system shall allow users to return borrowed books.	High	FR-05	The book will automatically add to the available books
FR-07	The system shall allow searching for books by title or author.	Medium	FR-01	Search results match entered criteria.

Table 1:Functional Requirements

Non-Functional Requirements

This section lists quality attributes of the system, including performance, usability, security, scalability, reliability, and maintainability.

Performance: The system shall update borrowing/return transactions.

Usability: The interface shall be simple and intuitive for librarians with minimal training.

Reliability: The system shall ensure data accuracy.

Security: Only authorized librarians can add/update/remove books; users can only provide information.

Scalability: The system shall support up to 1,000 book records.

Maintainability: The system shall allow future integration of features such as file migration.

Use Cases

This section provides detailed scenarios of how users and librarians will interact with the system, such as adding a book, borrowing, and returning.

Use Case ID	Use Case Name	Description	Actors	Preconditions	Postconditions	Alternate Flows
UC-01	Add Book	Librarian enters book details and saves the record.	Librarian	Librarian is using the system.	Book is stored	If data is incomplete, system shows an error message.
UC-02	Borrow Book	Visitors will ask the	Visitors,	Book is available.	Book status is in the	If book is already borrowed,

		librarian about the book he/she is looking for.	Librarian		borrowers information.	system denies the transaction.
UC-03	Return Book	User returns a borrowed book. Librarian updates system.	Visitors, Librarian	Book is currently borrowed.	Book status is in the books storage.	If book is invalid,system rejects the return.

Table 2:Use Cases

Data Requirements

This section identifies the data entities (books, users, transactions), their attributes, and relationships needed to support the system's operations.

Data Entities:

- **Book**: Title, Author, Publication,Location.
- **Visitors**: Name, Contact No.

Relationships:

- A **Visitors** can borrow many **Books**.
- A **Book** can have many **Transactions**, but only one active transaction at a time.

Assumptions and Constraints

This section outlines what is assumed during development and constraints.

Assumptions:

- Visitors will borrow and return books physically; the system only tracks records.
- Only authorized librarians can manage book data.

Constraints:

- The system must run on standard desktop computers in the library.
- Database is for storing book, borrowing and return records only.

Glossary

This section defines important terms used in the document, such as Book, Borrow, Return, and Status, to avoid confusion.

- **Book:** A physical library item with a unique identifier.
- **Borrow:** The process of checking out a book from the library.
- **Return:** The process of bringing back a borrowed book.

Revision History

This section logs any updates or changes made to the document.

08/30/2025 – The start of creating this document**.**

Appendix

Reference:

A P, Shanmugam & A, Ramalakshmi & Ganeshan, Sasthri & S, Baalachandran. (2020). Library Management System. Xi'an Jianzhu Keji Daxue Xuebao/Journal of Xi'an University of Architecture & Technology. 12. 743-753. 10.37896/JXAT12.11/29777.