

# Library System Requirements

## Assignment 1:

Functional and Non-Functional Requirements



**Submitted by:**

Nada Adel - ID: 202102397

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# 1 Functional Requirements

Below are 22 functional requirements, each having a unique ID, for the library system, categorized using the MoSCoW prioritization technique.

## Must Have (M)

ID	Requirement	Justification
FR1	The library system must record new books in the library.	Essential to manage book inventory.
FR2	The system must allow users to search for books by title, author, or category.	Basic functionality to assist users in finding books.
FR3	The system must maintain user records, including information such as contact details and borrowed books.	Necessary to manage user activities effectively.
FR4	The system must support the borrowing and returning of books by users.	Fundamental functionality for book circulation.
FR5	The system must send overdue reminders to users.	Ensures the return of books on time to maintain availability.
FR6	The system must allow reservation of books by users.	Helps users reserve books in case they are unavailable.
FR7	The system must maintain a record of each book's borrowing history.	Important for tracking the history of book usage.
FR8	The system must allow librarians to update book information, such as condition, availability, and location within the library.	Ensures accurate record-keeping and availability tracking.
FR9	The system must provide an option to generate fine receipts for users who return books late.	Ensures proper accountability and encourages timely returns.

Table 1: Must Have Functional Requirements

## Should Have (S)

ID	Requirement	Justification
FR10	The system should generate reports on the library's inventory, including available, borrowed, and reserved books.	Useful for library management and auditing.

ID	Requirement	Justification
FR11	The system should allow users to renew book loans online.	Enhances user experience and ensures flexibility.
FR12	The library system should provide notifications to users when a reserved book becomes available.	Helps users promptly know the availability status.
FR13	The system should support the registration of new users.	Provides functionality for expanding the user base.
FR14	The system should provide a book categorization feature based on genre.	Assists in managing books in an organized manner.

Table 2: Should Have Functional Requirements

### Could Have (C)

ID	Requirement	Justification
FR15	The system could allow users to rate books.	Helps other users gauge the popularity of books.
FR16	The library system could allow users to write reviews for books.	Encourages user engagement and provides insights to others.
FR17	The system could suggest books based on user history.	Adds value by recommending similar books to users.

Table 3: Could Have Functional Requirements

### Won't Have (W) (This Time)

ID	Requirement	Justification
FR18	The library system won't include an e-book management system.	This feature is out of scope for the current phase.
FR19	The system won't include personalized notifications using users' preferred method of contact (e.g., SMS or email).	Customization is planned for future versions.
FR20	The system won't have an integration with external library databases for sharing inventory.	Integration is not feasible within the current budget and time constraints.

ID	Requirement	Justification
FR21	The system won't provide voice-based search functionality.	Requires advanced technology and additional development time.
FR22	The library system won't track the physical location of books within the library.	Requires significant investment in physical infrastructure.

Table 4: Won't Have Functional Requirements

## 2 Non-Functional Requirements

Below are the non-functional requirements for the library system, categorized using the MoSCoW prioritization technique.

### Must Have (M)

ID	Requirement	Description	Justification
NFR1	Security	The system must ensure that user data and book inventory data are kept secure and accessible only to authorized users.	Protects sensitive information and maintains data integrity.
NFR2	Performance	The library system should handle up to 10,000 users and 50,000 books without performance degradation.	Ensures the system can manage a large user and inventory load.
NFR3	Availability	The library system must be available 24/7 with 99.5% uptime.	Ensures that users can access the system at any time.

Table 5: Must Have Non-Functional Requirements

### Should Have (S)

ID	Requirement	Description	Justification
NFR4	Scalability	The system should be scalable to handle additional libraries as part of a library chain.	Supports the expansion of library services in the future.
NFR5	Usability	The system interface should be intuitive and require no more than 1 hour of training for librarians.	Enhances efficiency and reduces onboarding time for new staff.

Table 6: Should Have Non-Functional Requirements

**Could Have (C)**

<b>ID</b>	<b>Requirement</b>	<b>Description</b>	<b>Justification</b>
NFR6	Maintainability	The system must allow for easy updates and maintenance with minimal disruption to service.	Ensures long-term efficiency and cost-effectiveness of the system.
NFR7	Compatibility	The system should be compatible with common browsers and operating systems.	Ensures that users can access the system regardless of their preferred device or platform.

Table 7: Could Have Non-Functional Requirements