LAB-2

Manpal Date Page 05

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Q. SRS document for Library Management System (LMS):

(1) Introduction:

1.1 Purpose of this document:

This document outlines the requirement for LMS, serving as a guide for developers to ensure alignment, performance and overall objectives.

1.2 Scope of this document:

The LMS will facilitate efficient management of library operations, including book borrowing, returns, cataloging and user management. Development cost is ₹ 1500000 with a timeline of 6 months for project completio

1.3 Overview:

The LMS is designed to streamline library process, ensuring easy track of library resources and efficient member management.

(2) General Description:

The LMS will help streamline the management of book inventory, member information and the issuance and return of books. Users will be able to search for books, check their availability, and manage borrowing. Administrat will have full access to manage members and books, including adding new books, & removing when necessary

(3) Functional Requirements:

3.1 Book management:

- Add new books, delete books, track book availability.

3.2 Member Management:

- Register a new member, delete an existing member and assign an unique membership id to each member.

3.3 Issue and Return Books:

- Librarians and issue book, members can return books. The system calculates overdue fines automatically.

3.4 Search functionality:

- Users can search for books by title, author, ISBN or genre.

(4.) Interface Requirements:

4.1 Software Interfaces:

- The LMS will communicate with an internal database to store all information related to books, members and transactions.

4.2 User Interfaces:

- Login screen: Fields for username & password to authenticate users.
- Book Search Interface: A search bar for searching books by title, author or ISBN.
- Issue/Return Interface: Dropdown lists for selecting books and members when issuing or returning books.
- Member Registration Interface: Form for entering member details.

(5.) Performance Requirements:

- The system should be able to handle upto 10,000 concurrent users.
- The response time for a search query should not exceed 3 seconds.
- The system should be able to manage up to 1000000 books records without performance degradation.
- Fine calculation for overdue books should occur in real time.

(6.) Design constraints:

- The system must be implemented using a relational database such as MySQL.
- The interface should be built using web technologies to ensure cross-platform compatibility (e.g. HTML, CSS, JS).
- The system must support scalability for future upgrad and extensions.
- The user interface must be accessible and responsive across different screen sizes.

(7.) NON-Functional Attributes:

- Security: The system must ensure that only authorized users can access sensitive features.
- Reliability: The system should operate with minimal downtime and have an uptime of 99.99%.
- Scalability: The system must handle and increase in users, books, and transactions without a loss in performanc
- Portability: The system should run on various OS.
- Maintainability: The codebase must be modular and well-documented to allow for future maintenance & upgrade

(8.) Preliminary Schedule and Budget:

- Development Time: The project will take approximately 6 months from the initial design phase to the final deployment.
- Estimated cost: The total cost for development, including hardware and software is estimated at ₹50000000. This includes cost of design, development, testing and deployement.