Software Requirements Specification

On

LIBRARY MANAGEMENT SYSTEM

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1. <u>INTRODUCTION</u>

1.1 PURPOSE

- The purpose of this project is to provide a friendly environment to maintain the details of books and library members.
- The main purpose of this project is to maintain easy circulation system using computers and to provide different reports.
- The Library System is a package to be used by Libraries to improve the efficiency of Librarians, Library employees and Users.
- The system provides books catalogue and information to members and helps them decide on the books to borrow from the library.
- The Librarian can keep the books catalogue updated all the time so that the members (students and the professors) get the updated information all the time.

1.2 SCOPE

- The document only covers the requirements specifications for the Library Management System.
- This document does not provide any references to the other component of the Library Management System.
- All the external interfaces and the dependencies are also identified in this document.
- The overall scope of the feasibility study is to provide sufficient information to allow a decision to be made as to whether the Library Management System project should proceed and if so, its relative priority in the context of other existing Library Management Technology

1.3 REFERENCES
- Fundamentals of Database System by Elmasri
- Fundamentals of Software Engineering by Rajib Mall

2. <u>FUNCTIONAL REQUIREMENTS</u>

The Library Management System must have the following functional requirements:

1. The LMS should store all information about librarian and other users (students and faculty members) – their login info, books issued, etc.
2. The LMS should store all information about the books and users in two separated databases.
3. The LMS should allow searching books/journals by author, title, keywords or availability.
4. The LMS should generate request's reports for librarian, upon which he/she could make decisions about accepting/rejecting the requests.
5. The LMS should allow users to view their personal information and status (numbers of books issued, days left, etc.)
6. The LMS should provide modules to search, request and renew books.
7. The users should be able to view their recent check-ins/checkouts, calculate and clear dues, request/recommend more books, etc.
8. The librarian must be able to add/remove books, manage users, process dues, view recommendations from users, etc.

Use case analysis of the different functionalities has been provided in section 5 for better understanding of the system

3. <u>NON-FUNCTIONAL REQUIREMENTS</u>

3.1 Usability Requirements

The user interface should be interactive, simple and easy to understand. The system should prompt for the user and administrator to login to the application for proper input criteria.

3.2 Error Handling

Library management system shall handle expected and non-expected errors in ways that prevent loss in information and long downtime period.

3.3 Security Requirements

The LMS should provide databases' modification only for the librarian after proper authorization.

The system shall accommodate high number of books and users without any fault.
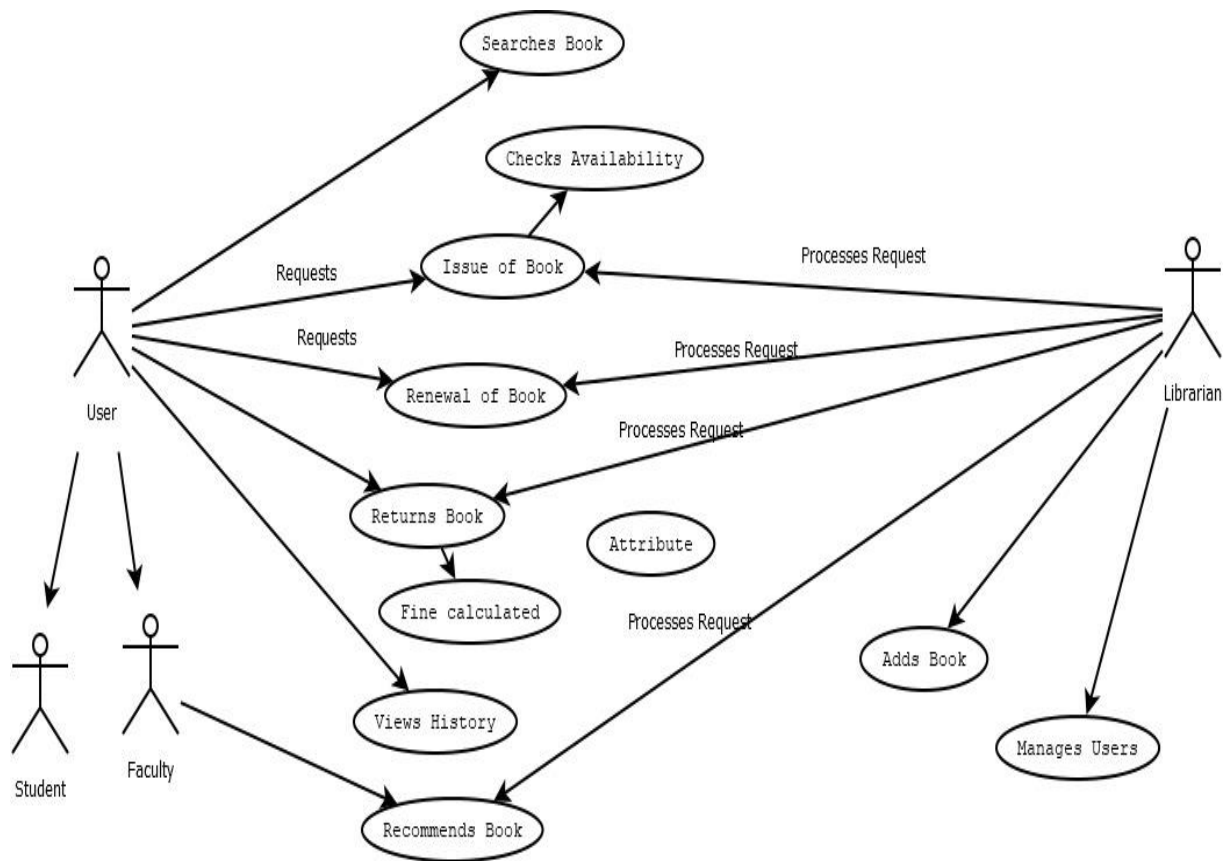
3.4 Software Requirements

1. Database - MYSQL is used as database as it easy to maintain and retrieve records by simple queries which are in English language which are easy to understand and easy to write.

2. Development tools and Programming language- HTML is used to write the whole code and develop webpages with CSS, JavaScript for styling work and Python Django for backend development.

3.5 Hardware Requirements

1. Intel core i3 and above is required for a stable experience and fast retrieval of data.

2. 2 GB RAM is required as it will provide fast reading and writing capabilities which will in turn result in better performance time.

4. CONTROL FLOW DIAGRAM OF LIBRARY MANAGEMENT SYSTEM

5. USE CASE ANALYSIS

Name	Login
Actors	Student/Faculty/Admin
Preconditions	Existence of database and correctly installed web-based server.
Description	When program is opened using browser the user sees logon page.

Name	Manage Users
Actors	Admin
Preconditions	Existence of database and correctly installed web-based server.
Description	Manages the users and their actions.

Name	Add/remove Books to the library
Actors	Admin
Preconditions	Existence of database and correctly installed web-based server.
Description	Manages the books in the library.

Name	Processing issues
Actors	Admin
Preconditions	Existence of database and correctly installed web-based server.
Description	Manages the request of issues and requests by users/faculty.

Name	Request issue/return
Actors	Student/Faculty
Preconditions	Existence of database and correctly installed web-based server.
Description	Student/Faculty can request for books issuing or can return the issued books.

Name	Search books
Actors	Student/Faculty
Preconditions	Existence of database and correctly installed web-based server.
Description	Student or Faculty can search for the required books.

Name	Recommend books
Actors	Faculty
Description	Faculty can recommend the new required books.