

Software Requirements Specification

for

Library Management System

Version 1.0 approved

Prepared by Munna Kumar Sah (15IT221)

NITK, Surathklal

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1. Introduction

1.1. Purpose:-

The main purpose of our system is to make library management easy and is to develop software that replaces the manual library system into automated library management system. This document serves as the unambiguous guide for the developers of this software system.

1.2. Scope:-

The document only covers the requirement specification 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.

1.3 Feasibility Study :

The overall scope of the feasibility study was to provide sufficient information to allow a decision to be made as to whether the library management system project should proceed and so, its relative priority in the context of the other existing library management system.

The feasibility study of this project had undergone through various steps which as describe as under:

1. Identify the origin of the information at different level.
2. Identify the expectation of user from computerized system.
3. Analyze the drawback of existing system.

1.4. Definition,Acronyms,Abbreviations:-

CFD: - Context Flow Diagram

DFD: - Data Flow Diagram

IDE: - Integrated Development Environment

Java:-Platform Independence

SQL: - Structured Query Language

SRS: - Software Requirement Specification.

ER : - Entity Relationship

1.5. Reference:-

An integrated approach to software engineering, Third edition by Pankaj jalote

Java – Balaguruswamy

SQL server 2005 – JosephL Jordan

1.6. Overview

The implementation of Library Management starts with entering and updating master records like book details, library information. Any further transaction like book issue, book return will automatically update the current books.

2. Overall Description :

2.1 Product Perspective :

The proposed Library Management System will take care of the current book detail at any point of time. The book issue, book return will update the current book details automatically so that user will get the update current book details.

2.2 Product function :

- The main purpose of this project is to reduce the manual work.
- This software is capable of managing Book Issues, Returns, and Calculating/Managing Fine. Generating various Reports for Record keeping according to end user requirements.

2.3 User Characteristics :

We have 2 levels of users

- User module : In the user module, user will check the availability of the books, return books.
- Administration module : the following are the sub module in the administration module.
 1. Register user
 2. Entry book details
 3. Book issue

2.4 General Constrains :

Any update regarding the book from the library is to be recorded to have update & correct values.

2.5 Assumption and dependencies :

All the data entered will be correct and up to date. This software package is developed using java as front end which is supported by sun micro system. Microsoft SQL server 2005 as the back end which is supported by window 7.

3. Specific Requirement :

3.1 External Interface Requirement :

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

3.1.1 User Interface :

The software provides good graphical interface for the user any administrator can operate on the system, performing the required task such as create, update, viewing the details of the book.

- Allows user to view quick reports like Book Issues/Returned etc in between particular time.
- Stock verification and search facility based on different criteria.

3.1.2 Hardware interface :

- Operating system : windows
- Hard disk : 40 GB
- RAM : 256MB
- Processor : Pentium(R)Dual-core CPU

3.1.3 Software interface :

- Java language
- Net beans IDE 7.0.1
- MS SQL server 2005

3.1.4 Communication interface :

- Window

3.2 Functional requirements :

- Book entry: In this module we can store the details of the books.
- Register student: in this module we can keep the details of the new student.
- Book issue: This module is used to keep a track of book issue details.
- Book return : This module enables to keep a track of return the books.

3.3 Performance requirements :

The capability of the computer depends on the performance of the software. The software can take any number of inputs provided the database size is larger enough. This would depend on the available memory space.

1. Design constraints :

Each member will be having a identity card which can be used for the library book issue, fine payment etc. whenever library member wish to take a book, the book issued by the library authority will be check both the book details as well as the student details and store it in library database. In case of retrieval of book much of human intervention can be eliminated.

2. System attributes :

- **Maintainability** : There will be no maintained requirement for the software. The database is provided by the end user and therefore is maintained by this user.
- **Portability** : The system is developed for secured purpose, so it is can't be portable.
- **Availability** : This system will available only until the system on which it is install, is running.
- **Scalability** : Applicable

4. System Features

Some Performance requirements identified is listed below:

- The database shall be able to accommodate a minimum of 1,000 records of Users.
- The software shall support use of multiple users at a time.
- There are no other specific performance requirements that will affect development.

4.1 Registration

4.1.1 Description and Priority :

This feature is of the highest priority, each of the users ie : the user with a login Id and password will allow to register and use the system.

4.1.2 Stimulus/Response Sequences :

First the user will be asked to register. If the user is already registered then it will automatically be logged in.

4.1.3 Requirements

In the case of invalid credentials the person would not be granted access for library.

REQ-1: Login Ids

REQ-2: Password

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The software is expected to have reasonably short response time. It should be able to log-in and feed the voter with new pages on request with a response time of the order of a few seconds.

5.2 Safety Requirements

- In order to prevent data loss in case of system failure, the data has to be saved in the database, for the system to resume the library work on reboot.
- The system should be capable of gracefully recovering from earlier crashes.

5.3 Security Requirements

- The system should provide basic security features like password authentication and encrypted transactions.
- All the passwords generated and communicated to the users should be stored in the server only in an encrypted form for login management to prevent misuse.
- Serial attacks should be avoided by maintaining a minimum time gap between successive invalid login attempts.

5.4 Software Quality Attributes

The Quality of the System is maintained in such a way so that it can be very user friendly to all the users. The software quality attributes are assumed as under:

- Accurate and hence reliable.
- Secured.
- Fast speed.
- Compatibility.

