SOFTWARE REQUIREMENTS SPECIFICATION
FOR
WEB LIBRARY MANAGEMENT SYSTEM

Version 1.0

Table of Contents

WEB LIBRARY MANAGEMENT SYSTEM

1.Introduction

1.1 Purpose
The purpose of this document is to describe the Web Library Management System (WLMS). This document contains the functional and non-functional requirements of the project.This document contains the guidelines for website developers system engineers and designers to start working the project. The Software Requirements Specification (SRS) captures the complete software requirements for the system, or a portion of the system.

1.2 Scope
WLMS product is basically updating the manual library system into a internet-based application so that the users can know the details of their accounts, availability of books and remaining time for borrowing. The project is specifically designed for the use of librarians and library users. The product will work as a complete user interface for library management process and library usage from ordinary users. WLMS can be used by any existing or new library to manage its books and book borrowing, insertion and monitoring . WLMS can work as a powerful library management system for big libraries, and can provide a free easy-to-use system for rising libraries.
The WLMS is supposed to have the following features.

- The product provides the members with online blocking of books capabilities and the Online Library System is up and running all day.
- The system provides logon facility to the users.
- The system provides the members with the option to check their **profile** and/or change their **personal data** like password of the account whenever needed all through the day during the library hours.
- The system allows the members to block the books 24 hours a day and all the through the semester.
- The system lets the library staff to check which all members have blocked the books and whether they can borrow any more books or not.
- The system allows the Librarian to create the books catalog, add/delete books and maintain the books catalog.
- The system updates the billing system as and when the member borrows or returns a book.
- The book catalog is automated and the decision of offering the book based on the category of the book is automatically decided.

1.3 Audience Definitions,Acronyms and Abbreviations

1.3.1 Audience Definitions
The intended readers of this document are the developers of the site, testers, library owners and managers and coordinators.

1.3.2 Acronyms and Abbreviations

WLMS	Web Library Management System
MS SQL	Microsoft Structured Query Language
ASP	Active Server Pages
ISBN	International Standard Book Number
DVD	Digital Video Disc
IEEE	Institute of Electrical and Electronics Engineers

THESE ARE PROVIDED WHEREVER NECESSARY IN THE DOCUMENT.

1.4 References

☐ IEEE 830-1998 standard for writing SRS document.
☐ I. Sommerville, *Software Engineering,* 8th ed. England: Addison-Wesley, 2007.

1.5 Overview

Section 2 defines the general functions of WLMS, operating environment and user constraints along with our assumptions
Section 3 specifies functional and nonfunctional requirements; all of them are described to a level of detail sufficient for designers to design a system.
Section 4 illustrates interfaces and its possible scenariosThis section of SRS contains all the software requirements mentioned in section 3 in detail sufficient enough to enable designers to design the system to satisfy the requirements and testers to test if the system satisfies those requirements.
Section 5 specifies all stored information that we are concerned about for every entity in the website .

2. *Overall Description*

2.1 Product Perspective

WLMS is a replacement for the ordinary library management systems which depend on paper work for recording book and users' information.
WLMS will provide an advanced book search mechanism and will make it easy to borrow, insert and index a book in the library.

2.2 Product Functions

2.2.1 Administrators

- Admin should be able to insert, modify and delete books.
- Can accept or reject a new user according to the library policy or payment methods.
- Increase the period for borrowing a book for specific type or group of users.
- Can get the account details of any member who has borrowed a book.
- Add and edit book categories and arrange books by categories.
- Add and edit authors and publishers information.
- Can send lateness warnings to people who have exceeded deadline date through mail.
- Can record books returned by users.

2.2.2 Normal Users (Library Members)

• The member should be provided with the updated information about the books catalog(i.e new arrivals should be included in the catalog).

• Members are given a provision to check their account's information and change it.

• Members have the ability to search through books by subject, title, authors or any information related to the book.

• Can extend the period of borrowing books(i.e extending library membership) according to the library policy.

• The customer may suggest a book and request the library administration to be brought it to the library book collection.

2.3 Operating Environment

The WLMS is a website and shall operate in all famous browsers, for a model we are taking Microsoft Internet Explorer versions 7.0, 8.0 and 9.0, with Flash Player 9 and JavaScript.

2.4 User Characteristics

Users of the website are members, librarians and the administrators who maintain the website. Members and librarians are assumed to have basic knowledge of computers and Internet browsing. Administrators of the system should have more knowledge of internal modules of the system and are able to rectify small problems that may arise due to disk crashes, power failures and other catastrophes. Friendly user interface, online help and user guide must be sufficient to educate the users on how to use this product without any problems or difficulties.

2.5Constraints

• The information of all users, books and libraries must be stored in a database that is accessible by the website.

• MS SQL Server will be used as SQL engine and database.

• The Online Library System is running 24 hours a day.

• Users may access WLMS from any computer that has Internet browsing capabilities and an Internet connection.

• Users must have their correct usernames and passwords to enter into their online accounts and do actions.

2.6 Assumptions and Dependencies

- The users have sufficient knowledge of computers.
- The users know the English language, as the user interface will be provided in English
- Microsoft SQL server to store the database.
- The success of this system depends on

• Existence of an Internet service to all people.

• Are librarians and users comfortable with computers and have enough conation to work with the product?

• Website interface must be friendly and easy-to-use.

• The search mechanism should be simple and fast.

3.Specific Requirements

This section contains the ***HEART*** of the specification of exactly what the system should do and how (i.e:it describes in detail all the functional requirements).

3.1 Functional Requirements

3.1.1 Librarian

Prerequisite (admin signed in) for all requirements below

Requirement ID	R1.01.01
Title	insert book
Description	This action is done to add new book to library book collection.
Priority	2

Requirement ID	R1.01.02
Title	delete / modify book
Description	this event is to delete an existing book or modify its information.
Priority	2

Requirement ID	R1.01.03
Title	Validate user account
Description	when a new member sign up then he should wait for acceptance by Administrator according to library policies (e.g. fees required).
Priority	1

Requirement ID	R1.01.04
Title	delete member
Description	Admin can delete a member due to some specific rules.
Priority	2

Requirement ID	R1.01.05
Title	modify member rank
Description	Admin can extend the borrowing time or number of book borrowed simultaneity to a user.
Priority	2

Requirement ID	R1.01.06
Title	return book
Description	Admin should confirm the return of books borrowed by users.
Priority	1

Requirement ID	R1.01.07
Title	catalogue
Description	Gives details about books such as publisher, authorname,e.t.c.
Priority	2

3.1.2 Normal User

Requirement ID R1.02.01
Title   register
Description   when new user enters WLMS for the first time then he has to register
Priority   3

Requirement ID R1.02.02
Title   extending borrowing deadline.
Description   member can extend the borrowing time to some limit decided by Admin
Priority   2

Requirement ID R1.02.03
Title   reset password
Description   when a member forgets his password he can claim it back via e-mail.
Priority   1

Requirement ID R1.02.04
Title   edit personal information
Description   if some user changes for example his mobile number, he can modify it.
Priority   2

Requirement ID R1.02.05
Title   reset password
Description   when a member forgets his password he can claim it back via e-mail.
Priority   1

Requirement ID R1.02.06
Title   reservation
Description   The user can reserve a book after searching.
Priority   2

Requirement ID R1.02.07
Title   fine calculation
Description   Calculates the fine if the library member had not returned the book in
                 specified time and uploaded in the members account.
Priority   1
3.1.3 Common Functions

Requirement ID R1.03.01
Title   login
Description   both Admin and members must be logged in before they modify any information
Priority   1

Requirement ID R1.03.02
Title   search for book
Description   when user or admin wants to search on some book by name, author or subject
                 etc.
Priority   1

3.2 Non-functional Requirements

3.2.1 Error handling

• WLMS product shall handle expected and non-expected errors in ways that prevent loss in information and long downtime period.

3.2.2 Performance Requirements

• The system shall accommodate high number of books and users without any fault.

• Responses to view information shall take no longer than 5 seconds to appear on the screen.

3.2.3 Safety Requirements

• System use shall not cause any harm to human users.

3.2.4 Security Requirements

• System will use secured database

• Normal users can just read information but they cannot edit or modify anything except their personal and some other information.

• System will have different types of users and every user has access constraints.

4.Interfaces and Possible Scenarios

4.1 Login Interface

There is a login pannel in the main page in which asks the user to type his username and password then click Enter. If the user entered either his username or password incorrectly then an error message shown.
Another possible scenario that an already-registered
Member has forgotten his password then he can click on LOST PASSWORD and this will lead him to password recovery page so he can enter his e-mail and the password will be sent instantly to him via e-mail.

In case the user is not registered yet, he can enter the registration form after clicking on REGISTER link shown in main page.

4.2 Registration Interface

After the user reads conditions and controls and agrees it he can continue with registration operation by entering his name, password, e-mail, address, mobile, telephone and personal photo.When the button Registration is clicked, the server will check if the username or email is already taken and alert the user a If the user who is trying to register is already a member with the same username he can click on Click Here to move to login page.

4.3 Personal Data Editing

If any member wants to change his personal information he can enter his profile by clicking on his name at the top right of the main page and he will be directed to page.Member should enter his old password to verify that he owns the current account then he can edit his personal information.

4.4 Search

In the form member or librarian can enter the type of media he is looking for and the title he is interested in them he can click on Search button.

4.5 Categories view

categories view with ability to Liberian to add/edit or delete a category from the list; the same view for DVDs, journals and magazines.

4.6 Librarian's Control Panel

This control panel will allow librarians to add, confirm, or remove users; add, edit, and manage lending options.

4.7 Activating a User Account

A librarian must activate the new user account before user can borrow.Librarian can check user info and edit them as well, before he activates the account.

4.8 Library Manager Control Panel

This control panel will allow Library manager to add, edit, view, or remove librarians.

5. Stored Items

This section will list all stored information about every entity in WLMS system.

5.1 Member

All important data related to the user will be stored in a database.

5.2 Librarian

The main attributes stored about librarians in database.

5.3 Library Items

It includes common attributes that will be stored for every library item (book, DVD etc.)

5.4 Books, DVDs and Magazines

It clarifies the major properties that will be stored for every book in WLMS.