**SOFTWARE REQUIREMENT SPECIFICATION (SRS)**

**FOR**

**ONLINE LIBRARY MANAGEMENT SYSTEM (LIMS)**

**1. INTRODUCTION**

**1.1 Purpose**

This process is an intranet base application that can be accessed throughout the campus. This system can be used for search for books/magazines, reserve books, find out who is having a particular book, put in request to buy a new book etc. This is one integrated system that contains both the user component and the library component. There are features like e-mail notification/reminders, report generators and so on in the system.

**1.2 Scope**

Create different system users and assign different roles with related permissions. Manage all the details such as User name, Password, Phone number, Address, E-mail addresses of all the users from one central location. Track all the fine details of the users and their books, magazines, newspapers, reserve books ownership detail. Maintain history of each user and their related information about the books issued. View all the details of all the issue/submission made by users.

**1.3 Definitions, Acronyms and Abbreviations**

**Librarian –** He is able to add new books/journals/magazines and remove books from inventory.

**UHCL –** University of Houston Clearlake

**PIN –** Personal Identification Number

**JAVA –** Platform Independent

**SQL –** Structured Query Language

**ER –** Entity Relation Ship

**UML –** Unified Modelling Language

**IDE –** Integrated Development Environment

**SRS –** Software requirement Specification

**1.4 References**

The SRS document users the following document as references

* **UHCL Information Security Requirement**

To provide security to the system based on the current security system currently used by UHCL.

* **The Billing System**

To provide the interface between the systems begin developed and the billing system currently in use by UHCL to update thee member account due as and when they borrow and return the books.

**1.5 Document Overview**

This vision document lists all the capabilities of library Management System. It also states all the risk factors that are involved with the project and gives a time frame of the implementation of the project.

**2. GENERAL DESCRIPTION**

**2.1 Product perspective**

The Online library management system is a package to be used by libraries to improve the efficiency of librarians, Library employees and users. The online library system to be developed benefits greatly the members and the librarian of University of Houston Clearlake. 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 get the updates information all the time.

**2.2 Product Functions**

The Online library system provides online real time information about the book available in the library and the user information. The product functions are more or less the same as described in the product perspective. The functions of the system include the system providing different type of services based on the type of users.

1. The member should be provided with the updated information about the books catalogue.
2. Provisions for the members to borrow the books they want, if all the other required rules hold good.
3. The member is given a provision to check his account information and change the account information any time in the give valid period.
4. The librarian can get the information about the members who have borrowed or returned the books.
5. The librarian is provided with interfaces to add/delete the books available in the books catalogue.

**2.3 User Characteristics**

The users of the system are members, librarian and the administrators who maintain the system. The members and the librarian are assumed to have basic knowledge of the computer. The administrators of the system to have more knowledge of the system and is able to rectify the small problems that may arise due to dish crashes, power failures and other catastrophes to maintain the system. The proper user interface, user’s manual, online help and the guide to install and maintain the system must be sufficient to educate the user.

**2.4 General Constraints**

The information of all the users must be stored in a database that is accessibly by the online library system.

* The administration information security system must be compatible with the internet applications.
* The online library system is connected to the administration computer and is running all 24 hours a day.
* The billing system is connected to the online library system and the database used by the billing system must be compatible with the interface of the online library system.
* The users must have their correct username and passwords to enter into the online library system.

**2.5 Assumptions and dependencies**

The users have sufficient knowledge of computer. The user should know English language, as the user interface will be provided in English. The product can access by the University student database.

**3. SPECIFIC REQUIREMENTS**

**3.1 Functional Requirements**

**3.1.1 Functional Requirement 1:**The first functional requirement is user login page.

**Introduction:** In order to access the online library management system users must login into the system by using their respective user name and password.

**Input:** User name, Password.

**Processing**: The users are requested to enter user id and password before they are allowed to enter into the system. The user id and password will be verified and if invalid id and password the user would not be allowed to enter into the system .The system performs authorization process which decides what users level can access to. The user must be able to logout after they finished using system.

**Output:** Homepage.

**3.1.2 Functional Requirement 2:** The second functional requirement is registration page.

**Introduction:** Only registered users can login into the system to use the services.

**Input:** first name, last name, password, mail id, phone no.

**Processing:** when the user provides details and click on the submit button then the data of the user was stored in the data base system must be able to verify information and be able to delete information, if information is wrong .By this users can register into the system by creating an account.

**Output:** Back to login page.

**3.1.3 Functional Requirement 3:** The third functional requirement is search books/magazines/journals/newspapers.

**Introduction:** Users can search books/magazines/journals/newspapers by using respective title names, ids or author names.

**Input:** Book name, author name, journal name, newspaper name.

**Processing:** After entering the Book name, journal name, newspaper name, author name the system will search the database based on select type .it will filter based on keyword entered. It will show the filtered book in the table view.

**Output:** Details of books/magazines/journals/newspapers.

**3.1.4 Functional Requirement 4:** The fourth functional requirement is placing request for books/magazines/journals/newspapers.

**Introduction:** Users requested books/magazines/journals/newspapers based on status of books/magazines/journals/newspapers.

**Input:** Book name or author name or journal name or newspaper name.

**Processing:** when the user enter the Book name, author name, journal name, newspaper name then the system will display message whether books/magazines/journals/newspapers is available or not. By searching in a particular search type data base . It will not allow two books having same id.

**Output:** If status is available books/magazines/journals/newspapers is requested otherwise books/magazines/journals/newspapers are not available.

**3.1.5 Functional Requirement 5:** The fifth functional requirements is issue books/magazines/journals/newspapers.

**Introduction:** Librarian will books/magazines/journals/newspapers to the requested users based on status of books/magazines/journals/newspapers.

**Input:** Book name or author name or journal name or newspaper name, issue date, date of return.

**Processing:** when the users request books/magazines/journals/newspapers librarian will check the book status if available then issue books/magazines/journals/newspapers to the requested user by giving issued date and due date.

**Output:** if status is available issue books/magazines/journals/newspapers to the requested users.

**3.2 External Interface Requirements:**

The user screen is split vertically into two panes. The left pane contains the list of courses, which expands and contracts as per user action. The right pane displays the notification regarding the User logged in.

**3.3 Performance Requirements:**

The splash page or information page should be able to download with in a minute using a 56k modem. The access time for a mobile device should be less than a minute. The information is refreshed every two minutes.

**3.4 Design Constraints:**

The information of all the users must be stored in a database that is accessible by the Online library system. The University information security system must be compatible with the internet applications. The Online library system is connected to the institute computer and is running all 24hours a day. The users access the online library system from any computer that he internet browsing capabilities and an internet connection. The billing system is connected to the Online library system and the database used by the billing system must be compatible with the interface of the Online library system. The users must have their correct username and password to enter into the Online library management system.

**3.5 Security Requirement:**

System will use secured database. Normal users can just read information but they cannot edit anything except their personal and some other information system will have different types of users and every user has access constraints proper user authentication should be provided. No one should be able to hack users password.

**3.6 Maintainability Requirement:**

The maintenance of the system shall be done as per the maintenance contract.

**3.7 Reliability Requirement:**

The system has to be very reliable due to the importance of data and may damages incorrect or incomplete data.

**3.8 Availability Requirement:**

The system is available 100% for the user and is used 24hrs a day and 365days a year. The system shall be operational 24hrs a day and 7days a week.

**3.9 Database Requirement:**

All the data will be saved in the database user accounts and profiles, discussion data, message etc. The data base allows concurrent access and will be consistent at all times.

**3.10 Documentation Requirements:**

An installation document will be provided that includes the installation instructions and configuration guidelines, which is important to a full solution offering. Also a ReadMe file is typically included as a standard component. The ReadMe includes a what’s new with this release section and a discussion of compatibility issues with earlier releases. Most users also appreciate documentation defining any known bugs and work around in the ReadMe file.

**3.11 Safety Requirements:**

The database may get crashed at any certain time due to virus or Os failure. Therefore, it is required to take the database backup. So, that the database is not lost. Proper UPS/inverter facility should be there in case of power supply failure.

**3.12 Operational Requirements:**

The system is limited by its operating server in terms of the maximum no.of users it can support at a given time.

**3.13 Site Adaption:**

The component will be adopted to the overarching. System at the conclusion of system creation.