

(Library and Store Management System)

Software Requirements Specifications

1 Objective:

The main objective of this management system is to provide a virtual library management for the library system along with the various store management activities.

Major Objectives of System:

1. Provide a simulator for the library arrangement so as to facilitate the manual searching, availability, access, distant access, e-library, etc.
2. Provide a store management facility for accessing the various features like storing log-records, generating balanced sheet, etc.

2 Introduction:

2.1 Purpose:

The major objectives of this system are:

- To provide an interface for viewing the actual arrangement of the library to the display console.
- Enables the students to search for a book based on name, author, publication, etc. and then view the availability of the respective book(s) in the library along with the actual rack position; thus, enabling a direct access to the book for issue.
- Enables the staff to display the book details and issue the books to the students and maintain their issue logs.
- When a book is returned, display the original position of the book, for the staff management.
- Provide feature for the staff to add a new book or delete one.
- Maintain an e-library resource which could be accessed within the e-library.
- Provide an interface for distant access to the library so as to provide an ease to the students with regards to the availability, expected arrival of book(s), issue-log, due date, etc.
- Notify students about the due-date and pending fine.
- Provide a facility for private access to e-book(s) on monthly basis on the student's page.
- Auto generate receipt at the time of renewal or returning of books with full fine details and various backlogs.

- Maintain a store record of various commodities/services of a department.
- Provide an interface for viewing results based on various queries.
- Add, delete or update one or multiple entries.
- Provide a facility to scan the various bills so as to be referred later.
- Provide a room for storing the e-bills, challans, etc.
- Generate a monthly summary of the data so as to benefit the record-keeping and retrieval.

2.2 Intended Users:

1. Students of the institute to get access to the system.
2. The library management staff.
3. The various departments that will use the store management facility.

2.3 Project Scope:

The scope of the to be developed management system is to provide a real-time service to the students as well as staff for a digital as well as easy access. Hence the scope of the project is restricted to the institute level.

Future Extension: Project can be extended further so as to include other departments/streams of the institute. Further new features, UI improvement etc. can be done, and this can serve as a working module for the management system of the institute as a whole.

Limitations

1. E-book size limited to 10 MB per file.
2. Departmental store records access is limited.
3. Library staff members are fixed.

3 Overall Description

3.1 Product Perspective

This system is meant to serve as an interactive platform for students, library staff and department staff so as to serve the various functionalities like quick and easy access so as to achieve a digital environment which in turn benefits the institute as well. Our goal is to develop a replacement to the pre-existing system so as to provide a more better solution in a user-friendly environment.

3.2 Product Features

Modules

Registration:

This module helps library staff to register a new student and then provide him/her the generated ID and Password for future access. Also, a check is made for duplicate entries and notified accordingly.

Login / Logout:

This module take input as user Id and password for logging into the system and user can easily logout as well.

Add/Delete a book:

This module enables library staff to add a new book or delete a book from library.

Issue/ Return book:

This module enables library staff to issue books to the students (of specified limits) and update student's account on returning books, along with the late fine details (if any).

Display Module:

This module shows the actual positioning of the library books along with the rack positions, thus shows a simulated view of the whole library along with the e-library section. When a rack is selected, all books in that specific rack is displayed (as cover page of books). On selecting a particular book, its index page is displayed for reference.

For the department section, overall description of various records of commodities, services, repairs, renovations, etc. are displayed.

Search Book:

This module provides a local search engine for searching a book in the library on the basis of title, author, department, section, and other tags and displays all the relevant results (including the e-library section).

For department section, results based on various queries like monthly details, details related to particular section, etc. are displayed to the staff.

E-Library Corner:

This module basically deals with addition of various e-resources along with the scanned additional notes provided by faculties, ppts in pdf-format; along with the videos provided.

Also, the students can get a private access to these e-books on timely basis on the student's page.

Notification and Bill Generation:

This module notifies the students in appropriate way about the pending dues and any other backlogs; and also, generates an automatic receipt of all details for the ease to the staff and students as well.

As department store service, a monthly statement of the records of the store is notified and can be also saved in pdf format for future references.

Add/Delete/Update/Modify Records:

This module enables staff to add, delete, modify, or update new/existing records in a defined category.

E-Bill Corner:

This module stores various e-bills, challans, important e-mails, etc. in a special e-corner and also provide facility to scan and store various hard copies of bills in soft format so as to be referred later.

3.3 Operating Environment

This software package is expected to work in the following atmosphere:

- OS -Windows, Linux etc. (Primary User System)
- Latest Web Browser Support such as Firefox, Chrome. (Primary User System)
- MYSQL database and Hosting Apache Server. (Admin System)
- Language Supports such as: PHP, HTML, CSS, JS.
- Framework Support such as: Twitter Bootstrap, JQuery etc.

Minimum Specifications:

1. 512 MB DDR3 Ram
2. Processor @1.6 Ghz
3. Web Browser that supports Html 5.
4. Operating System Window XP or above, Linux etc.

Recommended Specification

1. 1GB DDR3 Ram
2. Processor 2.5+ Ghz
3. Latest Web Browser upto date.

3.4 User Classes

Users of the system are of three categories

- **Registered Students:** These are the primary users of the system who can perform the various operations such as check availability of books, e-books, apply for issue and other functionalities.
- **Library Staff:** These are the users that access the library for adding, deleting, issuing books and other activities like student log management.
- **Department Store Staff:** These are the users that manage the various store management activities and thus manage the various log-keeping activities.

3.5 Design Constraints

- The database will be in MySQL.
- The front end environment will be in HTML/CSS/JS.
- Back end language support PHP v7.0.

4 System Features:

Registration:

This module takes the user details from the user and store it to database, duplicate entries are notified.

Input: User details.

Output: Registered, generate user ID, password.

Login / Logout:

This module take input as user Id and password for and checks with the database for logging into the system.

Input: User ID, password.

Output: Logged in (session started).

Add/Delete a book:

Input: Book details, add/delete request.

Output: Book added or deleted.

Issue/ Return book:

Input: Book details, student details, issue/return request.

Output: For issuing book, add book to student's ID, or return appropriate message if issue limit is reached. For returning a book, corresponding book is removed from student's ID and also notify fines, if any.

Display Module:

Input: View library, rack, book or store-info.

Output: For library, all racks are displayed.

For rack, all books in that rack are displayed.

For book, index page (pdf) is displayed of the respective book.

And for store-info, all records of store are displayed.

Search Book:

Input: Search query related to books or store.

Output: Result of the respective query.

E-Library Corner:

Input: Soft copy of e-book or notes, ppts, videos, request for issue of e-book (private access).

Output: Notify resources stored.

For issue request provide access to e-resources (until max. limit is reached).

Notification and Bill Generation:

Input: Student details, store details.

Output: For library section, notify students of active fine(s), also generate receipt of the details.

For store section, generate monthly statement (in pdf format).

Add/Delete/Update/Modify Records:

Input: Commodity details, query (add/delete/update/modify).

Output: Notify result.

E-Bill Corner:

Input: Soft copy (scan) of bills.

Output: Store and notify results.

4.2 Non Functional Requirements**1. Security:-**

The system has the facility to provide security of data since login-password is maintained. It also ensures the integrity of system from accidental or malicious damage.

2. Usability:-

The system to be developed provides usability of certain data so that an effective memory management is achieved.

3. Reliability:-

The reliability is maintained in the to be developed software, so that the data as well as all other included operation provide the correct calculations in a reliable way.

4. Compatibility:-

The system will be supported on various platform and thus ensure that it is platform independent.

5. Adaptability:

The system welcomes any new module which provides any new facility to the existing system.

6. Familiar Interface:-

The new system will have to be user friendly and familiar to users.

7. Modularity:

The system will ensure modularity so as to integrate any other modules also to the existing system.