

## **FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS FOR THE SMART LIBRARY MANAGEMENT SYSTEM.**

### **Functional Requirements (Members)**

- Members must log in, set up a password and create accounts.
- Members should be able to search for books.
- Members should be able to borrow books.
- Reserve books. If a book is already borrowed, the first member who clicks reserve will get it next.
- Members should be able to see borrowing information (example: book title, description and expiration date).
- Always be able to return books before or after expiration date.
- Receive notifications for confirming the borrowed books, the return date or overdue books.
- Receive messages from librarians for any issues, (example: book/s not returned, reserving books allowed).

### **Functional Requirements (Librarians)**

- They must log in as librarians to handle various tasks.
- Adding new books to the library catalogue.
- Removing books, (example: if books have a newer edition or if they have been lost or stolen).
- Get notifications when members click on reserve a book, so the librarian can decide yes or no based on the member's past returns.
- Get notification from administrators about members late returns of books.
- Generate reports to notify members for some inputs that members might do.

### **Functional Requirements (Administrators)**

- Log in as administrators to carry out various tasks.
- Helping members and librarians to set up accounts and managing them.
- Modify members borrowing books limits as penalties for not returning books on time.

## **Functional Requirements (Main System)**

- Every book should have a status as: “Available”, “Borrowed” and “Reserved”.
- The system limits members to borrowing 5 books. If a member returns books late, admins can lower their limit.
- Reservation of books expires after 3 days of not claiming them and their status changes to available.
- Length of borrowing books is 21 days, so that members can have enough time to read before returning them.

## **Non-Functional Requirements**

- The procedure of borrowing, reserving and returning books should be quick.
- The interface of the application should be easy to navigate.
- The system should be available most times and not crash when handling many inputs by members.
- Password must be strong for security purposes, (example: 8 characters long).
- Copy books info and user accounts daily to prevent loss of data if the system crashes.