A REPORT ON DEVELOPMENT A LIBRARY MANAGEMENT SYSTEM (THE LIBRARY)

Terms of reference

As computer scientists, we were asked to create a web-based application that enables a student to request for books from a library catalog. The library should contain a set of books showing the title, publication date, subject area, author etc. The Librarian should have an interface to post the books and the student should be able to search for a book and request for it. A book once requested needs to have a return date that is automatically tracked.

Definition of terms

Library - a place set apart to contain books, periodicals, and other material for reading, viewing, listening, study, or reference, as a room, set of rooms, or building where books may be read or borrowed.

Books - a handwritten or printed work of fiction or nonfiction, usually on sheets of paper fastened or bound together within covers.

ISBN - is an International Standard Book Number. ISBNs were 10 digits in length up to the end of December 2006, but since 1 January 2007 they now always consist of 13 digits. ISBNs are calculated using a specific mathematical formula and include a check digit to validate the number. An ISBN is essentially a product identifier used by publishers, booksellers, libraries, internet retailers and other supply chain participants for ordering, listing, sales records and stock control purposes.

System - a working combination of hardware, software, and data communications devices.

Librarian -a person in charge of a library, especially the chief administrative officer of a library.

Borrow books - A person can also borrow the book for days. All the information will be entered in the system. If the person doesn't return the book before the due date, a fine will be added and the information will be sent to that person about the fine.

Summary of the assignment

The software to be produced is a Library system that involves borrowing and returning of books. The first procedure is the registration of the students as well as the librarians that are to use the library system. All the information will be entered in the system and after validation an account will be created. The user will have to log in basing on the type of account they have created. If the user logs in as a student, then they can access an interface where they can view a catalogue of the books available and search for a desired book in the library and once the book is the book is available then the student can borrow the book. If the student doesn't return the book before the due date, a fine will be added and the information will be sent to that person about the fine. A book is unavailable to other students once it has been borrowed and only becomes available when returned. Before the return date (1 day) the borrower should get a notification to return the book. A book returned 3 days after the return date attracts a penalty of 5,000 UGX. If return after ten days, the penalty is 15,000 UGX. On the hand of the librarian, the system should display a report that shows the books that need to be returned, when they should be returned and the penalty (if any). The librarians have the authority to add, delete or modify the details of the book available to/from the system. Monthly expense report, books purchased report, cash collected for fee can also be viewed.

Findings

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Registration - adding new user to the system which stores for each member identification, number, name, and address data is stored in the different file from the book file.
Search for a book -the system should be able process request by the user to look up information about a specific entry. The user can supply book title, author name, ISBN or category which will then be provided by a list of books that matches the user request.
Delete book -The librarian should be prompted for the book ISBN and that entry should be deleted from the system (whenever books are obsolete).
Borrowing- For each member who borrows a book, the system stores book ISBN, user ID, date issued, date due to return, date returned. Again, all borrowing data should be stored into a separate file.
Returning Book- When a user returns a borrowed book back to the library, the entry for his borrowing action must be updated with the date returned.
Librarian actions should take over in the case of overdue books the system must have a list of those books that were borrowed, and their return date has been passed without returning it back and should be available for our system administrators for them to inflict appropriate penalties.

Methods involved in development.
The system is to be developed by a group of students that is:

NAME	REGISTRATION NUMBER	GIT LAB ACCOUNTS
KYEYUNE BEN	21/U/05065/PS	Ben Kyeyune (Main account) (@benkyeyune10)
NALUVUBI PROSCOVIA	21/U/11431/PS	Gerald Yokoyasi(invited) (@Yokas)
YOKOYASI GERALD	21/U/22092/EVE	Proscovia Naluvubi(invited) (@Poshkyla12)
KWEYA ANTHONY	21/U/04837/EVE	Anthony kweya(invited) (@kweya)

We are going to use Python 3 as the programming language, Django framework for web development, git for source code management, sqlite3 for the database management and git lab accounts to manage the project and to enable easy contributions among the team of developers. HTML will also be used to publish online documents with headings, text, tables, lists, photos, etc. and retrieve online information via hypertext links, at the click of a button.

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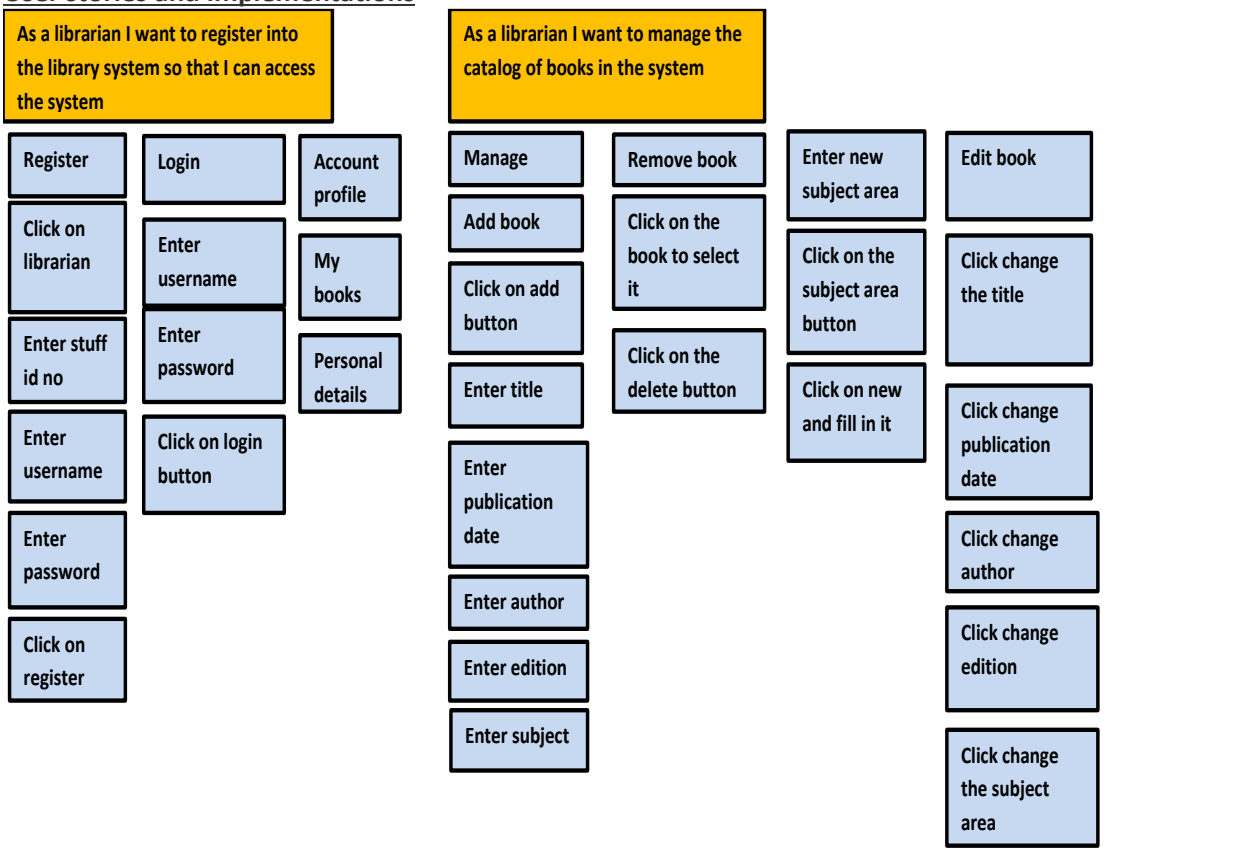
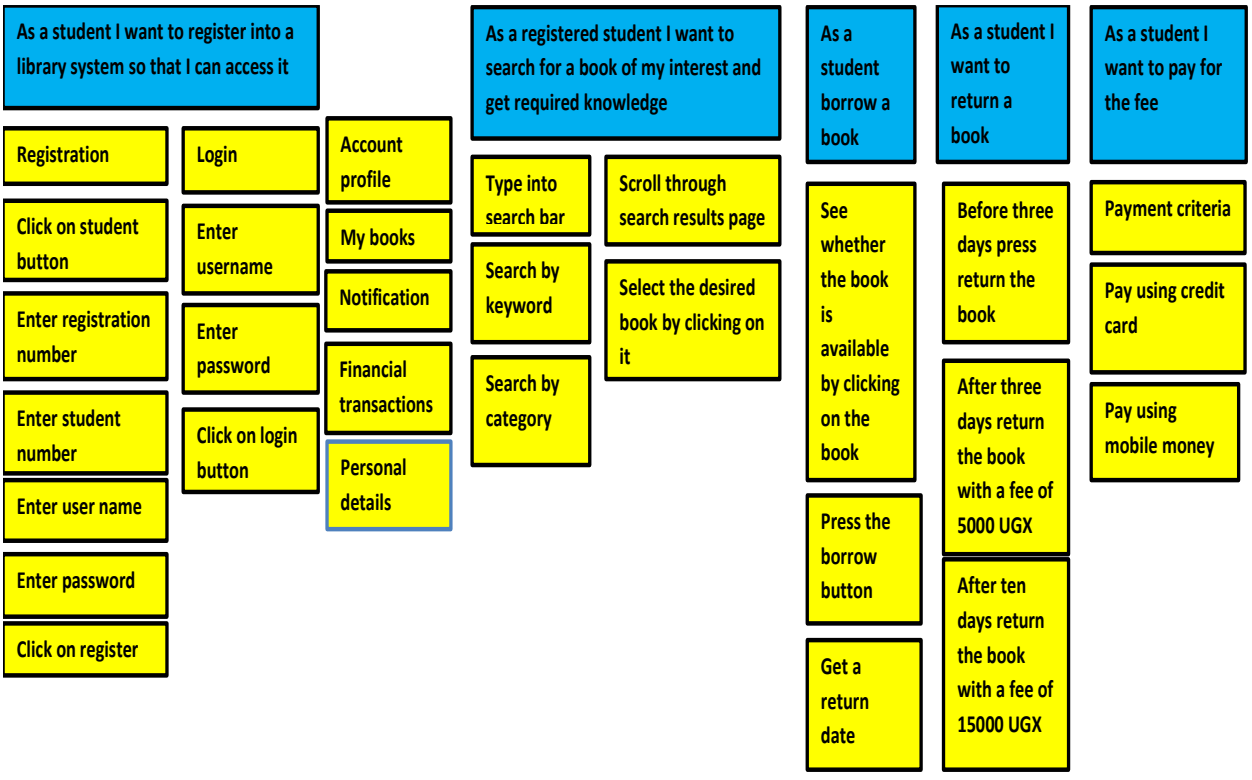
User stories and implementations





Conclusion

Therefore, the proposed system will allow an efficient library operation, encourages students to engage in the resources inside the library. The system is designed to be easily operated by the librarians and the students as well as the simplification of management's library inventory and to easily track the person liable for the books overdue.

Recommendations

- The system should generate student registration and librarian registration.
- Enabling addition and deleting of Books by the Librarians.
- It should enable an easy access to search book titles, authors, ISBNs.
- It should provide ease to students and library staffs in borrowing and returning of books.
- It makes borrowed books unavailable to other users book.
- It eliminates users whenever they are not bound anymore to the institution.
- In case the student searches for a book related books should also be displayed in the results.
- The system should recommend book titles to students basing on the ratings in the feedback from the users.