TABLE OF CONTENT

TABLE OF FIGURE

ABSTRACT

Library management system is a project which aims in developing a computerized system to maintain all the daily work of library. It also has a facility of admin login through which the admin can monitor the whole system. It has a facility where student after logging in their accounts can see list of books issued and its issue date and return date. This system will store all the books and members information that consist book numbers, book titles, author names and racks to the system database. It also provides search function to help students find the book by number of the book. Search function will search through the books database to look for the book and view where the book is situated. An Administrator can handle administrative functions such as create new LMS user account and decide the number of days allowed for the borrowed books. Overall, this project is being developed to help the students as well as staff of a given library to maintain the library in the best way possible and also reduce the human efforts.

1.INTRODUCTION

Library Management System is a term for computer-based system that manage the catalogue of a library. The main purpose of this system is to manage a library's daily operations efficiently.

1.1 PROJECT AIM AND OBJECTIVES

Library Management System is a term for computer-based system that manage the catalogue of a library. The main purpose of this system is to manage library daily operation efficiently. Objectives of Library Management System (LMS)

a) To build a system that can receive input and generate automatically output in easy way and short time.

b) Provide timely access to requested materials.

c) Simplify search/discovery of library resources.

d) To build a monitoring system that is able to monitor and manage all library operations efficiently.

e) To enter and preserve details of the various issues and keep a track on their returns. f) Online book issue

g) Request column for librarian for providing new book.

h) A separate column for digital library.

i) Student login page where student can find books issued by him/her and date of return.

j) A search column to search availability of books

1.2. USER REQUIREMENTS

The application is designed for the use of librarians and library users. By using library management system, the operation of borrowing and managing inventories is paperless. This system provides a user-friendly data entry with dropdown button menu, list box and checkbox in purpose to make the input entry easier to understand and use. It is also created to ensure that the library items are stored properly in order to maintain their security. This system will store all the books and members information that consist book numbers, book titles, author names and racks to the system database. It also provides search function to help students find the book by number of the book. Search function will search through the books database to look for the book and view where the book is situated. For the administrator user, only librarians have access to view or edit data from the system databases. Administrator user will handle administrative functions such as create new LMS user account and decide the number of days allowed for

the borrowed books. Users need to enter correct password and user id before they can access to this function. From here, they can add, delete or update the book and borrower database.

2. BACKGROUND OF THE PROJECT

Library Management System is an application which refers to library systems which are generally small or medium in size. It is used by librarian to manage the library using a computerized system where he/she can record various transactions like issue of books, return of books, addition of new books, addition of new students etc.

Books and student maintenance modules are also included in this system which would keep track of the students using the library and also a detailed description about the books a library contains. With this computerized system there will be no loss of book record or member record which generally happens when a non-computerized system is used.

In addition, report module is also included in Library Management System. If user's position is admin, the user is able to generate different kinds of reports like lists of students registered, list of books, issue and return reports.

All these modules are able to help user to manage and use library with more convenience and in a more efficient way as compared to library systems which are not computerized.

3. OPERATION ENVIRONMENT

PROCESSOR	INTEL CORE PROCESSOR
OPERATING SYSTEM	WINDOWS 10, UBUNTU
MEMORY	4GB RAM OR MORE
HARD DISK SPACE	MINIMUM 3 GB FOR DATABASE USAGE FOR HARD DISK SPACE FUTURE
DATABASE	MY SQL

4. SYSTEM ANALYSIS

Here, we will discuss and analyze about the developing process of Library Management System including software requirement specification (SRS) and comparison between existing and proposed system. The functional and non-functional requirements are included in SRS part to provide complete description and

overview of system requirement before the developing process is carried out. Besides that, existing vs proposed provides a view of how the proposed system will be more efficient than the existing one

4.1. SOFTWARE REQUIREMENT SPECIFICATION

4.1.1 PRODUCT DESCRIPTION:

Library Management System is a computerized system which helps user to manage the library daily activity in electronic format. It reduces the risk of paper work such as file lost, file damaged and time consuming. It can help user to manage the transaction or record more effectively and efficiently.

4.1.2 PROBLEM STATEMENT:

The problem occurred before having computerized system includes:

File lost When computerized system is not implemented, files can be lost because of human error. Sometimes due to some human error there may be a loss of records.

File damaged In a non-computerized environment file may be lost due to some accident due to error caused by humans. Besides, some natural disaster like floods or fires may also damage the files.

Difficult to search record When there is no computerized system there is always a difficulty in searching of records if the records are large in number.

Space consuming After the number of records becomes large the space for physical storage of file and records also increases if no computerized system is implemented.

Cost consuming As there is no computerized system, adding and managing of records will increase the cost for the management of library.

4.1.3 PROPOSED SYSTEM OBJECTIVES

Improvement in control and performance The system is developed to cope up with the current issues and problems of library. The system can add user, validate user and is also bug free.

Save time After computerized system is implemented less human force will be required to maintain the library thus reducing the overall cost.

Save cost Librarian is able to search record by using few clicks of mouse and few search keywords thus saving his valuable time.

5. SYSTEM REQUIREMENTS

5.1. NON-FUNCTIONAL REQUIREMENTS

5.1.1 EFFICIENCY REQUIREMENT

When a library management system will be implemented librarian and user will easily access library, since searching and book transaction will be very faster.

5.1.2 RELIABILITY REQUIREMENT

The system should accurately perform member registration, member validation, report generation, book transaction and search

5.1.3 USABILITY REQUIREMENT

The system is designed for a user-friendly environment so that student and staff of library can perform the various tasks easily and in an effective way.

5.1.4 IMPLEMENTATION REQUIREMNTS

In implementing whole system it uses html in front end with javascript database connectivity and the backend i.e. the database part is developed using mySQL

5.1.5 DELIVERY REQUIREMENTS

The whole system is expected to be delivered in one month of time.

5.2. FUNCTIONAL REQUIREMENTS

5.2.1USER LOGIN

Description of feature

This feature used by the user to login into system. They are required to enter user id and password before they are allowed to enter the system. The user id and password will be verified and if invalid id is their user is allowed to not enter the system.

Functional requirements

- User id is provided when they register

- The system must only allow user with valid id and password to enter the system

- The system performs authorization process which decides what user level can access to.

- The user must be able to logout after they finished using system.

5.2.2 REGISTER NEW USER

Description of feature

This feature can be performed by all users to register new user to create account.

Functional requirements

- System must be able to verify information.

- System must be able to delete information if information is wrong.

5.2.3 REGISTER NEW BOOK

Description of feature

This feature allows adding new books to the library.

Functional requirements

- System must be able to verify information

- System must be able to enter number of copies into table.

- System must be able to not allow two books having same book id.

5.2.4 SEARCH BOOK

Description of feature

This feature is found in book maintenance part. We can search for a book based on the book id, book name, publication, or by author name.

Functional requirements

- System must be able to search the database based on select search type

- System must be able to filter book based on keyword entered

- System must be able to show the filtered book in table view

5.2.5 ISSUE BOOKS AND RETURN BOOKS

Description of feature

This feature allows issuing and returning books and also viewing reports of book issued.

Functional requirements

- System must be able to enter issue information in database.
- System must be able to update number of books.
- System must be able to search if book is available or not before issuing books.
- System should be able to enter issue and return date information

6. DATA FLOW DIAGRAMS

6.1. DATA FLOW DIAGRAM FOR ADMINISTRATOR LOGIN

After entering to the home page of the website, administrator can choose the ADMIN LOGIN option where they are asked to enter username & password, and if he/she is a valid user then a teacher login page will be displayed.

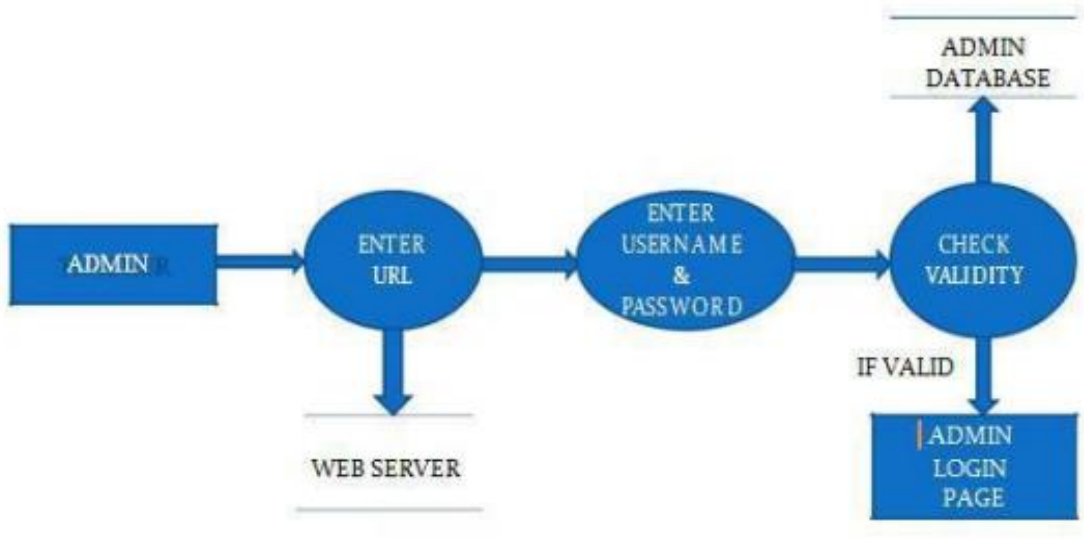

Figure 1:Data flow diagram for admin login

6.2. DATA FLOW DIAGRAM FOR STUDENT LOGIN

After entering to the home page of the website, student can choose the STUDENT LOGIN option where they are asked to enter username & password, and if he/she is a valid user then a student login page will be displayed.

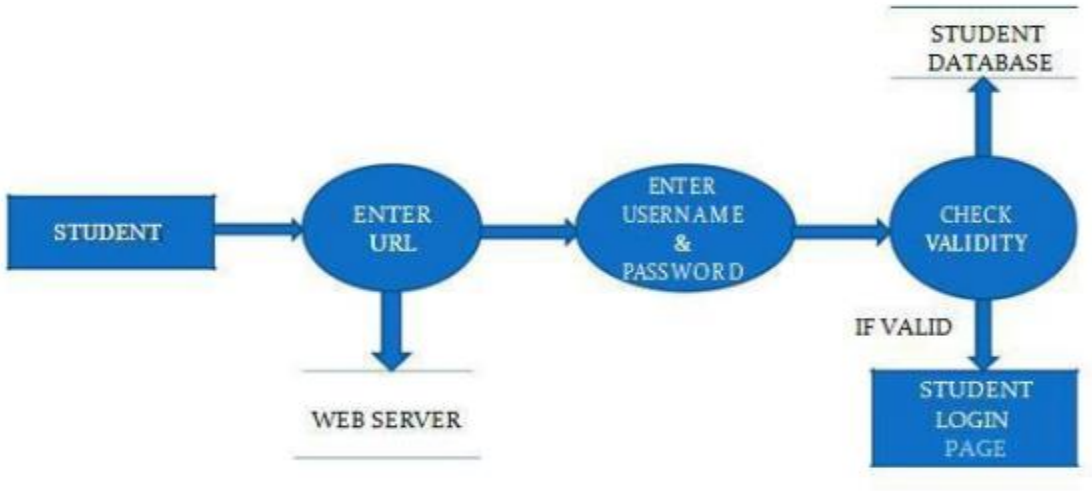

Figure 2:Data flow diagram for student login

6.3. DATA FLOW DIAGRAM FOR BOOK ISSUE

It is a second level Data Flow Diagram where after entering STUDENT LOGIN page he/she can select a book issue option where after entering the book detail, he/she can select the book issue option and if the maximum no of books issued limit is not crossed then a request will be sent to the librarian who will approve the book issues.

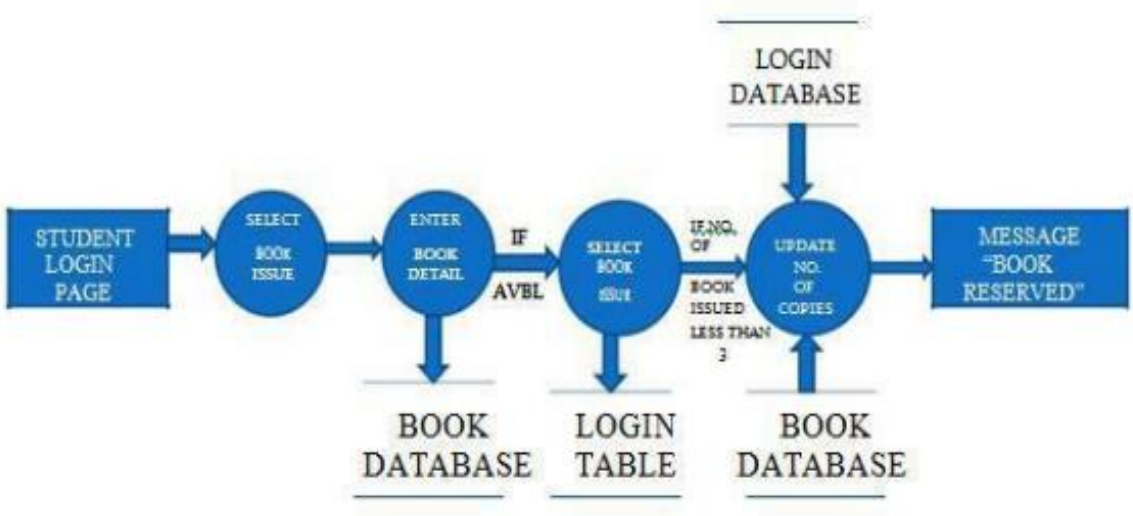

Figure 3: data flow diagram for book issue

6.4. DATA FLOW DIAGRAM FOR BOOK SEARCH

After the home page login there will be an option of the book search where after entering book detail like author name, publication, book name etc book details will be displayed.

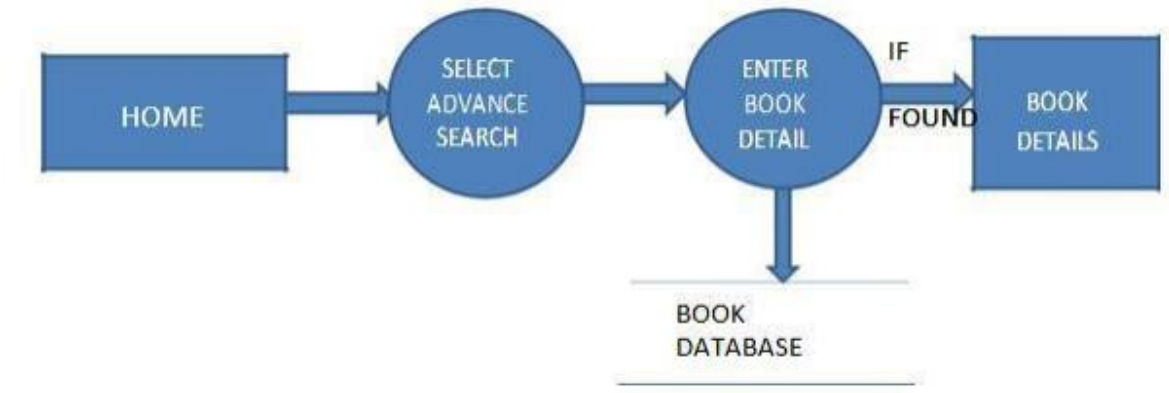

Figure 4:data flow diagram for book search

6.5. DATA FLOW DIAGRAM FOR ACCOUNT CREATION

After the home page login there will be an option of CREATE AN ACCOUNT where after entering student detail, if all the fields are filled then a request will be sent to the librarian who will approve him as a registered member of the library.

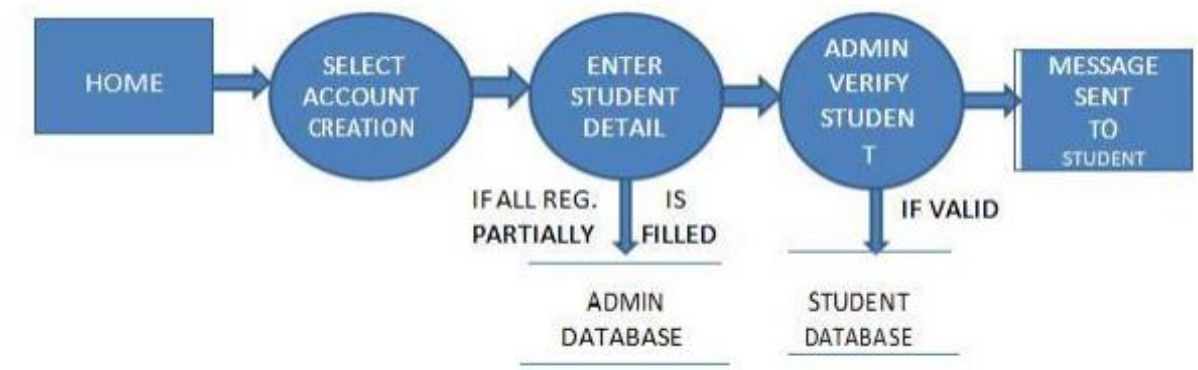

Figure 5: data flow diagram for account creation