Title - Implementation.

Objective of the Experiment - To implement the previous designed diagrams.

Problem Statement - After the design phase apply implementation phase over the designs of library management system. Divide the design into modules and implement the modules, find the dependent modules.

Outcome of the Experiment - Must be able to implement the design modules.

Description - The various modules of this system areas:

User Module:

This module is further divided into various sub-modules describing the user in a better way:

New user register:

To sign up a new user to this system

Student Login:

So as to confirm that only an authenticated user is using the project.

Search book:

The user can search book based on book id, book name, or by author name.

Issue Book:

To help the user get the required books issued.

Return Book:

To return the book before the last date without fine, or after the specified time duration with a late fine.

Admin Module:

It is to be operated by the admin with unique id and password. The admin is the person who decides authentication and authorization for all the different users of the application. It further can be subdivided as:

Register user:

Issue Book:

Maintain books in a stack, means record the availability at regular time interval.Librarian:

Includes all the library staff who are required to enter the records in the system and keep an eye on the various activities like the issue of the book, the return of the book, non-availability of books etc. through the developed system.

Library:

The main part of the organization for which this application has been designed. It has attributes like:

Name:

The name of the library to distinguish it from all the libraries available in any campus, uniquely.

Address:

This defines the address of the library as such the block number or lane number etc.

Books:

These are the basic building block of this system as well as any library. In other words the main purpose of any library and the cause to develop systems like this.

Book_Name:

The name of the book which is almost unique in some way.

Book_Code:

A number to use for sorting and arranging the book, as well as identifying it in the library.

Author:

The one who has written the book. As sometimes the book's series become more popular by the author's name rather than the book name.

Price:

The market value of the book is also required to maintain in the record, as sometimes it is needed to arrange and sort based on this, secondly, it is also required for compensation in case of loss or damage, as fine charges.

Quantity:

This is to indicate the availability of each book individually, so as to know whether last copy should be issued or kept as a reference piece. Also to maintain the number of books.

Rack_No:

To get the exact location of the book, so as it becomes easy to search it and sort it at the time of binding up work.

Subject_Code:

As there are various further division and subcategories of any subject. So, in that case, this is the unique id to distinguish the books, arrange them, and sort them. Like in computer science there are further many specialities like core java, advanced java, HTML, html5 etc.

User:

The next is the beneficiary, by whom the library is being accessed and who serves as a purpose for this system. Its attributes include:

Name:

The name of the student or teacher, who will get the book issued, or who will return the book.

Id:

The user's unique college or university roll number i.e. the id. The same is applicable to teachers also, with their unique id.

Address:

This refers to the user's physical area of residence. It is a composite attribute. As it further contains the house number and lane number.

Fine_Amount:

To indicate the amount of fine he/she has to deposit and keep it up to date so that he/she is aware of the payment to be made at the end of the year or session.

Issue Status:

It makes to the notice of the librarian as well as to the student or teacher that ow many books they have already got issued and how much more can they get at the current point of time. It includes attributes as:

Book_Name:

The name of the book which is almost unique in some way.

Book_Code:

A number to use for sorting and arranging the book, as well as identifying it in the library.

Id:

The user's unique college or university roll number i.e. the id. The same is applicable to teachers also, with their unique id. To know which user has been issued the book and for what time limit, that is what time the user is supposed to return the book, and if not will be charged fine.

Date_Issue:

The date on which user got the book issued to read from it.

Return_Date:

It indicates the date on which user is supposed to be returning the book, that is it is the date after the duration completed for which the user has been issued the book.

Return Status:

This tells the library management authority about the status of returned books per user. Whether a particular user has returned the book or not, on or before the last date. If not, in that case, the fine will be charged from him/her as a penalty for late submission.

Result - Hence, students are able to implement design modules.