LOW LEVEL DESIGN(LLD)

COLEGE LIBRARY MANAGEMENT SYSTEM LLD DOCUMENT

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ABSTRACT

The Library Management System is an application for assisting a librarian in managing a book library in a university. The system would provide basic set of features to add/update members, add/update books, and manage check in Information system (MIS), its Development include the establishment and maintenance of back-end database and front-end application development aspects. For the former require the establishment of data consistency and integrity of the strong data security and good libraries. As for the latter requires the application fully functional, easy to use and so on.

1. INTRODUCTION

1.1. Why this Low level document:

The purpose of this Low-Level Design (LLD) Document is to add the necessary detail to the current project description to represent a suitable model for coding. This document is also intended to help detect contradictions prior to coding, and can be used as a reference manual for how the modules interact at a high level.

The main objective of the project is to detect the mob(illegal) activities,

detect disasters (like fire, smoke, etc),if it is any accident happen call

for an ambulance and call directly to the helpline number.

UGV surveillance can help:

• Capture the unusual activity,track the location ,time,keep the images.

• Describe the performance requirements.

• Include design features and the architecture of the project

• List and describe the non-functional attributes like:

·   Security.

·   Reliability

·   Maintainability

·   Portability

·   Reusability

·   Application compatibility

·   Resource utilization

1.2. Scope

The LLD documentation presents the structure of the system, such as the database architecture, application architecture (layers), application flow (Navigation), and technology architecture. The LLD uses non-technical to mildly-technical terms which should be understandable to the administrators of the system. This software system will be a Web application. The Library Management System is an application for assisting a librarian in managing a book library in a university.

2. System Analysis and Design

2.1. Introduction

To develop a best fit system to the library, there are three stages of developing the new system. They are gather information, design and implementation and final testing. Within these three sections, different tactics will be adopted so that we can design a system that can maintain high usability and accessibility. Below are some ideas to the process.

2.2. Information Gathering

Before setting up the system by software development tools, information will be gathered from the staff about the need for the users of the system like the staff of library and those readers by using qualitative gathering techniques (oral interviews). Before starting to implement the system, interviews will be made to get readers view on the system before having the design works being done.

After considering the scope and the objectives of this study, it is very much ideal to use the qualitative gathering techniques method i.e. the survey method, using the oral interview. Interviews would be done to investigate and identify the scenario that libraries were going through in embarking on automation projects having embraced library automation.

The library is a major means of data gathering and as well a case study for the proposed system. In line with this the major method of information gathering for the system is the library and observation method via observing the staff and operation of the library

2.3. Analysis of Existing System

The existing system of library management system involves lots and lots of paper work. The system involves that all library user details will be taken on a white and black method. To borrow book from a library a borrower information is being taken for every registered user and can actually sign out for return of the book once he/she is completed.

2.3.1. Description of Proposed system

The library management system is a desktop based application system used by an administrator (Librarian) as an alternative means of record keeping of the books stored in the library. It has the following features.

i.   The administrator registers the applicant with their name as the first and last name, matriculation number, department etc. and a username is being suggested by the user alongside a login password which is to be used for log in by the registered user

ii.   An applicant is allowed to log into the system with his name and generated password

which is given at the point of registration.

iii. The administrator goes into the report to view the details of a particular user.

2.3.2. Advantages of Proposed system

Certain merits have been associated with the proposed system which enhances the design of the system. Some of which are stated below:

i. It eliminates the presence of the audience or fellow colleague who can whisper the result to their friends.
ii. It is free from biasness (all users are served equally).
iii. It provides an immediate form of response to every user.
iv. It facilitates easy learning.

2.4. Design and Implementation Methodology

The design methodology used in the proposed system is parallel as a result of the fact that parallel methods support the use of the proposed system side by side with the existing system 25 in order to test for the system efficiency. Top down approach is used as well in the design because it allows the analysis of the system to be carried out one after the other.

In this stage, the first goal will be decided by task analysis. Next, the prototype of the system will be analysed. Then test will be made on its usability and design with some design theories. Thus the prototype will be correspondingly looked at. Then a more complete prototype will be tested by potential users to collect feedbacks. Finally, the system will be finalized with the amendment on some problems of the user interface.

2.5. Final Testing

When the product is finalized, it will be run on a real world environment and test on its performance. If the performance is satisfactory, it will be applied, else amendment will be made to correct the problems. After the system has been run for daily operation, continued maintenance and administration should be carried out to handle any system errors and security issues.

This will entail the pre-test, validity test, pilot and reliability test and the data survey.

3. System Implementation and Documentation

3.1. Implementation of the System

This describes how the system works and how best computers together with other resources may be applied to perform data storage, management and retrieval for decision making. The requirement of this research work demand a web programming language.

3.2. Procedure Design

This refers to the step by step method of using the proposed system. The proposed system comprises of Administrator and the general user environment. The steps to use the proposed system are as follows:

i.   On the address bar of any browser type
       http://localhost:9999/CollegeLibraryManagementApplication/studentLogi
       n.html .
ii.   You are prompted to supply the username and password this verifies that
       you are a registered user and has the privileged to use the library system
       otherwise you cannot access the library
iii.   If the username and password supplied are correct as that of a user you
       are prompted with the home page with the list of available document
       which you can borrow or return based on choice.
iv.   The username and password are in two formats as an administrator as well
       as a user.
v.   As an administrator you are to type
       http://localhost:9999/CollegeLibraryManagementApplication/adminLogin.
       html on the address bar.
vi.   As an administrator you are prompted with the administrator page where
       the back end of the library exercise is carried out.
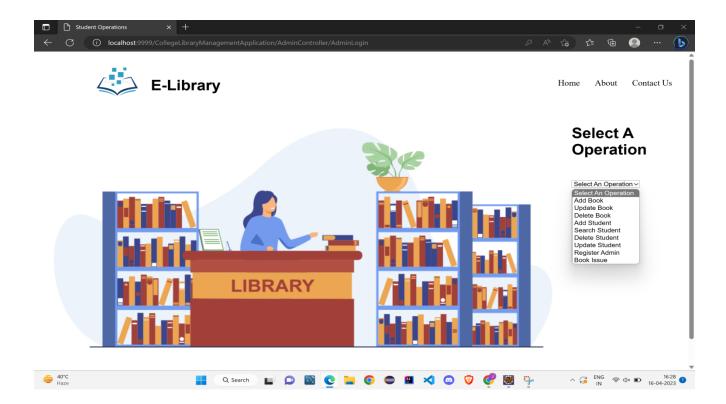
3.3. Operating the System

The system developed requires the user to be trained by the programmer, this will enable the user to be familiar with the modules contained in the program and the function of each modules in the system are expected to be explained in details by the programmer.

4. Output Design and Input design

The output to be extracted from the proposed system are as shown below:
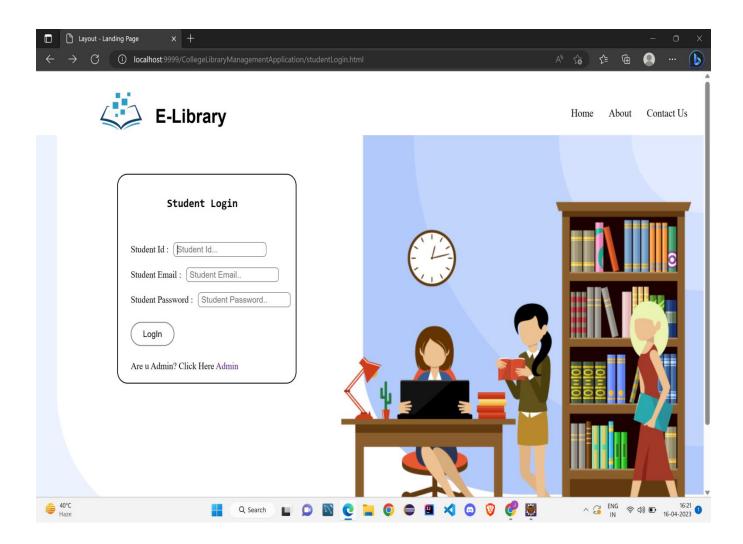
4.1. Admin Control Page

This is the Admin Control Page of the library management system, it provides the basic page where admin can select operations to do.
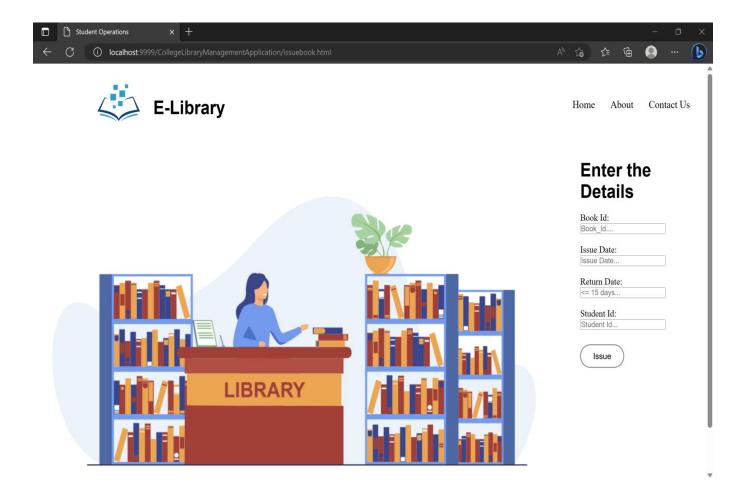
4.2. Admin/Student Login

For the admin login, the admin can log in with his /her own username and password while for the Student login, a given Student must have to be registered before getting the access to have the username and password to use the library.

4.3. Issue Books

Here, only the admin have the authorized access to add a particular book to the library shelf. The user have no access to this. The library admin more like the librarian can add new books to the library as much as possible for the user to borrow and use.
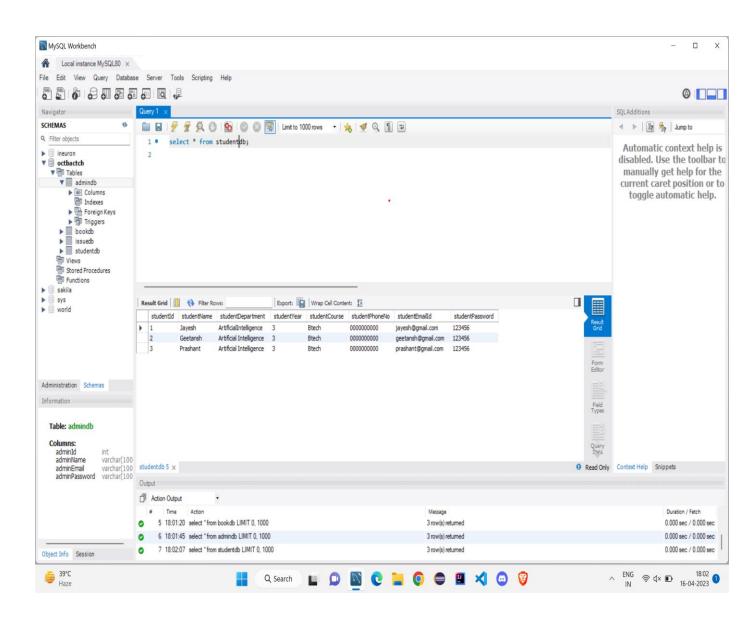
5. Database Design

This refers to the tables used in the proposed system. The database design for proposed system is shown as below.
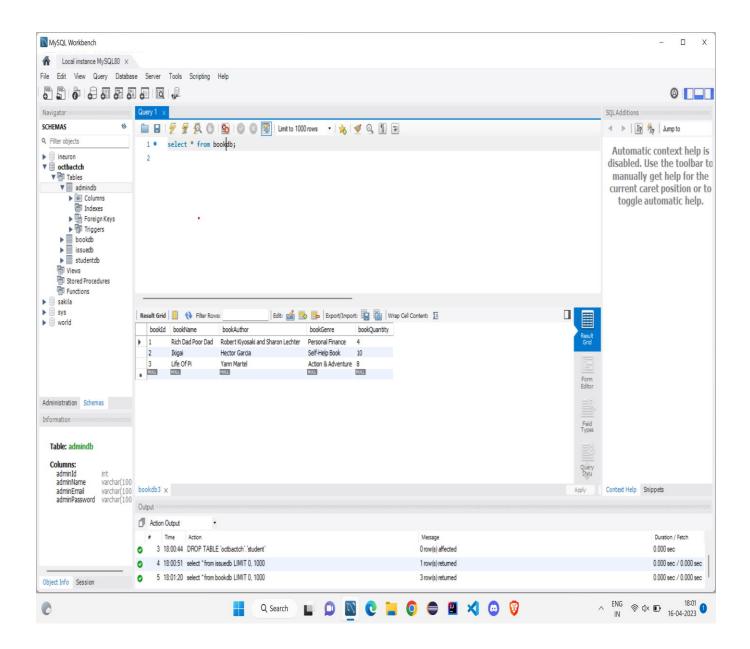
5.1. Student Table

The student table entails the studentId, studentName, studentPassword, studentEmailid, studentPhoneno, studentCourse, studentDepartment.

5.2. Book Table

The Book table entails the bookId, bookName, bookAuthor, bookGenre and bookQuantity.

6. Proposed Solution

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.

7. Summary

The quest to make life easier and processing faster has led to computerization of various processes. Computer technology has transformed so many sectors especially the Educational sector in no small measure. In an effort to foster technology driven education, a Library Management System has been developed to manage all library operations such as borrowing, returning of books etc.

8. Conclusion

In conclusion, from proper analysis and assessment of the designed system it can be safely concluded that the system is an efficient, usable and reliable Library Management System. It is working properly and adequately meets the minimum expectations that were for it initially. The new system is expected to give benefits to the users and staff in terms of efficiency in the usage of library system