Project Report

On

E-Library Management System

Submitted By:

Group No.3

E-Library Management System:

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ACKNOWLEDGEMENT

Aims and objective:

A library management software where admin can add/view/delete librarian and librarian can add/view books, issue, view issued books and return books.

1. Admin
2. Libraian

1. Admin

1. Can add/edit/view/delete librarian
2. Can logout

2. Librarian

1. Can add/edit/delete/view books
2. Can issue books
3. View issued books
4. Return Books
5. Can logout
6. View Student Details

Background of Project:

E-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 canadd/edit/delete/view books can issue books view issued books return books can logout .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. All these modules are able to help librarian to manage the library with more convenience and in a more efficient way as compared to library systems which are not computerized.

Operating Background:

The product will be operating in windows environment. The Library Management System is a website and shalloperate in all famous browsers, for a model we are taking Microsoft Internet Explorer, GoogIe Chrome and MozillaFirefox. AIso it will be compatible with the IE 6.0. Most of the features will compatible with the Mozilla Firefox &Opera 7.0 or higher version. The only requirement to use this online product would be the internet connection.The hardware con figuration include Hard Disk: 40 GB, Monitor: 15" Color monitor, Keyboard: 122 keys. The basicinput devices required are keyboard, mouse and output devices are monitor, printer etc.

2. System Analysis

2.1 Software Requirement Specification

2.1.1 General Description
PRODUCT DESCRIPTION:
Library Management System is a computerized system which helps
user(librarian) 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 time saving.

PROBLEM STATEMENT:

The problem occurred before having computerized system includes:

• File lost

When computerized system is not implemented file is always lost because of human environment.Some times due to some human error there may be a loss of records. • File damaged When a computerized system is not there file is always lost due to some accident like spilling of water by some member on file accidentally. 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 become 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 the to add each record paper will be needed which will increase the cost for the management of library.

2.1.2 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 cost

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

• Save time

Librarian is able to search record by using few clicks of mouse and few search keywords thus saving his valuable time.2.1.3 System Requirements

2.1.3.1 Non Functional Requirements:

• Product Requirements

EFFICIENCY REQUIREMENT

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

RELIABILITY REQUIREMENT

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

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.

IMPLEMENTATION REQUIREMENTS

In implementing whole system it uses html in front end with servlets as server side language and JDBC will be used for database connectivity and the backend i.e. the database part is developed using MySql.

2.1.3.2 Functional Requirements

1. NORMAL USER

1.1 USER 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 there 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.

1.2 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

1.3 REGISTER NEW BOOK

This feature allows to add 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.

1.5 SEARCH BOOK

This feature is found in book maintenance part. we can search book based on 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 enterd
- System must be able to show the filtered book in table view

2.1.4 Software &Hardware Requirements:

The system should have more storage capacity and provide fast access to the database.The system should provide search facility and support quick transactions.The Library System is running 24 hours a day.

2.1.4.1 Software Requirements:

•Operating system- Windows 10 Home is used as the operating system as it is stable and supports more features and is more user friendly
• Database MYSQL- is used as database as it easy to maintain and retrieve records by simple queries which are in English language which are easy to understand and easy to write.
• Development tools and Programming language- HTML is used to write the whole code and develop webpages with css, javascript for styling work and servlet for sever side language.
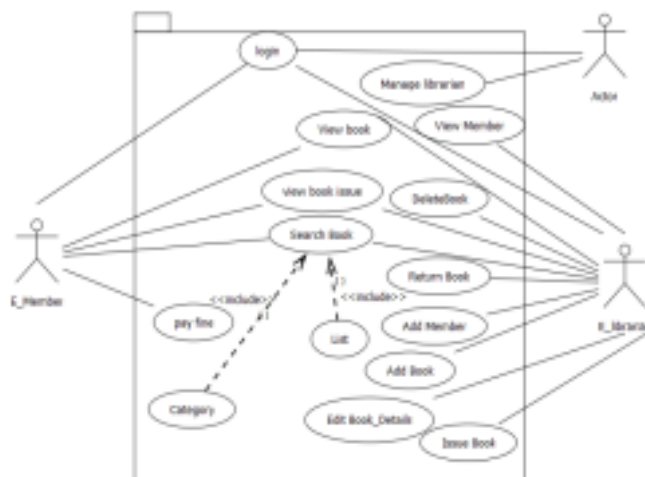
2.1.4.2 Hardware Requirements:

- Intel core i7 1st generation is used as a processor because it is fast than other processors an provide reliable and stable and we can run our pc for long time. By using this processor, we can keep on developing our project without any worries.
- Ram 4GB is used as it will provide fast reading and writing capabilities and will in turn support in processing.
- The hardware con figuration with Hard Disk: 500 GB, Monitor: 20" colour monitor, Keyboard: 122 keys. The basic input devices required are keyboard, mouse and output devices are monitor, printer etc.
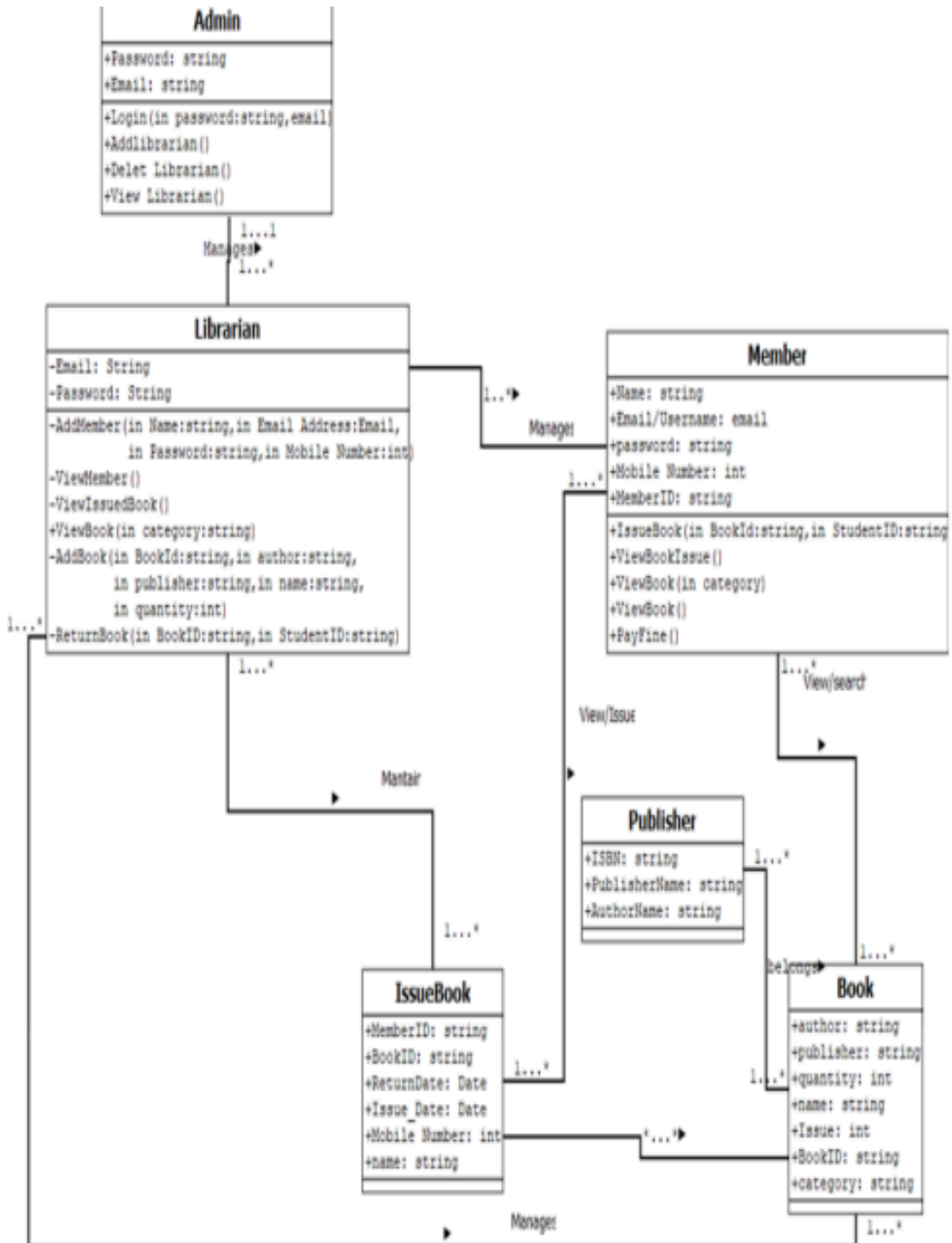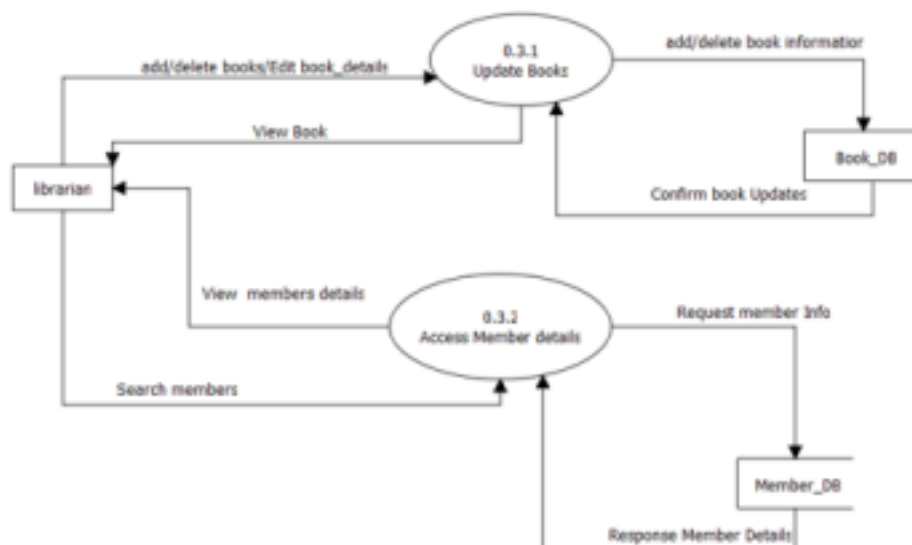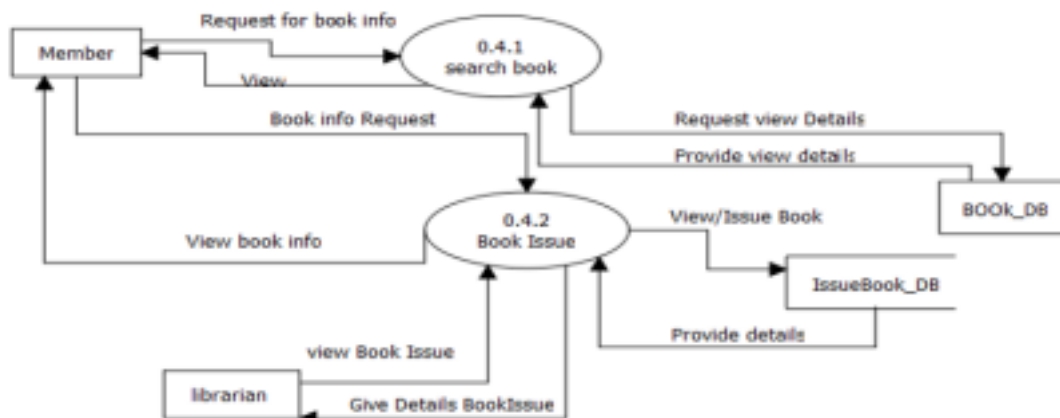
System Design

ERD

Use Case Diagram

Class Diagram

Admin

+Password: string
+Email: string
+Login(in password:string,email)
+Addlibrarian()
+Delet Librarian()
+View Librarian()

1...1
Manages▶
1...*

Librarian

-Email: String
-Password: String
-AddMember(in Name:string,in Email Address:Email, in Password:string,in Mobile Number:int)
-ViewMember()
-ViewIssuedBook()
+ViewBook(in category:string)
-AddBook(in BookId:string,in author:string, in publisher:string, in name:string, in quantity:int)
-ReturnBook(in BookID:string, in StudentID:string)

1...*
Manage

Member

+Name: string
+Email/Username: email
+password: string
+Mobile Number: int
+MemberID: string
+IssueBook(in BookId:string,in StudentID:string
+ViewBookIssue()
+ViewBook(in category)
+ViewBook()
+PayFine()

1...*
1...* View/search

Mantair

View/Issue

Publisher

+ISBN: string
+PublisherName: string
+AuthorName: string

1...*

Belongs▶

1...*

IssueBook

+MemberID: string
+BookID: string
+ReturnDate: Date
+Issue_Date: Date
+Mobile Number: int
+name: string

1...*

1...*

Book

+author: string
+publisher: string
+quantity: int
+name: string
+Issue: int
+BookID: string
+category: string

1...*

1...*

Manages

1...*

DFD Level (0) → Level (2)
Level 2

Database Schema

CREATE TABLE E_BOOK

(BookID VARCHAR2(4000) primary Key,

NAME VARCHAR2(4000),

 AUTHOR VARCHAR2(4000),

PUBLISHER VARCHAR2(4000),

QUANTITY INT,

ISSUED INT

)

CREATE TABLE E_LIBRARIAN

(ID NUMBER primary key,

"NAME" VARCHAR2(4000),

"PASSWORD" VARCHAR2(4000),

"EMAIL" VARCHAR2(4000),

"MOBILEINT

)

CREATE TABLE "E_ISSUEBOOK"

(BookIDVARCHAR2(4000) NOT NULL,

STUDENTID"VARCHAR2(4000) NOT NULL,

STUDENTNAME VARCHAR2(4000),

STUDENTMOBILE INT,

ISSUEDDATE DATE,

RETURNSTATUS VARCHAR2(4000))

Now login as admin.

After filling form click on submit button.

Librarian added successfully

Add Librarian

Name

Name

Email address

Email

Password

Password

Mobile Number

Mobile

Submit

Now click on View Librarian:

Id	Name	Email	Password	Mobile	Edit	Delete
2	Rivu	a1@2.c	Rivu	1234567891	Edit	Delete
3	Madhu	madhu@gmail.com	Soham@123	1234455678	Edit	Delete

Now click on logout button.

Admin Login

Email address

Email

Password

Password

Login

Librarian Login

Email address

madhu@gmail.com

Password

•••••••••

Login

Now login through librarian section.

Now click on View Book link:

Now click on View Student link:
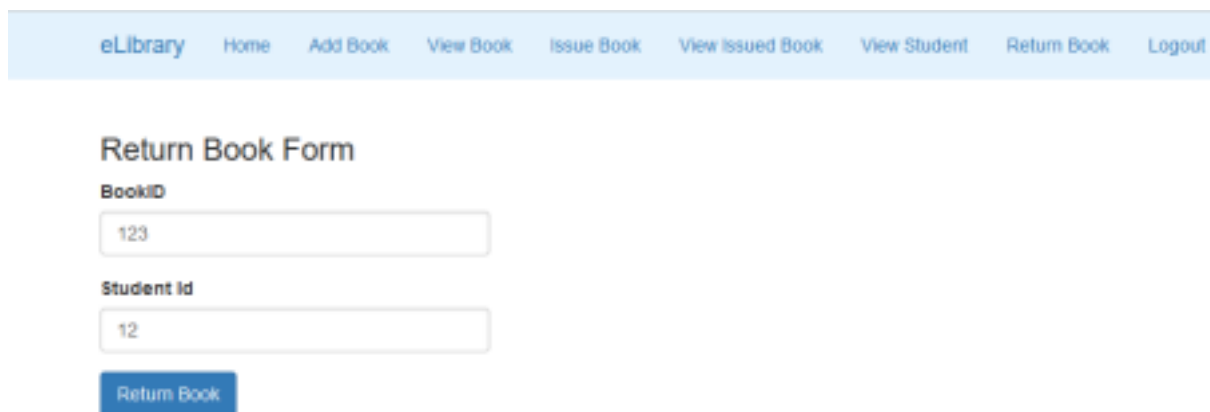

Now click on Issue Book:

After filling the form, click on Issue Book button.

Now click on the Return Book link:

After filling correct BookID and student id, click on Return Book button.

Return Book Form

BookID

123

Student Id

12

[Return Book]

Here, you can see that Book returned successfully.

Book returned successfully
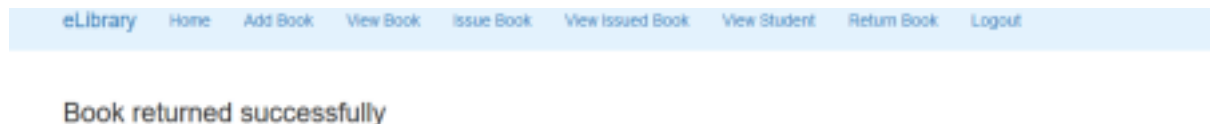
Future Scope and Enhancement

There is a future scope of this facility that many more features such as online lectures video tutorials can be added by teachers as well as online assignments submission facility , a feature Of group chat where students can discuss various issues of engineering can be added to this project thus making it more interactive more user friendly and project which fulfils each users need in the best way possible.

Conclusion:

This website provides a computerized version of library management system which will benefit the students as well as the staff of the library.
It makes entire process online where student can search books, staff can generate reports and do book transactions. It also has a facility for student login where student can login and can see status of books issued as well request for book or give some suggestions. It has a facility of teacher's login where teachers can add lectures notes and also give necessary suggestion to library and also add info about workshops or events happening in our college or nearby college in the online notice board.

References

➢ W3 schools
➢ Code Org
➢ Udemy
➢ Coursera
➢ Udacity

_____THANK YOU_____