VISVESVARAYA TECHNOLOGICAL UNIVERSITY

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A Mini Project

Report On

"ONLINE LIBRARY MANAGEMENT SYSTEM"

Submitted in the partial fulfilment for the award of the Bachelor of Engineering degree in Computer Science and Design

Submitted By

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CHAPTER 1

INTRODUCTION

This chapter gives an overview about the aim, objectives, background and operation environment of the system.

PROJECT AIMS AND OBJECTIVES

The project aims and objectives that will be achieved after completion of this project are discussed in this subchapter. The aims and objectives are as follows:

- Online book issue
- Request column for librarian for providing new books
- A separate column for digital library
- Student login page where student can find books issued by him/her and date of return.
- A search column to search availability of books
- A teacher login page where teacher can add any events being organized in the college and important suggestions regarding books.
- Online notice board about the workshop

BACKGROUND OF 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 librarian to manage the library with more convenience and in a more efficient way as compared to library systems which are not computerized.

1.1 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. Sometimes 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.

1.2 EXISTING VS PROPOSED SYSTEM

i. Existing system does not have any facility of teachers login or student login where as proposed system will have a facility of student login as well as teacher's login

ii. Existing system does not have a facility of online reservation of books whereas proposed system has a facility of online reservation of books

iii. Existing system does not have any facility of online notice board where description of workshops happening in our college as well as nearby colleges is being provided.

iv. Existing system does not has any option of lectures notes uploaded by teachers whereas proposed system will have this facility

v. Existing system does not have any facility to generate student reports as well book issue reports whereas proposed system provides librarian with a tool to generate reports

vi. Existing system does not has any facility for book request and suggestions where as in proposed system after logging in to their accounts student can request books as well as provide suggestions to improve libra

1.3 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.
- Option of online Notice board Librarian will be able to provide a detailed description of workshops going in the college as well as in nearby colleges
- Lecture Notes Teacher have a facility to upload lectures notes in a pdf file having size not more than 10mb

CHAPTER 2

SOFTWARE REQUIREMENT SPECIFICATION

In this chapter, 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.

2.1 SOFTWARE REQUIREMENT SPECIFICATION

2.1.1 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.

ORGANIZATIONAL REQUIREMENT IMPLEMENTATION REQUIREMNTS

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

DELIVERY REQUIREMENTS

The whole system is expected to be delivered in six months of time with a weekly evaluation by the project guide.

2.1.3.2 FUNCTIONAL REQUIREMENTS

1. NORMAL USER

1.1 USER LOGIN

Description of feature This 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 acess 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

Description of feature

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

DESCRIPTION OF FEATURE

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 entered

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

1.5 ISSUE BOOKS AND RETURN BOOKS

DESCRIPTION OF FEATURE

This feature allows to issue and return books and also view 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

1.6 EVENT ADDITION

DESCRIPTION OF FEATURE

This feature allows teacher and student to add information about various workshops being conducted in college and colleges nearby.

Functional requirements

-System should be able to add detailed information about events.

-System should be able to display information on notice board available in the homepage of site

2.3 SOFTWARE TOOLS USED

The whole Project is divided in two parts the front end and the back end.

2.3.1 Front end

The front end is designed using of html, Php, css, Java script

• HTML- HTML or Hyper Text Markup Language is the main markup language for creating web pages and other information that can be displayed in a web browser.HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (like<html>), within the web page content. HTML tags most commonly come in pairs like <h1> and </h1>, although some tags represent empty elements and so are unpaired, for example <img>.**Error! Filename not specified.** . The first tag in a pair is the start tag, and the second tag is the end tag (they are also called opening tags and closing tags). In between these tags web designers can add text, further tags, comments and other types of text-based content. The purpose of a web browser is to read HTML documents

and compose them into visible or audible web pages. The browser does not display the HTML tags but uses the tags to interpret the content of the page.HTML elements form the building blocks of all websites. HTML allows images and objects to be embedded and can be used to create interactive forms. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. It can embed scripts written in languages such as JavaScript which affect the behavior of HTML web pages.

• CSS- **Cascading Style Sheets (CSS)** is a style sheet language used for describing the look and formatting of a document written in a markup language. While most often used to style web pages and interfaces written in HTML and XHTML, the language can be applied to any kind of XML document, including plain XML, SVG and XUL. CSS is a cornerstone specification of the web and almost all web pages use CSS style sheets to describe their presentation.CSS is designed primarily to enable the separation of document content from document presentation, including elements such as the layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple pages to share formatting, and reduce complexity and repetition in the structural content (such as by allowing for table less web design).CSS can also allow the same markup page to be presented in different styles for different rendering methods, such as on-screen, in print, by voice (when read out by a speech-based browser or screen reader) and on Braille-based, tactile devices. It can also be used to allow the web page to display differently depending on the screen size or device on which it is being viewed. While the author of a document typically links that document to a CSS file, readers can use a different style sheet, perhaps one on their own computer, to override the one the author has specified. However if the author or the reader did not link the document to a specific style sheet the default style of the browser will be applied.CSS specifies a priority scheme to determine which style rules apply if more than one rule matches against a particular element. In this so-called cascade, priorities or weights are calculated and assigned to rules, so that the results are predictable.

• JAVA SCRIPT- **JavaScript (JS)**is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed. It is also being used in server-side programming, game development and the creation of desktop and mobile applications. JavaScript is a prototype-based scripting language with dynamic typing and has firstclass functions. Its syntax was influenced by C. JavaScript copies many names and naming conventions from Java, but the two languages are otherwise unrelated and have very different semantics. The key design principles within JavaScript are taken from the Self and Scheme programming languages. It is a multiparadigm language, supporting object-oriented, imperative, and functional programming styles. The application of JavaScript to use outside of web pages—for example, in PDF documents, site-specific browsers, and desktop widgets—is also significant. Newer and faster JavaScript VMs and platforms built upon them (notably Node.js) have also increased the popularity of JavaScript for server-side web applications. On the client side, JavaScript was traditionally implemented as an interpreted language but just-in-time compilation is now performed by recent (post-2012) browsers.

• PHP- **PHP** is a server-side scripting language designed for web development but also used as a general-purpose programming language. PHP is now installed on more than 244 million websites and 2.1 million web servers. Originally created by Rasmus Lerdorf in 1995, the reference implementation of PHP is now produced by The PHP Group. While PHP originally stood for Personal Home Page, it now stands for PHP: Hypertext Pre-processor, a recursive backronym. PHP

code is interpreted by a web server with a PHP processor module, which generates the resulting web page: PHP commands can be embedded directly into an HTML source document rather than calling an external file to process data. It has also evolved to include a command-line interface capability and can be used in standalone graphical applications. PHP is free software released under the PHP License. PHP can be deployed on most web servers and also as a standalone shell on almost every operating system and platform, free of charge.

2.3.2 BACK END

The back end is designed using mysql which is databases used to design the databasees

MYSQL- MySQL ("My S-Q-L", officially, but also called "My Sequel") is (as of July 2013) the world's second most widely used open-source relational database management system (RDBMS). It is named after co-founder Michael Widenius daughter, My. The SQL phrase stands for Structured Query Language. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single forprofit firm, the Swedish company MySQL AB, now owned by Oracle Corporation.MySQL is a popular choice of database for use in web applications, and is a central component of the widely used LAMP open source web application software stack (and other 'AMP' stacks). LAMP is an acronym for "Linux, Apache, MySQL, Perl/PHP/Python." Free-software open source projects that require a full-featured database management system often use MySQL. For commercial use, several paid editions are available, and offer additional functionality. Applications which use MySQL databases Page 18 Library Management System include: TYPO3, MODx, Joomla, WordPress, phpBB, MyBB, Drupal and other software. MySQL is also used in many high-profile, large-scale websites, including Wikipedia, Google (though not for searches).

CHAPTER 3

METHODOLOGY

3.1 MODULES:

Module 1 - Student Login / Admin Login:

- Authentication of the user will be there.
- Username and password will be matched from our database. Once both username and password matches, then only a user is allowed to enter into the system.
- Similarly for admin there will be a authentication system.

Module 2 - Signup For New Uses:

- For new users there will be sign up option
- Various details like registration number, username, password etc. will be taken from the user and then it will be updated in our database.
- After this, the user will be redirected to the login page.

Module 3 - Student Profile:

- After successful login into system, user can see its details
- Various details which will be shown are:-
  - Issued books.
  - Date of issue.
  - When to return.
  - Current fine the user has to pay.
  - Searching book in the library.

Module 4 - Admin Panel:

- After successful login admin can keep track of the books issued
- It can also track various other details such as
  - Fine of all students.
  - Which book is issued by the student.
  - The number of copies of book which can help the librarian to know which book to order.

Module 5 – Book Search:

- Books present in the library can be searched
- The books can be searched on various parameters such as
  - Subject wise Search- If a student wants a book related to open source programming then system will show all the books related to osp present in the library.
  - Author Wise Search- Can search a book on particular author. The system will show all the books on that author available in the library
  - Year Wise Search- Searching a book based on particular edition will be available.

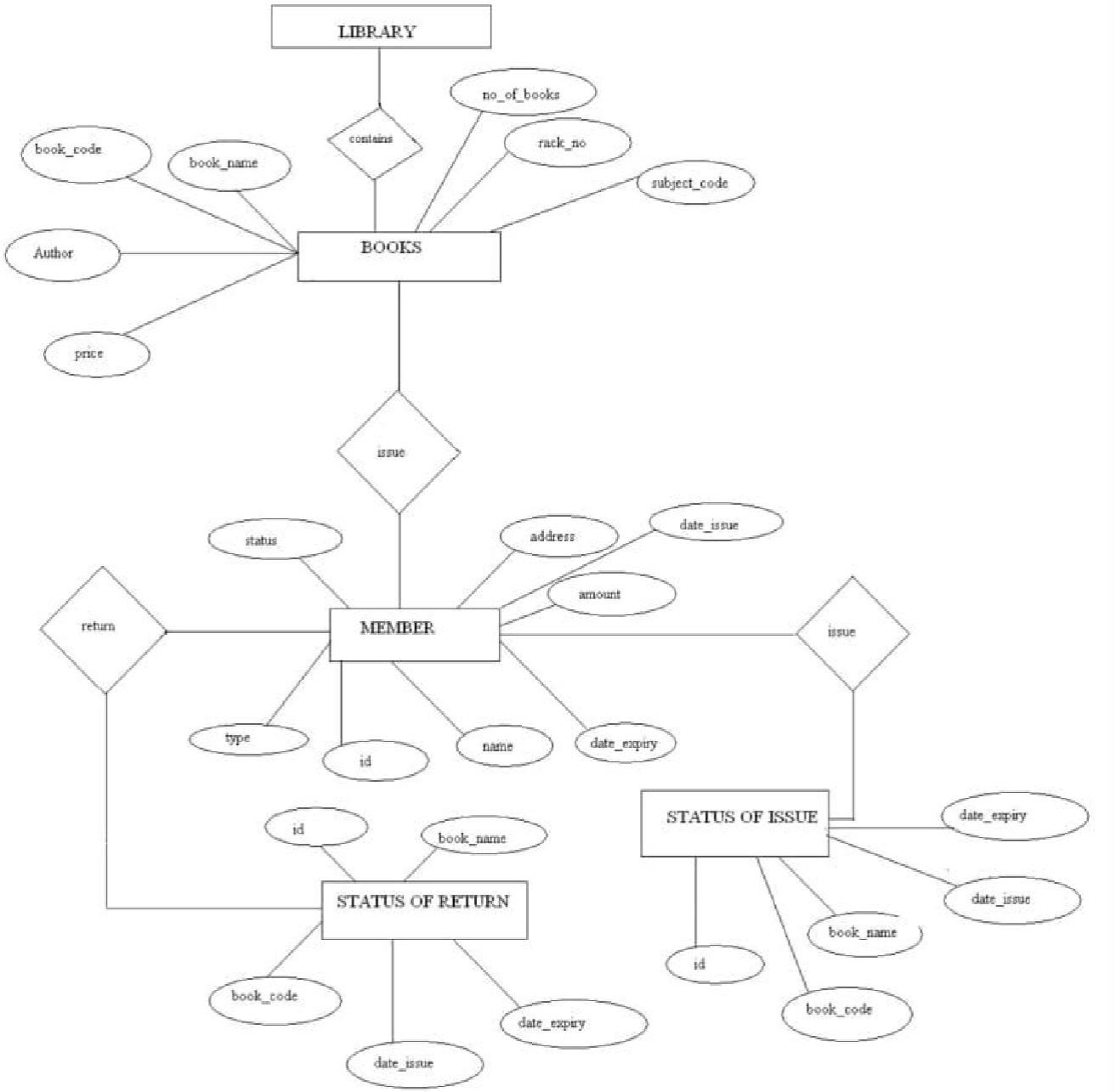
Module 6 - Book Recommendation:

- In this, user will be allowed to recommend any book he/she require.
- This information will go into the admin login where he can inform the higher authorities for supply of the books.

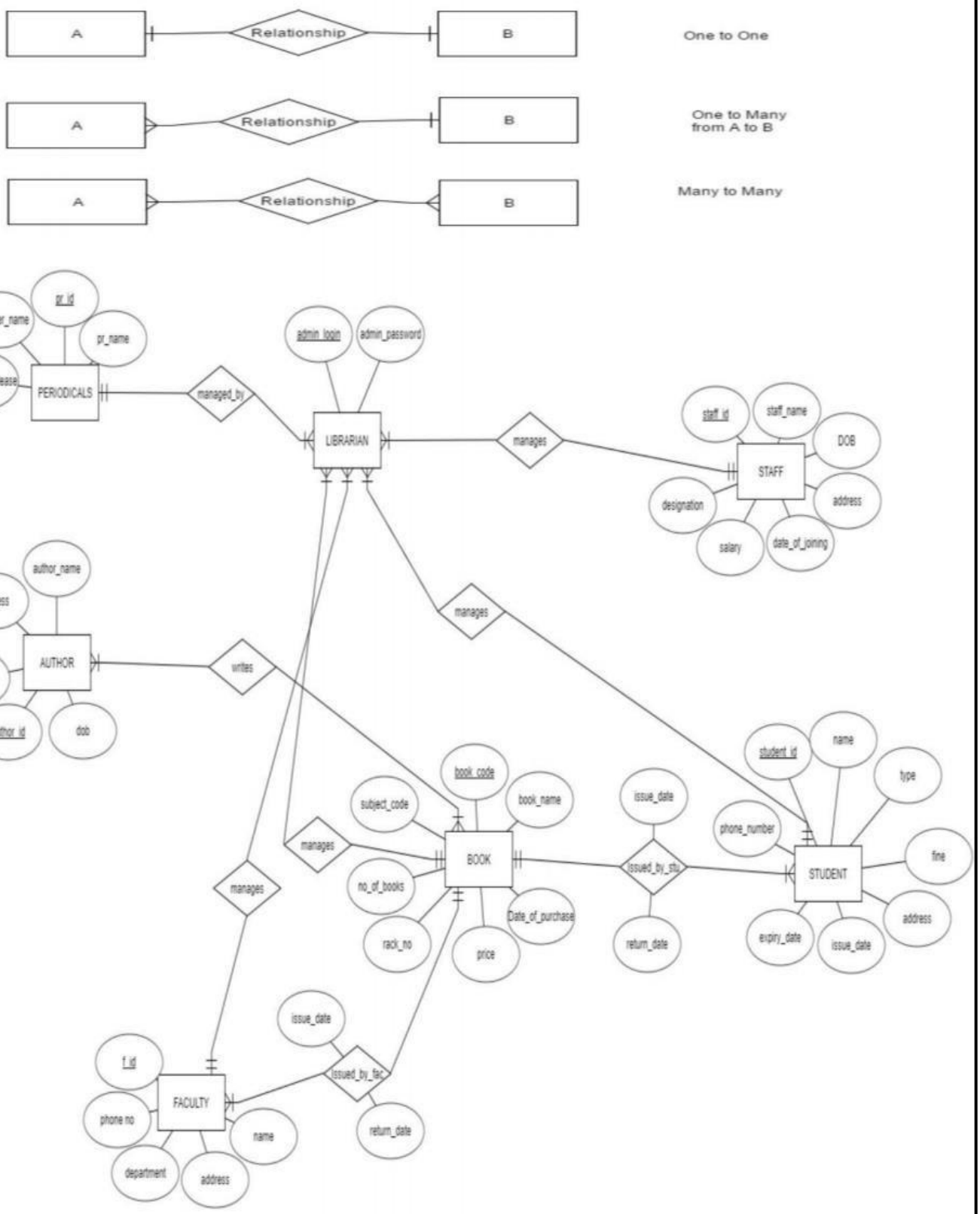
Module 7 – Feedback:

- Feedback will be taken from the user related to our system and all the feedback will be stored in a database and will be displayed in admin login which will help us to remove all the bugs and improve our library management system.

3.3 SYSTEM ARCHITECTURE DAIGRAM:



3.2 ER DIAGRAM:



CHAPTER 4

SCREENSHOTS

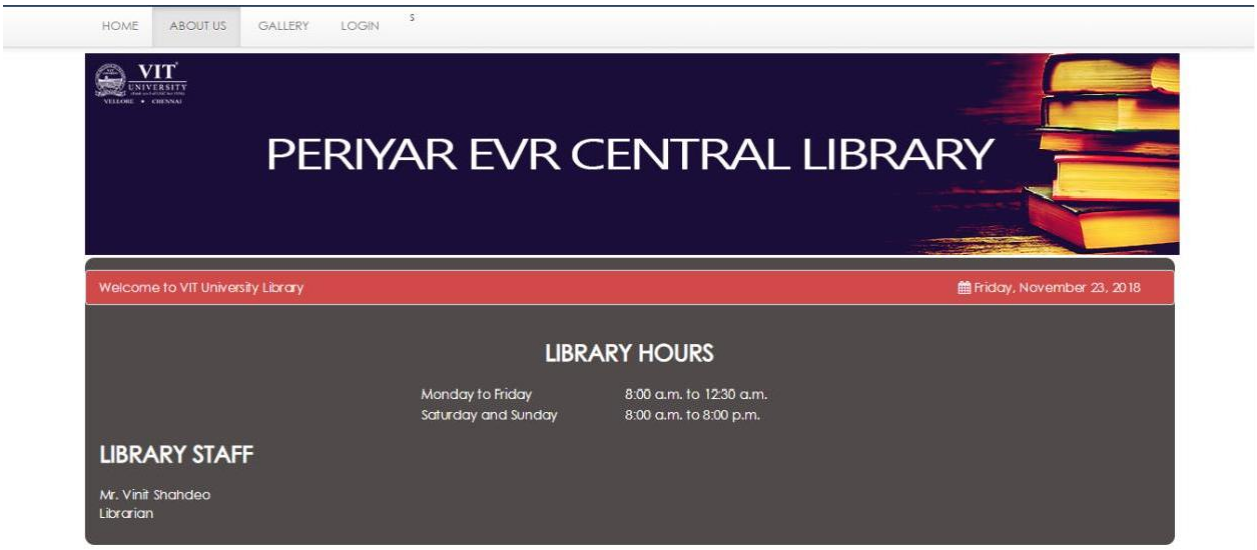


Fig:4.1

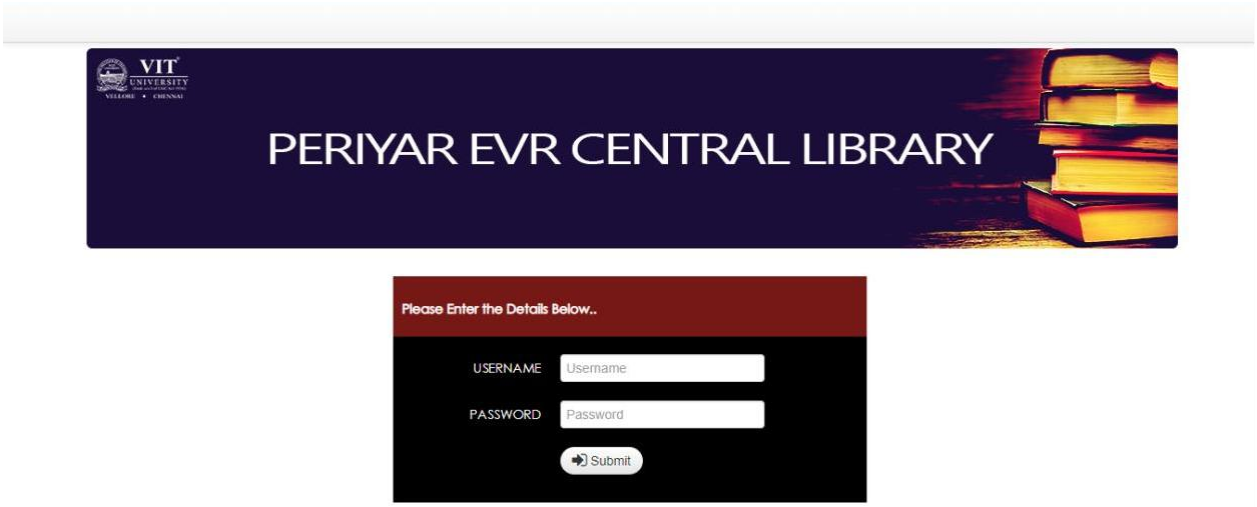


Fig: 4.2

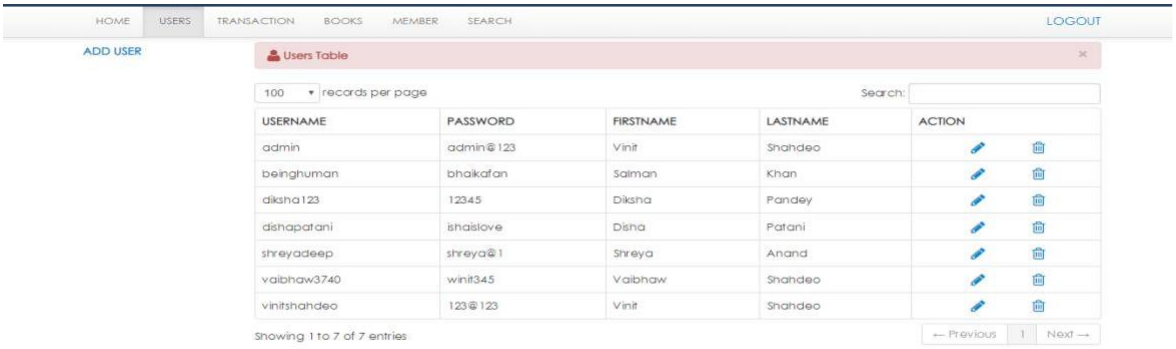


Fig 4.3

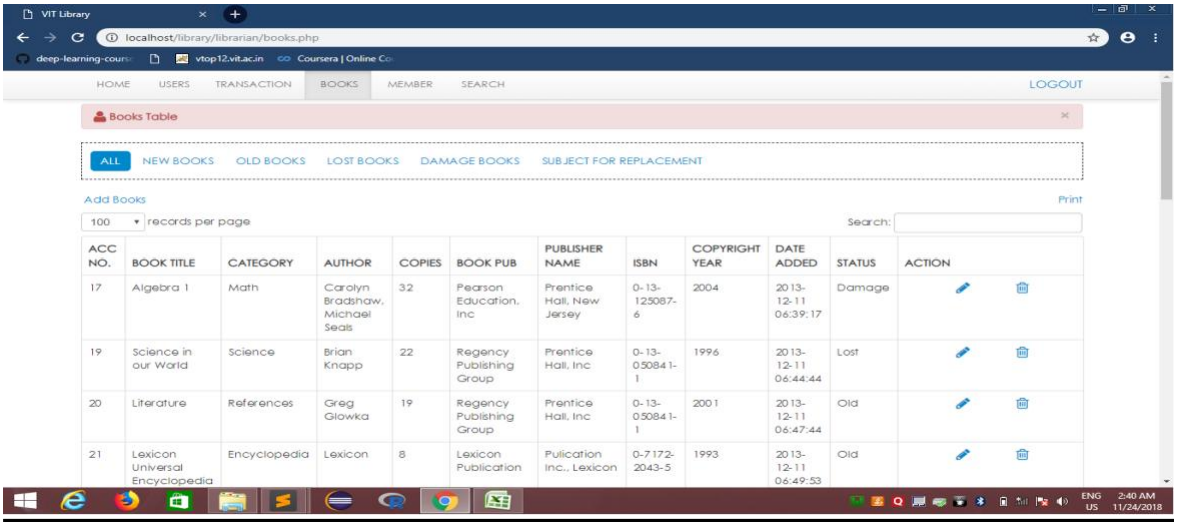


Fig 4.4

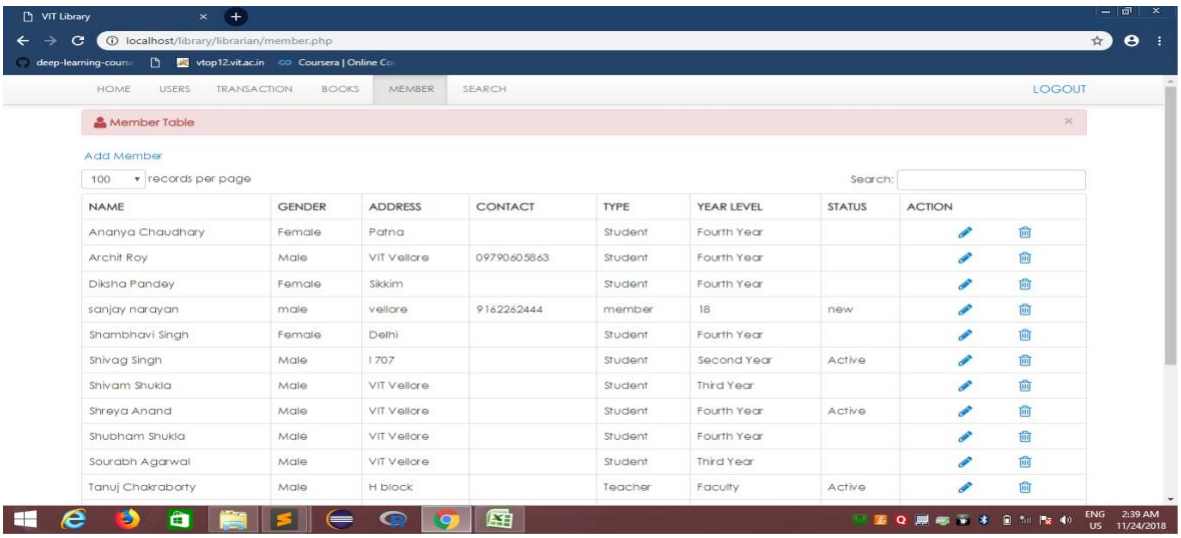
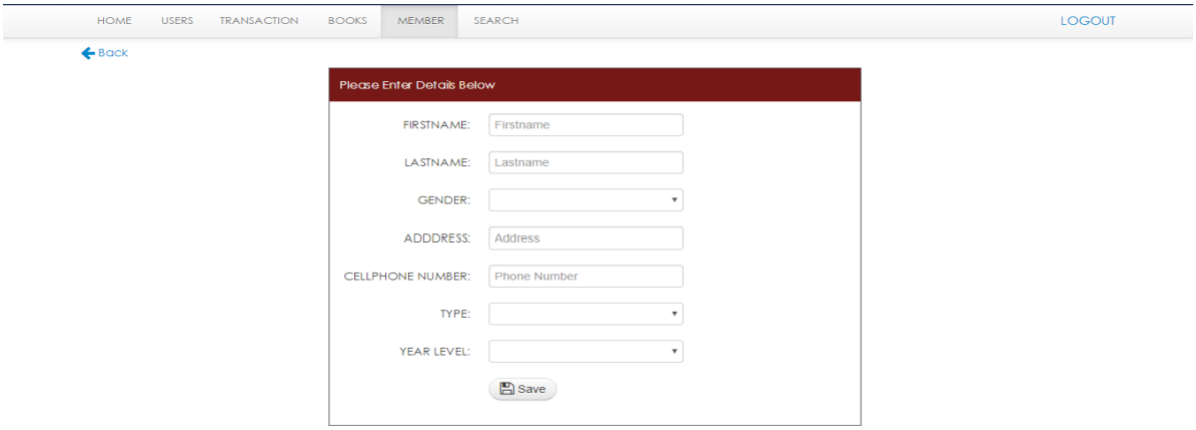


Fig 4.5



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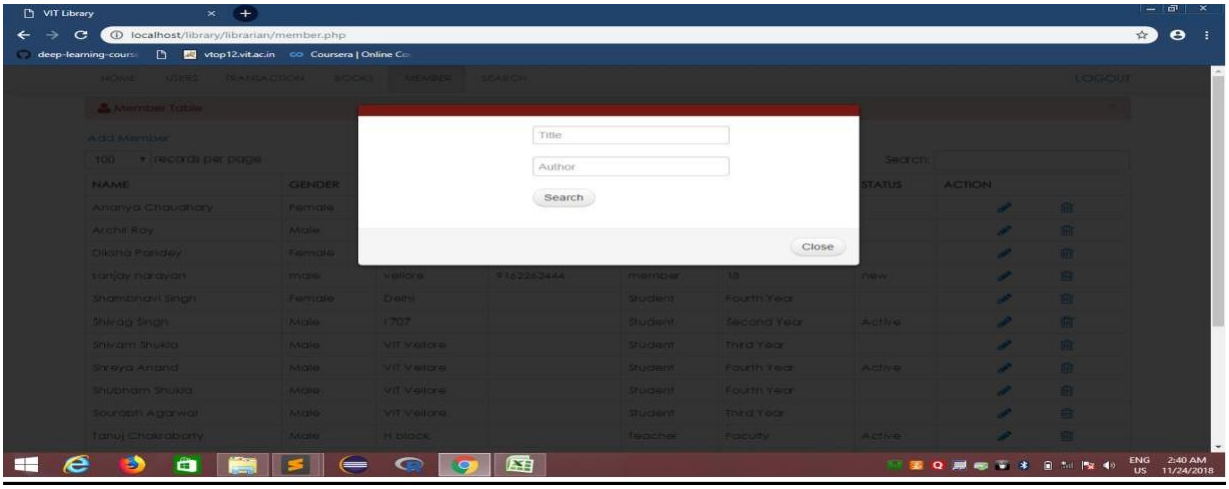

Fig 4.7

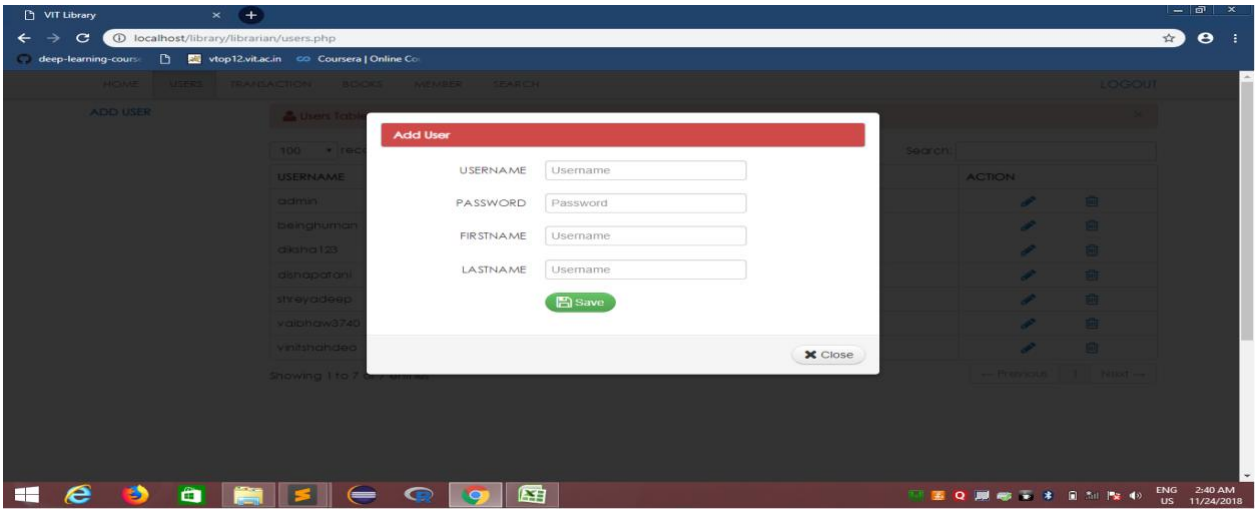

Fig 4.8

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.

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.

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