**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**Jnana Sangama, Belgaum-590018**



**A Computer Graphics Mini Project Report On**

**“**Library Management System**”**

**Submitted in Partial fulfillment of the Requirements for the VI Semester of the Degree of**

**Bachelor of Engineering**

**In**

**Computer Science & Engineering**

**By**

**Vinay M(1CR14CS160)** **Yash Jain(1CR14CS165)**

**Under the Guidance of**

**Mr.Sudhakar K N**

**Asst Professor, Dept. of CSE**



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**CMR INSTITUTE OF TECHNOLOGY**

#132, AECS LAYOUT, IT PARK ROAD, KUNDALAHALLI, BANGALORE-560037

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**CERTIFICATE**

This is to certify that the Computer Graphics Project work entitled **“Library Management System”** has been carried out by **Vinay M (1CR14CS160) Yash Jain (1CR14CS165),**  are bonafide students of CMR Institute Of Technology in partial fulfillment for the award of **Bachelor of Engineering** in **Computer Science and Engineering** of the Visvesvaraya Technological University, Belgaum during the year **2016-2017**. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The Graphics Project Report has been approved as it satisfies the academic requirements in respect of project work prescribed for the said Degree.

**------------------- -------------------**

**Signature of Guide Signature of HOD**

**Mr.Sudhakar K N Mrs. Swathi Y**

**Assoc Professor Assoc Professor**

**Dept. of CSE, CMRIT Dept. of CSE, CMRIT**

**ACKNOWLEDGEMENT**

##### While presenting this Graphics Project on Library Management System, I feel that it is our duty to acknowledge the help rendered to us by various persons.

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##### My heartful thanks to all those have contributed bits, bytes and words to accomplish this

**Vinay M (1 CR14CS 160)**

**Yash Jain (1CR14CS165)**

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**ABSTRACT**

***Library Management system***(LMS) is an application designed for effective management of the library form all aspect and to provide the information about the availability of the books, journals etc. And many other facilities to the member of the library.

***The facilities include***

Keeping the record of different categories like book, journals etc, online renewal of books. Easy way to make check-in and check-out, different criteria or searching the books like book\_name, author\_name and so on, online access to the registered users to know the status of their books, so the renewal of books can be done on any time, registrations for the new users.

**CHAPTER 1**

**INTRODUCTION**

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

**1.1 PROJECT AIMS AND OBJECTIVES**

The project aims and objectives that will be to provide online reservation of books for the users.

LMS has been divided into 9 modules.

* **File**: Easy maintenance of database through backup and restore.
* **Administration**: Creating the users with the access to specific module with the password and expiry date.
* **Acquisition**: Simplified purchase order generation and subscribing for journals for different vendors and sending PO through mails.
* **Cataloging**: Creating member categories material categories subject fixing due days and

fines.

* **Transaction**: Bar-code enable circulation (issue return and renewal)for a for all kind of

material automatic fine calculation, reservation and cancellation of material.

* **Documentation**: Report generation on material availability reminder, bar-code enable ID card with photo identity.
* **Print bar code**: Bar-code generation for material and library card generation.
* **Statistics**:Graphical representation of report on material distribution ,circulation rate, material in demand etc.
* **OPAC**: Searching materials and members.

The admin interface is desktop application which includes all the 9 modules mentioned above.

The user interface is a web application which includes:

* borrow books
* History/fines
* Due date/reminders
* Search book or availability
* Settings

##### 1.2 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.

##### 1.3 OPERATION ENVIRONMENT

|  |  |
| --- | --- |
| PROCESSOR | INTEL CORE PROCESSOR OR BETTER PERFORMANCE |
| OPERATING SYSTEM | UBUNTU,WINDOWS XP/7/8/10 |
| MEMORY | 1GB RAM OR MORE |
| HARD DISK SPACE | MINIMUM 3 GB FOR DATABASE USAGE FOR FUTURE |
| DATABASE | MY SQL |

**1.4 Features**

* Multi user package with database located in the server can be shared with individual notes.
* Create/ modify /delete different users with password and restricted module access.
* Generate purchase orders that can be sent by email directly. The system keeps track of item arrived as against the items ordered.
* Automatic tracking of items for ordered arrived reminders etc.
* Dynamic field addition (DFA) where in users can create new field and store data while

cataloguing.

* Semi automatic DDC(dewey decimal classification)based classification number generation.
* Automatic ID card for members and barcode generation for materials.
* Enhanced documentation facility for preparing detailed report in excel sheets.
* Graphical representation of Expenditure books and demand material distribution and stock status etc.
* Simplified series module with auto reminder.
* Expenditure monitoring through budget control for user defined grands.
* Digital library search through OPAC.
* Contain extensive online help facility to guide the uses.

## CHAPTER 2

## SYSTEM ANALYSIS

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 GENERAL DESCRIPTION

PRODUCT DESCRIPTION:

Library Management System is a computerized system which helps user(librarian and borrowers) 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 timesaving.

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 accdent 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 and efferts

Librarian is able to search record by using few clicks of mouse and few search keywords thus saving his valuable time. Also students don’t need to carry load till the library too frequently.

* 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.

###### 2.1.3 SYSTEM REQUIREMENTS

A. NON FUNCTIONAL REQUIREMENTS

 Product Requirements

EFFICIENCY REQUIREMENT

When a library management system will be implemented librarian and user will easily acess 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 ie 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. 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 acess to.

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

* 1. 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. REGISTER NEW BOOK

Description of feature

This feature allows to add new books to the library

1.4 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 enterd
    - 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.

###### 2.1.4 SOFTWARE AND HARDWARE REQUIREMENTS

This section describes the software and hardware requirements of the system

2.1.4.1 SOFTWARE REQUIREMENTS

* Operating system- Windows or Ubuntu can be used as the operating system as it is stable and supports more features and is more user friendly
* Database MYSQL-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, java script for styling work and php for sever side scripting.
* Java – java is required in the system where the esktop application has to be run.It is a cross plateform application soany operating system can install it.

2.1.4.2 HARDWARE REQUIREMENTS

* + Intel core i5 2nd 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 longtime. By using this processor we can keep on developing our project without any worries.
  + Ram 1 gb is used as it will provide fast reading and writing capabilities and will in turn support in processing

##### 2.2 EXISTING VS PROPOSED SYSTEM

1. 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
2. Existing system does not have a facility of online reservation of books whereas proposed system has a facility of online reservation of books
3. 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.
4. Existing system does not has any option of lectures notes uploaded by teachers whereas proposed system will have this facility
5. 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
6. Existing system does not has any facility for book request and sugeestions where as in proposed system after logging in to their accounts student can request books as well as provide suggestions to improve library

##### 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
* CSS
* JAVA SCRIPT
* PHP
* JAVA

2.3.2 BACK END

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

* MYSQL

## CHAPTER 3

## SYSTEM DESIGN

##### 3.1 DATA FLOW DIAGRAMS

USERSS



USERS

ENTER

URL

ENTER

USERNAME

&

PASSWORD

CHECK

VALIDITY

WEB SERVER

USER

DATABASE

LOGIN

PAGE

IF NOT VALID

DATA FLOW DIAGRAM FOR USER LOGIN

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



LIBRARIAN

URL

ENTER

USERNAME

&

PASSWORD

CHECK

VALIDITY

LIBRARIAN

DATABASE

LIBRARIAN

LOGIN

PAGE

IF NOT VALID

DATA FLOW DIAGRAM FOR LIBRARIAN LOGIN

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

STUDENT

LOGIN

PAGE

SELECT

BOOK

ISSUE

ENTER

BOOK

DETAIL

SELECT

BOOK

ISSUE

UPDATE

NO.

OF

COPIES

MESSAGE

“BOOK

RESERVED”

BOOK

DATABASE

IF

AVBL

LOGIN

TABLE

BOOK

DATABASE

LOGIN

DATABASE

IF NO.

OF

BOOK

ISSUED

LESS THAN

3

DATA FLOW DIAGRAM FOR BOOK ISSUE

It is a 2nd 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 issue.

HOME

SELECT

ADVANCE

SEARCH

ENTER

BOOK

DETAIL

BOOK

DETAILS

IF

FOUND

BOOK DATABASE

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.

DATA FLOW DIAGRAM FOR ACCOUNT CREATION

HOME

SELECT

ACCOUNT

CREATION

ENTER

STUDENT

DETAIL

ADMIN

VERIFY

STUDEN

T

MESSAGE

SENT

TO

STUDENT

ADMIN DATABASE

STUDENT DATABASE

IF ALL REG. IS

PARTIALLY FILLED

IF VALID

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.

## CHAPTER 4

## SYSTEM IMPLEMENTATION

**4.1.1 Screenshot for homepage**



##### 4.1 MODULE DESCRIPTION

For Library Management System it is divided into the following Modules:

* ***File:***

File menu and encompasses major database file operations viz. creating backup log details etc. This help in safe operation on database and to prevent historic data for analysis in future.

* File menu contains:
* Backup
* MARC21 tag registration
* Export to MARC21 format.
* Client registration
* Clear order transaction
* Clear old dailies
* Log details
* ***Administrator:***

Administrator menu maintains user's profile. User can be added through ad user Menu option with access to different areas or can be deleted from the list of the users. The profile of the users can be modified at any time. Administrator menu contains:

* Add user, modify user , Delete user
* Find and replace
* Member category
* Requisition approval
* Add membership id
* Holy day Masters
* ***Acquisition:***

This menu option can be used to maintain the detail of purchase of item journal of etc. Purchase detail of items such as order number purchase series number are being maintained.

* Acquisition menu contains:
* Regular purchase
* Subscription
* Schedule master
* ***Cataloging:***

This menu option can be used to maintain the master detail of item, member, vendors etc. Master detail for items such as material category ,accession number ,call number etc are being maintained by material master. Master detail for members such as name registration number address number of book allowed etc.are being maintained by member master. Master detail for vendors such as vendor name address contact number etc are being maintained by vendor master. The latest currency value against each currency can be maintained through currency value master. List of holidays for a year can be maintained through holiday master.

Cataloging menu contains:

* Material category
* General category
* Member category
* Dailies
* ***Transaction:***

In circulation entry the registration number with automatically displays the detail corresponding to that registration number. Alternately the member card can be scanned with the scanner for register number and the item can be scanned for the access number. Where's the excess number is entered the status of the item is displayed. Transaction menu contains:

* Circulation
* Reservation /cancellation
* Binding
* ***Documentation:***

This menu option can be used for generating reports like stock statement, circulation history, expenditure report, non arrival of periodicals, reminder for pending books, fine collection report, ID card generation, bar code generation for item etc. Documentation menu contains:

* Material report
* unique title
* department wise titles
* journal reports
* periodicals not received
* purchase order report
* daily or magazine report
* membership report
* circulation report
* overdue reminder
* reservation report
* stock verification
* expenditure analysis
* vendor report
* budget report
* holiday report
* no due certificate
* fine collection report
* ***Print bar-code:***

This menu option can be used to setting and print library membership card with the bar-code and to print access number call number and bar-code in label for material. The printed bar-code will be used for fast circulation. Print bar-code menu contains:

* Print library card
* print bar-code labels
* card setting label
* setting

* ***Statistics:***

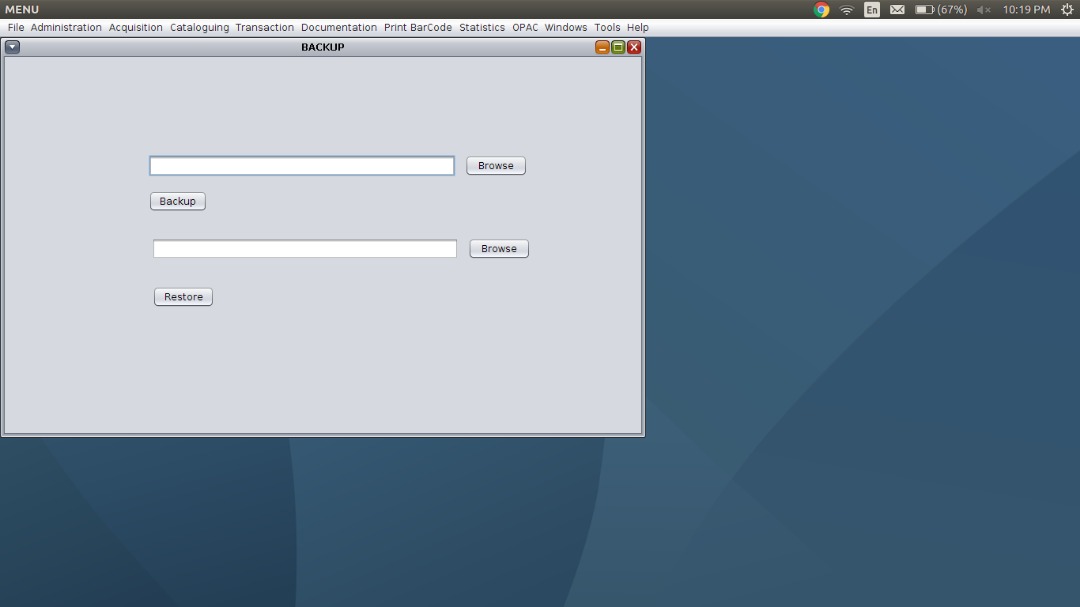
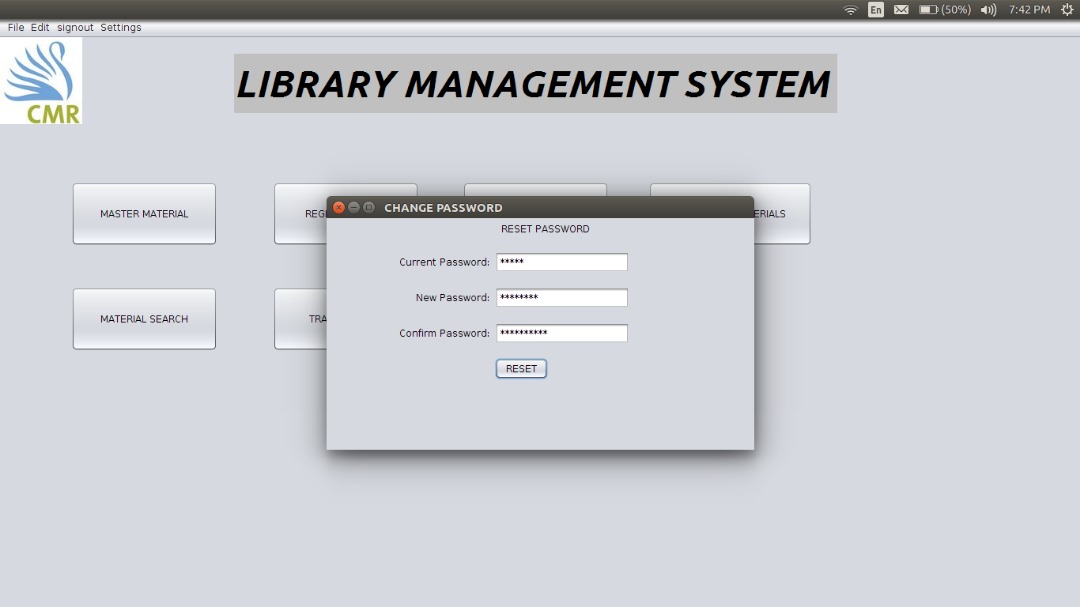
This menu option can be used to plot a graph of detail of budget analysis, circulation rate, expenditure analysis material and demand Stock Analysis etc.

Statistic menu contains:

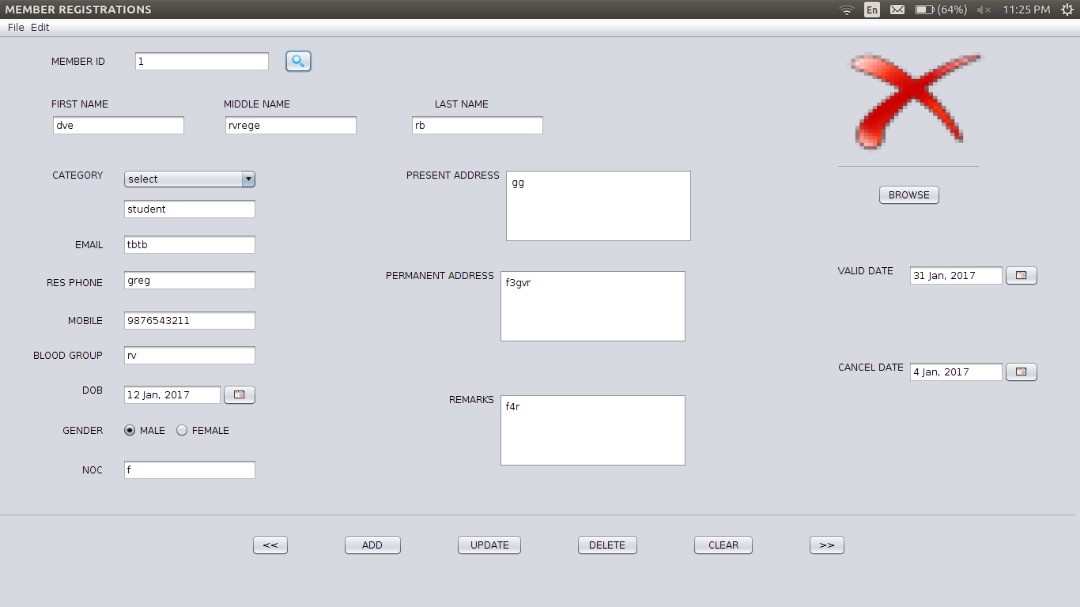
* Budget analysis
* category wise title collection
* circulation rate
* department wise material expenditure
* department wise title collection
* expenditure analysis
* material in demand
* material in demand with category
* Stock Analysis
* title collection
* ***Help:***

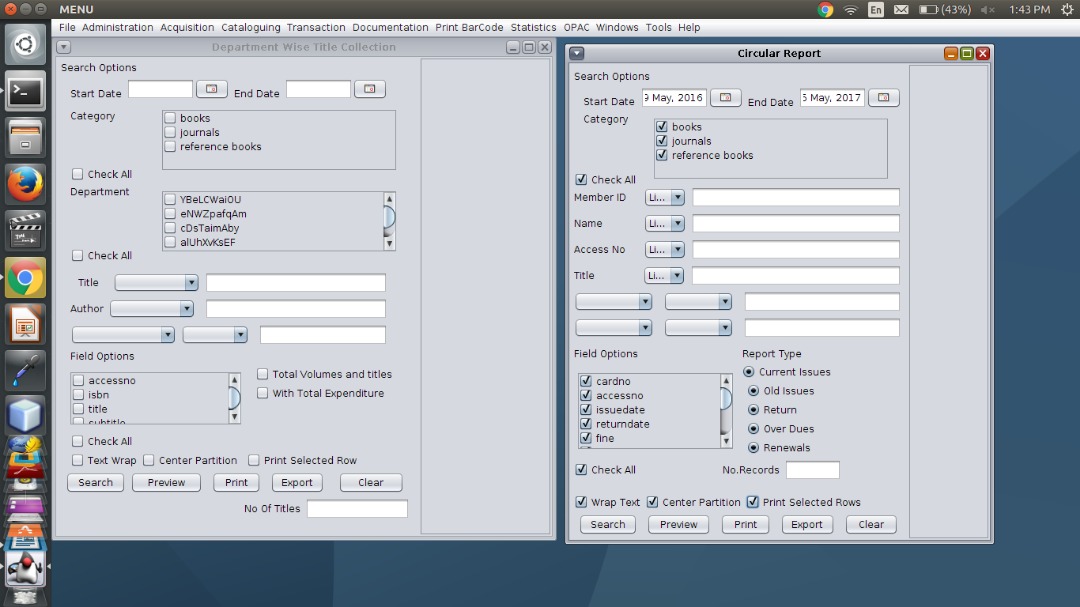
this option is to view help either through topics or index search. click on any topic under content to know more about it.

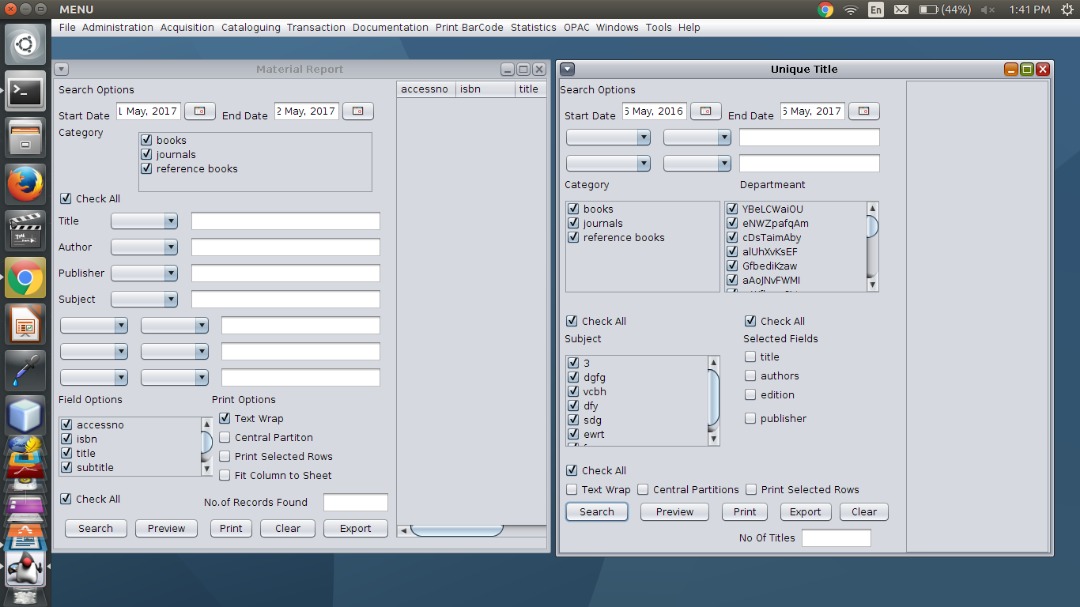
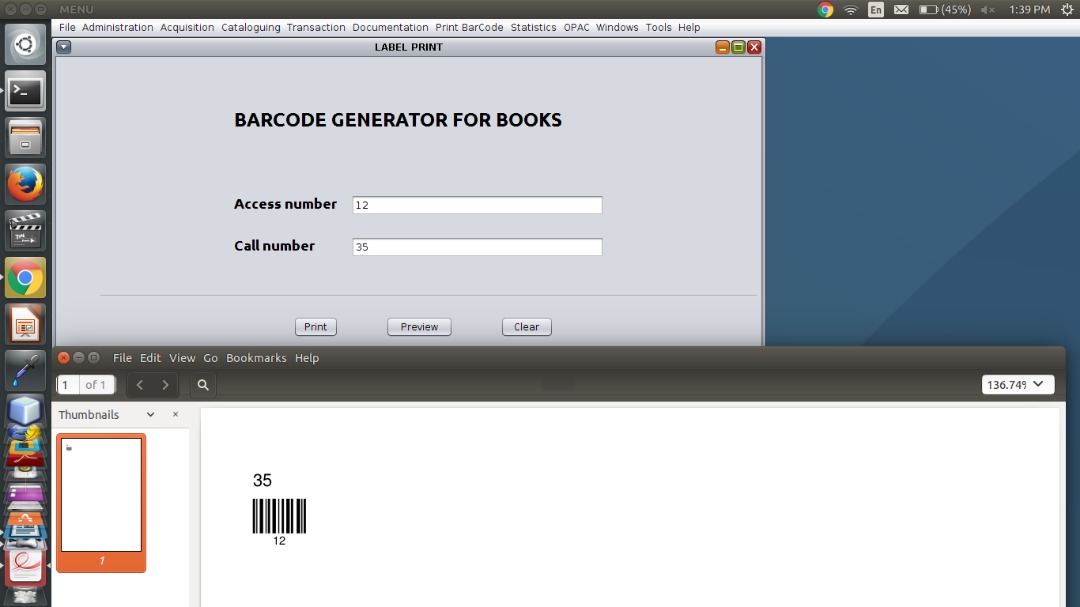
**4.2 SCREEN SHOTS (Desktop Application)**

4.2.1 Backup  4.2.2 Change Password

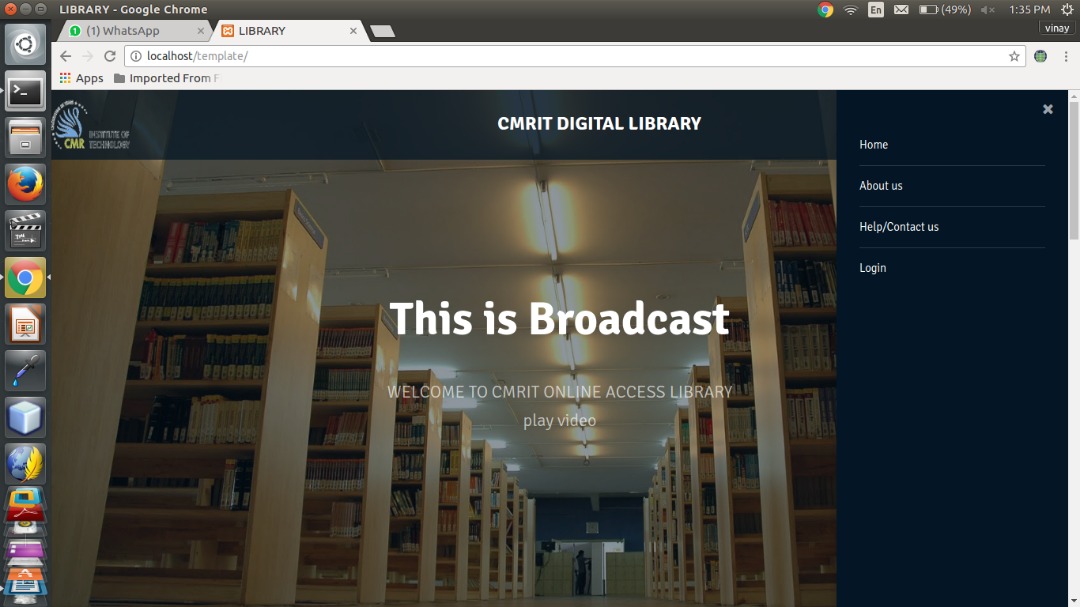
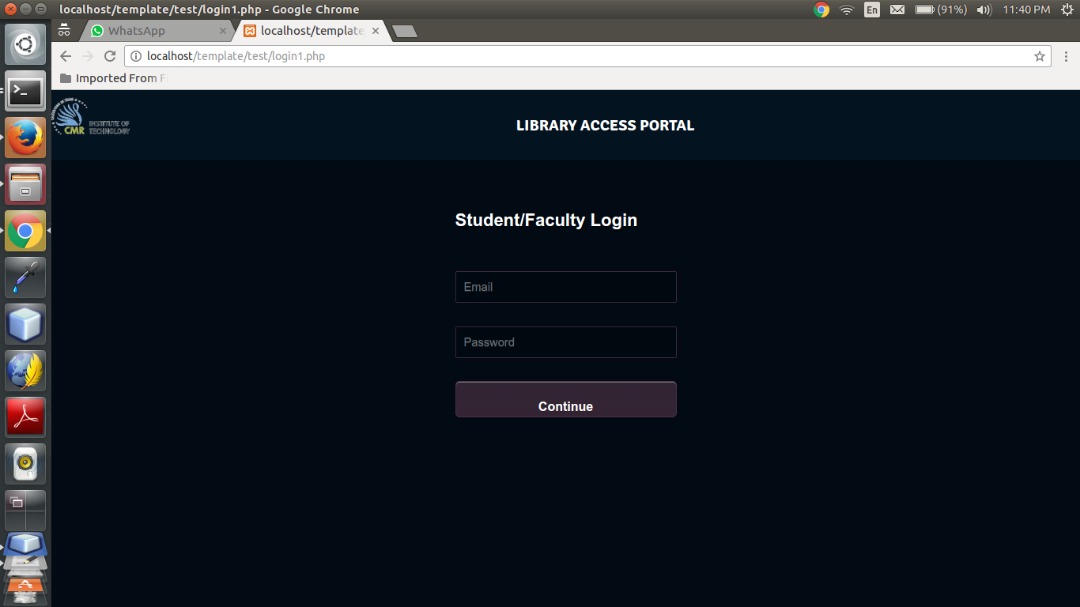
4.2.3 Member Registration



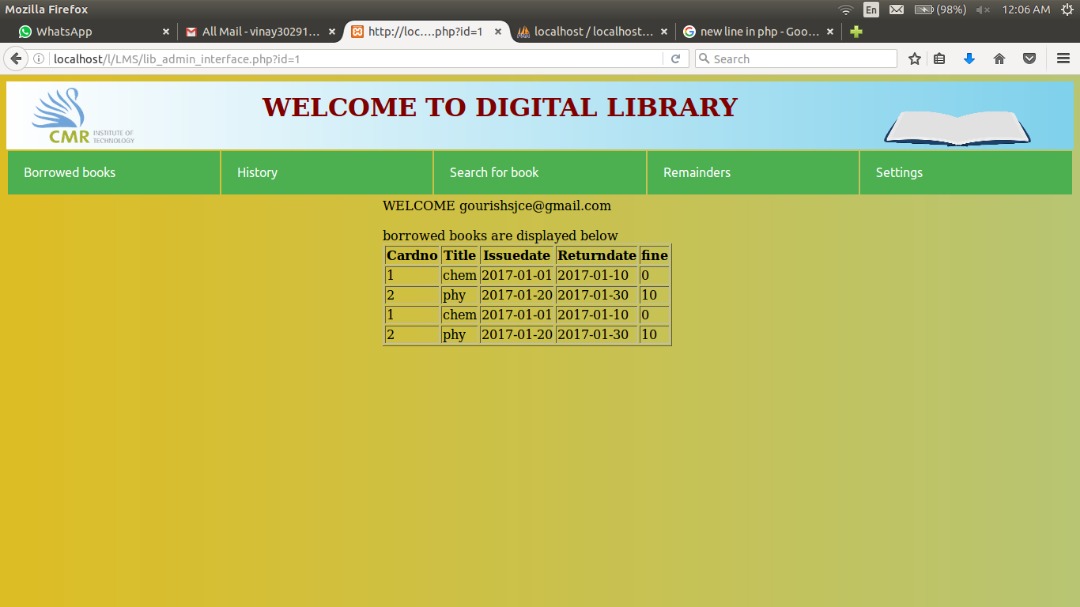
4.2.4 Circular Report and Department Wise Sale Report

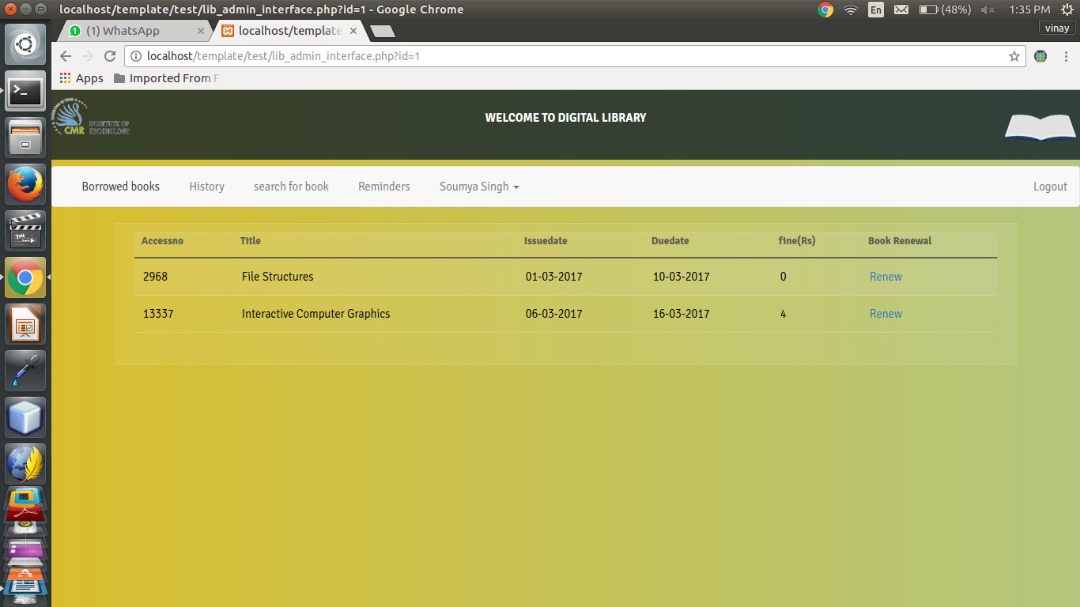
4.2.5 Material Report & Unique Title4.2.6 Barcode Generator

**4.2 SCREEN SHOTS (WEBSITE)**

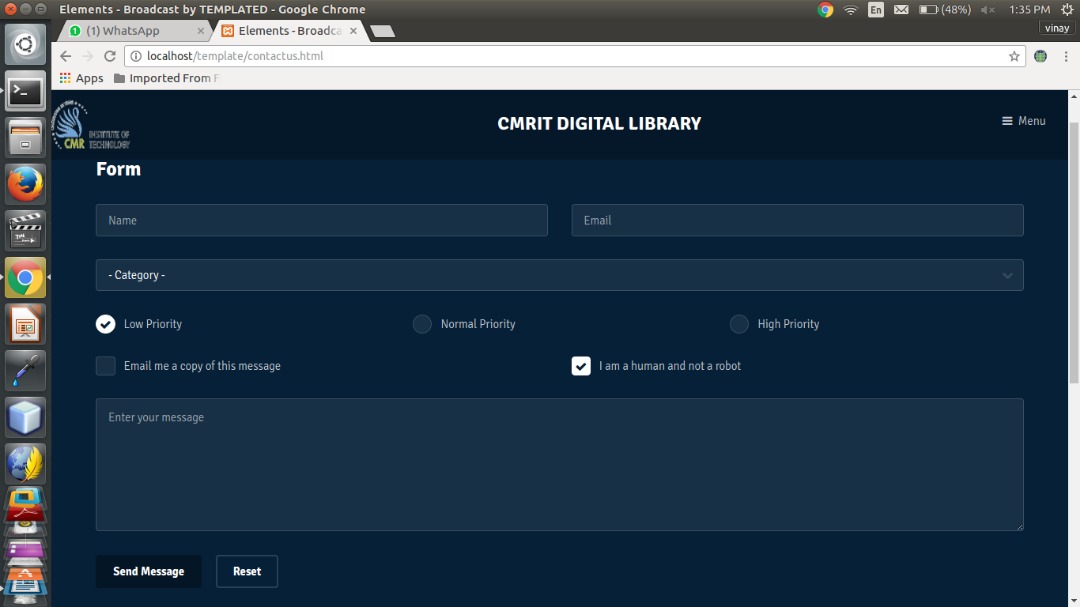
4.2.1 Front Page  4.2.2 Login Page 

4.2.3 Borrowed Books



4.2.4 History

4.2.5 Comment Section



**4.3 CODE BLOCK**

Login Page Code

/\*

\* To change this license header, choose License Headers in Project Properties.

\* To change this template file, choose Tools | Templates

\* and open the template in the editor.

\*/

package javaapplication1;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.text.DateFormat;

import java.text.SimpleDateFormat;

import java.util.Date;

import javax.swing.JOptionPane;

//import loginpage.NewJFrame1;

/\*\*

\*

\* @author vinay

\*/

public class NewJFrame extends javax.swing.JFrame {

/\*\*

\* Creates new form NewJFrame

\*/

public NewJFrame() {

super("LIBRARY MANAGEMENT SYSTEM-CMRIT");

this.setExtendedState(NewJFrame.MAXIMIZED\_BOTH); //for full screen

initComponents();

// getContentPane().setBackground(new Color(211,211,211));

}

@SuppressWarnings("unchecked")

private void initComponents() {

jLayeredPane1 = new javax.swing.JLayeredPane();

jPasswordField1 = new javax.swing.JPasswordField();

jTextField1 = new javax.swing.JTextField();

jLabel1 = new javax.swing.JLabel();

jButton1 = new javax.swing.JButton();

jLabel3 = new javax.swing.JLabel();

jLabel2 = new javax.swing.JLabel();

jSeparator1 = new javax.swing.JSeparator();

jLabel5 = new javax.swing.JLabel();

jLabel6 = new javax.swing.JLabel();

jLabel7 = new javax.swing.JLabel();

jLabel4 = new javax.swing.JLabel();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT\_ON\_CLOSE);

setCursor(new java.awt.Cursor(java.awt.Cursor.DEFAULT\_CURSOR));

getContentPane().setLayout(null);

jLayeredPane1.setBackground(java.awt.SystemColor.menu);

jLayeredPane1.setBorder(new javax.swing.border.SoftBevelBorder(javax.swing.border.BevelBorder.RAISED));

jLayeredPane1.add(jPasswordField1);

jPasswordField1.setBounds(160, 140, 219, 27);

jTextField1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jTextField1ActionPerformed(evt);

}

});

jLayeredPane1.add(jTextField1);

jTextField1.setBounds(160, 80, 219, 27);

jLabel1.setBackground(new java.awt.Color(176, 1, 169));

jLabel1.setFont(new java.awt.Font("Ubuntu", 1, 25)); jLabel1.setForeground(java.awt.SystemColor.info);

jLabel1.setText("LOGIN");

jLayeredPane1.add(jLabel1);

jLabel1.setBounds(166, 3, 100, 30);

jButton1.setText("SUBMIT");

jButton1.addActionListener(new java.awt.event.ActionListener() {

public void actionPerformed(java.awt.event.ActionEvent evt) {

jButton1ActionPerformed(evt);

}

});

jLayeredPane1.add(jButton1);

jButton1.setBounds(160, 190, 150, 42);

jLabel3.setFont(new java.awt.Font("Ubuntu", 1, 20)); // NOI18N

jLabel3.setForeground(java.awt.SystemColor.controlLtHighlight);

jLabel3.setText("PASSWORD:");

jLayeredPane1.add(jLabel3);

jLabel3.setBounds(20, 130, 121, 32);

jLabel2.setBackground(javax.swing.UIManager.getDefaults().getColor("Button.shadow"));

jLabel2.setFont(new java.awt.Font("Ubuntu", 1, 20)); // NOI18N

jLabel2.setForeground(java.awt.SystemColor.controlLtHighlight);

jLabel2.setText("USERNAME:");

jLayeredPane1.add(jLabel2);

jLabel2.setBounds(20, 80, 117, 32);

jLayeredPane1.add(jSeparator1);

jSeparator1.setBounds(3, 33, 394, 6);

getContentPane().add(jLayeredPane1);

jLayeredPane1.setBounds(480, 260, 400, 273);

jLabel5.setBackground(java.awt.Color.lightGray);

jLabel5.setFont(new java.awt.Font("Ubuntu", 3, 48)); // NOI18N

jLabel5.setText("LIBRARY MANAGEMENT SYSTEM");

jLabel5.setOpaque(true);

getContentPane().add(jLabel5);

jLabel5.setBounds(410, 40, 763, 75);

jLabel5.getAccessibleContext().setAccessibleDescription("");

jLabel6.setBackground(new java.awt.Color(21, 34, 76));

getContentPane().add(jLabel6);

jLabel6.setBounds(540, 150, 400, 270);

jLabel7.setBackground(new java.awt.Color(214, 237, 230));

jLabel7.setIcon(new javax.swing.ImageIcon(getClass().getResource("/javaapplication1/imageedit\_1\_6238757994.png"))); // NOI18N

jLabel7.setBorder(javax.swing.BorderFactory.createEmptyBorder(1, 1, 1, 1));

jLabel7.setOpaque(true);

getContentPane().add(jLabel7);

jLabel7.setBounds(20, 10, 232, 110);

jLabel4.setIcon(new javax.swing.ImageIcon(getClass().getResource("/javaapplication1/Resized-LQJH9.jpg"))); // NOI18N

getContentPane().add(jLabel4);

jLabel4.setBounds(0, 0, 1400, 820);

pack();

}// </editor-fold>

private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {

if(jTextField1.getText().length()==0) // Checking for empty field

JOptionPane.showMessageDialog(null, "Empty fields detected ! Please fill up all fields");

else if(jPasswordField1.getPassword().length==0) // Checking for empty field

JOptionPane.showMessageDialog(null, "Empty fields detected ! Please fill up all fields");

else{

String user = jTextField1.getText(); // Collecting the input

char[] pass = jPasswordField1.getPassword(); // Collecting the input

String pwd = String.copyValueOf(pass); // converting from array to string

if(validate\_login(user,pwd))

{

DateFormat dateFormat = new SimpleDateFormat("yyyy/MM/dd ");

DateFormat dateFormat1 = new SimpleDateFormat("HH:mm:ss");

//get current date time with Date()

Date date = new Date();

Date date1 = new Date();

//System.out.println(dateFormat.format(date));

Connection conn=null;

PreparedStatement pstmt=null;

try

{

Class.forName("com.mysql.jdbc.Driver");

conn=DriverManager.getConnection("jdbc:mysql://127.0.0.1/library?" + "user=root&password=vinay");

pstmt=conn.prepareStatement("insert into lastlogin(time,memname,date) values(?,?,?)");

pstmt.setString(1, dateFormat1.format(date1));

pstmt.setString(2,user);

pstmt.setString(3, dateFormat.format(date));

int i=pstmt.executeUpdate();

if(i>0)

{

//JOptionPane.showMessageDialog(null, "data is saved");

}

else

{

//JOptionPane.showMessageDialog(null, "data not saved");

}

}

catch(Exception e){

JOptionPane.showMessageDialog(null, e);

}

NewJFrame.this.setVisible(false);

//menu CAL = new menu(user);

inter CAL= new inter();

CAL.setVisible(true);

//JOptionPane.showMessageDialog(null, "login.java");shows dialog box;

}

else

JOptionPane.showMessageDialog(null, "Incorrect Login Credentials");

} // TODO add your handling code here:

}

private void jTextField1ActionPerformed(java.awt.event.ActionEvent evt) {

// TODO add your handling code here:

}

private boolean validate\_login(String username,String password) {

try{

Class.forName("com.mysql.jdbc.Driver"); // MySQL database connection

java.sql.Connection conn = DriverManager.getConnection("jdbc:mysql://203.201.63.39/library" + "user=vinay&password=vinay");

java.sql.PreparedStatement pst = conn.prepareStatement("Select \* from login where username=? and password=?");

pst.setString(1, username);

pst.setString(2, password);

ResultSet rs = pst.executeQuery();

return rs.next();

}

catch(ClassNotFoundException | SQLException e){

return false;

}

}

/\*\*

\* @param args the command line arguments

\*/

public static void main(String args[]) {

/\* Set the Nimbus look and feel \*/

//<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">

/\* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.

\* For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html

\*/

try {

for (javax.swing.UIManager.LookAndFeelInfo info : javax.swing.UIManager.getInstalledLookAndFeels()) {

if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());

break;

}

}

} catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(NewJFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(NewJFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(NewJFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

} catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(NewJFrame.class.getName()).log(java.util.logging.Level.SEVERE, null, ex);

}

//</editor-fold>

/\* Create and display the form \*/

java.awt.EventQueue.invokeLater(new Runnable() {

public void run() {

new NewJFrame().setVisible(true);

}

});

}

private javax.swing.JButton jButton1;

private javax.swing.JLabel jLabel1;

private javax.swing.JLabel jLabel2;

private javax.swing.JLabel jLabel3;

private javax.swing.JLabel jLabel4;

private javax.swing.JLabel jLabel5;

private javax.swing.JLabel jLabel6;

private javax.swing.JLabel jLabel7;

private javax.swing.JLayeredPane jLayeredPane1;

private javax.swing.JPasswordField jPasswordField1;

private javax.swing.JSeparator jSeparator1;

private javax.swing.JTextField jTextField1;

}

**CHAPTER 5**

# SYSTEM TESTING

The aim of the system testing process was to determine all defects in our project .The program was subjected to a set of test inputs and various observations were made and based on these observations it will be decided whether the program behaves as expected or not.

Our Project went through two levels of testing

1.Unit testing

2.Integration testing

## 5.1 UNIT TESTING

Unit testing is undertaken when a module has been created and succesfully reviewed .In order to test a single module we need to provide a complete environment ie besides the module we would require

* The procedures belonging to other modules that the module under test calls
* Non local data structures that module accesses
* A procedure to call the functions of the module under test with appropriate parameters

Unit testing was done on each and every module that is described under module description of chapter 4

1. Test For the admin module

* Testing admin login form-This form is used for log in of administrator of the system.In this we enter the username and password if both are correct administration page will open other wise if any of data is wrong it will get redirected back to the login page and again ask for username and password
* Student account addition- In this section the admin can verify student details from student academinc info and then only add student details to main library database it contains add and delete buttons if user click add button data will be added to student database and if he clicks delete button the student data will be deleted
* Book Addition- Admin can enter details of book and can add the details to the main book table also he can view the books requests .

1. Test for Student login module
   * Test for Student login Form-This form is used for log in of Student .In this we enter thelibraryid, username and password if all these are correct student login page will open other wise if any of data is wrong it will get redirected back to the login page and again ask for libraryid, username and password.
   * Test for account creation- This form is used for new account creation when student does not fill the form completely it asks again to fill the whole form when he fill the form fully it gets redirected to page which show waiting for conformation message as his data will be only added by administrator after verification.
2. Test for teacher login module-

 Test for teacher login form- This form is used for logg in of teacher .In this we enter the username and password if all these are correct teacher login page will open other wise if any of data is wrong it will get redirected back to the login page and again ask for username and password.

## 5.2 INTEGRATION TESTING

In this type of testing we test various integration of the project module by providing the input .The primary objective is to test the module interfaces in order to ensure that no errors are occurring when one module invokes the other module.

# CHAPTER 6

# CONCLUSION & FUTURE SCOPE

This project 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 fulfills each users need in the best way possible

# CHAPTER 7

# REFERENCES

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