**SAVITRIBAI PHULE PUNE UNIVERSITY**

**A PRELIMINARY PROJECT REPORT ON**

**“Library Management System**

**SUBMITTED TOWARDS THE PARTIAL FULFILMENT OF THE REQUIREMENTS OF**

**BACHELOR OF ENGINEERING (TE COMPUTERENGINEERING)**

**Academic Year: 2019-20**

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**Under The Guidance of**

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**PIMPRI CHINCHWAD COLLEGE OF ENGINEERING**

**SECTOR 26, NIGDI, PRADHIKARAN**

***ABSTRACT***

*The project titled “Library Management System” is Library management software for monitoring and controlling the transaction in library. The software has features such as adding new user to library, adding librarian staff, adding books to library, issuing and returning books from user. Through software user can get details whether a book is available in library or not so through which it can save time to search book.*

*Project is developed in java using java swing as frontend and oracle database as a backend. “Library management system” is designed to help user to maintain and organize library.*

***INTRODUCTION***

*Library management system is computerized system which helps user to manage library daily activity effectively. It has several advantages over a regular management of library such as easy record maintenance of book issue and return,*

*no loss of data, faster retravel of details about book, easier statistical analysis of book stock in library.*

***Problem Statement***

*Manual process of keeping student records, book records, account details, managing employee is very difficult. There are various problems also faced by the student in library such as finding any particular book, information whether book is available or not, for what time this book will be available, searching of books using ISBN number etc.*

***Project Idea***

*To eliminate this manual system, library management system has been developed. It will handle all the current issues faced by the students and by its admin personnel*

*The project objectives are:*

* *To design a user-friendly graphical user interface which suit the users*
* *To complete the application according to project schedule*
* *To develop a network-based application for managing library. Providing details of books and access to user.*
* *Objective of an “Library Management System” is to make an easy access of book details to students and teachers. System will be beneficial by providing status of books as available or issued by someone. Through this system one can maintain records of books. It will be beneficial by providing the book status due to which library user will not save his or her time.*

***Motivation***

*Data is important resource so to maintain data record is an important concern. Beside this time to search a book in library even if book is available or not is main motivation behind project. Through this project we try to maintain reliable data along with efficient access about details of book so user can save his or her time.*

***Scope***

*Our project is based on an offline database system. We can extend project by moving database to cloud storage such as amazon web services so that it can be integrated with an android application through which one can search details about book through it along with logs of issued book.*

***Requirement Analysis***

*Non-functional Requirements*

*1.Products Requirements Efficiency requirements*

*With the library management system, the librarian can process in book transaction with faster speed. It is because by reviewing the application they can get the information they want and they do not need to ask the librarian.*

*2.Reliability requirements*

*The application must immediately update. So, when the member visit, they could get the latest information and also, they can provide latest information to us. Example, when the member changes the profile, the information must be immediately update and the detail get by the librarian must be the latest. Other than that, the pages which needed user key-in will be validate to prevent user key-in wrongly.*

*3.Usability requirements*

*The application must be designed user-friendly so that the user is easy to learn when they first get in to the application. It also must have the clear instruction so that the user will be guided when using the application. After that, the error message should be clear and understanding for user.*

*Functional Requirement:*

*1.User login.*

*2.Search book*

*3. Maintain user profile.*

*4. Maintain borrowed book.*

*5.View Reports.*

*6.Maintain database.*

***PROJECT DESIGN***

***Functional requirement:***

1. *USER LOGIN: This Feature is used by user to login into system. They are required to enter username and password before enter into system. The username and password.*
2. *Register new user*
3. *Add new Book:*
4. *Issue and Return Book*

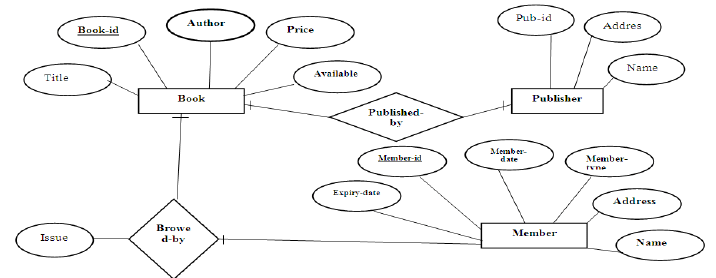
***Hardware Requirement***

* *Computer*
* *Internet*

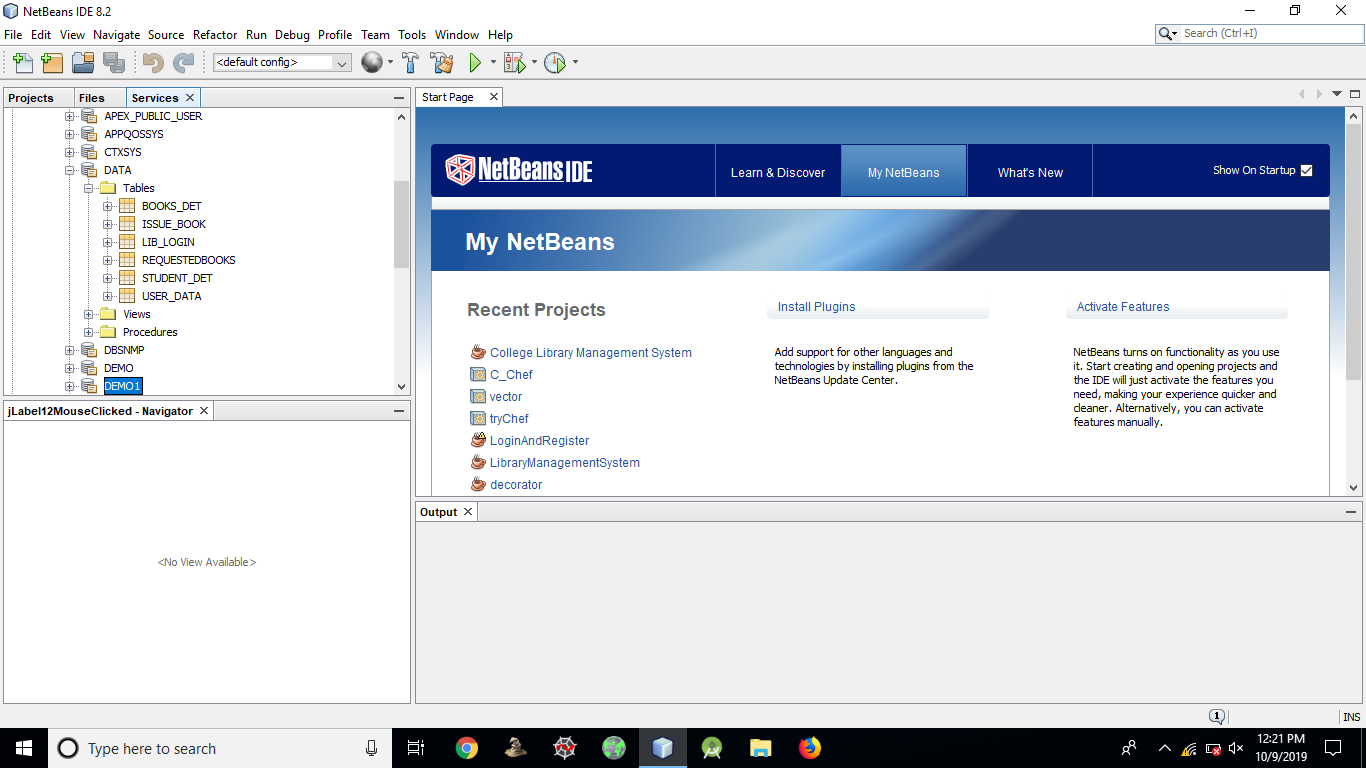
***Software Requirement***

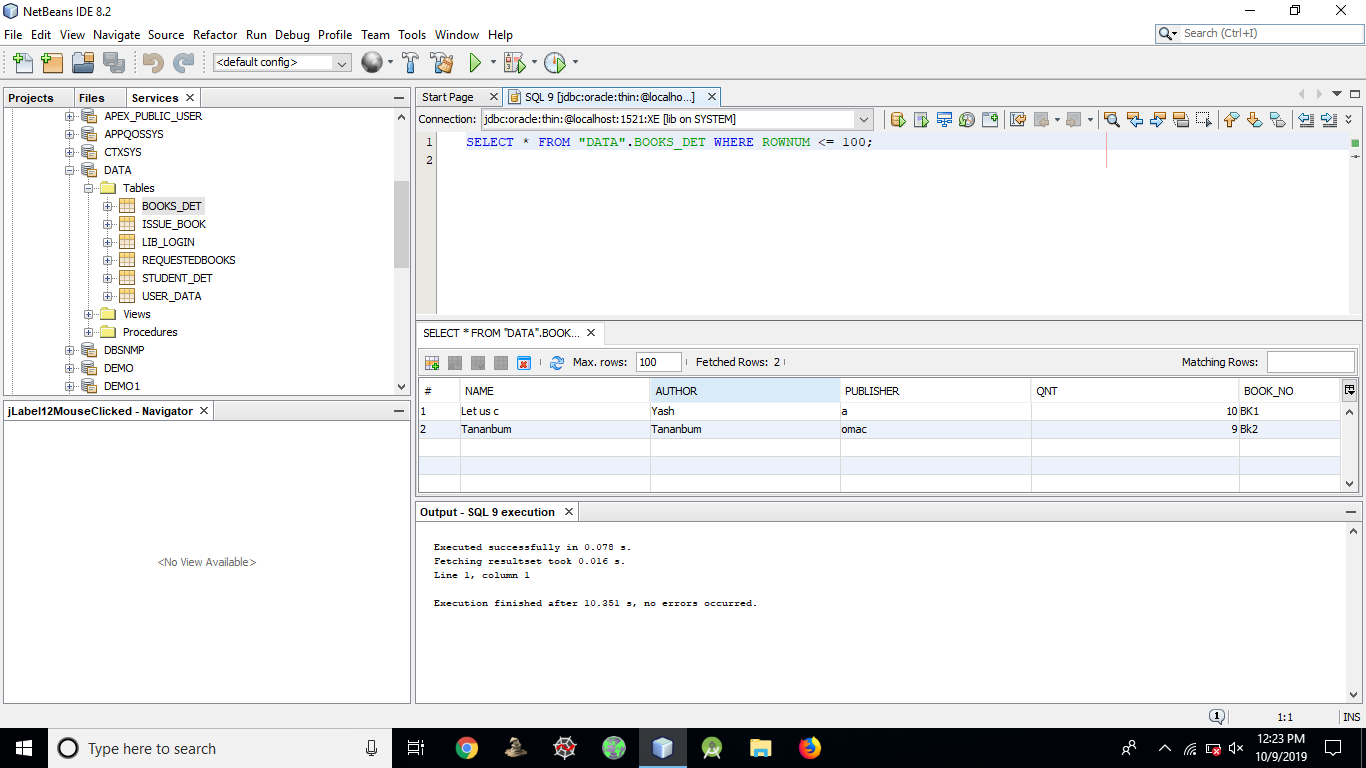
* *NetBeans*
* *Oracle Database*

***ER Diagram***

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***Schema of database***

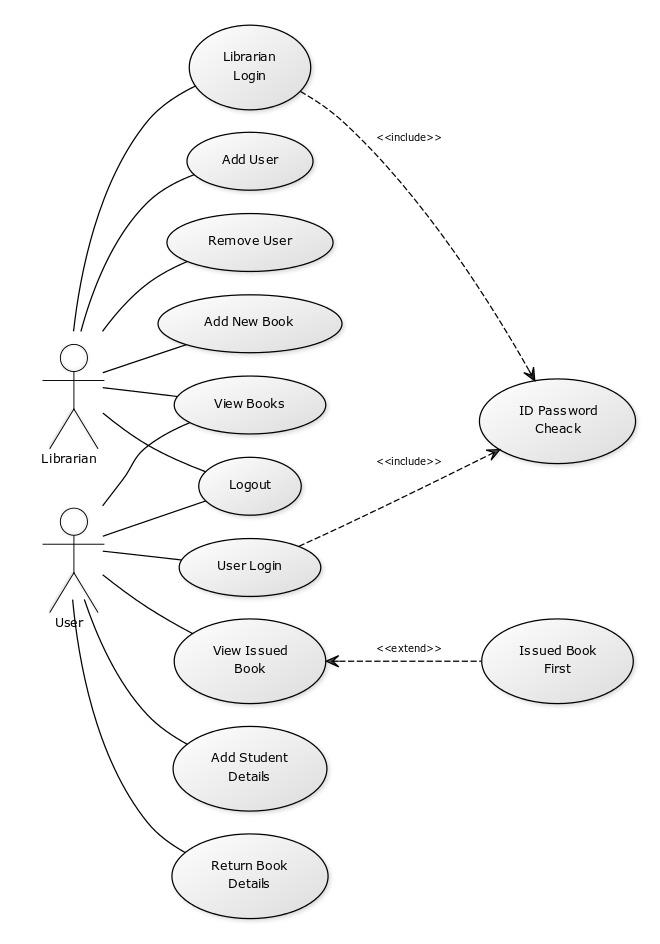




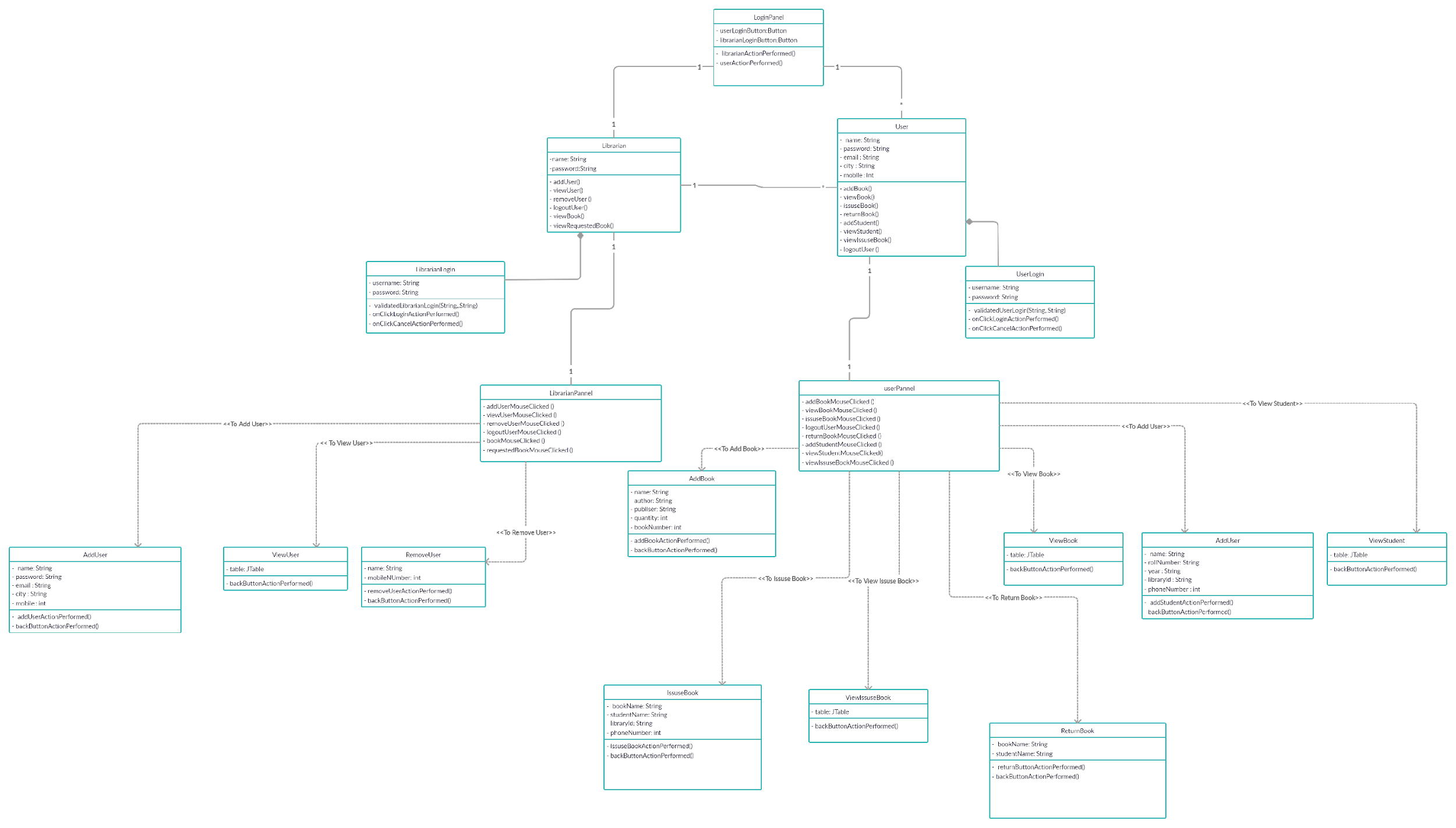
***Hours estimation***

* *Around 1 to 1.5 month*

***Use Case Diagram***

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**Class Diagram:**

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***Code***

Connection conn;

ResultSet rs;

PreparedStatement ps;

public AdminLogin() throws ClassNotFoundException, SQLException {

initComponents();

this.setLocationRelativeTo(null);

Class.forName("oracle.jdbc.driver.OracleDriver");

String url="jdbc:oracle:thin:@DESKTOP-79J7HNH:1521:XE";

conn=DriverManager.getConnection(url,"system","tanishq");

}

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

boolean flag2=false;

boolean flag1=false;

flag1=validateUserName(jTextField2.getText());

if(!flag1)

JOptionPane.showMessageDialog(null,"Invalid User-Name Entry ");

if(flag1){

String sql="select \* from data.lib\_login where user\_name = '"+jTextField2.getText()+"'and password='"+jPasswordField1.getText()+"' ";

try {

ps= conn.prepareStatement(sql);

} catch (SQLException ex) {

Logger.getLogger(AdminLogin.class.getName()).log(Level.SEVERE, null, ex);

}

try {

rs=ps.executeQuery();

} catch (SQLException ex) {

Logger.getLogger(AdminLogin.class.getName()).log(Level.SEVERE, null, ex);

}

try {

if(rs.next())

{

JOptionPane.showMessageDialog(null,"Login Sucessful");

AdminPannel AP=new AdminPannel();

setVisible(false);

AP.setVisible(true);

}

else

{

JOptionPane.showMessageDialog(null,"Login UnSucessful");

}

} catch (SQLException ex) {

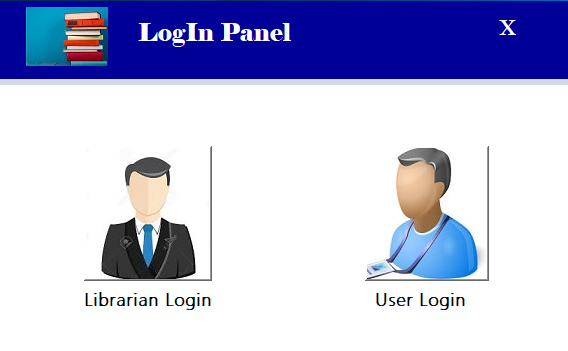
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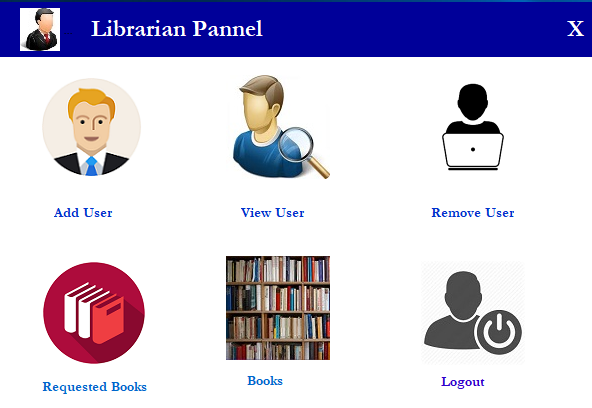
}

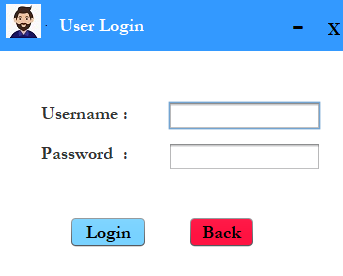
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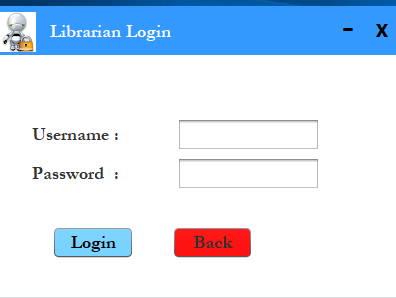
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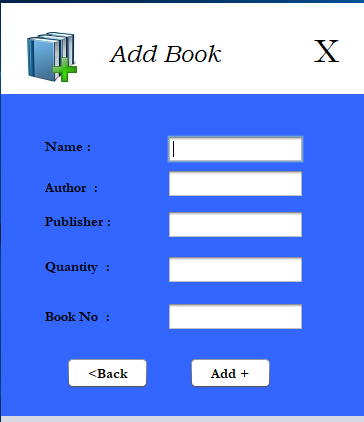
***GUI***

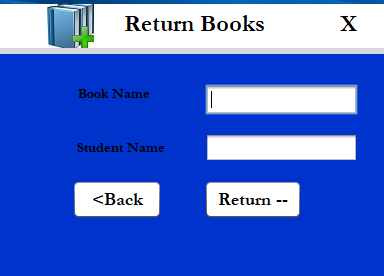
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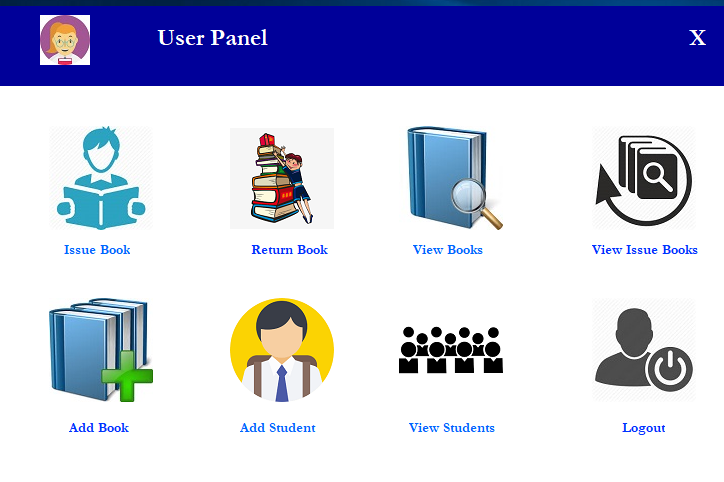
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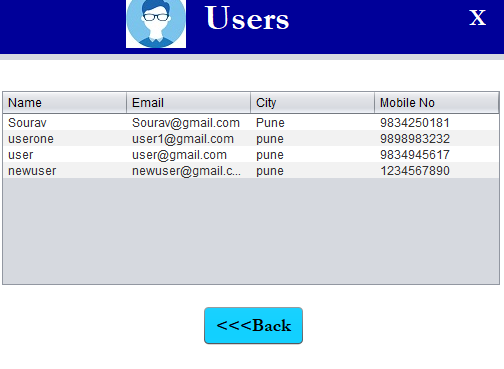
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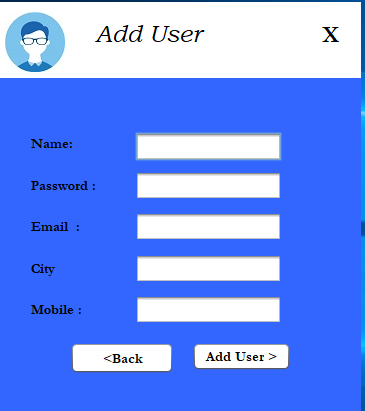
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***Conclusion***

*“Library management System” will help to reduce the time required to search details of book in library. Through this software one will have better options to save records of issue and return book effectively. Software can provide an network based capabilities through which one can have status about issued book at his own place through provision of future scope to extend software to integrate with a mobile application.*



PIMPRI CHINCHWAD COLLEGE OF ENGINEERING

DEPARTMENT OF COMPUTER ENGINEERING

**CERTIFICATE**

This is to certify that, the project entitled

**“**Library Management System”

is successfully carried out as a mini project successfully submitted by following students of “PCET's Pimpri Chinchwad College of Engineering, Nigdi, Pune-44**”.**

**Under the guidance of Prof. S. R. Vispute**

In the partial fulfillment of the requirements for the T.E. (Computer Engineering)

**Tanishq Dhussa (TECOC318)**

**Manish Choudhary (TECOC313)**

**Mrs. S. R. Vispute**

**Project Guide**