



Library Management System Project Report

VINEET KUMAR

PREFACE

A in modern age computer has become an important part of our life. As all of us know we are using computer in different

field of our life. In today's world almost every work is computerized like in industries, offices, medical, engineering .In all these field computers can be used for rapid calculation and factions specially processing, speedy calculation, processing and printing etc are the computer major value in also higher than other tools.

The computer can start a great deal of data can be solve our problem within very short duration. So keeping in mind, I have made my project on "LIBRARY MANAGEMENT SYSTEM". The object of this project is to computerized the department transactions and decrease the work load of staff and providing better facilities to customers.

ACKNOWLEDGEMENT

I express my gratitude to Miss Gauri lata sharma project guide, under whose guidance this work was carried out. I am thankful for her constant interest, encouragement and valuable guidance during the completion of the project without her help this project would have been incomplete.

I also thank all the faculty members of SAM Systems Lajpat Nagar Institute for providing me with the information and references that were required for the making of my project. Their contribution is greatly appreciated.

I would like to express my heartiest thanks to institute, which gave me the opportunity of undertaking this project.

Great care has been taken to ensure that the information furnished in this project is accurate and up to the date.

CERTIFICATE OF MERIT

This is to certify that Vineet kuamr of two year course of ADSE has industriously worked hard to complete this Project Report," Project on Library Management System" , under my guidance.

She bears a good moral character. I wish her to be successful in her efforts & achieve all that he has hoped for.

Guided By:

Miss Gauri lata sharma

DECLARATION

I, hereby declare that the project titled “**LIBRARY MANAGEMENT SYSTEM**” is an authentic work and is an original effort of the undersigned. This project work has not been submitted else where by me or anybody else for the award of any other Degree/Diploma.

Applicant

Vineet Kumar

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OBJECTIVES AND SCOPE OF THE PROJECT

In this project attempts have been made to formulate a mechanized **LIBRARY MANAGEMENT SYSTEM** for a small-scale industry named ABC LTD.

In a nutshell scope of this project is a following:—

- ◆ Using this software, user can easily operate to appoint new Student, modification and deletion of student and Book, and also Display the Student and book list, student info, book list, book info.

- ◆ It provides 'New Librarian', 'Librarian detail', ' Librarian modification' , 'Issue book', 'Return book detail', 'Librarian modification' options, so a Admin can enter new Librarian, new student, display list of all Student book issue, display list of all book and display individual book record, student record.

- ✦ It provides facility to editing from 'Modify Student and book' and 'Modify Librarian' option, admin or librarian can easily editing their information like modification and Deletion of Librarian or student record as well as Library.
- ✦ It provides 'Issue Book Reciept' and 'Return book reciept Report' option so a Librarian can show the student all report.

VALIDATIONS PERFORMED

There are a number of points where validation checking has been performed through a number of levels throughout the project.

1. All the services can perform with valid menu choose by user.
2. The project/software is performed only in Windows environment.

DEFINITION OF PROBLEM

The Windows operating system offered to do everything for us. It made available all the basic amenities that a computer user may need. But now a day in respect of other modern software it is user-friendly software because it is **GUI** base software. Most software packages today eloquently boast of '**menu driven**' capability meaning there by that they offer the user a list of options, which allow him to move through the entire system at, will. All the software that provide the whole branch of regular utilities and a lot of more are a result of this pursuit of better and still better ways of doing things. My aim is to unveil the logics behind menus and furnish as a package

1 PROJECT OVERVIEW

Title of Project:

Library Management System

1.1 Tools / Platform, Hardware & Software requirement specifications

Platform – All

Front End – JDK 1.8.0

Back End – Oracle

1.3 System Configuration:

Pentium III, 700 MHz, 40 GB HDD, 256 MB RAM, A Color Monitor.

Hardware:

Processor	: Pentium 4 (preferable)
RAM	: 256 MB
HARD Disk	: 40 GB
Mouse	: Required
Keyboard	: Any PC/AT compatible
Monitor	: Any SVGA color monitor
Floppy Disk	: Any FDD for Backup and restore of the project

Library Management System

Software:

Developed in : 'Java' Language (JDK 1.8 Version)

Operating System : All Windows .

Database : Oracle.

Execution Environment : GUI of Windows

User Interface Unit : Keyboard

1.3 Software Requirements:

JRE 1.8.0

Oracle

For the Front-End I intend to use Java and for the Backend Oracle will be used.

- 1) Information collection is required from outside of different sources.
- 2) Data will be inserted through keyboard by writing, not by scanning.
- 3) The system will run from hard disk not from floppy disk.
- 4) The output will display on monitor not printer.

2.Objective/ Vision

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

3.Users of the System

1. Admin
2. Librarian
3. Student

4.Functional Requirements

1. Admin

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

2. Librarian

1. Can add/view /delete books/Book Status
2. Can add /view /delete student/Student Record
3. Issue Book
4. Return Books
5. Can logout

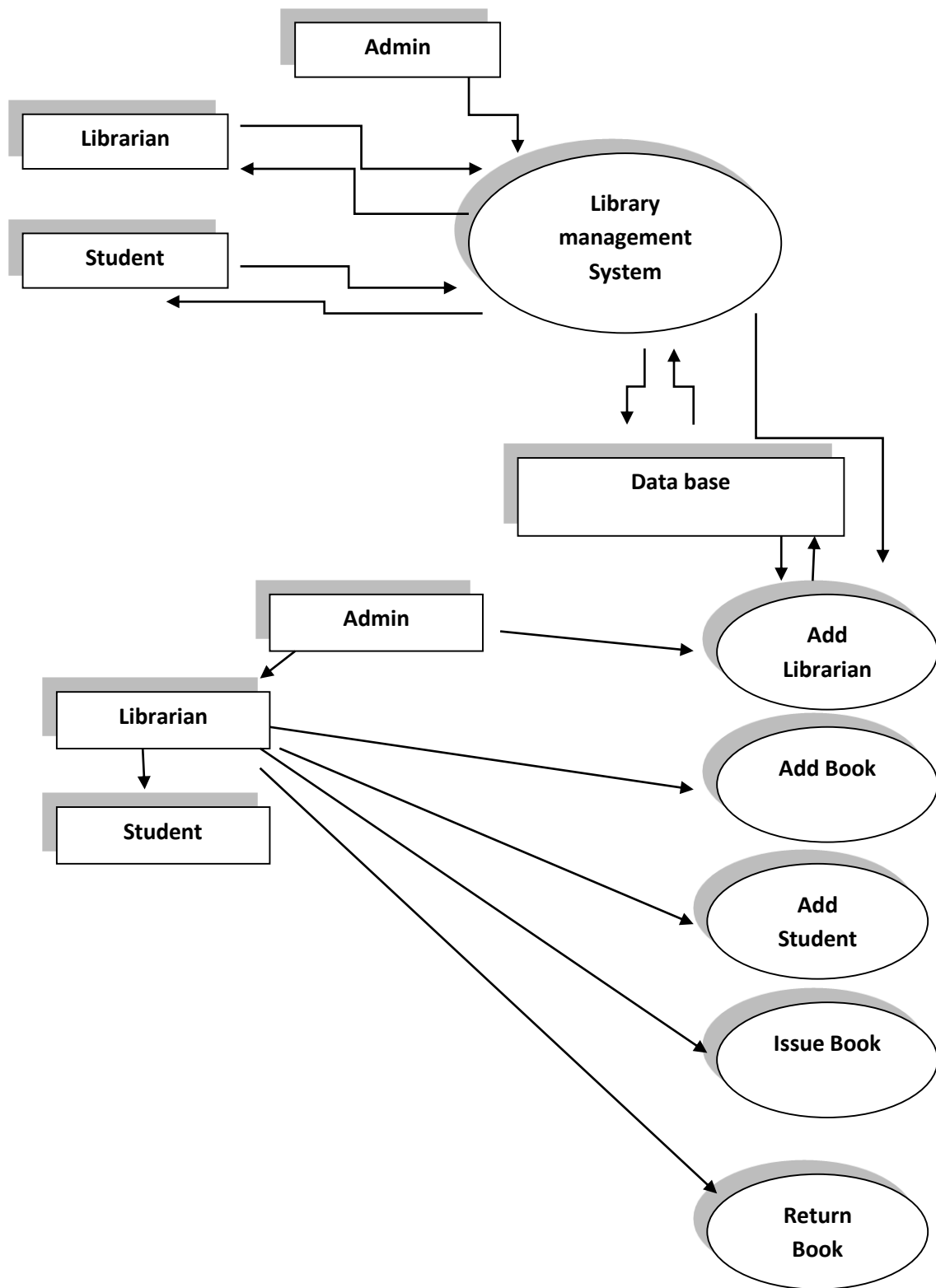
3. Student

1. View Book
2. View IssueBook
3. Can logout

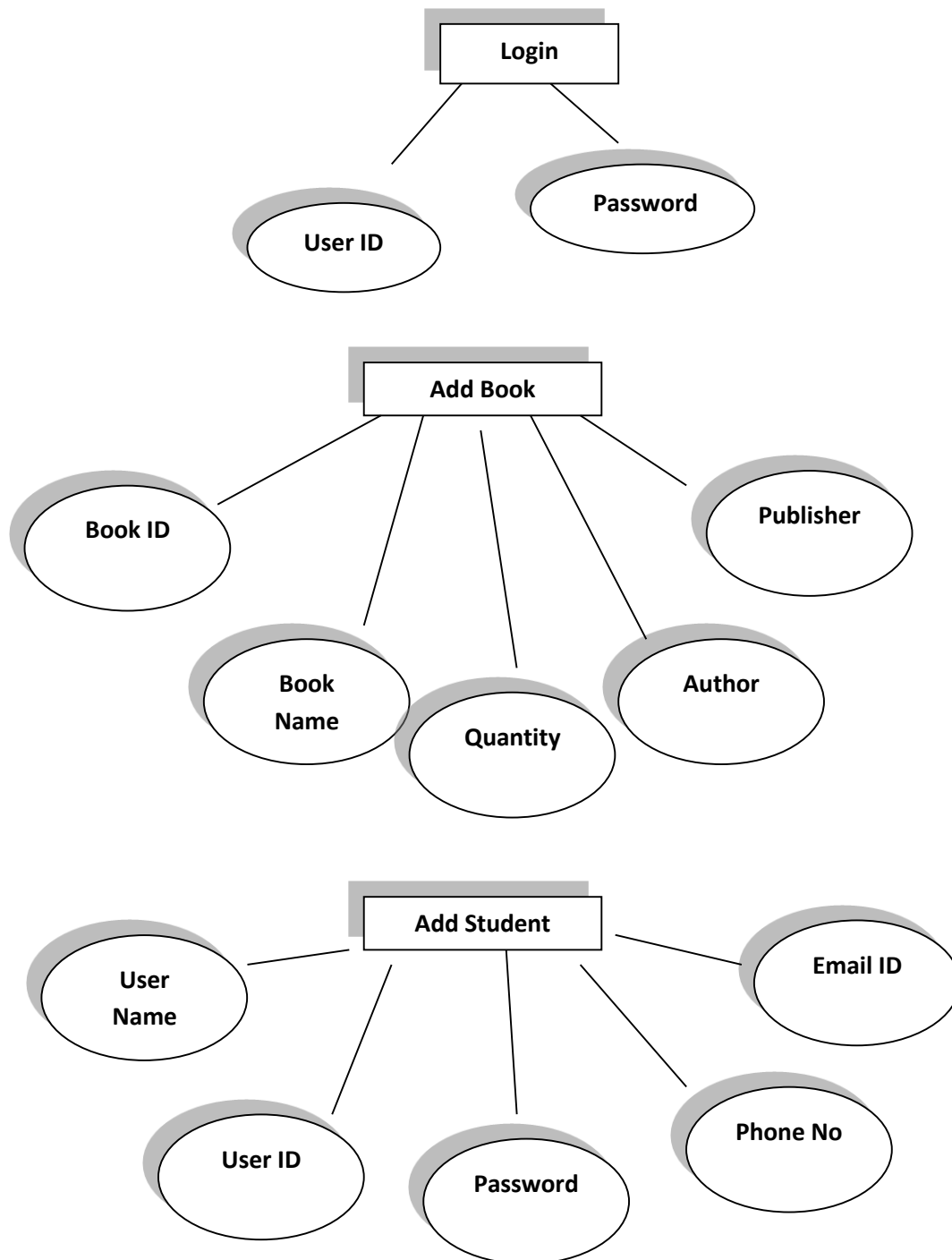
Library Management System Project in JAVA

jdk 1.8.0

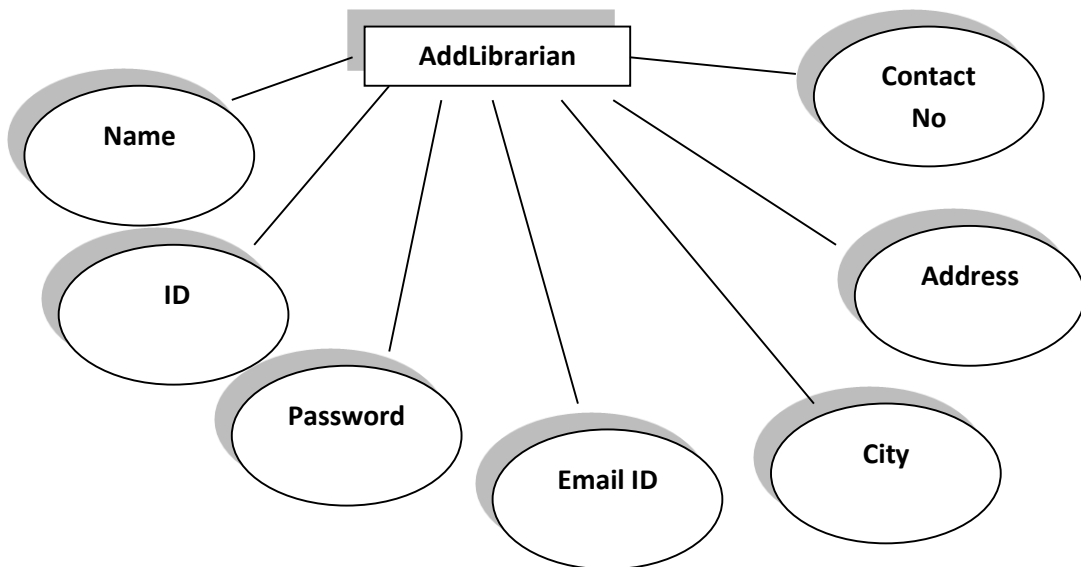
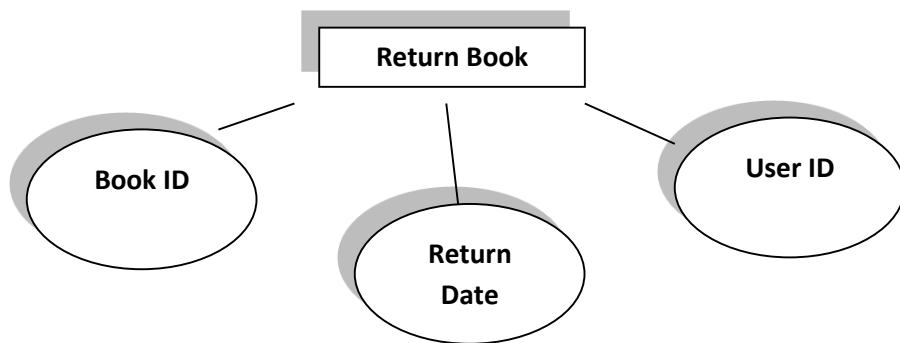
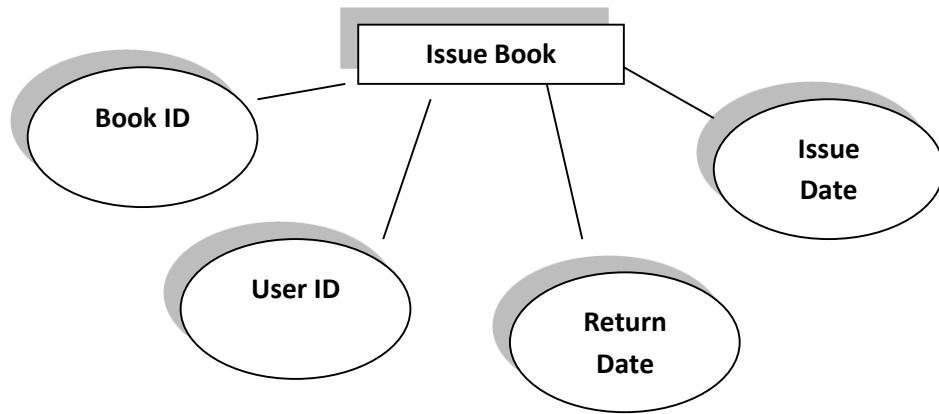
5.Data Flow Diagram



6.ER Diagram

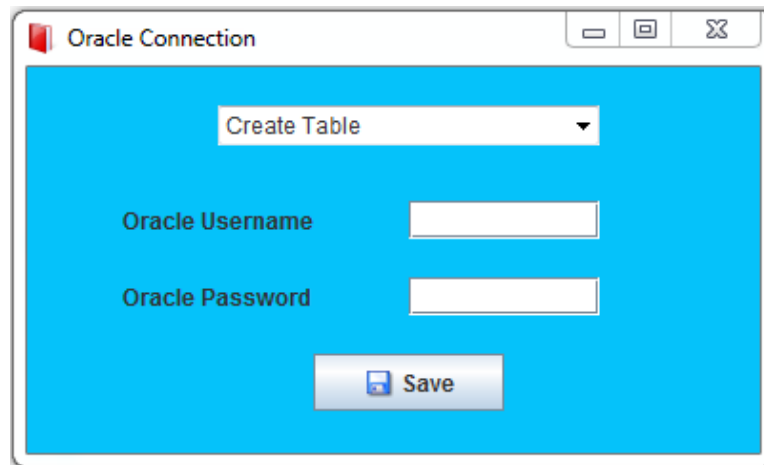


Library Management System



7.Snapshot

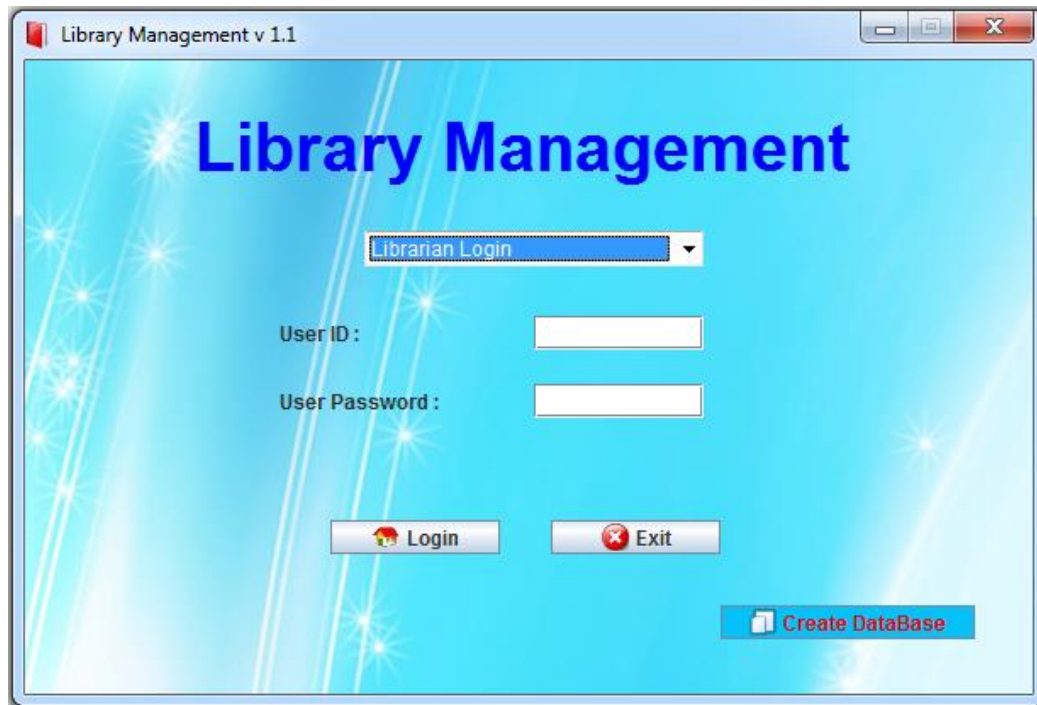
Oracle Connection



The screenshot shows a window titled "Oracle Connection" with a standard Windows-style title bar (minimize, maximize, close buttons). The window has a blue background. At the top, there is a dropdown menu with the text "Create Table". Below this, there are two labels: "Oracle Username" and "Oracle Password", each followed by a white text input field. At the bottom center, there is a button with a floppy disk icon and the text "Save".

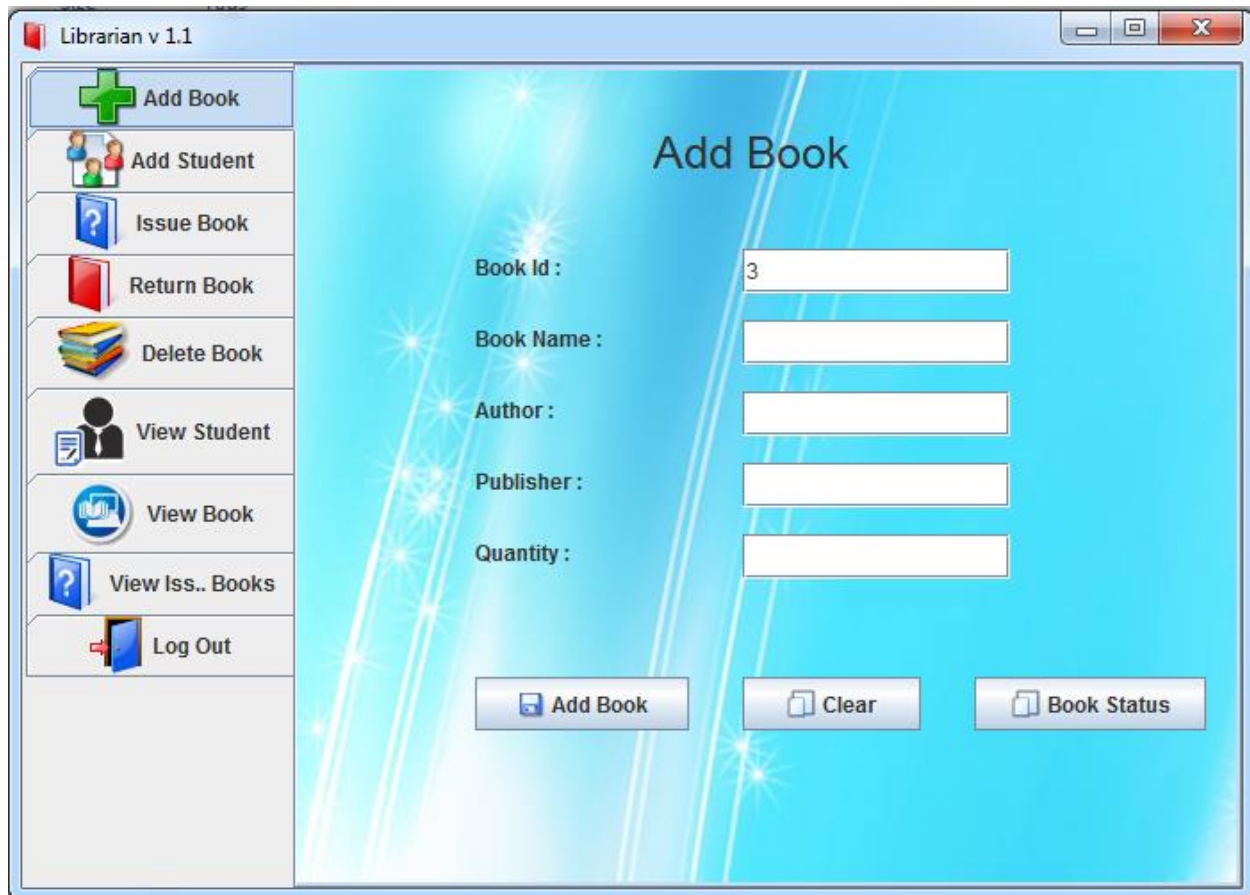
Login Page

Library Management System



Add Book
page

Library Management System



The screenshot displays the 'Librarian v 1.1' application window. On the left is a vertical sidebar with icons and labels for various functions: Add Book (green plus), Add Student (people icon), Issue Book (question mark), Return Book (red book), Delete Book (stack of books), View Student (person icon), View Book (book icon), View Iss.. Books (question mark), and Log Out (door icon). The main area has a light blue background with the title 'Add Book'. It contains five input fields: 'Book Id' (containing '3'), 'Book Name', 'Author', 'Publisher', and 'Quantity'. At the bottom of the main area are three buttons: 'Add Book' (with a book icon), 'Clear' (with a trash icon), and 'Book Status' (with a document icon).

Librarian v 1.1

Add Book

Book Id : 3

Book Name :

Author :

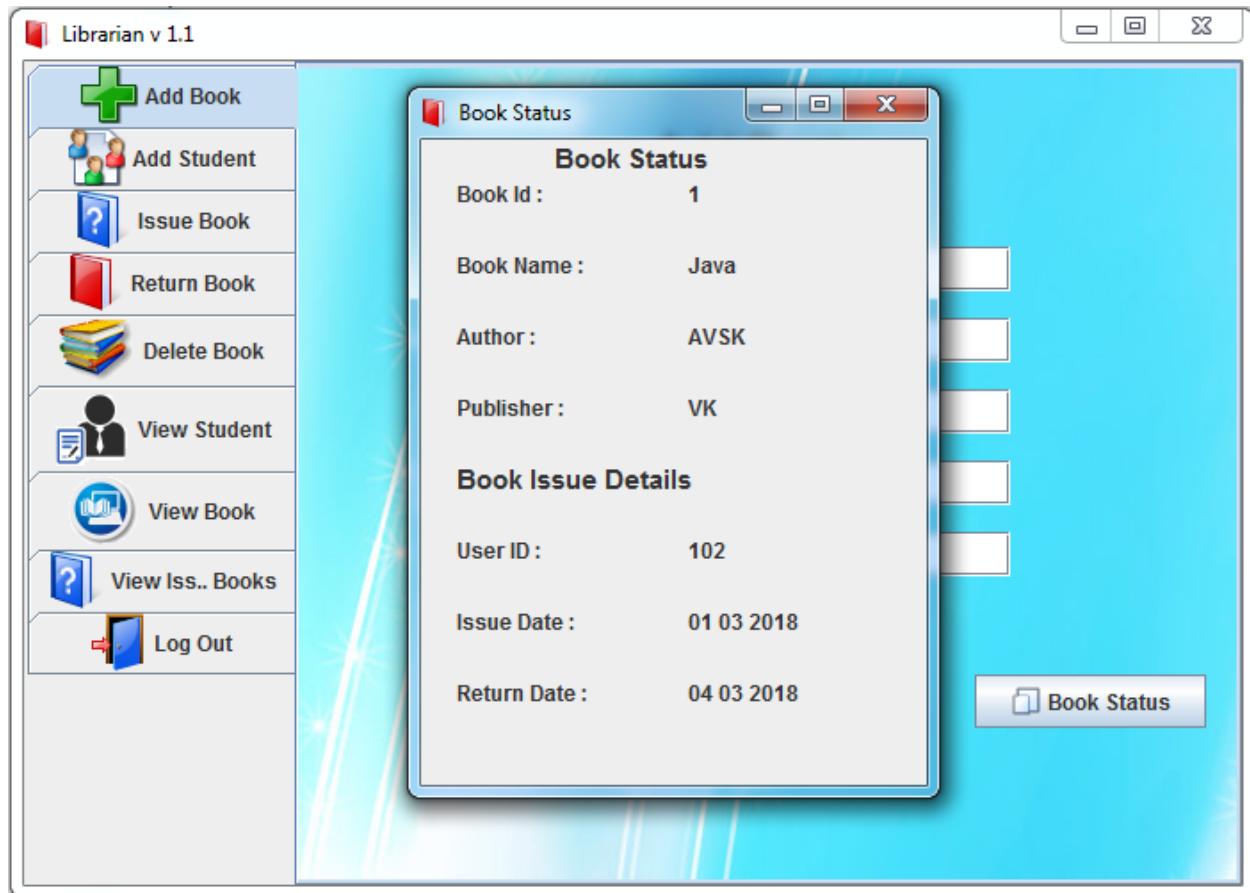
Publisher :

Quantity :

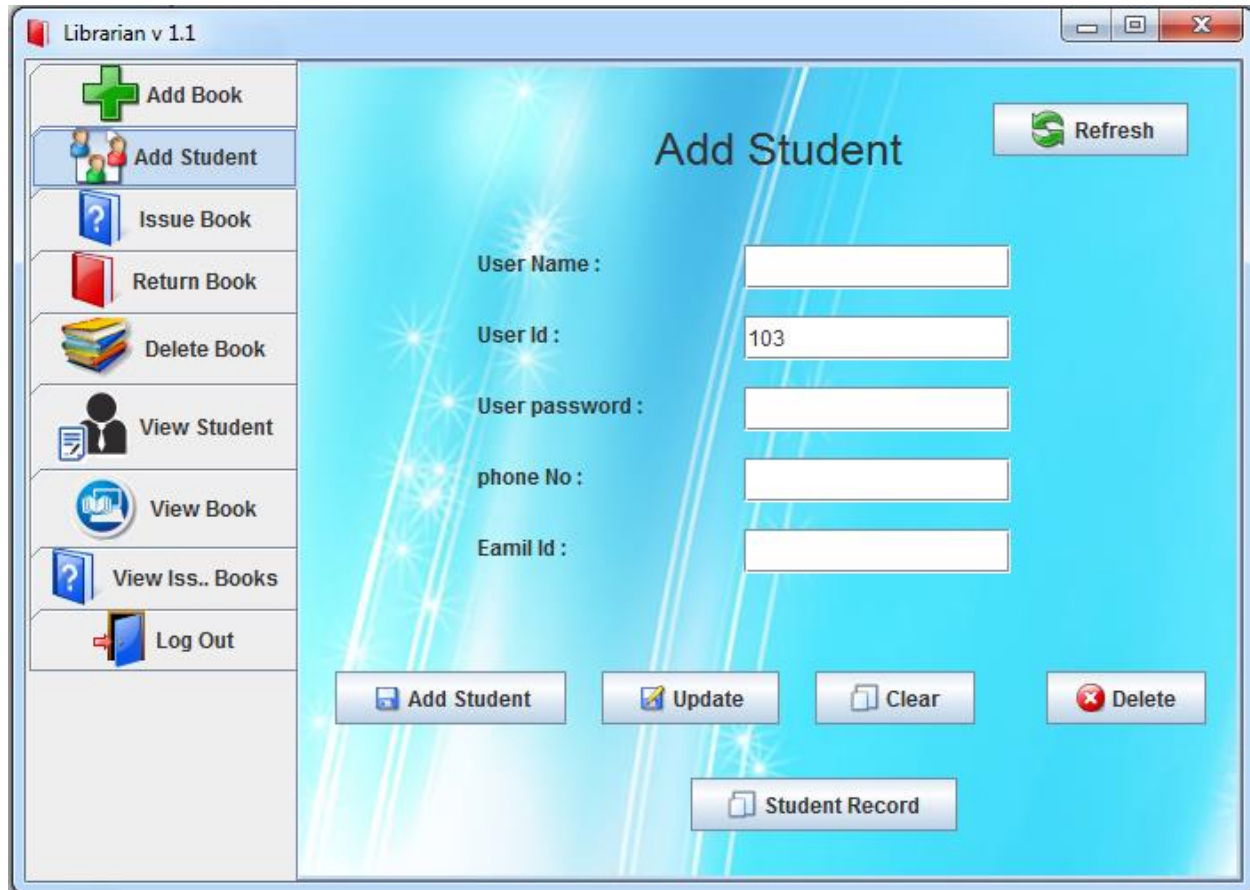
Add Book Clear Book Status

Book Status

Library Management System



Add Student Page



The screenshot displays the 'Librarian v 1.1' application window. The title bar shows standard window controls. On the left is a sidebar with the following menu items: 'Add Book' (green plus icon), 'Add Student' (group of people icon, highlighted), 'Issue Book' (blue question mark icon), 'Return Book' (red book icon), 'Delete Book' (stack of books icon), 'View Student' (person icon), 'View Book' (book icon), 'View Iss.. Books' (blue question mark icon), and 'Log Out' (door icon). The main area has a light blue background with a starburst pattern. At the top right of the main area is a 'Refresh' button with a green circular arrow icon. The title 'Add Student' is centered at the top. Below it are five input fields: 'User Name :', 'User Id :', 'User password :', 'phone No :', and 'Email Id :'. The 'User Id' field contains the text '103'. At the bottom of the main area are five buttons: 'Add Student' (with a blue plus icon), 'Update' (with a yellow pencil icon), 'Clear' (with a white eraser icon), 'Delete' (with a red X icon), and 'Student Record' (with a document icon).

Librarian v 1.1

Add Student

Refresh

User Name :

User Id :

User password :

phone No :

Email Id :

Add Student Update Clear Delete

Student Record

Student Record

Student Record

User Id : 101

User Name : Aryan

Phone No : 965464564

Email ID : Akrai@Gmail.com

Issue Book Details

Book ID	User ID	Issue Date	Return Date
2	101	01 03 2018	07 03 2018
3	101	01 03 2018	12 03 2018

Student Record

Refresh

Clear Delete

Issue Book Page

The screenshot displays the 'Librarian v 1.1' application window. The title bar shows the application name and standard window controls. The left sidebar contains a vertical menu with the following items: 'Add Book' (green plus icon), 'Add Student' (group of people icon), 'Issue Book' (blue question mark icon, currently selected), 'Return Book' (red book icon), 'Delete Book' (stack of books icon), 'View Student' (person icon), 'View Book' (book icon), 'View Iss.. Books' (blue question mark icon), and 'Log Out' (door icon). The main content area has a light blue background with a starburst pattern. It features the title 'Issue Book' at the top. Below the title are four input fields: 'Book Id :', 'User Id :', 'Issue Date :', and 'Return Date :'. The 'Issue Date' field is pre-filled with '01 03 2018'. The 'Return Date' field consists of three dropdown menus showing '01', '01', and '2016', followed by the text 'D-M-YEAR'. At the bottom of the main area are two buttons: 'Issue Book' (with a blue question mark icon) and 'Clear' (with a trash can icon).

Librarian v 1.1

Issue Book

Book Id :

User Id :

Issue Date : 01 03 2018

Return Date : 01 01 2016 D-M-YEAR

Issue Book Reciept Page

The screenshot displays the 'Librarian v 1.1' application window. On the left is a sidebar with icons for 'Add Book', 'Issue Book Receipt', and other functions. The main area is titled 'Issue Book'. Overlaid on this is a 'Issue Book Reciept' dialog box. The dialog box contains the following fields:

Issue Book Reciept	
Book Id :	1
User Id :	101
Issue Date :	01 03 2018
Return Date :	08 03 2018

Below the dialog box, in the main window, there are input fields for the issue date, currently showing '01 03 2018'. Below these are three dropdown menus for day, month, and year, with values '08', '03', and '2018' respectively. To the right of these dropdowns is the text 'D-M-YEAR'. At the bottom right of the main window is a 'Clear' button.

Return Book page

Librarian v 1.1

Return Book

Book Id :

User Id :

Navigation Menu:

- Add Book
- Add Student
- Issue Book
- Return Book**
- Delete Book
- View Student
- View Book
- View Iss.. Books
- Log Out

Return Book Reciept page

Library Management System

The screenshot displays the 'Librarian v 1.1' application window. The main interface has a light blue background with the title 'Return Book' at the top. On the left, there is a sidebar with icons for 'Add Book', a user icon, a book icon, a stack of books icon, a document icon, and a question mark icon. The main area contains two empty text input fields and a 'Clear' button with a trash icon. A modal dialog box titled 'Return Book Receipt' is open in the foreground, displaying the following information:

Return Book Receipt	
Book Id :	1
User Id :	102
Return Date :	01 03 2018
Fine :	0

Delete Book page

The screenshot displays a software window titled "Librarian v 1.1". On the left is a vertical sidebar with icons and labels for various functions: "Add Book" (green plus), "Add Student" (group of people), "Issue Book" (blue question mark), "Return Book" (red book), "Delete Book" (stack of books, highlighted in blue), "View Student" (person icon), "View Book" (book icon), "View Iss.. Books" (blue question mark), and "Log Out" (door icon). The main area has a light blue background with a starburst pattern. At the top right of this area is the title "Delete Book". Below it are two input fields: "Book Id :" and "Password :". At the bottom are two buttons: "Delete" (with a red X icon) and "Clear" (with a document icon).

Librarian v 1.1

Delete Book

Book Id :

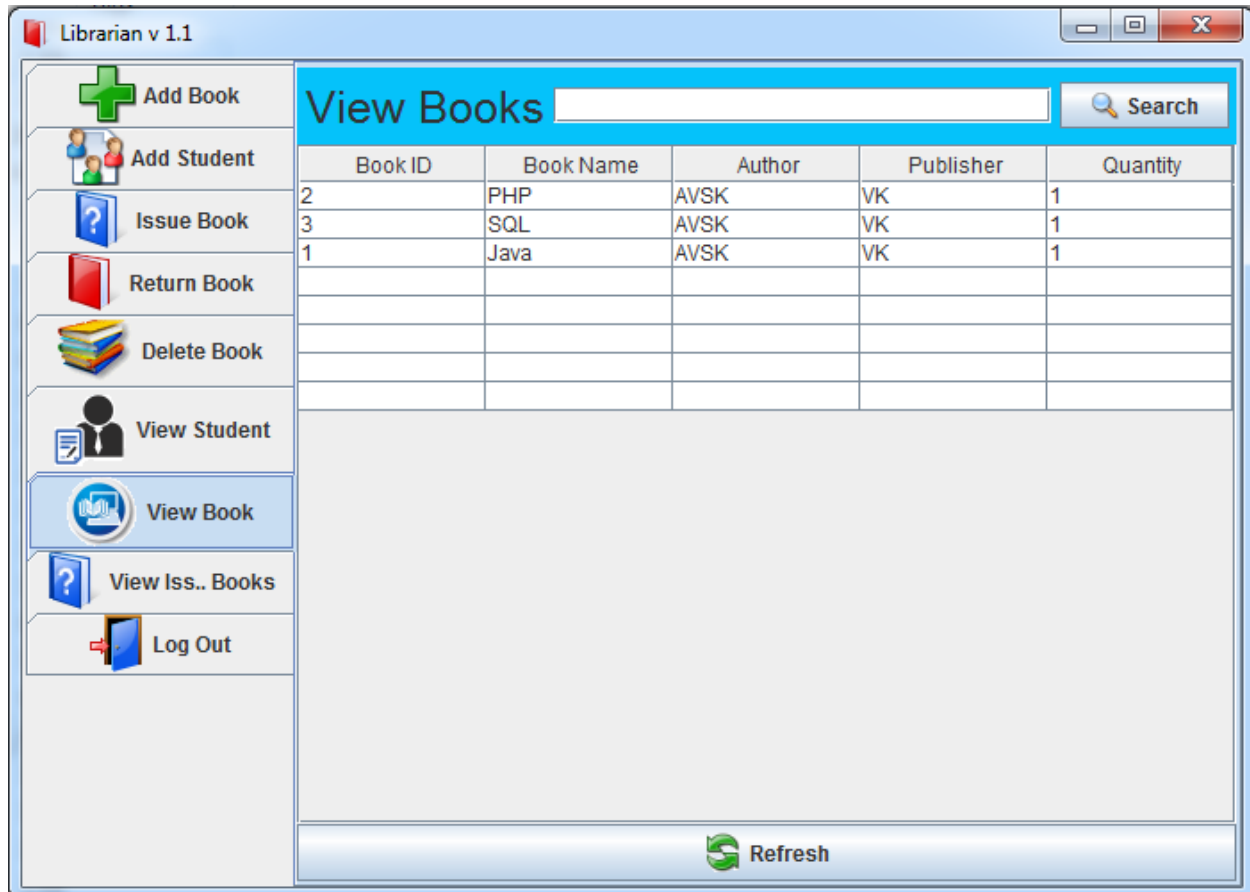
Password :

View Student page

The screenshot shows a software window titled "Librarian v 1.1". On the left is a vertical menu with icons and labels: "Add Book" (green plus), "Add Student" (two people), "Issue Book" (blue question mark), "Return Book" (red book), "Delete Book" (stack of books), "View Student" (person icon, highlighted), "View Book" (book icon), "View Iss.. Books" (blue question mark), and "Log Out" (door icon). The main area has a blue header "View Student" with a search bar and a "Search" button. Below is a table with 5 columns: "User ID", "User Name", "User Password", "Phone No", and "Email ID". The table contains two rows of data. At the bottom of the main area is a "Refresh" button with a circular arrow icon.

User ID	User Name	User Password	Phone No	Email ID
102	sumit	12345	978453423	sk@Gmail.com
101	Aryan	123	965464564	Akrai@Gmail.com

View Book page












Librarian v 1.1

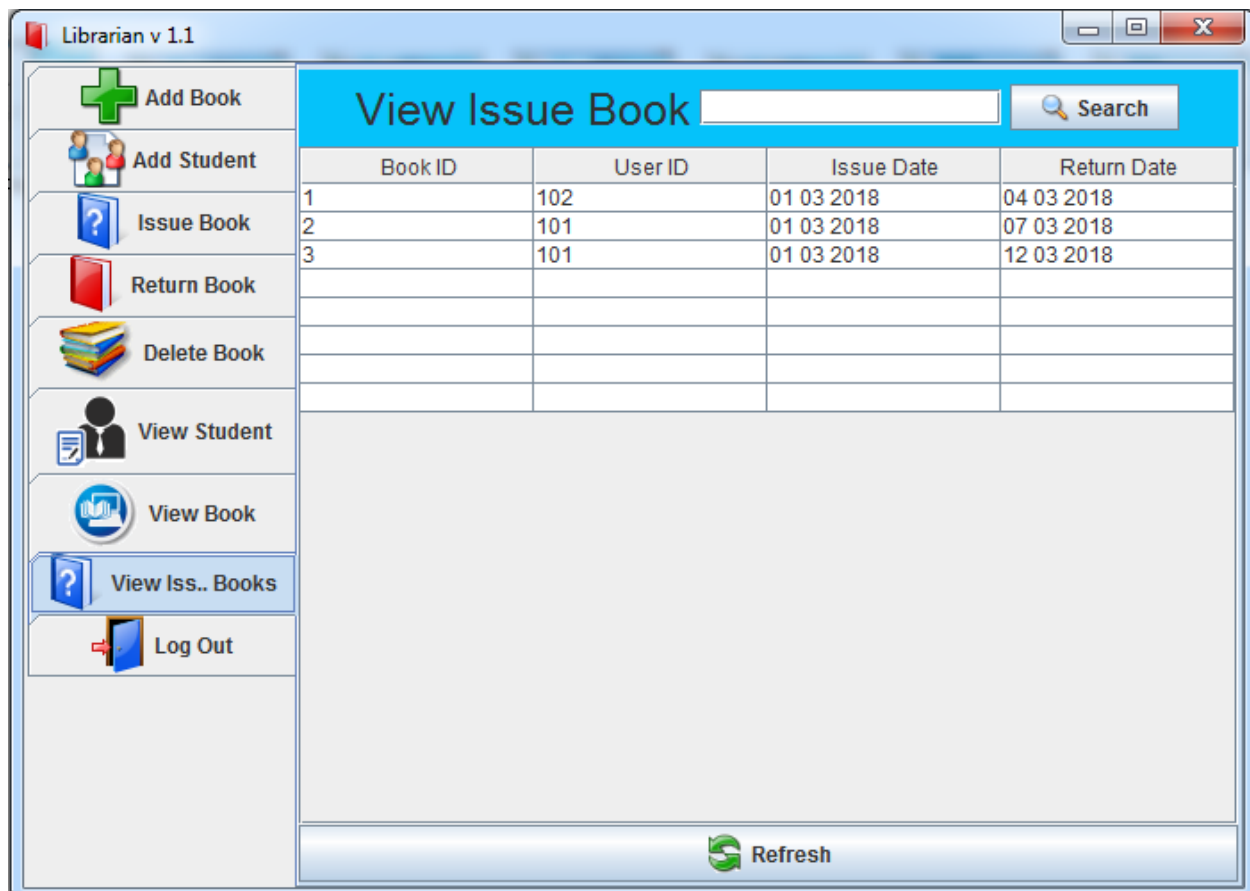
View Books

Book ID	Book Name	Author	Publisher	Quantity
2	PHP	AVSK	VK	1
3	SQL	AVSK	VK	1
1	Java	AVSK	VK	1

Navigation Menu:

-  Add Book
-  Add Student
-  Issue Book
-  Return Book
-  Delete Book
-  View Student
-  **View Book**
-  View Iss.. Books
-  Log Out

View Issue Book page



Librarian v 1.1

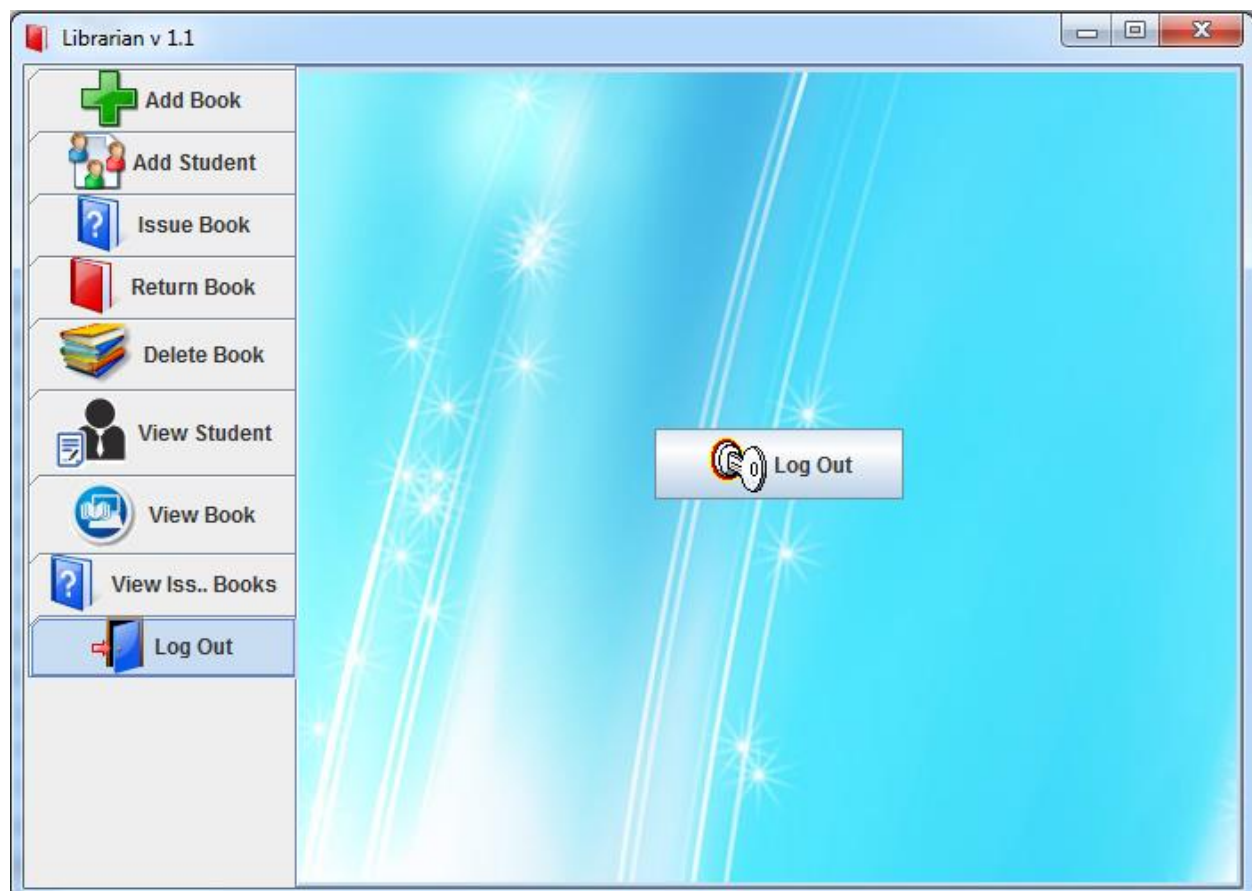
View Issue Book

Book ID	User ID	Issue Date	Return Date
1	102	01 03 2018	04 03 2018
2	101	01 03 2018	07 03 2018
3	101	01 03 2018	12 03 2018

Navigation Menu:

- Add Book
- Add Student
- Issue Book
- Return Book
- Delete Book
- View Student
- View Book
- View Iss.. Books
- Log Out

Log Out page



Admin Login page



The image shows a screenshot of a software window titled "Library Management v 1.1". The window has a blue background with a pattern of white starbursts and diagonal lines. The title bar includes standard Windows window controls (minimize, maximize, close). The main content area features the title "Library Management" in a large, bold, blue font. Below the title is a dropdown menu labeled "Admin Login". Underneath the dropdown are two input fields: "User ID:" and "User Password:". Below these fields are two buttons: "Login" (with a house icon) and "Exit" (with a red X icon). In the bottom right corner, there is a button labeled "Create DataBase" with a document icon.

Library Management v 1.1

Library Management

Admin Login

User ID:

User Password:

 Login  Exit

 Create DataBase

Add Librarian page

Admin v 1.1

Add Librarian

Refresh

Name :

User Id :

Password :

Email Id :

Address :


City :


Contact No :


View Librarian page


Library Management System

Admin v 1.1


 Add Librarian

 View Librarian

 Delete Librarian

 Log Out

View Librarian

 Search

Delete Librarian
page

Library Management System

The screenshot displays a web application window titled "Admin v 1.1". On the left is a sidebar menu with four items: "Add Librarian" (with a person and plus icon), "View Librarian" (with a person and magnifying glass icon), "Delete Librarian" (with a person and minus icon, currently selected), and "Log Out" (with a door icon). The main content area has a light blue background with a starburst pattern and is titled "Delete Librarian". It contains two input fields: "Librarian Id :" and "Admin Password :". Below these fields are two buttons: "Delete" (with a red X icon) and "Clear" (with a document icon).

Admin v 1.1

Add Librarian

View Librarian

Delete Librarian

Log Out

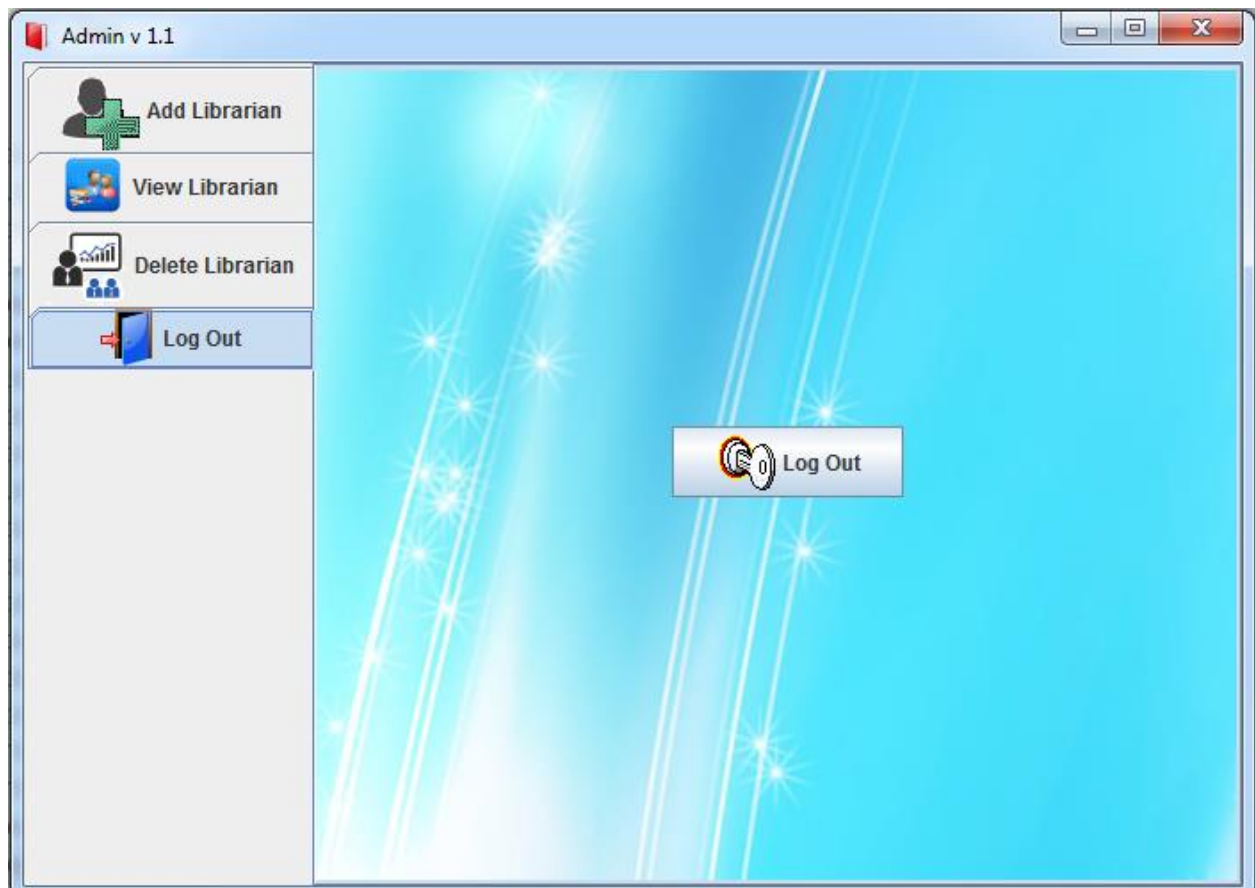
Delete Librarian

Librarian Id :

Admin Password :

Delete Clear

Log Out page



Student Login page



The screenshot shows a window titled "Library Management v 1.1" with a blue background and white starburst effects. The main heading "Library Management" is in large blue font. Below it is a dropdown menu set to "Student Login". There are two input fields: "User ID :" and "User Password :". At the bottom, there are three buttons: "Login" (with a user icon), "Exit" (with a red X icon), and "Create DataBase" (with a document icon).

Library Management v 1.1

Library Management

Student Login

User ID :

User Password :

 Login  Exit  Create DataBase

View Books page

Student v 1.1

View Book

View Iss.. Books

Log Out

View Books

Search

Book ID	Book Name	Author	Publisher	Quantity

View Issue Book page

Student v 1.1

View Book

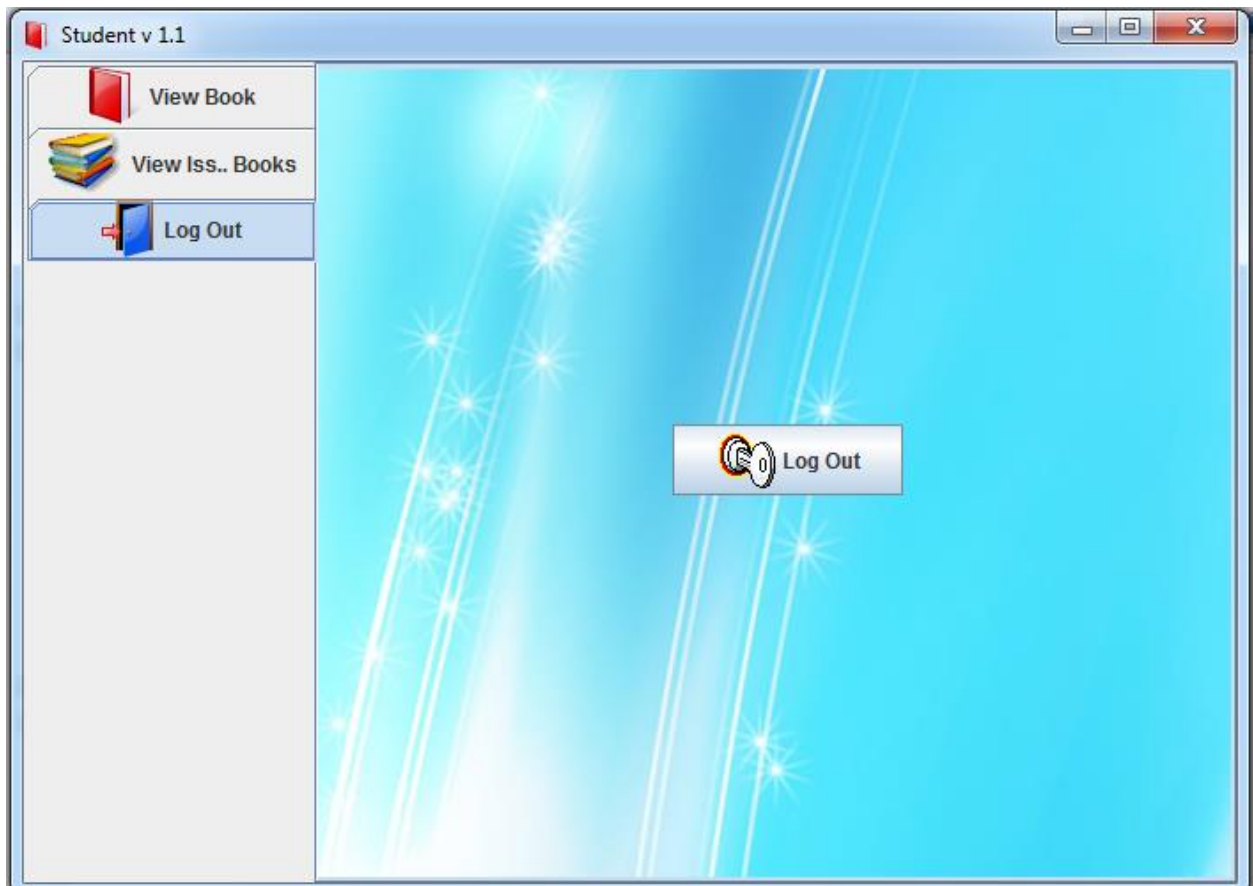
View Iss.. Books

Log Out

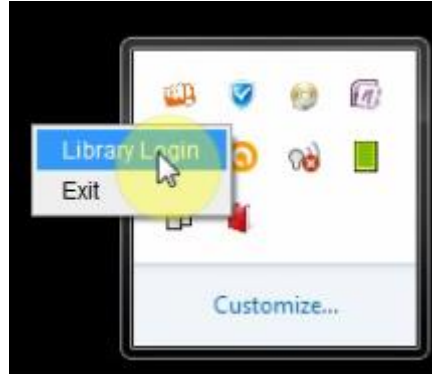
View Issue Book

Book ID	User ID	Issue Date	Return Date

Log Out page



System Tray



Source Code

1. Admin.java
2. Librarian.java
3. Student.java
4. Login.java
5. DataBase.java
6. Oracle.java
7. RowCoun1.java
8. SysTray.java
9. BookStatus.java

- 10. IssueBookReciept.java
- 11. ReturnBookReciept.java
- 12. StudentRecord.java

Admin.java

```
import java.awt.*;  
  
import javax.swing.*;  
  
import java.awt.event.*;  
  
import javax.swing.table.*;  
  
import java.util.regex.*;  
  
import java.sql.*;  
  
import java.util.*;  
  
import java.io.*;  
  
}*/  
  
}
```

9. Oracle Table

1. Table ADMIN1

1. Fields ADMINID,PASSWORD with admin or admin123 //Data Type VARCHAR2

2. Table BOOK

2. Fields BOOK_ID,BOOK_NAME,AUTHOR,PUBLISHER,QUANTITY //Data Type VARCHAR2

3. Table ISSUE_BOOK

3. Fields BOOK_ID1 , USER_ID1 , ISSUE_DATE1 , RETURN_DATE1 //Data Type VARCHAR2

4. Table LIBRARIAN

4. Fields NAMEL,USERIDL,PASSWORDL,EMAILIDL,ADDRESSL,CITYL,CONTACTNOL //Data Type VARCHAR2

5. Table STUDENT1

5.Fields USER_ID,USER_NAME,USER_PASSWORD,USER_PHONENO,USER_EMAILID
//Data Type VARCHAR2

10.Data Tables

10.1 Login Table

Field name	Data Type
User ID	Number
User password	Text

10.2 Add Book Table

Field name	Data Type
Book ID	Number
Book Name	Text
Author	Text
Publisher	Text
Quantity	Number

10.3 Add Student Table

Field name	Data Type
User Name	Number
User ID	Number
User Password	Text
Phone No	Number
Email ID	Text

10.4 Issue Book Table

Field name	Data Type
Book ID	Number
User ID	Number
Issue Date	Text
Return Date	Text

10.5 Return Book Table

Field name	Data Type
Book ID	Number
User ID	Number
Return Date	Text

10.6 Delete Book Table

Field name	Data Type
Book ID	Number
Password	Text

10.7 Add Librarian Table

Field name	Data Type
Name	Text
User ID	Number
User Password	Text
Email ID	Text
Address	Text
City	Text
Contact No	Number

10.8 Delete Librarian Table

Field name	Data Type
Librarian ID	Number
Admin Password	Text

BIBLIOGRAPHY

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- Vineet kumar

➤ Screen Design And Main Programming Concept

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- Vineet kumar

2. Core Java

- **Vineet kumar**