



SDJ INTERNATIONAL
COLLEGE

Bachelor of Computer Applications (BCA) Programme

Project Report

BCA Sem IV
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Library Management System

by

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SDJ INTERNATIONAL
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CERTIFICATE

This is to certify that Mr./Ms. SHAIKH TAHIR RAZA MO.HAFIZ
examination number _____ has satisfactorily completed his/her
project work entitled Library Management Project as partial fulfillment of
requirements for BCA Sem IV, during the academic year 2021-22.

Date: 15-03-2022

Place: Surat

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1.1 Project Summery

Library Management System project is developed using VB.NET. The Project is based on the concept of managing book records. Talking about the project, it contains lots of features. A admin can manage all the section, such as Librarians, students, books, Issue books and return books etc.

Talking about the features of the Library Management System, he/she can manage the each and every book records. In order to manage borrowed books, he/she has to search book id, name, type, title, publisher and availability.

The admin can also list all the borrow history and manage student record by providing student id, name, stream, semester and phone number .

Talking about librarians section , only admin has manage this section because admin add librarians detail, phone number and librarians password. This password is use to in login page.

Talking about books section, the admin has to provide book id, book name, author name ,price, quantity and publisher name for the record. For the easy management of the system, it contains admin management too.

Talking about issue section, the admin has to manage issue details like student id, students name, book id , book name and issue date.

Talking about book return section , so the admin has to maintain all book return records like student id , student name , book id, book name , issue date, return date, and fine.

Admin manage every section easily because it is a user friendly software. when student return book so automatically issue record delete in issue table.

1.2 Project Technical Profile

Software Requirements:-

Software Configuration	
Operating System	Windows 8.1 and Windows 10 Pro
Front End	.NET Framework 4.8.0
Back End	Visual Basic
Other Tools	Microsoft Access 2019

Hardware Requirements:-

Hardware Configuration	
Processor	Intel(R) Core(TM) i3-5005U CPU @ 2.00GHz 2.00GHz
RAM	4.00 GB
Hard Disk	500 GB
System Type	64-bit Operating System, x64-based processor

SCOPE:-

- Raza Library is offline Library management software.
- This Software is developing with the purpose of manage library easily using the functionality.
- It is developing for college library.
- Here Admin get various students details.
- Here Admin get various book details.
- Here Admin get Issue books and Rerun books details.
- Admin can also get all filed report using report generate button.
- After insert correct user name and password admin can use software.

OBJECTIVE:-

- The creation of a Simple, attractive , user friendly that why it different from other software.
- Only admin can access librarian username and password details so it is secure.
- Admin can generate every section report so it is decrease work of admin.
- Admin get all records easily like student, book, issue book, return book and librarian records.
- Admin can manage all module easily so that's why it is different to other library software.
- Student can not by more than 5 book.
- If Student Return book after 5 day so fine charge 10 per day.

2.1 Requirement Analysis

- Success of any system depends mostly on how well Data/Requirement gathering are done. It provides direction to system analyst and designers to design a system that is efficient.
- To gather requirement for Raza Library , following steps were carried out:
 - We got several information from Librarian of Anglo School. He helped us to understand required functionalities, also noted down some useful features to be included and also to know what about input and output.
 - We also consulted senior experts for technical problems.
- **Understanding the Process of System:**
 - How to Manage all Forms?
 - How to Manage Login and Registration Process?
 - How to know How Many users are Created and How many Queries Are Generated on the Particular Day?
 - How to Manage All Forms linked with Each Other?
 - How to Manage the Bunch of a Particular Member So that It can have the Security purpose and Keep the Data Private?
 - How to Perform All User Security Level and Perform A Authentication and Give Personal Account to each User for Security Purpose?
- **ADMIN-SITE:**

System should provide following information to Admin:

 - Registered Librarian
 - Save, Edit, Delete Students Records
 - Save, Edit, Delete Books Records
 - Manage Issue Records
 - Manage Return Records

2.2 Feasibility Study

- A feasibility study is determined the possibility or probability of either improving the existing system or developing a completely new system. It helps to obtain an overview of the problem and to get rough assessment of whether feasible solution exists.
- There are many aspects in feasibility study portion of the preliminary investigation.

Technological Feasibility:-

- The technical Feasibility work for the project is done with the present equipment, manual procedures, and existing software technology & available technology hardware.
- The necessary technology, front-end, backend database technology, and other tools namely reporting tool, installation tools, etc., (as mentioned in the profile) for developing the system, are already available within the organization.

Economical Feasibility:-

- Economic feasibility looks at the financial aspects of the project.
- Economic feasibility concerns with the returns from the investment in a project.
- It determines whether it is worthwhile to invest the money in the proposed system. It is not worthwhile spending a lot of money on a project for no returns.
- To carry out an economic feasibility for a system, it is necessary to place actual money value against any purchases or activities needed to implement the project.

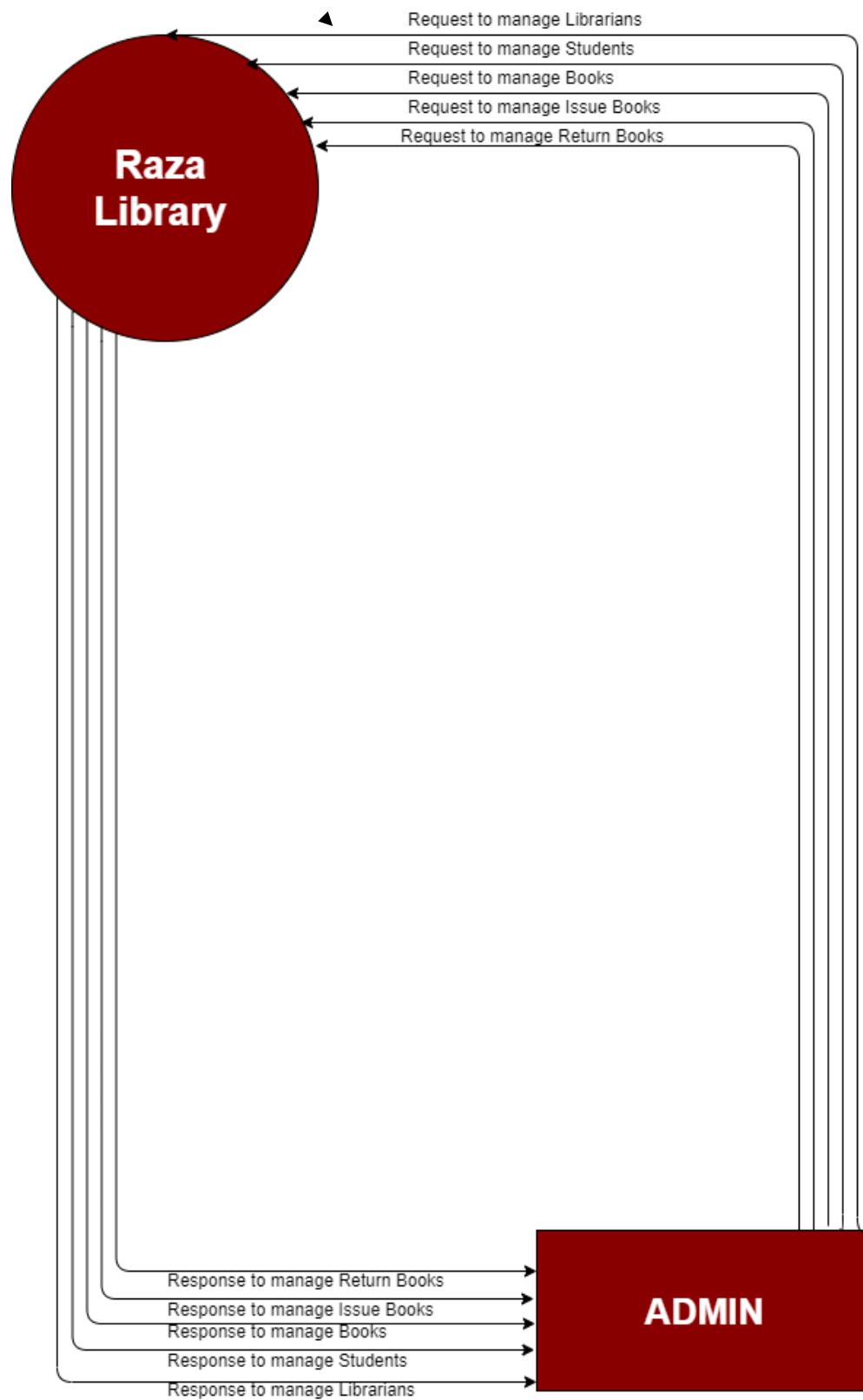
Operational Feasibility:-

- This phase is system operations performed by proposed system in this phase here
- Testing is the important point is user will be operating the system.
- System will work under any condition .System will allow entering & retrieving of Data only to authorized user to operate the system.
- It will work any full efficiency & accuracy as used to work with particular computer.
- There is sufficient support to the project from the management and from the intended users of the system.

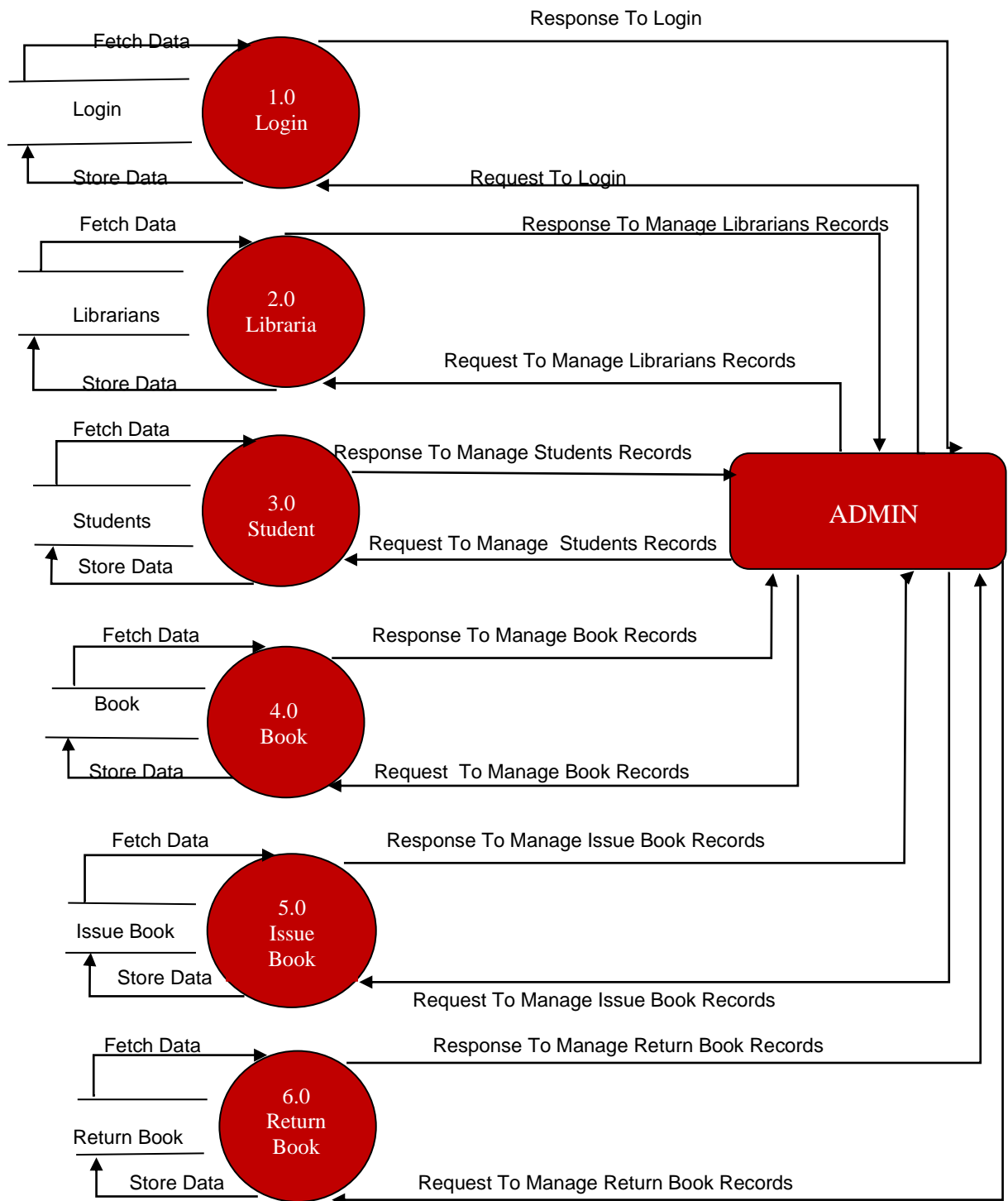
2.3Future Development

- It is not possible to develop a system that makes all the requirements of the user.
- User requirements keep changing as the system is being used. Some of the future enhancements that can be done to this system are:
 - Provide More Security.
 - Add More Functionality in Searching For All Students And Book.
 - Good facility for registration and in creating account.
 - Librarian can check the privacy setting for their account.
 - New Option Add For Professor Details.

3.1 Data Flow Diagram

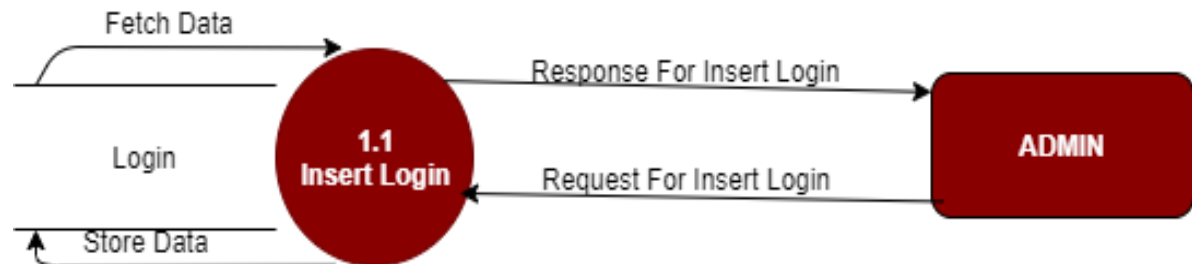


1st Level for Admin

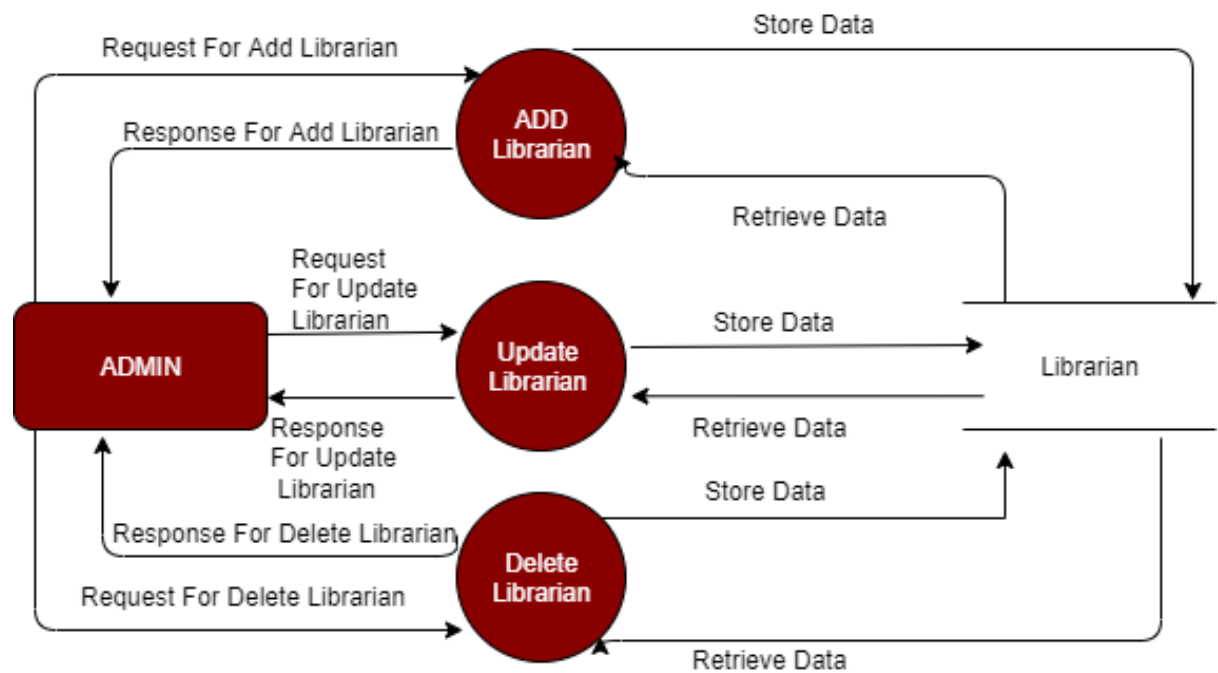


2nd Level for Admin:-

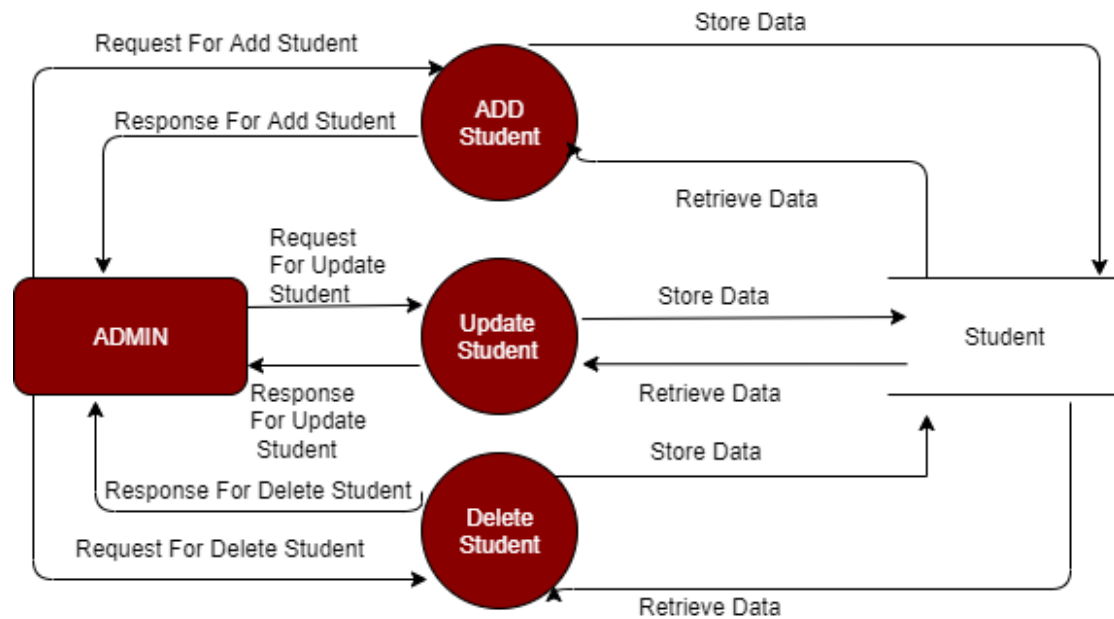
2nd Level for Login



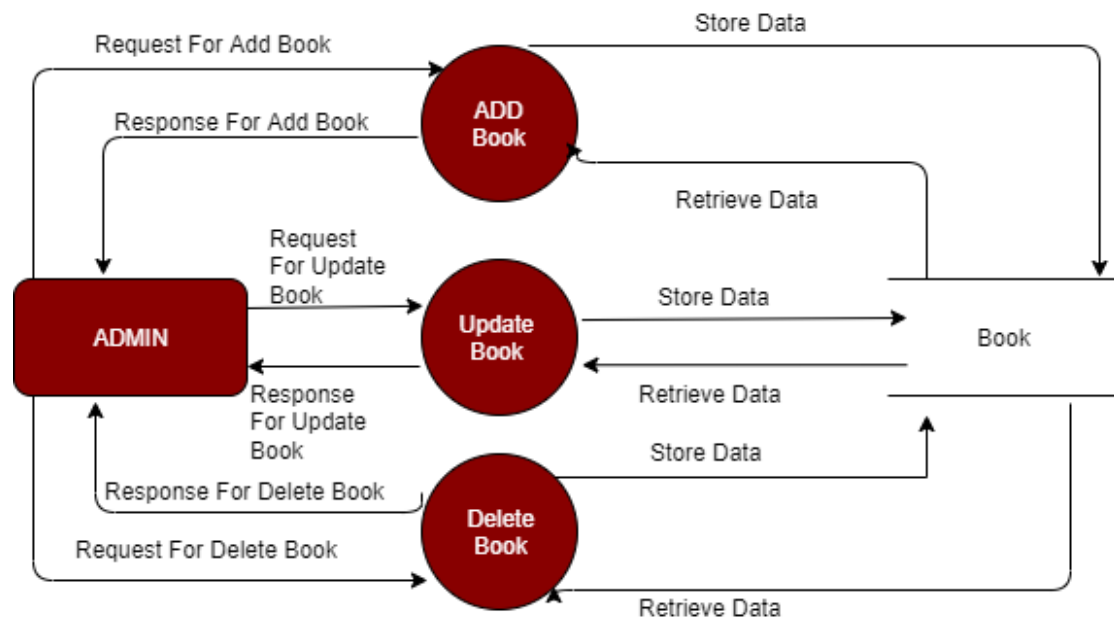
2nd Level for Librarian



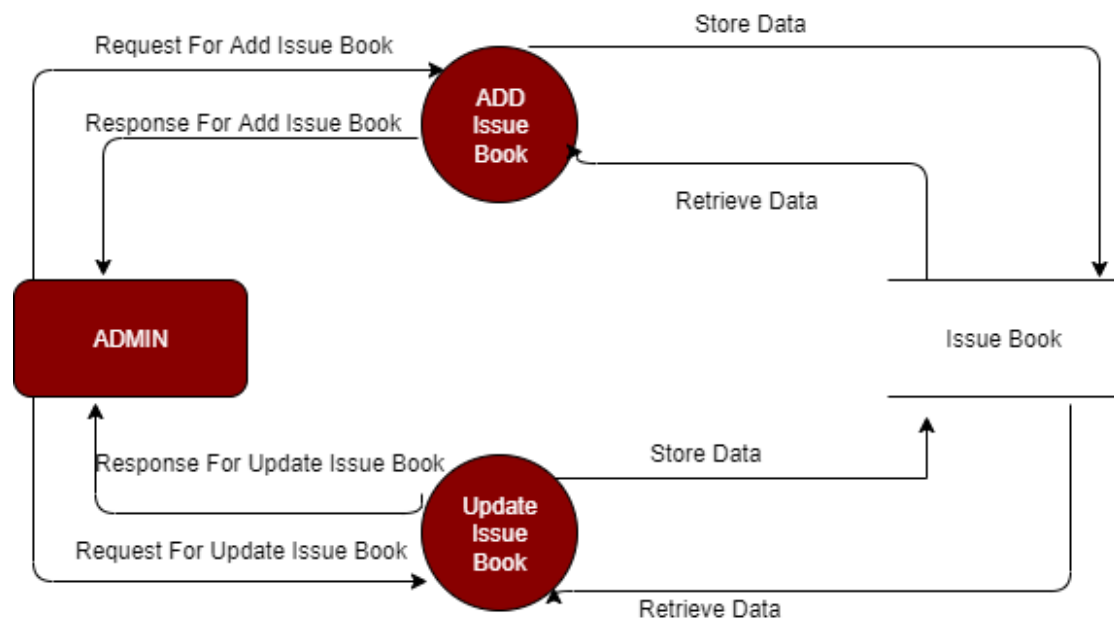
2nd Level for Student



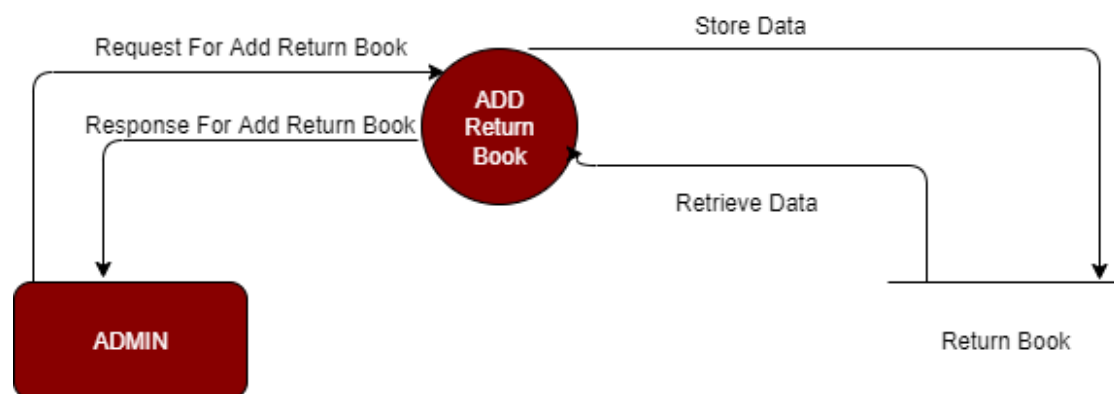
2nd Level for Book



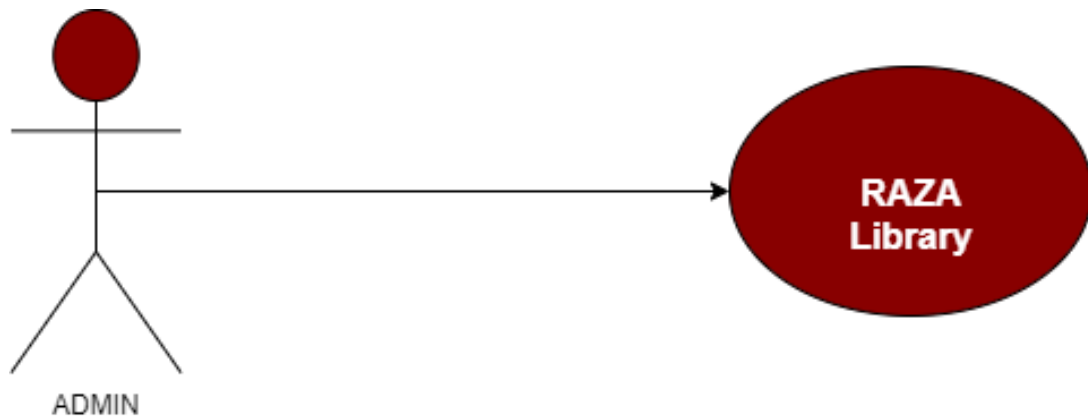
2nd Level for Issue Book



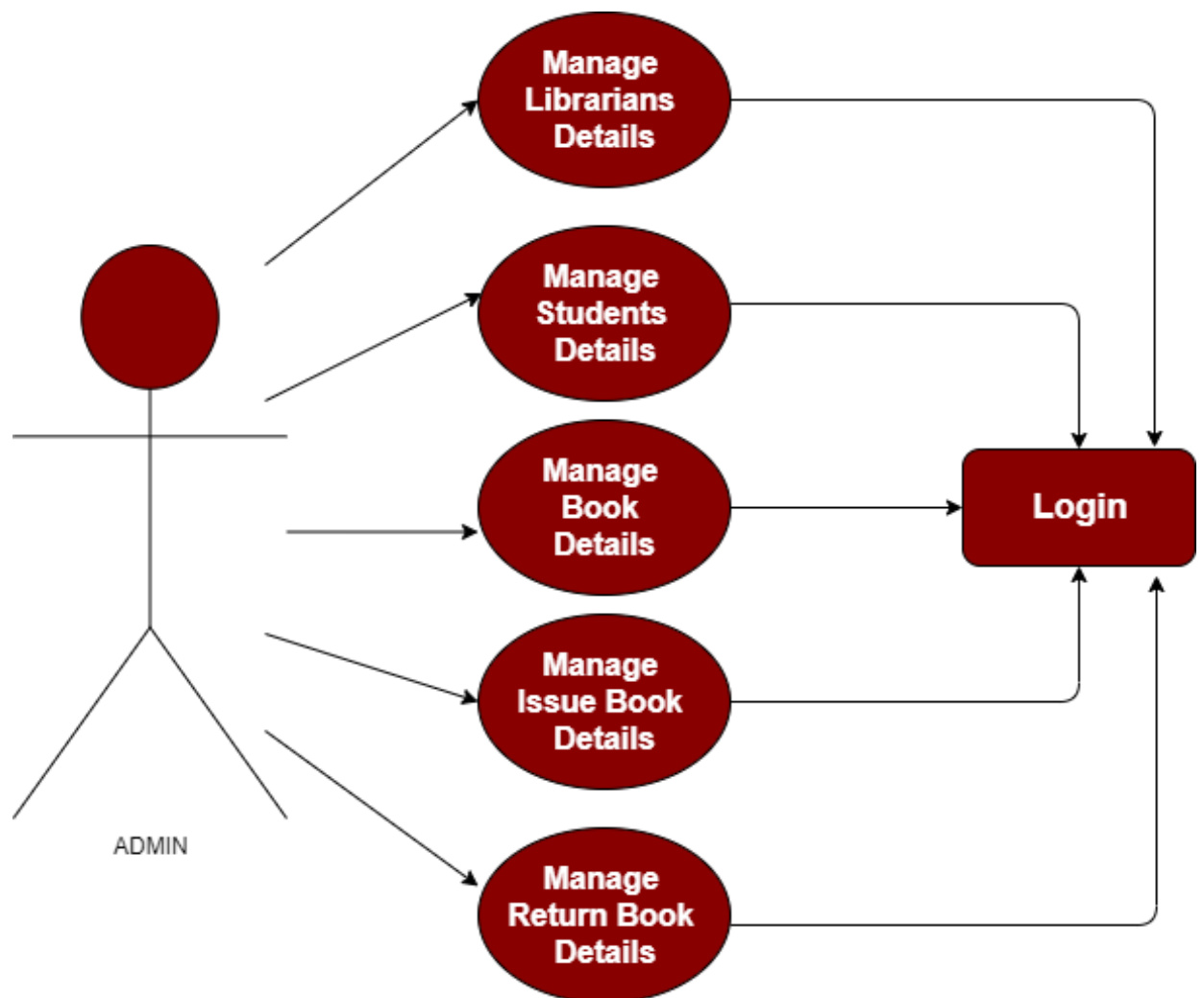
2nd Level for Return Book



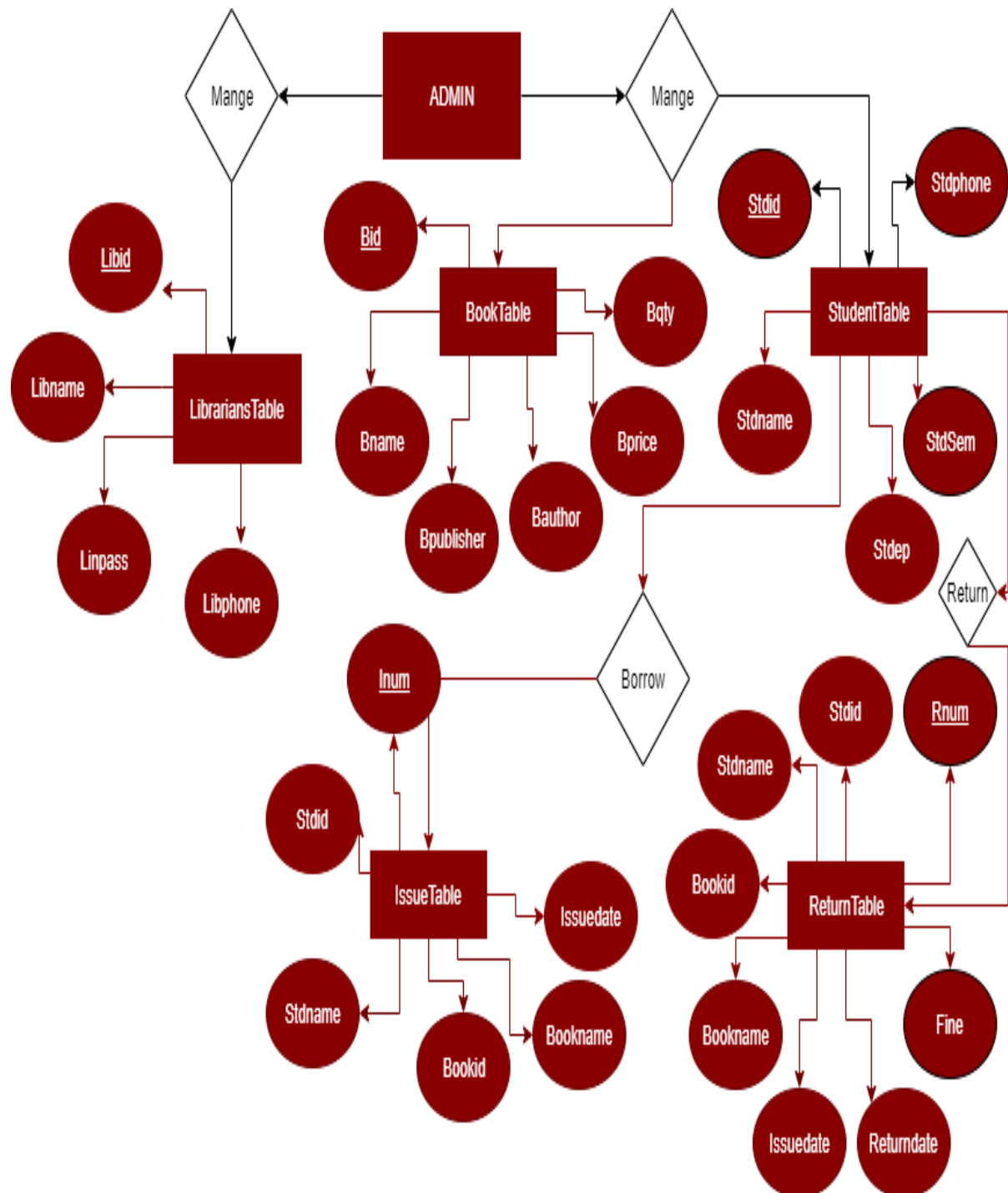
3.2 Use Case Diagram



Admin Functionality:-



3.3 ER Diagram



3.4 Database Design

Table name: LibrarianTable

Description: This table gives detail about Librarian Information

FIELD NAME	FIELD TYPE	CONSTRAINT	DESCRIPTION
Libid	AutoNumber	Primary key	Librarian ID
Libname	Short Text	Not Null	Librarian Name
Libphone	Large Number	Not Null	Librarian Phone Number
Libpass	Large Number	Not Null	Librarian Password

Table name: StdTable

Description: This table gives detail about Student Information

FIELD NAME	FIELD TYPE	CONSTRAINT	DESCRIPTION
Stdid	AutoNumber	Primary key	Student ID
Stdname	Short Text	Not Null	Student Name
Stddep	Short Text	Not Null	Student Department
StdSem	Number	Not Null	Student Semester
Stdphone	Large Number	Not Null	Student Phone Number

Table name: BookTable

Description: This table gives detail about Book Information

FIELD NAME	FIELD TYPE	CONSTRAINT	DESCRIPTION
Bid	AutoNumber	Primary key	Book ID
Bname	Short Text	Not Null	Book Name
Bauthor	Short Text	Not Null	Book Author
Bpublisher	Short Text	Not Null	Book Publisher
Bprice	Currency	Not Null	Book Price
Bqty	Number	Not Null	Book Quantity

Table name: IssueTable

Description: This table gives detail about Issue Book Information

FIELD NAME	FIELD TYPE	CONSTRAINT	DESCRIPTION
Inum	AutoNumber	Primary key	Issue Number
Stdid	Number	Foreign Key	Student ID
Stdname	Short Text	Not Null	Student name
Bookid	Number	Foreign Key	Book ID
Bookname	Short Text	Not Null	Book Name
Issuedate	Date/Time	Not Null	Issue Date

Table name: ReturnTable

Description: This table gives detail about Return Book Information

FIELD NAME	FIELD TYPE	CONSTRAINT	DESCRIPTION
Rum	AutoNumber	Primary key	Return Number
Stdid	Number	Foreign Key	Student ID
Stdname	Short Text	Not Null	Student name
Bookid	Number	Foreign Key	Book ID
Bookname	Short Text	Not Null	Book Name
Issuedate	Date/Time	Not Null	Issue Date
Returndate	Date/Time	Not Null	Return Date
Fine	Short Text	Not Null	Fine

Table name: Main Table

Description: This is 3rd Normal form Table

FIELD NAME	FIELD TYPE	CONSTRAINT	DESCRIPTION
ID	AutoNumber	Primary key	ID
Libid	Number	Foreign Key	Librarian ID
Stdid	Number	Foreign Key	Student ID
Bid	Number	Foreign Key	Book ID
Inum	Number	Foreign Key	Issue Number
Rnum	Number	Foreign Key	Return Number

3.5 Data Dictionary

- We fertilize all data about our software and normalization some data about the tables which are given below.

Table name: LibrarianTable

Description: In this table admin can store Librarian Name, Librarian Phone number, Librarian password.

FIELD NAME	FIELD TYPE	DESCRIPTION
Libid	AutoNumber	To store librarian ID
Libname	Short Text	To store librarian name
Libphone	Large Number	To store librarian phone number
Libpass	Large Number	To store librarian password

Table name: StdTable

Description: In this table admin can store Student Name, Student Department, Student Semester, Student Phone number.

FIELD NAME	FIELD TYPE	DESCRIPTION
Stdid	AutoNumber	To store student ID
Stdname	Short Text	To store student name
Stdep	Short Text	To store student department
StdSem	Number	To store student semester password
Stdphone	Large Number	To store student phone number

Table name: BookTable

Description: In this table admin can store Book Name, Book Author, Book Publisher, Book Price, Book Quantity.

FIELD NAME	FIELD TYPE	DESCRIPTION
Bid	AutoNumber	To store Book ID
Bname	Short Text	To store Book Name
Bauthor	Short Text	To store Book Author
Bpublisher	Short Text	To store Book Publisher
Bprice	Currency	To store Book Price
Bqty	Number	To store Book Quantity

Table name: IssueTable

Description: In this table admin can store Student id, Student Name, Book Id, Book Name, Issue Date.

FIELD NAME	FIELD TYPE	DESCRIPTION
Inum	AutoNumber	To store Issue Number
Stdid	Number	To store Student ID
Stdname	Short Text	To store Student name
Bookid	Number	To store Book ID
Bookname	Short Text	To store Book Name
Issuedate	Date/Time	To store Issue Date

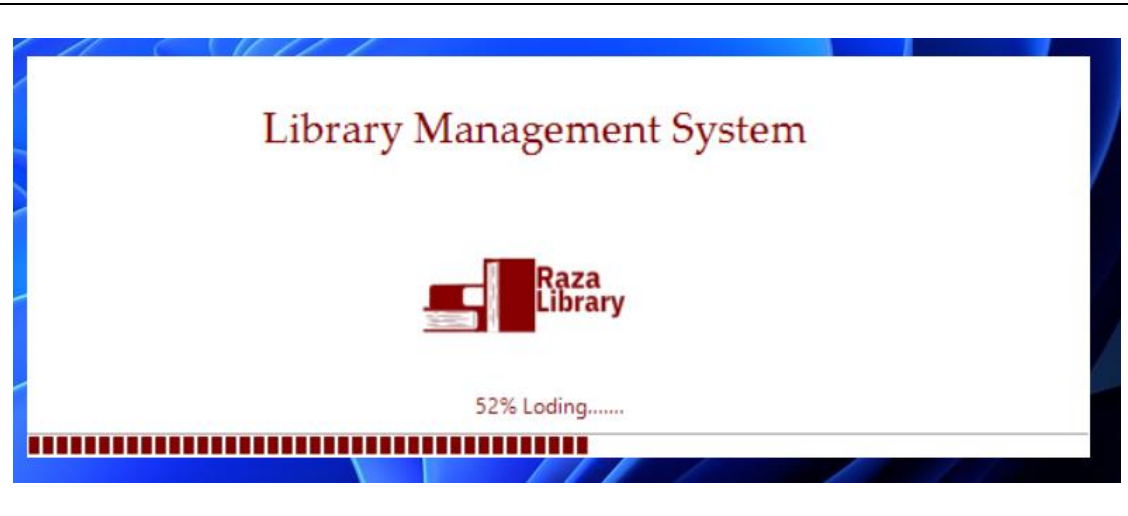
Table name: ReturnTable

Description: In this table admin can store Student id, Student Name, Book Id, Book Name, Issue Date, Return Date, Fine.

FIELD NAME	FIELD TYPE	DESCRIPTION
Rum	AutoNumber	To store Return Number
Stdid	Number	To store Student ID
Stdname	Short Text	To store Student name
Bookid	Number	To store Book ID
Bookname	Short Text	To store Book Name
Issuedate	Date/Time	To store Issue Date
Returndate	Date/Time	To store Return Date
Fine	Short Text	To store Fine

3.6 User Interface & Coding

Splash Screen



Description:- When Admin open software so first loading above.

Coding Of Splash Screen

```
Public Class Form1
    Private Sub Form1_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
        Timer1.Start()
    End Sub

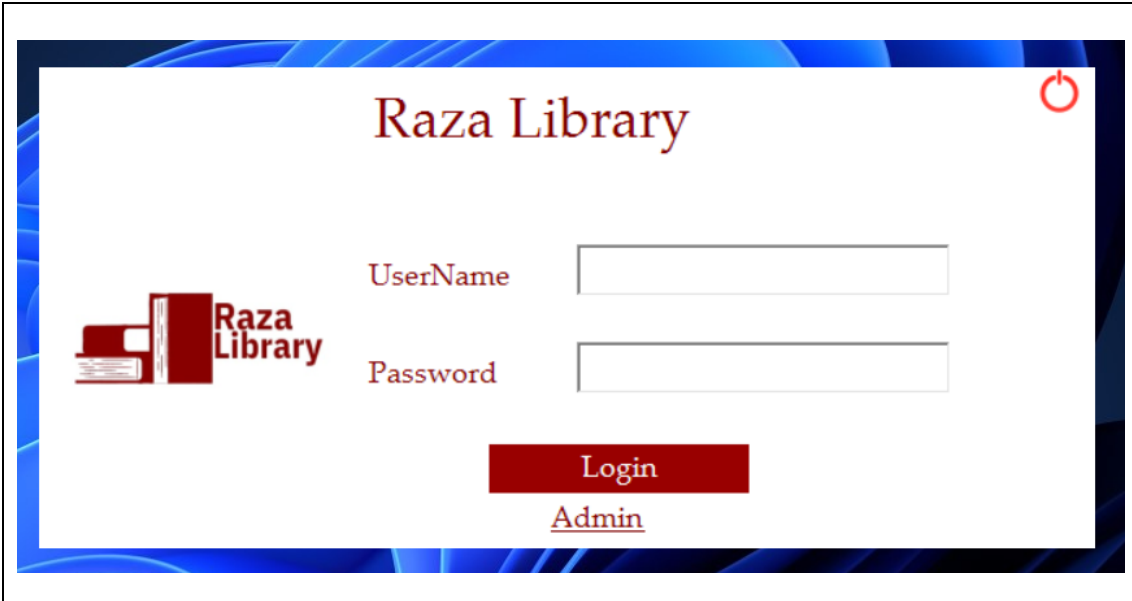
    Private Sub Timer1_Tick(sender As Object, e As EventArgs) Handles
Timer1.Tick

        'Progress Bar Loading Code
        ProgressBar1.Increment(1)
        Label2.Text = ProgressBar1.Value & "% Loding....."
        If ProgressBar1.Value = 100 Then
            Me.Hide()

            Dim l = New Login
            l.Show()

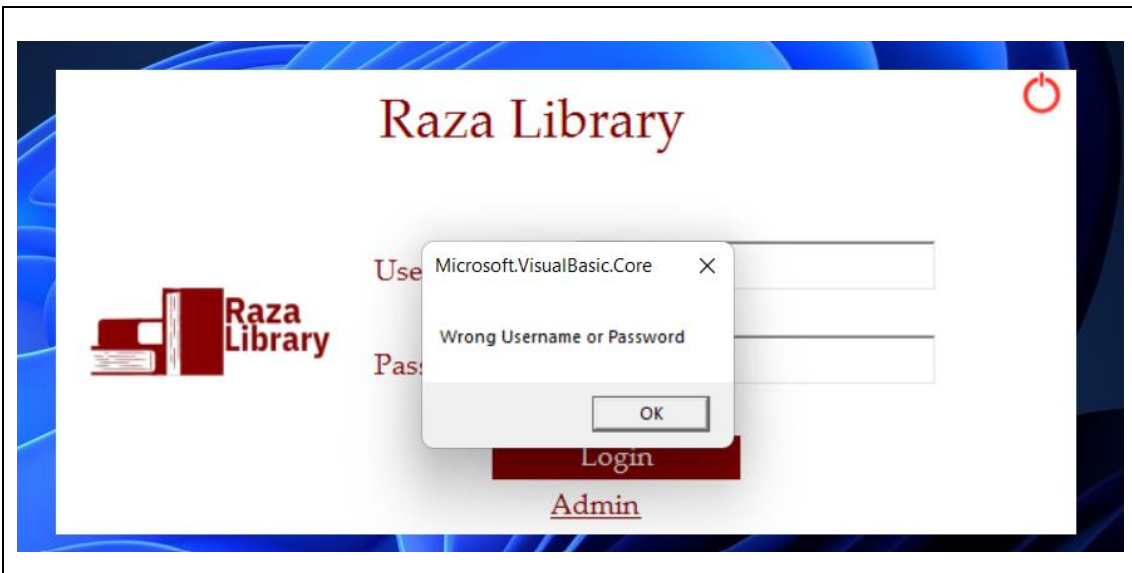
            Timer1.Enabled = False
        End If
    End Sub
End Class
```

Librarian Login



The screenshot shows the Raza Library Librarian Login page. It features a blue and white background with a book icon and the text "Raza Library" in red. The login form includes fields for "UserName" and "Password", a red "Login" button, and a link for "Admin".

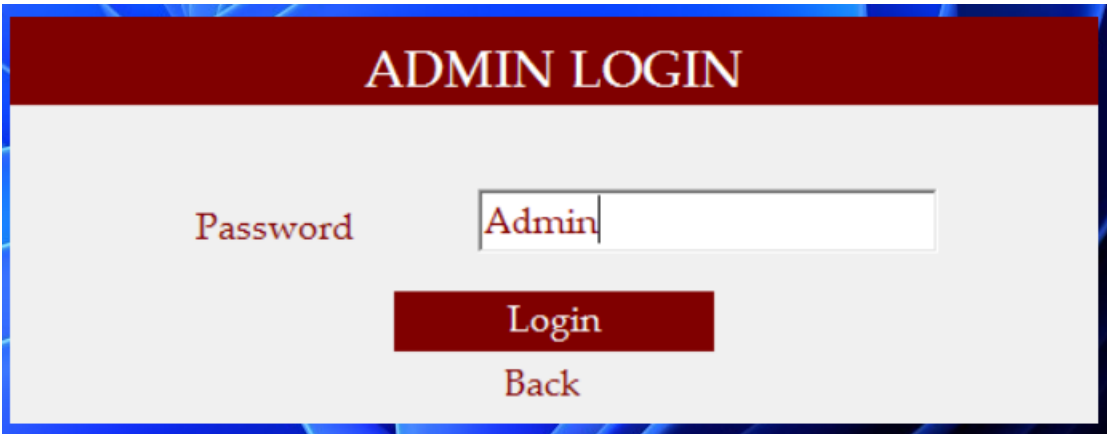
Description:- This is an admin login page and this page is used to login .



The screenshot shows the Raza Library Librarian Login page with an error message displayed. The error message is a small dialog box titled "Microsoft.VisualBasic.Core" with the text "Wrong Username or Password" and an "OK" button. The login form and "Admin" link are visible in the background.

Description:- If Librarian enter wrong username or password so show above message.

Admin Secure Login



Description:- This is an admin secure login page.

Coding Of Admin Secure Login

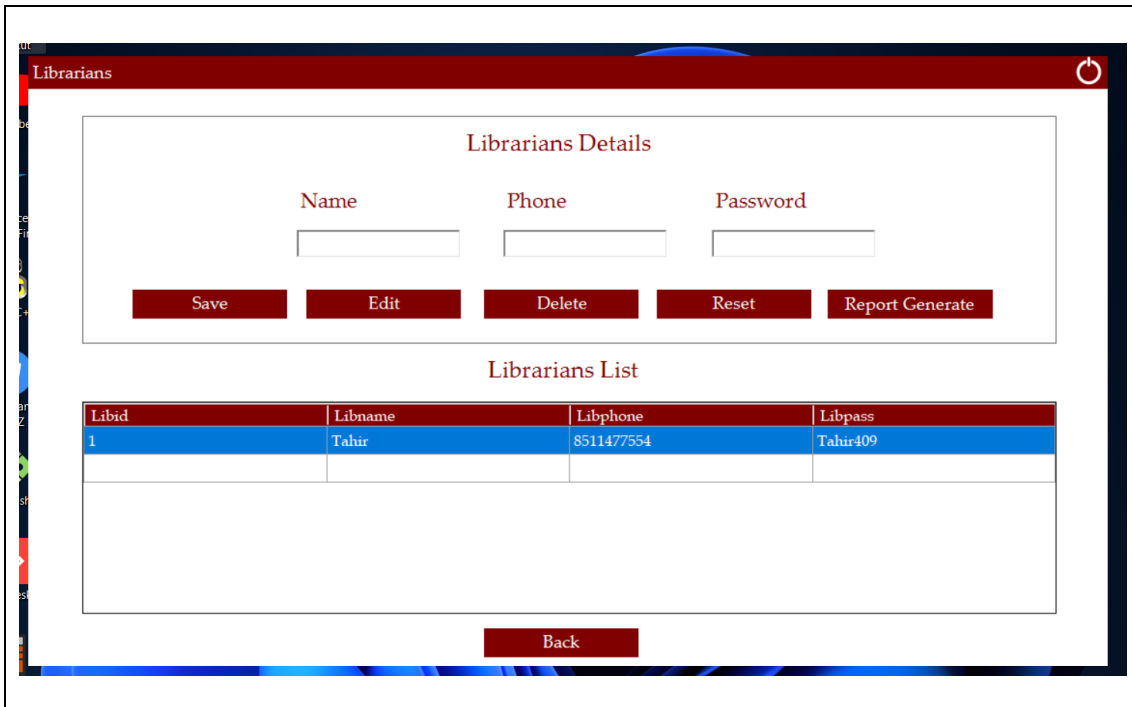
```
Public Class AdminLogin
    Private Sub btnlogin_Click(sender As Object, e As EventArgs) Handles
        btnlogin.Click

        'Password check condition
        If pass.Text = "" Then
            MsgBox("Enter The Admin Password")
        ElseIf pass.Text = "Admin" Then
            Dim Obj = New Librarians
            Obj.Show()
            Me.Hide()
        Else
            MsgBox("Wrong Password")
        End If
    End Sub

    Private Sub lbadmin_Click(sender As Object, e As EventArgs) Handles
        lbadmin.Click

        'Back Button
        Dim Obj = New Login
        Obj.Show()
        Me.Hide()
    End Sub
End Class
```

Librarian Details



The screenshot shows a web application titled "Librarians" with a sidebar menu. The main content area is divided into two sections:

Librarians Details

Form fields: Name, Phone, Password.

Buttons: Save, Edit, Delete, Reset, Report Generate.

Librarians List

Libid	Libname	Libphone	Libpass
1	Tahir	8511477554	Tahir409

Back button.

Description:- Here Admin can add librarian details.

Coding Of Librarian page

```
Imports System.Data.OleDb
Imports iTextSharp.text
Imports iTextSharp.text.pdf
Imports System.IO
Public Class Librarians
    Dim cn As New OleDbConnection
    Dim cmd As OleDbCommand
    Dim adp As New OleDbDataAdapter
    Dim ds As New DataSet
    Dim dr As OleDbDataReader

    Public Sub DisplayLibrarian()
        'Database connection and data display code
        ds.Clear()
        adp = New OleDbDataAdapter("select * from LibrarianTable", cn)
        adp.Fill(ds)
        DataGridView1.DataSource = ds.Tables(0)
    End Sub
    Private Sub Librarians_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        cn.ConnectionString = "Provider=Microsoft.ACE.OLEDB.12.0;Data Source=G:\BCA\SEM 4\404-.NET\Project\LibraryMgmtVb\Librarymng.accdb"
        cn.Open()
        DisplayLibrarian()
        cn.Close()
    End Sub
End Class
```



```

End Sub

Private Sub PictureBox2_Click(sender As Object, e As EventArgs)
Handles PictureBox2.Click

    'Close Button Coding
    Dim a As Integer
    a = MsgBox("Do You Want To Close Application?",
MsgBoxStyle.OkCancel, "Raza Library")
    If a = MsgBoxResult.Ok Then
        Application.Exit()
    End If
End Sub

Private Sub lsave_Click(sender As Object, e As EventArgs) Handles
lsave.Click

    'Insert Query
    Try
        cn.Open()
        Dim str As String
        str = "insert into LibrarianTable (Libname,Libphone,Libpass)
values ('" & lname.Text & "','" & lphone.Text & "','" & lpass.Text & "')"
        cmd = New OleDbCommand(str, cn)
        cmd.ExecuteNonQuery()
        MsgBox("Record Save Successfully", MsgBoxStyle.Information,
"Success")
        DisplayLibrarian()
        Reset()
    Catch ex As Exception
        MsgBox("Missing Details", MsgBoxStyle.Information, "Missing
Information")
    End Try
    cn.Close()
End Sub

Private Sub ledit_Click(sender As Object, e As EventArgs) Handles
ledit.Click

    'Update Query
    Try
        cn.Open()
        Dim str As String
        str = "update LibrarianTable set Libname='" & lname.Text &
"',Libphone=" & lphone.Text & ",Libpass='" & lpass.Text & "' where Libid="
& key & ""
        cmd = New OleDbCommand(str, cn)
        cmd.ExecuteNonQuery()
        MsgBox("Record Edit Successfully", MsgBoxStyle.Information,
"Success")
        DisplayLibrarian()
        Reset()
    Catch ex As Exception
        MsgBox("Missing Details", MsgBoxStyle.Information, "Missing
Information")
    End Try
    cn.Close()
End Sub

Private Sub ldlt_Click(sender As Object, e As EventArgs) Handles
ldlt.Click

```

```

'Delete Query
If key = 0 Then
    MsgBox("Select Details")
Else
    cn.Open()
    Dim str As String
    str = "delete from LibrarianTable where Libid =" & key & ""
    cmd = New OleDbCommand(str, cn)
    cmd.ExecuteNonQuery()
    MsgBox("Record Delete Successfully", MsgBoxStyle.Information,
"Success")
    DisplayLibrarian()
    Reset()
End If
End Sub
'Reset Function
Public Sub Reset()
    lname.Text = ""
    lphone.Text = ""
    lpass.Text = ""
    key = 0
End Sub
Private Sub lreset_Click(sender As Object, e As EventArgs) Handles
lreset.Click

    'Reset Function Call for clear textbox filed
    Reset()

End Sub

Private Sub lback_Click(sender As Object, e As EventArgs) Handles
lback.Click

    'Back Button
    Dim Obj = New Login
    Obj.Show()
    Me.Hide()
End Sub
Dim key = 0
Private Sub DataGridView1_CellMouseClicked(sender As Object, e As
DataGridViewCellMouseEventArgs) Handles DataGridView1.CellMouseClicked

    'DataGridview mouse click code
    Dim row As DataGridViewRow = DataGridView1.Rows(e.RowIndex)
    lname.Text = row.Cells(1).Value.ToString
    lphone.Text = row.Cells(2).Value.ToString
    lpass.Text = row.Cells(3).Value.ToString

    If lname.Text = "" Then
        key = 0
    Else
        key = Convert.ToInt32(row.Cells(0).Value.ToString)
    End If
End Sub

Private Sub btnrg_Click(sender As Object, e As EventArgs) Handles
btnrg.Click

    'Code Of Generate PDF
    Dim pdftable As PdfPTable = New
PdfPTable(DataGridView1.ColumnCount)
    pdftable.DefaultCell.Padding = 4

```

```

pdfTable.WidthPercentage = 100
pdfTable.HorizontalAlignment = Element.ALIGN_LEFT
pdfTable.DefaultCell.BorderWidth = 1

For Each column As DataGridViewColumn In DataGridView1.Columns
    Dim cell As PdfPCell = New PdfPCell(New
Phrase(column.HeaderText))
        cell.BackgroundColor = New iTextSharp.text.BaseColor(196, 164,
132)
        pdfTable.AddCell(cell)
    Next

For Each row As DataGridViewRow In DataGridView1.Rows
    For Each cell As DataGridViewCell In row.Cells
        If cell.Value Is Nothing Then
            Else
                pdfTable.AddCell(cell.Value.ToString())
            End If
        Next
    Next

Dim folderpath As String = "C:\Users\Tahir\Documents\"

If IsNothing(Directory.Exists(folderpath)) Then
    Directory.CreateDirectory(folderpath)
End If

Using stream As FileStream = New FileStream(folderpath +
"LibrarianReport.pdf", FileMode.Create)
    Dim document As Document = New Document(PageSize.A4, 10.0F,
10.0F, 10.0F, 0)
    PdfWriter.GetInstance(document, stream)
    document.Open()
    document.Add(pdfTable)
    document.Close()
    stream.Close()
    MsgBox("Report PDF Is Generated", MsgBoxStyle.Information,
"Success")

End Using

End Sub
End Class

```

Admin Login



Description:- This is an admin login page and this page is used to login .

Coding Of Login Screen

```
Imports System.Data.OleDb
Public Class Login
    Dim cn As New OleDbConnection
    Private Sub Login_Load(sender As Object, e As EventArgs) Handles MyBase.Load

        'Data Base Connection Code
        cn.ConnectionString = "Provider=Microsoft.ACE.OLEDB.12.0;Data Source=G:\BCA\SEM 4\404-.NET\Project\LibraryMgmtVb\Librarymgng.accdb"
    End Sub

    Private Sub PictureBox2_Click(sender As Object, e As EventArgs) Handles PictureBox2.Click
        Dim a As Integer
        a = MsgBox("Do You Want To Close Application?", MsgBoxStyle.OkCancel, "Raza Library")
        If a = MsgBoxResult.Ok Then
            Application.Exit()
        End If
    End Sub

    Private Sub lbadmin_Click(sender As Object, e As EventArgs) Handles lbadmin.Click
        Dim Obj = New AdminLogin
        Obj.Show()
        Me.Hide()
    End Sub

    Private Sub btnlogin_Click(sender As Object, e As EventArgs) Handles btnlogin.Click
```



'Username or Password Check Condition

```
If username.Text = "" Then
    MsgBox("Enter Librarian Name")
ElseIf pass.Text = "" Then
    MsgBox("Enter Password")
Else
    cn.Open()
    Dim str As String
    str = "select * from LibrarianTable where Libname = '" &
username.Text & "' and Libpass ='" & pass.Text & "' "
    Dim cmd = New OleDbCommand(str, cn)
    Dim adp = New OleDbDataAdapter(cmd)
    Dim ds = New DataSet()
    adp.Fill(ds)
    Dim a As Integer
    a = ds.Tables(0).Rows.Count
    If a = 0 Then
        MsgBox("Wrong Username or Password")
    Else
        Dim Obj = New MainForm
        Obj.Show()
        Me.Hide()
    End If
    cn.Close()
End If
End Sub
End Class
```

Main Screen



Description:- If Admin is login successfully after that show above form

Coding Of Main Screen

```
Public Class MainForm
    Private Sub PictureBox4_Click(sender As Object, e As EventArgs)
Handles PictureBox4.Click
        'Forth Image Code

        Dim Obj = New BReturns
        Obj.Show()
        Me.Hide()
    End Sub

    Private Sub imagestudent_Click(sender As Object, e As EventArgs)
Handles imagestudent.Click
        'First Image Code

        Dim Obj = New Students
        Obj.Show()
        Me.Hide()
    End Sub

    Private Sub PictureBox2_Click(sender As Object, e As EventArgs)
Handles PictureBox2.Click
        'Second Image Code

        Dim Obj = New Books
        Obj.Show()
        Me.Hide()
    End Sub

    Private Sub PictureBox3_Click(sender As Object, e As EventArgs)
Handles PictureBox3.Click
        'Third Image Code
```

```
Dim Obj = New IssueBook
Obj.Show()
Me.Hide()
End Sub

Private Sub PictureBox1_Click(sender As Object, e As EventArgs)
Handles PictureBox1.Click
'Down side Right Image Code

Dim Obj = New Login
Obj.Show()
Me.Hide()
End Sub

Private Sub PictureBox5_Click(sender As Object, e As EventArgs)
Handles PictureBox5.Click
'Down Side Left Image Code

Dim Obj = New About
Obj.Show()
Me.Hide()
End Sub

End Class
```

Student Details Screen

Students

Student Details

Name

Stream

Semester

Phone

Shaikh Tahir

BCA

4

8511477554

Save

Edit

Delete

Reset

Report Generate

Success

Record Save Successfully

OK

Stdid	Stdname	StdSem	Stdphone

Back

Students

Student Details

Name

Stream

Semester

Phone

BCA

Save

Edit

Delete

Reset

Report Generate

Student List

Stdid	Stdname	StdSem	Stdphone
1	Shaikh Tahir	4	8511477554

Back

Description:- This is Student Details Form Admin Can Manage Student Data

Coding Of Student Details Form

```
Imports System.Data.OleDb
Imports iTextSharp.text
Imports iTextSharp.text.pdf
Imports System.IO
Public Class Students
    Dim cn As New OleDbConnection
    Dim cmd As OleDbCommand
    Dim adp As New OleDbDataAdapter
    Dim ds As New DataSet
    Dim dr As OleDbDataReader

    Public Sub DisplayStudent()
        ds.Clear()
        adp = New OleDbDataAdapter("select * from StdTable", cn)
        adp.Fill(ds)
        DataGridView1.DataSource = ds.Tables(0)
    End Sub
    Private Sub PictureBox2_Click(sender As Object, e As EventArgs)
Handles PictureBox2.Click
        Dim a As Integer
        a = MsgBox("Do You Want To Close Application?",
MsgBoxStyle.OkCancel, "Raza Library")
        If a = MsgBoxResult.Ok Then
            Application.Exit()
        End If
    End Sub

    Private Sub Students_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
        cn.ConnectionString = "Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=G:\BCA\SEM 4\404-.NET\Project\LibraryMgmtVb\Librarymng.accdb"
        cn.Open()
        DisplayStudent()
        cn.Close()
    End Sub

    Private Sub ssave_Click(sender As Object, e As EventArgs) Handles
ssave.Click
        'Insert Query

        Try
            cn.Open()
            Dim str As String
            str = "insert into StdTable (Stdname,Stdep,StdSem,Stdphone)
values('" & sname.Text & "','" & cmbsedep.Text & "','" & cmbssesem.Text &
"'," & sphone.Text & ")"
            cmd = New OleDbCommand(str, cn)
            cmd.ExecuteNonQuery()
            MsgBox("Record Save Successfully", MsgBoxStyle.Information,
"Success")
            DisplayStudent()
            Reset()
        Catch ex As Exception
            MsgBox("Missing Details", MsgBoxStyle.Information, "Missing
Information")
        End Try
        cn.Close()
    End Sub
End Class
```

```

End Sub

Public Sub Reset()
    sname.Text = ""
    cmbsedep.SelectedIndex = 0
    cmbssesem.Text = ""
    sphone.Text = ""
End Sub

Private Sub sreset_Click(sender As Object, e As EventArgs) Handles
sreset.Click
    Reset()

End Sub

Private Sub sedit_Click(sender As Object, e As EventArgs) Handles
sedit.Click
    'Update Query
    Try
        cn.Open()
        Dim str As String
        str = "update StdTable set Stdname='" & sname.Text &
        "' ,Stdepe='" & cmbsedep.Text & "' ,StdSem='" & cmbssesem.Text & "' ,Stdphone=" &
        sphone.Text & " where Stdid=" & key & ""
        cmd = New OleDbCommand(str, cn)
        cmd.ExecuteNonQuery()
        MsgBox("Record Edit Successfully", MsgBoxStyle.Information,
        "Success")
        DisplayStudent()
        Reset()
    Catch ex As Exception
        MsgBox("Missing Details", MsgBoxStyle.Information, "Missing
        Information")
    End Try
    cn.Close()
End Sub

Dim key = 0

Private Sub sdlt_Click(sender As Object, e As EventArgs) Handles
sdlt.Click
    'Delete Query
    If key = 0 Then
        MsgBox("Select Details")
    Else
        cn.Open()
        Dim str As String
        str = "delete from StdTable where Stdid =" & key & ""
        cmd = New OleDbCommand(str, cn)
        cmd.ExecuteNonQuery()
        MsgBox("Record Delete Successfully", MsgBoxStyle.Information,
        "Success")
        DisplayStudent()
        Reset()
    End If
End Sub

Private Sub sback_Click(sender As Object, e As EventArgs) Handles
sback.Click

```

```

Dim Obj = New MainForm
Obj.Show()
Me.Hide()
End Sub

Private Sub btnrg_Click(sender As Object, e As EventArgs) Handles
btnrg.Click
    'Pdf Generate Code

    Dim pdftable As PdfPTable = New
    PdfPTable(DataGridView1.ColumnCount)
    pdftable.DefaultCell.Padding = 4
    pdftable.WidthPercentage = 100
    pdftable.HorizontalAlignment = Element.ALIGN_LEFT
    pdftable.DefaultCell.BorderWidth = 1

    For Each column As DataGridViewColumn In DataGridView1.Columns
        Dim cell As PdfPCell = New PdfPCell(New
Phrase(column.HeaderText))
        cell.BackgroundColor = New iTextSharp.text.BaseColor(196, 164,
132)
        pdftable.AddCell(cell)
    Next

    For Each row As DataGridViewRow In DataGridView1.Rows
        For Each cell As DataGridViewCell In row.Cells
            If cell.Value Is Nothing Then
            Else
                pdftable.AddCell(cell.Value.ToString())
            End If
        Next
    Next

    Dim folderpath As String = "C:\Users\Tahir\Documents\"

    If IsNothing(Directory.Exists(folderpath)) Then
        Directory.CreateDirectory(folderpath)
    End If

    Using stream As FileStream = New FileStream(folderpath +
"StudentReport.pdf", FileMode.Create)
        Dim document As Document = New Document(PageSize.A4, 10.0F,
10.0F, 10.0F, 0)
        PdfWriter.GetInstance(document, stream)
        document.Open()
        document.Add(pdftable)
        document.Close()
        stream.Close()
        MsgBox("Report PDF Is Generated", MsgBoxStyle.Information,
"Success")
    End Using

End Sub

Private Sub DataGridView1_CellMouseClicked_1(sender As Object, e As
DataGridViewCellMouseEventArgs) Handles DataGridView1.CellMouseClicked

    Dim row As DataGridViewRow = DataGridView1.Rows(e.RowIndex)
    sname.Text = row.Cells(1).Value.ToString
    cbsdep.Text = row.Cells(2).Value.ToString
    cbssem.Text = row.Cells(3).Value.ToString

```

```
sphone.Text = row.Cells(4).Value.ToString  
  
If sname.Text = "" Then  
    key = 0  
Else  
    key = Convert.ToInt32(row.Cells(0).Value.ToString)  
End If  
End Sub  
End Class
```

Book Details Screen

Books

Books Details

Name

Author

Publisher

Price

Quantity

Microsoft Visual Basic.net

Shayam Chawda

Nirav Prakashan

250

15

Save

Edit

Delete

Reset

Report Generate

Success

Book Save Successfully

OK

Bid	Bname	Bauthor	Bprice	Bqty

Back

Books

Books Details

Name

Author

Publisher

Price

Quantity

Save

Edit

Delete

Reset

Report Generate

Book List

Bid	Bname	Bauthor	Bpublisher	Bprice	Bqty
1	MicroSoft Visual Basi...	Shayam Chawda	Nirav Prakashan	250	15

Back

Description:- This is Book Details Form Admin Can Manage Book Data.

Coding Of Book Details Form

```
Imports System.Data.OleDb
Imports iTextSharp.text
Imports iTextSharp.text.pdf
Imports System.IO
Public Class Books

    Dim cn As New OleDbConnection
    Dim cmd As OleDbCommand
    Dim adp As New OleDbDataAdapter
    Dim ds As New DataSet
    Dim dr As OleDbDataReader

    Public Sub Display()
        ds.Clear()
        adp = New OleDbDataAdapter("select * from BookTable", cn)
        adp.Fill(ds)
        DataGridView1.DataSource = ds.Tables(0)
    End Sub
    Private Sub PictureBox2_Click(sender As Object, e As EventArgs)
Handles PictureBox2.Click
        Dim a As Integer
        a = MsgBox("Do You Want To Close Application?",
MsgBoxStyle.OkCancel, "Raza Library")
        If a = MsgBoxResult.Ok Then
            Application.Exit()
        End If
    End Sub
    Private Sub Books_Load(sender As Object, e As EventArgs) Handles
MyBase.Load
        cn.ConnectionString = "Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=G:\BCA\SEM 4\404-.NET\Project\LibraryMgmtVb\Librarymng.accdb"
        cn.Open()
        Display()
        cn.Close()

    End Sub

    Private Sub bsave_Click(sender As Object, e As EventArgs) Handles
bsave.Click
        'Insert Query

        Try
            cn.Open()
            Dim str As String
            str = "insert into
BookTable(Bname,Bauthor,Bpublisher,Bprice,Bqty)values('" & bname.Text &
"', '" & bauthor.Text & "', '" & bpublisher.Text & "', '" & bprice.Text & "',
& bquantity.Text & "')"
            cmd = New OleDbCommand(str, cn)
            cmd.ExecuteNonQuery()
            MsgBox("Book Save Successfully", MsgBoxStyle.Information,
"Success")
            Display()
            Reset()
        Catch ex As Exception
            MsgBox("Missing Details", MsgBoxStyle.Information, "Missing
Information")
        End Try
    End Sub
End Class
```

```

End Try
cn.Close()
End Sub

Private Sub bedit_Click(sender As Object, e As EventArgs) Handles
bedit.Click
    'Update Query

    Try
        cn.Open()
        Dim str As String
        str = "update BookTable set Bname='" & bname.Text &
        "'",Bauthor='" & bauthor.Text & "'",Bpublisher='" & bpublisher.Text &
        "'",Bprice='" & bprice.Text & "',Bqty='" & bquantity.Text & " where Bid=" &
        key & ""
        cmd = New OleDbCommand(str, cn)
        cmd.ExecuteNonQuery()
        MsgBox("Record Edit Successfully", MsgBoxStyle.Information,
"Success")
        Display()
        Reset()
    Catch ex As Exception
        MsgBox("Missing Details", MsgBoxStyle.Information, "Missing
Information")
    End Try
    cn.Close()
End Sub

Public Sub Reset()
    bname.Text = ""
    bauthor.Text = ""
    bpublisher.Text = ""
    bprice.Text = ""
    bquantity.Text = ""
    key = 0
End Sub

Private Sub breset_Click(sender As Object, e As EventArgs) Handles
breset.Click
    Reset()
End Sub

Dim key = 0

Private Sub bdlt_Click(sender As Object, e As EventArgs) Handles
bdlt.Click
    'Delete Query

    If key = 0 Then
        MsgBox("Select Details")
    Else
        cn.Open()
        Dim str As String
        str = "delete from BookTable where Bid =" & key & ""
        cmd = New OleDbCommand(str, cn)
        cmd.ExecuteNonQuery()
        MsgBox("Book Delete Successfully", MsgBoxStyle.Information,
"Success")
        Display()
        Reset()
    End If

```

```

End Sub

Private Sub bback_Click(sender As Object, e As EventArgs) Handles
bback.Click
    Dim Obj = New MainForm
    Obj.Show()
    Me.Hide()
End Sub

Private Sub btnrg_Click(sender As Object, e As EventArgs) Handles
btnrg.Click
    'PDF Generate Code

    Dim pdftable As PdfPTable = New
PdfPTable(DataGridView1.ColumnCount)
    pdftable.DefaultCell.Padding = 4
    pdftable.WidthPercentage = 100
    pdftable.HorizontalAlignment = Element.ALIGN_LEFT
    pdftable.DefaultCell.BorderWidth = 1

    For Each column As DataGridViewColumn In DataGridView1.Columns
        Dim cell As PdfPCell = New PdfPCell(New
Phrase(column.HeaderText))
        cell.BackgroundColor = New iTextSharp.text.BaseColor(196, 164,
132)
        pdftable.AddCell(cell)
    Next

    For Each row As DataGridViewRow In DataGridView1.Rows
        For Each cell As DataGridViewCell In row.Cells
            If cell.Value Is Nothing Then
            Else
                pdftable.AddCell(cell.Value.ToString())
            End If
        Next
    Next

    Dim folderpath As String = "C:\Users\Tahir\Documents\"

    If IsNothing(Directory.Exists(folderpath)) Then
        Directory.CreateDirectory(folderpath)
    End If

    Using stream As FileStream = New FileStream(folderpath +
"BookReport.pdf", FileMode.Create)
        Dim document As Document = New Document(PageSize.A4, 10.0F,
10.0F, 10.0F, 0)
        PdfWriter.GetInstance(document, stream)
        document.Open()
        document.Add(pdftable)
        document.Close()
        stream.Close()
        MsgBox("Report PDF Is Generated", MsgBoxStyle.Information,
"Success")
    End Using

End Sub

Private Sub DataGridView1_CellMouseClick_1(sender As Object, e As
DataGridViewCellMouseEventArgs) Handles DataGridView1.CellMouseClick

```



```
Dim row As DataGridViewRow = DataGridView1.Rows(e.RowIndex)
bname.Text = row.Cells(1).Value.ToString
bauthor.Text = row.Cells(2).Value.ToString
bpublisher.Text = row.Cells(3).Value.ToString
bprice.Text = row.Cells(4).Value.ToString
bquantity.Text = row.Cells(5).Value.ToString

If bname.Text = "" Then
    key = 0
Else
    key = Convert.ToInt32(row.Cells(0).Value.ToString)
End If
End Sub
End Class
```

Issue Book Details Screen

Issue Book

Issue Details

Student Id

1

Name

Shaikh Tahir

Book Id

1

Book Name

MicroSoft Visual Basic.n

Issue Date

10-03-2022

Save

Edit

Reset

Report Generate

Book Issued

Inum	Stdid	Stdname	Bookid	Bookname	Issuedate
1	1	Shaikh Tahir	1	MicroSoft Visual Ba...	10-03-2022

Back

Success

Book Issued

OK

Issue Book

Issue Details

Student Id

Name

Book Id

Book Name

Issue Date

10-03-2022

Save

Edit

Reset

Report Generate

Book Issued

Inum	Stdid	Stdname	Bookid	Bookname	Issuedate
1	1	Shaikh Tahir	1	MicroSoft Visual Ba...	10-03-2022

Back

Description:- This is Issue Book Details Form Admin Can Manage Issue Book Data.

Coding Of Issue Book Details Form

```
Imports System.Data.OleDb
Imports iTextSharp.text
Imports iTextSharp.text.pdf
Imports System.IO
Public Class IssueBook

    Dim cn As New OleDbConnection
    Dim cmd As OleDbCommand
    Dim adp As New OleDbDataAdapter
    Dim ds As New DataSet
    Dim dr As OleDbDataReader

    Public Sub DisplayIssue()
        ds.Clear()
        adp = New OleDbDataAdapter("select * from IssueTable", cn)
        adp.Fill(ds)
        DataGridView1.DataSource = ds.Tables(0)
    End Sub

    Public Sub FillStudent()
        Dim cmd As New OleDbCommand("select * from StdTable", cn)
        Dim adp As New OleDbDataAdapter(cmd)
        Dim ds As New DataTable()
        adp.Fill(ds)
        cmbisi.DataSource = ds
        cmbisi.DisplayMember = "Stdid"
        cmbisi.ValueMember = "Stdid"
    End Sub
    Dim num = 0
    Private Sub CountBook()
        Try
            cn.Open()
            Dim str = "select count (*)from IssueTable where Stdid=" &
cmbisi.SelectedValue.ToString() & ""
            Dim cmd As OleDbCommand
            cmd = New OleDbCommand(str, cn)
            num = cmd.ExecuteScalar()
            cn.Close()
        Catch ex As Exception
            MsgBox(ex.Message)
        End Try
    End Sub
    Public Sub GetStudentName()
        cn.Open()
        Dim str As String
        str = "select * from StdTable where Stdid=" &
cmbisi.SelectedValue.ToString() & ""
        Dim cmd As New OleDbCommand(str, cn)
        Dim ds As New DataTable
        Dim reader As OleDbDataReader
        reader = cmd.ExecuteReader()
        While reader.Read
            issname.Text = "" + reader(1).ToString()
        End While
        cn.Close()
    End Sub
```

```

Public Sub FillBook()
    Dim cmd As New OleDbCommand("select * from BookTable", cn)
    Dim adp As New OleDbDataAdapter(cmd)
    Dim ds As New DataTable()
    adp.Fill(ds)
    cmbibi.DataSource = ds
    cmbibi.DisplayMember = "Bid"
    cmbibi.ValueMember = "Bid"
End Sub

Public Sub GetBookName()
    cn.Open()
    Dim str As String
    str = "select * from BookTable where Bid=" &
cmbibi.SelectedValue.ToString() & ""
    Dim cmd As New OleDbCommand(str, cn)
    Dim ds As New DataTable
    Dim reader As OleDbDataReader
    reader = cmd.ExecuteReader()
    While reader.Read
        isbnname.Text = "" + reader(1).ToString()
    End While
    cn.Close()
End Sub

Private Sub PictureBox2_Click(sender As Object, e As EventArgs)
Handles PictureBox2.Click
    Dim a As Integer
    a = MsgBox("Do You Want To Close Application?",
MsgBoxStyle.OkCancel, "Raza Library")
    If a = MsgBoxResult.Ok Then
        Application.Exit()
    End If
End Sub

Private Sub Panel1_Paint(sender As Object, e As PaintEventArgs)
Handles Panel1.Paint

End Sub

Private Sub IssueBook_Load(sender As Object, e As EventArgs) Handles
 MyBase.Load
    cn.ConnectionString = "Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=G:\BCA\SEM 4\404-.NET\Project\LibraryMgmtVb\Librarymng.accdb"
    cn.Open()
    DisplayIssue()
    cn.Close()
    FillStudent()
    FillBook()
End Sub

Private Sub issave_Click(sender As Object, e As EventArgs) Handles
 issave.Click
    'Insert Query

    CountBook()
    If num = 5 Then
        MsgBox("No More then 5 Book Issued")
    Else
        Try
            cn.Open()
            Dim str As String
            str = "insert into

```

```

IssueTable(Stdid,Stdname,Bookid,Bookname,Issuedate)values(" & cmbisi.Text
& "," & issname.Text & "," & cmbibi.Text & "," & isbnname.Text & "," &
dateis.Text & ")")
        cmd = New OleDbCommand(str, cn)
        cmd.ExecuteNonQuery()
        MsgBox("Book Issued", MsgBoxStyle.Information, "Success")
        DisplayIssue()
        Reset()
    Catch ex As Exception
        MsgBox("Missng Details", MsgBoxStyle.Information, "Missing
Information")
    End Try
    cn.Close()
End If
End Sub

Private Sub cmbisi_SelectionChangeCommitted(sender As Object, e As
EventArgs) Handles cmbisi.SelectionChangeCommitted
    GetStudentName()
End Sub

Private Sub cmbibi_SelectionChangeCommitted(sender As Object, e As
EventArgs) Handles cmbibi.SelectionChangeCommitted
    GetBookName()
End Sub
Public Sub Reset()
    issname.Text = ""
    isbnname.Text = ""
    dateis.Text = ""
    cmbisi.Text = ""
    cmbibi.SelectedIndex = -1
    cmbisi.SelectedIndex = -1
End Sub
Private Sub isreset_Click(sender As Object, e As EventArgs) Handles
isreset.Click
    Reset()
End Sub

Dim key = 0

Private Sub isedit_Click(sender As Object, e As EventArgs) Handles
isedit.Click
    'Update Query

    Try
        cn.Open()
        Dim str As String
        str = "update IssueTable set Stdid=" & cmbisi.Text &
",Stdname=" & issname.Text & ",Bookid=" & cmbibi.Text & ",Bookname=" &
isbnname.Text & ",Issuedate=" & dateis.Text & " where Inum=" & key & ""
        cmd = New OleDbCommand(str, cn)
        cmd.ExecuteNonQuery()
        MsgBox("Record Edit Successfully", MsgBoxStyle.Information,
"Success")
        DisplayIssue()
        Reset()
    Catch ex As Exception
        MsgBox("Missing Details", MsgBoxStyle.Information, "Missing
Information")
    End Try
    cn.Close()
End Sub

```

```

Private Sub Button5_Click(sender As Object, e As EventArgs) Handles
Button5.Click
    Dim Obj = New MainForm
    Obj.Show()
    Me.Hide()
End Sub

Private Sub btnrg_Click(sender As Object, e As EventArgs) Handles
btnrg.Click
    'PDF Generate Code

    Dim pdftable As PdfPTable = New
PdfPTable(DataGridView1.ColumnCount)
    pdftable.DefaultCell.Padding = 0
    pdftable.WidthPercentage = 100
    pdftable.HorizontalAlignment = Element.ALIGN_LEFT
    pdftable.DefaultCell.BorderWidth = 1

    For Each column As DataGridViewColumn In DataGridView1.Columns
        Dim cell As PdfPCell = New PdfPCell(New
Phrase(column.HeaderText))
        cell.BackgroundColor = New iTextSharp.text.BaseColor(196, 164,
132)
        pdftable.AddCell(cell)
    Next

    For Each row As DataGridViewRow In DataGridView1.Rows
        For Each cell As DataGridViewCell In row.Cells
            If cell.Value Is Nothing Then
            Else
                pdftable.AddCell(cell.Value.ToString())
            End If
        Next
    Next

    Dim folderpath As String = "C:\Users\Tahir\Documents\"

    If IsNothing(Directory.Exists(folderpath)) Then
        Directory.CreateDirectory(folderpath)
    End If

    Using stream As FileStream = New FileStream(folderpath +
"IssueBookReport.pdf", FileMode.Create)
        Dim document As Document = New Document(PageSize.A4, 10.0F,
10.0F, 10.0F, 0)
        PdfWriter.GetInstance(document, stream)
        document.Open()
        document.Add(pdftable)
        document.Close()
        stream.Close()
        MsgBox("Report PDF Is Generated", MsgBoxStyle.Information,
"Success")
    End Using
End Sub

Private Sub DataGridView1_CellMouseClicked_1(sender As Object, e As
DataGridViewCellMouseEventArgs) Handles DataGridView1.CellMouseClicked
    Dim row As DataGridViewRow = DataGridView1.Rows(e.RowIndex)
    cmbisi.Text = row.Cells(1).Value.ToString
    issname.Text = row.Cells(2).Value.ToString

```

```
cmbibi.Text = row.Cells(3).Value.ToString
isbname.Text = row.Cells(4).Value.ToString
dateis.Text = row.Cells(5).Value.ToString

If issname.Text = "" Then
    key = 0
Else
    key = Convert.ToInt32(row.Cells(0).Value.ToString)
End If
End Sub
End Class
```

Return Book Details Screen

Return Book

Return Details

Student Id

Name

Book Id

Book Name

Issue Date

Return Date

Fine

1

Shaikh Tahir

1

MicroSoft Visual Basic.n

10-03-2022

17-03-2022

Rs.20

Return

Reset

Report Generate

Calculat

Book Issued

Book Returned

Inum	Stdid	Stdname	Bookid	Bookname	Issuedat	Returnd	Fine
1	1	Shaikh T...	1	MicroSof...	10-03-2022		

Back

Return Book

Return Details

Student Id

Name

Book Id

Book Name

Issue Date

Return Date

Fine

10-03-2022

17-03-2022

Return

Reset

Report Generate

Calculat

Book Issued

Book Returned

Inum	Stdid	Stdname	Bookid	Bookname	Issuedate

Rnum	Stdid	Stdname	Bookid	Bookna	Issuedat	Returnd	Fine
1	1	Shaik...	1	Micro...	10-03-...	17-03-...	Rs.20

Back

Description:- This is Book Book Details Form Admin Can Manage Return Book Data.

Coding Of Return Book Details Form

```
Imports System.Data.OleDb
Imports iTextSharp.text
Imports iTextSharp.text.pdf
Imports System.IO
Public Class BReturns

    Dim cn As New OleDbConnection
    Dim cmd As OleDbCommand
    Dim adp As New OleDbDataAdapter
    Dim ds As New DataSet
    Dim dr As OleDbDataReader

    Private Sub DisplayIssue()
        cn.Open()
        Dim str = "select * from IssueTable"
        Dim adp As New OleDbDataAdapter
        Dim cmd = New OleDbCommand(str, cn)
        adp = New OleDbDataAdapter(cmd)
        Dim bld = New OleDbCommandBuilder(adp)
        Dim ds = New DataSet
        adp.Fill(ds)
        IssueDGV.DataSource = ds.Tables(0)
        cn.Close()

    End Sub
    Private Sub DisplayReturnBook()
        cn.Open()
        Dim str = "select * from ReturnTable"
        Dim adp As New OleDbDataAdapter
        Dim cmd = New OleDbCommand(str, cn)
        adp = New OleDbDataAdapter(cmd)
        Dim bld = New OleDbCommandBuilder(adp)
        Dim ds = New DataSet
        adp.Fill(ds)
        ReturnDGV.DataSource = ds.Tables(0)
        cn.Close()

    End Sub
    Private Sub PictureBox2_Click(sender As Object, e As EventArgs)
Handles PictureBox2.Click
        Dim a As Integer
        a = MsgBox("Do You Want To Close Application?",
MsgBoxStyle.OkCancel, "Raza Library")
        If a = MsgBoxResult.Ok Then
            Application.Exit()
        End If
    End Sub

    Private Sub BReturns_Load(sender As Object, e As EventArgs) Handles
 MyBase.Load
        cn.ConnectionString = "Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=G:\BCA\SEM 4\404-.NET\Project\LibraryMgmtVb\Librarymng.accdb"
        DisplayIssue()
        DisplayReturnBook()
    End Sub

    Private Sub btnCal_Click(sender As Object, e As EventArgs) Handles
```

```

btncal.Click
    'Fine Calculate Code

    Dim dif As TimeSpan
    Dim fine As Integer
    dif = datereturn.Value.Date - dateissue.Value.Date
    Dim Days = dif.Days
    If Days <= 5 Then
        fine = 0
        bfine.Text = "No Fine"
    Else
        fine = Days - 5
        bfine.Text = "Rs." + Convert.ToString(fine * 10)

    End If
End Sub

Private Sub rsave_Click(sender As Object, e As EventArgs) Handles
rsave.Click
    'Insert Query

    If stdid.Text = "" Or stname.Text = "" Or Bookid.Text = "" Or
bname.Text = "" Or bfine.Text = "" Then
        MsgBox("Missing Details")
    Else
        Try
            cn.Open()
            Dim str As String
            str = "insert into
ReturnTable(Stdid,Stdname,Bookid,Bookname,Issuedate,Returndate,Fine)values
('' & stdid.Text & "',''' & stname.Text & "',''' & Bookid.Text & "',''' &
bname.Text & "',''' & dateissue.Text & "',''' & datereturn.Text & "',''' &
bfine.Text & "')"
            cmd = New OleDbCommand(str, cn)
            cmd.ExecuteNonQuery()
            cn.Close()
            MsgBox("Book Return ", MsgBoxStyle.Information, "Success")
            RemoveFormIssue()
            DisplayReturnBook()
            DisplayIssue()
            Reset()
        Catch ex As Exception
            MsgBox(ex.Message)
        End Try

    End If
End Sub
Private Sub RemoveFormIssue()
    'When Student Return Book so Student Issue data remove in Issue
Table

    Try
        cn.Open()
        Dim str As String
        str = "delete from IssueTable where Inum=" & key & ""
        cmd = New OleDbCommand(str, cn)
        cmd.ExecuteNonQuery()
        cn.Close()
        MsgBox("Issue Removed", MsgBoxStyle.Information, "Success")
    Catch ex As Exception
        MsgBox("Insert Details")
    End Try

```

```

End Sub
Dim key = 0

Public Sub Reset()
    stdid.Text = ""
    stname.Text = ""
    Bookid.Text = ""
    bname.Text = ""
    bfine.Text = ""
End Sub

Private Sub rreset_Click(sender As Object, e As EventArgs) Handles
rreset.Click
    Reset()
End Sub

Private Sub btnback_Click(sender As Object, e As EventArgs) Handles
btnback.Click
    Dim Obj = New MainForm
    Obj.Show()
    Me.Hide()
End Sub

Private Sub btnrg_Click(sender As Object, e As EventArgs) Handles
btnrg.Click
    'PDF Generate Code

    Dim pdftable As PdfPTable = New PdfPTable(ReturnDGV.ColumnCount)
    pdftable.DefaultCell.Padding = 4
    pdftable.WidthPercentage = 100
    pdftable.HorizontalAlignment = Element.ALIGN_LEFT
    pdftable.DefaultCell.BorderWidth = 1

    For Each column As DataGridViewColumn In ReturnDGV.Columns
        Dim cell As PdfPCell = New PdfPCell(New
Phrase(column.HeaderText))
        cell.BackgroundColor = New iTextSharp.text.BaseColor(196, 164,
132)
        pdftable.AddCell(cell)
    Next

    For Each row As DataGridViewRow In ReturnDGV.Rows
        For Each cell As DataGridViewCell In row.Cells
            If cell.Value Is Nothing Then
            Else
                pdftable.AddCell(cell.Value.ToString())
            End If
        Next
    Next

    Dim folderpath As String = "C:\Users\Tahir\Documents\"

    If IsNothing(Directory.Exists(folderpath)) Then
        Directory.CreateDirectory(folderpath)
    End If

    Using stream As FileStream = New FileStream(folderpath +
"BookReturnReport.pdf", FileMode.Create)
        Dim document As Document = New Document(PageSize.A4, 10.0F,

```

```
10.0F, 10.0F, 0)
    PdfWriter.GetInstance(document, stream)
    document.Open()
    document.Add(pdftable)
    document.Close()
    stream.Close()
    MsgBox("Report PDF Is Generated", MsgBoxStyle.Information,
"Success")

    End Using

End Sub

Private Sub IssueDGV_CellMouseClicked_1(sender As Object, e As
DataGridViewCellEventArgs) Handles IssueDGV.CellMouseClicked
    Dim row As DataGridViewRow = IssueDGV.Rows(e.RowIndex)
    stdid.Text = row.Cells(1).Value.ToString
    stname.Text = row.Cells(2).Value.ToString
    bookid.Text = row.Cells(3).Value.ToString
    bname.Text = row.Cells(4).Value.ToString
    dateissue.Text = row.Cells(5).Value.ToString

    If stname.Text = "" Then
        key = 0
    Else
        key = Convert.ToInt32(row.Cells(0).Value.ToString)
    End If
End Sub

End Class
```

PDF Generate Screen

Return Book

Return Details

Student Id

Name

Book Id

Book Name

Issue Date

Return Date

Fine

Return

Reset

Report Generate

Calculat

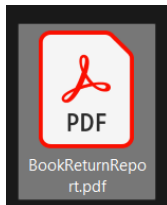
Book Issued

Inum	Stdid	Stdname	Bookid	Bookname

Book Returned

Stdname	Bookid	Bookna	Issuedat	Returnd	Fine
Shaik...	1	Micro...	10-03-...	17-03-...	Rs.20

Back



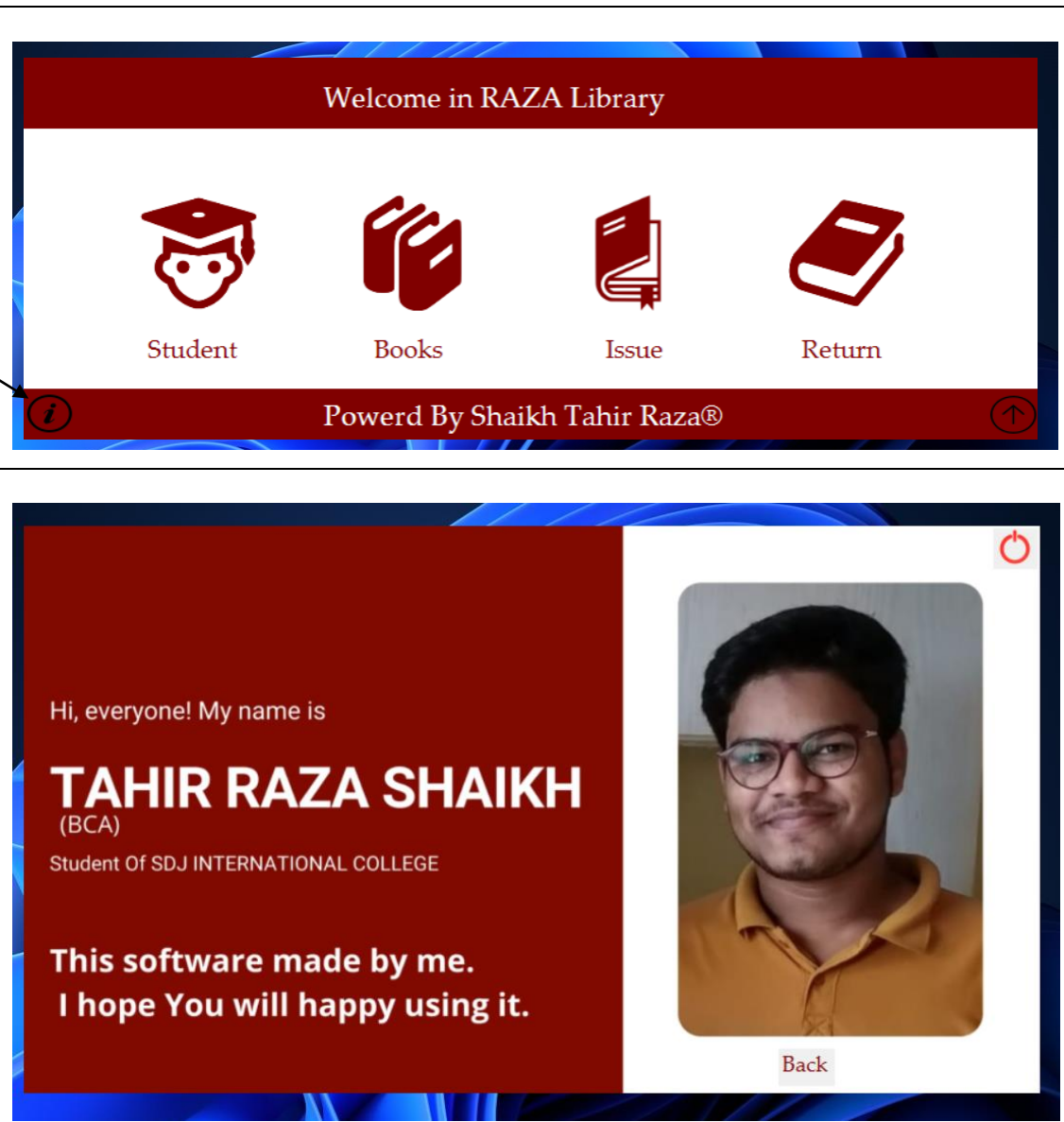
BookReturnReport.pdf - Adobe Acrobat Reader DC (64-bit)

Rnum	Stdid	Stdname	Bookid	Bookname	Issuedate	Returndate	Fine
1	1	Shaikh Tahir	1	MicroSoft Visual Basic.net	10-03-2022 00:00:00	17-03-2022 00:00:00	Rs.20

Description:- If Admin click on “Report Generate” Button any form so PDF generate of his Data.

Software Develop Student Information Screen

Down
Side
left
Icon



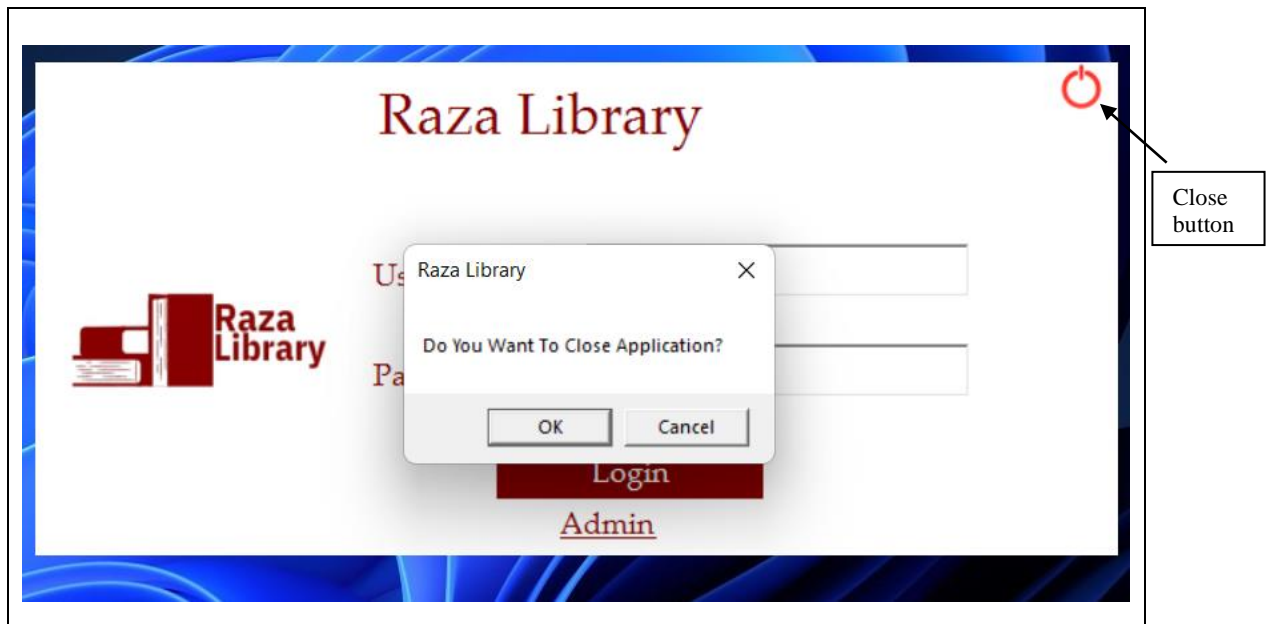
Description:- If Admin click on Downe Side Left icon So Show image of student who develop this software.

Coding Of Software Develop Student Information Screen

```
Public Class About
    Private Sub PictureBox2_Click(sender As Object, e As EventArgs)
Handles PictureBox2.Click
        Dim a As Integer
        a = MsgBox("Do You Want To Close Application?",
MsgBoxStyle.OkCancel, "Raza Library")
        If a = MsgBoxResult.Ok Then
            Application.Exit()
        End If
    End Sub

    Private Sub lbadmin_Click(sender As Object, e As EventArgs) Handles
lbadmin.Click
        Dim Obj = New MainForm
        Obj.Show()
        Me.Hide()
    End Sub
End Class
```

Login Close Screen



Description:- If Admin click on “Close Button “ in any screen that time show above message admin click on “OK” so software will be closing.

4.1 Unit Testing

- A unit is the smallest testable part of software. It usually has one or a few inputs and usually a single output.
- In procedural programming a unit may be an individual program, function, procedure, etc.
- In object-oriented programming, the smallest unit is a method, which may belong to a base/super class, abstract class or derived/child class.
- Some treat a module of an application as a unit. This is to be discouraged as there will probably be many individual units within that module.
- Unit testing is the first level of testing and is performed prior to **Integration Testing**.
- Unit Testing is normally performed by software developers themselves or their peers. In rare cases it may also be performed by independent software testers.

Test Cases:-

Name	User Login On Client Side
Description	This test case will check whether username and password is valid or not. If not then it will not allow the user will login.
Input Data	<ul style="list-style-type: none"> ✓ Valid Username and Password which is already define. ✓ Define Blank Username and valid Password. ✓ Valid Username and Blank Password. ✓ Valid Username but Wrong Password. ✓ Wrong Username and Valid Password. ✓ Wrong Username and Password.
Output	<ul style="list-style-type: none"> ✓ System allows Login. ✗ Username Must be required ✗ Password must be required ✗ System prompt error that user is not valid. ✗ System prompt error that Enter Username and password.
Actual Output	System allows Login

Name	Adding Librarian Data
Description	This test case will check entered data by given validation categorized with particular data type which is right or not.
Input Data	<ul style="list-style-type: none"> ✓ Valid all field record with particular data type. ✓ Invalid all field record. ✓ Black Librarian Name all remaining details. ✓ Add all filed in Librarian details.
Output	✓ System Allow to insert, update, delete data.
Actual Output	✓ System Allow to insert, update, delete data.

Name	Adding Student Data
Description	This test case will check entered data by given validation categorized with particular data type which is right or not.
Input Data	<ul style="list-style-type: none"> ✓ Valid all field record with particular data type. ✓ Invalid all field record. ✓ Black student Name all remaining details. ✓ Add all filed in student details.
Output	✓ System Allow to insert, update, delete data.
Actual Output	✓ System Allow to insert, update, delete data.

Name	Adding Book Data
Description	This test case will check entered data by given validation categorized with particular data type which is right or not.
Input Data	<ul style="list-style-type: none"> ✓ Valid all field record with particular data type. ✓ Invalid all field record. ✓ Black Book Name all remaining details. ✓ Add all filed in book details.
Output	✓ System Allow to insert, update, delete data.
Actual Output	✓ System Allow to insert, update, delete data.

Name	Adding Issue Book Data
Description	This test case will check entered data by given validation categorized with particular data type which is right or not.
Input Data	<ul style="list-style-type: none"> ✓ Valid all field record with particular data type. ✓ Invalid all field record. ✓ Black Issue all remaining details. ✓ Add all filed in Issue details.
Output	✓ System Allow to insert, update, delete data.
Actual Output	✓ System Allow to insert, update, delete data.

Name	Adding Return Book Data
Description	This test case will check entered data by given validation categorized with particular data type which is right or not.
Input Data	<ul style="list-style-type: none"> ✓ Valid all field record with particular data type. ✓ Invalid all field record. ✓ Black Return all remaining details. ✓ Add all filed in Return details. ✓ Calculate Fine
Output	✓ System Allow to insert, update, delete data.
Actual Output	✓ System Allow to insert, update, delete data.

4.2 Intergration Testing

Admin:-

Link	Expected Page	Result of Page
Login	Login Page of Admin	Login Page of Admin
Main From	Main page	Main page
Librarian	Add Librarian and View Librarian page	Add Librarian and View Librarian page
Student	Save, Edit, Delete Student and View Student Data	Save, Edit, Delete Student and View Student Data
Book	Save, Edit, Delete Book and View Book Data	Save, Edit, Delete Book and View Book Data
Issue Book	Save, Edit Issue Book Details with Student details and View Issue Book Data.	Save, Edit Issue Book Details with Student details and View Issue Book Data.
Return Book	Save, Edit Return Book Details with Student details and View Return Book Data.	Save, Edit Return Book Details with Student details and View Return Book Data.

4.3 System Testing

- System Testing is a type of software testing that is performed on a complete integrated system to evaluate the compliance of the system with the corresponding requirements.
- System Testing is carried out on the whole system in the context of either system requirement specifications or functional requirement specifications or in the context of both.
- System testing tests the design and behavior of the system and also the expectations of the customer

❖ Functional Testing

- Functional Testing is a type of software testing whereby the system is tested against the functional requirements/specifications.
- Functions (or features) are tested by feeding them input and examining the output. Functional testing ensures that the requirements are properly satisfied by the application. This type of testing is not concerned with how processing occurs, but rather, with the results of processing.
- During functional testing, **Black Box Testing** technique is used in which the internal logic of the system being tested is not known to the tester.
- Admin Registration Process has been properly working and all fields are validated through various validation checks.
- Login and Password validation process has been co-operated properly.
- Username module has been done properly and accurately.
- Manage all from perfectly.
- Report Generate of every details successful.
- Admin side handling and dynamic and real-time data generation module is implemented successfully.

Conclusion

- This Software is made form Manage a Library details.
- In this software librarian act as admin. Admin and Librarian both are same.
- Librarian can manage Book data easily.
- Librarian can manage Student data easily.
- Librarian can manage Issue Book data easily.
- Librarian can manage Return Book data easily.
- When Librarian act as admin that time he/she manage librarian name, password and phone number.
- This Software check successfully.

Bibliography & Reference

- If you want to know how this software works, Click on the link below to see:
<https://youtu.be/YLWPPI0otxl>