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| **ESOFT METRO CAMPUS GAMPHA-DITEC FINAL PROJECT**  **Project Front Cover Sheet** |
|  |

Please complete all areas of this form, sign, and attach to each submitted project. Submit the project according to the instructions provided in your Course Outline.

#### STUDENT/S TO COMPLETE

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| --- | --- | --- | --- | --- | --- | --- |
| Name of the Project/ System: | | | | | | |
| Course Name: | | | | | | |
| Batch Number: | | | | | | |
| Group Number: | | | | | | |
| Name of the Lecturer/ Lecturers: | | | | | | |
| Name of the Supervisor: | | | | | | |
| Date Due: | | | Date Submitted: | | | |
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|  | | | |  | | |

**Acknowledgement**

We would like to acknowledge all the persons who helped during our project. Our deepest gratitude is extended to Esoft Metro Campus-Gampaha for their guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project.

We like to express our special thanks to our supervisor Mr. Monash Tharuka for his kind support to successful completion of our project.

We have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals. We would like to extend our sincere thanks to all of them.

We are grateful to our parents for their love and support during the period of our project. We also want to thank to all our group members for their support to complete the project successfully.

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**Chapter 01**

**Introduction**

In a traditional sense, a library is a large collection of books, and can refer to the place in which the collection is house. Normally most of the libraries are used manual system to maintain their records and functions.

Nowadays technology is the latest growing trend so that computers are one of the major part of human day to day life. Through computers many organizations and companies can manipulate their work in a convenient way using advanced technologies and specially the application software.

This project is designed to develop and application software for monitoring and controlling the transactions in a library. The application software of “Library Management System” is developed by using C#.Through this automated system, librarian can lessen their efforts and errors in every book processing and transactions and in making reports. So, the process will be more efficient.

This application software is designed to perform following functions.

* Adding books to the system
* Maintaining records of books details
* Maintaining records of payments
* Maintaining records of member details
* Maintaining records of lending and returning books

**Chapter 02**

**Background**

2.1 Project Scope

The scope of the project considers about the library functions which are handled by the librarian.

The main section in this software are,

* Registration.
* Book details and add books.
* Lending and returning books.
* Payments.
* Member details.

2.2 Objectives

The main objectives of the library management system are,

* To eliminate the paper work in library.
* To minimize errors.
* To save the cost and time.
* To design a user-friendly interface which suits the librarian.
* To develop a system that can replace the manual library management system.
* To provide security [i.e. only librarian (administrator), update any information and handle the system].
* To develop database which store member details and book details.
* To record every transaction.

2.3 Challenges

* Group members did not have a thorough knowledge about the Microsoft visual C# software and Microsoft SQL server.
* Had to face difficulties when dealing with software versions.
* Some versions of Microsoft Visual C# and Microsoft SQL server did not support with operating system.
* Time management was difficult.

**Chapter 03**

**Requirement analysis**

Requirement analysis is an essential part of a project which is used to understand what the project will deliver critically depend largely on how clearly the problem is defined thorough investigation and properly carried out through the choice of solution.

Requirement analysis can be categorized into two parts.

* Information gathering.
* Structured analysis.

3.1 Information Gathering

The information which required to develop this project were gathered by using following techniques.

* Interviewing
* Questioning
* Observation
* Search / Exploration

Gathering information provides:

* A statement of key objectives
* A description of the environment in which the system will work
* Background information of the existing method
* Requirement for a new system

3.1.1 Requirements for Library Management System

Functional requirement:

* Registration of new members
* Add new books
* Search books
* Issuing and returning books
* Calculate fine
* Search member details

Nonfunctional requirements:

* Performance rate /Capacity
* Dependability
* Availability
* Maintainability
* Efficiency
* Usability
* Robustness

3.2 Structural Analysis

Analysis is critical to the success of the project. In thisphase,gathered information are analyzed. This assists in designing the software meaningfully and helps to develop error free software.

3.2.1 Existing method

The library currently uses a manual system to perform all transactions of the library.

Such as:

* Add new books.
* Remove old books.
* Borrowing books.
* Returning books
* Search member details
* Registration details
* Calculate Payments

Drawbacks of the manual system

* Large amount of paperwork with excessive data stores
* Large amount of critical time is required
* Accessibility of accurate information from the past record is difficult.
* Difficulty of record maintainability
* Human errors can be occurred
* Data reliability is less
* Large amount of records need much place to save
* Delay in information search and retrieving

**3.2.2 Proposed system**

Proposed system is an automated library management system which is used to replace existing manual, paper based system. This proposed system has been designed to overcome the drawbacks found in the existing manual system. Librarian can use this automated system to add members, add books, search members, search book details, handle payments, lending and returning books, register new member.

This proposed system has the following advantages:

* User friendly interface
* Fast access to data base
* Less error
* More storage capacity
* Search facility
* Quick Transaction
* High security

All the manual difficulties in managing the library have been rectified by implementing computerization.

**3.2.3 Project Materials**

Software tools

* Microsoft Visual Studio
* XAMPP control panel V 3.2.1
* Microsoft SQL server
* Microsoft Office
* Adobe Photoshop
* Paint

Hardware Tools

* Computer
* Pen Driver
* CD
* Printer

**Chapter 04**

**Feasibility study**

A feasibility study is an analysis of how successfully a project can be completed, accounting for factors that affect it such as economic and technological factors. For this project feasibility study is used to study the economic and technological factors, which happens by development, implement and maintaining of the system.

**4.1 Economic feasibility**

Analyze the costs of development, implementing and maintaining the system.

For development and implementation of the system requires a PC hardware, C# software and internet connection. Therefore, the total cost for development and implementation is very low.

As for this uncomplicated system, the cost for maintaining is also very low.

Therefore, this system is highly economically feasible.

4.2 Technical Feasibility

Assessing technical feasibility is to evaluate whether the new system will perform adequately and whether an organization has ability to construct a proposed system or not.

Requiredresources for the development and maintaining of the system is not difficult to find.The resources needed for the development of the software as well as the maintenance of the software is available in the organization here we are utilizing the resources which are availablealready.

Therefore, this system is highly technical feasible.

**Chapter 05**

**System Design**

Once the software requirements have been analyzed and specified, designing of the software is commenced. Design is the place where quality is fostered in development. Software design is a process through which requirements are translated into a representation of software. It develops the architectural details required to build a system or product.

The system design process encompasses the following activities:

* Partition the analysis model into subsystems
* Identify concurrency that is dictated by the problem
* Allocate subsystems to processors and tasks
* Develop a design for the user interface
* Choose a basic strategy for implementing data management

5.1 Software Development Model

The software development process is a set of activities associated with production of a software product. For the effective control of the software process is essential to have a phased development strategy.

The stages of a development model are based on the Software Development Life Cycle(SDLC).

Common stages in SDLC are –

5.2 Waterfall method

This first explicit model for software development process was derived from other engineering processes. It offered a mean of making the development process more visible. Because of the cascade from one phase to another, this model is known as the “waterfall model”.

This means that any phase in the development process begins only if the previous phase is complete.

Requirements definition

System and software design

Implementation and unit testing

Integration and system testing

Operation and maintenance

**Reasons for choosing waterfall model**

* This model is simple and easy to understand and use.
* It is easy to manage due to the rigidity of the model, each phase has specific deliverables and a review process.
* In this model phases are processed and completed one at a time. Phases do not overlap.
* Waterfall model works well for smaller projects where requirements are very well understood.

**5.3 Use case diagram**

A use case diagram is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved. It is used to gather the requirements of a system including internal and external influences. These requirements are mostly design requirements. So when a system is analyzed to gather its functionalities use cases are prepared and actors are identified.

The purposes of use case diagram are,

* Used to gather requirements of a system.
* Used to get an outside view of a system.
* Identify external and internal factors influencing the system.
* Show the interactions among the requirement of actors.

Librarian

Member

Library Management System

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

<<Include>>

**5.4 Class diagrams**

The class diagram describes the attributes and operations of a class and also the constrains imposed on the system. The class diagrams are widely used in the modeling of object oriented systems because they are the only UML diagrams which can be mapped directly with object oriented languages. Classes are composed of a name, attributes and methods.

|  |
| --- |
| **Librarian** |
| username:  password: |
| login()  exit()  registration()  lendingAndReturning()  receivePayments()  searchMemberDetails() |

|  |
| --- |
| **Payment** |
| regNo: int  name: varchar  payMethod: varchar  amount: varchar  date: date |
| search()  save()  update()  delete()  clear() |

|  |
| --- |
| **Retruning** |
| recordNo: int  regNo: int  bookId: int  dateIssues: date  dueDate: date  dateReturn:date  charges: varchar |
| search()  save()  update()  delete()  clear() |

|  |
| --- |
| **Registration** |
| regNo: int  registrationDate: date  fullName: varchar  nicNumbre: varchar  dateOfBirth: date  gender: varchar  address: varchar  mobil:int  home:int  email: varchar |
| search()  save()  update()  delete()  clear()  back() |

|  |
| --- |
| **Book** |
| bookID: int  isbn: varchar  title: varchar  author: varchar  publisher: varchar  category: varchar  editor: varchar  quantity: int  cost: int |
| search()  save()  update()  delete()  clear() |

|  |
| --- |
| **Lending** |
| regNo: int  book1: varchar  book2: varchar  dateOfIssue: date  dueDate: date |
| search()  save()  update()  delete()  clear() |

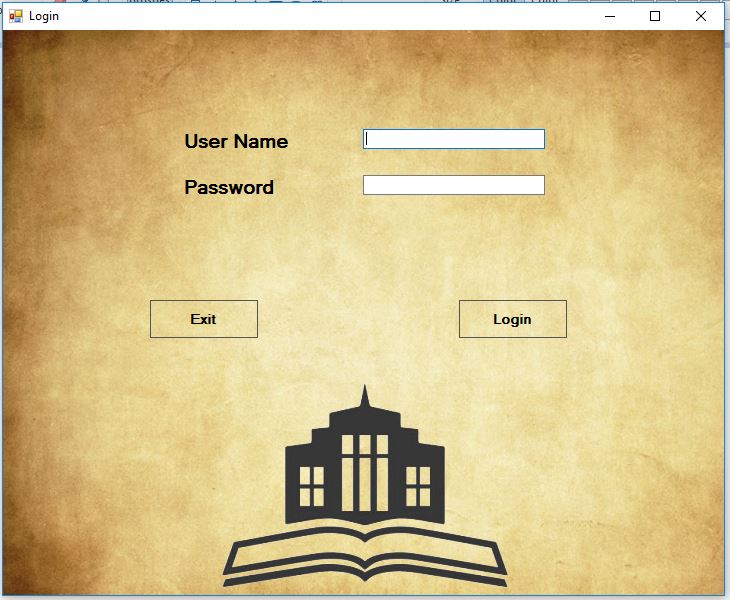
1

\*

**Chapter 06**

**Code**

**6.1 Login Form**

****

using System;

usingSystem.Collections.Generic;

usingSystem.ComponentModel;

usingSystem.Data;

usingSystem.Drawing;

usingSystem.Linq;

usingSystem.Text;

usingSystem.Windows.Forms;

namespace WindowsFormsApplication3

{

publicpartialclassForm1 : Form

{

public Form1()

{

InitializeComponent();

textBox2.PasswordChar = '\*';

textBox2.MaxLength = 10;

}

privatevoid Form1\_Load(object sender, EventArgs e)

{

}

privatevoid button1\_Click(object sender, EventArgs e)

{

String Username = textBox1.Text;

String Password = textBox2.Text;

if (Username == "admin"&& Password == "123")

{

this.Hide();

MessageBox.Show("Login");

Form2 fm2 = newForm2();

fm2.Show();

}

else

{

MessageBox.Show("Error");

}

}

privatevoid button2\_Click(object sender, EventArgs e)

{

if (MessageBox.Show("Do You Want to Exist?", "Exist", MessageBoxButtons.YesNo, MessageBoxIcon.Question) == DialogResult.Yes)

{

Application.Exit();

}

else

{

this.Hide();

Form1 fm1=newForm1();

fm1.Show();

}

}

privatevoid textBox1\_KeyDown(object sender, KeyEventArgs e)

{

if (e.KeyCode == Keys.Enter)

{

textBox2.Focus();

}

}

privatevoid textBox1\_TextChanged(object sender, EventArgs e)

{

}

privatevoid textBox2\_KeyDown(object sender, KeyEventArgs e)

{

if (e.KeyCode == Keys.Enter)

{

button1.Focus();

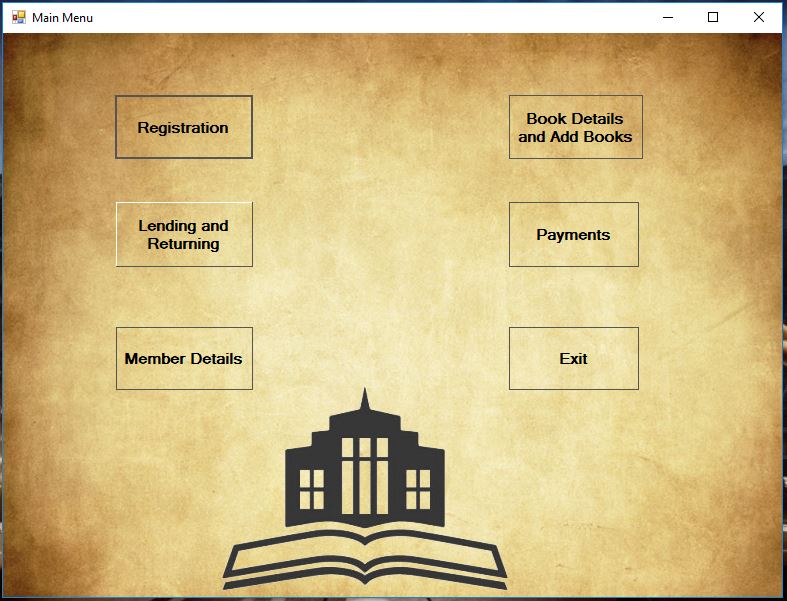
}

}

}

}

**6.2 Main Menu Form**



using System;

usingSystem.Collections.Generic;

usingSystem.ComponentModel;

usingSystem.Data;

usingSystem.Drawing;

usingSystem.Linq;

usingSystem.Text;

usingSystem.Windows.Forms;

namespace WindowsFormsApplication3

{

publicpartialclassForm2 : Form

{

public Form2()

{

InitializeComponent();

}

privatevoid button2\_Click(object sender, EventArgs e)

{

this.Hide();

Form11 fm11 = newForm11();

fm11.Show();

}

privatevoid button1\_Click(object sender, EventArgs e)

{

this.Hide();

Form3 fm3 = newForm3();

fm3.Show();

}

privatevoid Form2\_Load(object sender, EventArgs e)

{

}

privatevoid button4\_Click(object sender, EventArgs e)

{

this.Hide();

Form8 fm8 = newForm8();

fm8.Show();

}

privatevoid button3\_Click(object sender, EventArgs e)

{

this.Hide();

Form9 fm9 = newForm9();

fm9.Show();

}

privatevoid button6\_Click(object sender, EventArgs e)

{

this.Hide();

Form6 fm6 = newForm6();

fm6.Show();

}

privatevoid button7\_Click(object sender, EventArgs e)

{

if (MessageBox.Show("Do You Want to Exist?", "Exist", MessageBoxButtons.YesNo, MessageBoxIcon.Question) == DialogResult.Yes)

{

Application.Exit();

}

else

{

this.Hide();

Form1 fm1 = newForm1();

fm1.Show();

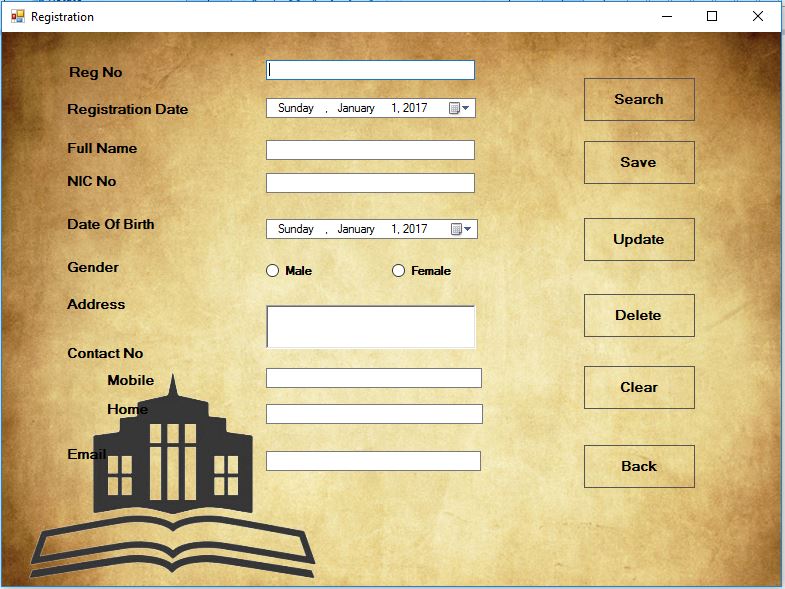
}

}

}

}

**6.3 Registration Form**



using System;

usingSystem.Collections.Generic;

usingSystem.ComponentModel;

usingSystem.Data;

usingSystem.Drawing;

usingSystem.Linq;

usingSystem.Text;

usingSystem.Windows.Forms;

usingMySql.Data.MySqlClient;

namespace WindowsFormsApplication3

{

publicpartialclassForm3 : Form

{

MySqlConnection conn;

public Form3()

{

InitializeComponent();

conn = newMySqlConnection("server=localhost;user id=root;password=;database=lms;Convert Zero Datetime=True");

openCon();

}

privatevoidopenCon()

{

if (conn.State == ConnectionState.Closed)

{

conn.Open();

}

}

privatevoid label9\_Click(object sender, EventArgs e)

{

}

privatevoid textBox5\_TextChanged(object sender, EventArgs e)

{

}

privatevoid button3\_Click(object sender, EventArgs e)

{

try

{

string MyConnection2 = "server=localhost;user id=root;password=;database=lms";

string gen;

if (radioButton1.Checked)

{

gen = "Male";

}

else

{

gen = "Female";

}

string Query = "update registration set registration\_date='" + this.dateTimePicker1.Value.Date.ToString("yyyy-MM-ddHH:mm") + "',full\_name='" + this.textBox2.Text + "',nic\_no='" + this.textBox3.Text + "',date\_of\_birth='" + this.dateTimePicker2.Value.Date.ToString("yyyy-MM-ddHH:mm") + "',gender='" + gen + "',address='" + this.richTextBox1.Text + "',mobile='" + this.textBox5.Text + "',home='" + this.textBox6.Text + "',email='" + this.textBox8.Text + "'WHERE reg\_no ='" + this.textBox1.Text + "';";

MySqlConnection MyConn2 = newMySqlConnection(MyConnection2);

MySqlCommand MyCommand2 = newMySqlCommand(Query, MyConn2);

MySqlDataReader MyReader2;

MyConn2.Open();

MyReader2 = MyCommand2.ExecuteReader();

MessageBox.Show("Sucessfully Updated");

while (MyReader2.Read())

{

}

MyConn2.Close();

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

textBox5.Clear();

textBox6.Clear();

radioButton1.Checked = false;

radioButton2.Checked = false;

textBox8.Clear();

richTextBox1.Clear();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid label7\_Click(object sender, EventArgs e)

{

}

privatevoid textBox8\_TextChanged(object sender, EventArgs e)

{

}

privatevoid button2\_Click(object sender, EventArgs e)

{

try

{

string MyConnection2 = "server=localhost;user id=root;password=;database=lms";

string gen;

if(radioButton1.Checked)

{

gen = "Male";

}

else

{

gen = "Female";

}

string Query = "insert into registration(reg\_no,registration\_date,full\_name,nic\_no,date\_of\_birth,gender,address,mobile,home,email) values('" + this.textBox1.Text + "','" + this.dateTimePicker1.Value.Date.ToString("yyyy-MM-ddHH:mm") + "','" + this.textBox2.Text + "','" + this.textBox3.Text + "','" + this.dateTimePicker2.Value.Date.ToString("yyyy-MM-ddHH:mm") + "','" + gen + "','" + this.richTextBox1.Text + "','" + this.textBox5.Text + "','" + this.textBox6.Text + "','" + this.textBox8.Text + "');";

MySqlConnection MyConn2 = newMySqlConnection(MyConnection2);

MySqlCommand MyCommand2 = newMySqlCommand(Query, MyConn2);

MySqlDataReader MyReader2;

MyConn2.Open();

MyReader2 = MyCommand2.ExecuteReader();

MessageBox.Show("Save Data");

this.Hide();

Form6 fm6 = newForm6();

fm6.Show();

while (MyReader2.Read())

{

}

MyConn2.Close();

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

textBox5.Clear();

textBox6.Clear();

radioButton1.Checked = false;

radioButton2.Checked = false;

textBox8.Clear();

richTextBox1.Clear();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid Form3\_Load(object sender, EventArgs e)

{

textBox1.Focus();

}

privatevoid textBox1\_TextChanged(object sender, EventArgs e)

{

}

privatevoid textBox1\_Keydown(object sender, KeyEventArgs e)

{

if (e.KeyCode == Keys.Enter)

{

textBox1.Focus();

}

}

privatevoid button1\_Click(object sender, EventArgs e)

{

try

{

if (textBox1.Text != "")

{

intreg\_no = Int32.Parse(textBox1.Text);

MySqlCommandcmd = newMySqlCommand("select \* from registration where reg\_no='" + reg\_no + "'", conn);

MySqlDataAdapteradp = newMySqlDataAdapter(cmd);

DataTabledt = newDataTable();

adp.Fill(dt);

dateTimePicker1.Text = dt.Rows[0][1].ToString();

textBox2.Text = dt.Rows[0][2].ToString();

textBox3.Text = dt.Rows[0][3].ToString();

dateTimePicker2.Text = dt.Rows[0][4].ToString();

string gen = dt.Rows[0][5].ToString();

if(gen =="Male")

{

radioButton1.Checked = true;

}

else

{

radioButton2.Checked = true;

}

richTextBox1.Text = dt.Rows[0][6].ToString();

textBox5.Text = dt.Rows[0][7].ToString();

textBox6.Text = dt.Rows[0][8].ToString();

textBox8.Text = dt.Rows[0][9].ToString();

}

else

{

MessageBox.Show("Enter Registration Card Number to search");

}

}

catch (Exception)

{

MessageBox.Show("Error");

}

}

privatevoid textBox1\_KeyDown\_1(object sender, KeyEventArgs e)

{

if (e.KeyCode == Keys.Enter)

{

textBox2.Focus();

}

}

privatevoid button4\_Click(object sender, EventArgs e)

{

try

{

StringMyconnection = "server=localhost;userid=root;password=;database=lms";

String query = "DELETE FROM registration WHERE reg\_no='" + this.textBox1.Text + "';";

MySqlConnectionMyconn = newMySqlConnection(Myconnection);

MySqlCommandMycommand = newMySqlCommand(query, Myconn);

MySqlDataReaderMyReader;

Myconn.Open();

MyReader = Mycommand.ExecuteReader();

MessageBox.Show("Successfully Deleted");

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

radioButton1.Checked = false;

radioButton2.Checked = false;

richTextBox1.Clear();

textBox5.Clear();

textBox6.Clear();

textBox8.Clear();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid button5\_Click(object sender, EventArgs e)

{

textBox1.Text = "";

dateTimePicker1.Text = "";

textBox2.Text = "";

textBox3.Text = "";

dateTimePicker2.Text = "";

radioButton1.Checked = false;

radioButton2.Checked = false;

richTextBox1.Text = "";

textBox5.Text = "";

textBox6.Text = "";

textBox8.Text = "";

textBox1.Focus();

}

privatevoid button6\_Click(object sender, EventArgs e)

{

this.Hide();

Form2 fm2 = newForm2();

fm2.Show();

}

privatevoid radioButton2\_CheckedChanged(object sender, EventArgs e)

{

}

privatevoid textBox2\_TextChanged(object sender, EventArgs e)

{

}

privatevoid textBox2\_KeyDown(object sender, KeyEventArgs e)

{

if (e.KeyCode == Keys.Enter)

{

textBox3.Focus();

}

}

privatevoid textBox3\_TextChanged(object sender, EventArgs e)

{

}

privatevoid textBox3\_KeyDown(object sender, KeyEventArgs e)

{

}

privatevoid richTextBox1\_KeyDown(object sender, KeyEventArgs e)

{

if (e.KeyCode == Keys.Enter)

{

richTextBox1.Focus();

}

}

privatevoid textBox5\_KeyDown(object sender, KeyEventArgs e)

{

if (e.KeyCode == Keys.Enter)

{

textBox6.Focus();

}

}

privatevoid textBox6\_TextChanged(object sender, EventArgs e)

{

}

privatevoid textBox6\_KeyDown(object sender, KeyEventArgs e)

{

if (e.KeyCode == Keys.Enter)

{

textBox6.Focus();

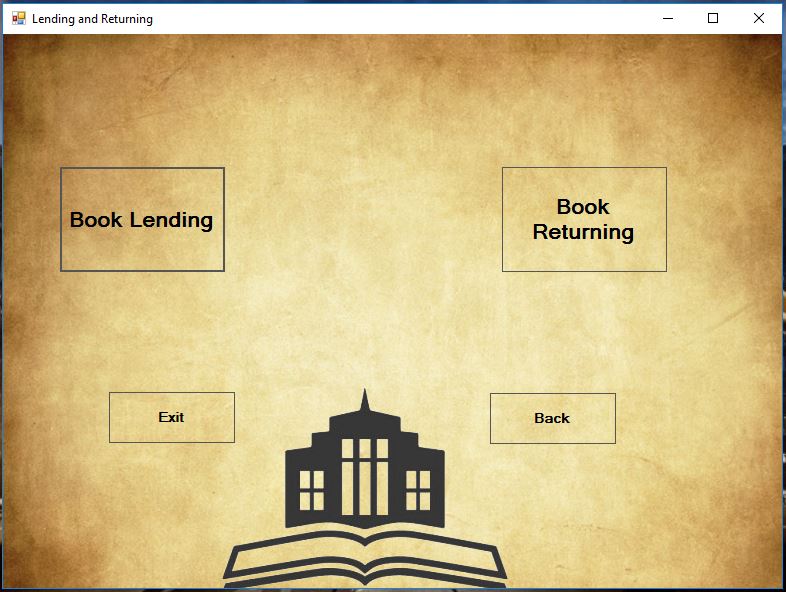
}

}

}

}

**6.4 Lending and Returning Form**



using System;

usingSystem.Collections.Generic;

usingSystem.ComponentModel;

usingSystem.Data;

usingSystem.Drawing;

usingSystem.Linq;

usingSystem.Text;

usingSystem.Windows.Forms;

namespace WindowsFormsApplication3

{

publicpartialclassForm11 : Form

{

public Form11()

{

InitializeComponent();

}

privatevoid button3\_Click(object sender, EventArgs e)

{

this.Hide();

Form2 fm2 = newForm2();

fm2.Show();

}

privatevoid button1\_Click(object sender, EventArgs e)

{

this.Hide();

Form4 fm4 = newForm4();

fm4.Show();

}

privatevoid button2\_Click(object sender, EventArgs e)

{

this.Hide();

Form7 fm7 = newForm7();

fm7.Show();

}

privatevoid button4\_Click(object sender, EventArgs e)

{

if (MessageBox.Show("Do You Want to Exist?", "Exist", MessageBoxButtons.YesNo, MessageBoxIcon.Question) == DialogResult.Yes)

{

Application.Exit();

}

else

{

this.Hide();

Form1 fm1 = newForm1();

fm1.Show();

}

}

privatevoid Form11\_Load(object sender, EventArgs e)

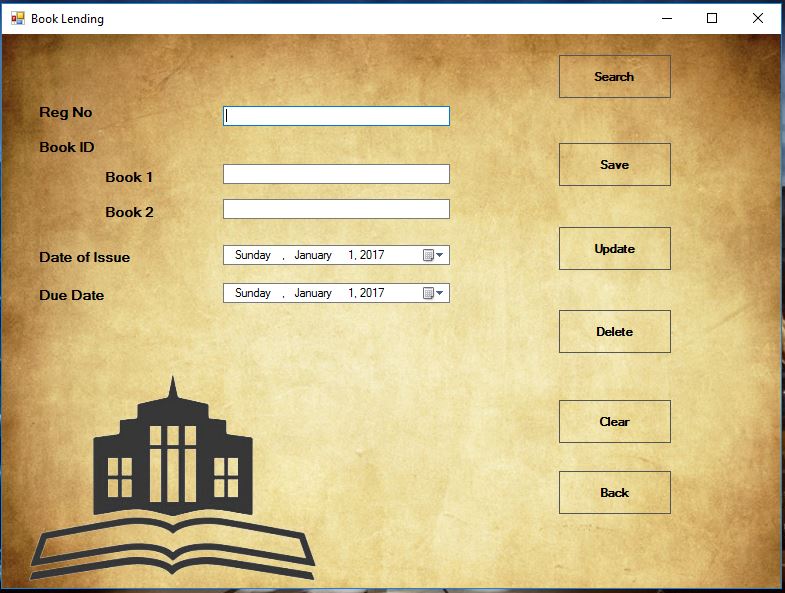
{

}

}

}

**6.5 Book Lending Form**

****

using System;

usingSystem.Collections.Generic;

usingSystem.ComponentModel;

usingSystem.Data;

usingSystem.Drawing;

usingSystem.Linq;

usingSystem.Text;

usingSystem.Windows.Forms;

usingMySql.Data.MySqlClient;

namespace WindowsFormsApplication3

{

publicpartialclassForm4 : Form

{

MySqlConnection conn;

public Form4()

{

InitializeComponent();

conn = newMySqlConnection("server=localhost;user id=root;password=;database=lms;Convert Zero Datetime=True");

openCon();

}

privatevoidopenCon()

{

if (conn.State == ConnectionState.Closed)

{

conn.Open();

}

}

privatevoid label1\_Click(object sender, EventArgs e)

{

}

privatevoid textBox2\_TextChanged(object sender, EventArgs e)

{

}

privatevoid button3\_Click(object sender, EventArgs e)

{

try

{

string MyConnection2 = "server=localhost;user id=root;password=;database=lms";

string Query = "update book\_lending set book1='" + this.textBox2.Text + "',book2='" + this.textBox3.Text + "',date\_of\_issue='"+ this.dateTimePicker2.Value.Date.ToString("yyyy-MM-ddHH:mm") + "',due\_date='"+this.dateTimePicker3.Value.Date.ToString("yyyy-MM-dd HH:mm")+"'WHERE reg\_no='"+this.textBox1.Text+"';";

MySqlConnection MyConn2 = newMySqlConnection(MyConnection2);

MySqlCommand MyCommand2 = newMySqlCommand(Query, MyConn2);

MySqlDataReader MyReader2;

MyConn2.Open();

MyReader2 = MyCommand2.ExecuteReader();

MessageBox.Show("Sucessfully Updated");

while (MyReader2.Read())

{

}

MyConn2.Close();

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoidSearch\_Click(object sender, EventArgs e)

{

try

{

if (textBox1.Text != "")

{

intreg\_no = Int32.Parse(textBox1.Text);

MySqlCommandcmd = newMySqlCommand("select \* from book\_lending where reg\_no='" + reg\_no + "'", conn);

MySqlDataAdapteradp = newMySqlDataAdapter(cmd);

DataTabledt = newDataTable();

adp.Fill(dt);

dateTimePicker2.Text = dt.Rows[0][3].ToString();

textBox2.Text = dt.Rows[0][1].ToString();

dateTimePicker3.Text = dt.Rows[0][4].ToString();

textBox3.Text = dt.Rows[0][2].ToString();

}

else

{

MessageBox.Show("Enter Registration Card Number to search");

}

}

catch (Exception)

{

MessageBox.Show("Error");

}

}

privatevoid button2\_Click(object sender, EventArgs e)

{

try

{

string MyConnection2 = "server=localhost;user id=root;password=;database=lms";

string Query = "insert into book\_lending(reg\_no,book1,book2,date\_of\_issue,due\_date) values ('" + this.textBox1.Text + "','" + this.textBox2.Text + "','" + this.textBox3.Text + "','" + this.dateTimePicker2.Value.Date.ToString("yyyy-MM-ddHH:mm") + "','"+this.dateTimePicker3.Value.Date.ToString("yyyy-MM-ddHH:mm")+"');";

MySqlConnection MyConn2 = newMySqlConnection(MyConnection2);

MySqlCommand MyCommand2 = newMySqlCommand(Query, MyConn2);

MySqlDataReader MyReader2;

MyConn2.Open();

MyReader2 = MyCommand2.ExecuteReader();

MessageBox.Show("Save Data");

while (MyReader2.Read())

{

}

MyConn2.Close();

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid button4\_Click(object sender, EventArgs e)

{

try

{

StringMyconnection = "server=localhost;userid=root;password=;database=lms";

String query="DELETE FROM book\_lending WHERE reg\_no='"+this.textBox1.Text+"';";

MySqlConnectionMyconn=newMySqlConnection(Myconnection);

MySqlCommandMycommand=newMySqlCommand (query, Myconn);

MySqlDataReaderMyReader;

Myconn.Open();

MyReader=Mycommand.ExecuteReader();

MessageBox.Show("Successfully Deleted");

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid button6\_Click(object sender, EventArgs e)

{

this.Hide();

Form11 fm11 = newForm11();

fm11.Show();

}

privatevoid Form4\_Load(object sender, EventArgs e)

{

textBox1.Focus();

}

privatevoid label7\_Click(object sender, EventArgs e)

{

}

privatevoid textBox1\_KeyDown(object sender, KeyEventArgs e)

{

if (e.KeyCode == Keys.Enter)

{

textBox1.Focus();

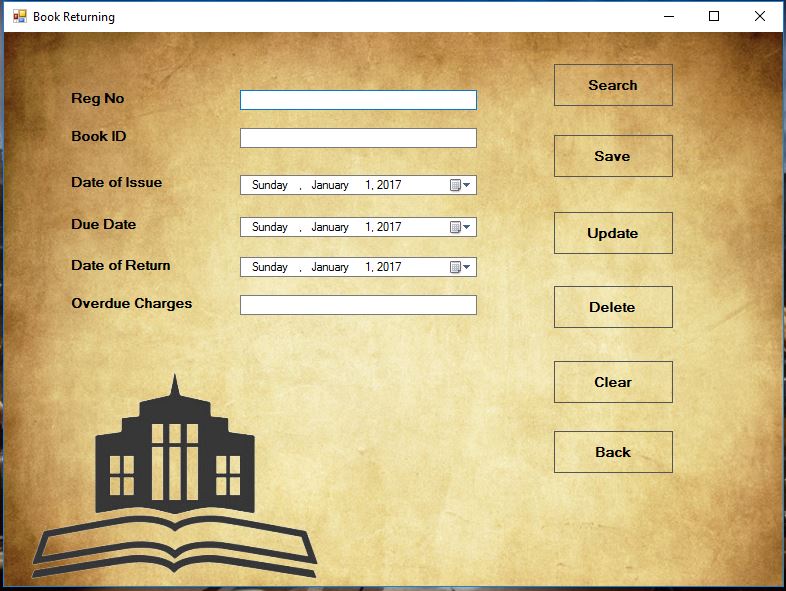
}

}

}

}

**6.6 Book Returning Form**



using System;

usingSystem.Collections.Generic;

usingSystem.ComponentModel;

usingSystem.Data;

usingSystem.Drawing;

usingSystem.Linq;

usingSystem.Text;

usingSystem.Windows.Forms;

usingMySql.Data.MySqlClient;

namespace WindowsFormsApplication3

{

publicpartialclassForm7 : Form

{

MySqlConnection conn;

public Form7()

{

InitializeComponent();

conn = newMySqlConnection("server=localhost;user id=root;password=;database=lms;Convert Zero Datetime=True");

openCon();

}

privatevoidopenCon()

{

if (conn.State == ConnectionState.Closed)

{

conn.Open();

}

}

privatevoid label6\_Click(object sender, EventArgs e)

{

}

privatevoid button1\_Click(object sender, EventArgs e)

{

try

{

string MyConnection2 = "server=localhost;user id=root;password=;database=lms";

string Query = "insert into book\_returning(reg\_no,bookid,date\_issue,due\_date,date\_return,charges) values('" + this.textBox1.Text + "','" +this.textBox2.Text + "','" + this.dateTimePicker1.Value.Date.ToString("yyyy-MM-ddHH:mm")+"','" + this.dateTimePicker2.Value.Date.ToString("yyyy-MM-dd HH:mm")+"','"+this.dateTimePicker3.Value.Date.ToString("yyyy-MM-dd HH:mm")+"','" + this.textBox3.Text+"');";

MySqlConnection MyConn2 = newMySqlConnection(MyConnection2);

MySqlCommand MyCommand2 = newMySqlCommand(Query, MyConn2);

MySqlDataReader MyReader2;

MyConn2.Open();

MyReader2 = MyCommand2.ExecuteReader();

MessageBox.Show("Save Data");

while (MyReader2.Read())

{

}

MyConn2.Close();

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

this.Hide();

Form6 fm6 = newForm6();

fm6.Show();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid button2\_Click(object sender, EventArgs e)

{

try

{

if (textBox1.Text != "")

{

intreg\_no = Int32.Parse(textBox1.Text);

MySqlCommandcmd = newMySqlCommand("select \* from book\_returning where reg\_no='" + reg\_no + "'", conn);

MySqlDataAdapteradp = newMySqlDataAdapter(cmd);

DataTabledt = newDataTable();

adp.Fill(dt);

textBox2.Text = dt.Rows[0][1].ToString();

dateTimePicker1.Text = dt.Rows[0][2].ToString();

dateTimePicker2.Text = dt.Rows[0][3].ToString();

dateTimePicker3.Text = dt.Rows[0][4].ToString();

textBox3.Text = dt.Rows[0][5].ToString();

}

else

{

MessageBox.Show("Enter Registration Card Number to search");

}

}

catch (Exception)

{

MessageBox.Show("Error");

}

}

privatevoid button3\_Click(object sender, EventArgs e)

{

try

{

string MyConnection2 = "server=localhost;user id=root;password=;database=lms";

string Query = "update book\_returning set reg\_no='"+textBox1.Text+"',bookid='"+this.textBox2.Text+"',date\_issue='"+this.dateTimePicker1.Value.Date.ToString("yyyy-MM-dd HH:mm") +"',due\_date='"+this.dateTimePicker2.Value.Date.ToString("yyyy-MM-dd HH:mm")+ "',date\_return='" + this.dateTimePicker3.Value.Date.ToString("yyyy-MM-ddHH:mm") +"'charges='"+this.textBox3.Text+"';";

MySqlConnection MyConn2 = newMySqlConnection(MyConnection2);

MySqlCommand MyCommand2 = newMySqlCommand(Query, MyConn2);

MySqlDataReader MyReader2;

MyConn2.Open();

MyReader2 = MyCommand2.ExecuteReader();

MessageBox.Show("Sucessfully Updated");

while (MyReader2.Read())

{

}

MyConn2.Close();

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid button4\_Click(object sender, EventArgs e)

{

try

{

StringMyconnection = "server=localhost;userid=root;password=;database=lms";

String query = "DELETE FROM book\_returning WHERE reg\_no='" + this.textBox1.Text + "';";

MySqlConnectionMyconn = newMySqlConnection(Myconnection);

MySqlCommandMycommand = newMySqlCommand(query, Myconn);

MySqlDataReaderMyReader;

Myconn.Open();

MyReader = Mycommand.ExecuteReader();

MessageBox.Show("Successfully Deleted");

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid Form7\_Load(object sender, EventArgs e)

{

}

privatevoid button5\_Click(object sender, EventArgs e)

{

textBox1.Text = "";

textBox2.Text = "";

textBox3.Text = "";

dateTimePicker1.Text = "";

dateTimePicker2.Text = "";

dateTimePicker3.Text = "";

}

privatevoid dateTimePicker3\_ValueChanged(object sender, EventArgs e)

{

int fine = dateTimePicker3.Value.Date.Subtract(dateTimePicker2.Value.Date).Days;

if (fine > 0)

{

MessageBox.Show("Overdue Charges Rs."+ fine\*5);

textBox3.Text = (fine\*5).ToString("Rs.");

}

else

{

textBox3.Text = 0.ToString();

}

}

privatevoid button6\_Click(object sender, EventArgs e)

{

this.Hide();

Form11 fm11 = newForm11();

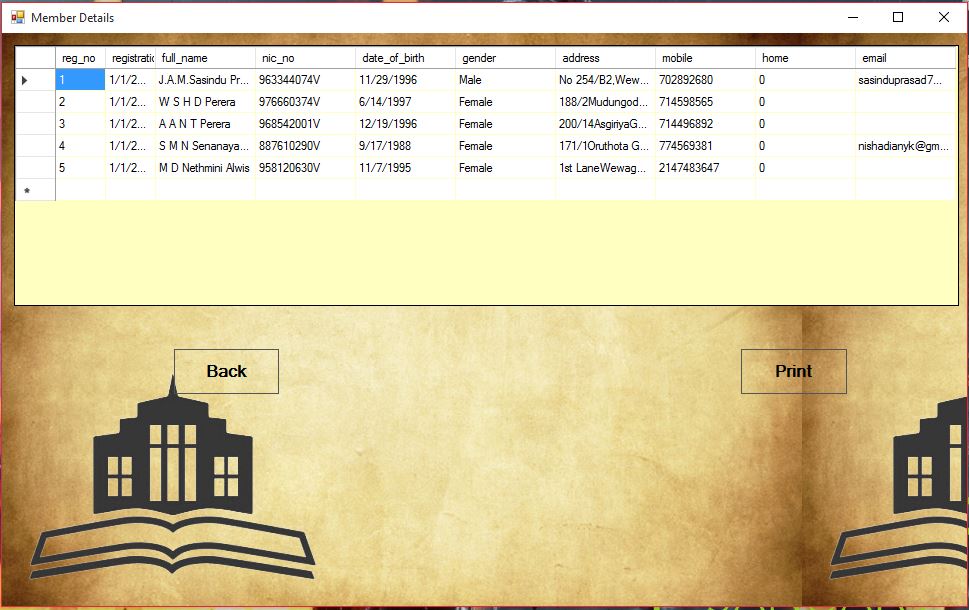
fm11.Show();

}

}

}

**6.7 Member Details Form**



using System;

usingSystem.Collections.Generic;

usingSystem.ComponentModel;

usingSystem.Data;

usingSystem.Drawing;

usingSystem.Linq;

usingSystem.Text;

usingSystem.Windows.Forms;

usingMySql.Data.MySqlClient;

namespace WindowsFormsApplication3

{

publicpartialclassForm9 : Form

{

MySqlConnection conn;

public Form9()

{

InitializeComponent();

load\_table();

conn = newMySqlConnection("server=localhost;user id=root;password=;database=lms;Convert Zero Datetime=True");

openCon();

}

privatevoidopenCon()

{

if (conn.State == ConnectionState.Closed)

{

conn.Open();

}

}

voidload\_table()

{

try

{

stringconnectionString = "server=localhost;user

id=root;password=;database=lms";

stringsql = "select \* from registration;";

MySqlConnection connection = newMySqlConnection(connectionString);

MySqlDataAdapterdataadapter = newMySqlDataAdapter(sql, connection);

DataSet ds = newDataSet();

connection.Open();

dataadapter.Fill(ds, "Author\_table");

connection.Close();

dataGridView1.DataSource = ds;

dataGridView1.DataMember = "Author\_table";

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid button1\_Click(object sender, EventArgs e)

{

printDocument1.Print();

}

privatevoid printDocument1\_PrintPage(object sender, System.Drawing.Printing.PrintPageEventArgs e)

{

Bitmapbm = newBitmap(this.dataGridView1.Width, this.dataGridView1.Height);

dataGridView1.DrawToBitmap(bm, newRectangle(0, 0, this.dataGridView1.Width, this.dataGridView1.Height));

e.Graphics.DrawImage(bm, 0, 0);

}

privatevoid button2\_Click(object sender, EventArgs e)

{

this.Hide();

Form2 fm2 = newForm2();

fm2.Show();

}

privatevoid dataGridView1\_CellContentClick(object sender, DataGridViewCellEventArgs e)

{

}

privatevoid Form9\_Load(object sender, EventArgs e)

{

dataGridView1.Columns[0].Width = 50;

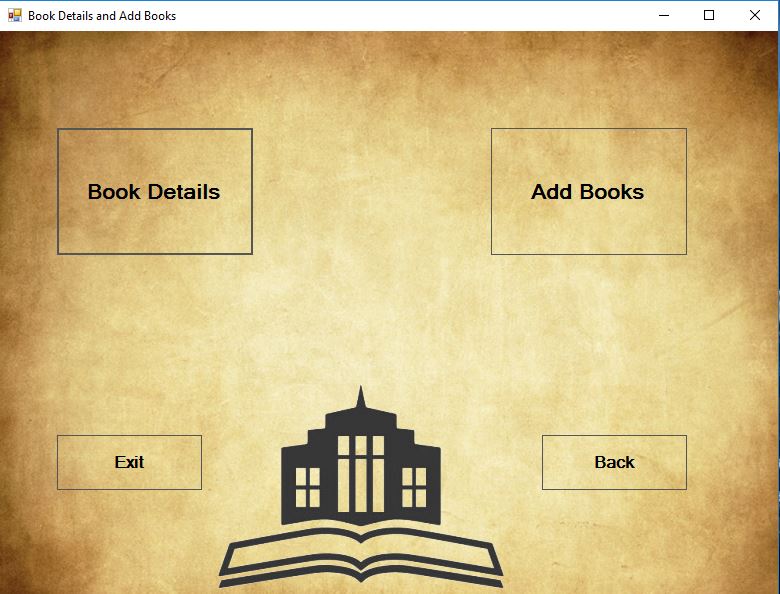
dataGridView1.Columns[1].Width = 50;

}

}

}

**6.8 Book Details and Add Books Form**

****

using System;

usingSystem.Collections.Generic;

usingSystem.ComponentModel;

usingSystem.Data;

usingSystem.Drawing;

usingSystem.Linq;

usingSystem.Text;

usingSystem.Windows.Forms;

namespace WindowsFormsApplication3

{

publicpartialclassForm8 : Form

{

public Form8()

{

InitializeComponent();

}

privatevoid button1\_Click(object sender, EventArgs e)

{

this.Hide();

Form10 fm10 = newForm10();

fm10.Show();

}

privatevoid button2\_Click(object sender, EventArgs e)

{

this.Hide();

Form5 fm5 = newForm5();

fm5.Show();

}

privatevoid button3\_Click(object sender, EventArgs e)

{

if (MessageBox.Show("Do You Want to Exist?", "Exist", MessageBoxButtons.YesNo, MessageBoxIcon.Question) == DialogResult.Yes)

{

Application.Exit();

}

else

{

this.Hide();

Form1 fm1 = newForm1();

fm1.Show();

}

}

privatevoid button4\_Click(object sender, EventArgs e)

{

this.Hide();

Form2 fm2 = newForm2();

fm2.Show();

}

privatevoid Form8\_Load(object sender, EventArgs e)

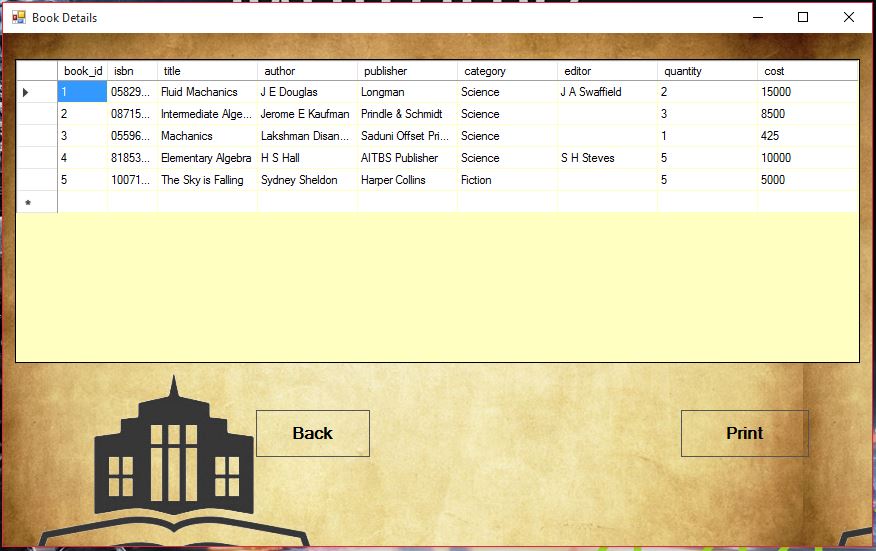
{

}

}

}

**6.9 Book Details Form**

****

using System;

usingSystem.Collections.Generic;

usingSystem.ComponentModel;

usingSystem.Data;

usingSystem.Drawing;

usingSystem.Linq;

usingSystem.Text;

usingSystem.Windows.Forms;

usingMySql.Data.MySqlClient;

namespace WindowsFormsApplication3

{

publicpartialclassForm10 : Form

{

MySqlConnection conn;

public Form10()

{

InitializeComponent();

load\_table();

conn = newMySqlConnection("server=localhost;user id=root;password=;database=lms;Convert Zero Datetime=True");

openCon();

}

privatevoidopenCon()

{

if (conn.State == ConnectionState.Closed)

{

conn.Open();

}

}

voidload\_table()

{

try

{

stringconnectionString = "server=localhost;user id=root;password=;database=lms";

stringsql = "select \* from book\_details;";

MySqlConnection connection = newMySqlConnection(connectionString);

MySqlDataAdapterdataadapter = newMySqlDataAdapter(sql, connection);

DataSet ds = newDataSet();

connection.Open();

dataadapter.Fill(ds, "Author\_table");

connection.Close();

dataGridView1.DataSource = ds;

dataGridView1.DataMember = "Author\_table";

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

{

}

}

privatevoid button1\_Click(object sender, EventArgs e)

{

printDocument1.Print();

}

privatevoid printDocument1\_PrintPage(object sender, System.Drawing.Printing.PrintPageEventArgs e)

{

Bitmapbm = newBitmap(this.dataGridView1.Width, this.dataGridView1.Height);

dataGridView1.DrawToBitmap(bm, newRectangle(0, 0, this.dataGridView1.Width, this.dataGridView1.Height));

e.Graphics.DrawImage(bm, 0, 0);

}

privatevoid button2\_Click(object sender, EventArgs e)

{

this.Hide();

Form8 fm8 = newForm8();

fm8.Show();

}

privatevoid Form10\_Load(object sender, EventArgs e)

{

dataGridView1.Columns[0].Width = 50;

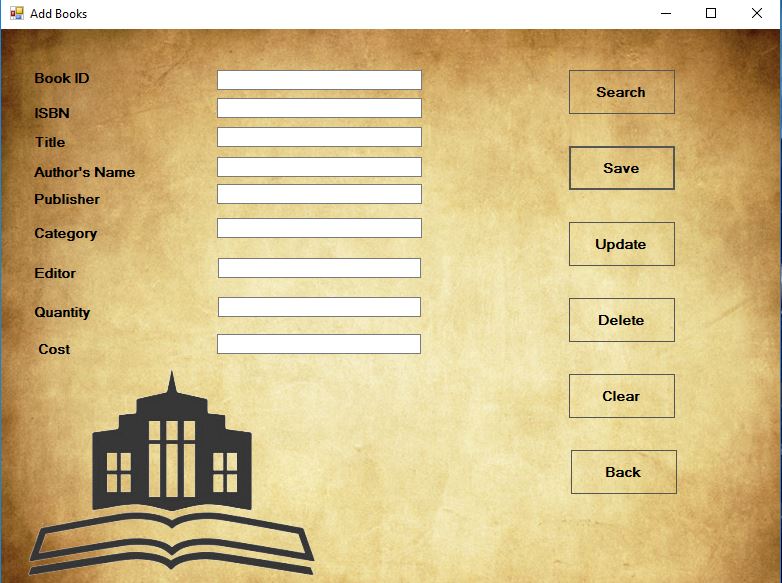
dataGridView1.Columns[1].Width = 50;

}

}

}

**6.10 Add Books Form**



using System;

usingSystem.Collections.Generic;

usingSystem.ComponentModel;

usingSystem.Data;

usingSystem.Drawing;

usingSystem.Linq;

usingSystem.Text;

usingSystem.Windows.Forms;

usingMySql.Data.MySqlClient;

namespace WindowsFormsApplication3

{

publicpartialclassForm5 : Form

{

MySqlConnection conn;

public Form5()

{

InitializeComponent();

conn = newMySqlConnection("Server=localhost;user id=root;password=;database=lms;Convert Zero Datetime=True");

openCon();

}

privatevoidopenCon()

{

if (conn.State == ConnectionState.Closed)

{

conn.Open();

}

}

privatevoid textBox3\_TextChanged(object sender, EventArgs e)

{

}

privatevoid textBox4\_TextChanged(object sender, EventArgs e)

{

}

privatevoid button1\_Click(object sender, EventArgs e)

{

try

{

string MyConnection2 = "Server=localhost;user id=root;password=;database=lms";

string Query = "insert into book\_details(book\_id,isbn,title,author,publisher,category,editor,quantity,cost) values('" + this.textBox1.Text + "','" + this.textBox2.Text + "','" + this.textBox3.Text + "','" + this.textBox4.Text+ "','" + this.textBox5.Text + "','" + this.textBox6.Text + "','" + this.textBox7.Text +"','" + this.textBox8.Text +"','" + this.textBox9.Text +"');";

MySqlConnection MyConn2 = newMySqlConnection(MyConnection2);

MySqlCommand MyCommand2 = newMySqlCommand(Query, MyConn2);

MySqlDataReader MyReader2;

MyConn2.Open();

MyReader2 = MyCommand2.ExecuteReader();

MessageBox.Show("Save Data");

while (MyReader2.Read())

{

}

MyConn2.Close();

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

textBox4.Clear();

textBox5.Clear();

textBox6.Clear();

textBox7.Clear();

textBox8.Clear();

textBox9.Clear();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid button2\_Click(object sender, EventArgs e)

{

try

{

string MyConnection2 = "Server=localhost;user id=root;password=;database=lms";

string Query = "update book\_details set isbn='" + this.textBox2.Text + "',title='" + this.textBox3.Text + "',author='" + this.textBox4.Text + "',publisher='" + this.textBox5.Text + "',category='"+ this.textBox6.Text + "',editor='" + this.textBox7.Text + "',quantity='" + this.textBox8.Text + "',cost='"+this.textBox9.Text + "';";

MySqlConnection MyConn2 = newMySqlConnection(MyConnection2);

MySqlCommand MyCommand2 = newMySqlCommand(Query, MyConn2);

MySqlDataReader MyReader2;

MyConn2.Open();

MyReader2 = MyCommand2.ExecuteReader();

MessageBox.Show("Sucessfully Updated");

while (MyReader2.Read())

{

}

MyConn2.Close();

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

textBox4.Clear();

textBox5.Clear();

textBox6.Clear();

textBox7.Clear();

textBox8.Clear();

textBox9.Clear();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid button4\_Click(object sender, EventArgs e)

{

try

{

if (textBox1.Text != "")

{

intbook\_id = Int32.Parse(textBox1.Text);

MySqlCommandcmd = newMySqlCommand("select \* from book\_details where book\_id ='" + book\_id + "'",conn);

MySqlDataAdapteradp = newMySqlDataAdapter(cmd);

DataTabledt = newDataTable();

adp.Fill(dt);

textBox2.Text = dt.Rows[0][1].ToString();

textBox3.Text = dt.Rows[0][2].ToString();

textBox4.Text = dt.Rows[0][3].ToString();

textBox5.Text = dt.Rows[0][4].ToString();

textBox6.Text = dt.Rows[0][5].ToString();

textBox7.Text = dt.Rows[0][6].ToString();

textBox8.Text = dt.Rows[0][7].ToString();

textBox9.Text = dt.Rows[0][8].ToString();

}

else

{

MessageBox.Show("Enter Registration Card Number to search");

}

}

catch (Exception)

{

MessageBox.Show("Error");

}

}

privatevoid button6\_Click(object sender, EventArgs e)

{

this.Hide();

Form8 fm8 = newForm8();

fm8.Show();

}

privatevoid Form5\_Load(object sender, EventArgs e)

{

}

privatevoid button3\_Click(object sender, EventArgs e)

{

try

{

StringMyconnection = "Server=localhost;userid=root;password=;database=lms";

String query = "DELETE FROM book\_details WHERE book\_id='" + this.textBox1.Text + "';";

MySqlConnectionMyconn = newMySqlConnection(Myconnection);

MySqlCommandMycommand = newMySqlCommand(query, Myconn);

MySqlDataReaderMyReader;

Myconn.Open();

MyReader = Mycommand.ExecuteReader();

MessageBox.Show("Successfully Deleted");

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

textBox4.Clear();

textBox5.Clear();

textBox6.Clear();

textBox7.Clear();

textBox8.Clear();

textBox9.Clear();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid button5\_Click(object sender, EventArgs e)

{

textBox1.Text = "";

textBox2.Text = "";

textBox3.Text = "";

textBox4.Text = "";

textBox5.Text = "";

textBox6.Text = "";

textBox7.Text = "";

textBox8.Text = "";

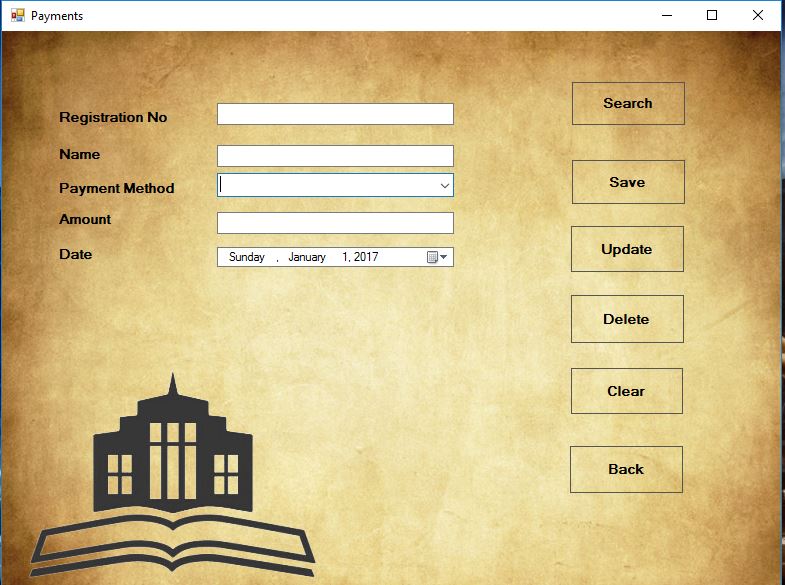
textBox9.Text = "";

}

}

}

**6.11 Payments Form**

****

using System;

usingSystem.Collections.Generic;

usingSystem.ComponentModel;

usingSystem.Data;

usingSystem.Drawing;

usingSystem.Linq;

usingSystem.Text;

usingSystem.Windows.Forms;

usingMySql.Data.MySqlClient;

namespace WindowsFormsApplication3

{

publicpartialclassForm6 : Form

{

MySqlConnection conn;

public Form6()

{

InitializeComponent();

conn = newMySqlConnection("server=localhost;user id=root;password=;database=lms;Convert Zero Datetime=True");

openCon();

}

privatevoidopenCon()

{

if (conn.State == ConnectionState.Closed)

{

conn.Open();

}

}

privatevoid label3\_Click(object sender, EventArgs e)

{

}

privatevoid comboBox1\_SelectedIndexChanged(object sender, EventArgs e)

{

}

privatevoid Form6\_Load(object sender, EventArgs e)

{

textBox1.Focus();

}

privatevoid button2\_Click(object sender, EventArgs e)

{

try

{

string MyConnection2 = "server=localhost;user id=root;password=;database=lms";

string Query = "insert into payment(reg\_no1,name,pay\_method,amount,date) values('" + this.textBox1.Text + "','" + this.textBox2.Text + "','" + this.comboBox1.Text + "','" + this.textBox3.Text + "','" + this.dateTimePicker1.Value.Date.ToString("yyyy-MM-ddHH:mm") + "');";

MySqlConnection MyConn2 = newMySqlConnection(MyConnection2);

MySqlCommand MyCommand2 = newMySqlCommand(Query, MyConn2);

MySqlDataReader MyReader2;

MyConn2.Open();

MyReader2 = MyCommand2.ExecuteReader();

MessageBox.Show("Save Data");

while (MyReader2.Read())

{

}

MyConn2.Close();

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

comboBox1.Text = "";

comboBox1.SelectedIndex = -1;

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoidSearch\_Click(object sender, EventArgs e)

{

try

{

if (textBox2.Text == "")

{

intreg\_no = Int32.Parse(textBox1.Text);

MySqlCommandcmd = newMySqlCommand("select \* from payment where reg\_no1='" + reg\_no + "'", conn);

MySqlDataAdapteradp = newMySqlDataAdapter(cmd);

DataTabledt = newDataTable();

adp.Fill(dt);

textBox2.Text = dt.Rows[0][1].ToString();

comboBox1.Text = dt.Rows[0][2].ToString();

textBox3.Text = dt.Rows[0][3].ToString();

dateTimePicker1.Text = dt.Rows[0][4].ToString();

}

else

{

MessageBox.Show("Enter Registration Card Number to search");

}

}

catch (Exception)

{

MessageBox.Show("Error");

}

}

privatevoid button3\_Click(object sender, EventArgs e)

{

try

{

string MyConnection2 = "server=localhost;user id=root;password=;database=lms";

string Query = "update payment set name='" + this.textBox2.Text + "',pay\_method='" + this.comboBox1.Text + "',amount='"+this.textBox3.Text+"',date='"+ this.dateTimePicker1.Value.Date.ToString("yyyy-MM-ddHH:mm") +"'WHERE reg\_no1='"+this.textBox1.Text+"';";

MySqlConnection MyConn2 = newMySqlConnection(MyConnection2);

MySqlCommand MyCommand2 = newMySqlCommand(Query, MyConn2);

MySqlDataReader MyReader2;

MyConn2.Open();

MyReader2 = MyCommand2.ExecuteReader();

MessageBox.Show("Sucessfully Updated");

while (MyReader2.Read())

{

}

MyConn2.Close();

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

comboBox1.Text = "";

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid button4\_Click(object sender, EventArgs e)

{

try

{

StringMyconnection = "server=localhost;userid=root;password=;database=lms";

String query="DELETE FROM payment WHERE reg\_no1='"+this.textBox1.Text+"';";

MySqlConnectionMyconn=newMySqlConnection(Myconnection);

MySqlCommandMycommand=newMySqlCommand (query, Myconn);

MySqlDataReaderMyReader;

Myconn.Open();

MyReader=Mycommand.ExecuteReader();

MessageBox.Show("Successfully Deleted");

textBox1.Clear();

textBox2.Clear();

textBox3.Clear();

comboBox1.Text = "";

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

}

privatevoid button5\_Click(object sender, EventArgs e)

{

textBox1.Text = "";

dateTimePicker1.Text = "";

textBox2.Text = "";

textBox3.Text = "";

comboBox1.Text = "";

textBox1.Focus();

}

privatevoid button1\_Click(object sender, EventArgs e)

{

this.Hide();

Form2 fm2 = newForm2();

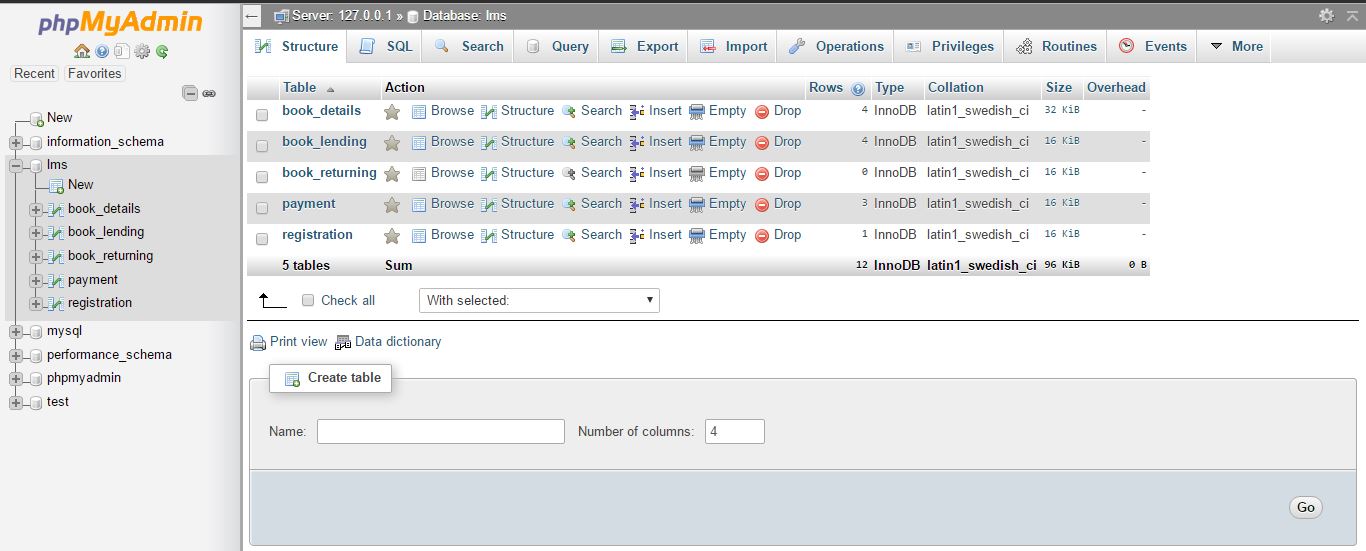
fm2.Show();

}

}

}

**Data Base- phpMyAdmin**



**Chapter 07**

**Testing**

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

After the code is developed, it is subjected to testing to make sure the software is functioning properly and the product is fulfilling the actual needs of the customer.

Our project went through two levels of testing.

1. Unit testing.
2. System testing.

**7.1 Unit Testing**

Unit testing is undertaken when a module has been created and successfully reviewed.

Unit testing was done on each module.

**7.2 System Testing**

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

**7.3 Testing procedure**

The following procedure was followed when testing the above software. In each module, testing was mainly focused on the under-mentioned sections.

* First each module was tested separately and the defects were fixed.
* Whether the text fields are coded to accept required data types
* Connection with databases
* Whether data get filled properly to databases
* Functioning of buttons – Insert, Search, Back
* Then the modules are tested as pairs and the errors found were corrected.

In this, mainly the focus was given to the connection between each two modules.

* Finally, all the modules were integrated and the software was tested and the defects were debugged for the last time.

In this step attention was paid to the following areas,

* Connections among all modules of the software
* The complete process performed by the software
* Whether the software is developed according to the software design
* Whether the software is user friendly and easy to follow
* Possibility of maintenance of the software
* Ability to make changes as per the evolving needs of the customer in future
* Whether the software is satisfying the requirements of the customer

**Test Case**

Login Page

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test case ID** | **Description** | **Expected Results** | **Actual Result** | **Pass/Fail** | **Remarks** |
| 001 | Enter incorrect username or password | Message “Error” & username and password fields get cleared | Message displayed  & field got cleared | Pass |  |
| 002 | Click on Login button. | Message “Login” | Message “Login” | Pass |  |
| 003 | Click on Exit button. | Message “Do You Want to Exit” | Message “Do You Want to Exit” | Pass |  |
| 004 | Yes or No buttons on message “Do You Want to Exit” | Exit from the form when click the “Yes” button, stay in the form when click the “No” button. | Exit from the form when click the “Yes” button, stay in the form when click the “No” button. | Pass |  |
| |  | | --- | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Test case ID** | **Description** | **Expected Results** | **Actual Result** | **Pass/Fail** | **Remarks** | | 005 | Click on each button | Display each form properly | Displayed the forms properly | Pass |  |   Main Menu Form, Lending & Returning Form, Book Details & Add Books | | | | | |

Registration Form,Add Books Form,Book Lending Form,Book Returning Form,Payment Form

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test case ID** | **Description** | **Expected Results** | **Actual Result** | **Pass/Fail** | **Remarks** |
| 006 | Fill all the fields and click on save button | Message “Save Data” & all the fields get cleared | Message displayed& fields got cleared | Pass |  |
| 007 | Click on Search button | Rest of the fields get filled with previously added details | Fields got filled | Pass |  |
| 008 | Click on search button without completing Reg No field | Message “Enter Registration Card Number to Search” | Message displayed | Pass |  |
| 009 | Change fields of the search results and click on update | Message “Successfully Updated” and all cleared | Message displayed and all fields got cleared | Pass |  |
| 010 | Click on delete button | Message “Successfully Deleted” and all | Message displayed | Pass |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 011 | Click on back button | Move to relevant Form | Relevant Form was displayed | Pass |  |
| 012 | Click on clear button | All fields get cleared. | All fields get cleared. | Pass |  |

Member details Form & Book Details Form

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test case ID** | **Description** | **Expected Results** | **Actual Result** | **Pass/Fail** | **Remarks** |
| 013 | Click on print button | Report get opened in Internet Explorer. | Report got opened in MS OneNote | Pass |  |
| 014 | Click on back button | Move to relevant Form | Relevant Form was displayed | Pass |  |

**Chapter 08**

**Deployment**

System requirement

This management system can be used in windows XP, windows 7, Windows 8.1, and Windows 10.  
The system must be running Windows7 , Windows 8.1 or Windows 10 operating systems and must meet the following hardware requirements.

Hardware requirements

The computer must have the following minimum capabilities.

* 32-bit (×86) or 64-bit (×64) processors
* Dual – core, 2.66-GHz or faster processor.
* USB 2.0 bus
* Graphic card that support direct 9.0c

Software requirements

* Visual studio 2010, or visual studio 2012
* XAMPP control panel v 3.2.2

**Chapter 9**

**User Manual**

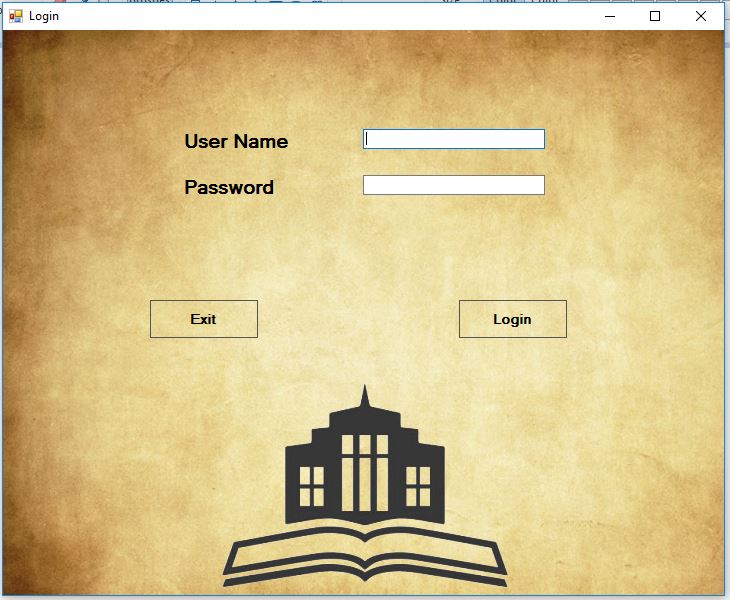
* A user guide or user's guide, also commonly known as a manual, is a communication document intended to give assistance to people using a particular system.

User should input the correct username here.

User should input the correct password here.

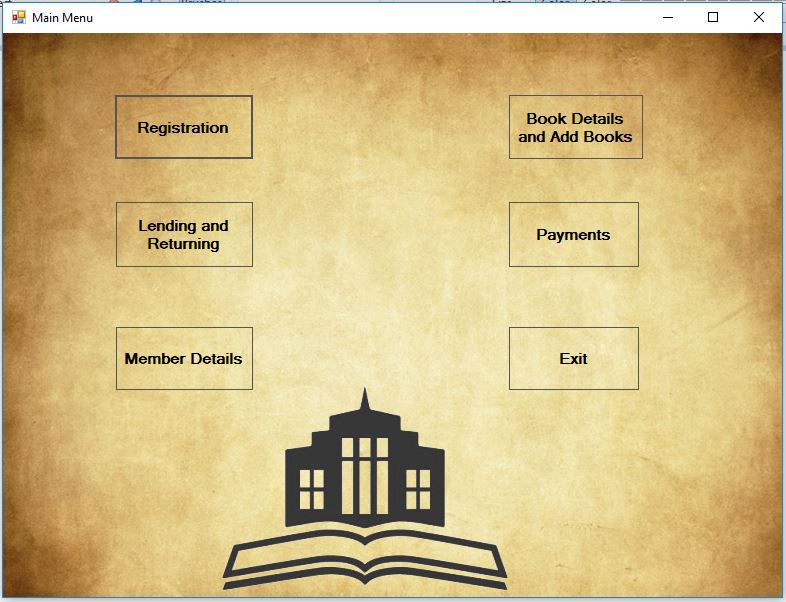
Allow the user to exit from the page.

After entering correct username and password, you can login to the system by using this button.



To register the new members who are not registered as library members yet.

To view the book details which are already entered the database and to add new entries of the books.



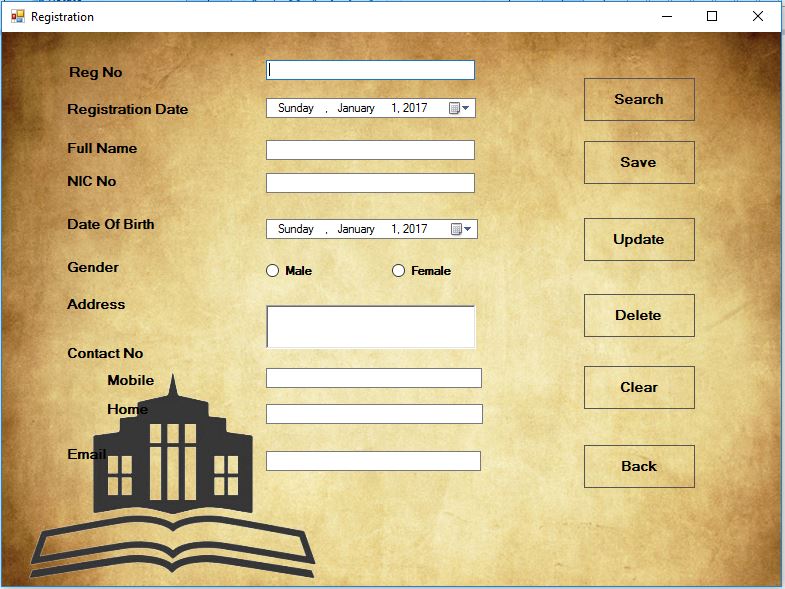
To view the details of members who are already added to the database.

To use when members do payments to the library.

To enter the details of when the books are lending and returning.

To exit from the form or system.

* Insert the required information correctly in each text boxes to register new members.

****

Allow to search members who are already entered.

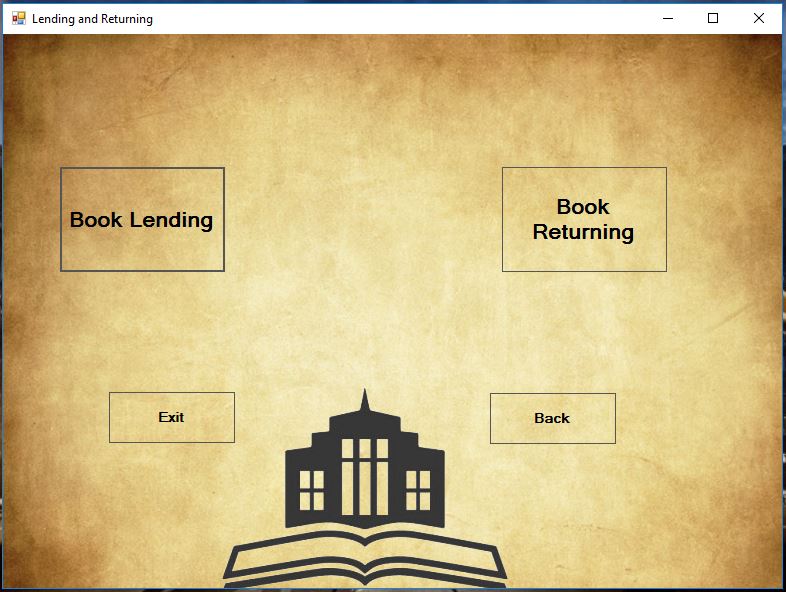
Allow the user to leave the page.

Allow to update the details of the member.

To save the details of new members.

To delete the details of the member.

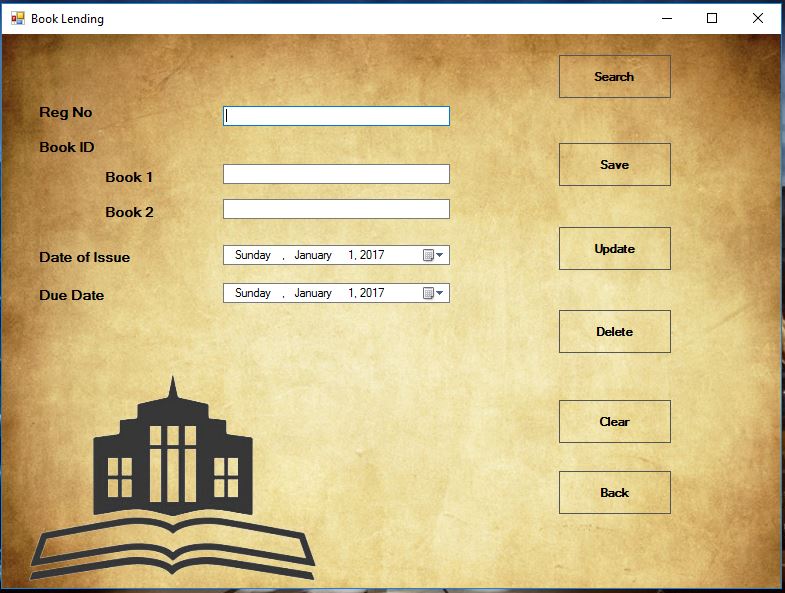
To clear the all fields.

****

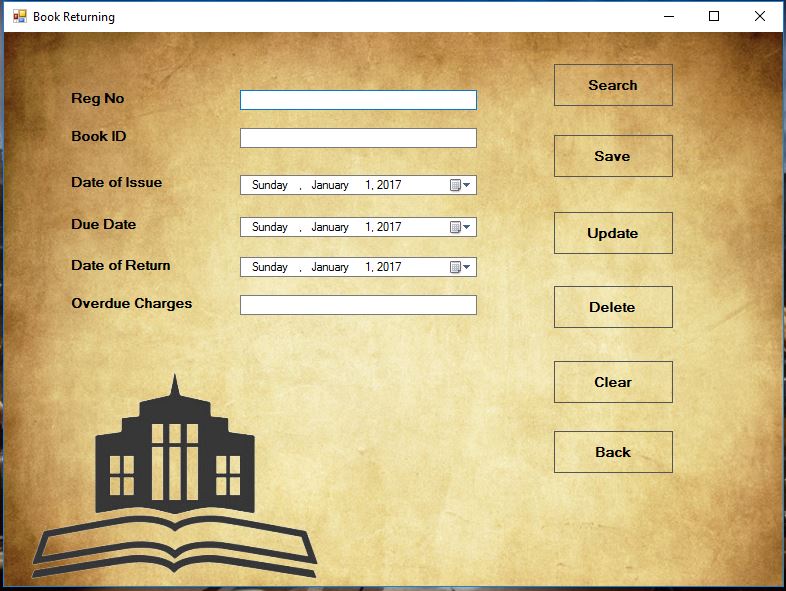
To enter the details of when the books are lending.

To enter the details of when the books are returning.

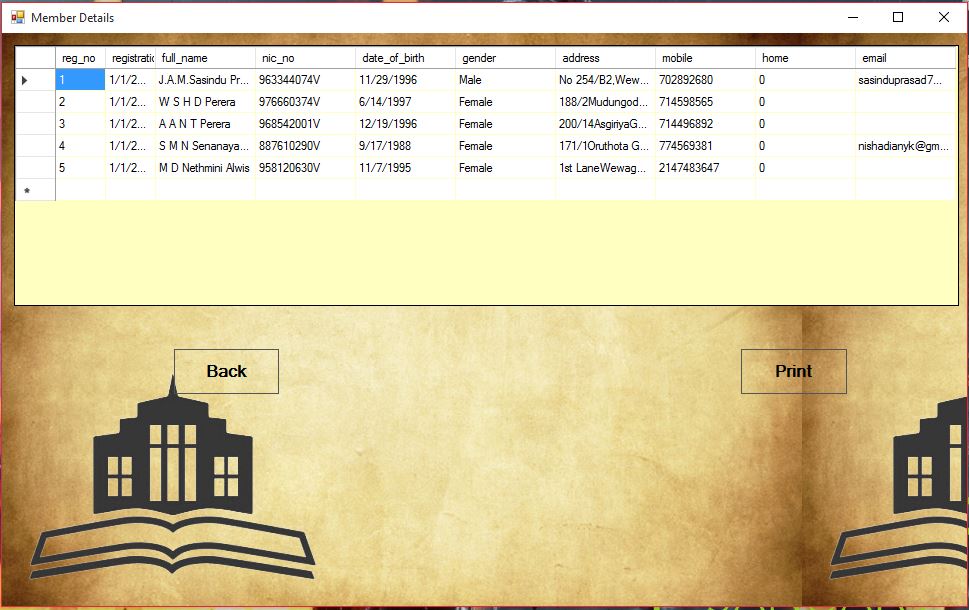
-Insert the required information correctly in each text boxes when books are lending.

****

* Insert the required information correctly in each text boxes when boos are returning.

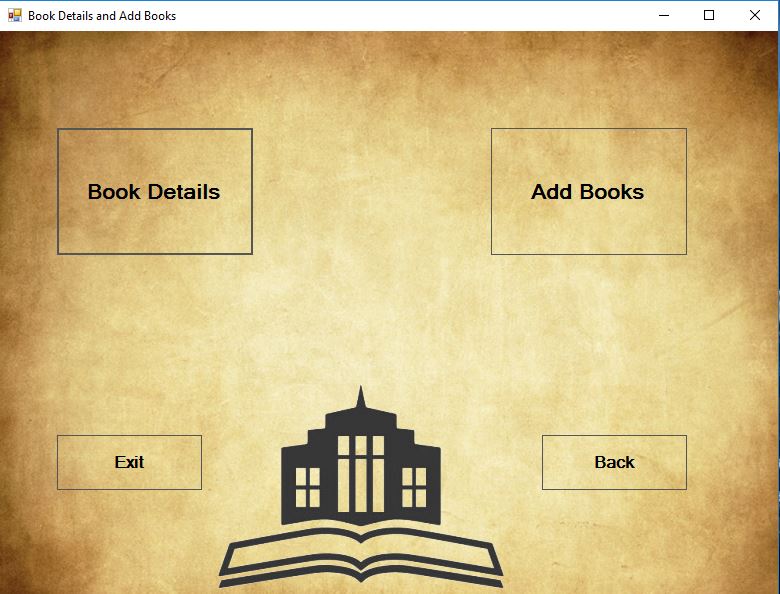
****

* To view the member details.

****

Allow the user to leave the page.

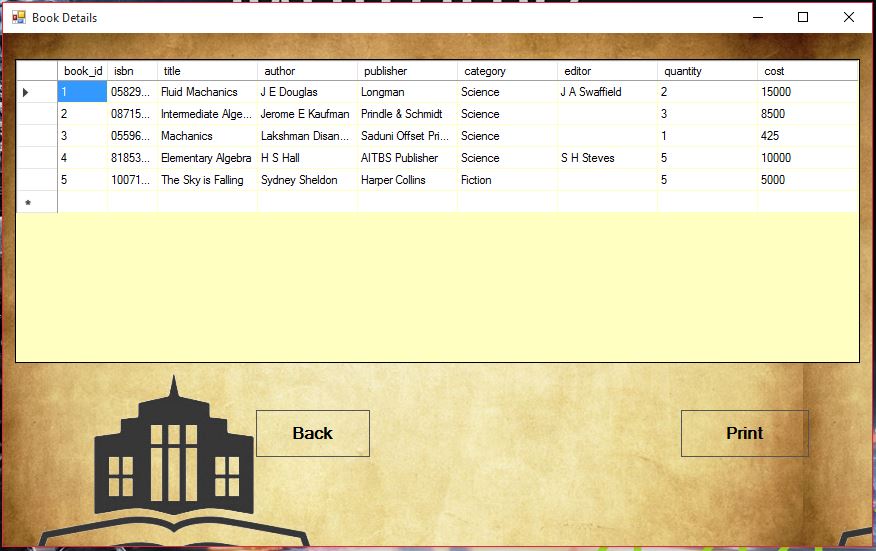
Allow to print the member details.

****

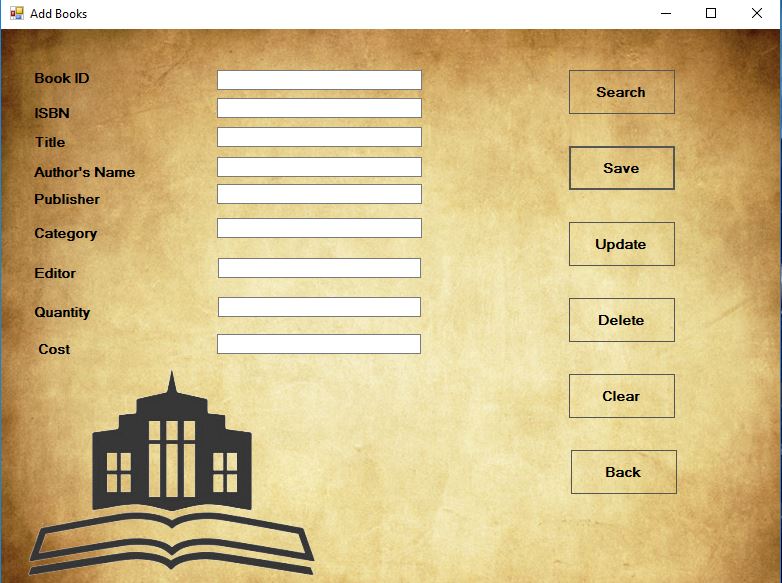
To add new books to the library data base.

To view the book details as s table.

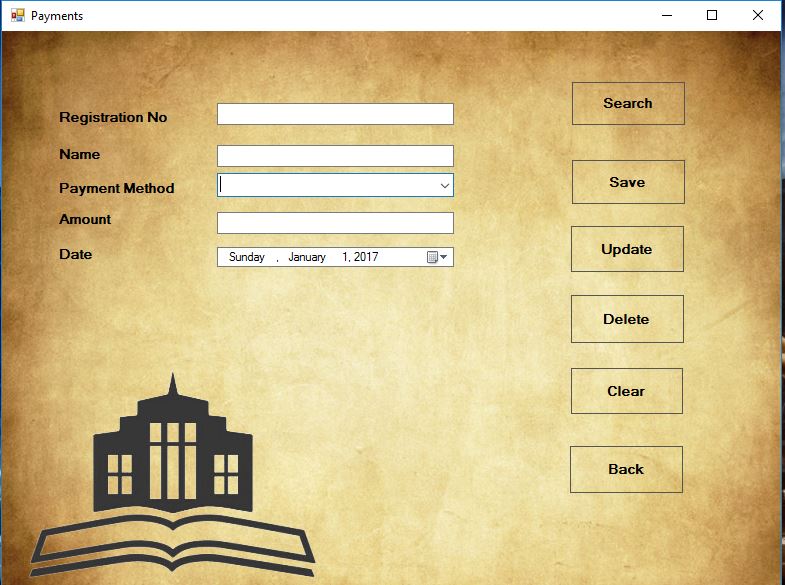
* To view book details and allow to print the data.

****

* Insert the required information correctly in each text boxes to add new entries of the books.

****

* Insert the required information correctly in each text boxes to insert the payment details of members to the database.

****

**Gantt Chart**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No | Name | Time Period | 18.12.2016 | | | | | | | 03.01.2017 | | | | | | | | |
| S | M | Tu | W | Th | F | Sa | S | M | Tu | W | Th | F | Sa | S | M |
| 01 | Requirement gathering |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 02 | Project planning |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 03 | Design |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 04 | Documentation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 05 | Cording |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 06 | Testing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 07 | Presenting the software |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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