

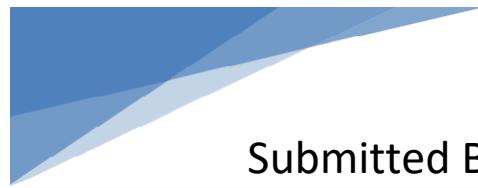
# North Western University

Department of Computer Science And Engineering (CSE- 4 Year )

## Final Project Report

# Facial Recognition Attendance System

Submitted To: M. Raihan, Senior Lecturer, Department CSE, North Western University



Submitted By:

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## **Background**

### **1. Introduction**

The Smart Attendance System is an innovative tool designed to help organizations keep track of their staff's attendance. This system uses advanced technology to accurately record when students arrive and leave, allowing admins to easily monitor their students attendance. With the Smart Attendance System, admins can quickly and easily generate reports on attendance, ensuring that their student are adhering to the rules and regulations set forth by the school. Furthermore, the Smart Attendance System allows students to monitor. Most of the contemporary information systems are based on the Facial recognition technology which is a form of biometric technology that uses algorithms to analyze and compare facial features to identify individuals. It works by scanning an individual's face and comparing it to a database of facial images. This technology is becoming increasingly popular due to its ability to quickly and accurately identify individuals in a variety of contexts. It has been used by law enforcement agencies to track down criminals, and by companies to verify the identities of customers for security purposes helps in identifying and recognizing people.

### **2. Problem Statement**

- Eliminating proxy attendance and the absence of errors.
- Time-Saving for your workforce.
- Increased efficiency and capability.
- Automated time tracking.

The given task concerns a small organization. For instance, for the needs of a small company, we could use one set of tools, but for the needs of a larger one, it would be much better if we apply our approach by using some different, that could be more appropriate and would fit much better the requirements we have to satisfy.

### **3. Diagrams**

## Student Activity Diagram

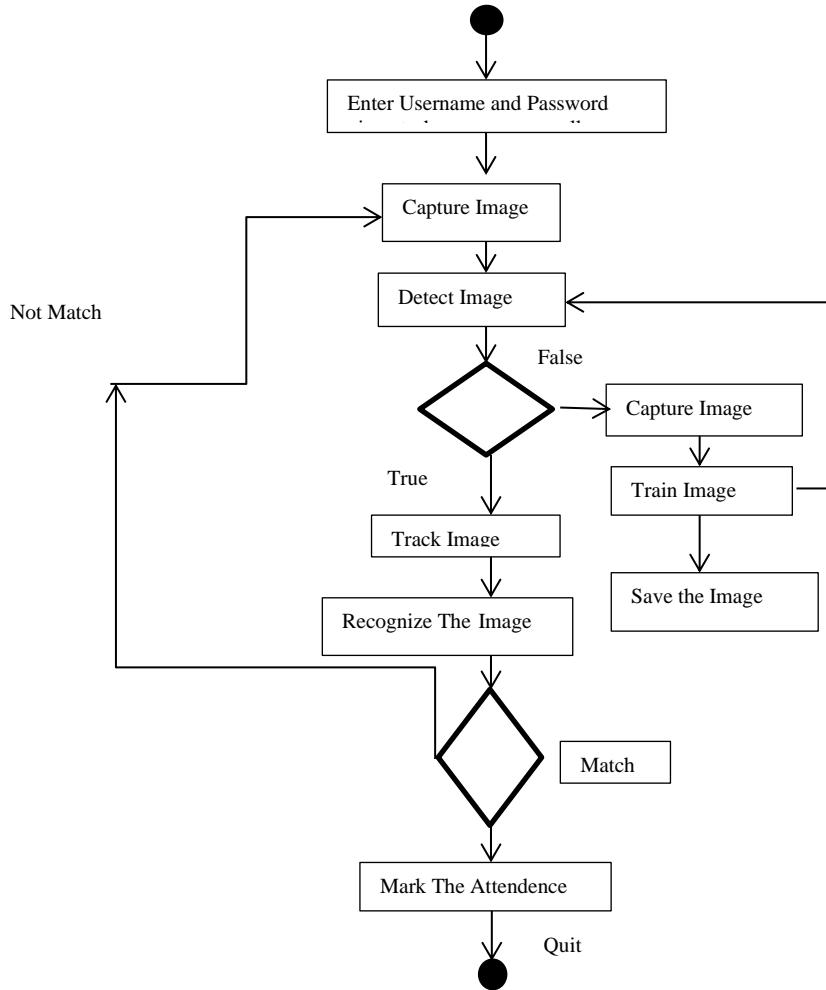


Fig 3.1: Student Activity Diagram

Student activity diagram for student attendance system. This shows that students have to enter username and password for login then image will be captured from webcam if image detection is successful and recognize the image, students can submit attendance. If image detection is not successful, it saves the image and again try to detect.

### Admin Activity Diagram:

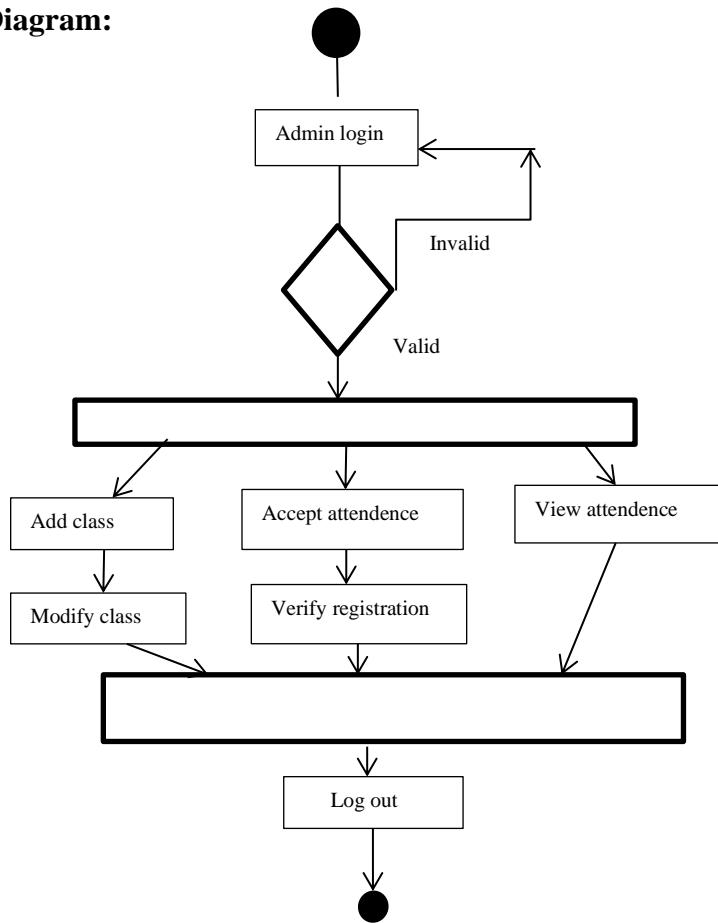


Fig 3.2:Admin Activity Diagram

Admin activity diagram for student attendance system. This shows that admin login into and they could not only add but also modify class. Admin accept the submitted attendence from student and view the attendence sheet.

**Data flow Diagram:** Attendance Management System Data flow diagram is often used as a preliminary step to create an overview of the Attendance without going into great detail, which can later be elaborated.it normally consists of overall application dataflow and processes of the Attendance process.

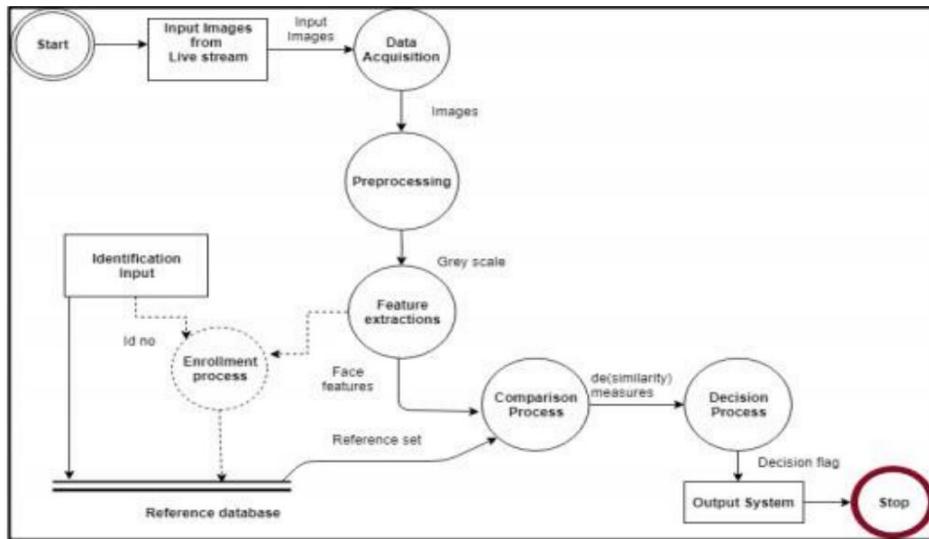
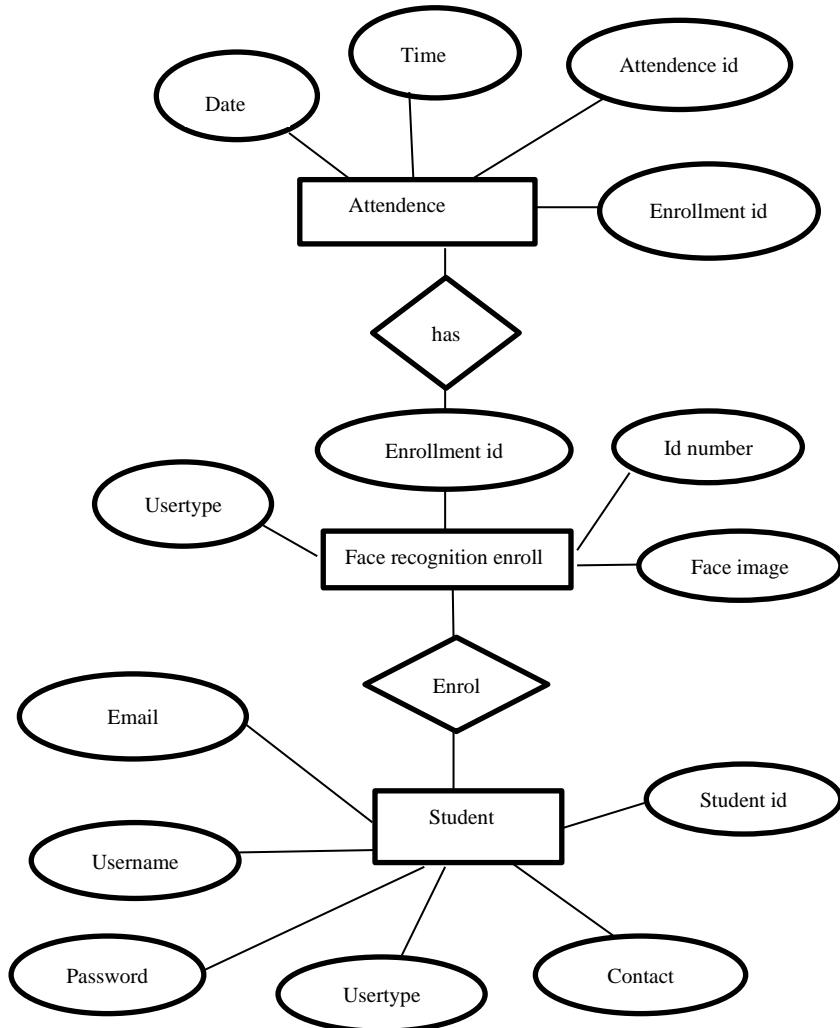


Fig 3.3: Data Flow Diagram

**E R Diagram:** This is the first phase of the development of the Face Recognition Attendance System, and it will serve as the foundation for the creation of the actual database that will be used by the system in the future. Using the Face Recognition Attendance System as an example, we will develop an entity relationship diagram and detail the methods that must be followed in order to finish the diagram generation.



#### 4.Project Screenshot

➤ Login:



⚡  
Login  
**Facial Recognition  
Attendance System**

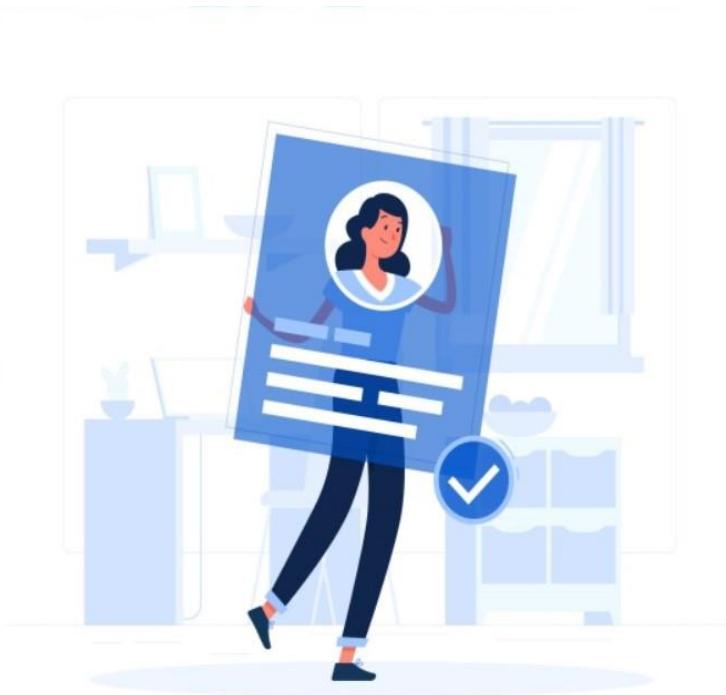
User Name

Password

User Type

[Haven't you Sign Up?](#)

➤ Register:



📄  
**Register Now**  
**Facial Recognition  
Attendance System**

User Name

Email

Password

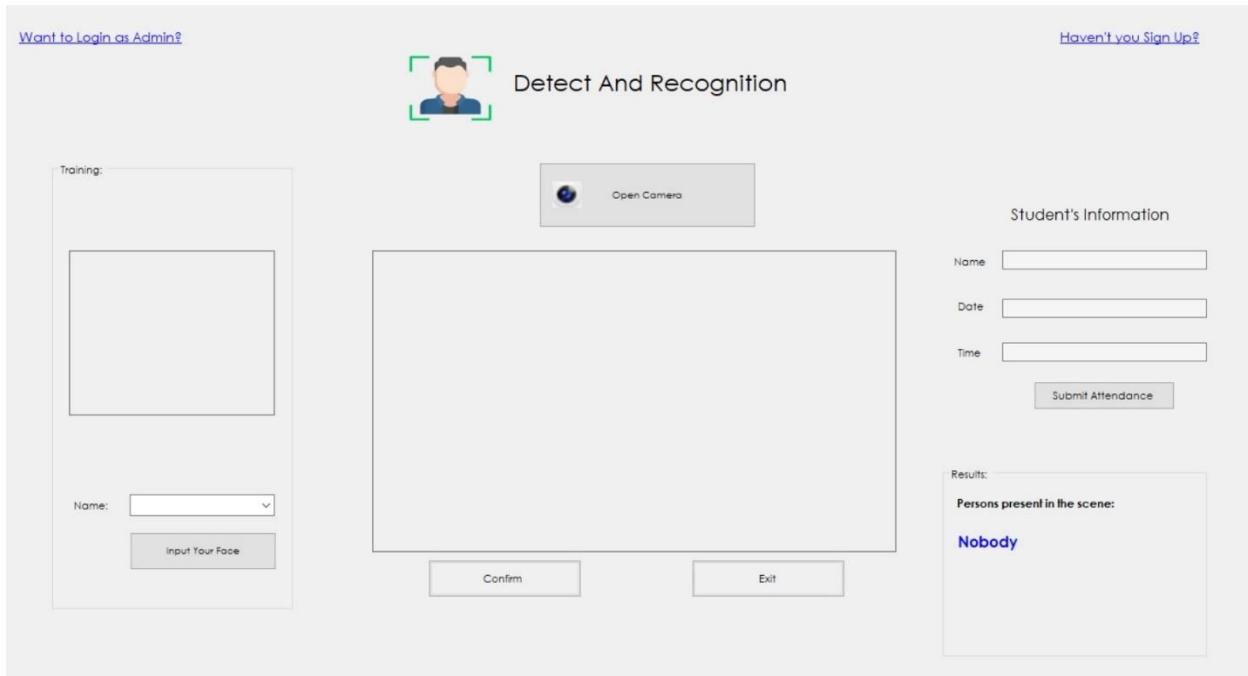
Contact

User Type

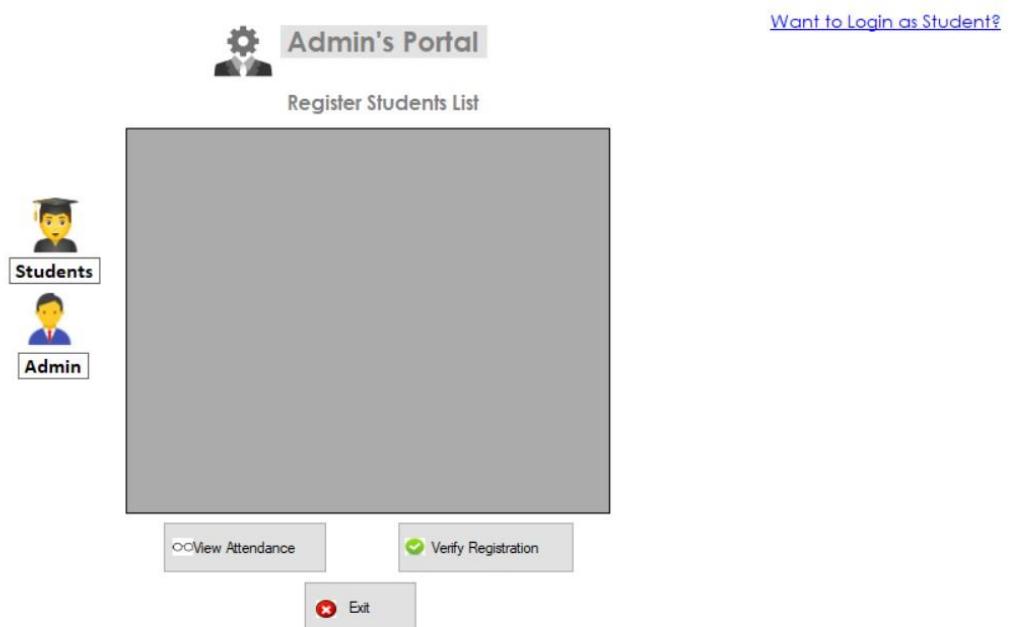
Registration Date

[Already registered yourself?](#)

➤ Detect and Recognition:



● Admin Portal:



## 5.Source Code

### Login.cs:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using System.Data.SqlClient;
namespace MultiFaceRec
{
    public partial class Login : Form
    {
        SqlConnection con;
        public Login()
        {
            InitializeComponent();
            string constr = global::MultiFaceRec.Properties.Settings.Default.MyDbConnectionString;
            con = new SqlConnection(constr);
        }

        private void button1_Click(object sender, EventArgs e)
        {
            string usertype="";
            string querry = "select * from Register_User where user_name='" + textBox1.Text + "' AND pwd='" + textBox3.Text + "'";
            SqlCommand cmd = new SqlCommand(querry, con);
            con.Open();
            SqlDataReader dr = cmd.ExecuteReader();
            if (dr.Read())
            {
                this.Hide();
            }
        }
}
```

```
        usertype = dr["user_type"].ToString();

    }

    else
    {
        this.Hide();
        MessageBox.Show("Invalid Credintials");
    }

    if (usertype.Equals("Admin"))
    {
        this.Hide();
        MakeRegistered mr = new MakeRegistered();
        mr.Show();
    }

    else
    {
        this.Hide();
        FrmPrincipal fp = new FrmPrincipal();
        fp.Show();
    }

}

con.Close();
}

private void Login_Load(object sender, EventArgs e)
{
}

private void label1_Click(object sender, EventArgs e)
{
}

private void comboBox1_SelectedIndexChanged(object sender, EventArgs e)
{
```

```

    }

private void button2_Click(object sender, EventArgs e)
{
}

private void linkLabel1_LinkClicked(object sender, LinkLabelLinkClickedEventArgs e)
{
    this.Hide();
    Register l = new Register();
    l.Show();
}

private void textBox1_TextChanged(object sender, EventArgs e)
{
}

private void label3_Click(object sender, EventArgs e)
{
}
}
}

```

### **Login Designer.cs:**

```

namespace MultiFaceRec
{
    partial class Login
    {
        /// <summary>
        /// Required designer variable.
        /// </summary>
        private System.ComponentModel.IContainer components = null;

        /// <summary>
        /// Clean up any resources being used.
        /// </summary>

```

```
/// </summary>
/// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>
protected override void Dispose(bool disposing)
{
    if (disposing && (components != null))
    {
        components.Dispose();
    }
    base.Dispose(disposing);
}
```

```
#region Windows Form Designer generated code
```

```
/// <summary>
/// Required method for Designer support - do not modify
/// the contents of this method with the code editor.
/// </summary>
private void InitializeComponent()
{
    System.ComponentModel.ComponentResourceManager resources = new
System.ComponentModel.ComponentResourceManager(typeof(Login));
    this.label1 = new System.Windows.Forms.Label();
    this.textBox1 = new System.Windows.Forms.TextBox();
    this.label2 = new System.Windows.Forms.Label();
    this.textBox3 = new System.Windows.Forms.TextBox();
    this.label4 = new System.Windows.Forms.Label();
    this.comboBox1 = new System.Windows.Forms.ComboBox();
    this.label6 = new System.Windows.Forms.Label();
    this.button1 = new System.Windows.Forms.Button();
    this.pictureBox1 = new System.Windows.Forms.PictureBox();
    this.myDbDataSet1 = new MultiFaceRec.MyDbDataSet();
    this.linkLabel1 = new System.Windows.Forms.LinkLabel();
    this.label3 = new System.Windows.Forms.Label();
    this.label5 = new System.Windows.Forms.Label();
    this.pictureBox2 = new System.Windows.Forms.PictureBox();
    ((System.ComponentModel.ISupportInitialize)(this.pictureBox1)).BeginInit();
    ((System.ComponentModel.ISupportInitialize)(this.myDbDataSet1)).BeginInit();
```

```
((System.ComponentModel.ISupportInitialize)(this.pictureBox2)).BeginInit();
this.SuspendLayout();
//
// label1
//
this.label1.AutoSize = true;
this.label1.Font = new System.Drawing.Font("Century Gothic", 12F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label1.ForeColor = System.Drawing.Color.Black;
this.label1.Location = new System.Drawing.Point(769, 85);
this.label1.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label1.Name = "label1";
this.label1.Size = new System.Drawing.Size(62, 23);
this.label1.TabIndex = 1;
this.label1.Text = "Login";
this.label1.Click += new System.EventHandler(this.label1_Click);
//
// textBox1
//
this.textBox1.BackColor = System.Drawing.Color.FromArgb(((int)(((byte)(230)))), ((int)(((byte)(231)))), ((int)(((byte)(233)))));
this.textBox1.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.textBox1.Location = new System.Drawing.Point(656, 239);
this.textBox1.Margin = new System.Windows.Forms.Padding(4);
this.textBox1.Name = "textBox1";
this.textBox1.Size = new System.Drawing.Size(271, 26);
this.textBox1.TabIndex = 7;
this.textBox1.TextChanged += new System.EventHandler(this.textBox1_TextChanged);
//
// label2
//
this.label2.AutoSize = true;
this.label2.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label2.Location = new System.Drawing.Point(652, 216);
this.label2.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
```

```
this.label2.Name = "label2";
this.label2.Size = new System.Drawing.Size(88, 18);
this.label2.TabIndex = 6;
this.label2.Text = "User Name";
//
// textBox3
//
this.textBox3.BackColor = System.Drawing.Color.FromArgb(((int)(((byte)(230)))), ((int)((byte)(231))), ((int)((byte)(233))));  

this.textBox3.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.textBox3.Location = new System.Drawing.Point(656, 293);
this.textBox3.Margin = new System.Windows.Forms.Padding(4);
this.textBox3.Name = "textBox3";
this.textBox3.PasswordChar = '#';
this.textBox3.Size = new System.Drawing.Size(271, 26);
this.textBox3.TabIndex = 9;
//
// label4
//
this.label4.AutoSize = true;
this.label4.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label4.Location = new System.Drawing.Point(652, 269);
this.label4.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label4.Name = "label4";
this.label4.Size = new System.Drawing.Size(75, 18);
this.label4.TabIndex = 8;
this.label4.Text = "Password";
//
// comboBox1
//
this.comboBox1.BackColor = System.Drawing.Color.FromArgb(((int)((byte)(230)))), ((int)((byte)(231))), ((int)((byte)(233))));
this.comboBox1.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.comboBox1.FormattingEnabled = true;
this.comboBox1.Items.AddRange(new object[] { "Select", "Admin", "User" });
this.comboBox1.Location = new System.Drawing.Point(656, 337);
this.comboBox1.Name = "comboBox1";
this.comboBox1.Size = new System.Drawing.Size(271, 26);
this.comboBox1.TabIndex = 10;
```

```
this.comboBox1.Items.AddRange(new object[] {
    "Admin",
    "Student"});
this.comboBox1.Location = new System.Drawing.Point(656, 353);
this.comboBox1.Margin = new System.Windows.Forms.Padding(4);
this.comboBox1.Name = "comboBox1";
this.comboBox1.Size = new System.Drawing.Size(272, 28);
this.comboBox1.TabIndex = 14;
this.comboBox1.SelectedIndexChanged += new
System.EventHandler(this.comboBox1_SelectedIndexChanged);
//
// label6
//
this.label6.AutoSize = true;
this.label6.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label6.Location = new System.Drawing.Point(652, 328);
this.label6.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label6.Name = "label6";
this.label6.Size = new System.Drawing.Size(78, 18);
this.label6.TabIndex = 13;
this.label6.Text = "User Type";
//
// button1
//
this.button1.BackColor = System.Drawing.Color.Transparent;
this.button1.Cursor = System.Windows.Forms.Cursors.IBeam;
this.button1.Font = new System.Drawing.Font("Century Gothic", 10.2F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.button1.Location = new System.Drawing.Point(724, 411);
this.button1.Margin = new System.Windows.Forms.Padding(4);
this.button1.Name = "button1";
this.button1.Size = new System.Drawing.Size(149, 31);
this.button1.TabIndex = 15;
this.button1.Text = "Login";
this.button1.UseVisualStyleBackColor = false;
this.button1.Click += new System.EventHandler(this.button1_Click);
```

```
//  
// pictureBox1  
//  
this.pictureBox1.Image = ((System.Drawing.Image)(resources.GetObject("pictureBox1.Image")));  
this.pictureBox1.Location = new System.Drawing.Point(-7, -1);  
this.pictureBox1.Name = "pictureBox1";  
this.pictureBox1.Size = new System.Drawing.Size(620, 600);  
this.pictureBox1.SizeMode = System.Windows.Forms.PictureBoxSizeMode.StretchImage;  
this.pictureBox1.TabIndex = 18;  
this.pictureBox1.TabStop = false;  
  
//  
// myDbDataSet1  
//  
this.myDbDataSet1.DataSetName = "MyDbDataSet";  
this.myDbDataSet1.SchemaSerializationMode = System.Data.SchemaSerializationMode.IncludeSchema;  
  
//  
// linkLabel1  
//  
this.linkLabel1.AutoSize = true;  
this.linkLabel1.ForeColor = System.Drawing.SystemColors.HotTrack;  
this.linkLabel1.Location = new System.Drawing.Point(736, 478);  
this.linkLabel1.Name = "linkLabel1";  
this.linkLabel1.Size = new System.Drawing.Size(156, 19);  
this.linkLabel1.TabIndex = 19;  
this.linkLabel1.TabStop = true;  
this.linkLabel1.Text = "Haven't you Sign Up?";  
this.linkLabel1.LinkClicked += new  
System.Windows.Forms.LinkLabelLinkClickedEventHandler(this.linkLabel1_LinkClicked);  
  
//  
// label3  
//  
this.label3.AutoSize = true;  
this.label3.Font = new System.Drawing.Font("Century Gothic", 18F, System.Drawing.FontStyle.Bold,  
System.Drawing.GraphicsUnit.Point, ((byte)(0)));  
this.label3.ForeColor = System.Drawing.Color.Black;  
this.label3.Location = new System.Drawing.Point(680, 117);  
this.label3.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
```

```
this.label3.Name = "label3";
this.label3.Size = new System.Drawing.Size(284, 37);
this.label3.TabIndex = 20;
this.label3.Text = "Facial Recognition";
this.label3.Click += new System.EventHandler(this.label3_Click);
//
// label5
//
this.label5.AutoSize = true;
this.label5.Font = new System.Drawing.Font("Century Gothic", 18F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label5.ForeColor = System.Drawing.Color.Black;
this.label5.Location = new System.Drawing.Point(680, 154);
this.label5.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label5.Name = "label5";
this.label5.Size = new System.Drawing.Size(300, 37);
this.label5.TabIndex = 21;
this.label5.Text = "Attendance System";
//
// pictureBox2
//
this.pictureBox2.Image = ((System.Drawing.Image)(resources.GetObject("pictureBox2.Image")));
this.pictureBox2.Location = new System.Drawing.Point(782, 53);
this.pictureBox2.Name = "pictureBox2";
this.pictureBox2.Size = new System.Drawing.Size(30, 29);
this.pictureBox2.SizeMode = System.Windows.Forms.PictureBoxSizeMode.StretchImage;
this.pictureBox2.TabIndex = 22;
this.pictureBox2.TabStop = false;
//
// Login
//
this.AutoScaleDimensions = new System.Drawing.SizeF(8F, 17F);
this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
this.BackColor = System.Drawing.Color.White;
this.ClientSize = new System.Drawing.Size(1021, 597);
this.Controls.Add(this.pictureBox2);
this.Controls.Add(this.label5);
```

```
this.Controls.Add(this.label3);
this.Controls.Add(this.linkLabel1);
this.Controls.Add(this.pictureBox1);
this.Controls.Add(this.button1);
this.Controls.Add(this.comboBox1);
this.Controls.Add(this.label6);
this.Controls.Add(this.textBox3);
this.Controls.Add(this.label4);
this.Controls.Add(this.textBox1);
this.Controls.Add(this.label2);
this.Controls.Add(this.label11);
this.Font = new System.Drawing.Font("Century Gothic", 7.8F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.FormBorderStyle = System.Windows.Forms.FormBorderStyle.None;
this.Margin = new System.Windows.Forms.Padding(4);
this.Name = "Login";
this.StartPosition = System.Windows.Forms.FormStartPosition.CenterScreen;
this.Text = "Login";
this.Load += new System.EventHandler(this.Login_Load);
((System.ComponentModel.ISupportInitialize)(this.pictureBox1)).EndInit();
((System.ComponentModel.ISupportInitialize)(this.myDbDataSet1)).EndInit();
((System.ComponentModel.ISupportInitialize)(this.pictureBox2)).EndInit();
this.ResumeLayout(false);
this.PerformLayout();
}
```

```
#endregion

private System.Windows.Forms.Label label1;
private System.Windows.Forms.Label label2;
private System.Windows.Forms.TextBox textBox3;
private System.Windows.Forms.Label label4;
private System.Windows.Forms.ComboBox comboBoxB;
private System.Windows.Forms.Label label6;
private System.Windows.Forms.Button button1;
public System.Windows.Forms.TextBox textBox1;
```

```
private System.Windows.Forms.PictureBox pictureBox1;
private MyDbDataSet myDbDataSet1;
private System.Windows.Forms.LinkLabel linkLabel1;
private System.Windows.Forms.Label label3;
private System.Windows.Forms.Label label5;
private System.Windows.Forms.PictureBox pictureBox2;
}
}
```

## Register.cs

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using System.Data.SqlClient;
namespace MultiFaceRec
{
    public partial class Register : Form
    {
        SqlConnection con;

        public Register()
        {
            InitializeComponent();
            string constr = global::MultiFaceRec.Properties.Settings.Default.MyDbConnectionString;
            con = new SqlConnection(constr);
        }

        private void Register_Load(object sender, EventArgs e)
        {
            textBox5.Text = DateTime.Now.ToString("yyyy-MM-dd");
        }
    }
}
```

```

private void button1_Click(object sender, EventArgs e)
{
    string reg = "no";
    string querry = "insert into Register_User(
user_name,e_mail, pwd, contact, user_type, reg_date, spec, roll_no, Registered) values(" + textBox1.Text + "','" +
textBox2.Text + "','" + textBox3.Text + "','" + textBox4.Text + "','" + comboBox1.SelectedItem.ToString() + "','" +
textBox5.Text + "','" + textBox6.Text + "','" + textBox7.Text + "','" + reg + ")";

    SqlCommand cmd = new SqlCommand(querry, con);
    con.Open();
    int a = cmd.ExecuteNonQuery();
    if (a != 0)
    {
        MessageBox.Show("User Registered");
    }
    else
    {
        MessageBox.Show("User Not Registered");
    }
    con.Close();
}

private void button2_Click(object sender, EventArgs e)
{
    this.Hide();
    Login l = new Login();
    l.Show();
}

private void comboBox1_SelectedIndexChanged(object sender, EventArgs e)
{
    if(comboBox1.SelectedItem.ToString().Equals("Student")){
        textBox7.Visible = true;
        label7.Visible = true;
        label8.Visible = true;
    }
}

```

```
    textBox6.Visible = true;

}

else if (comboBox1.SelectedItem.ToString().Equals("Teacher"))
{
    label7.Visible = false;
    label8.Visible = false;
    textBox7.Visible = false;
    textBox6.Visible = false;

}

else
{
    label7.Visible = false;
    label8.Visible = false;
    textBox7.Visible = false;
    textBox6.Visible = false;
}

}

private void label1_Click(object sender, EventArgs e)
{

}

private void label1_Click_1(object sender, EventArgs e)
{

}

private void label2_Click(object sender, EventArgs e)
{

}

private void linkLabel1_LinkClicked(object sender, LinkLabelLinkClickedEventArgs e)
{
```

```

        this.Hide();
        Login l = new Login();
        l.Show();
    }

private void label8_Click(object sender, EventArgs e)
{
}

private void textBox1_TextChanged(object sender, EventArgs e)
{
}

}

}

```

### **Register Designer.cs:**

```

namespace MultiFaceRec
{
    partial class Register
    {
        /// <summary>
        /// Required designer variable.
        /// </summary>
        private System.ComponentModel.IContainer components = null;

        /// <summary>
        /// Clean up any resources being used.
        /// </summary>
        /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>
        protected override void Dispose(bool disposing)
    }
}
```

```
{  
    if (disposing && (components != null))  
    {  
        components.Dispose();  
    }  
    base.Dispose(disposing);  
}  
  
#region Windows Form Designer generated code  
  
/// <summary>  
/// Required method for Designer support - do not modify  
/// the contents of this method with the code editor.  
/// </summary>  
private void InitializeComponent()  
{  
    System.ComponentModel.ComponentResourceManager resources = new  
    System.ComponentModel.ComponentResourceManager(typeof(Register));  
    this.label1 = new System.Windows.Forms.Label();  
    this.label2 = new System.Windows.Forms.Label();  
    this.label3 = new System.Windows.Forms.Label();  
    this.label4 = new System.Windows.Forms.Label();  
    this.label5 = new System.Windows.Forms.Label();  
    this.textBox1 = new System.Windows.Forms.TextBox();  
    this.textBox2 = new System.Windows.Forms.TextBox();  
    this.textBox3 = new System.Windows.Forms.TextBox();  
    this.textBox4 = new System.Windows.Forms.TextBox();  
    this.button1 = new System.Windows.Forms.Button();  
    this.label6 = new System.Windows.Forms.Label();  
    this.comboBox1 = new System.Windows.Forms.ComboBox();  
    this.textBox5 = new System.Windows.Forms.TextBox();  
    this.label9 = new System.Windows.Forms.Label();  
    this.pictureBox1 = new System.Windows.Forms.PictureBox();  
    this.linkLabel1 = new System.Windows.Forms.LinkLabel();  
    this.label8 = new System.Windows.Forms.Label();  
    this.label7 = new System.Windows.Forms.Label();  
    this.textBox7 = new System.Windows.Forms.TextBox();
```

```
this.textBox6 = new System.Windows.Forms.TextBox();
this.label10 = new System.Windows.Forms.Label();
this.label11 = new System.Windows.Forms.Label();
this.pictureBox2 = new System.Windows.Forms.PictureBox();
((System.ComponentModel.ISupportInitialize)(this.pictureBox1)).BeginInit();
((System.ComponentModel.ISupportInitialize)(this.pictureBox2)).BeginInit();
this.SuspendLayout();
//
// label1
//
// 
this.label1.AutoSize = true;
this.label1.Font = new System.Drawing.Font("Calibri", 12F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label1.ForeColor = System.Drawing.Color.Black;
this.label1.Location = new System.Drawing.Point(942, 62);
this.label1.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label1.Name = "label1";
this.label1.Size = new System.Drawing.Size(121, 24);
this.label1.TabIndex = 0;
this.label1.Text = "Register Now";
this.label1.Click += new System.EventHandler(this.label1_Click_1);
//
// label2
//
// 
this.label2.AutoSize = true;
this.label2.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label2.Location = new System.Drawing.Point(780, 153);
this.label2.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label2.Name = "label2";
this.label2.Size = new System.Drawing.Size(89, 20);
this.label2.TabIndex = 1;
this.label2.Text = "User Name";
this.label2.Click += new System.EventHandler(this.label2_Click);
//
// label3
//
// 
```

```
this.label3.AutoSize = true;
this.label3.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label3.Location = new System.Drawing.Point(811, 203);
this.label3.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label3.Name = "label3";
this.label3.Size = new System.Drawing.Size(46, 20);
this.label3.TabIndex = 2;
this.label3.Text = "Email";
//
// label4
//
this.label4.AutoSize = true;
this.label4.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label4.Location = new System.Drawing.Point(783, 251);
this.label4.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label4.Name = "label4";
this.label4.Size = new System.Drawing.Size(79, 20);
this.label4.TabIndex = 3;
this.label4.Text = "Password";
//
// label5
//
this.label5.AutoSize = true;
this.label5.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label5.Location = new System.Drawing.Point(792, 300);
this.label5.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label5.Name = "label5";
this.label5.Size = new System.Drawing.Size(70, 20);
this.label5.TabIndex = 4;
this.label5.Text = "Contact";
//
// textBox1
//
this.textBox1.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
```

```
System.Drawing.GraphicsUnit.Point, ((byte)(0)));

this.textBox1.Location = new System.Drawing.Point(878, 150);
this.textBox1.Margin = new System.Windows.Forms.Padding(4);
this.textBox1.Name = "textBox1";
this.textBox1.Size = new System.Drawing.Size(271, 26);
this.textBox1.TabIndex = 5;
this.textBox1.TextChanged += new System.EventHandler(this.textBox1_TextChanged);

// 

// textBox2
//
this.textBox2.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.textBox2.Location = new System.Drawing.Point(878, 200);
this.textBox2.Margin = new System.Windows.Forms.Padding(4);
this.textBox2.Name = "textBox2";
this.textBox2.Size = new System.Drawing.Size(271, 26);
this.textBox2.TabIndex = 6;
//
// textBox3
//
this.textBox3.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.textBox3.Location = new System.Drawing.Point(878, 248);
this.textBox3.Margin = new System.Windows.Forms.Padding(4);
this.textBox3.Name = "textBox3";
this.textBox3.PasswordChar = '#';
this.textBox3.Size = new System.Drawing.Size(271, 26);
this.textBox3.TabIndex = 7;
//
// textBox4
//
this.textBox4.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.textBox4.Location = new System.Drawing.Point(878, 297);
this.textBox4.Margin = new System.Windows.Forms.Padding(4);
this.textBox4.Name = "textBox4";
this.textBox4.Size = new System.Drawing.Size(271, 26);
```

```
this.textBox4.TabIndex = 8;
//
// button1
//
this.button1.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.button1.Location = new System.Drawing.Point(937, 525);
this.button1.Margin = new System.Windows.Forms.Padding(4);
this.button1.Name = "button1";
this.button1.Size = new System.Drawing.Size(168, 46);
this.button1.TabIndex = 9;
this.button1.Text = "Create Account";
this.button1.UseVisualStyleBackColor = true;
this.button1.Click += new System.EventHandler(this.button1_Click);
//
// label6
//
this.label6.AutoSize = true;
this.label6.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label6.Location = new System.Drawing.Point(788, 343);
this.label6.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label6.Name = "label6";
this.label6.Size = new System.Drawing.Size(78, 20);
this.label6.TabIndex = 11;
this.label6.Text = "User Type";
//
// comboBox1
//
this.comboBox1.Font = new System.Drawing.Font("Century Gothic", 9F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.comboBox1.FormattingEnabled = true;
this.comboBox1.Items.AddRange(new object[] {
"Admin",
"Student"});
this.comboBox1.Location = new System.Drawing.Point(876, 340);
this.comboBox1.Margin = new System.Windows.Forms.Padding(4);
```

```
this.comboBox1.Name = "comboBox1";
this.comboBox1.Size = new System.Drawing.Size(272, 28);
this.comboBox1.TabIndex = 12;
this.comboBox1.SelectedIndexChanged += new
System.EventHandler(this.comboBox1_SelectedIndexChanged);
//
// textBox5
//
this.textBox5.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.textBox5.Location = new System.Drawing.Point(878, 385);
this.textBox5.Margin = new System.Windows.Forms.Padding(4);
this.textBox5.Name = "textBox5";
this.textBox5.Size = new System.Drawing.Size(271, 26);
this.textBox5.TabIndex = 33;
//
// label9
//
this.label9.AutoSize = true;
this.label9.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label9.Location = new System.Drawing.Point(713, 388);
this.label9.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label9.Name = "label9";
this.label9.Size = new System.Drawing.Size(134, 20);
this.label9.TabIndex = 30;
this.label9.Text = "Registration Date";
//
// pictureBox1
//
this.pictureBox1.Image = ((System.Drawing.Image)(resources.GetObject("pictureBox1.Image")));
this.pictureBox1.Location = new System.Drawing.Point(12, 2);
this.pictureBox1.Name = "pictureBox1";
this.pictureBox1.Size = new System.Drawing.Size(702, 655);
this.pictureBox1.SizeMode = System.Windows.Forms.PictureBoxSizeMode.StretchImage;
this.pictureBox1.TabIndex = 35;
this.pictureBox1.TabStop = false;
```

```

//  

// linkLabel1  

//  

this.linkLabel1.AutoSize = true;  

this.linkLabel1.Font = new System.Drawing.Font("Century Gothic", 7.8F,  

System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));  

this.linkLabel1.Location = new System.Drawing.Point(918, 584);  

this.linkLabel1.Name = "linkLabel1";  

this.linkLabel1.Size = new System.Drawing.Size(196, 19);  

this.linkLabel1.TabIndex = 36;  

this.linkLabel1.TabStop = true;  

this.linkLabel1.Text = "Already registered yourself?";  

this.linkLabel1.LinkClicked += new  

System.Windows.Forms.LinkLabelLinkClickedEventHandler(this.linkLabel1_LinkClicked);  

//  

// label8  

//  

this.label8.AutoSize = true;  

this.label8.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,  

System.Drawing.GraphicsUnit.Point, ((byte)(0)));  

this.label8.Location = new System.Drawing.Point(766, 480);  

this.label8.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);  

this.label8.Name = "label8";  

this.label8.Size = new System.Drawing.Size(97, 20);  

this.label8.TabIndex = 38;  

this.label8.Text = "Department";  

this.label8.Visible = false;  

this.label8.Click += new System.EventHandler(this.label8_Click);  

//  

// label7  

//  

this.label7.AutoSize = true;  

this.label7.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,  

System.Drawing.GraphicsUnit.Point, ((byte)(0)));  

this.label7.Location = new System.Drawing.Point(769, 433);  

this.label7.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);  

this.label7.Name = "label7";

```

```
this.label7.Size = new System.Drawing.Size(84, 20);
this.label7.TabIndex = 40;
this.label7.Text = "Student ID";
this.label7.Visible = false;
//
// textBox7
//
this.textBox7.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.textBox7.Location = new System.Drawing.Point(878, 430);
this.textBox7.Margin = new System.Windows.Forms.Padding(4);
this.textBox7.Name = "textBox7";
this.textBox7.Size = new System.Drawing.Size(271, 26);
this.textBox7.TabIndex = 39;
this.textBox7.Visible = false;
//
// textBox6
//
this.textBox6.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.textBox6.Location = new System.Drawing.Point(878, 474);
this.textBox6.Margin = new System.Windows.Forms.Padding(4);
this.textBox6.Name = "textBox6";
this.textBox6.Size = new System.Drawing.Size(271, 26);
this.textBox6.TabIndex = 41;
this.textBox6.Visible = false;
//
// label10
//
this.label10.AutoSize = true;
this.label10.Font = new System.Drawing.Font("Century Gothic", 12F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label10.ForeColor = System.Drawing.Color.Black;
this.label10.Location = new System.Drawing.Point(900, 114);
this.label10.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label10.Name = "label10";
this.label10.Size = new System.Drawing.Size(201, 23);
```

```
this.label10.TabIndex = 43;
this.label10.Text = "Attendance System";
//
// label11
//
this.label11.AutoSize = true;
this.label11.Font = new System.Drawing.Font("Century Gothic", 12F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label11.ForeColor = System.Drawing.Color.Black;
this.label11.Location = new System.Drawing.Point(900, 86);
this.label11.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label11.Name = "label11";
this.label11.Size = new System.Drawing.Size(192, 23);
this.label11.TabIndex = 42;
this.label11.Text = "Facial Recognition";
//
// pictureBox2
//
this.pictureBox2.Image = ((System.Drawing.Image)(resources.GetObject("pictureBox2.Image")));
this.pictureBox2.Location = new System.Drawing.Point(980, 22);
this.pictureBox2.Name = "pictureBox2";
this.pictureBox2.Size = new System.Drawing.Size(43, 37);
this.pictureBox2.SizeMode = System.Windows.Forms.PictureBoxSizeMode.StretchImage;
this.pictureBox2.TabIndex = 44;
this.pictureBox2.TabStop = false;
//
// Register
//
this.AutoScaleDimensions = new System.Drawing.SizeF(8F, 16F);
this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
this.BackColor = System.Drawing.Color.White;
this.ClientSize = new System.Drawing.Size(1205, 659);
this.Controls.Add(this.pictureBox2);
this.Controls.Add(this.label10);
this.Controls.Add(this.label11);
this.Controls.Add(this.textBox6);
this.Controls.Add(this.label17);
```

```

        this.Controls.Add(this.textBox7);
        this.Controls.Add(this.label8);
        this.Controls.Add(this.linkLabel1);
        this.Controls.Add(this.pictureBox1);
        this.Controls.Add(this.textBox5);
        this.Controls.Add(this.label9);
        this.Controls.Add(this.comboBox1);
        this.Controls.Add(this.label6);
        this.Controls.Add(this.button1);
        this.Controls.Add(this.textBox4);
        this.Controls.Add(this.textBox3);
        this.Controls.Add(this.textBox2);
        this.Controls.Add(this.textBox1);
        this.Controls.Add(this.label5);
        this.Controls.Add(this.label14);
        this.Controls.Add(this.label13);
        this.Controls.Add(this.label12);
        this.Controls.Add(this.label11);
        this.FormBorderStyle = System.Windows.Forms.FormBorderStyle.None;
        this.Margin = new System.Windows.Forms.Padding(4);
        this.Name = "Register";
        this.StartPosition = System.Windows.Forms.FormStartPosition.CenterScreen;
        this.Text = "Register";
        this.Load += new System.EventHandler(this.Register_Load);
        ((System.ComponentModel.ISupportInitialize)(this.pictureBox1)).EndInit();
        ((System.ComponentModel.ISupportInitialize)(this.pictureBox2)).EndInit();
        this.ResumeLayout(false);
        this.PerformLayout();
    }

#endif

private System.Windows.Forms.Label label1;
private System.Windows.Forms.Label label2;
private System.Windows.Forms.Label label3;
private System.Windows.Forms.Label label4;

```

```

private System.Windows.Forms.Label label5;
private System.Windows.Forms.TextBox textBox1;
private System.Windows.Forms.TextBox textBox2;
private System.Windows.Forms.TextBox textBox3;
private System.Windows.Forms.TextBox textBox4;
private System.Windows.Forms.Button button1;
private System.Windows.Forms.Label label6;
private System.Windows.Forms.ComboBox comboBox1;
private System.Windows.Forms.TextBox textBox5;
private System.Windows.Forms.Label label9;
private System.Windows.Forms.PictureBox pictureBox1;
private System.Windows.Forms.LinkLabel linkLabel1;
private System.Windows.Forms.Label label8;
private System.Windows.Forms.Label label7;
private System.Windows.Forms.TextBox textBox7;
private System.Windows.Forms.TextBox textBox6;
private System.Windows.Forms.Label label10;
private System.Windows.Forms.Label label11;
private System.Windows.Forms.PictureBox pictureBox2;
}

}

```

### **MainForm.cs:**

```

using System;
using System.Collections.Generic;
using System.Drawing;
using System.Windows.Forms;
using Emgu.CV;
using Emgu.CV.Structure;
using Emgu.CV.CvEnum;
using System.IO;
using System.Diagnostics;
using System.Data.SqlClient;
namespace MultiFaceRec
{
    public partial class FrmPrincipal : Form
    {

```

```

Image<Bgr, Byte> currentFrame;
Capture grabber;
HaarCascade face;
string finalname;
HaarCascade eye;
MCvFont font = new MCvFont(FONT.CV_FONT_HERSHEY_TRIPLEX, 0.5d, 0.5d);
Image<Gray, byte> result, TrainedFace = null;
Image<Gray, byte> gray = null;
List<Image<Gray, byte>> trainingImages = new List<Image<Gray, byte>>();
List<string> labels= new List<string>();
List<string> NamePersons = new List<string>();
int ContTrain, NumLabels, t;
string name, names = null;
SqlConnection con;

public FrmPrincipal()
{
    InitializeComponent();
    string constr = global::MultiFaceRec.Properties.Settings.Default.MyDbConnectionString;
    con = new SqlConnection(constr);
    face = new HaarCascade("haarcascade_frontalface_default.xml");
    try
    {
        string Labelsinfo = File.ReadAllText(Application.StartupPath + "/TrainedFaces/TrainedLabels.txt");
        string[] Labels = Labelsinfo.Split('%');
        NumLabels = Convert.ToInt16(Labels[0]);
        ContTrain = NumLabels;
        string LoadFaces;

        for (int tf = 1; tf < NumLabels+1; tf++)
        {
            LoadFaces = "face" + tf + ".bmp";
            trainingImages.Add(new Image<Gray, byte>(Application.StartupPath + "/TrainedFaces/" +
LoadFaces));
            labels.Add(Labels[tf]);
        }
    }
}

```

```

        }

        catch(Exception e)
        {

            MessageBox.Show("Nothing in binary database, please add at least a face(Simply train the prototype with
the Add Face Button).", "Trained faces load", MessageBoxButtons.OK, MessageBoxIcon.Exclamation);

        }

    }

private void button1_Click(object sender, EventArgs e)
{
    grabber = new Capture();
    grabber.QueryFrame();

    Application.Idle += new EventHandler(FrameGrabber);
    button1.Enabled = false;
}

private void button2_Click(object sender, System.EventArgs e)
{
    try
    {

        ContTrain = ContTrain + 1;

        gray = grabber.QueryGrayFrame().Resize(320, 240, Emgu.CV.CvEnum.INTER.CV_INTER_CUBIC);

        MCvAvgComp[][] facesDetected = gray.DetectHaarCascade(
face,
1.2,

```

```

10,
Emgu.CV.CvEnum.HAAR_DETECTION_TYPE.DO_CANNY_PRUNING,
new Size(20, 20));

foreach (MCvAvgComp f in facesDetected[0])
{
    TrainedFace = currentFrame.Copy(f.rect).Convert<Gray, byte>();
    break;
}

TrainedFace = result.Resize(100, 100, Emgu.CV.CvEnum.INTER.CV_INTER_CUBIC);
trainingImages.Add(TrainedFace);
labels.Add(comboBox1.SelectedItem.ToString());

imageBox1.Image = TrainedFace;

File.WriteAllText(Application.StartupPath + "/TrainedFaces/TrainedLabels.txt",
trainingImages.ToArray().Length.ToString() + "%");

for (int i = 1; i < trainingImages.ToArray().Length + 1; i++)
{
    trainingImages.ToArray()[i - 1].Save(Application.StartupPath + "/TrainedFaces/face" + i + ".bmp");
    File.AppendAllText(Application.StartupPath + "/TrainedFaces/TrainedLabels.txt", labels.ToArray()[i -
1] + "%");
}

MessageBox.Show(comboBox1.SelectedItem.ToString() + " face detected and added :)", "Training
OK", MessageBoxButtons.OK, MessageBoxIcon.Information);

}
catch
{
    MessageBox.Show("Enable the face detection first", "Training Fail", MessageBoxButtons.OK,

```

```

    MessageBoxIcon.Exclamation);
}

}

void FrameGrabber(object sender, EventArgs e)
{
    label3.Text = "0";

    NamePersons.Add("");
}

currentFrame = grabber.QueryFrame().Resize(320, 240, Emgu.CV.CvEnum.INTER.CV_INTER_CUBIC);

gray = currentFrame.Convert<Gray, Byte>();

MCvAvgComp[][] facesDetected = gray.DetectHaarCascade(
    face,
    1.2,
    10,
    Emgu.CV.CvEnum.HAAR_DETECTION_TYPE.DO_CANNY_PRUNING,
    new Size(20, 20));

foreach (MCvAvgComp f in facesDetected[0])
{
    t = t + 1;
    result = currentFrame.Copy(f.rect).Convert<Gray, byte>().Resize(100, 100,
        Emgu.CV.CvEnum.INTER.CV_INTER_CUBIC);

    currentFrame.Draw(f.rect, new Bgr(Color.Red), 2);

    if (trainingImages.ToArray().Length != 0)

```

```

{

MCvTermCriteria termCrit = new MCvTermCriteria(ContTrain, 0.001);

EigenObjectRecognizer recognizer = new EigenObjectRecognizer(
    trainingImages.ToArray(),
    labels.ToArray(),
    3000,
    ref termCrit);

name = recognizer.Recognize(result);

finalname = name;

currentFrame.Draw(name, ref font, new Point(f.rect.X - 2, f.rect.Y - 2), new Bgr(Color.LightGreen));

}

NamePersons[t-1] = name;
NamePersons.Add("");


label3.Text = facesDetected[0].Length.ToString();

}

t = 0;

for (int nnn = 0; nnn < facesDetected[0].Length; nnn++)
{
    names = names + NamePersons[nnn] + ", ";
}

```

```

        pictureBox1.Image = currentFrame;
        label4.Text = names;
        names = "";
        NamePersons.Clear();

    }

private void button4_Click(object sender, EventArgs e)
{
    textBox2.Text = finalname;
    textBox3.Text = DateTime.Now.ToShortDateString();
    textBox4.Text = DateTime.Now.ToShortTimeString();
}

private void pictureBox1_Click(object sender, EventArgs e)
{

}

private void FrmPrincipal_Load(object sender, EventArgs e)
{
    string a = "1";
    string querry = "select user_name from Register_User where Registered='"+a+"'";
    SqlCommand cmd = new SqlCommand(querry, con);
    con.Open();
    SqlDataReader dr = cmd.ExecuteReader();
    while (dr.Read())
    {
        comboBox1.Items.Add(dr["user_name"].ToString());
    }
    dr.Close();
    con.Close();
}

```

```

private void button3_Click(object sender, EventArgs e)
{
    string querry = "insert into AttendanceUser(u_name,u_date,u_time)values((select Id from Register_User
where user_name='" + textBox2.Text + "','" + textBox3.Text + "','" + textBox4.Text + "');

    SqlCommand cmd = new SqlCommand(querry, con);
    con.Open();
    int aa = cmd.ExecuteNonQuery();
    if (aa != 0)
    {
        MessageBox.Show("Attendance Marked");
    }
    else
    {
        MessageBox.Show("Error");
    }
    con.Close();
}

private void linkLabel1_LinkClicked(object sender, LinkLabelLinkClickedEventArgs e)
{
    this.Hide();
    Register l = new Register();
    l.Show();
}

private void linkLabel2_LinkClicked(object sender, LinkLabelLinkClickedEventArgs e)
{
    this.Hide();
    Login l = new Login();
    l.Show();
}

private void button5_Click(object sender, EventArgs e)
{

```

```
        this.Close();  
  
    }  
  
}  
}
```

### MainForm Designer.cs:

```
namespace MultiFaceRec  
{  
    partial class FrmPrincipal  
    {  
        /// <summary>  
        /// Variable del diseñador requerida.  
        /// </summary>  
        private System.ComponentModel.IContainer components = null;  
  
        /// <summary>  
        /// Limpiar los recursos que se estén utilizando.  
        /// </summary>  
        /// <param name="disposing">true si los recursos administrados se deben eliminar; false en caso contrario,  
        false.</param>  
        protected override void Dispose(bool disposing)  
        {  
            if (disposing && (components != null))  
            {  
                components.Dispose();  
            }  
            base.Dispose(disposing);  
        }  
  
        #region Código generado por el Diseñador de Windows Forms  
  
        /// <summary>  
        /// Método necesario para admitir el Diseñador. No se puede modificar  
        /// el contenido del método con el editor de código.  
        /// </summary>
```

```
private void InitializeComponent()
{
    this.components = new System.ComponentModel.Container();
    System.ComponentModel.ComponentResourceManager resources = new
System.ComponentModel.ComponentResourceManager(typeof(FrmPrincipal));
    this.button2 = new System.Windows.Forms.Button();
    this.groupBox1 = new System.Windows.Forms.GroupBox();
    this.comboBox1 = new System.Windows.Forms.ComboBox();
    this.label1 = new System.Windows.Forms.Label();
    this.imageBox1 = new Emgu.CV.UI.ImageBox();
    this.groupBox2 = new System.Windows.Forms.GroupBox();
    this.label5 = new System.Windows.Forms.Label();
    this.label4 = new System.Windows.Forms.Label();
    this.label3 = new System.Windows.Forms.Label();
    this.label2 = new System.Windows.Forms.Label();
    this.button1 = new System.Windows.Forms.Button();
    this.imageBoxFrameGrabber = new Emgu.CV.UI.ImageBox();
    this.textBox2 = new System.Windows.Forms.TextBox();
    this.textBox3 = new System.Windows.Forms.TextBox();
    this.label6 = new System.Windows.Forms.Label();
    this.label7 = new System.Windows.Forms.Label();
    this.button3 = new System.Windows.Forms.Button();
    this.label8 = new System.Windows.Forms.Label();
    this.textBox4 = new System.Windows.Forms.TextBox();
    this.button4 = new System.Windows.Forms.Button();
    this.linkLabel1 = new System.Windows.Forms.LinkLabel();
    this.label9 = new System.Windows.Forms.Label();
    this.pictureBox1 = new System.Windows.Forms.PictureBox();
    this.pictureBox2 = new System.Windows.Forms.PictureBox();
    this.linkLabel2 = new System.Windows.Forms.LinkLabel();
    this.label10 = new System.Windows.Forms.Label();
    this.button5 = new System.Windows.Forms.Button();
    this.groupBox1.SuspendLayout();
    ((System.ComponentModel.ISupportInitialize)(this.imageBox1)).BeginInit();
    this.groupBox2.SuspendLayout();
    ((System.ComponentModel.ISupportInitialize)(this.imageBoxFrameGrabber)).BeginInit();
    ((System.ComponentModel.ISupportInitialize)(this.pictureBox1)).BeginInit();
    
```

```
((System.ComponentModel.ISupportInitialize)(this.pictureBox2)).BeginInit();
this.SuspendLayout();
//
// button2
//
this.button2.FlatStyle = System.Windows.Forms.FlatStyle.System;
this.button2.Location = new System.Drawing.Point(82, 390);
this.button2.Margin = new System.Windows.Forms.Padding(4);
this.button2.Name = "button2";
this.button2.Size = new System.Drawing.Size(155, 40);
this.button2.TabIndex = 3;
this.button2.Text = "Input Your Face";
this.button2.UseVisualStyleBackColor = true;
this.button2.Click += new System.EventHandler(this.button2_Click);
//
// groupBox1
//
this.groupBox1.Controls.Add(this.comboBox1);
this.groupBox1.Controls.Add(this.label1);
this.groupBox1.Controls.Add(this.button2);
this.groupBox1.Controls.Add(this.imageView1);
this.groupBox1.Location = new System.Drawing.Point(51, 169);
this.groupBox1.Margin = new System.Windows.Forms.Padding(4);
this.groupBox1.Name = "groupBox1";
this.groupBox1.Padding = new System.Windows.Forms.Padding(4);
this.groupBox1.Size = new System.Drawing.Size(254, 472);
this.groupBox1.TabIndex = 8;
this.groupBox1.TabStop = false;
this.groupBox1.Text = "Training: ";
//
// comboBox1
//
this.comboBox1.FormattingEnabled = true;
this.comboBox1.Location = new System.Drawing.Point(82, 350);
this.comboBox1.Margin = new System.Windows.Forms.Padding(4);
this.comboBox1.Name = "comboBox1";
this.comboBox1.Size = new System.Drawing.Size(153, 25);
```

```
this.comboBox1.TabIndex = 9;
//
// label1
//
this.label1.AutoSize = true;
this.label1.Location = new System.Drawing.Point(20, 354);
this.label1.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label1.Name = "label1";
this.label1.Size = new System.Drawing.Size(59, 19);
this.label1.TabIndex = 8;
this.label1.Text = "Name: ";
//
// pictureBox1
//
this.pictureBox1.BorderStyle = System.Windows.Forms.BorderStyle.FixedSingle;
this.pictureBox1.Location = new System.Drawing.Point(18, 93);
this.pictureBox1.Margin = new System.Windows.Forms.Padding(4);
this.pictureBox1.Name = "pictureBox1";
this.pictureBox1.Size = new System.Drawing.Size(217, 174);
this.pictureBox1.TabIndex = 5;
this.pictureBox1.TabStop = false;
//
// groupBox2
//
this.groupBox2.Controls.Add(this.label5);
this.groupBox2.Controls.Add(this.label4);
this.groupBox2.Controls.Add(this.label3);
this.groupBox2.Controls.Add(this.label2);
this.groupBox2.Location = new System.Drawing.Point(991, 490);
this.groupBox2.Margin = new System.Windows.Forms.Padding(4);
this.groupBox2.Name = "groupBox2";
this.groupBox2.Padding = new System.Windows.Forms.Padding(4);
this.groupBox2.Size = new System.Drawing.Size(279, 201);
this.groupBox2.TabIndex = 9;
this.groupBox2.TabStop = false;
this.groupBox2.Text = "Results: ";
//
```

```
// label5
//
this.label5.AutoSize = true;
this.label5.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label5.ForeColor = System.Drawing.Color.Black;
this.label5.Location = new System.Drawing.Point(12, 30);
this.label5.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label5.Name = "label5";
this.label5.Size = new System.Drawing.Size(217, 18);
this.label5.TabIndex = 17;
this.label5.Text = "Persons present in the scene:";
//
// label4
//
this.label4.AutoSize = true;
this.label4.Font = new System.Drawing.Font("Century Gothic", 12F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label4.ForeColor = System.Drawing.Color.Blue;
this.label4.Location = new System.Drawing.Point(12, 69);
this.label4.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label4.Name = "label4";
this.label4.Size = new System.Drawing.Size(89, 23);
this.label4.TabIndex = 16;
this.label4.Text = "Nobody";
//
// label3
//
this.label3.AutoSize = true;
this.label3.Font = new System.Drawing.Font("Microsoft Sans Serif", 9.75F,
System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label3.ForeColor = System.Drawing.Color.Red;
this.label3.Location = new System.Drawing.Point(217, 163);
this.label3.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label3.Name = "label3";
this.label3.Size = new System.Drawing.Size(19, 20);
this.label3.TabIndex = 15;
```

```
this.label3.Text = "0";
this.label3.Visible = false;
//
// label2
//
this.label2.AutoSize = true;
this.label2.Font = new System.Drawing.Font("Century Gothic", 9F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label2.Location = new System.Drawing.Point(13, 120);
this.label2.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label2.Name = "label2";
this.label2.Size = new System.Drawing.Size(209, 18);
this.label2.TabIndex = 14;
this.label2.Text = "Number of faces detected: ";
this.label2.Visible = false;
//
// button1
//
this.button1.BackColor = System.Drawing.SystemColors.Info;
this.button1.FlatStyle = System.Windows.Forms.FlatStyle.System;
this.button1.Location = new System.Drawing.Point(565, 169);
this.button1.Margin = new System.Windows.Forms.Padding(4);
this.button1.Name = "button1";
this.button1.Size = new System.Drawing.Size(229, 69);
this.button1.TabIndex = 2;
this.button1.Text = "Open Camera";
this.button1.UseVisualStyleBackColor = false;
this.button1.Click += new System.EventHandler(this.button1_Click);
//
// pictureBox1
//
this.pictureBox1.BorderStyle = System.Windows.Forms.BorderStyle.FixedSingle;
this.pictureBox1.Location = new System.Drawing.Point(13, 273);
this.pictureBox1.Margin = new System.Windows.Forms.Padding(4);
this.pictureBox1.Name = "pictureBox1";
this.pictureBox1.Size = new System.Drawing.Size(553, 318);
this.pictureBox1.TabIndex = 4;
```

```
this.pictureBoxFrameGrabber.TabStop = false;
this.pictureBoxFrameGrabber.Click += new System.EventHandler(this.pictureBoxFrameGrabber_Click);
//
// textBox2
//
this.textBox2.BackColor = System.Drawing.Color.WhiteSmoke;
this.textBox2.Location = new System.Drawing.Point(1054, 262);
this.textBox2.Margin = new System.Windows.Forms.Padding(4);
this.textBox2.Name = "textBox2";
this.textBox2.Size = new System.Drawing.Size(216, 23);
this.textBox2.TabIndex = 11;
//
// textBox3
//
this.textBox3.BackColor = System.Drawing.Color.WhiteSmoke;
this.textBox3.Location = new System.Drawing.Point(1054, 313);
this.textBox3.Margin = new System.Windows.Forms.Padding(4);
this.textBox3.Name = "textBox3";
this.textBox3.Size = new System.Drawing.Size(216, 23);
this.textBox3.TabIndex = 12;
//
// label6
//
this.label6.AutoSize = true;
this.label6.Location = new System.Drawing.Point(1000, 266);
this.label6.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label6.Name = "label6";
this.label6.Size = new System.Drawing.Size(51, 19);
this.label6.TabIndex = 13;
this.label6.Text = "Name";
//
// label7
//
this.label7.AutoSize = true;
this.label7.Location = new System.Drawing.Point(1004, 313);
this.label7.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label7.Name = "label7";
```

```
this.label7.Size = new System.Drawing.Size(43, 19);
this.label7.TabIndex = 14;
this.label7.Text = "Date";
//
// button3
//
this.button3.Location = new System.Drawing.Point(1087, 400);
this.button3.Margin = new System.Windows.Forms.Padding(4);
this.button3.Name = "button3";
this.button3.Size = new System.Drawing.Size(149, 30);
this.button3.TabIndex = 15;
this.button3.Text = "Submit Attendance";
this.button3.UseVisualStyleBackColor = true;
this.button3.Click += new System.EventHandler(this.button3_Click);
//
// label8
//
this.label8.AutoSize = true;
this.label8.Location = new System.Drawing.Point(1004, 362);
this.label8.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label8.Name = "label8";
this.label8.Size = new System.Drawing.Size(39, 19);
this.label8.TabIndex = 17;
this.label8.Text = "Time";
//
// textBox4
//
this.textBox4.BackColor = System.Drawing.Color.WhiteSmoke;
this.textBox4.Location = new System.Drawing.Point(1054, 359);
this.textBox4.Margin = new System.Windows.Forms.Padding(4);
this.textBox4.Name = "textBox4";
this.textBox4.Size = new System.Drawing.Size(216, 23);
this.textBox4.TabIndex = 16;
//
// button4
//
this.button4.BackColor = System.Drawing.SystemColors.ButtonFace;
```

```
this.button4.Location = new System.Drawing.Point(448, 588);
this.button4.Margin = new System.Windows.Forms.Padding(4);
this.button4.Name = "button4";
this.button4.Size = new System.Drawing.Size(162, 40);
this.button4.TabIndex = 18;
this.button4.Text = "Confirm ";
this.button4.UseVisualStyleBackColor = false;
this.button4.Click += new System.EventHandler(this.button4_Click);
// 
// linkLabel1
// 
this.linkLabel1.AutoSize = true;
this.linkLabel1.Font = new System.Drawing.Font("Century Gothic", 10.2F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.linkLabel1.ForeColor = System.Drawing.SystemColors.Highlight;
this.linkLabel1.Location = new System.Drawing.Point(1111, 27);
this.linkLabel1.Name = "linkLabel1";
this.linkLabel1.Size = new System.Drawing.Size(186, 21);
this.linkLabel1.TabIndex = 20;
this.linkLabel1.TabStop = true;
this.linkLabel1.Text = "Haven\t you Sign Up?";
this.linkLabel1.LinkClicked += new
System.Windows.Forms.LinkLabelLinkClickedEventHandler(this.linkLabel1_LinkClicked);
// 
// label9
// 
this.label9.AutoSize = true;
this.label9.Font = new System.Drawing.Font("Century Gothic", 12F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label9.Location = new System.Drawing.Point(1059, 213);
this.label9.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label9.Name = "label9";
this.label9.Size = new System.Drawing.Size(213, 23);
this.label9.TabIndex = 21;
this.label9.Text = "Student's Information";
// 
// pictureBox1
```

```

//  

this.pictureBox1.Image = ((System.Drawing.Image)(resources.GetObject("pictureBox1.Image")));  

this.pictureBox1.Location = new System.Drawing.Point(579, 189);  

this.pictureBox1.Name = "pictureBox1";  

this.pictureBox1.Size = new System.Drawing.Size(31, 28);  

this.pictureBox1.SizeMode = System.Windows.Forms.PictureBoxSizeMode.StretchImage;  

this.pictureBox1.TabIndex = 22;  

this.pictureBox1.TabStop = false;  

//  

// pictureBox2  

//  

this.pictureBox2.Image = ((System.Drawing.Image)(resources.GetObject("pictureBox2.Image")));  

this.pictureBox2.Location = new System.Drawing.Point(427, 56);  

this.pictureBox2.Name = "pictureBox2";  

this.pictureBox2.Size = new System.Drawing.Size(89, 70);  

this.pictureBox2.SizeMode = System.Windows.Forms.PictureBoxSizeMode.StretchImage;  

this.pictureBox2.TabIndex = 23;  

this.pictureBox2.TabStop = false;  

//  

// linkLabel2  

//  

this.linkLabel2.AutoSize = true;  

this.linkLabel2.Font = new System.Drawing.Font("Century Gothic", 10.2F,  

System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));  

this.linkLabel2.ForeColor = System.Drawing.SystemColors.Highlight;  

this.linkLabel2.Location = new System.Drawing.Point(12, 27);  

this.linkLabel2.Name = "linkLabel2";  

this.linkLabel2.Size = new System.Drawing.Size(219, 21);  

this.linkLabel2.TabIndex = 24;  

this.linkLabel2.TabStop = true;  

this.linkLabel2.Text = "Want to Login as Admin?";  

this.linkLabel2.LinkClicked += new  

System.Windows.Forms.LinkLabelLinkClickedEventHandler(this.linkLabel2_LinkClicked);  

//  

// label10  

//  

this.label10.AutoSize = true;

```

```
this.label10.Font = new System.Drawing.Font("Century Gothic", 18F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label10.Location = new System.Drawing.Point(533, 69);
this.label10.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label10.Name = "label10";
this.label10.Size = new System.Drawing.Size(409, 37);
this.label10.TabIndex = 25;
this.label10.Text = "Detect And Recognition ";
//
// button5
//
this.button5.BackColor = System.Drawing.SystemColors.ButtonFace;
this.button5.Location = new System.Drawing.Point(726, 588);
this.button5.Margin = new System.Windows.Forms.Padding(4);
this.button5.Name = "button5";
this.button5.Size = new System.Drawing.Size(162, 40);
this.button5.TabIndex = 26;
this.button5.Text = "Exit";
this.button5.UseVisualStyleBackColor = false;
this.button5.Click += new System.EventHandler(this.button5_Click);
//
// FrmPrincipal
//
this.AutoScaleDimensions = new System.Drawing.SizeF(8F, 17F);
this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
this.BackColor = System.Drawing.SystemColors.ButtonFace;
this.ClientSize = new System.Drawing.Size(1322, 721);
this.Controls.Add(this.button5);
this.Controls.Add(this.label10);
this.Controls.Add(this.linkLabel2);
this.Controls.Add(this.pictureBox2);
this.Controls.Add(this.pictureBox1);
this.Controls.Add(this.label19);
this.Controls.Add(this.linkLabel1);
this.Controls.Add(this.button4);
this.Controls.Add(this.label8);
this.Controls.Add(this.textBox4);
```

```

        this.Controls.Add(this.button1);
        this.Controls.Add(this.button3);
        this.Controls.Add(this.label17);
        this.Controls.Add(this.label6);
        this.Controls.Add(this.textBox3);
        this.Controls.Add(this.textBox2);
        this.Controls.Add(this.groupBox2);
        this.Controls.Add(this.groupBox1);
        this.Controls.Add(this.imageBoxFrameGrabber);
        this.Font = new System.Drawing.Font("Century Gothic", 7.8F, System.Drawing.FontStyle.Regular,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
        this.FormBorderStyle = System.Windows.Forms.FormBorderStyle.None;
        this.Margin = new System.Windows.Forms.Padding(4);
        this.Name = "FrmPrincipal";
        this.StartPosition = System.Windows.Forms.FormStartPosition.CenterScreen;
        this.Text = "Face Recognizer";
        this.Load += new System.EventHandler(this.FrmPrincipal_Load);
        this.groupBox1.ResumeLayout(false);
        this.groupBox1.PerformLayout();
        ((System.ComponentModel.ISupportInitialize)(this.imageBox1)).EndInit();
        this.groupBox2.ResumeLayout(false);
        this.groupBox2.PerformLayout();
        ((System.ComponentModel.ISupportInitialize)(this.imageBoxFrameGrabber)).EndInit();
        ((System.ComponentModel.ISupportInitialize)(this.pictureBox1)).EndInit();
        ((System.ComponentModel.ISupportInitialize)(this.pictureBox2)).EndInit();
        this.ResumeLayout(false);
    }

#endregion

private System.Windows.Forms.Button button2;
private Emgu.CV.UI.ImageBox imageBoxFrameGrabber;
private Emgu.CV.UI.ImageBox imageBox1;
private System.Windows.Forms.GroupBox groupBox1;
private System.Windows.Forms.Label label1;

```

```
private System.Windows.Forms.GroupBox groupBox2;
private System.Windows.Forms.Label label5;
private System.Windows.Forms.Label label4;
private System.Windows.Forms.Label label3;
private System.Windows.Forms.Label label2;
private System.Windows.Forms.Button button1;
private System.Windows.Forms.TextBox textBox2;
private System.Windows.Forms.TextBox textBox3;
private System.Windows.Forms.Label label6;
private System.Windows.Forms.Label label7;
private System.Windows.Forms.Button button3;
private System.Windows.Forms.Label label8;
private System.Windows.Forms.TextBox textBox4;
private System.Windows.Forms.Button button4;
private System.Windows.Forms.ComboBox comboBox1;
private System.Windows.Forms.LinkLabel linkLabel1;
private System.Windows.Forms.Label label9;
private System.Windows.Forms.PictureBox pictureBox1;
private System.Windows.Forms.PictureBox pictureBox2;
private System.Windows.Forms.LinkLabel linkLabel2;
private System.Windows.Forms.Label label10;
private System.Windows.Forms.Button button5;
}
}
```

### **MakedRegistered.cs:**

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using System.Data.SqlClient;
```

```
namespace MultiFaceRec
```

```

{
public partial class MakeRegistered : Form
{
    SqlConnection con;
    public MakeRegistered()
    {
        InitializeComponent();
        string constr = global::MultiFaceRec.Properties.Settings.Default.MyDbConnectionString;
        con = new SqlConnection(constr);

    }

    private void MakeRegistered_Load(object sender, EventArgs e)
    {

    }

    private void label2_Click(object sender, EventArgs e)
    {
        string aa = "no";
        string usertype = "Student";
        string query = "SELECT user_name,roll_no,reg_date from Register_User where user_type='" + usertype +
        "'AND Registered='" + aa + "'";
        SqlCommand cmd = new SqlCommand(query, con);
        con.Open();
        SqlDataAdapter da = new SqlDataAdapter(cmd);
        DataTable dt = new DataTable();
        da.Fill(dt);

        BindingSource bs = new BindingSource();
        bs.DataSource = dt;
        dataGridView1.DataSource = bs;
        da.Update(dt);
        con.Close();
    }

    private void label3_Click(object sender, EventArgs e)
}

```

```

{
    string aa = "no";
    string usertype = "Teacher";
    string query = "SELECT user_name,spec,reg_date from Register_User where user_type='" + usertype + "'"
    AND Registered="" + aa + "";
    SqlCommand cmd = new SqlCommand(query, con);
    con.Open();
    SqlDataAdapter da = new SqlDataAdapter(cmd);
    DataTable dt = new DataTable();
    da.Fill(dt);

    BindingSource bs = new BindingSource();
    bs.DataSource = dt;
    dataGridView1.DataSource = bs;
    da.Update(dt);
    con.Close();
}

private void button1_Click(object sender, EventArgs e)
{
    if (dataGridView1.Rows.Count > 1 && dataGridView1.SelectedRows[0].Index != 
    dataGridView1.Rows.Count - 1)
    {
        int aa = 1;
        string querry = "update Register_User set Registered="" + aa + "" where user_name="" +
        dataGridView1.SelectedRows[0].Cells[0].Value.ToString() + "";
        SqlCommand cmd = new SqlCommand(querry, con);
        con.Open();
        cmd.ExecuteNonQuery();
        MessageBox.Show("Verified Registration");

    }
    else
    {
        MessageBox.Show("Please Select row first Or Invalid Data", "Warning");
    }
}

```

```
        con.Close();

    }

private void button2_Click(object sender, EventArgs e)
{
    string query = "SELECT user_name,u_date,u_time from AttendanceUser join Register_User on
AttendanceUser.u_name=Register_User.Id";
    SqlCommand cmd = new SqlCommand(query, con);
    con.Open();
    SqlDataAdapter da = new SqlDataAdapter(cmd);
    DataTable dt = new DataTable();
    da.Fill(dt);

    BindingSource bs = new BindingSource();
    bs.DataSource = dt;
    dataGridView1.DataSource = bs;
    da.Update(dt);
    con.Close();
}

private void dataGridView1_CellContentClick(object sender, DataGridViewCellEventArgs e)
{
}

private void label1_Click(object sender, EventArgs e)
{
}

private void button3_Click(object sender, EventArgs e)
{
    this.Close();
}
```

```

private void.linkLabel2_LinkClicked(object sender, LinkLabelLinkClickedEventArgs e)
{
    this.Hide();
    Login l = new Login();
    l.Show();
}
}
}

```

### **MakedRegistered.Design.cs:**

```

namespace MultiFaceRec
{
    partial class MakeRegistered
    {
        /// <summary>
        /// Required designer variable.
        /// </summary>
        private System.ComponentModel.IContainer components = null;

        /// <summary>
        /// Clean up any resources being used.
        /// </summary>
        /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>
        protected override void Dispose(bool disposing)
        {
            if (disposing && (components != null))
            {
                components.Dispose();
            }
            base.Dispose(disposing);
        }

        #region Windows Form Designer generated code

        /// <summary>
        /// Required method for Designer support - do not modify
        /// the contents of this method with the code editor.
        /// 
```

```
/// </summary>
private void InitializeComponent()
{
    System.ComponentModel.ComponentResourceManager resources = new
System.ComponentModel.ComponentResourceManager(typeof(MakeRegistered));
    this.dataGridView1 = new System.Windows.Forms.DataGridView();
    this.label1 = new System.Windows.Forms.Label();
    this.label2 = new System.Windows.Forms.Label();
    this.label3 = new System.Windows.Forms.Label();
    this.button1 = new System.Windows.Forms.Button();
    this.button2 = new System.Windows.Forms.Button();
    this.pictureBox1 = new System.Windows.Forms.PictureBox();
    this.pictureBox2 = new System.Windows.Forms.PictureBox();
    this.button3 = new System.Windows.Forms.Button();
    this.label4 = new System.Windows.Forms.Label();
    this.pictureBox3 = new System.Windows.Forms.PictureBox();
    this.pictureBox4 = new System.Windows.Forms.PictureBox();
    this.pictureBox5 = new System.Windows.Forms.PictureBox();
    this.pictureBox6 = new System.Windows.Forms.PictureBox();
    this.linkLabel2 = new System.Windows.Forms.LinkLabel();
    ((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).BeginInit();
    ((System.ComponentModel.ISupportInitialize)(this.pictureBox1)).BeginInit();
    ((System.ComponentModel.ISupportInitialize)(this.pictureBox2)).BeginInit();
    ((System.ComponentModel.ISupportInitialize)(this.pictureBox3)).BeginInit();
    ((System.ComponentModel.ISupportInitialize)(this.pictureBox4)).BeginInit();
    ((System.ComponentModel.ISupportInitialize)(this.pictureBox5)).BeginInit();
    ((System.ComponentModel.ISupportInitialize)(this.pictureBox6)).BeginInit();
    this.SuspendLayout();
    //
    // dataGridView1
    //
    this.dataGridView1.ColumnHeadersHeightSizeMode =
System.Windows.Forms.DataGridViewColumnHeadersHeightSizeMode.AutoSize;
    this.dataGridView1.Location = new System.Drawing.Point(392, 145);
    this.dataGridView1.Margin = new System.Windows.Forms.Padding(4);
    this.dataGridView1.Name = "dataGridView1";
    this.dataGridView1.Size = new System.Drawing.Size(510, 374);
```

```
this.dataGridView1.TabIndex = 2;
this.dataGridView1.CellContentClick += new
System.Windows.Forms.DataGridViewCellEventHandler(this.dataGridView1_CellContentClick);
//
// label1
//
this.label1.AutoSize = true;
this.label1.Font = new System.Drawing.Font("Century Gothic", 12F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label1.ForeColor = System.Drawing.Color.Gray;
this.label1.Location = new System.Drawing.Point(556, 108);
this.label1.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label1.Name = "label1";
this.label1.Size = new System.Drawing.Size(215, 23);
this.label1.TabIndex = 3;
this.label1.Text = "Register Students List ";
this.label1.Click += new System.EventHandler(this.label1_Click);
//
// label2
//
this.label2.AutoSize = true;
this.label2.BorderStyle = System.Windows.Forms.BorderStyle.FixedSingle;
this.label2.Font = new System.Drawing.Font("Calibri", 12F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label2.ForeColor = System.Drawing.Color.Black;
this.label2.Location = new System.Drawing.Point(269, 271);
this.label2.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label2.Name = "label2";
this.label2.Size = new System.Drawing.Size(86, 26);
this.label2.TabIndex = 4;
this.label2.Text = "Students";
this.label2.Click += new System.EventHandler(this.label2_Click);
//
// label3
//
this.label3.AutoSize = true;
this.label3.BorderStyle = System.Windows.Forms.BorderStyle.FixedSingle;
```

```
this.label3.Font = new System.Drawing.Font("Calibri", 12F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label3.ForeColor = System.Drawing.Color.Black;
this.label3.Location = new System.Drawing.Point(279, 363);
this.label3.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label3.Name = "label3";
this.label3.Size = new System.Drawing.Size(67, 26);
this.label3.TabIndex = 5;
this.label3.Text = "Admin";
this.label3.Click += new System.EventHandler(this.label3_Click);
// 
// button1
//
this.button1.Location = new System.Drawing.Point(677, 527);
this.button1.Margin = new System.Windows.Forms.Padding(4);
this.button1.Name = "button1";
this.button1.Size = new System.Drawing.Size(186, 50);
this.button1.TabIndex = 6;
this.button1.Text = "Verify Registration";
this.button1.UseVisualStyleBackColor = true;
this.button1.Click += new System.EventHandler(this.button1_Click);
// 
// button2
//
this.button2.Location = new System.Drawing.Point(431, 527);
this.button2.Margin = new System.Windows.Forms.Padding(4);
this.button2.Name = "button2";
this.button2.Size = new System.Drawing.Size(173, 50);
this.button2.TabIndex = 7;
this.button2.Text = "View Attendance";
this.button2.UseVisualStyleBackColor = true;
this.button2.Click += new System.EventHandler(this.button2_Click);
// 
// pictureBox1
//
this.pictureBox1.Image = ((System.Drawing.Image)(resources.GetObject("pictureBox1.Image")));
this.pictureBox1.Location = new System.Drawing.Point(289, 213);
```

```
this.pictureBox1.Name = "pictureBox1";
this.pictureBox1.Size = new System.Drawing.Size(57, 55);
this.pictureBox1.SizeMode = System.Windows.Forms.PictureBoxSizeMode.StretchImage;
this.pictureBox1.TabIndex = 8;
this.pictureBox1.TabStop = false;
//
// pictureBox2
//
this.pictureBox2.Image = ((System.Drawing.Image)(resources.GetObject("pictureBox2.Image")));
this.pictureBox2.Location = new System.Drawing.Point(279, 300);
this.pictureBox2.Name = "pictureBox2";
this.pictureBox2.Size = new System.Drawing.Size(67, 60);
this.pictureBox2.SizeMode = System.Windows.Forms.PictureBoxSizeMode.StretchImage;
this.pictureBox2.TabIndex = 9;
this.pictureBox2.TabStop = false;
//
// button3
//
this.button3.Location = new System.Drawing.Point(578, 585);
this.button3.Margin = new System.Windows.Forms.Padding(4);
this.button3.Name = "button3";
this.button3.Size = new System.Drawing.Size(120, 50);
this.button3.TabIndex = 10;
this.button3.Text = "Exit";
this.button3.UseVisualStyleBackColor = true;
this.button3.Click += new System.EventHandler(this.button3_Click);
//
// label4
//
this.label4.AutoSize = true;
this.label4.BackColor = System.Drawing.SystemColors.ControlLight;
this.label4.Font = new System.Drawing.Font("Century Gothic", 16.2F, System.Drawing.FontStyle.Bold,
System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.label4.ForeColor = System.Drawing.Color.Gray;
this.label4.Location = new System.Drawing.Point(554, 46);
this.label4.Margin = new System.Windows.Forms.Padding(4, 0, 4, 0);
this.label4.Name = "label4";
```

```
this.label4.Size = new System.Drawing.Size(206, 34);
this.label4.TabIndex = 11;
this.label4.Text = "Admin's Portal";
//
// pictureBox3
//
this.pictureBox3.Image = ((System.Drawing.Image)(resources.GetObject("pictureBox3.Image")));
this.pictureBox3.Location = new System.Drawing.Point(441, 543);
this.pictureBox3.Name = "pictureBox3";
this.pictureBox3.Size = new System.Drawing.Size(21, 17);
this.pictureBox3.SizeMode = System.Windows.Forms.PictureBoxSizeMode.StretchImage;
this.pictureBox3.TabIndex = 12;
this.pictureBox3.TabStop = false;
//
// pictureBox4
//
this.pictureBox4.Image = ((System.Drawing.Image)(resources.GetObject("pictureBox4.Image")));
this.pictureBox4.Location = new System.Drawing.Point(686, 543);
this.pictureBox4.Name = "pictureBox4";
this.pictureBox4.Size = new System.Drawing.Size(21, 17);
this.pictureBox4.SizeMode = System.Windows.Forms.PictureBoxSizeMode.StretchImage;
this.pictureBox4.TabIndex = 13;
this.pictureBox4.TabStop = false;
//
// pictureBox5
//
this.pictureBox5.Image = ((System.Drawing.Image)(resources.GetObject("pictureBox5.Image")));
this.pictureBox5.Location = new System.Drawing.Point(592, 603);
this.pictureBox5.Name = "pictureBox5";
this.pictureBox5.Size = new System.Drawing.Size(21, 17);
this.pictureBox5.SizeMode = System.Windows.Forms.PictureBoxSizeMode.StretchImage;
this.pictureBox5.TabIndex = 14;
this.pictureBox5.TabStop = false;
//
// pictureBox6
//
this.pictureBox6.Image = ((System.Drawing.Image)(resources.GetObject("pictureBox6.Image")));
```

```
this.pictureBox6.Location = new System.Drawing.Point(484, 46);
this.pictureBox6.Name = "pictureBox6";
this.pictureBox6.Size = new System.Drawing.Size(63, 50);
this.pictureBox6.SizeMode = System.Windows.Forms.PictureBoxSizeMode.StretchImage;
this.pictureBox6.TabIndex = 15;
this.pictureBox6.TabStop = false;
//
// linkLabel2
//
this.linkLabel2.AutoSize = true;
this.linkLabel2.Font = new System.Drawing.Font("Century Gothic", 10.2F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
this.linkLabel2.ForeColor = System.Drawing.SystemColors.Highlight;
this.linkLabel2.Location = new System.Drawing.Point(1064, 29);
this.linkLabel2.Name = "linkLabel2";
this.linkLabel2.Size = new System.Drawing.Size(231, 21);
this.linkLabel2.TabIndex = 25;
this.linkLabel2.TabStop = true;
this.linkLabel2.Text = "Want to Login as Student?";
this.linkLabel2.LinkClicked += new
System.Windows.Forms.LinkLabelLinkClickedEventHandler(this.linkLabel2_LinkClicked);
//
// MakeRegistered
//
this.AutoScaleDimensions = new System.Drawing.SizeF(8F, 16F);
this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
this.BackColor = System.Drawing.SystemColors.ControlLightLight;
this.ClientSize = new System.Drawing.Size(1322, 685);
this.Controls.Add(this.linkLabel2);
this.Controls.Add(this.pictureBox6);
this.Controls.Add(this.pictureBox5);
this.Controls.Add(this.pictureBox4);
this.Controls.Add(this.pictureBox3);
this.Controls.Add(this.label14);
this.Controls.Add(this.button3);
this.Controls.Add(this.pictureBox2);
this.Controls.Add(this.pictureBox1);
```

```
this.Controls.Add(this.button2);
this.Controls.Add(this.button1);
this.Controls.Add(this.label3);
this.Controls.Add(this.label2);
this.Controls.Add(this.label1);
this.Controls.Add(this.dataGridView1);
this.FormBorderStyle = System.Windows.Forms.FormBorderStyle.FixedToolWindow;
this.Margin = new System.Windows.Forms.Padding(4);
this.Name = "MakeRegistered";
this.StartPosition = System.Windows.Forms.FormStartPosition.CenterScreen;
this.Text = "MakeRegistered";
this.Load += new System.EventHandler(this.MakeRegistered_Load);
((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).EndInit();
((System.ComponentModel.ISupportInitialize)(this.pictureBox1)).EndInit();
((System.ComponentModel.ISupportInitialize)(this.pictureBox2)).EndInit();
((System.ComponentModel.ISupportInitialize)(this.pictureBox3)).EndInit();
((System.ComponentModel.ISupportInitialize)(this.pictureBox4)).EndInit();
((System.ComponentModel.ISupportInitialize)(this.pictureBox5)).EndInit();
((System.ComponentModel.ISupportInitialize)(this.pictureBox6)).EndInit();
this.ResumeLayout(false);
this.PerformLayout();
this.PerformLayout();

}

#endif
```

```
private System.Windows.Forms.DataGridView dataGridView1;
private System.Windows.Forms.Label label1;
private System.Windows.Forms.Label label2;
private System.Windows.Forms.Label label3;
private System.Windows.Forms.Button button1;
private System.Windows.Forms.Button button2;
private System.Windows.Forms.PictureBox pictureBox1;
private System.Windows.Forms.PictureBox pictureBox2;
private System.Windows.Forms.Button button3;
private System.Windows.Forms.Label label4;
private System.Windows.Forms.PictureBox pictureBox3;
```

```

        private System.Windows.Forms.PictureBox pictureBox4;
        private System.Windows.Forms.PictureBox pictureBox5;
        private System.Windows.Forms.PictureBox pictureBox6;
        private System.Windows.Forms.LinkLabel linkLabel2;

    }

}

```

### **Program.cs:**

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Windows.Forms;

namespace MultiFaceRec
{
    static class Program
    {
        /// <summary>

        /// </summary>
        [STAThread]
        static void Main()
        {
            Application.EnableVisualStyles();
            Application.SetCompatibleTextRenderingDefault(false);
            Application.Run(new Login());
        }
    }
}

```

### **App.config:**

```

<?xml version="1.0"?>
<configuration>
    <configSections>
        </configSections>
        <connectionStrings>

```

```
<add name="MultiFaceRec.Properties.Settings.MyDbConnectionString" connectionString="Data  
Source=(LocalDB)\v11.0;AttachDbFilename=|DataDirectory|\MyDb.mdf;Integrated Security=True"  
providerName="System.Data.SqlClient"/>  
</connectionStrings>  
<startup><supportedRuntime version="v2.0.50727" sku="Client"/></startup></configuration>
```

## 6.Project Features

Now, basically we will see all the operations that will be done by our software with the help of diagrams.

**6.1 Login:** Admin can login to the software by using correct username & password which are stored in the database.

**6.2 Enrollment:** Admin will need to provide the necessary information in order to complete the enrollment process. This can be done by filling out the required fields on the enrollment form. Once the information has been entered, the admin will need to click on the submit button. The information that will be asked for includes ID, name, contact details, date, and any other relevant information that may be required.

**6.3 Train System:** The train system includes Add Face, Stop Detection, Close.

**6.4 Report:** This will show the report of all students attendance and much more information easily.

**6.5 Settings:** In this part of the software, there will be some basic settings related to the software.

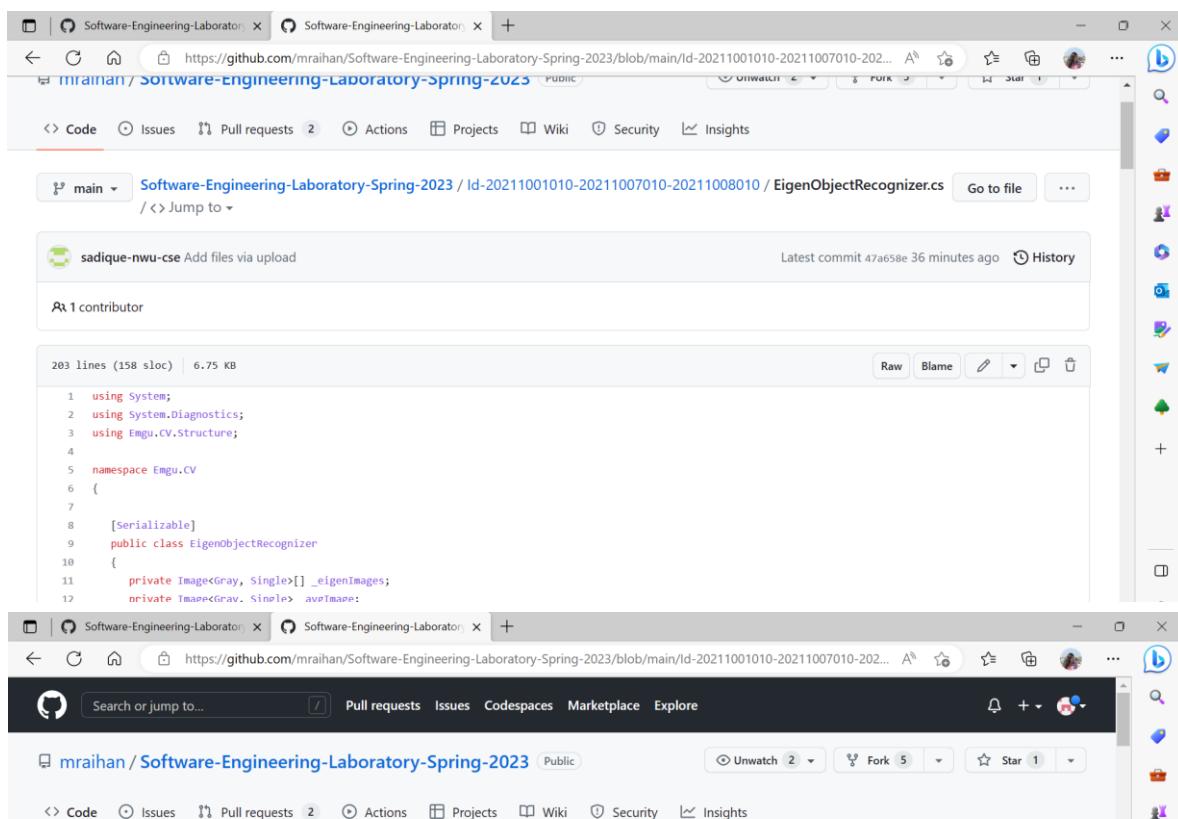
## 7.Target Population

The target audience is teachers and students. Smart attendance system allows students to record their knowledge via phone. This project will provide teachers and students with time-saving opportunities in the lessons. The recorded data is more secure than the traditional methods because the external intervention will be closed. It is enough for the teachers who want to use the system to login to the web application which is a part of the project. When these requirements are met, users will be able to follow their attendance through applications. We are aimed to be used in examinations and lessons in schools, colleges and also university when the project is concluded.

## 8.Social-Economic Benefits

1. Nowadays there are many advantages of face recognition systems such as their convenience and social acceptability. All you need is your picture taken for it to work.
2. Face recognition is easy to use and in any case, it can be performed without a person even knowing.
3. The camera price should go down.
4. This system is convenient.
5. Face recognition is more user-friendly.
6. Can help users to improve our overall safety levels.
7. It is in inexpensive techniques of identification.
8. Social acceptability.
9. Facial recognition may be a good measure to avoid the spread of diseases.
10. It can be used to unlock devices.
11. Machine learning and AI will help to improve and expand facial recognition.
12. Harder to hide from criminals.
13. It May help to identify a fake passport.
14. Can prevent all kinds of fraud.
15. May help to protect important infrastructure.

## 9. GitHub



The screenshot shows two GitHub repository pages side-by-side. Both pages belong to the repository 'mraihan / Software-Engineering-Laboratory-Spring-2023'.

The top page displays the file 'EigenObjectRecognizer.cs' in the 'main' branch. The code is as follows:

```
1 using System;
2 using System.Diagnostics;
3 using Emgu.CV.Structure;
4 
5 namespace Emgu.CV
6 {
7 
8     [Serializable]
9     public class EigenObjectRecognizer
10    {
11         private Image<Gray, Single>[] _eigenImages;
12         private Image<Gray, Single> _average;
```

The bottom page shows the repository's main page, which includes tabs for 'Pull requests', 'Issues', 'Codespaces', 'Marketplace', and 'Explore'. The repository has 2 unwatched, 5 forks, and 1 star.

The screenshot displays four separate GitHub code editor windows arranged horizontally. Each window shows a different file from the repository 'Software-Engineering-Laboratory-Spring-2023'. The tabs at the top of each pane show the file names: 'Login.cs', 'MainForm.Designer.cs', 'MainForm.resx', and 'MakeRegistered.Designer.cs'. The GitHub interface includes a header with navigation links like 'Pull requests', 'Issues', 'Codespaces', 'Marketplace', and 'Explore'. Below the header is a search bar and a sidebar with various icons. The main content area shows the code in a monospaced font, with syntax highlighting for C#.

Software-Engineering-Laboratory-Spring-2023 / Login.cs

```
1  namespace MultiFaceRec
2  {
3      partial class MakeRegistered
4  {
```

The image shows a Microsoft Edge browser window with five tabs open, each displaying a different file from the GitHub repository `mraihan / Software-Engineering-Laboratory-Spring-2023`. The files are:

- `main / MakeRegistered.cs`
- `main / MultiFaceRec.sln`
- `main / MySqlDataSet.Designer.cs`
- `main / MySqlDataSet.cs`
- `main / MySqlDataSet.xsd`

Each tab's content area includes a commit message from `sadique-nwu-cse`, a timestamp, and a "History" link. The GitHub interface at the top of each tab includes standard navigation links like Pull requests, Issues, Actions, Projects, Wiki, Security, and Insights.

The screenshot shows a browser window with five tabs, all displaying the same GitHub repository page. The repository is named 'mraihan/Software-Engineering-Laboratory-Spring-2023' and is marked as 'Public'. The tabs are arranged vertically, and each tab has a different URL, likely representing a different commit or file view. The GitHub interface includes a search bar, navigation links (Pull requests, Issues, Codespaces, Marketplace, Explore), and a sidebar with user icons.

Code

mraihan / Software-Engineering-Laboratory-Spring-2023 Public

Code Issues Pull requests Actions Projects Wiki Security Insights

main / Software-Engineering-Laboratory-Spring-2023 / Id-20211001010-20211007010-20211008010 / app.config

Raw Blame

```
1 <?xml version="1.0"?>
2 <configuration>
3   <configSections>
4   </configSections>
5   <connectionStrings>
```

# 10.Trello

## A F M Fahim Sadique

The screenshot shows a Trello board titled "Software Project". It has three columns: "Things To Do", "Doing", and "Done".

- Things To Do:**
  - Detec And Recognition (AKA Main) Form
  - Admin's Portal (AKA MarkedRegister Page)
  - Design (Login, Register, Detect & Recognition, Admin Portal)
- Doing:**
  - Registration Page
- Done:**
  - Login Page

On the left sidebar, under "Your boards", the "Software Project" board is selected. A purple banner at the bottom left says "Try Premium free".

This screenshot shows the details for a card titled "Detect And Recognition (AKA Main) Form" in the "Doing" list.

**Attachments:**

- MainForm.resx
- MainForm.Designer.cs
- MainForm.cs

**Activity:**

- sadique.nwu.cs Just now MainForm.resx MainForm.Designer.cs MainForm.cs

**Actions:**

- Move
- Copy
- Make template
- Vote

This screenshot shows the details for a card titled "Admin Portal (AKA MarkedRegister)" in the "Doing" list.

**Attachments:**

- MakeRegistered.resx
- MakeRegistered.Designer.cs
- MakeRegistered.cs

**Activity:**

- sadique.nwu.cs Just now MakeRegistered.resx MakeRegistered.Designer.cs MakeRegistered.cs

## Naznin Akter

The screenshot shows a Trello board titled "Software Project". The board has three lists: "Things To Do", "Doing", and "Done". Under "Things To Do", there are cards for "Login Page", "Registration Page", and "Detect And Recognition (AKA Main) Form". The "Doing" list has a card "+ Add a card". The "Done" list has a card "+ Add a card". A button "+ Add another list" is visible.

**Attachments:**

- Login.cs** (cs) - Added 2 minutes ago • [Comment](#) • [Delete](#) • [Edit](#)
- Login.resx** (resx) - Added 2 minutes ago • [Comment](#) • [Delete](#) • [Edit](#)
- Login.Designer.cs** (cs) - Added 2 minutes ago • [Comment](#) • [Delete](#) • [Edit](#)

**Actions:**

- Checklist
- [Delete](#)
- [Move](#)
- [Copy](#)
- [Make template](#)

**Power-Ups:** + Add Power-Ups

**Automation:** + Add button

Add an attachment

## **11. Conclusion**

Thus, the aim of our project is to capture the images of the students, convert it into frames, relate it with the database to ensure their presence or absence, mark attendance to the particular student to maintain the record. The Automated Face Recognition Attendance System helps in increasing the accuracy and speed ultimately achieve the high-precision real time attendance to meet the need for automatic classroom evaluation. The system is designed to minimize the human efforts for taking the attendance manually that take place in every school and college. As the attendance marking process is done without any human interference, which is the main scope in the system.

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