STUDENT ENROLLMENT INFORMATION SYSTEM

A PROJECT REPORT

Submitted by

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60 IT L04 – C# AND .NET FRAMEWORK

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K.S. RANGASAMY COLLEGE OF TECHNOLOGY

(An Autonomous Institution, affiliated to Anna University Chennai and Approved by AICTE, New Delhi)

TIRUCHENGODE – 637 215

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K.S. RANGASAMY COLLEGE OF TECHNOLOGY

(Autonomous Institution)

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BONAFIDE CERTIFICATE

Certified that this is the Bonafide record of work done by **MATHAN M (73772226133) , GOWRINATH V (73772226115)** of the Fifth Semester B.Tech Artificial Intelligence and Data Science branch during the academic year 2024-2025 in **60 IT L04 - C# AND .NET FRAMEWORK** project report .

Staff in-charge

Submitted for the project report on .....

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ABSTRACT

The system is designed to allow administrators and staff to efficiently manage student enrollment operations through basic CRUD (Create, Read, Update, Delete) functionalities. This ensures streamlined handling of student records, enrollment processes, program registration, and reporting.

Entities:

1. **Student:**

   This entity stores information about each student.

   Attributes:

   - **ID:** Unique identifier for each student (Primary Key).
   - **First Name:** First name of the student.
   - **Last Name:** Last name of the student.
   - **Address:** Residential address of the student.
   - **Email:** Email address for communication.
   - **Birth Date:** The student's date of birth.
   - **Contact No:** Phone number of the student.
   - **Gender:** Gender of the student (e.g., Male, Female, Other).
   - **Reg. Date (Registration Date):** Date of registration.
   - **Enrolled Program:** The program the student is registered for (Foreign Key to Program entity).
   - **Status:** Indicates if the enrollment is "Pending" or "Published."

2. **Program:**

   This entity represents the available programs for enrollment.

   Attributes:

   - **Program ID:** Unique identifier for each program (Primary Key).
   - **Program Name:** The name of the program (e.g., B.Tech, MBA).
   - **Program Duration:** Duration of the program in months or years.
   - **Program Description:** Description or details of the program.

3. **Status:**

   This entity manages the current enrollment status of a student.

   Attributes:

   - **StatusID:** Unique identifier for each status type (Primary Key).
   - **Status Name:** The name of the status (e.g., Pending, Published).

CRUD Operations:

1. Create Operation:

Add new student details to the system.

Steps:

1. Fill in all fields in the form on the left side of the interface:
    - First Name, Last Name, Address, Email, Birth Date, Contact Number, Gender, Registration Date, and Enroll Program.
    - Select the appropriate Status (Pending or Published).
2. Click the Save button to save the entered details.
3. The system validates the input fields and ensures no duplication or missing information before saving.

2. Read Operation:

View and retrieve student details from the database.

Steps:

1. All student data is displayed in the data grid/table on the right side of the interface.
2. You can sort or filter the records using the Sort dropdown or date selector at the top.
3. Additional details (like statistics) can be viewed by clicking the Std. Stats button.

3. Update Operation:

Modify or edit the details of an existing student.

Steps:

1. Select the student record to edit from the data grid by clicking on the corresponding row.
2. The details of the selected student are populated into the form fields on the left.
3. Modify the necessary fields.
4. Click the Edit button to update the student details in the database.

4. Delete Operation:

Remove a student's details from the database.

Steps:

1. Select the student record to delete from the data grid.
2. Confirm that the correct record is selected.
3. Click the Delete button to permanently remove the record.

Additional Functionalities:

- **Clear Button:** Clears the form fields on the left to allow for new data entry or reset the fields during edits.

- **Cancel Button:** Cancels any unsaved changes and resets the interface to its default state.
- **Load Chart Button:** Optionally displays a graphical representation of data for further insights.

Controllers & Views:

- **Controllers:**

1. **StudentController**:
    - **CreateStudent()**: Add a new student record.
    - **GetAllStudents()**: Retrieve all student data for the grid.
    - **UpdateStudent(id)**: Edit an existing student record.
    - **DeleteStudent(id)**: Remove a student record.
    - **LoadStatistics()**: Fetch data for enrollment stats.

2. **ProgramController:**
    GetPrograms(): Load program options for the dropdown.

3. **GenderController:**
    GetGenders(): Load gender options for the dropdown.

- **Views:**

1. **Main View (Form1):**
    - Inputs: First Name, Last Name, Email, Address, Birth Date, Gender, etc.
    - Buttons: Save, Edit, Delete, Clear, Load Chart.
    - Data Grid: Display student records.

2. **Edit View:**
    Pre-filled form for updating student details.

3. **Statistics View:**
    Visual data (charts/tables) for enrollment stats.

4. **Confirmation Dialog**
    Confirms deletion of a student record.

Database Connectivity (MS SQL):

1. **Connection Details:**

- **Connection String:** The application uses a connection string to connect to the SQL Server, specifying the server name, database name, authentication type, username, and password.
- **Provider:** Likely uses ADO.NET or Entity Framework for connectivity and data manipulation.

2. **Code Implementation:**

- **Data Binding:** Fetches data from the database and binds it to UI elements like text boxes, dropdowns, and grids**.**
- **SQL Queries/Stored Procedures:** Executes SQL queries or stored procedures for CRUD operations.
- **Error Handling:** Manages connection and query errors to ensure smooth operation.

Authentication:

1. ASP.NET Identity:

Provides a secure and efficient mechanism for authenticating users, ensuring proper access control and data security.

2. Features:

- **User Registration & Login**: Enables users (admin or staff) to securely register and log in to the system.
- **Role-Based Authentication**: Defines different roles such as Admin and Staff with specific permissions:
  - **Admin**:
    - Can manage student records (add, edit, delete).
    - Can view and generate reports (e.g., student statistics, enrollment data).
    - Has access to system-wide settings and configurations.
  - **Staff**:
    - Can add and edit student records but may not have delete access.
    - Can view student enrollment data and status.
    - Limited access to reports and statistics.

3. Login Form:

- **Username and Password**: Users input their credentials (username, password) to gain access.
- **Session Management**: After successful login, the system generates a session or token to maintain user authentication throughout the session.

4. Database Integration:

- **User Table**: Stores user details including usernames, password hashes, and roles.
  Example: Users table with fields UserID, Username, PasswordHash, Role.
- **Password Hashing**: The system uses a hashing algorithm (e.g., SHA256 or bcrypt) to securely store passwords.

5. Access Control:

- **Role-Based Access Control (RBAC)**: Admins have full access to all system features, while staff members are restricted based on their defined roles.

OBJECTIVES

The **Student Enrollment Information System** aims to streamline and automate the process of managing student enrollment data for educational institutions. The primary objective of this project is to provide a user-friendly interface that allows administrators and staff to easily manage student information, including personal details, enrollment programs, contact information, and status updates. The system is designed to ensure efficiency by enabling seamless CRUD (Create, Read, Update, Delete) operations on student records, allowing staff to add new students, modify existing information, and track the enrollment status with minimal effort. Furthermore, the system offers filtering and sorting features to quickly access student data, ensuring smooth operations within the institution.

Another key objective is to provide a secure and role-based access control mechanism through **ASP.NET Identity**. The system will feature user authentication for different roles, such as administrators and staff members, each with specific permissions to manage and view the data. Administrators will have full access to all features, including reporting and statistical analysis, while staff members will have restricted access. Additionally, the system will support generating reports and tracking student data trends over time. By leveraging **MS SQL** for database connectivity, the system will ensure data integrity and scalability, providing reliable access to student information for decision-making and reporting.

INTRODUCTION

The **Student Enrollment Information System** is a comprehensive solution designed to automate and simplify the management of student data in educational institutions. The system allows administrators and staff to efficiently manage various aspects of student enrollment, including personal details, program selection, contact information, and enrollment status. By incorporating a user-friendly interface, the system enables seamless CRUD operations, making it easy to add, update, view, and delete student records. It also provides advanced features such as sorting, filtering, and reporting, facilitating the organization and analysis of student data. The system utilizes **ASP.NET Identity** for secure authentication and role-based access control, ensuring that different levels of users, such as administrators and staff, have appropriate access rights. With **MS SQL** for database connectivity, the system ensures reliable data storage, integrity, and scalability, providing an efficient tool for educational institutions to manage student enrollment processes effectively.

FUNDAMENTALS USED

The **Student Enrollment Information System** integrates several key fundamentals to ensure a robust, secure, and user-friendly experience. These include:

1. **Programming Language**: The system is built using **C#**, a powerful and object-oriented programming language, which allows for clear, maintainable code and efficient management of business logic.
2. **Web Development Framework**: **ASP.NET** is employed to create a dynamic web-based application. Its MVC (Model-View-Controller) architecture promotes a clean separation of concerns, enabling better code management and scalability.
3. **Database Management**: The system uses **MS SQL Server** as the backend database to securely store student data. SQL queries are used to handle data operations like insertion, updating, deletion, and retrieval, ensuring efficient data management.
4. **Authentication**: **ASP.NET Identity** is implemented for user authentication, providing a secure mechanism for login, registration, and role-based access control. This ensures that only authorized personnel, such as admins and staff, have access to sensitive data and operations.
5. **User Interface**: The system employs **Windows Forms** for a simple, intuitive user interface (UI), allowing administrators and staff to interact with the system seamlessly. Controls such as text boxes, combo boxes, data grids, and buttons are used to manage and display student information.
6. **CRUD Operations**: The system supports **CRUD (Create, Read, Update, Delete)** operations for managing student records, offering functionalities such as adding new students, editing details, viewing lists, and deleting records when necessary.
7. **Role-Based Authorization**: Different user roles, such as **Admin** and **Staff**, are defined, each with specific permissions to restrict access to certain functionalities and data. This helps maintain security and integrity within the system.

CODE

PROGRAM.CS:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Threading.Tasks;
using System.Windows.Forms;

namespace Coursework
{
   static class Program
   {
      static void Main()
      {
         Application.EnableVisualStyles();
         Application.SetCompatibleTextRenderingDefault(false);
         Application.Run(new Form1());
      }
   }
}
```

STUDENT.CS:

```
using Newtonsoft.Json;
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Coursework
{
   public class Student
   {
      private string _filepath = "student.json";
      public int Id { get; set; }

      public string firstName { get; set; }

      public string lastName { get; set; }
```

```
public string Address { get; set; }

public string Email { get; set; }

public DateTime BirthDate { get; set; }

public string ContactNo { get; set; }

public string Gender { get; set; }

public DateTime RegisterDate { get; set; }

public string Courses { get; set; }

public string Status { get; set; }

public void Add(Student info)
{
   Random r = new Random();
   info.Id = r.Next(100, 999);
   string data = JsonConvert.SerializeObject(info, Formatting.None);
   Utility.WriteToTextFile(_filepath, data);
}

public void Edit(Student info)
{
   List<Student> list = List();
   Student s = list.Where(x => x.Id == info.Id).FirstOrDefault();
   list.Remove(s);
   list.Add(info);
   string data = JsonConvert.SerializeObject(list, Formatting.None);
   Utility.WriteToTextFile(_filepath, data, false);


}
public Student Edit(int id)
{
   Student obj = new Student();
   return obj;
}
public void Delete(int id)
{

}
```

```
public Student Detail(int id)
{
   Student obj = new Student();
   return obj;
}

public List<Student> List()
{
   string d = Utility.ReadFromTextFile(_filepath);
   if (d != null)
   {
      List<Student> lst = JsonConvert.DeserializeObject<List<Student>>(d);
      return lst;
   }
   return null;

}
public List<Student> Sort(List<Student> listStudents, string sortType)
{
   if (sortType == "Name")
   {
      string[] list = new string[listStudents.Count];

      //Adding names of the student to the list
      for (var i = 0; i < listStudents.Count; i++)
      {
         list[i] = listStudents[i].firstName;
      }

      //implementing bubble sort algorithm
      for (int i = list.Length - 1; i > 0; i--)
      {
         for (int j = 0; j <= i - 1; j++)
         {
            //comparing the names from the list with each other
            if (list[j].CompareTo(list[j + 1]) > 0)
            {
               //swapping names if current element is greater than next element
               string name = list[j];
               list[j] = list[j + 1];
               list[j + 1] = name;

               Student nameLists = listStudents[j];
               listStudents[j] = listStudents[j + 1];
```

```
                    listStudents[j + 1] = nameLists;
                }
            }
        }
    }
    else
    {
        DateTime[] list = new DateTime[listStudents.Count];

        //Adding registration dates of the student to the list
        for (var i = 0; i < listStudents.Count; i++)
        {
            list[i] = listStudents[i].RegisterDate;
        }

        //implementing bubble sort algorithm
        for (int i = list.Length - 1; i > 0; i--)
        {
            for (int j = 0; j <= i - 1; j++)
            {
                //comparing the registration dates of students from the list with each other
                if (list[j].CompareTo(list[j + 1]) > 0)
                {
                    //swapping if current element is greater than next element
                    DateTime registerDate = list[j];
                    list[j] = list[j + 1];
                    list[j + 1] = registerDate;

                    //swapping the whole list of student in ascending order according to the student
registration date
                    Student regDateList = listStudents[j];
                    listStudents[j] = listStudents[j + 1];
                    listStudents[j + 1] = regDateList;
                }
            }
        }
    }
    // returns the sorted list
    return listStudents;
}

public DateTime[] FindWeek(DateTime registeredDate)
{
    //creating and initializing an array to store start and end day of the week
```

```
        DateTime[] dayArray = new DateTime[2];
        string[] days = new string[] { "Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday" };

        // converting the registered date to day and getting the index of that day
        int index = Array.IndexOf(days, registeredDate.DayOfWeek.ToString());

        // lowering the index from the registered date to get week start day
        DateTime startDay = registeredDate.AddDays(-index);

        // adding the remaining index to registered date to get the week end day
        int remainingIndex = 6 - index;
        DateTime endDay = registeredDate.AddDays(remainingIndex);

        //add the start and end day to the array
        dayArray[0] = startDay;
        dayArray[1] = endDay;

        //return start and end day of the week
        return dayArray;
    }

    public List<Student> WeeklyStudent(DateTime[] dayArray, List<Student> listStudents)
    {
        // creating and initializing new list to store enrolled students according to the week
        List<Student> weeklyStudents = new List<Student>();

        //iterating each list of student
        for (int j = 0; j < listStudents.Count(); j++)
        {
            //checking whether the registration date is in between week start and end date
            if (listStudents[j].RegisterDate > dayArray[0] && listStudents[j].RegisterDate < dayArray[1])
            {
                // if the student has enroled in that week then add student to the new list
                weeklyStudents.Add(listStudents[j]);
            }
        }
        //return the new list of students
        return weeklyStudents;
    }

}
```

FORM 1:

```
namespace Coursework
{
   partial class Form1
   {
      /// <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);
      }

      private void InitializeComponent()
      {
         this.txtFirstName = new System.Windows.Forms.TextBox();
         this.label1 = new System.Windows.Forms.Label();
         this.label2 = new System.Windows.Forms.Label();
         this.txtLastName = new System.Windows.Forms.TextBox();
         this.label3 = new System.Windows.Forms.Label();
         this.txtAddress = new System.Windows.Forms.TextBox();
         this.txtEmail = new System.Windows.Forms.TextBox();
         this.label4 = new System.Windows.Forms.Label();
         this.label5 = new System.Windows.Forms.Label();
         this.dob = new System.Windows.Forms.DateTimePicker();
         this.label6 = new System.Windows.Forms.Label();
         this.txtContactNo = new System.Windows.Forms.TextBox();
         this.label7 = new System.Windows.Forms.Label();
         this.gender = new System.Windows.Forms.ComboBox();
         this.btnSave = new System.Windows.Forms.Button();
         this.btnUpdate = new System.Windows.Forms.Button();
         this.btnCancel = new System.Windows.Forms.Button();
         this.txtId = new System.Windows.Forms.TextBox();
```

```
        this.btnDelete = new System.Windows.Forms.Button();
        this.regDate = new System.Windows.Forms.DateTimePicker();
        this.label8 = new System.Windows.Forms.Label();
        this.label9 = new System.Windows.Forms.Label();
        this.label10 = new System.Windows.Forms.Label();
        this.enrolProgram = new System.Windows.Forms.ComboBox();
        this.label12 = new System.Windows.Forms.Label();
        this.btnClear = new System.Windows.Forms.Button();
        this.button4 = new System.Windows.Forms.Button();
        this.btnEdit = new System.Windows.Forms.Button();
        this.btnLoadChart = new System.Windows.Forms.Button();
        this.rBtnPending = new System.Windows.Forms.RadioButton();
        this.rBtnPublished = new System.Windows.Forms.RadioButton();
        this.groupBox1 = new System.Windows.Forms.GroupBox();
        this.dataGridStudent = new System.Windows.Forms.DataGridView();
        this.menuStrip1 = new System.Windows.Forms.MenuStrip();
        this.fileToolStripMenuItem = new System.Windows.Forms.ToolStripMenuItem();
        this.loadDataToolStripMenuItem = new System.Windows.Forms.ToolStripMenuItem();
        this.exitToolStripMenuItem = new System.Windows.Forms.ToolStripMenuItem();
        this.comboBox1 = new System.Windows.Forms.ComboBox();
        this.button1 = new System.Windows.Forms.Button();
        this.dateTimePicker1 = new System.Windows.Forms.DateTimePicker();
        this.dataGridView1 = new System.Windows.Forms.DataGridView();
        this.groupBox1.SuspendLayout();
        ((System.ComponentModel.ISupportInitialize)(this.dataGridStudent)).BeginInit();
        this.menuStrip1.SuspendLayout();
        ((System.ComponentModel.ISupportInitialize)(this.dataGridView1)).BeginInit();
        this.SuspendLayout();
        //
        // txtFirstName
        //
        this.txtFirstName.BackColor = System.Drawing.Color.Azure;
        this.txtFirstName.CharacterCasing = System.Windows.Forms.CharacterCasing.Lower;
        this.txtFirstName.Font = new System.Drawing.Font("Open Sans", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
        this.txtFirstName.Location = new System.Drawing.Point(137, 52);
        this.txtFirstName.Margin = new System.Windows.Forms.Padding(2);
        this.txtFirstName.Name = "txtFirstName";
        this.txtFirstName.Size = new System.Drawing.Size(132, 25);
        this.txtFirstName.TabIndex = 0;
        //
        // label1
        //
        this.label1.AutoSize = true;
```

```
        this.label1.Font = new System.Drawing.Font("Open Sans Semibold", 11.25F,
System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
        this.label1.ForeColor = System.Drawing.Color.DarkBlue;
        this.label1.Location = new System.Drawing.Point(21, 54);
        this.label1.Margin = new System.Windows.Forms.Padding(2, 0, 2, 0);
        this.label1.Name = "label1";
        this.label1.Size = new System.Drawing.Size(88, 20);
        this.label1.TabIndex = 1;
        this.label1.Text = "First Name";
        this.label1.Click += new System.EventHandler(this.label1_Click);
        //
        // label2
        //
        this.label2.AutoSize = true;
        this.label2.Font = new System.Drawing.Font("Open Sans Semibold", 11.25F,
System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
        this.label2.ForeColor = System.Drawing.Color.DarkBlue;
        this.label2.Location = new System.Drawing.Point(21, 91);
        this.label2.Margin = new System.Windows.Forms.Padding(2, 0, 2, 0);
        this.label2.Name = "label2";
        this.label2.Size = new System.Drawing.Size(87, 20);
        this.label2.TabIndex = 2;
        this.label2.Text = "Last Name";
        this.label2.Click += new System.EventHandler(this.label2_Click);
        //
        // txtLastName
        //
        this.txtLastName.BackColor = System.Drawing.Color.Azure;
        this.txtLastName.CharacterCasing = System.Windows.Forms.CharacterCasing.Lower;
        this.txtLastName.Font = new System.Drawing.Font("Open Sans", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
        this.txtLastName.ForeColor = System.Drawing.SystemColors.WindowText;
        this.txtLastName.Location = new System.Drawing.Point(137, 91);
        this.txtLastName.Margin = new System.Windows.Forms.Padding(2);
        this.txtLastName.Name = "txtLastName";
        this.txtLastName.Size = new System.Drawing.Size(132, 25);
        this.txtLastName.TabIndex = 3;
        //
        // label3
        //
        this.label3.AutoSize = true;
        this.label3.Font = new System.Drawing.Font("Open Sans Semibold", 11.25F,
System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
        this.label3.ForeColor = System.Drawing.Color.DarkBlue;
```

```
        this.label3.Location = new System.Drawing.Point(21, 130);
        this.label3.Margin = new System.Windows.Forms.Padding(2, 0, 2, 0);
        this.label3.Name = "label3";
        this.label3.Size = new System.Drawing.Size(66, 20);
        this.label3.TabIndex = 4;
        this.label3.Text = "Address";
        this.label3.Click += new System.EventHandler(this.label3_Click);
        //
        // txtAddress
        //
        this.txtAddress.BackColor = System.Drawing.Color.Azure;
        this.txtAddress.CharacterCasing = System.Windows.Forms.CharacterCasing.Lower;
        this.txtAddress.Font = new System.Drawing.Font("Open Sans", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
        this.txtAddress.ForeColor = System.Drawing.SystemColors.WindowText;
        this.txtAddress.Location = new System.Drawing.Point(137, 129);
        this.txtAddress.Margin = new System.Windows.Forms.Padding(2);
        this.txtAddress.Name = "txtAddress";
        this.txtAddress.Size = new System.Drawing.Size(132, 25);
        this.txtAddress.TabIndex = 5;
        //
        // txtEmail
        //
        this.txtEmail.BackColor = System.Drawing.Color.Azure;
        this.txtEmail.CharacterCasing = System.Windows.Forms.CharacterCasing.Lower;
        this.txtEmail.Font = new System.Drawing.Font("Open Sans", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
        this.txtEmail.ForeColor = System.Drawing.SystemColors.WindowText;
        this.txtEmail.Location = new System.Drawing.Point(137, 169);
        this.txtEmail.Margin = new System.Windows.Forms.Padding(2);
        this.txtEmail.Name = "txtEmail";
        this.txtEmail.Size = new System.Drawing.Size(132, 25);
        this.txtEmail.TabIndex = 6;
        //
        // label4
        //
        this.label4.AutoSize = true;
        this.label4.Font = new System.Drawing.Font("Open Sans Semibold", 11.25F,
System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
        this.label4.ForeColor = System.Drawing.Color.DarkBlue;
        this.label4.Location = new System.Drawing.Point(21, 170);
        this.label4.Margin = new System.Windows.Forms.Padding(2, 0, 2, 0);
        this.label4.Name = "label4";
        this.label4.Size = new System.Drawing.Size(48, 20);
```

```
        this.label4.TabIndex = 7;
        this.label4.Text = "Email";
        this.label4.Click += new System.EventHandler(this.label4_Click);
        //
        // label5
        //
        this.label5.AutoSize = true;
        this.label5.Font = new System.Drawing.Font("Open Sans Semibold", 11.25F,
System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
        this.label5.ForeColor = System.Drawing.Color.DarkBlue;
        this.label5.Location = new System.Drawing.Point(21, 213);
        this.label5.Margin = new System.Windows.Forms.Padding(2, 0, 2, 0);
        this.label5.Name = "label5";
        this.label5.Size = new System.Drawing.Size(84, 20);
        this.label5.TabIndex = 8;
        this.label5.Text = "Birth Date";
        this.label5.Click += new System.EventHandler(this.label5_Click);
        //
        // dob
        //
        this.dob.CalendarForeColor = System.Drawing.Color.LightSalmon;
        this.dob.CalendarMonthBackground = System.Drawing.Color.SeaShell;
        this.dob.CalendarTitleBackColor = System.Drawing.Color.PeachPuff;
        this.dob.CalendarTitleForeColor = System.Drawing.Color.Blue;
        this.dob.CalendarTrailingForeColor = System.Drawing.Color.Coral;
        this.dob.Font = new System.Drawing.Font("Open Sans", 9.75F,
System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
        this.dob.Location = new System.Drawing.Point(137, 210);
        this.dob.Margin = new System.Windows.Forms.Padding(2);
        this.dob.Name = "dob";
        this.dob.Size = new System.Drawing.Size(132, 25);
        this.dob.TabIndex = 9;
        //
        // label6
        //
        this.label6.AutoSize = true;
        this.label6.Font = new System.Drawing.Font("Open Sans Semibold", 11.25F,
System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
        this.label6.ForeColor = System.Drawing.Color.DarkBlue;
        this.label6.Location = new System.Drawing.Point(21, 255);
        this.label6.Margin = new System.Windows.Forms.Padding(2, 0, 2, 0);
        this.label6.Name = "label6";
        this.label6.Size = new System.Drawing.Size(95, 20);
        this.label6.TabIndex = 10;
```

```
            this.label6.Text = "Contact No.";
            this.label6.Click += new System.EventHandler(this.label6_Click);
            //
            // txtContactNo
            //
            this.txtContactNo.BackColor = System.Drawing.Color.Azure;
            this.txtContactNo.Font = new System.Drawing.Font("Open Sans", 9.75F,
  System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
            this.txtContactNo.ForeColor = System.Drawing.SystemColors.WindowText;
            this.txtContactNo.Location = new System.Drawing.Point(137, 254);
            this.txtContactNo.Margin = new System.Windows.Forms.Padding(2);
            this.txtContactNo.Name = "txtContactNo";
            this.txtContactNo.Size = new System.Drawing.Size(132, 25);
            this.txtContactNo.TabIndex = 11;
            //
            // label7
            //
            this.label7.AutoSize = true;
            this.label7.Font = new System.Drawing.Font("Open Sans Semibold", 11.25F,
  System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(0)));
            this.label7.ForeColor = System.Drawing.Color.DarkBlue;
            this.label7.Location = new System.Drawing.Point(21, 298);
            this.label7.Margin = new System.Windows.Forms.Padding(2, 0, 2, 0);
            this.label7.Name = "label7";
            this.label7.Size = new System.Drawing.Size(63, 20);
            this.label7.TabIndex = 12;
            this.label7.Text = "Gender";
            this.label7.Click += new System.EventHandler(this.label7_Click);
            //
            // gender
            //
            this.gender.BackColor = System.Drawing.Color.Azure;
        }
    }
  }
```

FORM 2:

```
namespace Coursework
{
    partial class Form2
    {
        /// <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.Windows.Forms.DataVisualization.Charting.ChartArea chartArea1 = new
System.Windows.Forms.DataVisualization.Charting.ChartArea();
            System.Windows.Forms.DataVisualization.Charting.Legend legend1 = new
System.Windows.Forms.DataVisualization.Charting.Legend();
            System.Windows.Forms.DataVisualization.Charting.Series series1 = new
System.Windows.Forms.DataVisualization.Charting.Series();
            this.chart1 = new System.Windows.Forms.DataVisualization.Charting.Chart();
            ((System.ComponentModel.ISupportInitialize)(this.chart1)).BeginInit();
            this.SuspendLayout();
            //
            // chart1
            //
            chartArea1.Name = "ChartArea1";
            this.chart1.ChartAreas.Add(chartArea1);
            legend1.Name = "Legend1";
            this.chart1.Legends.Add(legend1);
            this.chart1.Location = new System.Drawing.Point(38, 28);
            this.chart1.Name = "chart1";
            series1.ChartArea = "ChartArea1";
            series1.Legend = "Legend1";
            series1.Name = "Series1";
            this.chart1.Series.Add(series1);
            this.chart1.Size = new System.Drawing.Size(522, 296);
            this.chart1.TabIndex = 0;
            this.chart1.Text = "chart1";
            this.chart1.Click += new System.EventHandler(this.chart1_Click);
            //
            // Form2
```

```
            //
            this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);
            this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
            this.ClientSize = new System.Drawing.Size(592, 360);
            this.Controls.Add(this.chart1);
            this.Name = "Form2";
            this.Text = "Form2";
            this.Load += new System.EventHandler(this.Form2_Load);
            ((System.ComponentModel.ISupportInitialize)(this.chart1)).EndInit();
            this.ResumeLayout(false);

        }

        #endregion

        private System.Windows.Forms.DataVisualization.Charting.Chart chart1;
    }
}
```

FORM 3:

```
namespace Coursework
{
    partial class Form3
    {
        /// <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()
        {
```

```
        this.dataGridStudentView = new System.Windows.Forms.DataGridView();
        this.Id = new System.Windows.Forms.DataGridViewTextBoxColumn();
        this.firstName = new System.Windows.Forms.DataGridViewTextBoxColumn();
        this.lastName = new System.Windows.Forms.DataGridViewTextBoxColumn();
        this.Address = new System.Windows.Forms.DataGridViewTextBoxColumn();
        this.Email = new System.Windows.Forms.DataGridViewTextBoxColumn();
        this.Birthdate = new System.Windows.Forms.DataGridViewTextBoxColumn();
        this.Contact = new System.Windows.Forms.DataGridViewTextBoxColumn();
        this.Gender = new System.Windows.Forms.DataGridViewTextBoxColumn();
        this.Redgdate = new System.Windows.Forms.DataGridViewTextBoxColumn();
        this.Course = new System.Windows.Forms.DataGridViewTextBoxColumn();
        this.Status = new System.Windows.Forms.DataGridViewTextBoxColumn();
        ((System.ComponentModel.ISupportInitialize)(this.dataGridStudentView)).BeginInit();
        this.SuspendLayout();
        //
        // dataGridStudentView
        //
        this.dataGridStudentView.ColumnHeadersHeightSizeMode =
System.Windows.Forms.DataGridViewColumnHeadersHeightSizeMode.AutoSize;
        this.dataGridStudentView.Columns.AddRange(new
System.Windows.Forms.DataGridViewColumn[] {
        this.Id,
        this.firstName,
        this.lastName,
        this.Address,
        this.Email,
        this.Birthdate,
        this.Contact,
        this.Gender,
        this.Redgdate,
        this.Course,
        this.Status});
        this.dataGridStudentView.Location = new System.Drawing.Point(12, 12);
        this.dataGridStudentView.Name = "dataGridStudentView";
        this.dataGridStudentView.Size = new System.Drawing.Size(776, 380);
        this.dataGridStudentView.TabIndex = 0;
        //
        // Id
        //
        this.Id.HeaderText = "Id";
        this.Id.Name = "Id";
        //
        // firstName
        //
        this.firstName.HeaderText = "First Name";
        this.firstName.Name = "firstName";
        //
        // lastName
        //
        this.lastName.HeaderText = "Last Name";
        this.lastName.Name = "lastName";
```

```
//
// Address
//
this.Address.HeaderText = "Address";
this.Address.Name = "Address";
//
// Email
//
this.Email.HeaderText = "Email";
this.Email.Name = "Email";
//
// Birthdate
//
this.Birthdate.HeaderText = "Birth Date";
this.Birthdate.Name = "Birthdate";
//
// Contact
//
this.Contact.HeaderText = "Contact No";
this.Contact.Name = "Contact";
//
// Gender
//
this.Gender.HeaderText = "Gender";
this.Gender.Name = "Gender";
//
// Redgdate
//
this.Redgdate.HeaderText = "Redg. Date";
this.Redgdate.Name = "Redgdate";
//
// Course
//
this.Course.HeaderText = "Course";
this.Course.Name = "Course";
//
// Status
//
this.Status.HeaderText = "Status";
this.Status.Name = "Status";
//
// Form3
//
this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);
this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
this.ClientSize = new System.Drawing.Size(800, 450);
this.Controls.Add(this.dataGridStudentView);
this.Name = "Form3";
this.Text = "Form3";
this.Load += new System.EventHandler(this.Form3_Load);
((System.ComponentModel.ISupportInitialize)(this.dataGridStudentView)).EndInit();
```

```
            this.ResumeLayout(false);

        }

        #endregion

        private System.Windows.Forms.DataGridView dataGridStudentView;
        private System.Windows.Forms.DataGridViewTextBoxColumn Id;
        private System.Windows.Forms.DataGridViewTextBoxColumn firstName;
        private System.Windows.Forms.DataGridViewTextBoxColumn lastName;
        private System.Windows.Forms.DataGridViewTextBoxColumn Address;
        private System.Windows.Forms.DataGridViewTextBoxColumn Email;
        private System.Windows.Forms.DataGridViewTextBoxColumn Birthdate;
        private System.Windows.Forms.DataGridViewTextBoxColumn Contact;
        private System.Windows.Forms.DataGridViewTextBoxColumn Gender;
        private System.Windows.Forms.DataGridViewTextBoxColumn Redgdate;
        private System.Windows.Forms.DataGridViewTextBoxColumn Course;
        private System.Windows.Forms.DataGridViewTextBoxColumn Status;
    }
}
```

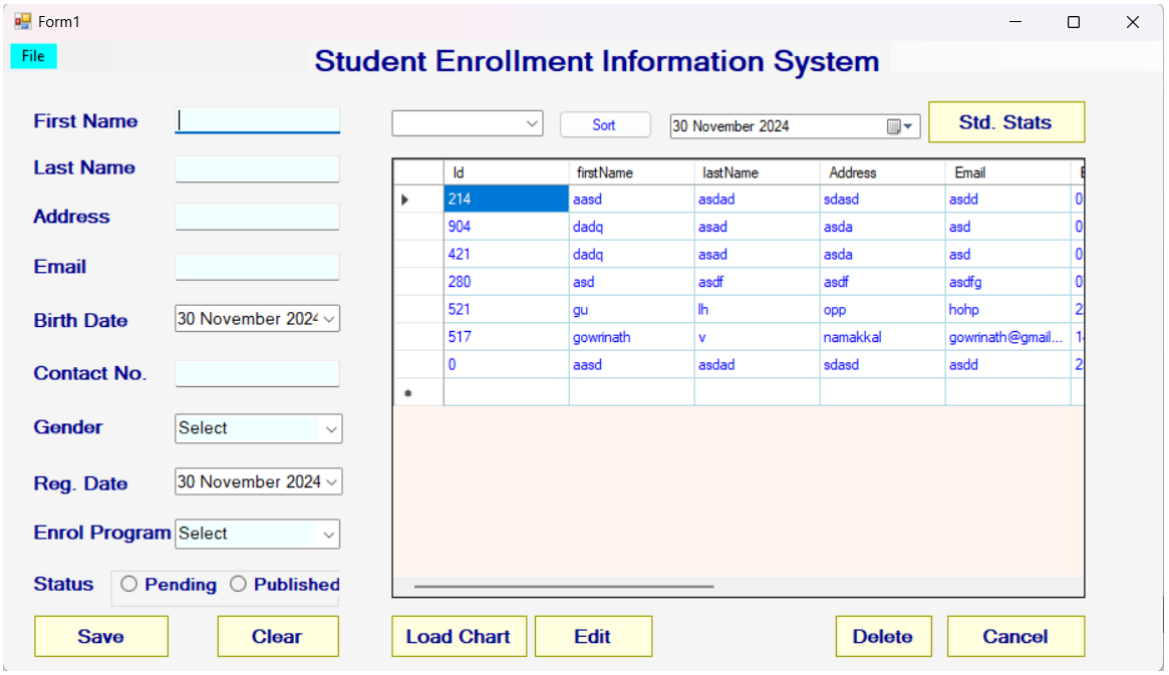
FORM 4:

```
namespace Coursework
{
    partial class Form4
    {
        /// <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


        private void InitializeComponent()
        {
            this.dataGridStudentStat = new System.Windows.Forms.DataGridView();
```

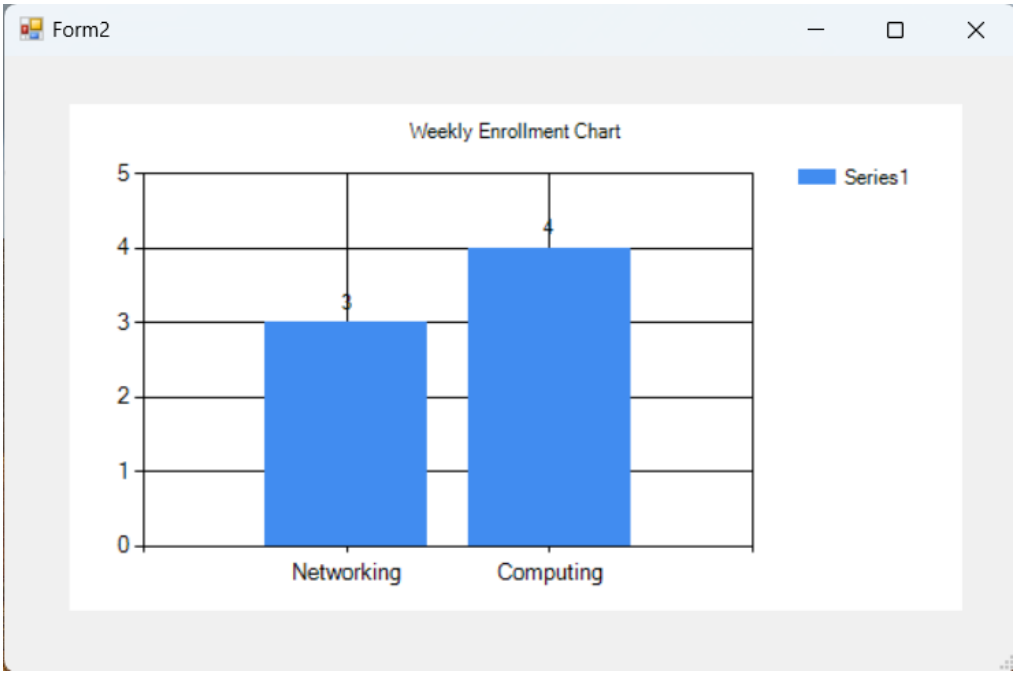
```
            this.Course = new System.Windows.Forms.DataGridViewTextBoxColumn();
            this.TotalStudents = new System.Windows.Forms.DataGridViewTextBoxColumn();
            ((System.ComponentModel.ISupportInitialize)(this.dataGridStudentStat)).BeginInit();
            this.SuspendLayout();
            //
            // dataGridStudentStat
            //
            this.dataGridStudentStat.ColumnHeadersHeightSizeMode =
System.Windows.Forms.DataGridViewColumnHeadersHeightSizeMode.AutoSize;
            this.dataGridStudentStat.Columns.AddRange(new
System.Windows.Forms.DataGridViewColumn[] {
            this.Course,
            this.TotalStudents});
            this.dataGridStudentStat.Location = new System.Drawing.Point(12, 12);
            this.dataGridStudentStat.Name = "dataGridStudentStat";
            this.dataGridStudentStat.Size = new System.Drawing.Size(416, 235);
            this.dataGridStudentStat.TabIndex = 0;
            this.Course.HeaderText = "Courses";
            this.Course.Name = "Course";
            this.TotalStudents.HeaderText = "Total Students";
            this.TotalStudents.Name = "TotalStudents";

            this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);
            this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
            this.ClientSize = new System.Drawing.Size(440, 266);
            this.Controls.Add(this.dataGridStudentStat);
            this.Name = "Form4";
            this.Text = "Form4";
            this.Load += new System.EventHandler(this.Form4_Load);
            ((System.ComponentModel.ISupportInitialize)(this.dataGridStudentStat)).EndInit();
            this.ResumeLayout(false);

        }

        private System.Windows.Forms.DataGridView dataGridStudentStat;
        private System.Windows.Forms.DataGridViewTextBoxColumn Course;
        private System.Windows.Forms.DataGridViewTextBoxColumn TotalStudents;
    }
}
```

OUTPUT

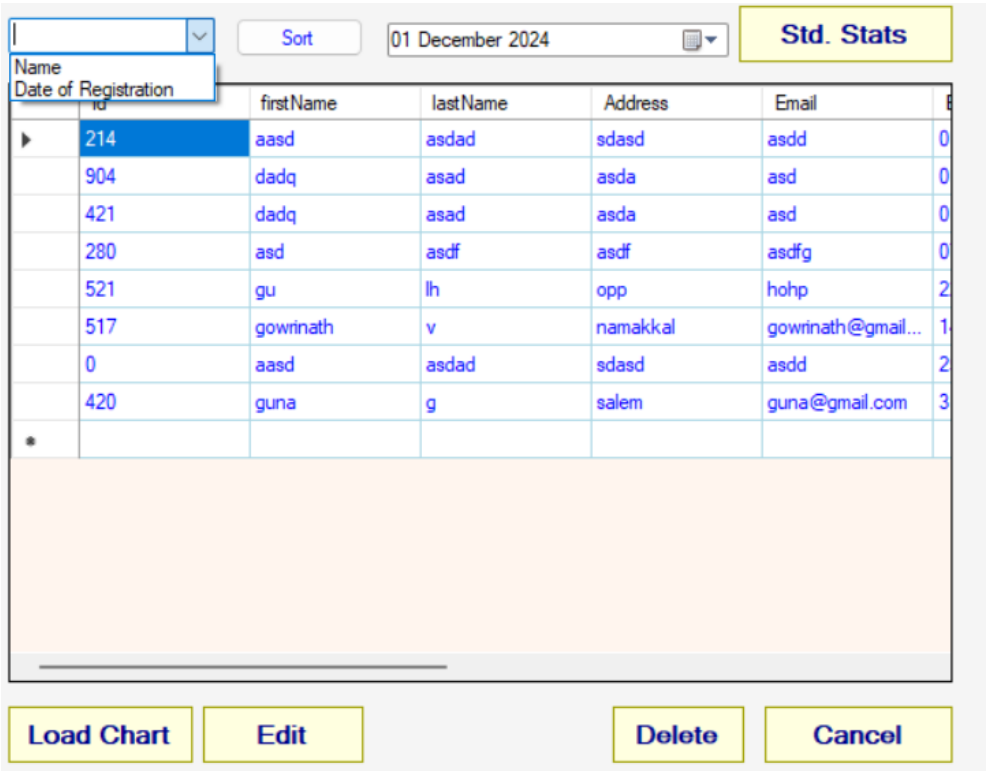
MAIN PAGE:



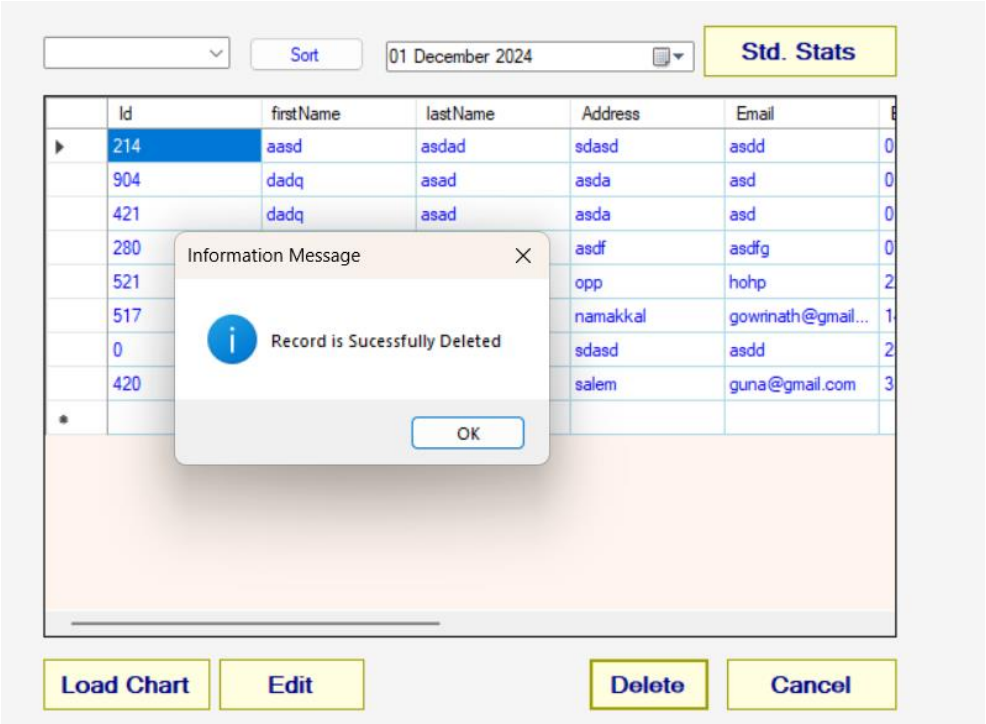
VISUALIZE DATA:



CATEGORIZED DATA:



DELETING:



CONCLUSION

In conclusion, the **Student Enrollment Information System** serves as an efficient and reliable tool for managing student data in educational institutions. By automating essential tasks such as student registration, data management, and reporting, the system significantly reduces administrative overhead, increases accuracy, and ensures timely processing of student information. The integration of **ASP.NET Identity** for secure authentication and **MS SQL** for robust database connectivity guarantees both security and scalability. This system not only streamlines enrollment processes but also provides an intuitive interface, enabling administrators and staff to focus on more strategic tasks. Ultimately, the project aims to enhance the overall efficiency and effectiveness of student enrollment management in educational environments.