

# **Applications Development**

## **Coursework 1**

### **CS6004NP**

**Submitted by: Binita Poudel**

**Submitted to: Mr. Ishwor Sapkota**

**Student ID: 17030520**

**Group: L3C2**

**Date of Submission: 10th January 2020**

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## 1. Introduction

In this 20 first century, In the period of innovative change, the record keeping framework should be maintaining and should be kept secure. So, the conventional way of keeping record should presently be changed into digitalized frame. As per in case of student, the student's record keeping framework should be changed to digital frame. That's why, this venture is all approximately.

The Project is about Students Detail record keeping framework, where it keeps the record of the students who get enlisted to diverse course in specific date. Besides, the framework is competent to track the record of week by week report.

### 1.1 Current Scenario

Talking about the current scenario, most of the schools and colleges are still using the traditional ways to keep the record of student which are unsafe to maintain it for a long period of a time. It will be difficult to generate weekly report with traditional method.

### 1.2 Proposed System

The developed software can be used in schools, college to keep the record of the students. The main target of developing this software is to generate the weekly report of the student during the time of course enrolment. A user with little computer knowledge can run it easily.

## 2. User Manual

The detailed information to run the program along with proper screenshot is as below:

### Login Screen

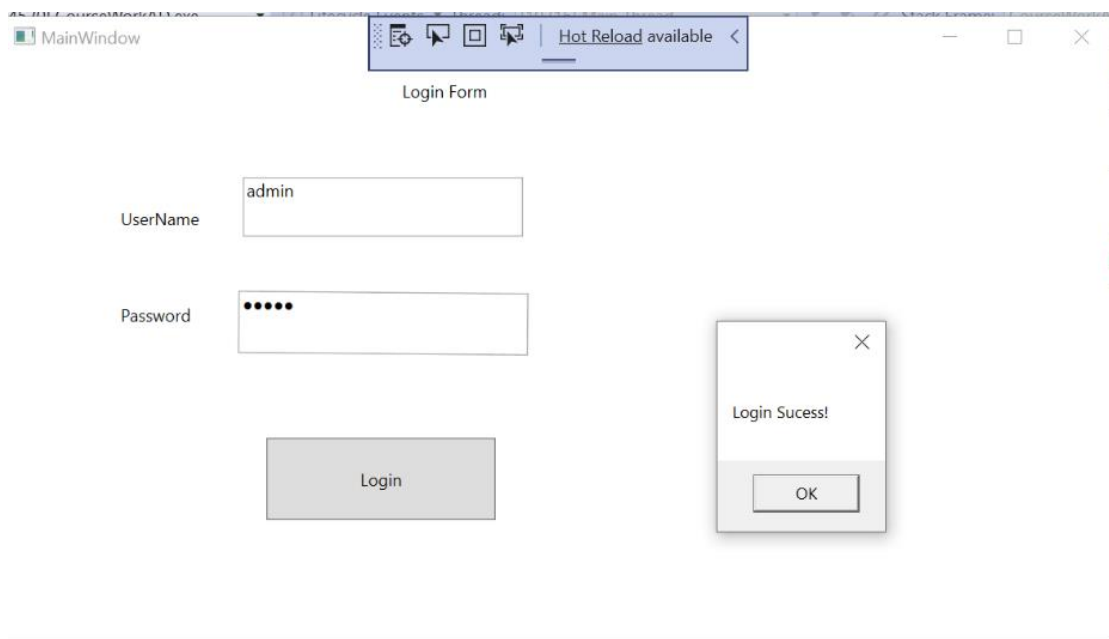
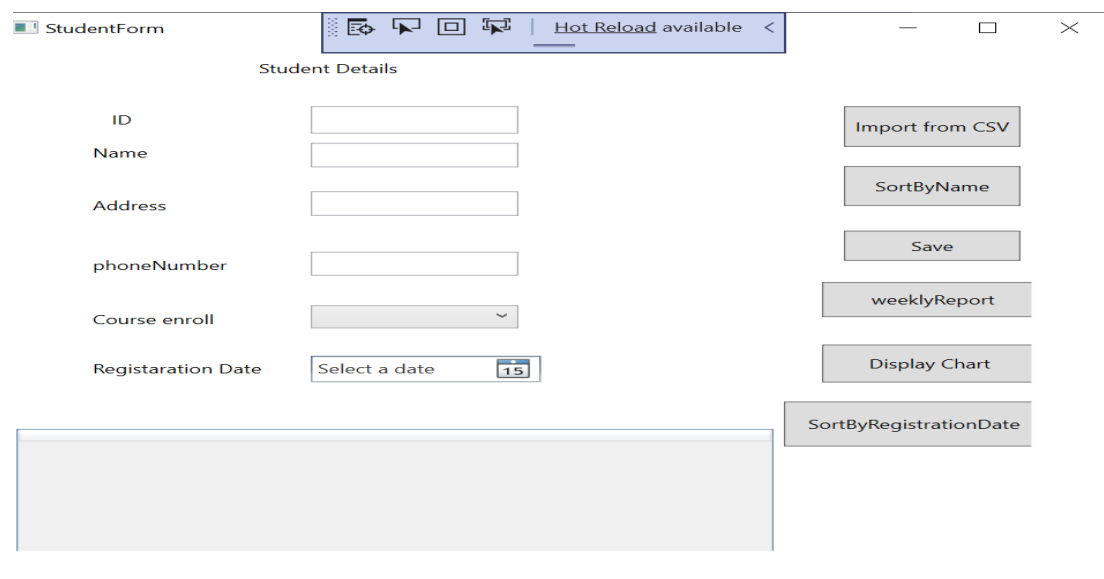


Figure 1 Login Screen

The username and password for this system is admin and admin respectively.

### Student form Page



The screenshot shows a web application window titled "StudentForm". The window has a toolbar with icons for editing, deleting, and saving, along with a "Hot Reload available" indicator. The main content area is titled "Student Details" and contains a form with the following fields:

- ID: Text input field
- Name: Text input field
- Address: Text input field
- phoneNumber: Text input field
- Course enroll: Dropdown menu
- Registration Date: Date picker (showing 15)

Below the form is a large empty rectangular area, likely for a list or grid of student data. To the right of the form are six buttons:

- Import from CSV
- SortByName
- Save
- weeklyReport
- Display Chart
- SortByRegistrationDate

Figure 2 Student Detail Main Page

After logging into the system with correct credentials, the user will have six buttons to click for. These buttons perform different tasks which are described as follows:

**Import from CSV:** This CSV Button shows the data of .CSV file through the browser.

**Sort by Name:** This Button shows the data in grid with the alphabetical orders.

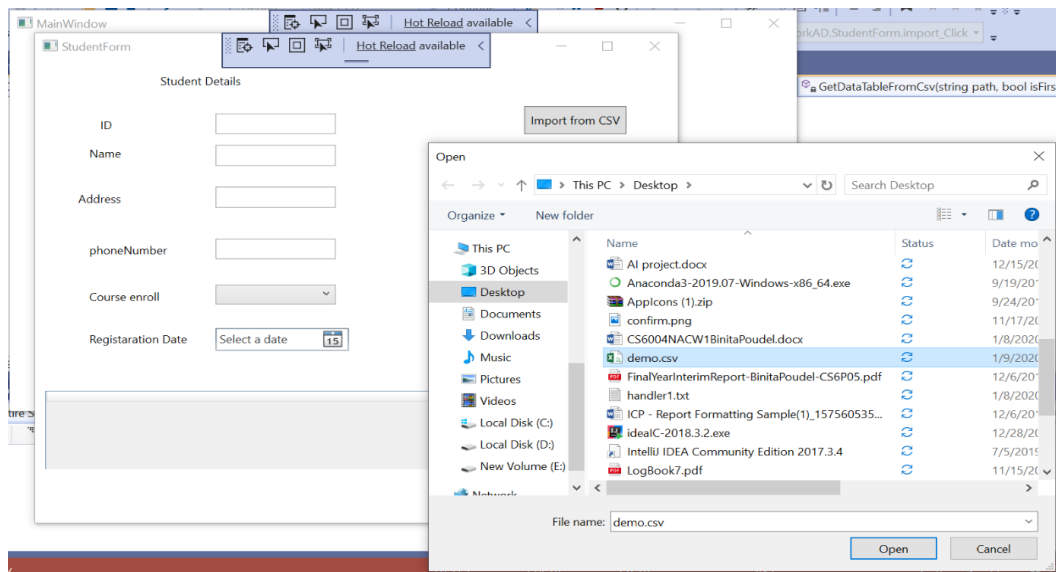
**Save:** The save button lets user to save the different detail of a student i.e. id, name, course, Contact and Registration date.

**Weekly Report:** The report button lets user to generate the report of weekly within a minutes.

**Display Chart:** The chart button lets user to view the chart of the total student who enrolled to the different course.

**Sort by Registration Date:** This button lets us to view the data of the student according to the registration date.

### Import from the CSV Button



The CVS file is named as demo.csv.

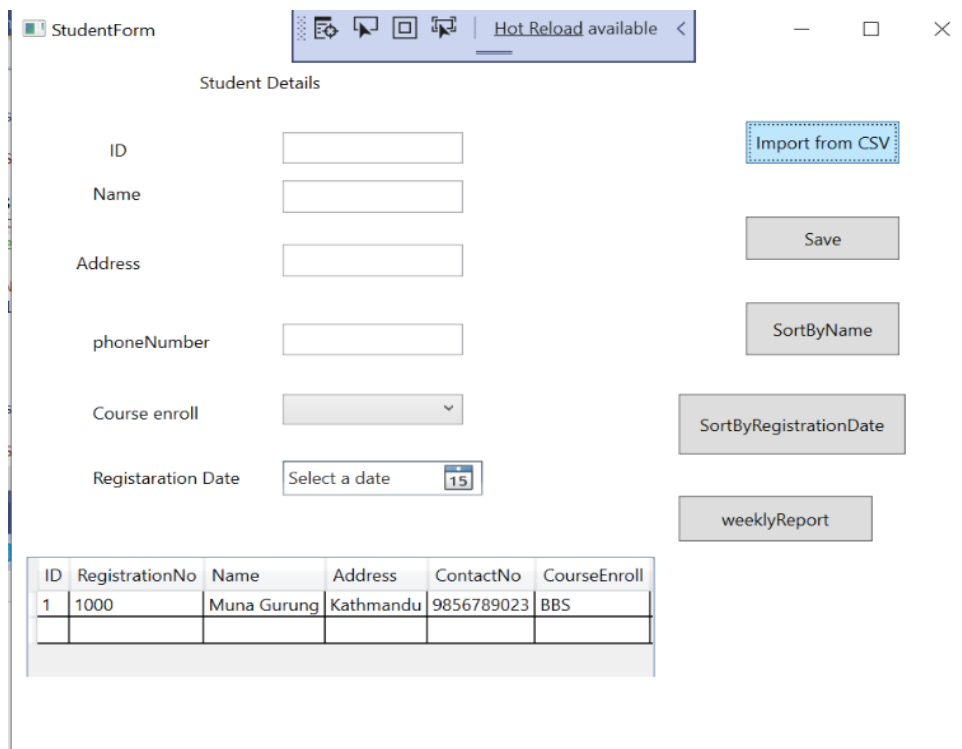


Figure 3 Data shown from CSV

The data imported from CVS file witch is named as demo.CSV file.

## Sort by Name Button

The screenshot shows a web application titled 'StudentForm'. It features a 'Student Details' section with input fields for ID (4), Name (Aruna Dhakal), Address (Butwal), phone number (9876345675), Course enroll (Computing), and Registration Date (1/15/2020). To the right of these fields are several buttons: 'Import from CSV', 'SortByName', 'Save', 'weeklyReport', 'Display Chart', and 'SortByRegistrationDate'. Below the form is a table displaying student data. The table has columns for ID, Name, Address, ContactNo, CourseEnroll, and Reg. The data is as follows:

ID	Name	Address	ContactNo	CourseEnroll	Reg
2	sarita aryal	newroad	9876543234	Network and it Security	1/8
3	Zuna Thapa	Mahendrapul	98765433456	Network and it Security	1/3
4	Aruna Dhakal	Butwal	9876345675	Computing	1/1

Figure 4 Showing the unsorted data from Sort by name

The data which was unsorted before.



StudentForm

Hot Reload available

Student Details

ID: 4

Name: Aruna Dhakal

Address: Butwal

phoneNumber: 9876345675

Course enroll: Computing

Registration Date: 1/15/2020

Import from CSV

SortByName

Save

weeklyReport

Display Chart

SortByRegistrationDate

ID	Name	Address	ContactNo	CourseEnroll	RegistrationDate
4	Aruna Dhakal	Butwal	9876345675	Computing	1/15/2020
1	Binita Poudel	NayaGaun	98171625342	Multimedia Technologies	2019-12-31T00:00:00+05:45
2	sarita aryal	newroad	9876543234	Network and it Security	1/8/2020
3	Zuna Thapa	Mahendrapul	98765433456	Network and it Security	1/30/2020

Figure 5 Sorted data shown by sort by name

The data which was sorted by the name.

#### Sort by Registration Date Button

StudentForm

Hot Reload available

Student Details

ID: 4

Name: Aruna Dhakal

Address: Butwal

phoneNumber: 9876345675

Course enroll: Computing

Registration Date: 1/15/2020

Import from CSV

SortByName

Save

weeklyReport

Display Chart

SortByRegistrationDate

Address	ContactNo	CourseEnroll	RegistrationDate
Butwal	9876345675	Computing	1/15/2020
NayaGaun	98171625342	Multimedia Technologies	2019-12-31T00:00:00+05:45
newroad	9876543234	Network and it Security	1/8/2020
Mahendrapul	98765433456	Network and it Security	1/30/2020

Figure 6 The unsorted data shown by sort by registration date

The unsorted Registration data.

StudentForm Hot Reload available

Student Details

ID: 4

Name: Aruna Dhakal

Address: Butwal

phoneNumber: 9876345675

Course enroll: Computing

Registration Date: 1/15/2020

Import from CSV

SortByName

Save

weeklyReport

Display Chart

SortByRegistrationDate

	Address	ContactNo	CourseEnroll	RegistrationDate
del	NayaGaun	98171625342	Multimedia Technologies	2019-12-31T00:00:00
ng	kathmandu	98563753672	Network and it Security	1/4/2020
ng	kathmandu	98563753672	Network and it Security	1/4/2020
il	newroad	9876543234	Network and it Security	1/8/2020

Figure 7 The sorted data shown by sort by registration date

The Data Shows Sorted Registration Date.

## Weekly Report Button

The screenshot shows a web application window titled "StudentForm". The window has a toolbar with icons for zooming and a "Hot Reload available" indicator. The main content area is titled "Student Details" and contains several input fields: "ID", "Name", "Address", "phoneNumber", "Course enroll" (a dropdown menu), and "Registration Date" (a date picker showing "15"). To the right of these fields are several buttons: "Import from CSV", "SortByName", "Save", "weeklyReport" (highlighted in blue), "Display Chart", and "SortByRegistrationDate". At the bottom of the window is a table with the following data:

Course Enroll	Sum Students	
Computing	1	
Multimedia Technology	2	
Networks and IT Security	2	

Figure 8 It shows the report of week

The weekly report shows the total number of student who got enrolled to the different subjects.

### Save Button

StudentForm

Hot Reload available

Student Details

ID: 4

Name: Aruna Dhakal

Address: Butwal

phoneNumber: 9876345675

Course enroll: Computing

Registration Date: 1/15/2020

Buttons: Import from CSV, SortByName, Save, weeklyReport, Display Chart, SortByRegistrationDate

Name	Address	ContactNo	CourseEnroll	Regi
sarita aryal	newroad	9876543234	Network and it Security	1/8/
Zuna Thapa	Mahendrapul	98765433456	Network and it Security	1/30
Aruna Dhakal	Butwal	9876345675	Computing	1/15
Aruna Dhakal	Butwal	9876345675	Computing	1/15

Figure 9 Saved Data

The data has been saved.

### Display Chart Button

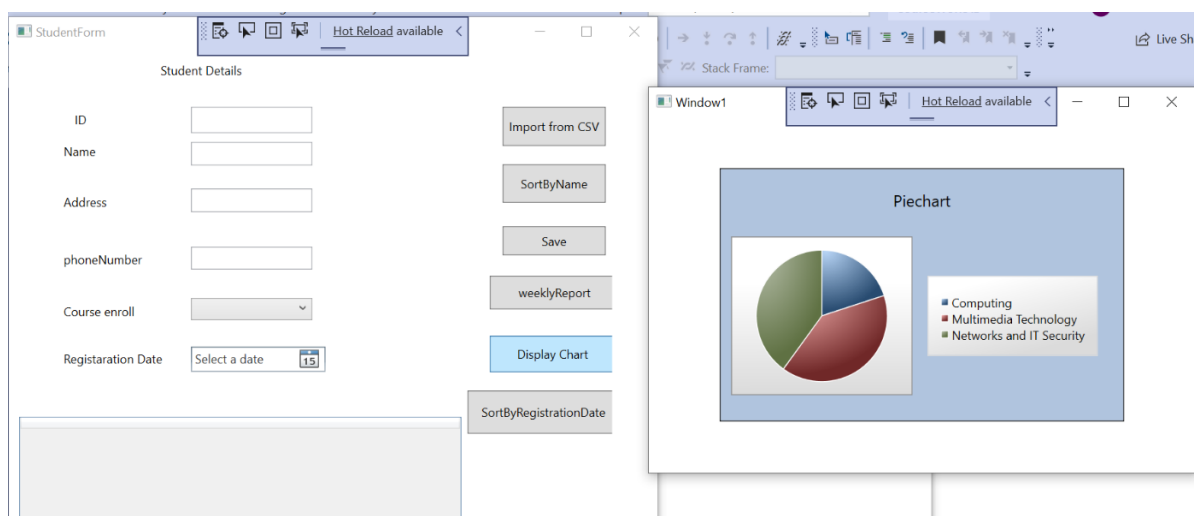


Figure 10 Displaying the chart.

The report of the students who got enrolled in different subject have shown in chart in above figure.

### 3.Jornal Articles

A number of problems associated with student academic record management include improper course registration, late release of students' results, inaccuracy due to manual and tedious calculation and retrieval difficulties/inefficiency.

Digital Repository and Automated Results Processing (DRARP) system provides an efficient means of processing, preserving and displaying students' results, academic records and other relevant notices to students. As part of its benefits, DRARP enables stress-free, speed-up the processing of students' examination results and eradicate vandalization of students' records that have characterized the traditional method

Development of an automated mail management system (MMS) is to replace the current paper records. While the Universities in developed countries already have a well-established administrative management system, some of their counterparts in the developing countries like Nigeria still adopt the manual or semi-automated method which provides only some basic elements of mail management and is time consuming, demanding and are often prone to varieties of errors and disaster ([www.researchgate.net](http://www.researchgate.net), 2020)

## 4. System Architecture

The figure represents the architecture of the developed system. At first, user needs to login to the system for which the user needs to input the correct credentials. After logging into the system with correct credentials, the system will display the main form which is the main panel of the students Details. Using the button on the main form, the user can record the students name, registration time and date. along with the date the user can record the student name, contact number and address. Moreover, the user can generate the report of the student in chart.

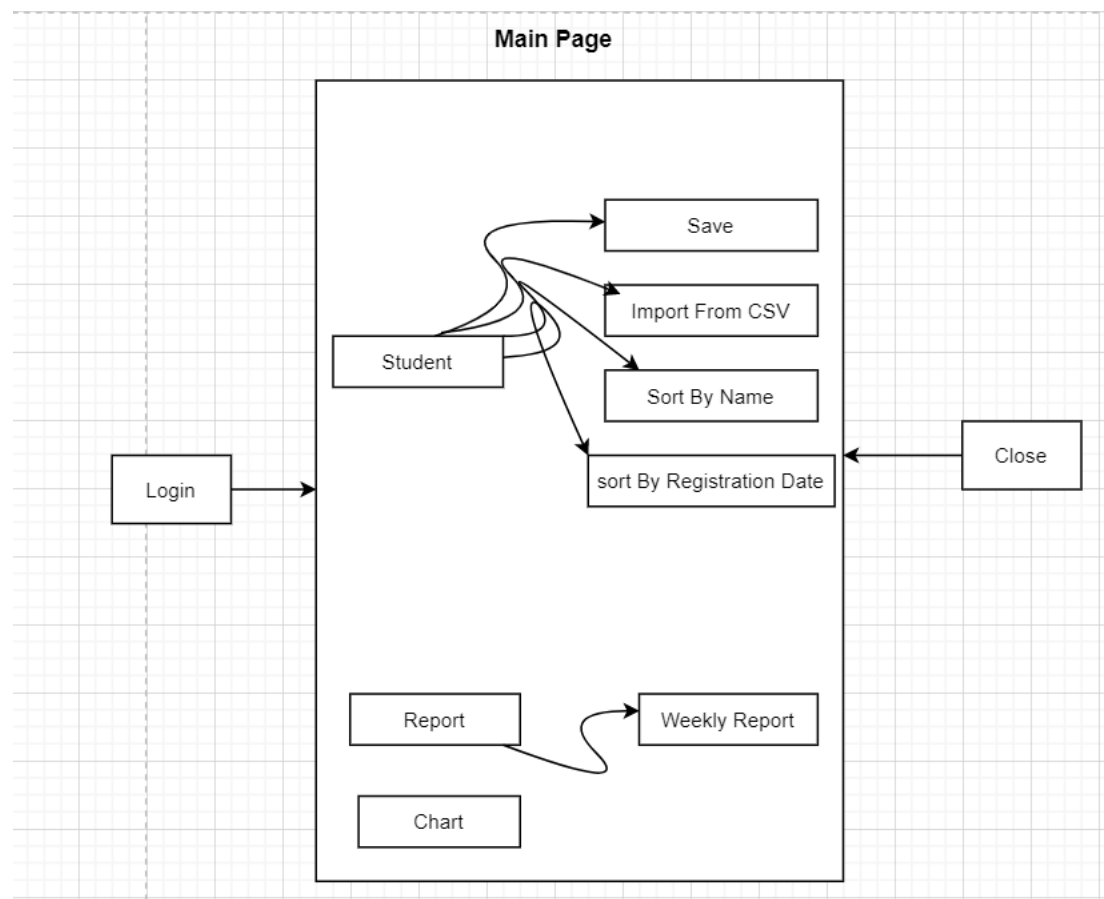


Figure 11 system Architecture

#### 4.1 Class Diagram

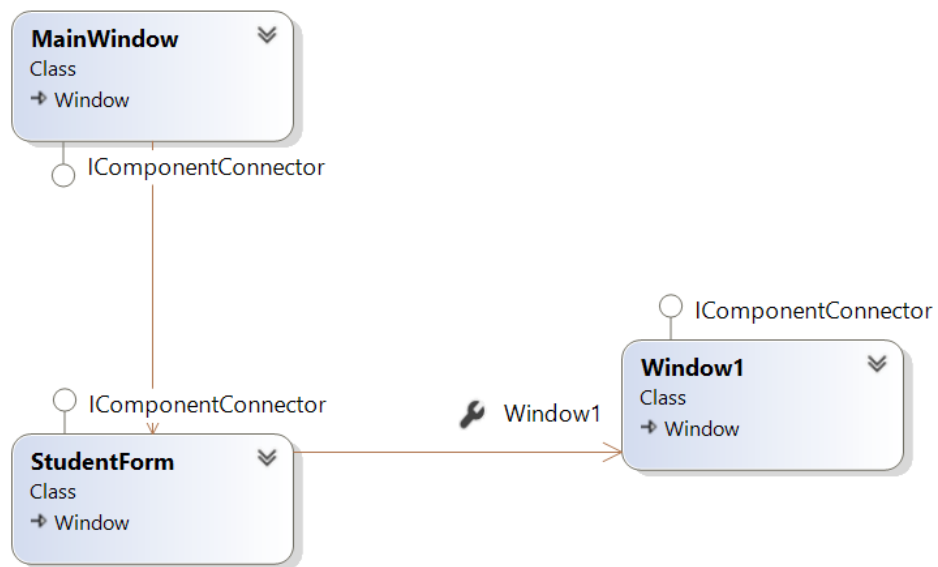


Figure 12 class diagram

### 4.3 Flowchart for Report

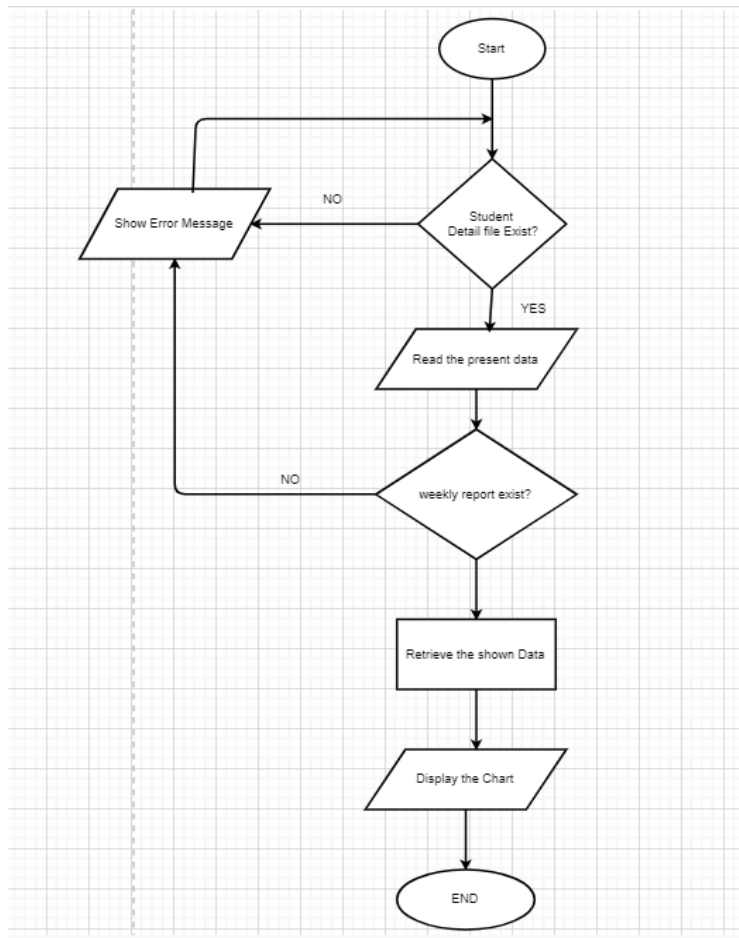


Figure 13 Flow chart of weekly report



## 5.Sorting Algorithm

Bubble Sort is the simplest sorting algorithm that works by repeatedly swapping the adjacent elements if they are in wrong order.

Example:

First Pass:  
 ( 5 1 4 2 8 )  $\rightarrow$  ( 1 5 4 2 8 ), Here, algorithm compares the first two elements, and swaps since 5 > 1.  
 ( 1 5 4 2 8 )  $\rightarrow$  ( 1 4 5 2 8 ), Swap since 5 > 4  
 ( 1 4 5 2 8 )  $\rightarrow$  ( 1 4 2 5 8 ), Swap since 5 > 2  
 ( 1 4 2 5 8 )  $\rightarrow$  ( 1 4 2 5 8 ), Now, since these elements are already in order (8 > 5), algorithm does not swap them.

Second Pass:  
 ( 1 4 2 5 8 )  $\rightarrow$  ( 1 4 2 5 8 )  
 ( 1 4 2 5 8 )  $\rightarrow$  ( 1 2 4 5 8 ), Swap since 4 > 2  
 ( 1 2 4 5 8 )  $\rightarrow$  ( 1 2 4 5 8 )  
 ( 1 2 4 5 8 )  $\rightarrow$  ( 1 2 4 5 8 )

Now, the array is already sorted, but our algorithm does not know if it is completed. The algorithm needs one whole pass without any swap to know it is sorted.

Third Pass:  
 ( 1 2 4 5 8 )  $\rightarrow$  ( 1 2 4 5 8 )  
 ( 1 2 4 5 8 )  $\rightarrow$  ( 1 2 4 5 8 )  
 ( 1 2 4 5 8 )  $\rightarrow$  ( 1 2 4 5 8 )  
 ( 1 2 4 5 8 )  $\rightarrow$  ( 1 2 4 5 8 )

([www.geeksforgeeks.org](http://www.geeksforgeeks.org), 2020)

## 6.Reflection

Developing the project in Microsoft Visual Studios 2019 keeping C# as primary programming language is new experience for me. Developing a record keeping system for student is really a tough task though. Serialization and deserialization are another new thing while developing the system. Though, creating new classes and methods helps to pace the development task. Importing and exporting of CSV file is also a new task and it really help me in gaining knowledge of file handling. With the growing of technology, the visual studio and its community helps new developer like us to pace our development speed.

## 7. Conclusion

The beginning coursework for the module CS6004NA Application Development was to construct up a student detail recording system. It required a long time to construct up the assignment in Visual Studio Venture 2019 utilizing C# programming. The system has login screen to add security to the task. After login, the system appears an essential screen where each one of the functionalities is found. Aside from different shape components, course diagram for each one of the structures and classes were utilized. I would like to thank my supervisor Mr. Ishwor Sapkota for guiding me throughout the coursework.

## 8. Refrences

www.geeksforgeeks.org, 2020. *www.geeksforgeeks.org.* [Online]  
Available at: <https://www.geeksforgeeks.org/bubble-sort/>

www.researchgate.net, 2020. *www.researchgate.net.* [Online]  
Available at:  
[https://www.researchgate.net/publication/266243197\\_The\\_Design\\_and\\_Implementation\\_o  
f\\_Student\\_Academic\\_Record\\_Management\\_System](https://www.researchgate.net/publication/266243197_The_Design_and_Implementation_of_Student_Academic_Record_Management_System)

## 9. Appendix

```

using System;
using System.Collections.Generic;
using System.Data;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows;
using System.Windows.Controls;
using System.Windows.Data;
using System.Windows.Documents;
using System.Windows.Input;
using System.Windows.Media;
using System.Windows.Media.Imaging;
using System.Windows.Shapes;

namespace CourseWorkAD
{
    /// <summary>
    /// Interaction logic for Window1.xaml
    /// </summary>
    public partial class Window1 : Window
    {
        public Window1()
        {
            InitializeComponent();
            LoadPieChartData();
        }

        private void LoadPieChartData()
        {
            int sum_computing = 1;
            int sum_mediatechnology = 2;
            int sum_networksanditsecurity = 2;

            DataTable dtable = new DataTable("tbl");
            dtable.Columns.Add("Course Enroll", typeof(String));
            dtable.Columns.Add("Sum Students", typeof(int));

            for (int i = 0; i < dtable.Rows.Count; i++)
            {
                String lol = dtable.Rows[i]["CourseEnroll"].ToString();
                if (lol == "Computing")
                {
                    sum_computing++;
                }
                else if (lol == "Multimedia Technology")
                {
                    sum_mediatechnology++;
                }
            }
        }
    }
}

```

```

        else if (lol == "Networks and IT Security")
        {
            sum_networksanditsecurity++;
        }
    }

    dtable.Rows.Add("Computing", sum_computing);
    dtable.Rows.Add("Multimedia Technology", sum_mediatechnology);
    dtable.Rows.Add("Networks and IT Security",
sum_networksanditsecurity);

((System.Windows.Controls.DataVisualization.Charting.PieSeries)Pie).ItemsSource
=
    new KeyValuePair<string, int>[]{
        new KeyValuePair<string,int>("Computing", sum_computing),
        new KeyValuePair<string,int>("Multimedia Technology",
sum_mediatechnology),
        new KeyValuePair<string,int>("Networks and IT Security",
sum_networksanditsecurity) };
    }
}
}

```

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows;
using System.Windows.Controls;
using System.Windows.Data;
using System.Windows.Documents;
using System.Windows.Input;
using System.Windows.Media;
using System.Windows.Media.Imaging;
using System.Windows.Navigation;
using System.Windows.Shapes;

namespace CourseWorkAD
{
    /// <summary>
    /// Interaction logic for MainWindow.xaml
    /// </summary>
    public partial class MainWindow : Window
    {
        public MainWindow()
        {
            InitializeComponent();
        }

        public StudentForm StudentForm
        {
            get => default;
            set
            {
            }
        }
    }
}

```

```

    }

    private void TextBox_TextChanged(object sender, TextChangedEventArgs e)
    {

    }

    private void Login_Click(object sender, RoutedEventArgs e)
    {
        if(Password.Password!=""&& Useraname.Text!="")
        {
            if(Password.Password=="admin"&& Useraname.Text== "admin")
            {
                MessageBox.Show("Login Sucess!");
                StudentForm studentform = new StudentForm();
                studentform.ShowDialog();
            }
        }
    }
}

```

```

using System;
using System.Collections.Generic;
using System.IO;
using System.Linq;
using System.Data;
using System.Text;
using System.Threading.Tasks;
using System.Windows;
using System.Windows.Controls;
using System.Windows.Data;
using System.Windows.Documents;
using System.Windows.Input;
using System.Windows.Media;
using System.Windows.Media.Imaging;
using System.Windows.Shapes;
using DataHandler;
using Microsoft.Win32;
using System.Data.OleDb;
using System.Globalization;

namespace CourseWorkAD
{
    /// <summary>
    /// Interaction logic for StudentForm.xaml
    /// </summary>
    public partial class StudentForm : Window
    {
        DataTable dataTable;
        public StudentForm()
        {
            InitializeComponent();
        }

        public Window1 Window1
        {
            get => default;
            set
            {
            }
        }
    }
}

```

```

    }

    public class Student
    {
        public int ID { get; set; }
        public string Name { get; set; }
        public string Address { get; set; }
        public string phoneNumber { get; set; }
        public string Courseenroll { get; set; }
        public string RegDate { get; set; }
    }

    private void buttonclick(object sender, RoutedEventArgs e)
    {
        var handler = new Handler();
        var dataSet = new DataSet();

        if (File.Exists(@"D:\student.xml"))
        {
            dataSet.ReadXml(@"D:\student.xml");
        }
        else
        {
            dataSet = handler.CreateDataSet();

        }
        AddSampleData(dataSet);
        dataSet.WriteXml(@"D:\student.xml");
        LoadGrid();
    }

    void LoadGrid()
    {
        if (File.Exists(@"D:\student.xml"))
        {
            var dataSet = new DataSet();
            dataSet.ReadXml(@"D:\student.xml");
            dataTable = dataSet.Tables["Student"];
            datagrid.ItemsSource = dataTable.DefaultView;
        }
    }

    private void AddSampleData(DataSet dataSet)
    {
        var dr1 = dataSet.Tables["Student"].NewRow();
        dr1["ID"] = studentid.Text;
        dr1["Name"] = studentname.Text;
        dr1["Address"] = studentaddress.Text;
        dr1["ContactNo"] = studentphone.Text;
        dr1["CourseEnroll"] = studentcourse.Text;
        dr1["RegistrationDate"] = studentdate.Text;
        dataSet.Tables["Student"].Rows.Add(dr1);
    }

    private void sortname_Click(object sender, RoutedEventArgs e)
    {
        if (File.Exists(@"D:\student.xml"))
        {

```



```

        dataTable.DefaultView.Sort = "Name ASC";
        // dataSet.ReadXml(@"D:\student.xml");
        datagrid.ItemsSource = dataTable.DefaultView;
    }
}

private void sortregd_Click(object sender, RoutedEventArgs e)
{
    if (File.Exists(@"D:\student.xml"))
    {
        var dataSet = new DataSet();
        dataTable.DefaultView.Sort = "Name ASC";
        dataSet.ReadXml(@"D:\student.xml");
        datagrid.ItemsSource = dataSet.Tables["Student"].DefaultView;
    }
}

private void btnweeklyreport_Click(object sender, RoutedEventArgs e)
{
    int sum_computing = 1;
    int sum_mediatechnology = 2;
    int sum_networksanditsecurity = 2;

    DataTable dtable = new DataTable("tbl");
    dtable.Columns.Add("Course Enroll", typeof(String));
    dtable.Columns.Add("Sum Students", typeof(int));

    for (int i = 0; i < dtable.Rows.Count; i++)
    {
        String lol = dtable.Rows[i]["CourseEnroll"].ToString();
        if (lol == "Computing")
        {
            sum_computing++;
        }
        else if (lol == "Multimedia Technology")
        {
            sum_mediatechnology++;
        }
        else if (lol == "Networks and IT Security")
        {
            sum_networksanditsecurity++;
        }
    }

    dtable.Rows.Add("Computing", sum_computing);
    dtable.Rows.Add("Multimedia Technology", sum_mediatechnology);
    dtable.Rows.Add("Networks and IT Security",
sum_networksanditsecurity);

    datagrid.ItemsSource = dtable.DefaultView;
}

private void datagrid_SelectionChanged(object sender,
SelectionChangedEventArgs e)
{
}

```

```

static DataTable GetDataTableFromCsv(string path, bool isFirstRowHeader)
{
    string header = isFirstRowHeader ? "Yes" : "No";

    string pathOnly = System.IO.Path.GetDirectoryName(path);
    string fileName = System.IO.Path.GetFileName(path);

    string sql = @"SELECT * FROM [" + fileName + "]";

    using (OleDbConnection connection = new OleDbConnection(
        @"Provider=Microsoft.Jet.OLEDB.4.0;Data Source=" +
pathOnly +
        ";Extended Properties=\"Text;HDR=" + header + "\""))
    using (OleDbCommand command = new OleDbCommand(sql, connection))
    using (OleDbDataAdapter adapter = new OleDbDataAdapter(command))
    {
        DataTable dataTable = new DataTable();
        dataTable.Locale = CultureInfo.CurrentCulture;
        adapter.Fill(dataTable);
        return dataTable;
    }
}

private void import_Click(object sender, RoutedEventArgs e)
{
    Microsoft.Win32.OpenFileDialog dlg = new
Microsoft.Win32.OpenFileDialog();
    dlg.DefaultExt = ".CSV";
    Nullable<bool> result = dlg.ShowDialog();

    if (result == true)
    {
        DataTable tableStd = GetDataTableFromCsv(dlg.FileName, true);
        datagrid.DataContext = tableStd.DefaultView;
    }

    //var dataSet = new DataSet();
    //dataSet.ReadXml(@"D:\student.xml");
    //OpenFileDialog openFileDialog = new OpenFileDialog();
    //if (openFileDialog.ShowDialog() == true)
    //{
    //    string filePath = openFileDialog.FileName;
    //    //read all std from file code copy

    //    using (var reader = new StreamReader(filePath))
    //    {
    //        reader.ReadLine();
    //        while (!reader.EndOfStream)
    //        {
    //            var line = reader.ReadLine();
    //            var values = line.Split(',');
    //            var newRow = dataSet.Tables["Student"].NewRow();
    //            newRow["ID"] = values[0];
    //            newRow["Name"] = values[1];
    //            newRow["Address"] = values[2];
    //            newRow["ContactNo"] = values[3];

```

```

        //          newRow["CourseEnrol"] = values[4];
        //          newRow["RegistrationDate"] = values[5];
        //          dataSet.Tables["Student"].Rows.Add(newRow);

        //          dataSet.WriteXml(@"D:\student.xml");
        //      }
    }

private void Button_Click(object sender, RoutedEventArgs e)
{
    Window1 window1 = new Window1();
    window1.Show();
}
}
}

```

```

using System;
using System.Data;

namespace DataHandler
{
    public class Handler
    {
        public DataSet CreateDataSet()
        {
            var ds = new DataSet();
            ds.Tables.Add(CreateCourseTable());
            ds.Tables.Add(CreateStudentTable());
            ds.Tables.Add(CreateStudentReportTable());

            //ForeignKeyConstraint          courseWorkFK          =          new
            ForeignKeyConstraint("courseWorkFK",
                //ds.Tables["Course"].Columns["ID"],
                // ds.Tables["Student"].Columns["CourseEnroll"]);
            // courseWorkFK.DeleteRule = Rule.None;
            //ds.Tables["Student"].Constraints.Add(courseWorkFK);
            return ds;
        }

        private DataTable CreateStudentTable()
        {
            var dt = new DataTable("Student");
            DataColumn dataColumn = new DataColumn("ID", typeof(int));
            dataColumn.AutoIncrement = true;
            dataColumn.AutoIncrementSeed = 1;
            dataColumn.AutoIncrementStep = 1;
        }
    }
}

```

```

        dt.Columns.Add(dataColumn);

        dt.Columns.Add("Name", typeof(string));
        dt.Columns.Add("Address", typeof(string));
        dt.Columns.Add("ContactNo", typeof(string));
        dt.Columns.Add("CourseEnroll", typeof(string));
        dt.Columns.Add("RegistrationDate", typeof(DateTime));
        //dt.Columns.Add("PermanentAddress", typeof(string));
        //dt.Columns.Add("ParentsName", typeof(string));
        //dt.Columns.Add("ParentsContact", typeof(string));
        //dt.Columns.Add("", typeof(string));
        //dt.Columns.Add("Address", typeof(string));
        //dt.Columns.Add("Address", typeof(string));
        //dt.Columns.Add("Address", typeof(string));

        dt.PrimaryKey = new DataColumn[] { dt.Columns["ID"] };
        return dt;
    }

    private DataTable CreateCourseTable()
    {
        var dt = new DataTable("Course");
        DataColumn dataColumn = new DataColumn("ID", typeof(int));
        dataColumn.AutoIncrement = true;
        dataColumn.AutoIncrementSeed = 1;
        dataColumn.AutoIncrementStep = 1;
        dt.Columns.Add(dataColumn);

        dt.Columns.Add("Name", typeof(string));
        dt.Columns.Add("DisplayText", typeof(string));
        // dt.Columns.Add("CourseDuration", typeof(string));

        dt.PrimaryKey = new DataColumn[] { dt.Columns["ID"] };
        return dt;
    }

    private DataTable CreateStudentReportTable()
    {
        var dt = new DataTable("StudentReport");
        DataColumn dataColumn = new DataColumn("ID", typeof(int));
        dataColumn.AutoIncrement = true;
        dataColumn.AutoIncrementSeed = 1;
        dataColumn.AutoIncrementStep = 1;

        dt.Columns.Add(dataColumn);

        dt.Columns.Add("Reg No", typeof(string));
        dt.Columns.Add("Name", typeof(string));
        dt.Columns.Add("Address", typeof(string));
        dt.Columns.Add("ContactNo", typeof(string));
        dt.Columns.Add("CourseEnroll", typeof(String));
        dt.Columns.Add("RegistrationDate", typeof(DateTime));

        //dt.PrimaryKey = new DataColumn[] { dt.Columns["ID"] };
        return dt;
    }
}

```

```

<Window x:Class="CourseWorkAD.StudentForm"
    xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
    xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
    xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
    xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
    xmlns:local="clr-namespace:CourseWorkAD"
    mc:Ignorable="d"
    Title="StudentForm" Height="547.709" Width="656">
    <Grid Margin="0,0,45,59">
        <Label Content="Student Details" HorizontalAlignment="Left"
Margin="145,10,0,0" VerticalAlignment="Top" Width="122"/>
        <Label Content="ID" HorizontalAlignment="Left" Margin="60,59,0,0"
VerticalAlignment="Top"/>
        <Label Content="Name" HorizontalAlignment="Left" Margin="49,90,0,0"
VerticalAlignment="Top" RenderTransformOrigin="-0.228,1.441"/>
        <Label Content="Address" HorizontalAlignment="Left" Margin="49,140,0,0"
VerticalAlignment="Top"/>
        <Label Content="phoneNumber" HorizontalAlignment="Left"
Margin="49,197,0,0" VerticalAlignment="Top" />
        <Label Content="Course enroll" HorizontalAlignment="Left"
Margin="49,248,0,0" VerticalAlignment="Top" Width="80"/>
        <Label Content="Registration Date" HorizontalAlignment="Left"
Margin="49,295,0,0" VerticalAlignment="Top"/>
        <TextBox x:Name="studentaddress" HorizontalAlignment="Left" Height="23"
Margin="180,140,0,0" TextWrapping="Wrap" VerticalAlignment="Top" Width="120"/>
        <TextBox x:Name="studentphone" HorizontalAlignment="Left" Height="23"
Margin="180,197,0,0" TextWrapping="Wrap" VerticalAlignment="Top" Width="120"/>
        <TextBox x:Name="studentname" HorizontalAlignment="Left" Height="23"
Margin="180,94,0,0" TextWrapping="Wrap" VerticalAlignment="Top" Width="120"/>
        <Button x:Name="save" Content="Save" HorizontalAlignment="Left"
Margin="488,177,0,0" VerticalAlignment="Top" Width="102" Height="29"
Click="buttonclick" RenderTransformOrigin="0.516,-0.898"/>
        <ComboBox x:Name="studentcourse" HorizontalAlignment="Left"
Margin="180,248,0,0" VerticalAlignment="Top" Width="120">
            <ComboBoxItem Content="Network and it Security"/>
            <ComboBoxItem Content="Multimedia Technologies"/>
            <ComboBoxItem Content="Computing"/>
        </ComboBox>
        <DatePicker x:Name="studentdate" HorizontalAlignment="Left"
Margin="180,296,0,0" VerticalAlignment="Top" Width="133" Height="25"/>
        <Button x:Name="import" Content="Import from CSV"
HorizontalAlignment="Left" Margin="488,59,0,0" VerticalAlignment="Top"
Width="102" Height="39" Click="import_Click"/>
        <DataGrid x:Name="datagrid" HorizontalAlignment="Left" Height="124"
Margin="10,365,0,-29.333" VerticalAlignment="Top" Width="437"
ItemsSource="{Binding}" SelectionChanged="datagrid_SelectionChanged">

            </DataGrid>
            <Button x:Name="sortname" Content="SortByName"
HorizontalAlignment="Left" Margin="488,116,0,0" VerticalAlignment="Top"
Width="102" Height="38" Click="sortname_Click"/>
            <Button x:Name="sortregd" Content="SortByRegistrationDate"
HorizontalAlignment="Left" Margin="453,339,0,0" VerticalAlignment="Top"
Width="151" Height="43" Click="sortregd_Click"/>
            <Button Name="btnweeklyreport" Content="weeklyReport"
HorizontalAlignment="Left" Margin="475,226,0,0" VerticalAlignment="Top"
Width="129" Height="33" Click="btnweeklyreport_Click"/>
            <Button x:Name="displaychart" Content="Display Chart"
HorizontalAlignment="Left" Margin="475,285,0,0" VerticalAlignment="Top"
Width="125" Height="36" Click="Button_Click"/>
            <TextBox x:Name="studentid" HorizontalAlignment="Left" Height="26"
Margin="180,59,0,0" TextWrapping="Wrap" VerticalAlignment="Top" Width="120"/>
    </Grid>

```

```

        </Grid>
    </Window>

<Window x:Class="CourseWorkAD.MainWindow"
    xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
    xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
    xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
    xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
    xmlns:local="clr-namespace:CourseWorkAD"
    mc:Ignorable="d"
    Title="MainWindow" Height="450" Width="800">
    <Grid>
        <Label Content="Login Form" HorizontalAlignment="Left"
Margin="277,10,0,0" VerticalAlignment="Top" Width="125" Height="39"/>
        <Label Content="UserName" HorizontalAlignment="Left" Margin="78,100,0,0"
VerticalAlignment="Top" Width="97"/>
        <Label Content="Password" HorizontalAlignment="Left" Margin="78,168,0,0"
VerticalAlignment="Top" Width="89"/>
        <Button x:Name="Login" Content="Login" HorizontalAlignment="Left"
Margin="186,268,0,0" VerticalAlignment="Top" Width="162"
RenderTransformOrigin="0.323,0.645" Click="Login_Click" Height="58"/>
        <TextBox x:Name="Useraname" HorizontalAlignment="Left" Height="42"
Margin="169,84,0,0" TextWrapping="Wrap" VerticalAlignment="Top" Width="198"
TextChanged="TextBox_TextChanged"/>
        <PasswordBox x:Name="Password" HorizontalAlignment="Left"
Margin="166,165,0,0" VerticalAlignment="Top" Height="44"
RenderTransformOrigin="0.5,0.5" Width="205">
            <PasswordBox.RenderTransform>
                <TransformGroup>
                    <ScaleTransform/>
                    <SkewTransform/>
                    <RotateTransform Angle="0.503"/>
                    <TranslateTransform/>
                </TransformGroup>
            </PasswordBox.RenderTransform>
        </PasswordBox>

    </Grid>
</Window>

```

