

Informatics College Pokhara



informatics
college pokhara

Application Development

CS6004NI

Course Work 1

Submitted By: Ashish Bhandari
London Met ID: Enter ID Here

Submitted To: Ishwor Sapkota
Module Leader

Component Grade and Comments	
A. Implementation of Application	
User Interface and proper controls used for designing	missing controls in the interface
Manual data entry or import from csv	not properly saved or imported data
Data Validation	Only basic validation
Enrollment Report & weekly report in tabular format	very poorly executed reports and data not shown accurately
Course wise enrollment report & Chart display	Poorly developed report
Algorithm used for sorting & proper sorting of data	Default sorting provided by .net is used
B. Documentation	
User Manual for running the application	User Manual is average. Includes description for all interfaces

Marking Scheme

Application architecture & description of the classes ad methods sued	average work with very limited explanation of the classes and methods used
Flow chart, algorithms and data sctructures used	average work with very limited explanation and missing diagramatic representation.
Reflective essay	Very poorly written

C. Programming Style

Clarity of code,Popper Naming convention & comments	Very poor code
System Usability	unusable system

Overall Grade:	D+	D+
-----------------------	-----------	-----------

Overall Comment:

Code should be self explainable with less comments. Need some proper naming of the componen and require to add comments on required area.

Tried to explain the task properly and tried completed overall feature with some bugs.



Application Development

CS6004NA

Coursework 1

Submitted By:

Student Name: Ashish Thapa

Student ID: 17030706

Group: L3C2

Date: 10-Jan-2020

Submitted To:

Mr. Ishwor Sapkota

Table of Contents

1. Introduction	1
1.1. Description	1
1.2. Objectives.....	1
2. System Overview.....	2
2.1. User manual	2
2.2. Architecture.....	7
2.3. Class Diagram.....	8
2.4. Flowchart.....	12
3. Algorithm:	13
4. Journal Articles	13
5. Reflection	14
6. Conclusion.....	15
References	15

Table of Figures

Figure 1: Login Screen.....	2
Figure 2: Login Form Error Message	2
Figure 3: Index Form of the system	2
Figure 4: Student Record Page	3
Figure 5: Submit.....	3
Figure 6: Sort Name.....	4
Figure 7: Empty Validation	4
Figure 8: Email Validation	4
Figure 9: Sort Registration Date.....	5
Figure 10: Count	5
Figure 11: View Graph	6
Figure 12: Before Import	6
Figure 13: Import.....	7
Figure 14: Architecture Diagram for Student Information System	7
Figure 15: Class Diagram	8
Figure 16: Flowchart diagram for this system	12

Table of Tables

Table 1: Table for Admin Login Form.....	9
Table 2: Table for Home Window.....	9
Table 3: Table for Main Window (i.e. Student Record)	10
Table 4: Table for Chart.....	11

1. Introduction

This project is about the 'Student Information System' where the implement of the student record is done in the desktop application developed through C# programming language. The main view of this project is to keep track of the student's details, program enrol and registration date.

1.1. Description

This desktop application is made so that the works done to keep student records. The idea of this system is implemented since a long period. Nowadays, the official work done to keep student records in schools, colleges through modern technology. Whereas, there as so many schools, colleges where they are done in paperwork's. Hence, this project is a simple work handling desktop application where the student details, program enrol, and registration date record is tracked.

1.2. Objectives

The main objectives, function of this project is:

- To import a record from a text file (e.g. in .CSV format for bulk data input), or to allow manually inputting details like ID number, name, address, contact no, course enrol, registration date etc.
- To generate and display two different reports, listing the student's detail like id, name, program enrol and registration date: (a) one sorted by student first name and (b) the other sorted by registration date.
- To display chart showing total number of students on each program (computing, multimedia, networking etc).
- Save and retrieve the student enrol status with the student details.

2. System Overview

2.1. User manual

- a. Click the start button on Visual studio or open the Student Information System folder and open the DataHandler and open StudentInformationSystem.sln

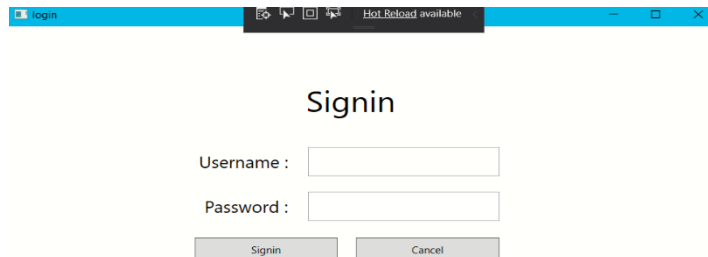


Figure 1: Login Screen

- b. If the username and Password are entered incorrectly, the user cannot open the system. A warning message is shown.

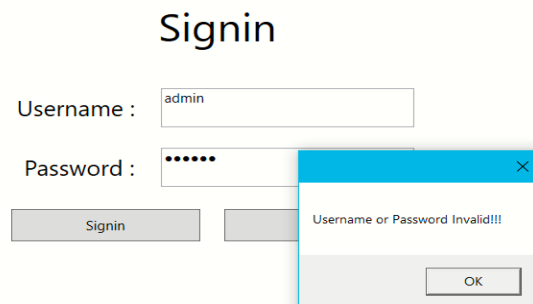


Figure 2: Login Form Error Message

- c. After entering valid username and password, main form is open.



Figure 3: Index Form of the system

- A welcome message is displayed in the main screen of this system.
- Menu strip at the top will navigate through the system.

After Clicking the “Add Student” button student information page is open

The screenshot shows a web application window titled 'MainWindow'. On the left, there are input fields for 'Reg No:', 'Name:', 'Email:', 'Course:', 'Address:', and 'Contact:'. Below these are four buttons: 'Submit', 'Sort Name', 'Count', and 'Sort Registration Date'. On the right, there is a data grid with the following columns: ID, RegNo, Name, Email, Address, ContactNo, CourseEnroll, and RegistrationDate. The grid contains 6 rows of student data.

ID	RegNo	Name	Email	Address	ContactNo	CourseEnroll	RegistrationDate
1	17030708	Ashish Thapa	ashish@gmail.com	Pokhara	9805892471	BIT	2020-01-07T21
2	17030709	Niraj Gurung	niraj@gmail.com	Airport	9874563210	BBA	2020-01-07T21
3	17030710	Amit Gurung	amit@gmail.com	Bindabasini	1234567890	Marketing	2020-01-07T21
4	17030711	Ram Limbu	ram@gmail.com	Pokhara	2222222222	BBA	2020-01-08T07
5	17030712	Ankit Gurung	ankit@gmail.com	Birauta	4444444444	BIT	2020-01-09T14
6	17030713	Gita Thapa	gita@gmail.com	Damauli	2222222222	BBA	2020-01-09T21

Figure 4: Student Record Page

- This page displays the previous entered data in the datagrid. Below the input text field there are buttons which have their own functionality which are described below:
 - i. **Submit:** Respective Input data of textfield is input to datagrid after clicking this button.

The screenshot shows the same web application window as Figure 4, but after clicking the 'Submit' button. The 'Reg No:' field now contains '17030715'. The 'Course:' dropdown menu is set to 'Marketing'. The data grid now contains 7 rows of student data, with the new entry added at the bottom.

ID	RegNo	Name	Email	Address	ContactNo	CourseEnroll	RegistrationDate
1	17030708	Ashish Thapa	ashish@gmail.com	Pokhara	9805892471	BIT	2020-01-07T21
2	17030709	Niraj Gurung	niraj@gmail.com	Airport	9874563210	BBA	2020-01-07T21
3	17030710	Amit Gurung	amit@gmail.com	Bindabasini	1234567890	Marketing	2020-01-07T21
4	17030711	Ram Limbu	ram@gmail.com	Pokhara	2222222222	BBA	2020-01-08T07
5	17030712	Ankit Gurung	ankit@gmail.com	Birauta	4444444444	BIT	2020-01-09T14
6	17030713	Gita Thapa	gita@gmail.com	Damauli	2222222222	BBA	2020-01-09T21
7	17030714	Dear Thapa	dear@gmail.com	Pokhara	9846055089	Marketing	2020-01-10T1

Figure 5: Submit

- ii. **Sort Name:** The data present in datagrid is sort by alphabet after clicking this button.

ID	RegNo	Name	Email	Address	ContactNo	CourseEnroll	RegistrationDate
3	17030710	Amit Gurung	amit@gmail.com	Bindabasin	1234567890	Marketing	2020-01-0772
5	17030712	Ankit Gurung	ankit@gmail.com	Birauta	444444444	BIT	2020-01-0971
1	17030708	Ashish Thapa	ashish@gmail.com	Pokhara	9805892471	BIT	2020-01-0772
7	17030714	Dear Thapa	dear@gmail.com	Pokhara	9846055089	Marketing	2020-01-1071
6	17030713	Gita Thapa	gita@gmail.com	Damauli	222222222	BBA	2020-01-0972
2	17030709	Niraj Gurung	niraj@gmail.com	Airport	9874563210	BBA	2020-01-0772
4	17030711	Ram Limbu	ram@gmail.com	Pokhara	222222222	BBA	2020-01-0870

Figure 6: Sort Name

- iii. **Submit Validation:**

ID	RegNo	Name	Email
1	17030708	Ashish Thapa	ashish@gmail.com
2	17030709	Niraj Gurung	niraj@gmail.com
3	17030710	Amit Gurung	amit@gmail.com
4	17030711	Ram Limbu	ram@gmail.com
5	17030712	Ankit Gurung	ankit@gmail.com
6	17030713	Gita Thapa	gita@gmail.com
7	17030714	Dear Thapa	dear@gmail.com
8	149369	hem Poudel	hem.poudel@gmail.com

Figure 7: Empty Validation

- iv. **Submit Validation:**

ID	RegNo	Name	Email
1	17030708	Ashish Thapa	ashish@gmail.com
2	17030709	Niraj Gurung	niraj@gmail.com
3	17030710	Amit Gurung	amit@gmail.com
4	17030711	Ram Limbu	ram@gmail.com
5	17030712	Ankit Gurung	ankit@gmail.com
6	17030713	Gita Thapa	gita@gmail.com
7	17030714	Dear Thapa	dear@gmail.com

Figure 8: Email Validation

- v. **Sort Registration Date:** The function of this button is to sort the data present in datagrid by sorted date.

Name	Email	Address	ContactNo	CourseEnroll	RegistrationDate
Ashish Thapa	ashish@gmail.com	Pokhara	9805892471	BIT	2020-01-07T21:43:09+05:45
Niraj Gurung	niraj@gmail.com	Airport	9874563210	BBA	2020-01-07T21:44:34+05:45
Amit Gurung	amit@gmail.com	Bindabasini	1234567890	Marketing	2020-01-07T21:45:06+05:45
Ram Limbu	ram@gmail.com	Pokhara	2222222222	BBA	2020-01-08T07:58:33+05:45
Ankit Gurung	ankit@gmail.com	Birauta	4444444444	BIT	2020-01-09T14:24:47+05:45
Gita Thapa	gita@gmail.com	Damauli	2222222222	BBA	2020-01-09T21:23:05+05:45
Dear Thapa	dear@gmail.com	Pokhara	9846055089	Marketing	2020-01-10T13:37:51+05:45

Figure 9: Sort Registration Date

- vi. **Count:** The function of this button is to display total number of students on each program

Programme	Total Students
BIT	2
BBA	3
Marketing	2

Figure 10: Count

- a. After Clicking “View Graph” user can display chart showing total number of students on each program.



Figure 11: View Graph

- b. Import

Reg No :

Name :

Email :

Course :

Address :

Contact :

Submit Sort Name

Count Sort Registration Date

ID	RegNo	Name	Email	Address	ContactNo	CourseEnroll	RegistrationDate
1	17030708	Ashish Thapa	ashish@gmail.com	Pokhara	9805892471	BIT	2020-01-07T21:12:11
2	17030709	Niraj Gurung	niraj@gmail.com	Airport	9874563210	BBA	2020-01-07T21:12:11
3	17030710	Amit Gurung	amit@gmail.com	Bindabasini	1234567890	Marketing	2020-01-07T21:12:11
4	17030711	Ram Limbu	ram@gmail.com	Pokhara	2222222222	BBA	2020-01-08T01:12:11
5	17030712	Ankit Gurung	ankit@gmail.com	Birauta	4444444444	BIT	2020-01-09T12:12:11
6	17030713	Gita Thapa	gita@gmail.com	Damauli	2222222222	BBA	2020-01-09T21:12:11
7	17030714	Dear Thapa	dear@gmail.com	Pokhara	9846055089	Marketing	2020-01-10T11:12:11

Figure 12: Before Import

Reg No :

Name :

Email :

Course :

Address :

Contact :

Submit Sort Name

Count Sort Registration Date

ID	RegNo	Name	Email	Address	ContactNo	CourseEnroll	RegistrationDate
1	17030708	Ashish Thapa	ashish@gmail.com	Pokhara	9805892471	BIT	2020-01-07T21:12:11
2	17030709	Niraj Gurung	niraj@gmail.com	Airport	9874563210	BBA	2020-01-07T21:12:11
3	17030710	Amit Gurung	amit@gmail.com	Bindabasini	1234567890	Marketing	2020-01-07T21:12:11
4	17030711	Ram Limbu	ram@gmail.com	Pokhara	2222222222	BBA	2020-01-08T01:12:11
5	17030712	Ankit Gurung	ankit@gmail.com	Birauta	4444444444	BIT	2020-01-09T12:12:11
6	17030713	Gita Thapa	gita@gmail.com	Damauli	2222222222	BBA	2020-01-09T21:12:11
7	17030714	Dear Thapa	dear@gmail.com	Pokhara	9846055089	Marketing	2020-01-10T11:12:11

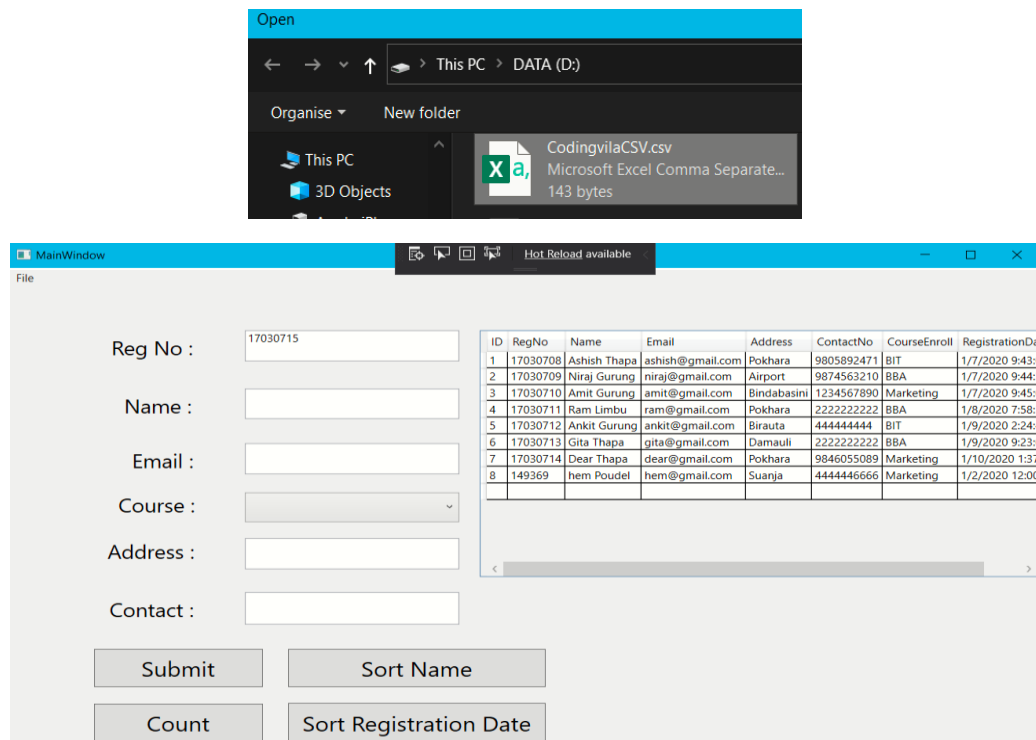


Figure 13: Import

2.2. Architecture

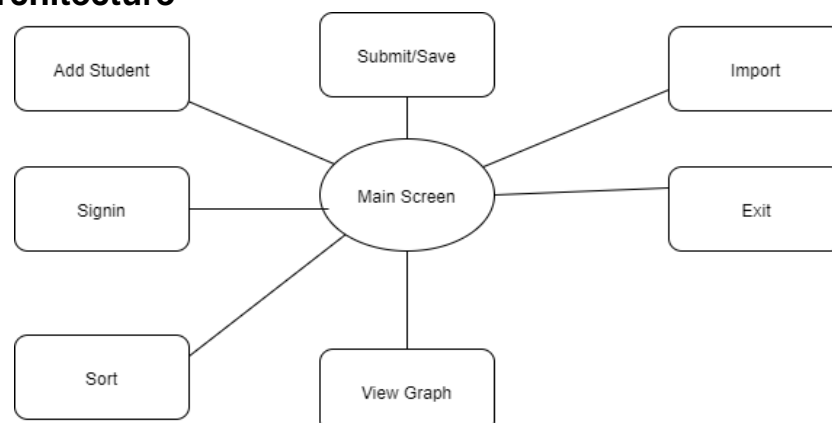


Figure 14: Architecture Diagram for Student Information System

This diagram of the architecture shows the system skeleton. Systems Architecture is a response to the conceptual and practical challenges of describing and designing complex systems (Golden, 2020).

The user must enter a correct username and password to enter the system. Thus, user can pick the menu at the top after entering the program user. This system includes student input detail and display graph chart showing total number of students on each program. Plus, save and retrieve the student enrol status with the student details.

2.3. Class Diagram

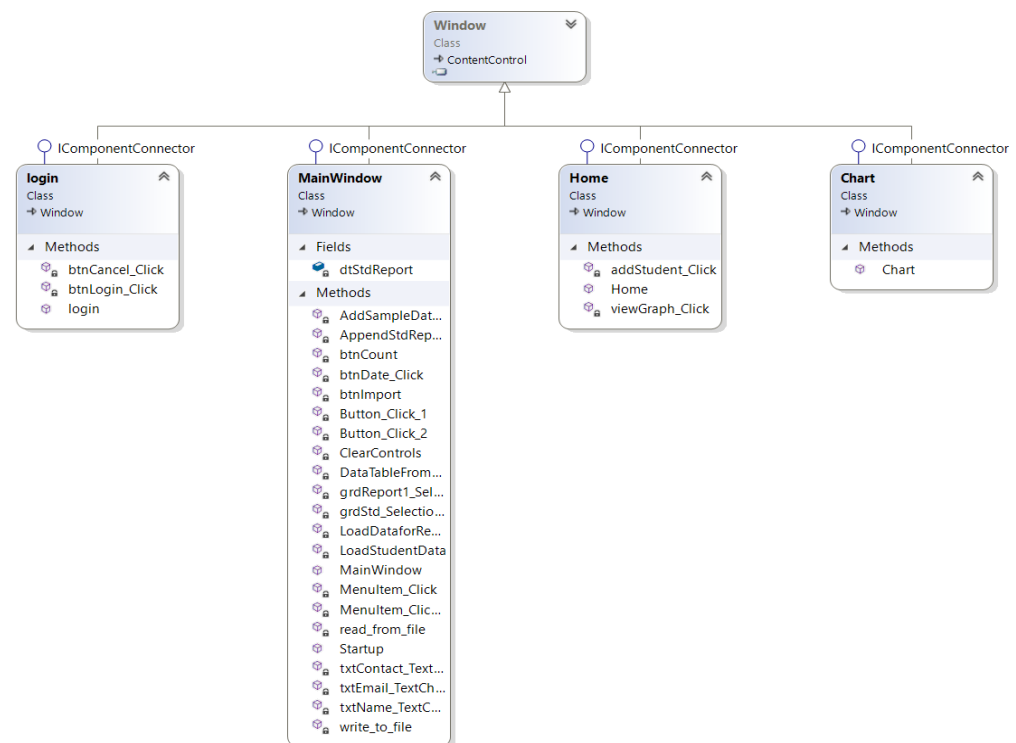


Figure 15: Class Diagram

This is the visual studio class diagram that shows all the class made to develop the system. No object can be made without classes, so classes are important to any system's development. Class diagrams are a key object in the development of object-oriented (OO) software, as they lay the basis for all subsequent design and implementation work. It follows that highlighting the quality of the class diagram can make a significant contribution to higher quality OO software systems (Marcela Genero, 2005).

Here are some of the descriptions of class diagram and their methods.

✓ Admin Login Form

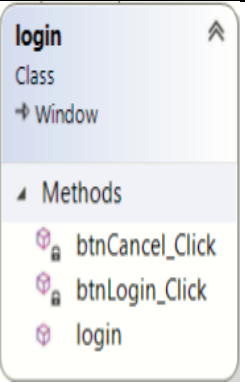
Method	Description	
btnCancel_Click	This method will close the admin panel and whole entire system.	
btnLogin_Click	This method help login to the system after correct input username and password.	

Table 1: Table for Admin Login Form

✓ Home Window

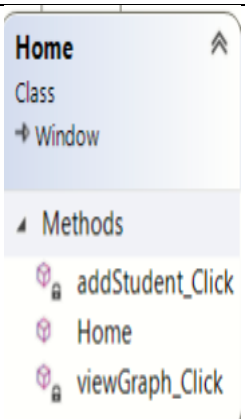
Method	Description	
addStudent_Click	This method opens the student input form window for entry data.	
viewgraph_Click	This method displays graph chart showing total number of students on each program.	

Table 2: Table for Home Window

✓ Main Window

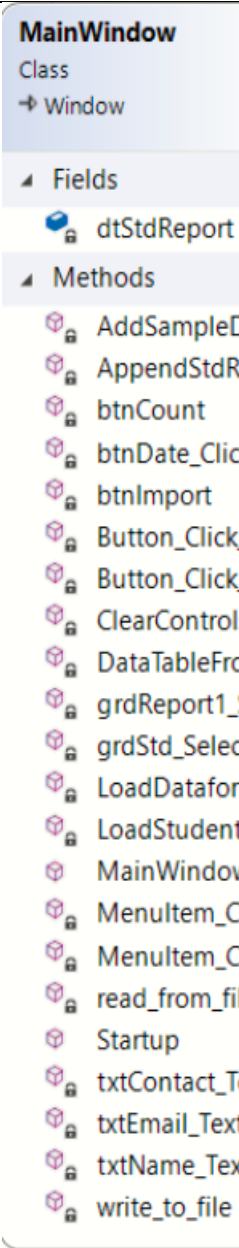
Method	Description	
Button_Click_1	This method validates the textfield and call the AppendStdReport method and write in data grid.	
AppendStdReport	This method read the input field data and make an external xml file.	
btnImport	This method imports the external csv file and write in data grid.	
Button_Click_1	This method function is to sort the name by alphabetical order.	
btnCount	This method displays total number of students on each program	
btnDate_Click	This method function is to sort the data by registration date.	

Table 3: Table for Main Window (i.e. Student Record)

✓ Chart

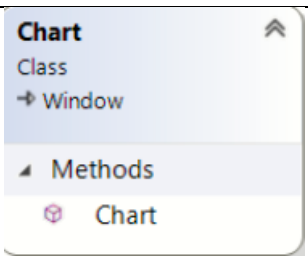
Method	Description	
Chart	Calls displayInChart method and generates bar diagram	

Table 4: Table for Chart

2.4. Flowchart

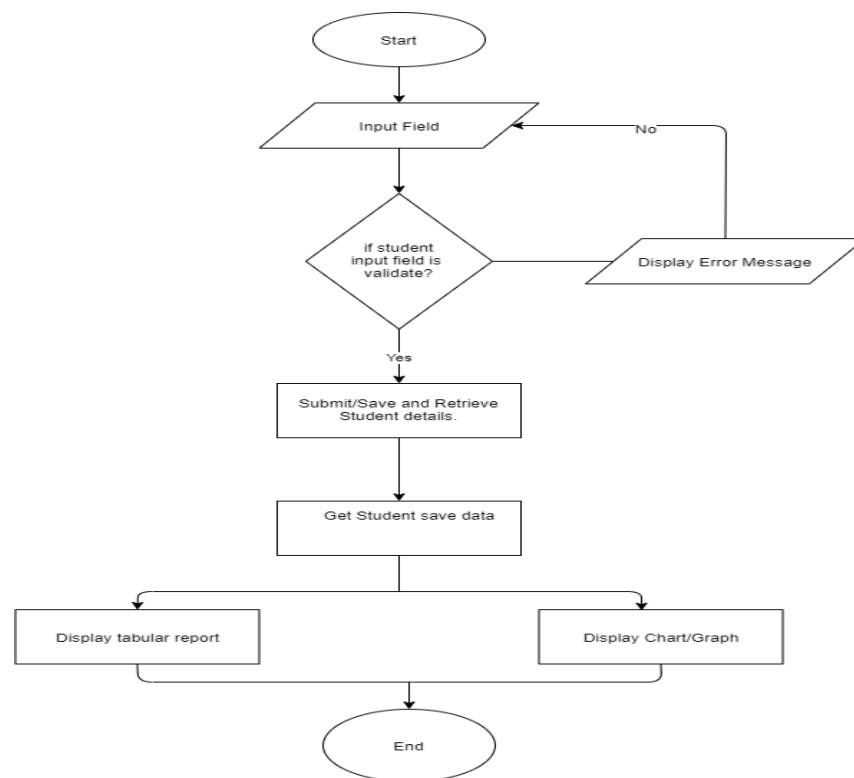


Figure 16: Flowchart diagram for this system

The experiment was conducted to determine whether the flowcharts improved the speed and efficiency of computer program debugging (D.J.Gilmore, 1983). This flowchart diagram shows the student input field data which will append first. If the input validation is failed again user have to re-fill. After submit/ save data system retrieve in its data grid. According to its system can display chart showing total number of students on each program. Lastly, a chart is created and shown into the windows.

3. Algorithm:

The SfDataGrid (DataGrid) control for WPF is used to display collection of data in rows and columns. SfDataGrid allows to sort the data against one or more columns either in ascending or descending order. When Sorting is applied, the rows are rearranged based on sort criteria.

Hence, I have used default sorting algorithm of DataGrid. The data is stored in ascending order using DefaultView.Sort property (Synfusion, 2001).

4. Journal Articles

- a. The student information system is an integral part of the technology. This student information system handles all aspects of student data right from admission, class schedules, student enrollment, overall student performance, and student personal information. All of these elements are integrated into a single database, accessing and tracking any student's data with just a click of the mouse.

Yes, improving the efficiency of school administration and managing student data is effortless and easy with the Student Information System software. This system can be customized to cover a wide range of activities. It can be easily accessed at any time. Schools can run the Student Management Information System on minimal hardware and have the competitive advantage of using the latest equipment (StateUniversity, 2016).

- b. At present, there are many college students, so the identification and verification of student identity information always occur in the campus, as well as the corresponding services given by the students' identification. Therefore, safe and efficient student information management, convenient identification to obtain the required service, and safe and reliable information transmission have become an important task for the student information management.

The system is mainly composed of two parts: terminal and host computer. The terminal is composed of fingerprint identification module and micro controller. The host computer can use personal computers or large servers according to the number of users, and the management of student information database uses SQL Server (Pengtao Yang, 2017).

5. Reflection

"Student Information System" is an application for the windows model that is being developed to record student information and entry programme details. This framework is built in the free software version of the Microsoft Visual Studio 2019 Community Version. The user can easily navigate through the program because of the simple user interface.

Using Visual Studio as IDE, the entire task is based on the C # language. Because this application is new to us in the development because we have not built any application. Exploring the new IDE is therefore beneficial for us, we can now use this IDE better. In order to complete this framework, I must do a lot of sketch research for UI design, references from books, journals and websites described in the reference page below. Hope this purpose-based system will help a student information to keep its data secure and accurate.

I have a lot of errors and problems related to the new IDE and the newly suggested language C # during the development phase. I get more flexibility for programming after seeing these problems and error. So, I really want to thank my tutor and my friends to complete this plan.

6. Conclusion

Lastly, I have come to conclusion after completing the system. It is a computerized system that helps keep a record of student information. I've got to know about the description of any student information system by designing this method. Perhaps in the coming days, this application will help in many ways. Not only does this application record student statistics, but it can also trace tabular report showing total number of students enrolled so far in each program offered by the institution. This would be useful for that student's data collection depending on number of student and programme.

I have many mistakes and problems when designing this program, but I also consider the methods to solve them, so I have a great opportunity to address these errors. This can help solve these mistakes in my future work.

References

D.J.Gilmore, H., 1983. An investigation of the utility of flowcharts during computer program debugging.. *International Journal of Man-Machine Studies*, 20(4), pp. 357-372.

Golden, B., 2020. *What is Systems Architecture ?*. [Online] Available at: https://www.lix.polytechnique.fr/~golden/systems_architecture.html [Accessed 02 01 2020].

Marcela Genero, M. P. a. C. C., 2005. A Survey of Metrics for UML Class Diagrams. *Journal of Object Technology*, Volume 4, p. 9.

Pengtao Yang, G. S. J. H. P. Z. a. J. L., 2017. A Student Information Management System Based on Fingerprint Identification and Data Security Transmission. *Journal of Electrical and Computer Engineering*, p. 6.

StateUniversity, S. I. S. f. K., 2016. Student Information System for Kalinga StateUniversity. *International Journal of Management and Commerce Innovations*, 4(1), pp. 330-335.

Synfusion, 2001. *Synfusion*. [Online] Available at: <https://help.synfusion.com/wpf/datagrid/sorting> [Accessed 10 01 2020].

