Marking Scheme

Informatics College Pokhara

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Application Development

CS6004NI

Course Work 1

Submitted By: **Kamal Chalise**
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	User Interface is complete but not separated and have proper use of controls
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	Very poorly designed and only contains one report format with in appropriate data
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 below average. Is textual only.

Marking Scheme

Application architecture & description of the classes ad methods sued	very poorly explained.
Flow chart, algoriathms and data sctructures used	very poorly explained and no diagramatic representation
Reflective essay	Average work with un clear learnings, experience or findings.

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.

In overall the code is working and all the functionality seems working and system can be used

Module Code & Module Title

CS6004NA Application Development

Assessment Weightage & Type

30% Individual

Year and Semester

2019-2020 Autumn

Name: Kamal Chalise

University ID: 17031943

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1. INTRODUCTION

The designed system is a Student Management system. The system is highly designed, developed and tested under various circumstances. The Students Management System consists the feature like add a student, generate report, daily and weekly report along with the chart, enroll students, retrieved data, etc. In addition to that, the student's detail can be added such as id no., name, course enroll, contact, email and address. Similarly, Furthermore, there is also a feature to view the daily and weekly report on chart and on the tabular form. Other available features are well explained in other sections of the report.

1.1 Current Scenario

There are many Schools that are still keeping the detail of the student's data in an old traditional system which is a paper-based system. Similarly, those schools having the digital record system are also not with all the features required for well maintained system.

1.2 Proposed System

The main purposed system is a digitized system which eradicates the problems like loosing the data, having less features and perfect security system. The login section ensures the system security. Entry of the data and display of the data have been made easy with the easy user-interface.

2. User Manual

Some of the screenshots are shown as below which will illustrate a user how to operate the system in an easy way.

As the end user starts the system in the initial stage, there will be the login screen for the security purpose. The username and password of the system is “kamal”. Only with the valid username and password can access to the system.

Figure 1: Login screen.

If the username and password is incorrect, the user cannot access to the system.

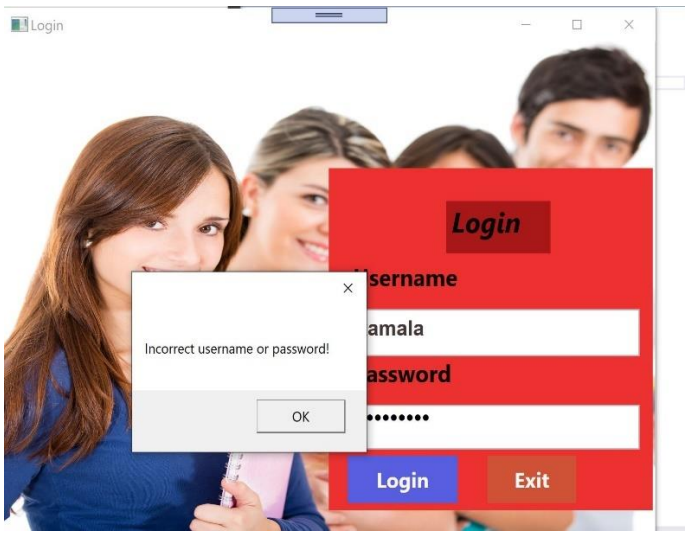


Figure 2: Invalid username and password screen.

After the user enters correct username and password, then the user can move to the next screen to enter the detail of the student.

Figure 3: Main window screen where user can enter the detail.

Similarly, when the user leaves the field empty, an alert box appears to inform the user.

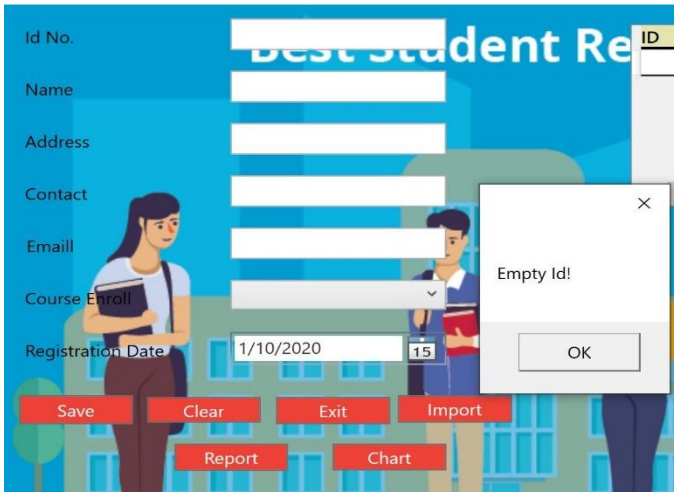


Figure 4: Empty field alert screen.

If all the fields are filled with the appropriate data, the data are saved successfully.

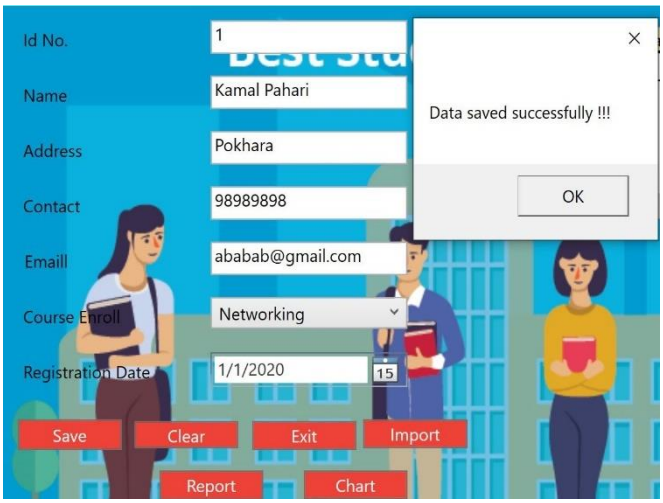


Figure 5: Successfully added data.

When the ‘Exit’ button is clicked, the popup box appears saying window is about to exit.

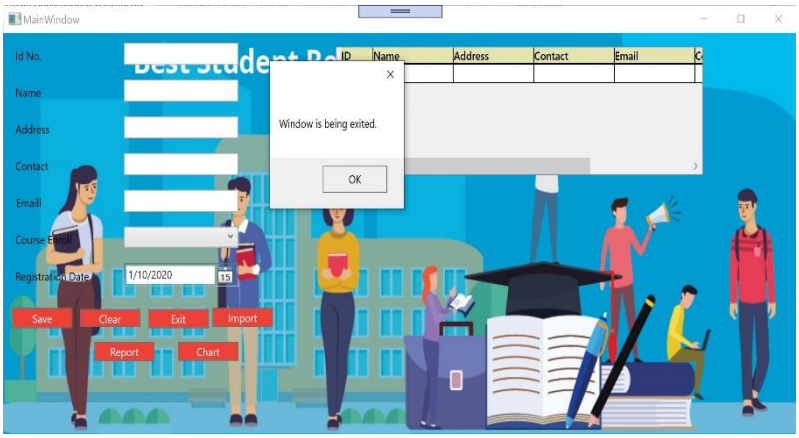


Figure 6: Window exit alert box.

When the ‘Report’ button is clicked, a new screen appears, where we can retrieve data, sort them according to the name and date.

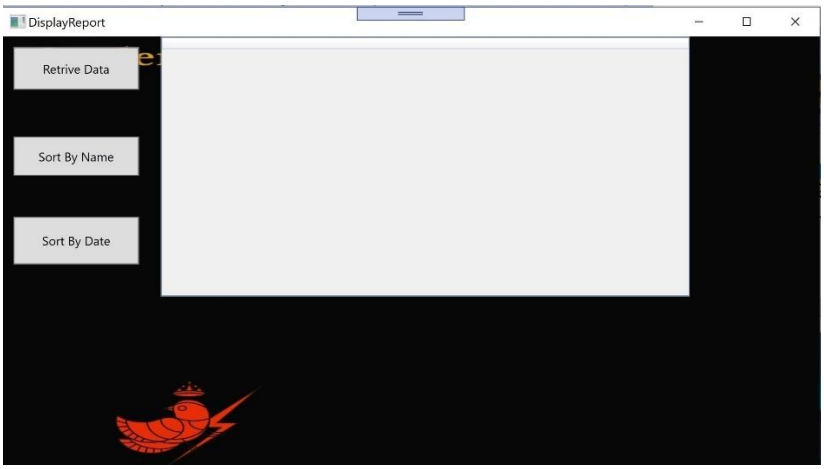


Figure 7: Daily report screen.

Similarly, data can be retrieved when the ‘Retrive Data’ button is clicked.

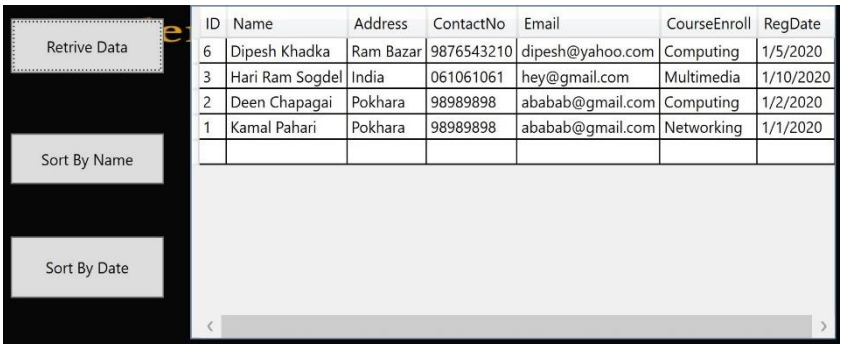


Figure 8: Data retrieved.

Data also can be sorted by name and date.

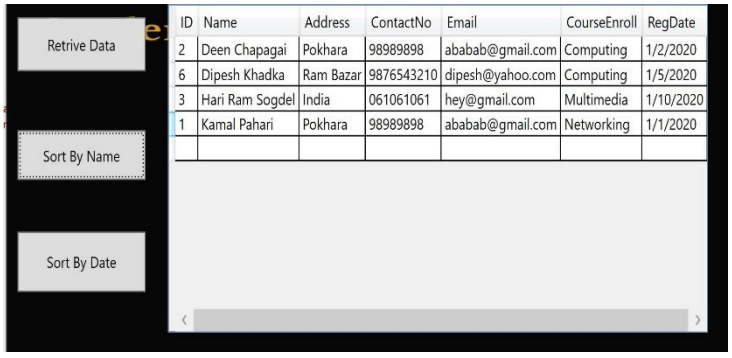


Figure 9: Data sorted by name.

In the main window, there is a button called ‘chart’ in which the new screen appears to count the number and also the pie chart can be generated.

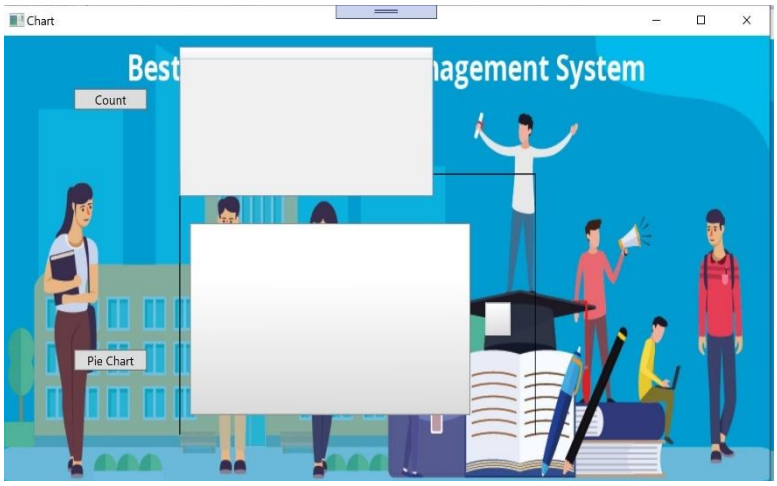


Figure 10: Chart screen.

Inside the chart screen, the total numbers of students enrolled in different courses can be counted when the button ‘Count’ is clicked.

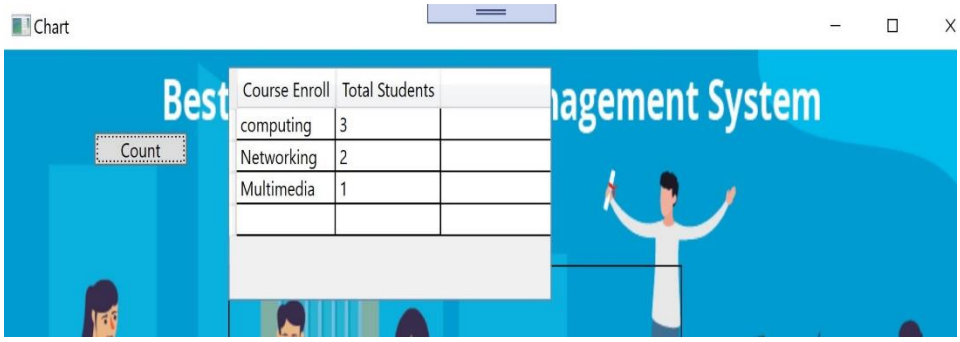


Figure 11: Counting the total numbers of students enrolled.

Similarly, a weekly pie-chart also can be generated.

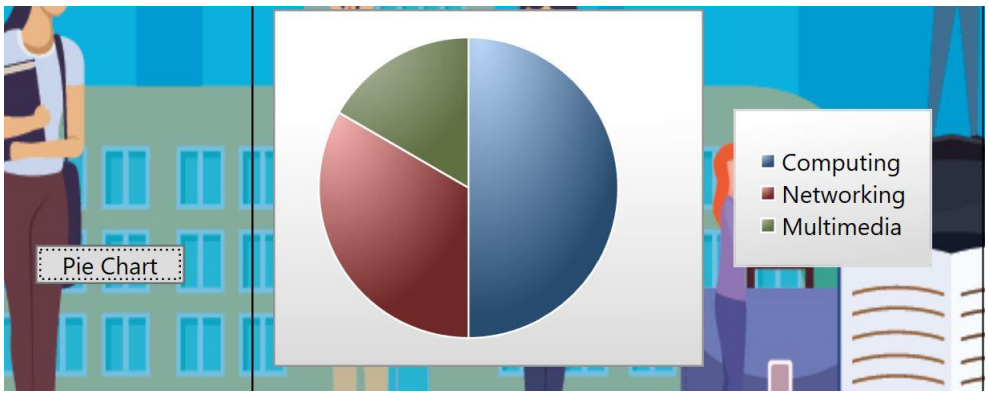


Figure 12: Generating a weekly-based pie-chart.

3. Journal Articles

I). Student Information Management System (SIMS) provides a simple interface for maintenance of student information. It can be used by educational institutes or colleges to maintain the records of students easily. The creation and management of accurate, up-to-date information regarding a students' academic career is critically important in the university as well as colleges. Student information system deals with all kind of student details, academic related reports, college details, course details, curriculum, batch details, placement details and other resource related details too. It tracks all the details of a student from the day one to the end of the course which can be used for all reporting purpose, tracking of attendance, progress in the course, completed semesters, years, coming semester year curriculum details, exam details, project or any other assignment details, final exam result and all these will be available through a secure, online interface embedded in the college's website. It will also have faculty details, batch execution details, students' details in all aspects, the various academic notifications to the staff and students updated by the college administration. It also facilitates us explore all the activities happening in the college, Different reports and Queries can be generated based on vast options related to students, batch, course, faculty, exams, semesters, certification and even for the entire college (S.G.Totad, 2013).

II). The mission of the Student Information Management system is to create an integrated information technology environment for students, HOD, faculty, staff and administration. Our goal is to focus on services and integration for end users. It is a web-based self-service environment for students, prospective students, and employees; an administrative transaction processing environment for yearly admissions; an informative environment for all levels of faculty and staff to do reporting, data extraction and information analysis. It is mainly useful for educational establishments to manage student data which also facilitates all individual associated information for easier navigation on daily basis. It provides capabilities for entering student test and other assessment scores, building student schedules, tracking student attendance and managing many other student-related data needs in a college. Our easy-to-use, integrated college administration application would be used to reduce time spent on

administrative tasks, as to concentrate on other skillful practical activities other than book worming. It can accept, process and generate reports at any given point of time accurately. (Budhrani, n.d.)

III). Student Management System is essential for an institution or to a college or to a university, which utilizes computer, also which reduces manpower. Student Management System manages several student details like USN, student attendance, internal assessment marks, parent name, phone number, email-id, date-of-birth, class, sex etc. The goal of evolving this application is to induce the report regarding attendance at the completion of the conclave or at the middle of the conclave. Also, it is possible to get the average of internal assessments and it is easy to get the report at the end. Student's and faculty's details uploaded by the admin. He will give username and passwords to the respective. Faculty will update the student status by putting present or absent. Suppose if particular student is absent, the message will be sent to the respective parent and email will be sent to parent. Finally student can only view his details, he can take the report. Student Management System has four modules. Initially admin will login, login module. Later he is going to upload the details of student, called student data module which has the functionalities like searching, inserting, updating and deleting the student data. At the end of the session report will be generated, called report module which is generated in the pdf format. If particular student is absent his status will be sent to the parent by a SMS, called SMS module, and email will be sent to the respective parent and it is known as email module (P, 2017).

IV). The study examined the management of students' records at the koforidua Polytechnic and the implication for good governance. Governance is the essential purpose of any organization. Governance is the process by which individuals organize themselves, function, exercise authority and ensure continuity. In this study, records keeping is a core component of good governance and records enable programmers and services as well as public access to them. Archival records support a variety of functions and help institutions and society exploit the value of individual and collective experience.

Student records are particularly important records series in any educational institution. Student records are created for the student once they enroll on the programmed of the polytechnic. The completeness and reliability of the records are critical to the polytechnic system itself and to the student. The study relied on the case study method which was qualitative and investigative. Data collected was through interview and observation and analyzed qualitatively. A total of 15 people been primary users of student records participated in the study. The records life cycle was used as the theoretical framework. Finding revealed the absence of a records management policy and a weak programmed structure for managing records (Otu, 2014).

V). It is the inevitable outcome of higher education reform to carry out office and departmental target responsibility system, in which statistical processing of student's information is an important part of student's performance review. On the basis of the analysis of the student's evaluation, the student information management database application system is designed by using relational database management system software in this paper. In order to implement the function of student information management, the functional requirement, overall structure, data sheets and fields, data sheet Association and software codes are designed in details (Lee, 2012).

4. System Architecture

Classes and Properties

The application has following main classes:

Login.xaml: This is the main page of the application. When the application is started, Login.xaml classed is called and login form is displayed. In this page, the user is asked to input the username and password. When the correct username and password is entered, it moves to the next page.

MainWindow.xaml: After the user enters the correct username and password, it moves to the MainWindow.xaml page. In this page, students detail is entered, the data are saved and imported, and Report button and Chart button are also there which moves to next page.

DisplayReport.xaml: When the Report button of the MAinWindow.Xaml is clicked, the DispalyReport,xaml page is called. In this page, the data are retrieved and also the data are sorted on the basis of date and name.

Chart.xaml: When the Chart button on the MainWindow.xaml is clicked, Chart.xaml page is called. In this page, weekly based pie-chartis generated and the number of the student enrolled are counted.

Methods

The application has the following methods:

Methods	Description
`private void Button_Click(object sender, RoutedEventArgs e)`	When Button_Click is clicked, the user is logged in.
`private void Exit_Click(object sender, RoutedEventArgs e)`	When Exit_Click is clicked, the window exits.
`private void btnSave_Click(object sender, RoutedEventArgs e)`	When btnSave_Click is clicked, the detail of the data is saved.
`private void btnImport_Click(object sender, RoutedEventArgs e)`	When btnImport_Click is clicked, the data of the students is imported.
`private void btnClear_Click(object sender, RoutedEventArgs e)`	When btnClear_Click is clicked, the data on the field are removed.
`private void btnReport_Click(object sender, RoutedEventArgs e)`	When btnReport_Click is clicked, the report page is opened.
`private void Button_Click(object sender, RoutedEventArgs e)`	When Button_Click is clicked, the chart page is opened.
`private void buttonRetrive_Click(object sender, RoutedEventArgs e)`	When buttonRetrive_Click is clicked, the data are retrived.
`private void buttonSName_Click(object sender, RoutedEventArgs e)`	When buttonSname_Click is clicked, the data are sorted on the basis of name.
`private void btnChart_click(object sender, RoutedEventArgs e)`	When it is clicked, the total numbers of the students enrolled in different course is displayed.
`private void btnPieChart_Click(object sender, RoutedEventArgs e)`	When it is clicked, the weekly based pie-chart is generated.

Table 1: Table of the methods of the application.

Flowchart for the report.

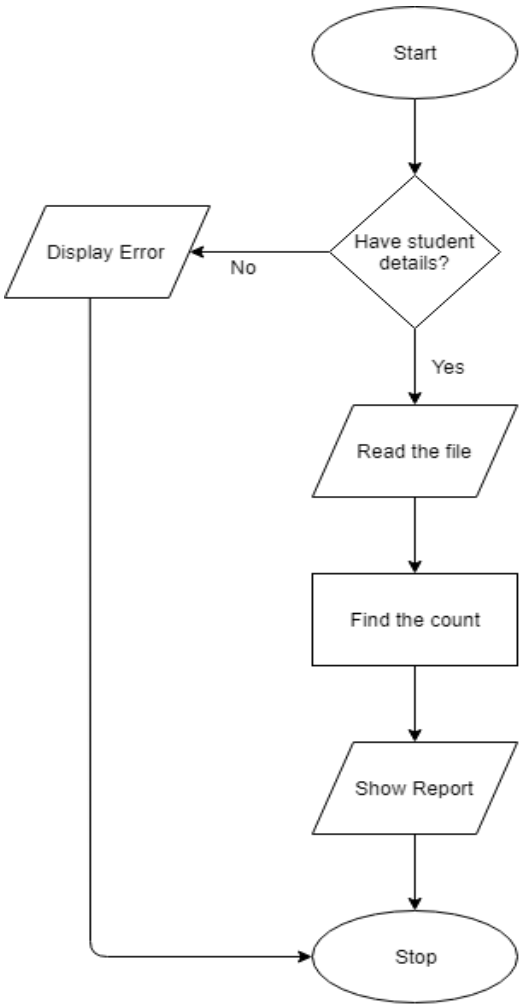


Figure 13: Flowchart of the weekly report.

Algorithm of the Report

Steps

1. Start
2. Check if student details is there or not.
3. If No, display error message and exit.
4. If Yes, Read the file.
5. Find the count.
6. Display Count.
7. Stop

5. Sorting Algorithm

Bubble sort is a simple sorting algorithm which works on the comparison-based algorithm. In this algorithm, the adjacent elements are compared and the elements are swapped if they are not in order. This algorithm is usually not suitable for large data sets as its average and worst-case complexity are of $O(n^2)$ where **n** is the number of items.

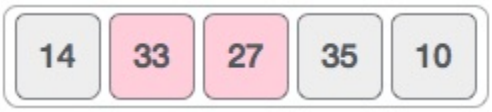
Working Methods:

We take an unsorted array. Bubble sort takes $O(n^2)$ time so we're keeping it short and precise.

Bubble sort starts with very first two elements, comparing them to check which one is greater.

In this case, value 33 is greater than 14, so it is already in sorted locations. Next, we compare 33 with 27.

We find that 27 is smaller than 33 and these two values must be swapped.



The new array should look like this −

Next, we compare 33 and 35. We find that both are in already sorted positions.

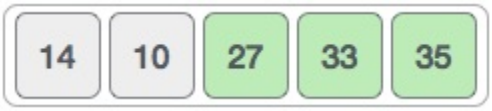
Then we move to the next two values, 35 and 10.

We know then that 10 is smaller 35. Hence they are not sorted.

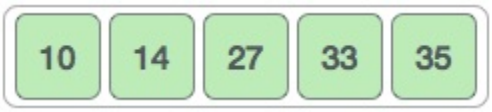
We swap these values. We find that we have reached the end of the array. After one iteration, the array should look like this −

To be precise, we are now showing how an array should look like after each iteration. After the second iteration, it should look like this −

Notice that after each iteration, at least one value moves at the end.



And when there's no swap required; bubble sorts learn that an array is completely sorted.



So, with the comparison between the elements, the elements are finally sorted. (tutorialspoint.com, n.d.)

6. Reflection

The developed system is Students Management System. We developed the system using Visual Studio with C# language. C# is a simple, modern, object-oriented programming language. We all are familiar that C# is a hybrid of C and C++ language. The basic environment of creating this system is to reflect the real working mechanism of the Student Record System. The GUI designed is highly user interface and user with basic system administration can operate the system.

An end user can have the quality of adding the student's detail like the id, name, address, contact, email, enrol course, enrol date, etc. Similarly, user can generate the report daily and weekly. The total number of the students enrolled in the course can be generated through pie-chart. Using the Visual Studio was really a challenging task though at last it was fun while doing the coursework.

7. Conclusion

The main purpose of the Student Management System is to create the system with the help of C# language using Visual Studio. Firstly, the system has the framework which shows a login screen for the security purpose. After the login, the framework shows a primary screen where the user can enter the data and detail of the student. Aside, the data are saved, retrieved, imported and also report on the basis of number of the students enrolled can be generated. Finally, with the help of module teacher Mr. Ishwor Sapkota and Sachin sir, the struggle for the work and all the errors were debugged. So, it was a great chance to learn the C# language and also the use of Visual Studio.

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