

# Informatics College Pokhara



informatics  
college pokhara

**Application Development**

**CS6004NI**

**Course Work 1**

**Submitted By:** Riza Khatri  
**London Met ID:** Enter ID Here

**Submitted To:** Ishwor Sapkota  
Module Leader

Component Grade and Comments	
<b>A. Implementation of Application</b>	
<b>User Interface and proper controls used for designing</b>	missing controls in the interface
<b>Manual data entry or import from csv</b>	appropriate use of data types but missing some properties required or missing CRUD operation
<b>Data Validation</b>	Only basic validation
<b>Enrollment Report &amp; weekly report in tabular format</b>	very poorly executed reports and data not shown accurately
<b>Course wise enrollment report &amp; Chart display</b>	Very poorly designed and only contains one report format with in appropriate data
<b>Algorithm used for sorting &amp; proper sorting of data</b>	Default sorting provided by .net is used
<b>B. Documentation</b>	
<b>User Manual for running the application</b>	User Manual is below average. Is textual only.

<b>Application architecture &amp; description of the classes and methods used</b>	very poorly explained.
<b>Flow chart, algorithms and data structures used</b>	average work with very limited explanation and missing diagrammatic representation.
<b>Reflective essay</b>	Very poorly written

**C. Programming Style**

<b>Clarity of code, Proper Naming convention &amp; comments</b>	very poorly written code and no comments at all
<b>System Usability</b>	very poorly developed application

<b>Overall Grade:</b>	<b>E+</b>
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**Overall Comment:**

Code should be self explainable with less comments. Need some proper naming of the component 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

# Informatics College Pokhara



## Application Development

### CS6004NP

#### Coursework 1

**Submitted By:**

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Date: 10-Jan-2020

**Submitted To:**

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Module Leader

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## **1. Introduction**

Today's world of technological change, the record keeping system should be maintained and should be kept safe. So, the traditional way of keeping record should now be changed into digitalized form. Likewise, Student Information System is one of the applications to improve the information of any particular student.

The coursework is about design system for Student Information. Student Information System are the primary systems for operating colleges. The system can record student details and enrolment of student. The system can manage and record student-level data collection that allows the Department to collect and analyse more accurate and comprehensive information. Student information systems provide capabilities for entering student records and managing many other student-related data needs in a college or university. Furthermore, there is a feature to view the chart for weekly table and chart.

### **1.1. Current Scenario**

During the last half of the 20<sup>th</sup> century, social and technological changes in traditional record-keeping practices, making them either insufficient or obsolete. New practices have developed but standards (best practices) are still evolving. A problem with the traditional methods of storing data is that storing sensitive information like financial, medical, and government records in a centralized location like a database makes a hacker's life easier; all a hacker has to do is breach the one location where the data is stored to steal everybody's information.

### **1.2. Proposed System**

The proposed system is digitized system which is specially designed to overcome problem mentioned above. The GUI designed is highly user interface and user with basic system administration can operate the system. The system allows administrators to create and register students allowing them to set up a new student and sign them up for courses. It also includes a full reporting suite which provides details on students and courses details. The system ensures

security with the presence of login section. Entry of data and display of data have been made easy with the presence of easy user-interface.

### 1.3. User Manual

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


A screenshot of a login form with a light blue background. At the top, the title "Login Form" is centered in bold black text. Below the title, there are two input fields. The first is labeled "Username :" and the second is labeled "Password :". Both labels are in bold black text. Below the input fields, there are two buttons: "Login" and "Close". Both buttons are gray with black text.

Figure 1:Login Form

The username and password for this system is admin and admin respectively. If wrong username and password is entered it will display a message as below.



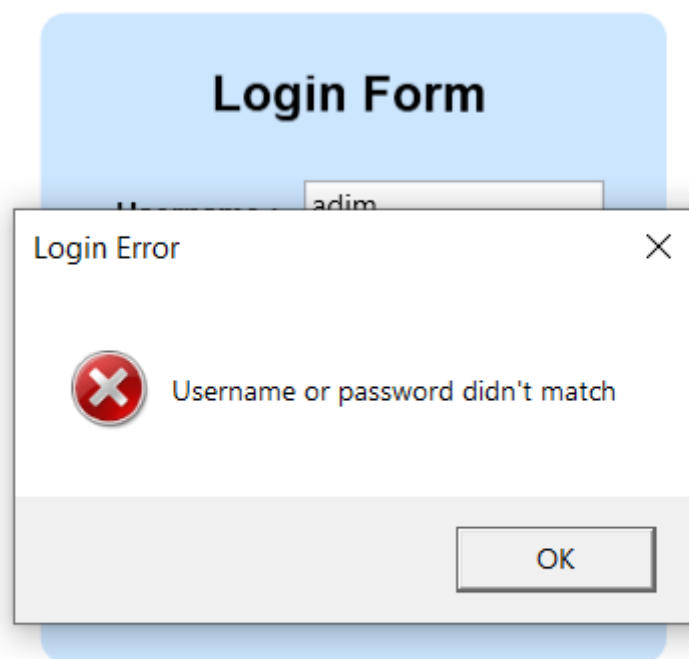


Figure 2: Message Display if username is not match

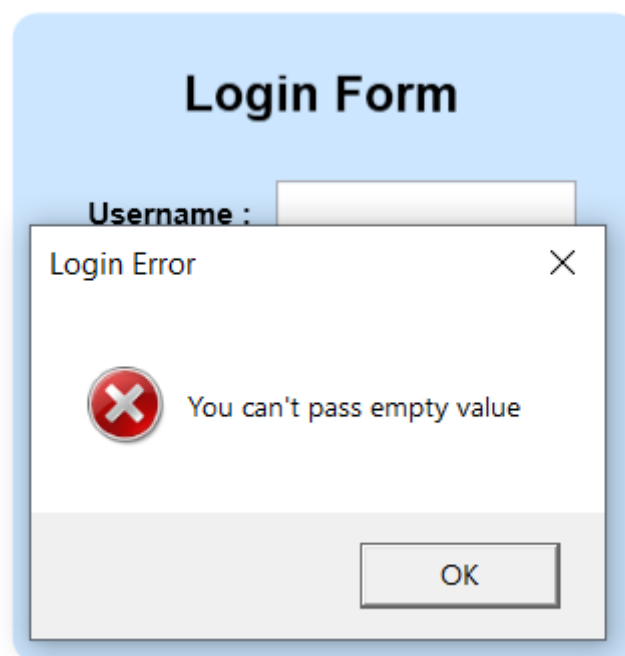
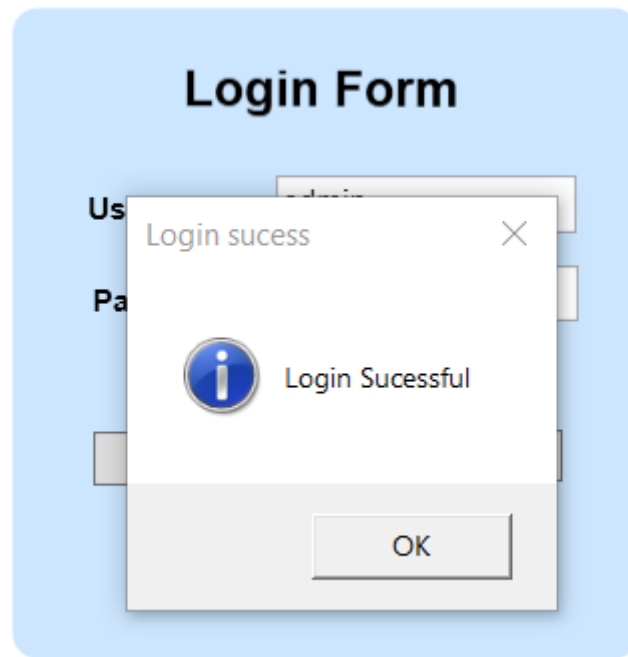
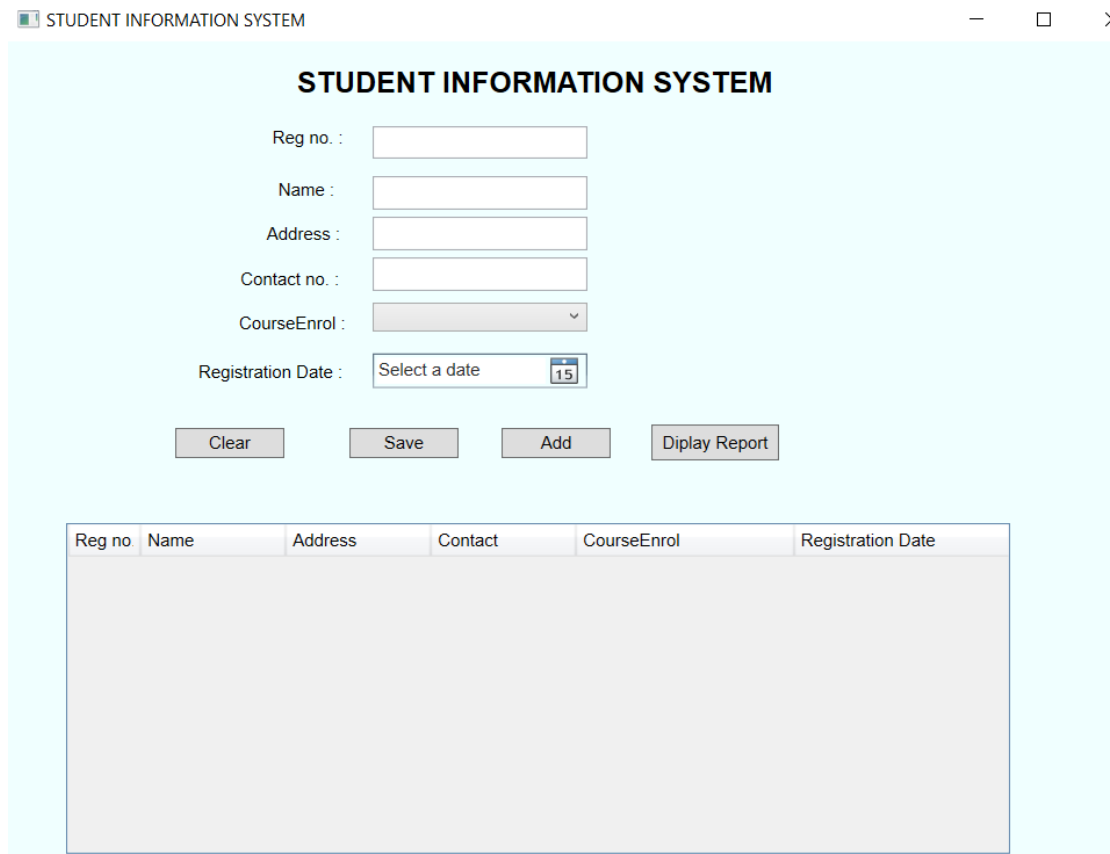


Figure 3: Message is Display if empty value is passed



*Figure 4: Display Login Successfully*



**STUDENT INFORMATION SYSTEM**

Reg no. :

Name :

Address :

Contact no. :

CourseEnrol :

Registration Date :

Reg no	Name	Address	Contact	CourseEnrol	Registration Date
--------	------	---------	---------	-------------	-------------------

Figure 5: Student information system form

After Logging into the system with correct credentials, the user get a form to add student details on it and buttons. These Buttons perform different tasks which are described as follows:

- Add: The add button lets user to add data in DataGrid with Student details.
- Save: As user click the save button all the details add into XML file.
- Display Report: Display report shows all the data add into XML, weekly report and sorting by name, date and import CSV.
- Clear: All the data is cleared by pressing button.

STUDENT INFORMATION SYSTEM

Reg no. :

Name :


Address :

Contact no. :

CourseEnrol :

Registration Date :

Message

 Successfully Added

Reg no	Name	Address	CourseEnrol	Registration Date
1	Riza khati	Tanahu	Programming	06/07/2020
2	Laxmi Poudel	Lekhath	Multimedia Technologies	05/01/2020

Figure 6: Student Data is added into Grid View

STUDENT INFORMATION SYSTEM

Reg no. :

Name :

Address :

Contact no. :

CourseEnrol :

Registration Date :

Message

Enrol Sucessfully

OK

Reg no	Name	Address	Contact	CourseEnrol	Registration Date
1	Riza khati	Tanahun	9080279865	Programming	06/07/2020
2	Laxmi Poudel	Lekhnath	9867656755	Multimedia Technologies	05/01/2020

Figure 7: Save data into XML by pressing button

StudentData - Notepad

File Edit Format View Help

```
<?xml version="1.0" standalone="yes"?>
<NewDataSet>
  <Student>
    <ID>1</ID>
    <RegNo>3001</RegNo>
    <Name>Raj Khati</Name>
    <Address>Damauli</Address>
    <Contact>9787667567</Contact>
    <CourseEnrol>Computing</CourseEnrol>
    <RegistrationDate>06/01/2020 </RegistrationDate>
  </Student>
  <Student>
    <ID>2</ID>
    <RegNo>3002</RegNo>
    <Name>Mahima Khati</Name>
    <Address>Tanahun</Address>
    <Contact>9876576577</Contact>
    <CourseEnrol>Multimedia Technologies</CourseEnrol>
    <RegistrationDate>07/01/2020 </RegistrationDate>
  </Student>
  <Student>
    <ID>3</ID>
    <RegNo>3003</RegNo>
    <Name>Asmita G.C.</Name>
    <Address>Parsang</Address>
    <Contact>9867656755</Contact>
    <CourseEnrol>Multimedia Technologies</CourseEnrol>
    <RegistrationDate>07/01/2020 </RegistrationDate>
  </Student>
  <Student>
    <ID>4</ID>
    <RegNo>3004</RegNo>
    <Name>Laxmi Poudel</Name>
    <Address>Lekhnath</Address>
    <Contact>9867656755</Contact>
    <CourseEnrol>Networks and IT Security</CourseEnrol>
    <RegistrationDate>07/01/2020 </RegistrationDate>
  </Student>
</NewDataSet>
```

Figure 8: XML file is generated in D drive

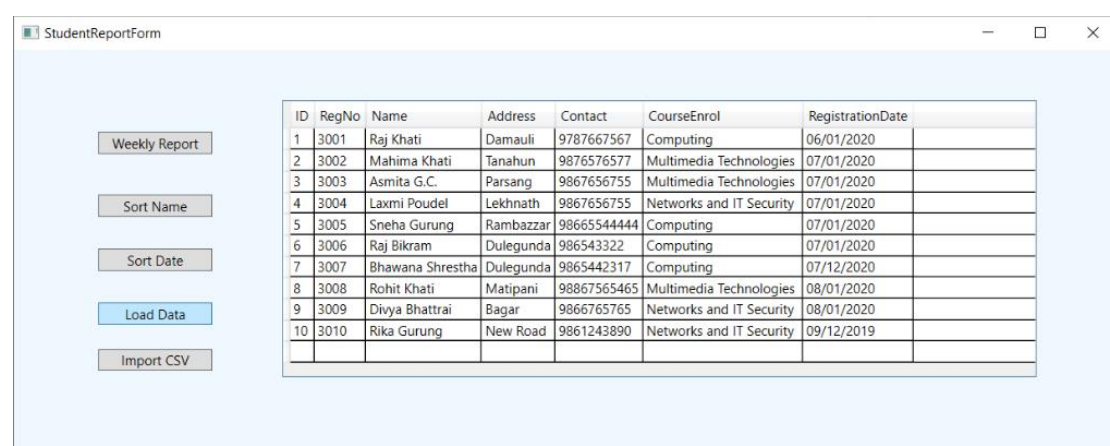


```

<?xml version="1.0" standalone="yes"?>
<xs:schema id="NewDataSet" xmlns="" xmlns:xs="http://www.w3.org/2001/XMLSchema" x
  <xs:element name="NewDataSet" msdata:IsDataSet="true" msdata:UseCurrentLocale="
    <xs:complexType>
      <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="Course">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="ID" msdata:AutoIncrement="true" msdata:AutoIncr
              <xs:element name="Name" type="xs:string" minOccurs="0" />
              <xs:element name="DisplayText" type="xs:string" minOccurs="0" />
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="Student">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="ID" msdata:AutoIncrement="true" msdata:AutoIncr
              <xs:element name="RegNo" type="xs:string" minOccurs="0" />
              <xs:element name="Name" type="xs:string" minOccurs="0" />
              <xs:element name="Address" type="xs:string" minOccurs="0" />
              <xs:element name="Contact" type="xs:string" minOccurs="0" />
              <xs:element name="CourseEnrol" type="xs:string" minOccurs="0" />
              <xs:element name="RegistrationDate" type="xs:string" minOccurs="0"
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:choice>
    </xs:complexType>
  </xs:schema>

```

Figure 9: Schema is Created in D drive



ID	RegNo	Name	Address	Contact	CourseEnrol	RegistrationDate
1	3001	Raj Khati	Damauli	9787667567	Computing	06/01/2020
2	3002	Mahima Khati	Tanahun	9876576577	Multimedia Technologies	07/01/2020
3	3003	Asmita G.C.	Parsang	9867656755	Multimedia Technologies	07/01/2020
4	3004	Laxmi Poudel	Lekhnath	9867656755	Networks and IT Security	07/01/2020
5	3005	Sneha Gurung	Rambazzar	9866554444	Computing	07/01/2020
6	3006	Raj Bikram	Dulegunda	986543322	Computing	07/01/2020
7	3007	Bhawana Shrestha	Dulegunda	9865442317	Computing	07/12/2020
8	3008	Rohit Khati	Matipani	98867565465	Multimedia Technologies	08/01/2020
9	3009	Divya Bhattarai	Bagar	9866765765	Networks and IT Security	08/01/2020
10	3010	Rika Gurung	New Road	9861243890	Networks and IT Security	09/12/2019

Figure 10: All the data reload in Grid View

StudentReportForm

Weekly Report

Sort Name

Sort Date

Load Data

Import CSV

ID	RegNo	Name	Address	Contact	CourseEnrol	RegistrationDate
10	3010	Rika Gurung	New Road	9861243890	Networks and IT Security	09/12/2019
8	3008	Rohit Khatri	Matipani	98867565465	Multimedia Technologies	08/01/2020
9	3009	Divya Bhattarai	Bagar	9866765765	Networks and IT Security	08/01/2020
7	3007	Bhawana Shrestha	Dulegunda	9865442317	Computing	07/12/2020
2	3002	Mahima Khatri	Tanahun	9876576577	Multimedia Technologies	07/01/2020
3	3003	Asmita G.C.	Parsang	9867656755	Multimedia Technologies	07/01/2020
4	3004	Laxmi Poudel	Lekhnath	9867656755	Networks and IT Security	07/01/2020
5	3005	Sneha Gurung	Rambazzar	98665544444	Computing	07/01/2020
6	3006	Raj Bikram	Dulegunda	986543322	Computing	07/01/2020
1	3001	Raj Khatri	Damauli	9787667567	Computing	06/01/2020

Figure 11: Data sorted by registration date

StudentReportForm

Weekly Report

Sort Name

Sort Date

Load Data

Import CSV

ID	RegNo	Name	Address	Contact	CourseEnrol	RegistrationDate
3	3003	Asmita G.C.	Parsang	9867656755	Multimedia Technologies	07/01/2020
7	3007	Bhawana Shrestha	Dulegunda	9865442317	Computing	07/12/2020
9	3009	Divya Bhattarai	Bagar	9866765765	Networks and IT Security	08/01/2020
4	3004	Laxmi Poudel	Lekhnath	9867656755	Networks and IT Security	07/01/2020
2	3002	Mahima Khatri	Tanahun	9876576577	Multimedia Technologies	07/01/2020
6	3006	Raj Bikram	Dulegunda	986543322	Computing	07/01/2020
1	3001	Raj Khatri	Damauli	9787667567	Computing	06/01/2020
10	3010	Rika Gurung	New Road	9861243890	Networks and IT Security	09/12/2019
8	3008	Rohit Khatri	Matipani	98867565465	Multimedia Technologies	08/01/2020
5	3005	Sneha Gurung	Rambazzar	98665544444	Computing	07/01/2020

Figure 12: Data sorted by name

StudentReportForm

Weekly Report

Sort Name

Sort Date

Load Data

Import CSV

Course Enrol	Total Students
Multimedia Technologies	3
Networks and IT Security	3
Computing	4

Figure 13: Show data for weekly report

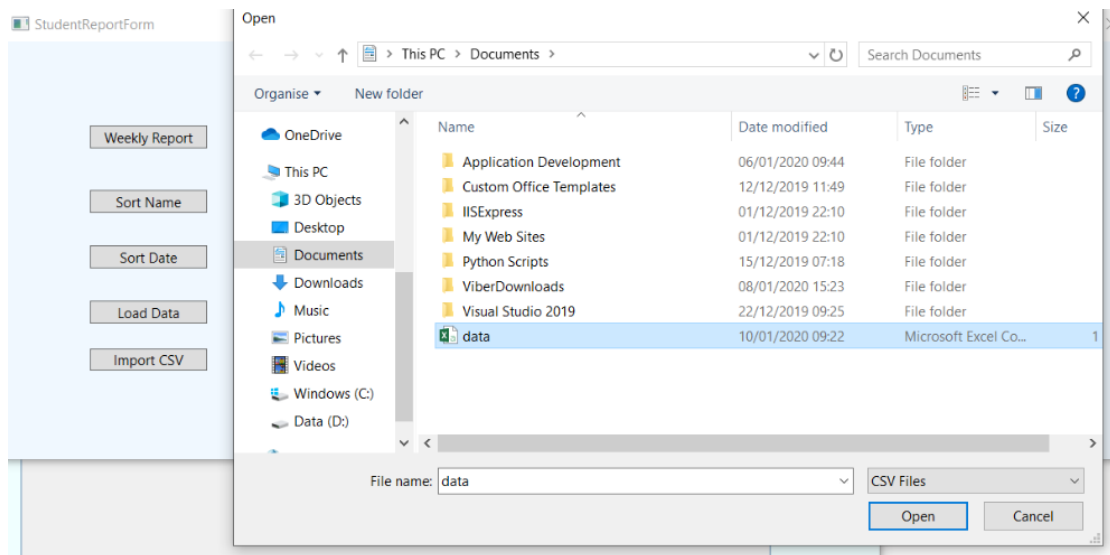


Figure 14: Import CSV

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	ID	RegistrationNo	Name	Address	ContactNo	CourseEnr	RegistrationDate						
2	11	3011	Sam Gurung	Pokhara	9806578023	Computing	11/11/2019						
3	12	3012	John Thapa	Chipladhur	9806594433	Multimedia	12/11/2019						
4	13	3013	Latika Gurung	New Road	9807654351	Multimedia	12/11/2019						
5													
6													
7													
8													
9													
10													

Figure 15: CSV data in Ms excel

ID	RegNo	Name	Address	Contact	CourseEnrol	RegistrationDate
3	3003	Asmita G.C.	Parsang	9867656755	Multimedia Technologies	07/01/2020
4	3004	Laxmi Poudel	Lekhnath	9867656755	Networks and IT Security	07/01/2020
5	3005	Sneha Gurung	Rambazzar	9866554444	Computing	07/01/2020
6	3006	Raj Bikram	Dulegunda	986543322	Computing	07/01/2020
7	3007	Bhawana Shrestha	Dulegunda	9865442317	Computing	07/12/2020
8	3008	Rohit Khatri	Matipani	98867565465	Multimedia Technologies	08/01/2020
9	3009	Divya Bhattra	Bagar	9866765765	Networks and IT Security	08/01/2020
10	3010	Rika Gurung	New Road	9861243890	Networks and IT Security	09/12/2019
11	3011	Sam Gurung	New Road	9806578023	Computing	11/11/2019
12	3012	John Thapa	Chipladhunga	9806594433	Multimedia Technologies	11/11/2019
13	3013	Latika Gurung	New Road	9807654351	Multimedia Technologies	11/11/2019

Figure 16: Show CSV import data into Grid View



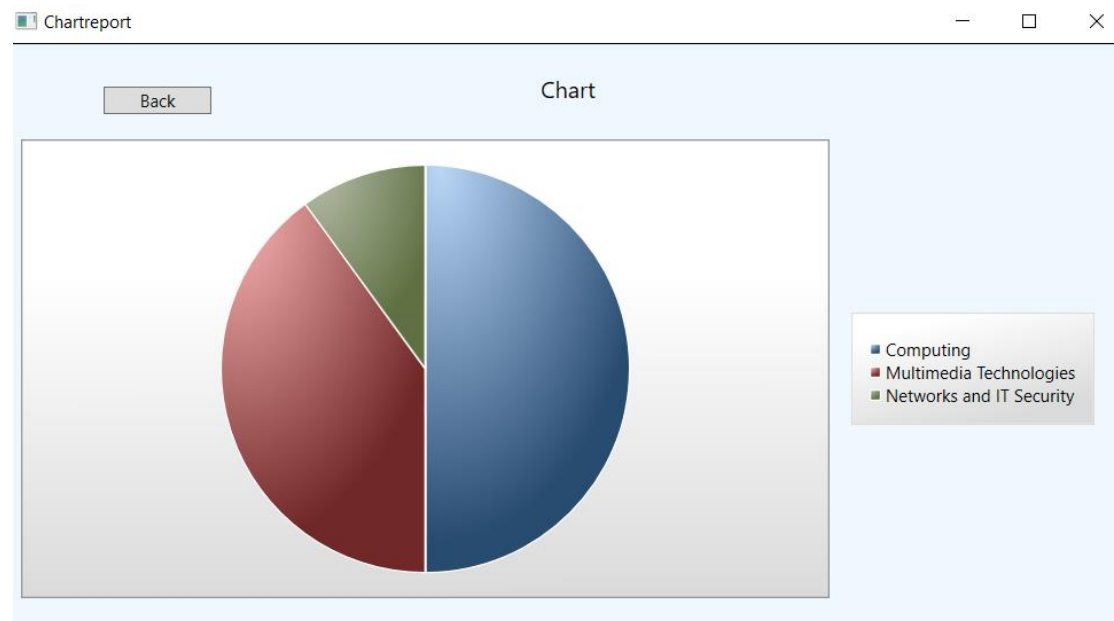


Figure 17: Pie Chart of weekly report

## 2. 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 developed system. Using the menu stripe on the main form, the user can record the Student name, registration date along with student details. Moreover, the user can generate the report of the Student in chart.

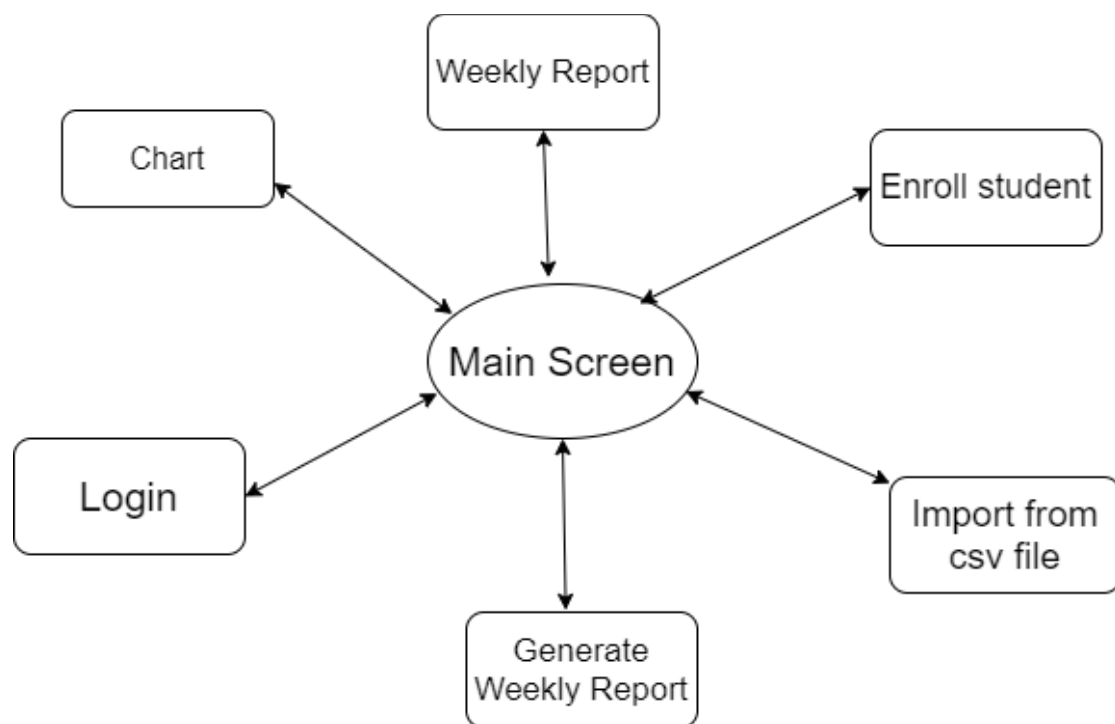


Figure 18: Architecture Diagram

### 3. Journal Article

The screenshot displays the JISE website interface. At the top is a navigation bar with links: JISE, Home, Archives, Best Papers, Submissions, Special Issues, Editorial Team, and Search. Below this is a header for the 'Journal of Information Systems Education (JISE)'. The main content area is titled 'News and Highlights' and includes a Facebook 'Like' button. A sub-header reads 'The latest news and important highlights regarding JISE'. The content is divided into two columns. The left column contains two paragraphs: one about Volume 30 Issue 4, Fall 2019, and another about the EDSIGCON 2020 conference. The right column is titled 'About JISE' and contains information about the journal's ISSN, its focus on IS education, and its mission. Below the 'News and Highlights' section is a 'Current Issue' section for Volume 30 Issue 4, Fall 2019, listing an invited paper titled 'The Changing Landscape of IS Education: An Introduction to the Special Issue'.

**News and Highlights**

The latest news and important highlights regarding JISE

Volume 30 Issue 4, Fall 2019, is now published (see Current Issue section below). JISE published its first article in 1989. To commemorate 30 years of JISE, we are excited and proud to present this Special Issue titled "The Changing Landscape of IS Education." The last 30 years of information systems advancements and implementations within organizations saw amazing growth in computing power, interconnectivity, and analytical techniques. Simultaneously, information systems education has changed and adapted to these new organizational systems. The primary themes of the 12 articles within the special issue are: retrospectives, improving pedagogy, program design and curricular models, the CIS/MIS/IS discipline, and strategic issues for the future. We hope you find the articles to be engaging and thought-provoking. Enjoy!

The EDSIG Conference on Information Systems and Computing Education (EDSIGCON) was a huge success! Thank you to all of the organizing committee members, reviewers, presenters, exhibitors, sponsors, and attendees. EDSIGCON 2020 will be held in Clearwater, FL, from November 4-7, 2020. Check out [edsigcon.org](http://edsigcon.org) for full details regarding the past conference and in the future for the call for participation, the submission process, the venue, the key dates, and more for the 2020 conference. Hope to see you there!

**About JISE**

**ISSN#:** 1055-3096 (print)  
**ISSN#:** 2574-3872 (online)

The **Journal of Information Systems Education (JISE)** is a peer reviewed journal published quarterly that focuses on IS education, pedagogy, and curriculum including (but not limited to) model curriculum, course projects/cases, course materials, curriculum design & implementation, outcomes assessment, distance education challenges, capstone learning projects, and technology selection & impact.

The mission of JISE is to be the premier journal on information systems (IS) education. To support that mission, JISE emphasizes quality and relevance in the papers that it publishes. In addition, JISE recognizes the international influences on IS education and seeks international input in all aspects of the journal, including authorship, reviewing, and Editorial Board membership. The five-year average acceptance rate is 23%.

JISE operates as a Diamond Open Access journal. This means that there are no subscription fees, no submission/processing fees, and no publication fees. All papers published in JISE have undergone rigorous peer review. This includes an initial editor screening and double-blind refereeing by three or more expert reviewers. Additional details are available regarding the

**Current Issue**

Volume 30 Issue 4, Fall 2019

212 **Invited Paper: The Changing Landscape of IS Education: An Introduction to the Special Issue**

Figure 19: Journal of Information System Education (JISE) (2020)

Student control is becoming a primary necessity in education in modern-day-day age and it's miles to automate all functions accomplished on a every day foundation inside the university. With the assist of this machine we can accumulate all of the useful records needed to the control in few clicks. main cause is to create software program so that you can control the working of these unique modules. The interconnectivity among modules reduces the time required to perform different operational mission. The software assist acquire the simple information of student routinely. It helps students, school and control branch of university. The machine is capable of storing the info of students, school and instructors and maintains their info in a dynamic way. The proposed device provides the easiest way to manipulate all components of pupil and college. The software program help discover all the activities occurring inside the college which students do not recognise about. it is able to manage the activities of students and instructors. the use of this machine, person can manage scholar details, student internal marks, outside marks, student attendance. each scholar's attendance is being updated on a day by day foundation. If any scholar's attendance percent is observed to be below the

mark, it sends alert message to the determine's number concerning their toddler attendance. the use of this device consumer can retrieve any data associated with pupil. The goal of the machine is to lessen the paper paintings and to take away manual processes and to shop full-size workforce time. (ACADEMIA, n.d.)

## 4. Sorting Algorithm

The sorting Algorithm used in the Student Information System is bubble sorting algorithm. I used bubble sort algorithm in combo box where course program selected by student in detail form.

This arranging calculation is correlation base calculation in which each match of neighbouring components is analyse and the components are swapped in the event that they are not altogether. This calculation isn't reasonable for substantial informational indexes as its normal and most pessimistic scenario multifaceted nature are of  $O(n^2)$  where  $n$  is the quantity of things. The bubble sort stores data in array by swapping those added data repeatedly unless the order is correct. (Technopedia, 2020)

Example:

First Phase

( 6 2 5 3 9 ) >> ( 2 6 5 3 9 ) The first two data are swap  $6 > 2$ .

( 2 6 5 3 9 ) >> ( 2 5 6 3 9 ) Swapped  $6 > 5$ .

( 2 5 6 3 9 ) >> ( 2 5 3 6 9 ) Swapped  $6 > 3$ .

( 2 5 3 6 9 ) >> ( 2 5 3 6 9 ) Since these all elements are already in order ( 9 > 6 ). So, the algorithm stops.

Second Phase

( 2 5 3 6 9 ) >> ( 2 5 3 6 9 )

( 2 5 3 6 9 ) >> ( 2 3 5 6 9 ) Swapped  $5 > 3$ .

( 2 3 5 6 9 ) >> ( 2 3 5 6 9 )

( 2 3 5 6 9 ) >> ( 2 3 5 6 9 )

The array is already sorted, however algorithm needs one whole phase without any swap to know it is sorted.

Third Phase

( 2 3 5 6 9 ) >> ( 2 3 5 6 9 )

( 2 3 5 6 9 ) >> ( 2 3 5 6 9 )

( 2 3 5 6 9 ) >> ( 2 3 5 6 9 )

( 2 3 5 6 9 ) >> ( 2 3 5 6 9 )

## 5. Flowchart of Student Enrolment

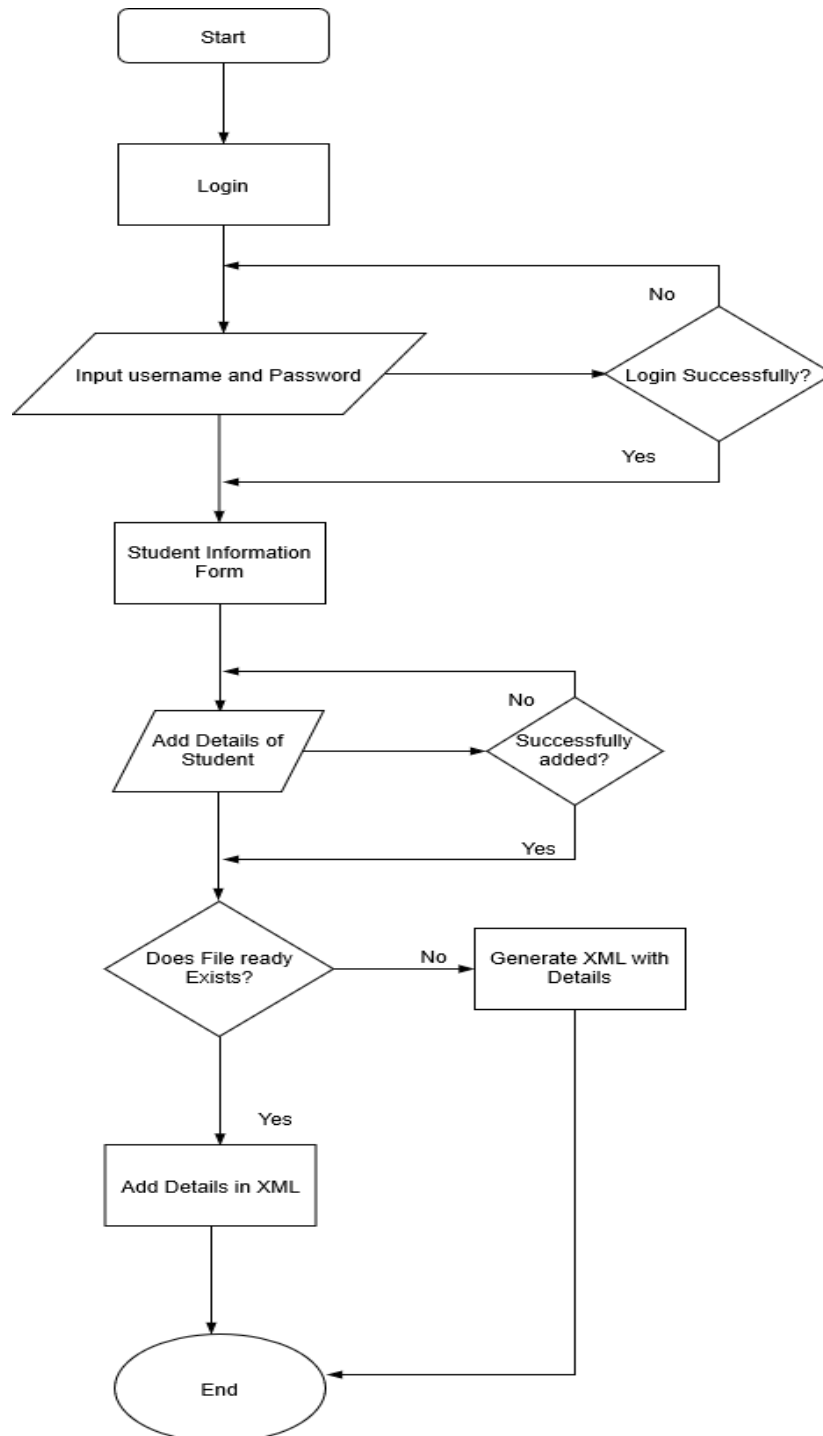


Figure 20: Flowchart of student Enrolment

## 6. Reflection

The proposed system is Digitalized Student Information System. It is developed using Visual Studio 2019 with the C# language version 16.3.1. Developing in C# environment is new experience for me while doing this coursework. I came to know about more working experience with C# language.

Features like creating chart generating list in addition to that, sorting of data form the grid was a new thing for me. Though, creating new classes and methods helps to pace the development task. Importing of CSV file is also a new task and it really help me in gaining knowledge of file handling. Creating a class diagram within the visual studio helps me in documentation phase. With the growing of technology, the visual studio and its community helps beginner developer like us to pace our development speed.

## 7. Conclusion

This coursework for the module CS6004NP Application Development was to build up a Student Information System. This project is aimed at how the institute can improve the efficiency of the services. This application involves almost all the features of the information system; the future implementation will be online help for the users to obtain information. It required a long time to build up the task in Visual Studio Enterprise 2019 utilizing C# programming dialect. The framework has login screen to add security to the task. After login, the framework shows a primary screen where every one of the functionalities are found. Aside from various shape components, class outline for every one of the structures and classes were utilized.

I would like to thank my supervisor Mr. Ishwor Spakota for guiding me throughout the project.



## 8. References

(2020). Retrieved from <https://www.jise.org/>

(2020). Retrieved from <https://www.techlearning.com/news/student-information-systems>

(2020). Retrieved from <https://thejournal.com/articles/2000/05/01/webbased-student-information-system-simplifies-records-management>

ACADEMIA. (n.d.). Retrieved from [https://www.academia.edu/39720251/STUDENT\\_MANAGEMENT\\_SYSTEM](https://www.academia.edu/39720251/STUDENT_MANAGEMENT_SYSTEM)

*Technopedia*. (2020). Retrieved from What is bubble sort?: <https://www.techopedia.com/definition/3757/bubble-sort>