# Informatics College Pokhara

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**Application Development**

**CS6004NI**

**Course Work 1**

**Submitted By:  Riza Khatri**                          **Submitted To:**  Ishwor Sapkota
**London Met ID:**  Enter ID Here                                        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** | appropriate use of data types but missing some properties required or missing CRUD operation |
| **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. |

| | |
|---|---|
| **Application architecture & description of the classes ad methods sued** | very poorly explained. |
| **Flow chart, algoriathms 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 poorly written code and no comments at all |
| **System Usability** | very poorly developed application |

| | | |
|---|---|---|
| **Overall Grade:** | E+ | E+ |

**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:**

Mr. Ishwor Sapkota
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 $20^{th}$ 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:



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.
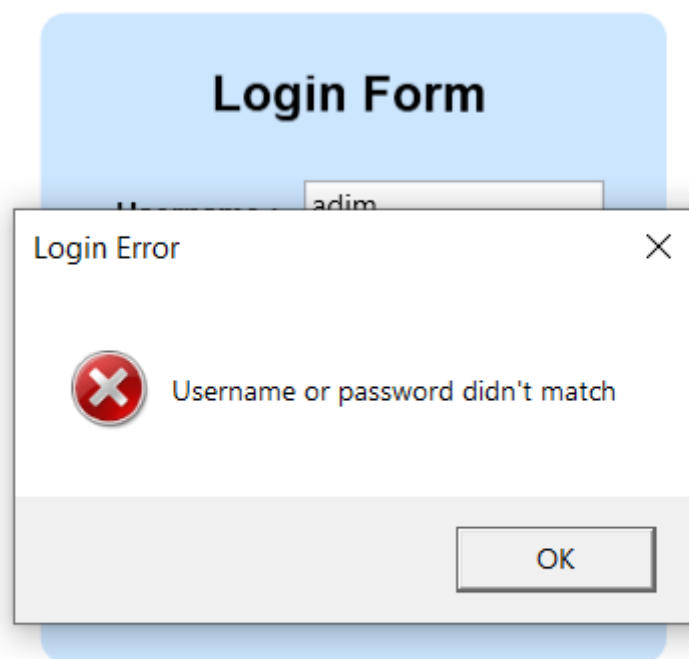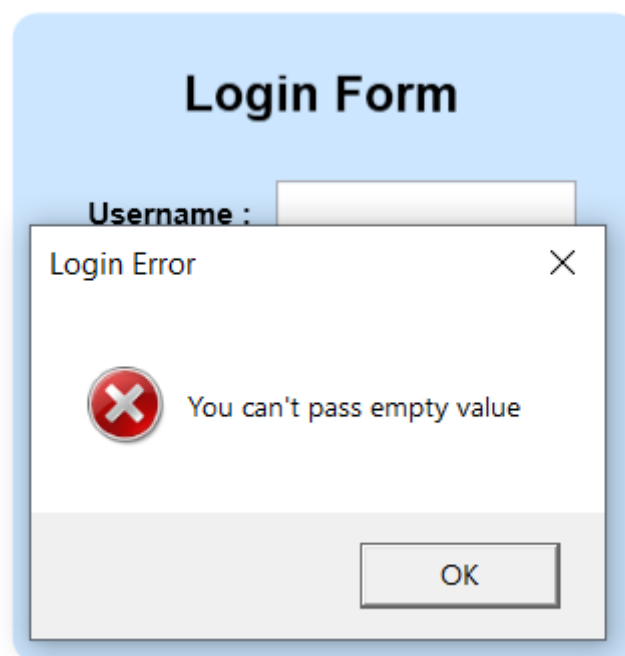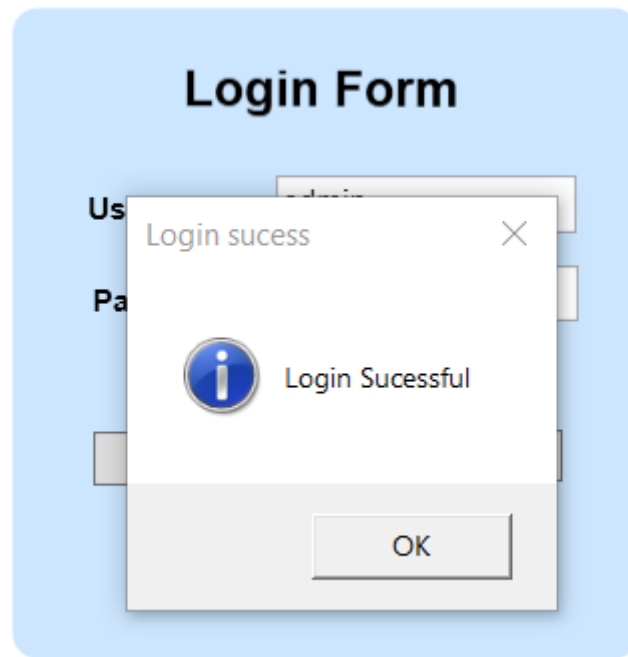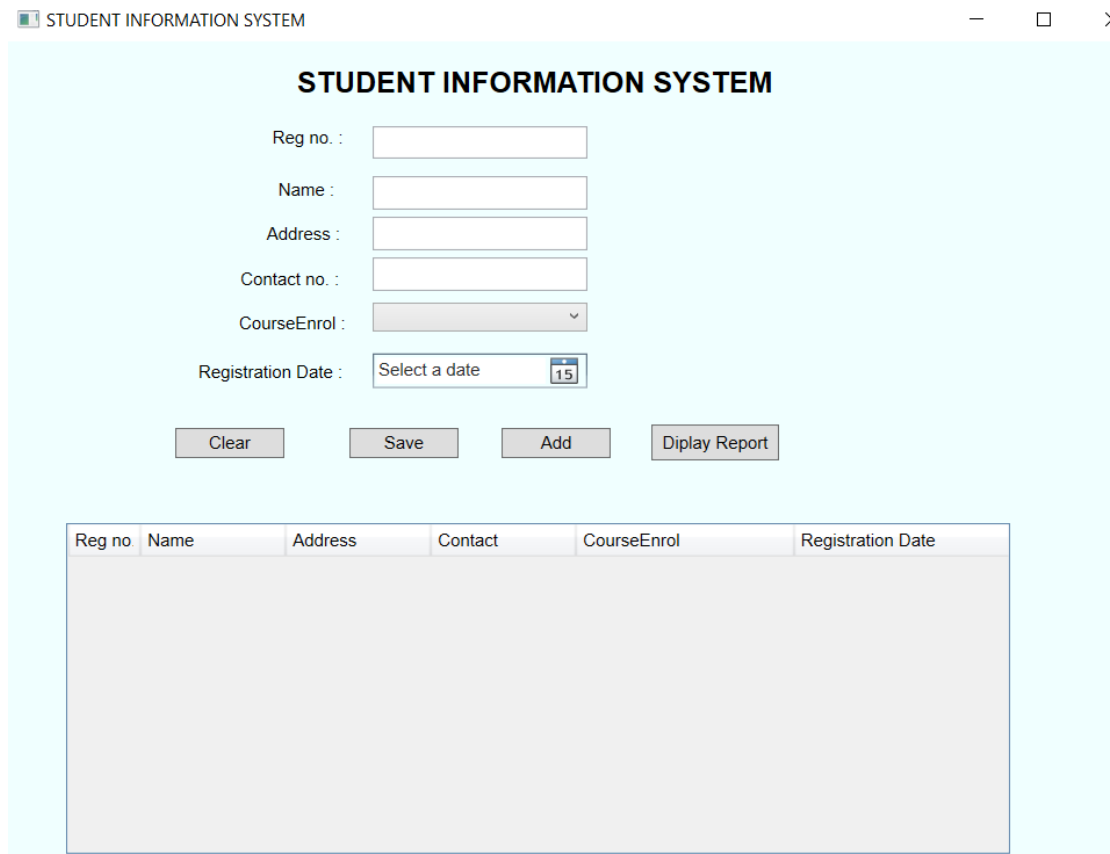
*Figure 2:Message Display if username is not match*



*Figure 3: Message is Display if empty value is passed*

*Figure 4: Display Login Successfully*

*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.

*Figure 6: Student Data is added into Grid View*

*Figure 7: Save data into XML by pressing button*



*Figure 8: XML file is generated in D drive*

```
StudentCWSchema - Notepad                                    —    □    :
File  Edit  Format  View  Help
<?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:AutoIncrem
              <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:AutoIncrem
              <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>
```
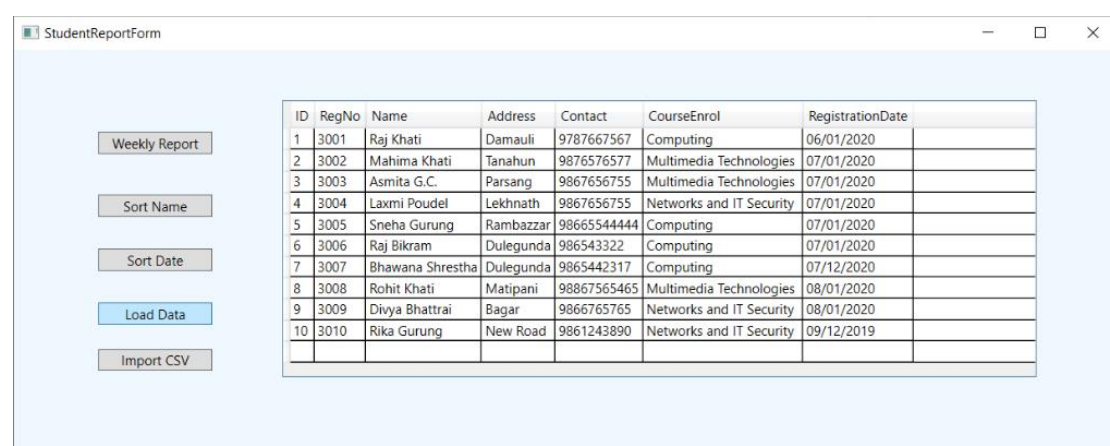
*Figure 9: Schema is Created in D drive*



| 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 | 98665544444 | 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 Bhattrai | 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*

*Figure 11: Data sorted by registration date*



*Figure 12: Data sorted by name*



*Figure 13: Show data for weekly report*

*Figure 14: Import CSV*



*Figure 15: CSV data in Ms excel*



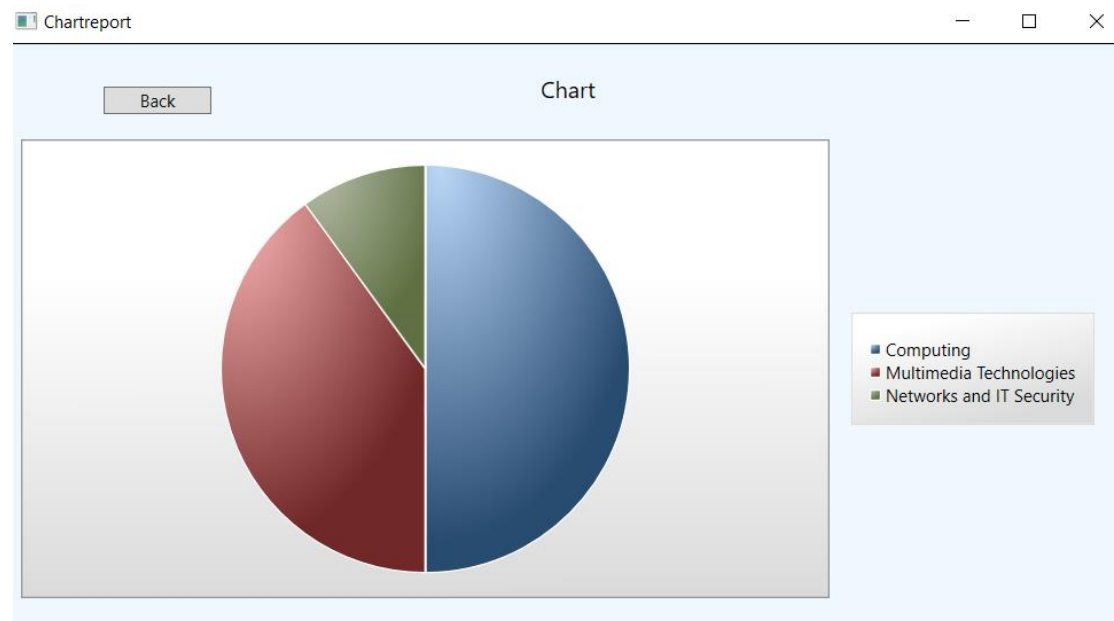*Figure 16: Show CSV import data into Grid View*

*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.
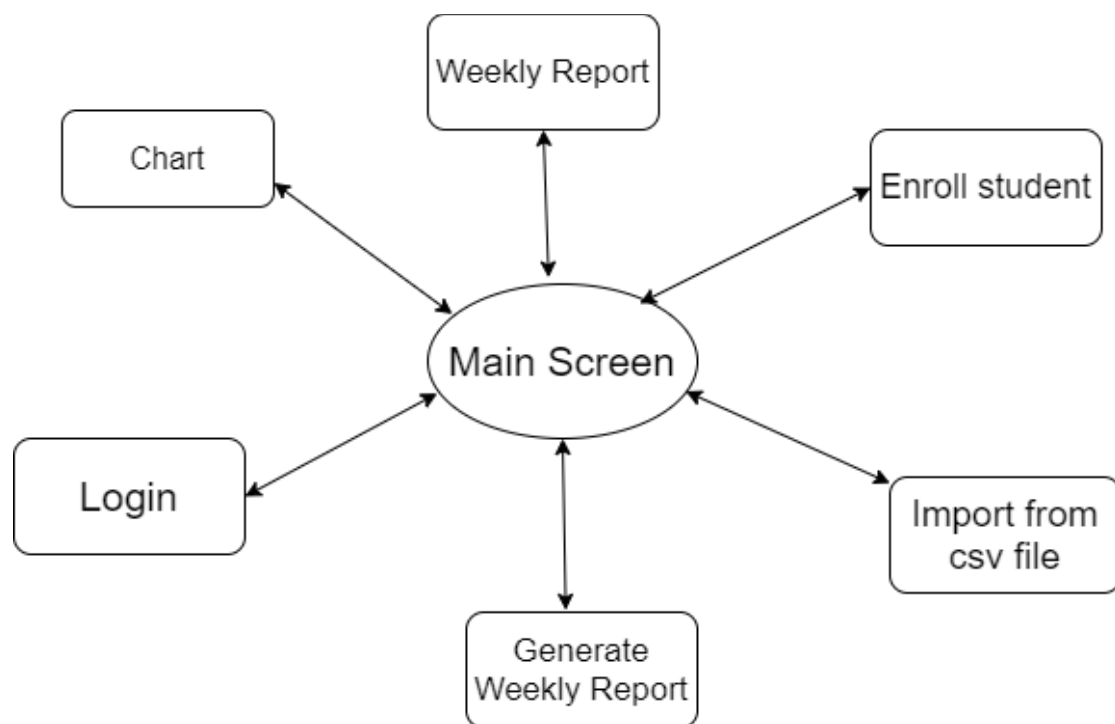


*Figure 18: Architecture Diagram*

## 3.  Journal Article



*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(n2) 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 )
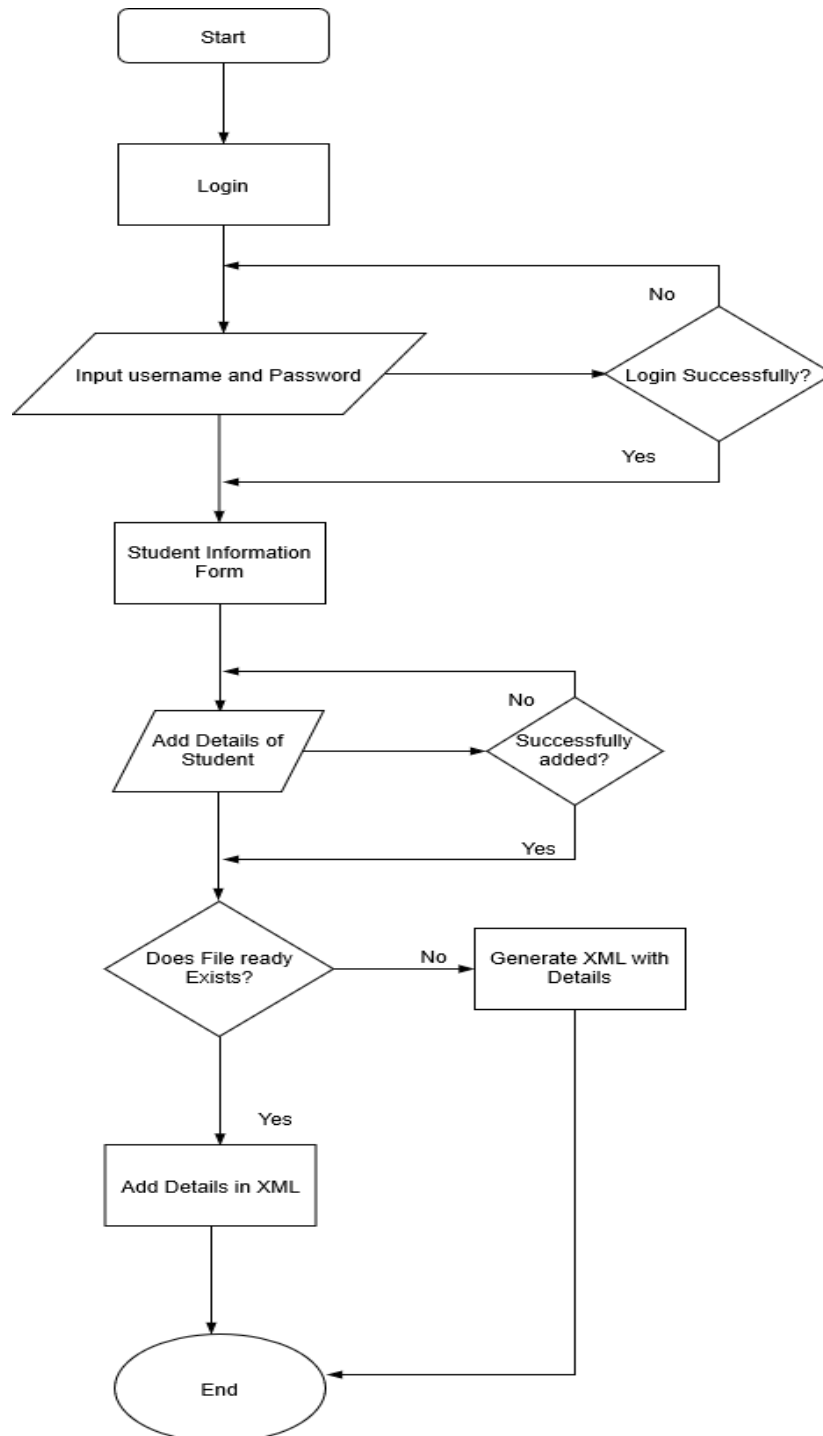
## 5. Flowchart of Student Enrolment



*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

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    information-system-simplifies-records-management

*ACADEMIA*. (n.d.). Retrieved from
    https://www.academia.edu/39720251/STUDENT_MANAGEMENT_SYSTEM

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