



**Module Code & Module Title**

**Assessment Weightage & Type**

**30% Individual Coursework**

**Year and Semester**

**2018-19 Autumn**

**Name: Pratik Mani Lamichhane**

**College ID: 17031946**

## **Abstract**

This is an individual course work for the module “Application Development” for Student Information System in Desktop application, which is developed using Visual Studio Platform using C# programming language. The coursework is released in the week 8 and it is supposed to be submitted in the week 12.

With the great contribution of Mr. Sachin Subedi sir and Mr. Ishwor Sapkota sir, the course work was completed within the time period.

## Table of Contents

<b>Introduction .....</b>	<b>1</b>
<b>User Manual.....</b>	<b>2</b>
<b>Journal Articles .....</b>	<b>9</b>
1. <b>Web Based Student Information Management System .....</b>	<b>9</b>
2. <b>Mobile student information system.....</b>	<b>10</b>
3. <b>Creativity of student information system projects: From the perspective of network embeddedness .....</b>	<b>10</b>
4. <b>A Post-Implementation Evaluation of a Student Information System in the UK Higher Education Sector. ....</b>	<b>11</b>
5. <b>Sherpa: increasing student success with a recommendation engine .....</b>	<b>11</b>
<b>WPF Sorting List View .....</b>	<b>12</b>
<b>Bibliography.....</b>	<b>16</b>

## Table of Figure

Figure 1: Login page .....	2
Figure 2: Login in failed.....	2
Figure 3: Home page of the system .....	3
Figure 4: Student registration page.....	3
Figure 5: validation in registration page .....	4
Figure 6: adding data .....	4
Figure 7: data saved in grid .....	5
Figure 8: date picker used in date field .....	5
Figure 9: sort by date .....	6
Figure 10: sort by name .....	6
Figure 11: student report.....	7
Figure 12: student weekly report.....	7
Figure 13: chart of weekly report.....	8
Figure 14: import CSV file from local file .....	8
Figure 15: course add page .....	9

## Introduction

The designed system is Student Information System. The application must allow the user to input the student personal detail including registration date so that a system can generate a weekly enrolment report of the student. System must include detail like Name, address, contact no, email, program enrol, registration date. The application is to keep track of the student's details, program enrol and registration date.

Every educational institution has to manage a huge amount of student data on a daily basis. Student information systems help organize, categorize this information, saving valuable amount of time from the teachers, students and everyone else involved in the education process.

The majority of student data can be quite complex and often, without a student information system, that information can be lost on the way. SIS systems reduce manual workload and labor as they make daily tasks easier and error-free.

On daily basis, institutions have to manage the huge amount of student data and it can be troublesome sometimes due to its complex nature. Student information management system offers a number of functionalities which help administrator to make this task easy and error free. This reduces manual workload and paperwork. Student information system software also generates various MIS reports which help institutions in the decision-making process and to check student progress

## User Manual

Below is a screenshot showing a user how to operate the system. As the system is operated by the end user, the security screen will be the initial screen. System's username is 'Admin' and password is "admin." The system can only be accessed by a valid username and password.

### 1. Login page

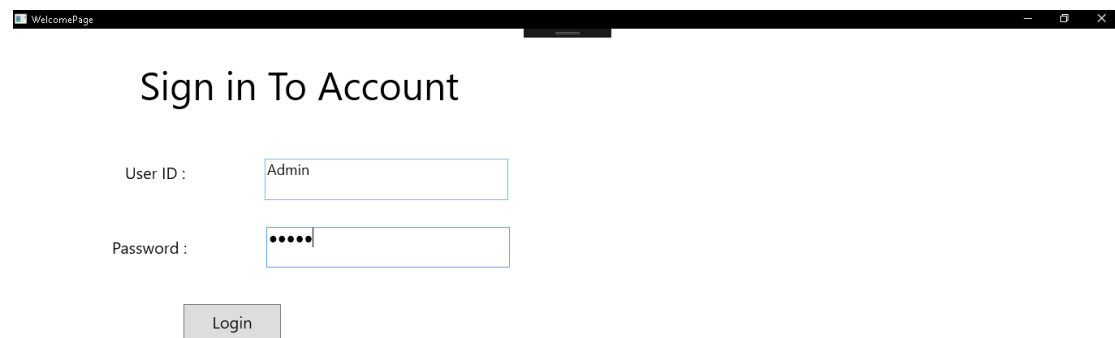


Figure 1: Login page

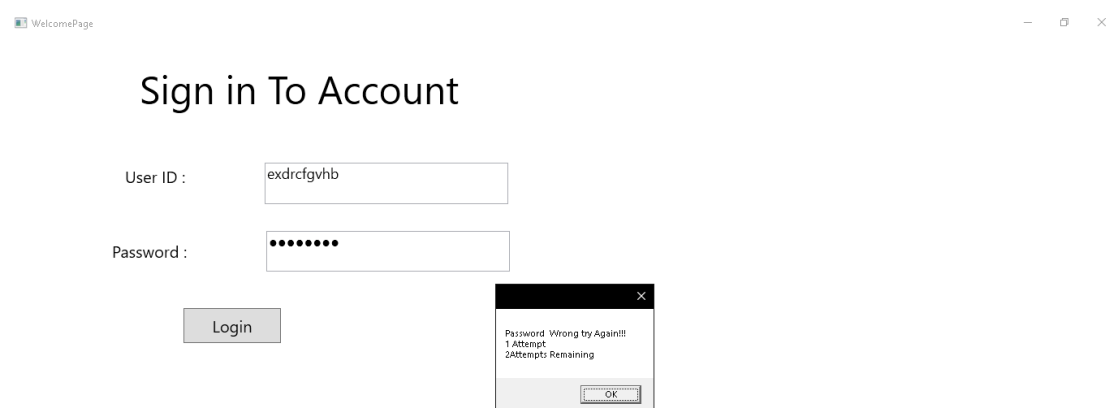


Figure 2: Login in failed

Only right username and password can open home page of the system. And in this system only 3 attempt are available. After that system will not open even with right username and password.

## 2. Home page

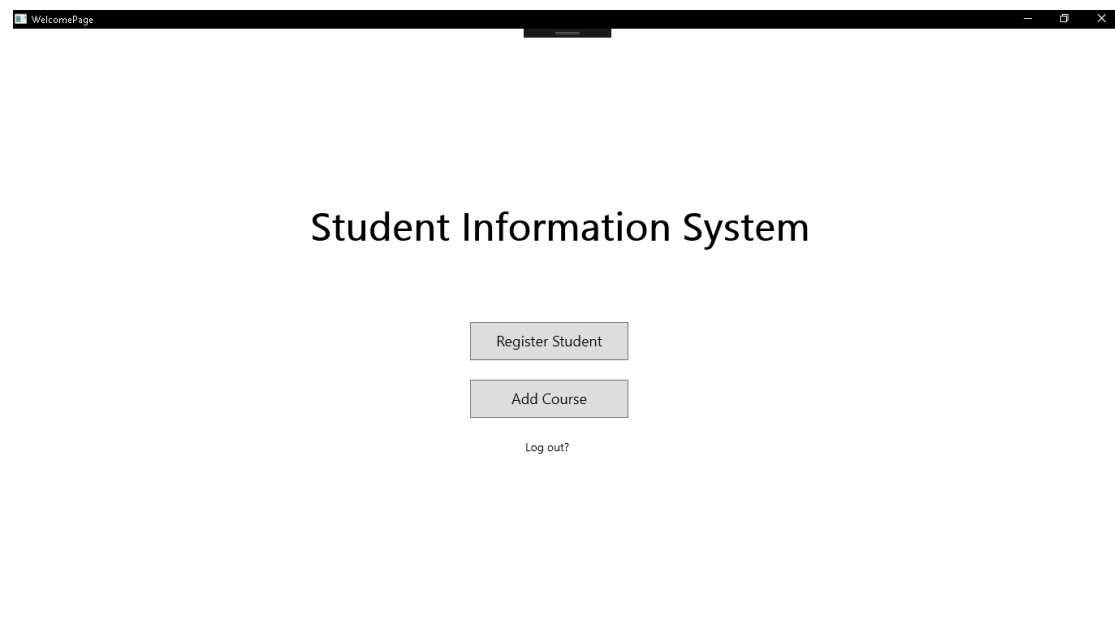


Figure 3: Home page of the system

This is the home page of the system. We can add student and course .

## 3. Student register page

Reg Date : 1/10/2020

Reg No : 1024

Name : \*

Address :

Contact : \*

Gender : ☒ Male ☐ Female ☐ Other

DOB : Select a date

Course Enrole : \*

Sort by Name ☐ Sort by Registration Date ☐ Import CSV

ID	RegNo	Name	Address	ContactNo	CourseEnroll	RegistrationDate	Gender	DOB
1	1012	Pratik	Lamichhane	9819149349	BE_IT	2020-01-09T00:00:00+05:45	Male	2020-1-1
2	1020	Satkar	bagmara	987678876	BBA	2020-01-10T00:00:00+05:45	Male	1/15/2020
3	1021	Ankit	fgh	98789898767	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2020
4	1022	cmant	dfghjk	09876789	BBA	2020-01-10T00:00:00+05:45	Male	
5	1023	ram	iafcghbj	98765456	BE_IT	2020-01-10T00:00:00+05:45	Male	

Save Clear field Show Graph Show Weekly Report Back to Home Page

Figure 4: Student registration page

We can register a student from this page by providing their basic information. In this page we can view student weekly report and also pie chart of the report.

#### 4. Validation in registration page

Student Registration Form

Reg Date : 1/10/2020

Reg No : 1025

Name : \*

Address :

Contact : \*

Gender : ☒ Male ☐ Female ☐ Other

DOB : Select a date

Course Enrol : \*

Buttons: Save, Clear field, Show Graph, Show Weekly Report, Back to Home Page

ID	RegNo	Name	Address	ContactNo	CourseEnrol	RegistrationDate	Gender	DOB
1	1012	Pratik	Lamichhane	9819149349	BE_IT	2020-01-09T00:00:00+05:45	Male	2020-1-1
2	1020	Satkar	bagmara	987678876	BBA	2020-01-10T00:00:00+05:45	Male	1/15/2020
3	1021	Ankit	fgh	98789898767	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2020
4	1022	cmant	dfghjk	09876789	BBA	2020-01-10T00:00:00+05:45	Male	
		afcgghbj	98765456	BE_IT	2020-01-10T00:00:00+05:45	Male		
		pokhara	985633363	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2000	

Figure 5: validation in registration page

Basis information should be provided to save student data. Name contact no. and course enrol with red \* are the information to pass the validation.

#### 5. Student data shown in Grid

Student Registration Form

Reg Date : 1/10/2020

Reg No : 1024

Name : \*

Address : pokhara

Contact : \*

Gender : ☒ Male ☐ Female ☐ Other

DOB : 1/4/2000

Course Enrol : \*

Buttons: Save, Clear field, Show Graph, Show Weekly Report, Back to Home Page

ID	RegNo	Name	Address	ContactNo	CourseEnrol	RegistrationDate	Gender	DOB
1	1012	Pratik	Lamichhane	9819149349	BE_IT	2020-01-09T00:00:00+05:45	Male	2020-1-1
2	1020	Satkar	bagmara	987678876	BBA	2020-01-10T00:00:00+05:45	Male	1/15/2020
3	1021	Ankit	fgh	98789898767	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2020
4	1022	cmant	dfghjk	09876789	BBA	2020-01-10T00:00:00+05:45	Male	
5	1023	ram	afcgghbj	98765456	BE_IT	2020-01-10T00:00:00+05:45	Male	

Figure 6: adding data



WelcomePage

### Student Registration Form

Reg Date :

Reg No :

Name : \*

Address :

Contact : \*

Gender : ☒ Male ☐ Female ☐ Other

DOB :

Course Enrole : \*

☐ Sort by Name ☐ Sort by Registration Date

ID	RegNo	Name	Address	ContactNo	CourseEnrol	RegistrationDate	Gender	DOB
1	1012	Pratik	Lamichhane	9819149349	BE_IT	2020-01-08T00:00:00+05:45	Male	2020-1-1
2	1020	Satkar	bagmara	987678876	BBA	2020-01-10T00:00:00+05:45	Male	1/15/2020
3	1021	Ankit	fgh	98789898767	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2020
4	1022	cmant	dfghjkl	09876789	BBA	2020-01-10T00:00:00+05:45	Male	
5	1023	ram	afghbj	98765456	BE_IT	2020-01-10T00:00:00+05:45	Male	
6	1024	shyam	pokhara	985635363	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2000

Figure 7: data saved in grid

When save button is clicked after fulfilling the basic info data is save in xml file and shown in the grid.

WelcomePage

### Student Registration Form

Reg Date :

Reg No :

Name : \*

Address :

Contact : \*

Gender : ☒ Male ☐ Female ☐ Other

DOB :

Course Enrole : \*

☐ Sort by Name ☐ Sort by Registration Date

ID	RegNo	Name	Address	ContactNo	CourseEnrol	RegistrationDate	Gender	DOB
1	1012	Pratik	Lamichhane	9819149349	BE_IT	2020-01-09T00:00:00+05:45	Male	2020-1-1
2	1020	Satkar	bagmara	987678876	BBA	2020-01-10T00:00:00+05:45	Male	1/15/2020
3	1021	Ankit	fgh	98789898767	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2020
4	1022	cmant	dfghjkl	09876789	BBA	2020-01-10T00:00:00+05:45	Male	
5	1023	ram	afghbj	98765456	BE_IT	2020-01-10T00:00:00+05:45	Male	
6	1024	shyam	pokhara	985635363	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2000

Figure 8: date picker used in date field

## 6. Sorting

☐ Sort by Name
 ☒ Sort by Registration Date

ID	RegNo	Name	Address	ContactNo	CourseEnrol	RegistrationDate	Gender	DOB
1	1012	Pratik	Lamichhane	9819149349	BE_IT	2020-01-09T00:00:00+05:45	Male	2020-1-1
2	1020	Satkar	bagmara	987678876	BBA	2020-01-10T00:00:00+05:45	Male	1/15/2020
3	1021	Ankit	fgh	98789898767	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2020
4	1022	cmant	dfghjk	09876789	BBA	2020-01-10T00:00:00+05:45	Male	
5	1023	ram	iafcghbj	98765456	BE_IT	2020-01-10T00:00:00+05:45	Male	
6	1024	shyam	pokhara	985635363	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2000

Figure 9: sort by date

When sort by date radio button is clicked data in the grid is sort by the registration date.

☒ Sort by Name
 ☐ Sort by Registration Date

ID	RegNo	Name	Address	ContactNo	CourseEnrol	RegistrationDate	Gender	DOB
3	1021	Ankit	fgh	98789898767	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2020
4	1022	cmant	dfghjk	09876789	BBA	2020-01-10T00:00:00+05:45	Male	
1	1012	Pratik	Lamichhane	9819149349	BE_IT	2020-01-09T00:00:00+05:45	Male	2020-1-1
5	1023	ram	iafcghbj	98765456	BE_IT	2020-01-10T00:00:00+05:45	Male	
2	1020	Satkar	bagmara	987678876	BBA	2020-01-10T00:00:00+05:45	Male	1/15/2020
6	1024	shyam	pokhara	985635363	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2000

Figure 10: sort by name

When sort by name radio button is clicked data in the grid is sort by student name.

## 7. Student report

WelcomePage

### Student Registration Form

Reg Date :

Reg No :

Name : \*

Address :

Contact : \*

Gender : ☒ Male ☐ Female ☐ Other

DOB :

Course Enrol : \*

☐ Sort by Name ☐ Sort by Registration Date

ID	RegNo	Name	Address	ContactNo	CourseEnrol	RegistrationDate	Gender	DOB
1	1012	Pratik	Lamichhane	9819149349	BE_IT	2020-01-09T00:00:00+05:45	Male	2020-1-1
2	1020	Satish	bagmara	987678876	BBA	2020-01-10T00:00:00+05:45	Male	1/15/2020
3	1021	Ankit	tyh	98789898767	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2020
4	1022	cmant	dfghjkl	09876789	BBA	2020-01-10T00:00:00+05:45	Male	
5	1023	ram	afghjkl	98765456	BE_IT	2020-01-10T00:00:00+05:45	Male	
6	1024	shyam	polkhara	985625363	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2000

Figure 11: student report

Student report is shown in right side of the window.

## Weekly Student Report

Course Enrol	OverAll Student	
BBA	2	
BE.IT	2	
BBS	2	

Figure 12: student weekly report

Student weekly course report is generated, which shows the no of student choose what course

## 8. Pie chart

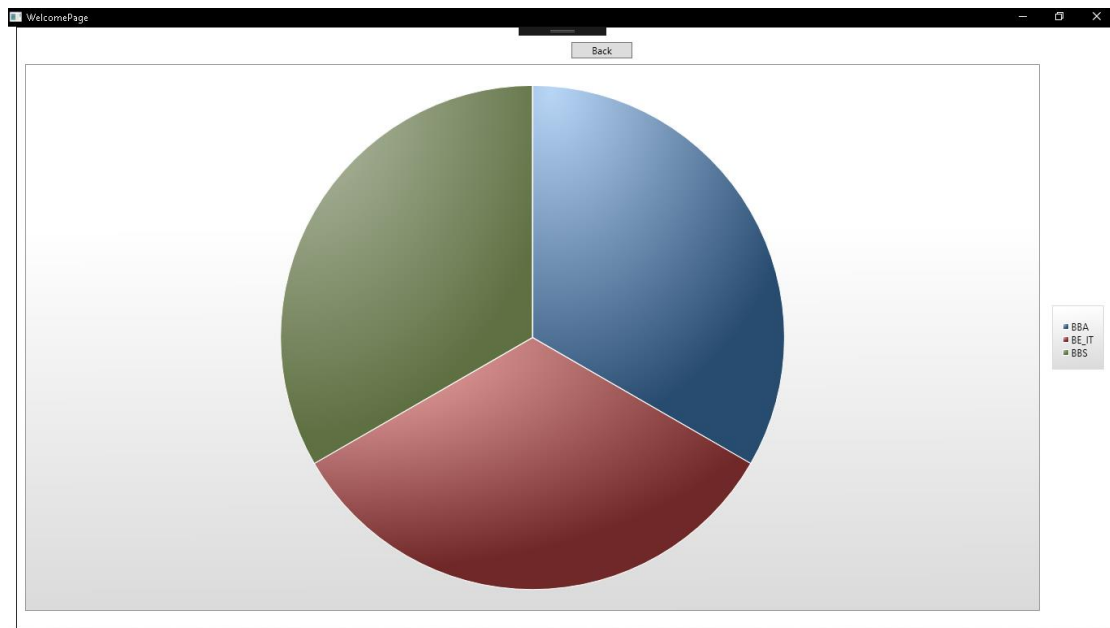


Figure 13: chart of weekly report

Pie is chart is generated from the student weekly report

## 9. Import CSV file

The interface includes a file explorer window showing the selection of 'Bulkdata.csv' from the 'Student data' folder. Below the explorer, a table displays the imported data:

ContactNo	CourseEnrol	RegistrationDate	Gender	DOB
9819149349	BE_IT	2020-01-09T00:00:00+05:45	Male	2020-1-1
987678876	BBA	2020-01-10T00:00:00+05:45	Male	1/15/2020
98789898767	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2020
09876789	BBA	2020-01-10T00:00:00+05:45	Male	
98765456	BE_IT	2020-01-10T00:00:00+05:45	Male	
985635363	BBS	2020-01-10T00:00:00+05:45	Male	1/4/2000

Below the table, there is a form with the following fields:

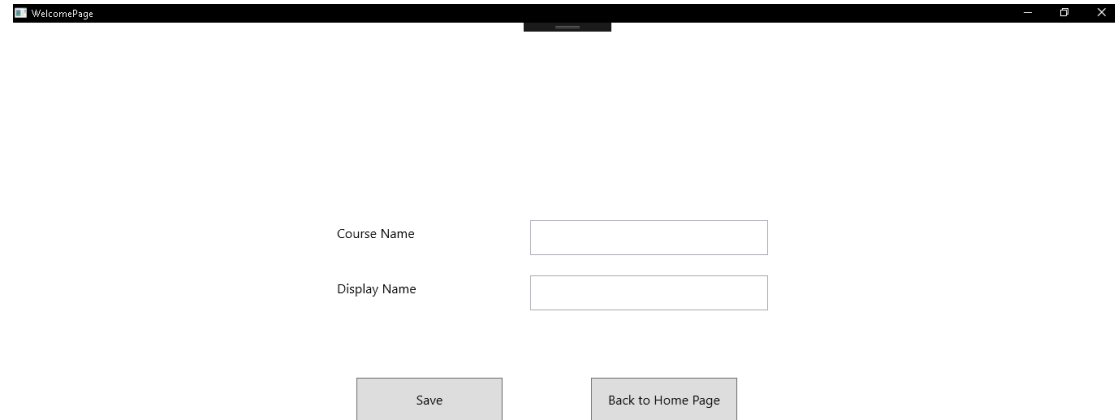
- DOB: Select a date (calendar icon)
- Course Enrol: \*

At the bottom, there are buttons for 'Save', 'Clear field', 'Show Graph', 'Show Weekly Report', and 'Back to Home Page'.

Figure 14: import CSV file from local file

In this project we can import csv format file to allow manually inputting details like ID number, name, address, contact no, course enrol, registration date etc.

## 10. Course add



Course Name

Display Name

Figure 15: course add page

We can add page course and save that in xml file.

## Journal Articles

### 1. Web Based Student Information Management System

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 facilitate 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.R.Bharamagoudar, 2013).

## **2. Mobile student information system**

A mobile student information system (MSIS) based on mobile computing and context-aware application concepts can provide more user-centric information services to students. The purpose of this paper is to describe a system for providing relevent information to students on a mobile platform. The research followed a design science approach, including surveys to argue for the relevance of the system and evaluation of different versions of the system using a mobile system acceptance model (MSAM). It was found that the intention to use such services is high, in particular relative to services providing information based on localization and the personal schedule and interests of the student (Muhammad Asif, 2011).

## **3. Creativity of student information system projects: From the perspective of network embeddedness**

Many companies have pursued innovation to obtain a competitive edge. Thus, educational reform focuses mainly on training creative students. This study adopted the concept of an affiliated network of projects to investigate how project embeddedness influences project team creativity. This work surveys 60 projects in a Management Information Systems Department of a University. Validity of the specific study hypotheses is tested by using moderate hierarchical regression analysis to determine how project embeddedness affects project team creativity and assess how the team innovation climate moderates the relationships between project embeddedness and project team creativity (Yang, 2010).

#### **4. A Post-Implementation Evaluation of a Student Information System in the UK Higher Education Sector.**

The dramatic expansion of the higher education sector in the UK has contributed to a significant increase in competition among organizations within the sector. Based in the North of England, Salford University is one of the largest universities in the UK with regards to student numbers and programs of study. The Student Information System supports the management of student information throughout key business activities, that is, recruitment, admission, registration, invoicing, accommodation, assessment, progression, graduation and careers. The purpose of this study is to perform a user-centered post-implementation evaluation of this business critical IT system at Salford University (Pagano, n.d.).

#### **5. Sherpa: increasing student success with a recommendation engine**

Students flock to online services like Amazon, Pandora and Netflix that offer personalized recommendations, in stark contrast to the "one size fits all" services in higher education. In this session we demonstrate *Sherpa*, a recommendation engine for courses, information and services that utilizes both human and machine intelligence (Robert Bramucci, 2012).

## WPF Sorting List View

When you are working with the ListView control, you may want to sort its contents based on a specific column. An example of this kind of functionality occurs in a Windows Explorer program when you view the contents of a folder on your hard disk. In Details view, Windows Explorer displays information about the files in that folder. For example, you see the file name, the file size, the file type, and the date that the file was modified. When you click one of the column headers, the list is sorted in ascending order based on that column. When you click the same column header again, the column is sorted in descending order.

The example in this article defines a class that inherits from the IComparer interface. Additionally, this example uses the Compare method of the CaseInsensitive Comparer class to perform the actual comparison of the items. Note that this method of comparison is not case sensitive ("Apple" is considered to be the same as "apple"). Also, note that all of the columns in this example are sorted in a "text" manner. If you want to sort in a different manner (such as numerically).

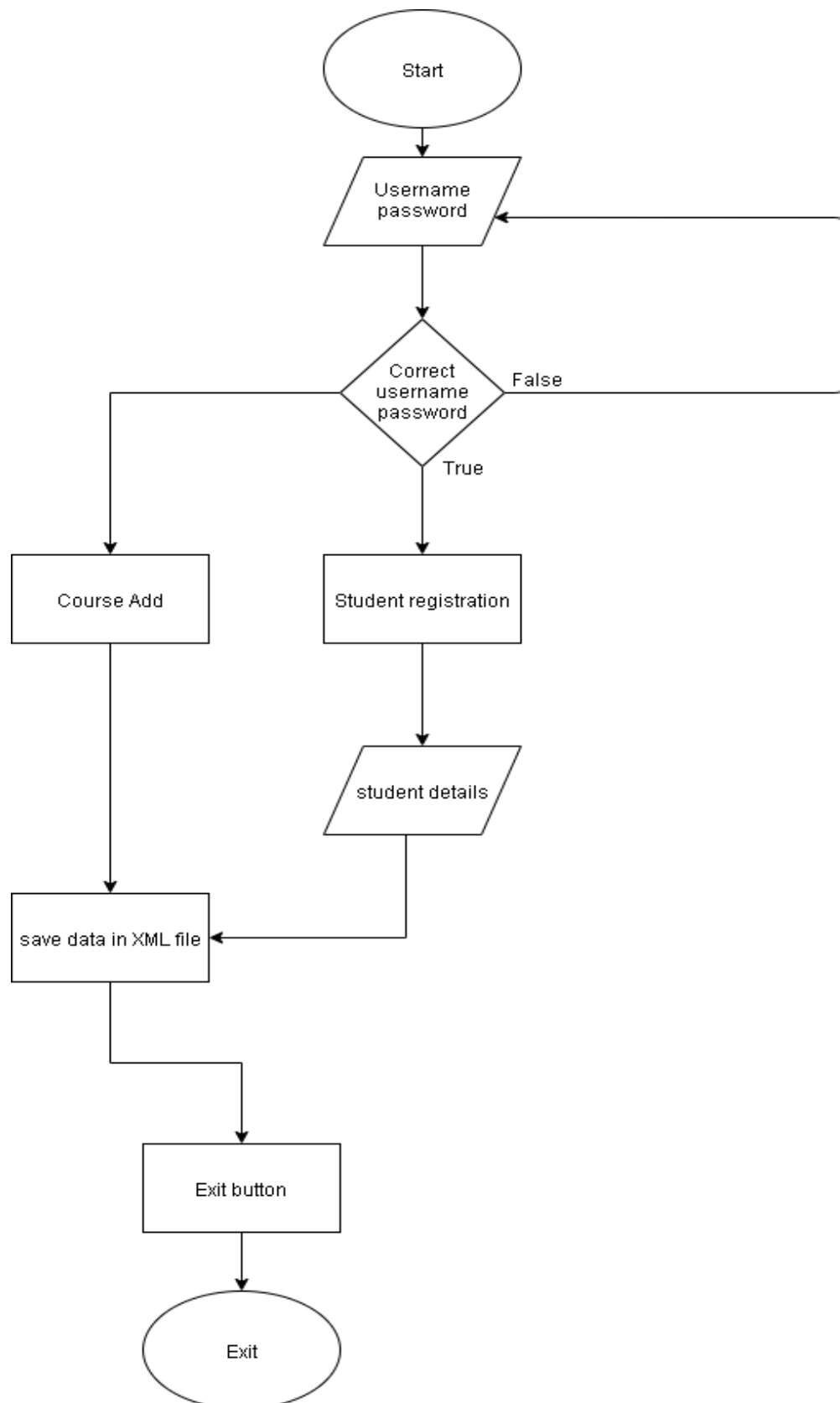
Now, we need to add a SortDescription to it. The SortDescription that we are going to add here will be one of the column name (e.g. 'Name' in our demo). Here's the code for your reference:

```
Var view=  
(CollectionView)CollectionViewSource.GetDefaultView(Employees);  
  
view.SortDescriptions.Add(new SortDescription("Name",  
ListSortDirection.Ascending))
```



## System Architecture

### Flow chart



## Class diagram

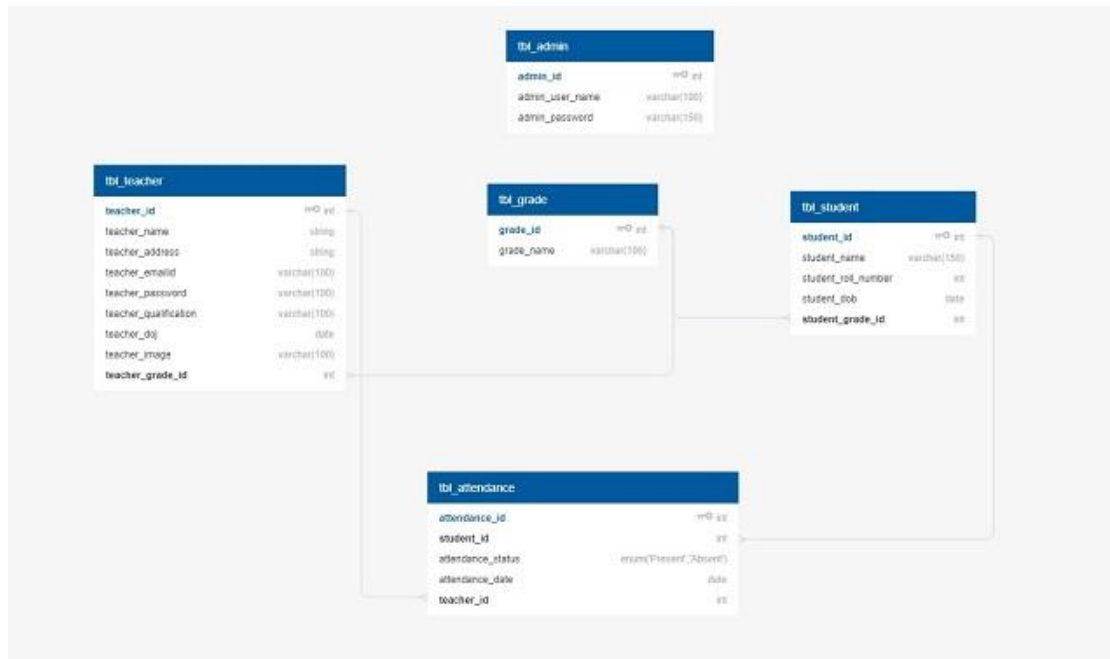


Figure 16: Class diagram

## Conclusion

The developed system is Digitalized Student Information System. It is developed using Visual Studio 2017 with the C# language version 7.3. The business logic used in the system reflects the real working environment of the Student system. The GUI designed is simple user interface and user with basic system administration can operate the system.

An end user can have the facilities of add the student detail and course detail. The total course chosen by the student is calculated automatically by the system and generate weekly student report. The details of the entered student can be added such as: Last Name, phone number, email address and course can be added manually by the user. In addition to that, a user can see chart of course selection with in a week along with the list. I had some previous experience with Visual Studio. With this experience I had got some plus point while doing this coursework. I came to get more working and experience with the language. Features like creating chart generating list In addition to that, sorting of data form the grid was a new thing for me. Furthermore, import and exporting to CSV file was new aspect for me. Overall evaluation with the great support of Mr. Sachin Subedi sir and Mr. Ishwor Sapkota sir. I had a great experience with the Application Development of the student information system.

## Bibliography

- Muhammad Asif, J. K. (2011, January 4). *emerald insight*. Retrieved from <https://www.emerald.com/insight/content/doi/10.1108/10650741111097269/full/html>
- Pagano, R. (n.d.). *Academic Conferences Limited* . Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.72.7494&rep=rep1&type=pdf>
- Robert Bramucci, J. G. (2012, April ). *ACm digital laibrary*. Retrieved from <https://dl.acm.org/doi/abs/10.1145/2330601.2330625>
- S.R.Bharamagoudar. (2013, june 6). *International Journal of Advanced Research in Computer and Communication Engineering*. Retrieved from [https://s3.amazonaws.com/academia.edu.documents/35152249/4-shobha\\_bharamaoudar-WEB\\_BASED\\_STUDENT\\_INFORMATION.pdf?response-content-disposition=inline%3B%20filename%3DWeb\\_Based\\_Student\\_Information\\_Management.pdf&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Creden](https://s3.amazonaws.com/academia.edu.documents/35152249/4-shobha_bharamaoudar-WEB_BASED_STUDENT_INFORMATION.pdf?response-content-disposition=inline%3B%20filename%3DWeb_Based_Student_Information_Management.pdf&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Creden)
- Yang, H.-L. ( 2010, January 1). *sciencedirect*. Retrieved from <https://www.sciencedirect.com/science/article/abs/pii/S0360131509001997>