Marking Scheme

Informatics College Pokhara

informatics
college pokhara

Application Development
CS6004NI
Course Work 1

Submitted By:	**Rohit Gurung**	**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	not properly saved or imported data
Data Validation	missing most of the 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	Sorting not implemented
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	average work with very limited explanation of the classes and methods used
Flow chart, algoriathms and data sctructures used	missing some explanation and diagram for flow chart and algorithms
Reflective essay	Very poorly written
C. Programming Style	
Clarity of code,Popper Naming convention & comments	Very poor code
System Usability	very poorly developed application

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.

OK. Explained the code flow and try implementing the feature.

Informatics College Pokhara

Application Development

CS6004NP

Coursework 1

Submitted by		**Submitted to**
Name:	Rohit Gurung	Name: Ishwor Sapkota
ID:	17030741	Application Development
Group:	L3C1	
Date:	2020/01/10	

Table of Contents

Table of Figures

1. Introduction

As the coursework asked for, Student Information System is developed. This application is developed in Microsoft Visual Studio in C#. This application is used to record details of a students, enroll him/her, generate reports showing details of the students, generate report showing the total number of students enrolled, and show the enrolled students in a chart.

C# is an elegant and type-safe object-oriented language that enables developers to build a variety of secure and robust applications that run on the .NET Framework. C# can be used to create Windows client applications, XML Web services, database applications and much more. Microsoft Visual Studio is an integrated development environment(IDE) from Microsoft. It provides an advanced code editor, convenient user interface designers, integrated debugger, and many other tools to make it easier to develop applications based on the C# language and the .NET Framework. (microsoft.com, 2020)

Some of the main features of the application that I created are listed below:

- A login window at the startup.
- A Home window after login into the application, which contains several navigation buttons for all other pages.
- An Enroll page, where all the details of the student are entered in a form and recorded in a XML file.
- Creation of a XML file to save all the details of the students.
- An Import page, where all the details of the students are imported from a .csv file, and recorded to the created XML file.
- A Report page, where all the details recorded in the XML are shown in a data grid.
- A Total students page, where all the enrolled students in each courses are counted and displayed.
- A Chart page, where the enrolled students in each courses are displayed in a pie chart.

2. User Manual

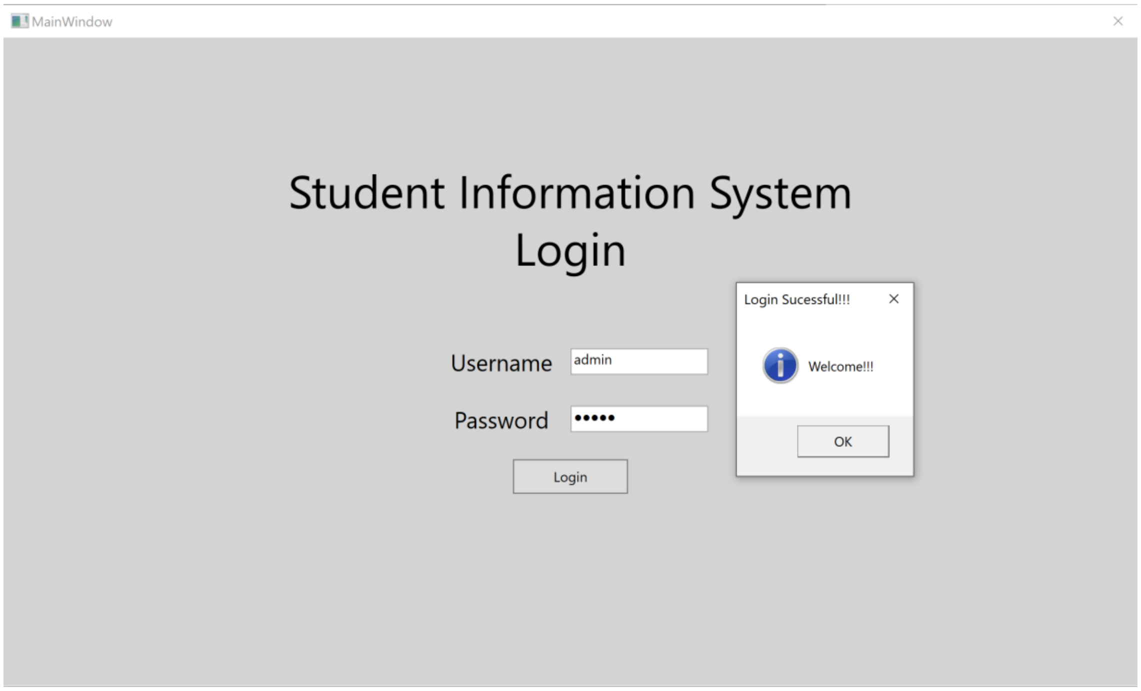
To use the system properly, please follow the instructions are given below with pictorial descriptions.

2.1 Execution of program

To run the program, click on ‘CWAD.exe’ file. This file is located inside ‘CWAD\bin\Debug’ folder.

2.2 Login Window

Login window is the first window, that will appear when the application is started. The login window will contain 2 empty text boxes, and a login button. Both Username and Password is ‘admin’, therefore the user should type ‘admin’ in both empty text fields, and then click on the Login button. Then a dialogue box will appear, and after you press OK, it will take you to the home window.



Student Information System
Login

Username admin

Password •••••

Login Sucessful!!!

Welcome!!!

Figure 1: Login Window – Login Successful

2.3 Home Window

Home window will open after the user login successfully. The home window consists of navigation buttons at the top. To use other features of the application, the user can navigate using the buttons at the top, which will take the user to different pages in the same window.

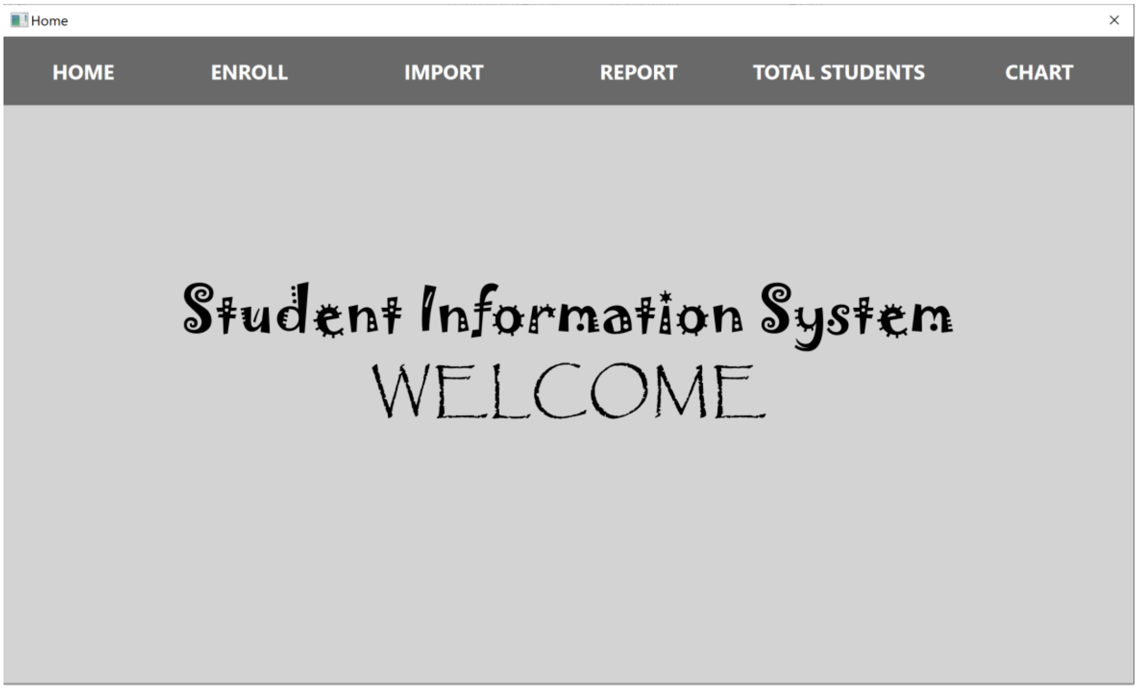


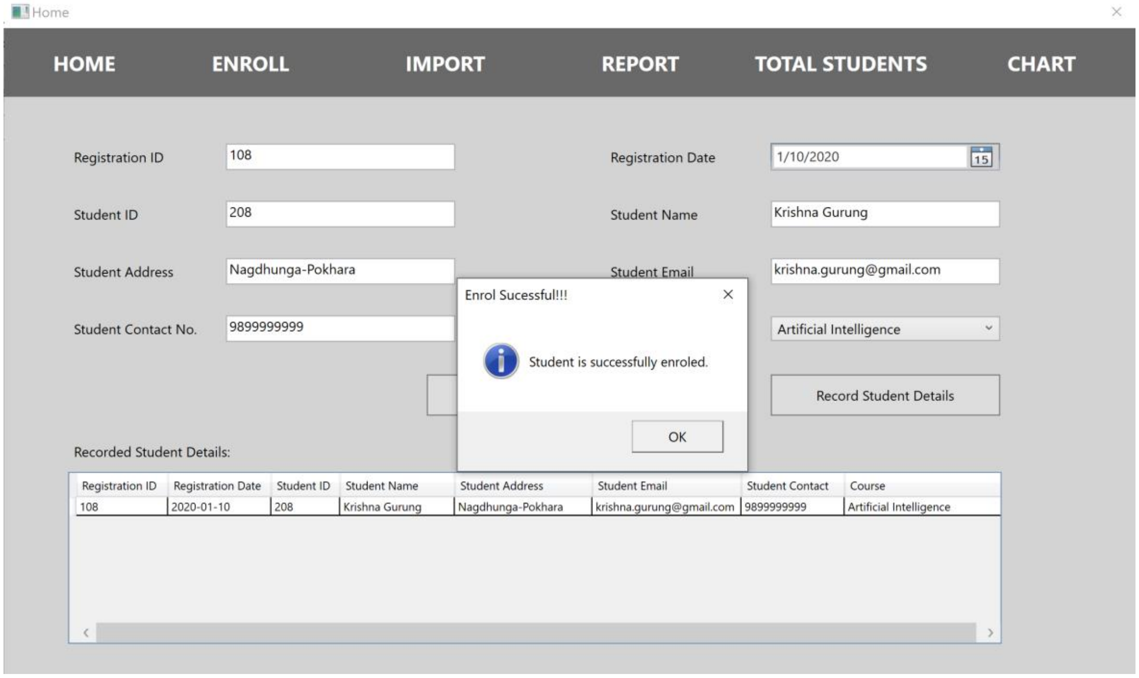
Figure 2: Home Window

2.4 Home Page

The Home page is what you see at first after logging into the application. The user will just be navigated to the Home page, if clicking on that button.

2.5 Enroll Page

After the user navigates into Enroll Page, a form will be seen. The form is for enrolling the students. The user needs to fill all the empty text fields with correct data. And after that, the user needs to click on the ‘Record Student Details’ button, so that a XML file will be created and the data will be saved in that XML file; and also the recorded details of that one time will be displayed on the data grid below. There’s also another button ‘Clear Fields’, which will clear all the text boxes when clicked.



Registration ID	108	Registration Date	1/10/2020
Student ID	208	Student Name	Krishna Gurung
Student Address	Nagdhunga-Pokhara	Student Email	krishna.gurung@gmail.com
Student Contact No.	9899999999		Artificial Intelligence

Enrol Sucessful!!!

Student is successfully enroled.

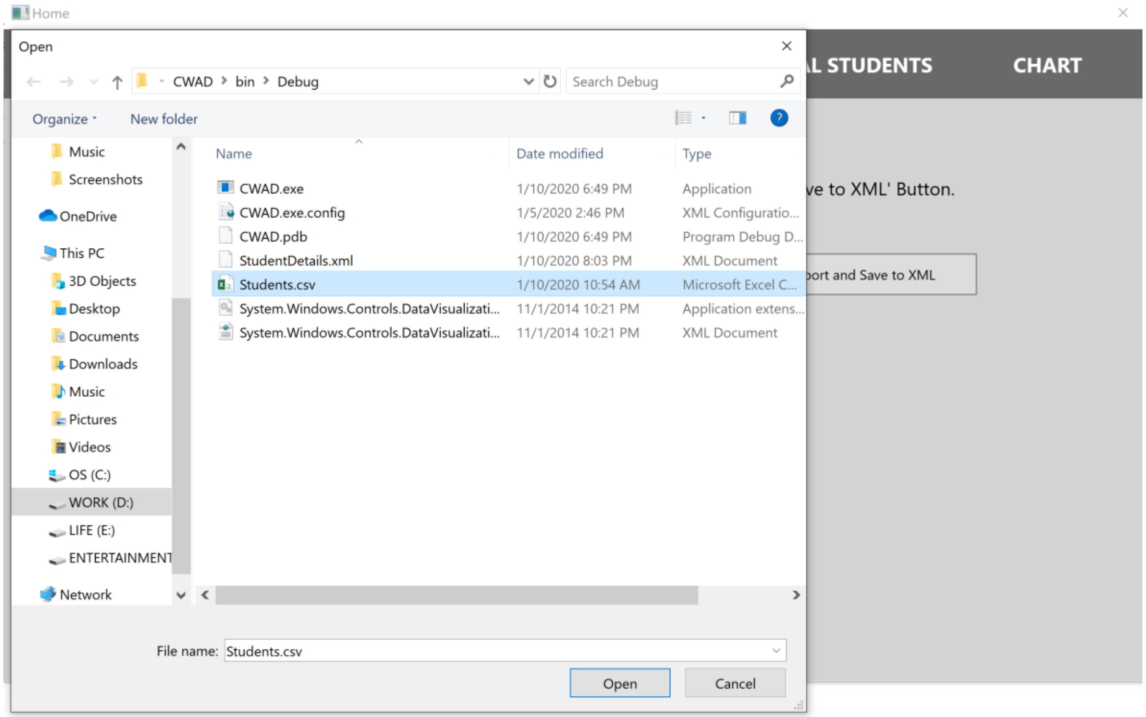
Recorded Student Details:

Registration ID	Registration Date	Student ID	Student Name	Student Address	Student Email	Student Contact	Course
108	2020-01-10	208	Krishna Gurung	Nagdhunga-Pokhara	krishna.gurung@gmail.com	9899999999	Artificial Intelligence

Figure 3: Enroll Page – Enroll Successful

2.6 Import Page

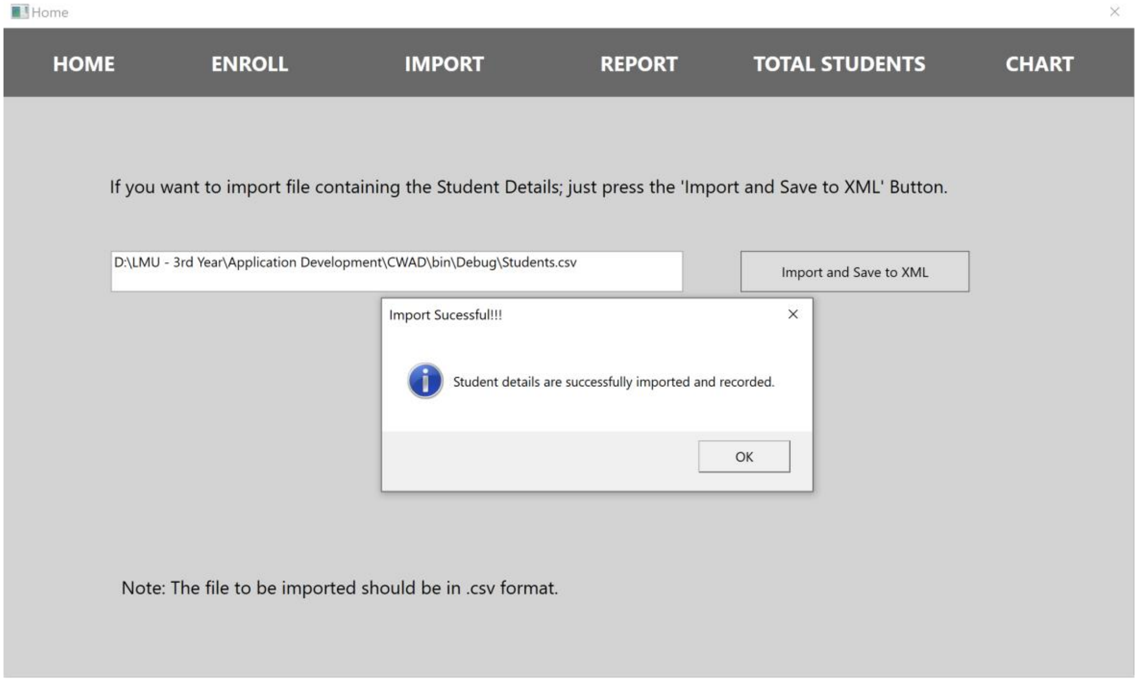
After the user navigates into Import Page, a textbox and a button will be seen. To import the .csv file, at first the user will have to click on the 'Import and Save to XML' button. Then the Browse dialogue box will open, and the user needs to search the file he wants to import, and select it, and then click on the button 'Open'. Then a dialogue box will appear, that will inform the user about the successful import. The user needs to be careful in one thing though, he needs to select .csv file only to import; if not then the import process won't be successful.



Name	Date modified	Type
CWAD.exe	1/10/2020 6:49 PM	Application
CWAD.exe.config	1/5/2020 2:46 PM	XML Configuratio...
CWAD.pdb	1/10/2020 6:49 PM	Program Debug D...
StudentDetails.xml	1/10/2020 8:03 PM	XML Document
Students.csv	1/10/2020 10:54 AM	Microsoft Excel C...
System.Windows.Controls.DataVisualizati...	11/1/2014 10:21 PM	Application extens...
System.Windows.Controls.DataVisualizati...	11/1/2014 10:21 PM	XML Document

File name: Students.csv

Figure 4: Import Page - Selecting File



If you want to import file containing the Student Details; just press the 'Import and Save to XML' Button.

D:\LMU - 3rd Year\Application Development\CWAD\bin\Debug\Students.csv

Import Sucessful!!!

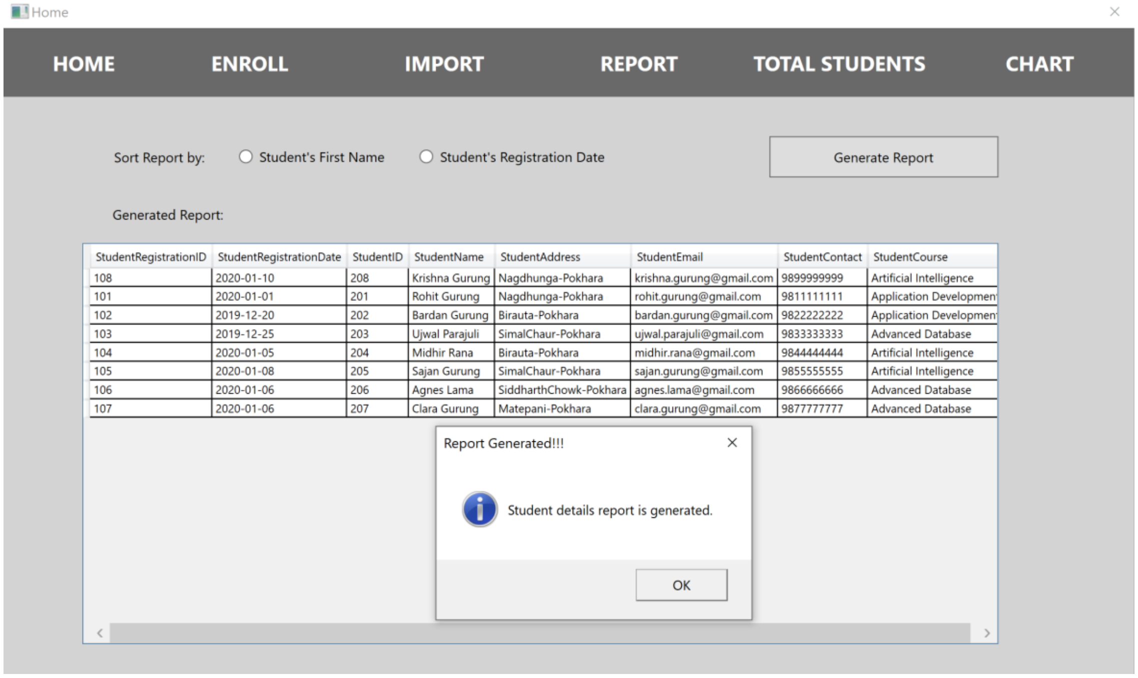
Student details are successfully imported and recorded.

Note: The file to be imported should be in .csv format.

Figure 5: Import Page - Import Successful

2.7 Report Page

After the user navigates into Report Page; two radio buttons, a normal button and a data grid; will be seen. To generate report, the user needs to click on ‘Generate Report’ button; and a table will be displayed in data grid showing all the details of the enrolled students. If the user wants to sort the table data by the students first names, then the user has to click on the ‘Student’s First Name’ radio button, and then click the ‘Generate Report’ button again. Also if the user wants to sort the table data by the student’s registration date, then the user has to click on the ‘Student’s Registration Date’ radio button, and then click the ‘Generate Report’ button again.



Sort Report by: ○ Student's First Name ○ Student's Registration Date

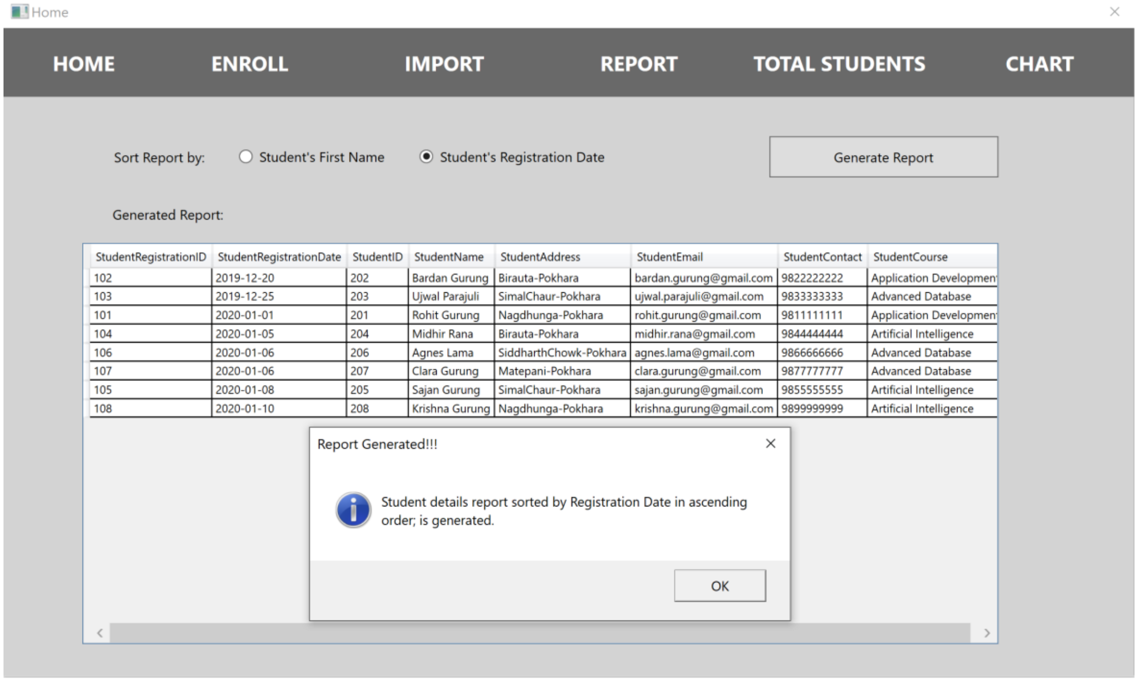
Generated Report:

StudentRegistrationID	StudentRegistrationDate	StudentID	StudentName	StudentAddress	StudentEmail	StudentContact	StudentCourse
108	2020-01-10	208	Krishna Gurung	Nagdhunga-Pokhara	krishna.gurung@gmail.com	9899999999	Artificial Intelligence
101	2020-01-01	201	Rohit Gurung	Nagdhunga-Pokhara	rohit.gurung@gmail.com	9811111111	Application Developmen
102	2019-12-20	202	Bardan Gurung	Birauta-Pokhara	bardan.gurung@gmail.com	9822222222	Application Developmen
103	2019-12-25	203	Ujwal Parajuli	SimalChaur-Pokhara	ujwal.parajuli@gmail.com	9833333333	Advanced Database
104	2020-01-05	204	Midhir Rana	Birauta-Pokhara	midhir.rana@gmail.com	9844444444	Artificial Intelligence
105	2020-01-08	205	Sajan Gurung	SimalChaur-Pokhara	sajan.gurung@gmail.com	9855555555	Artificial Intelligence
106	2020-01-06	206	Agnes Lama	SiddharthChowk-Pokhara	agnes.lama@gmail.com	9866666666	Advanced Database
107	2020-01-06	207	Clara Gurung	Matepani-Pokhara	clara.gurung@gmail.com	9877777777	Advanced Database

Report Generated!!!

Student details report is generated.

Figure 6: Report Page – Default



Sort Report by: ○ Student's First Name ● Student's Registration Date

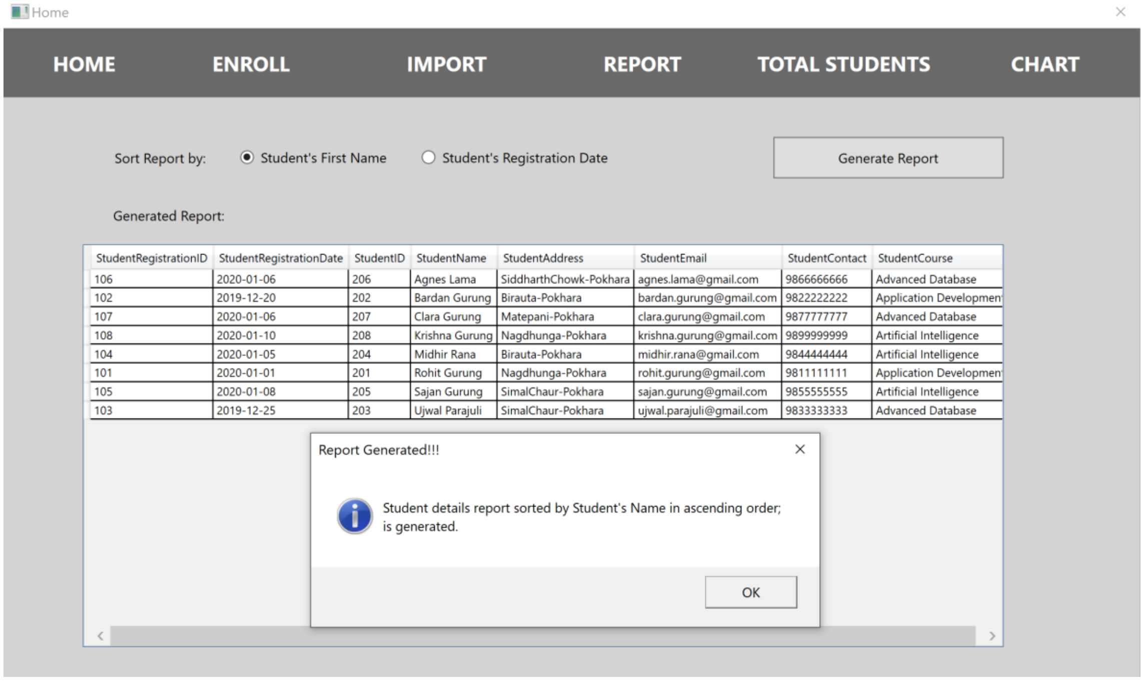
Generated Report:

StudentRegistrationID	StudentRegistrationDate	StudentID	StudentName	StudentAddress	StudentEmail	StudentContact	StudentCourse
102	2019-12-20	202	Bardan Gurung	Birauta-Pokhara	bardan.gurung@gmail.com	9822222222	Application Developmen
103	2019-12-25	203	Ujwal Parajuli	SimalChaur-Pokhara	ujwal.parajuli@gmail.com	9833333333	Advanced Database
101	2020-01-01	201	Rohit Gurung	Nagdhunga-Pokhara	rohit.gurung@gmail.com	9811111111	Application Developmen
104	2020-01-05	204	Midhir Rana	Birauta-Pokhara	midhir.rana@gmail.com	9844444444	Artificial Intelligence
106	2020-01-06	206	Agnes Lama	SiddharthChowk-Pokhara	agnes.lama@gmail.com	9866666666	Advanced Database
107	2020-01-06	207	Clara Gurung	Matepani-Pokhara	clara.gurung@gmail.com	9877777777	Advanced Database
105	2020-01-08	205	Sajan Gurung	SimalChaur-Pokhara	sajan.gurung@gmail.com	9855555555	Artificial Intelligence
108	2020-01-10	208	Krishna Gurung	Nagdhunga-Pokhara	krishna.gurung@gmail.com	9899999999	Artificial Intelligence

Report Generated!!!

Student details report sorted by Registration Date in ascending order; is generated.

Figure 7: Report Page - Sort By Date



Sort Report by: ● Student's First Name ○ Student's Registration Date

Generated Report:

StudentRegistrationID	StudentRegistrationDate	StudentID	StudentName	StudentAddress	StudentEmail	StudentContact	StudentCourse
106	2020-01-06	206	Agnes Lama	SiddharthChowk-Pokhara	agnes.lama@gmail.com	9866666666	Advanced Database
102	2019-12-20	202	Bardan Gurung	Birauta-Pokhara	bardan.gurung@gmail.com	9822222222	Application Developmen
107	2020-01-06	207	Clara Gurung	Matepani-Pokhara	clara.gurung@gmail.com	9877777777	Advanced Database
108	2020-01-10	208	Krishna Gurung	Nagdhunga-Pokhara	krishna.gurung@gmail.com	9899999999	Artificial Intelligence
104	2020-01-05	204	Midhir Rana	Birauta-Pokhara	midhir.rana@gmail.com	9844444444	Artificial Intelligence
101	2020-01-01	201	Rohit Gurung	Nagdhunga-Pokhara	rohit.gurung@gmail.com	9811111111	Application Developmen
105	2020-01-08	205	Sajan Gurung	SimalChaur-Pokhara	sajan.gurung@gmail.com	9855555555	Artificial Intelligence
103	2019-12-25	203	Ujwal Parajuli	SimalChaur-Pokhara	ujwal.parajuli@gmail.com	9833333333	Advanced Database

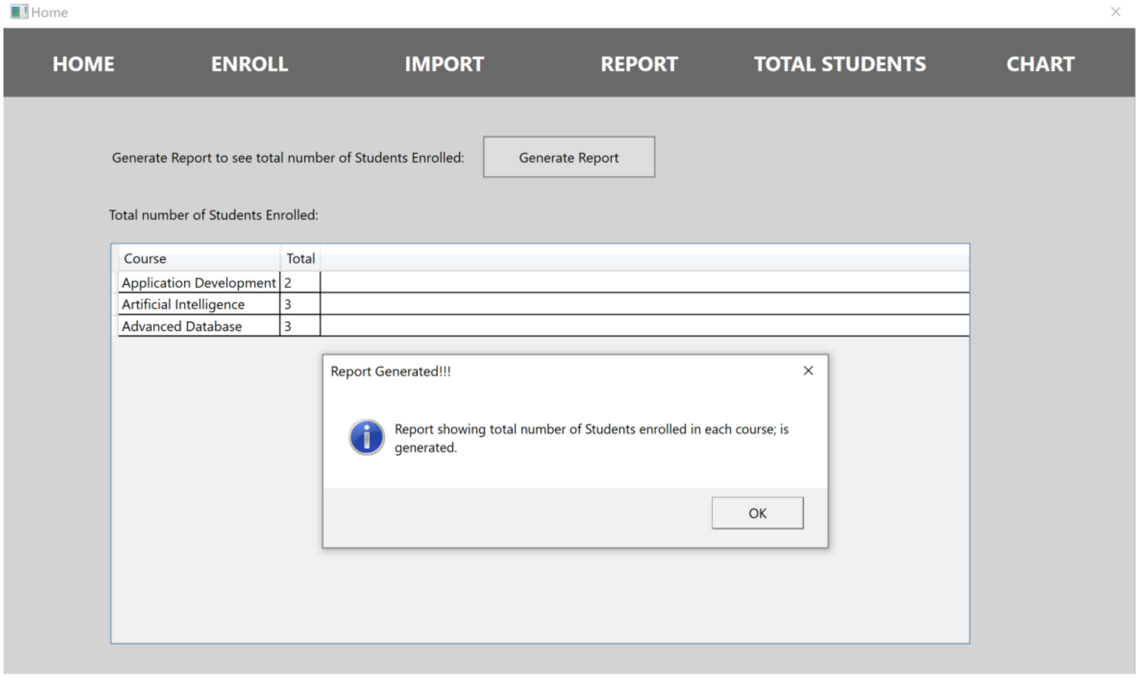
Report Generated!!!

Student details report sorted by Student's Name in ascending order; is generated.

Figure 8: Report Page - Sort by Name

2.8 Total Students Page

After the user navigates into Total Students Page, a button and data grid, will be seen. To see the total number of students enrolled in each courses, the user just has to press the ‘Generate Report’ button; then the course names along with the number of students enrolled in them; will be displayed in the table.



Generate Report to see total number of Students Enrolled:

Total number of Students Enrolled:

Course	Total
Application Development	2
Artificial Intelligence	3
Advanced Database	3

Report Generated!!!

Report showing total number of Students enrolled in each course; is generated.

Figure 9: Total Students Page - Students Count Successful

2.9 Chart Page

After the user navigates into Chart Page, the user can see a Pie Chart directly. If there are students enrolled in available courses, the Pie Chart will be displayed. But if the students are not registered into any of the courses, then the Pie Chart won’t be displayed.

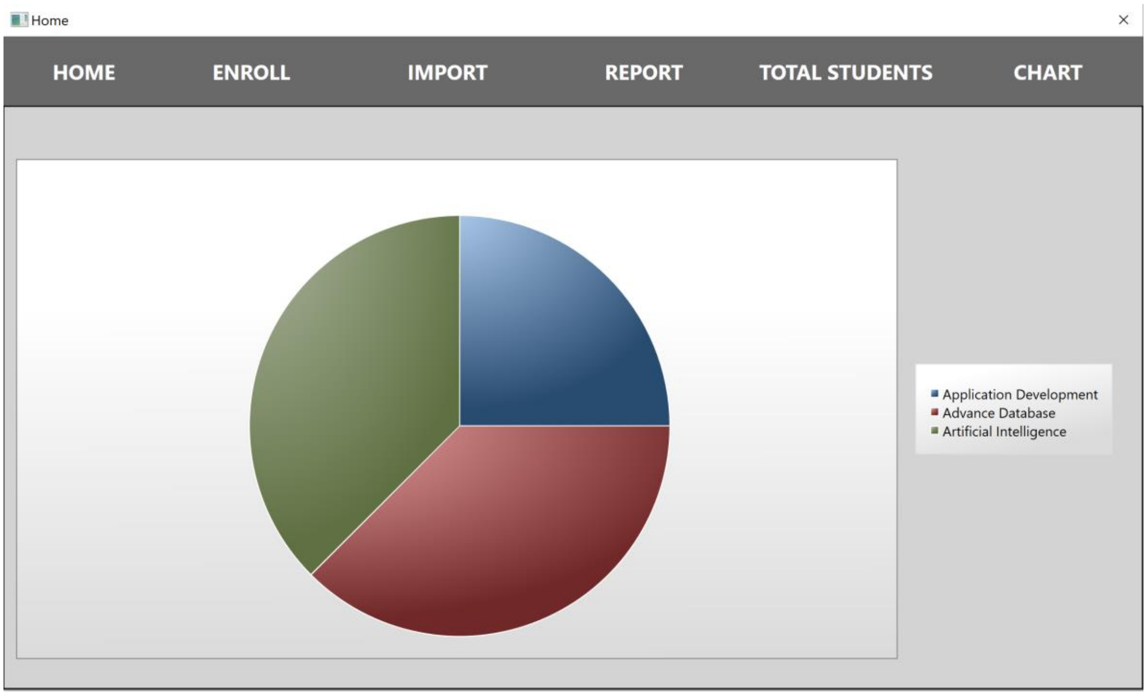


Figure 10: Pie Chart

3. Flowchart

The way my Application works has a process, which can be described through flowchart. The flowcharts below describe how the students are enrolled in the application.

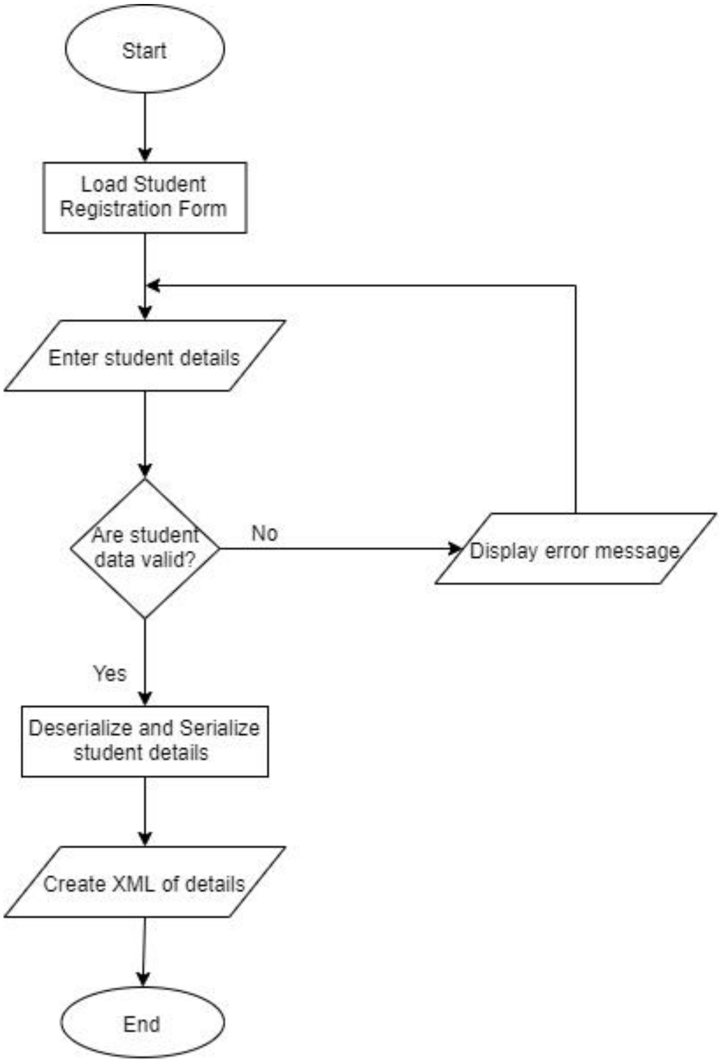


Figure 11: Flowchart - Enroll by Form

To enroll a student into the system, at first the Student Registration Form loads in the Enroll page. Then the user enters student details. Then the system validates the details entered by the user; and if the details are invalid, an Error Message is displayed to the user and the user have to re-check and re-enter the invalid details. If the details are valid, then the system creates a XML file, and records the details in it. But, if the file is already created, the details are updated into the same XML file.

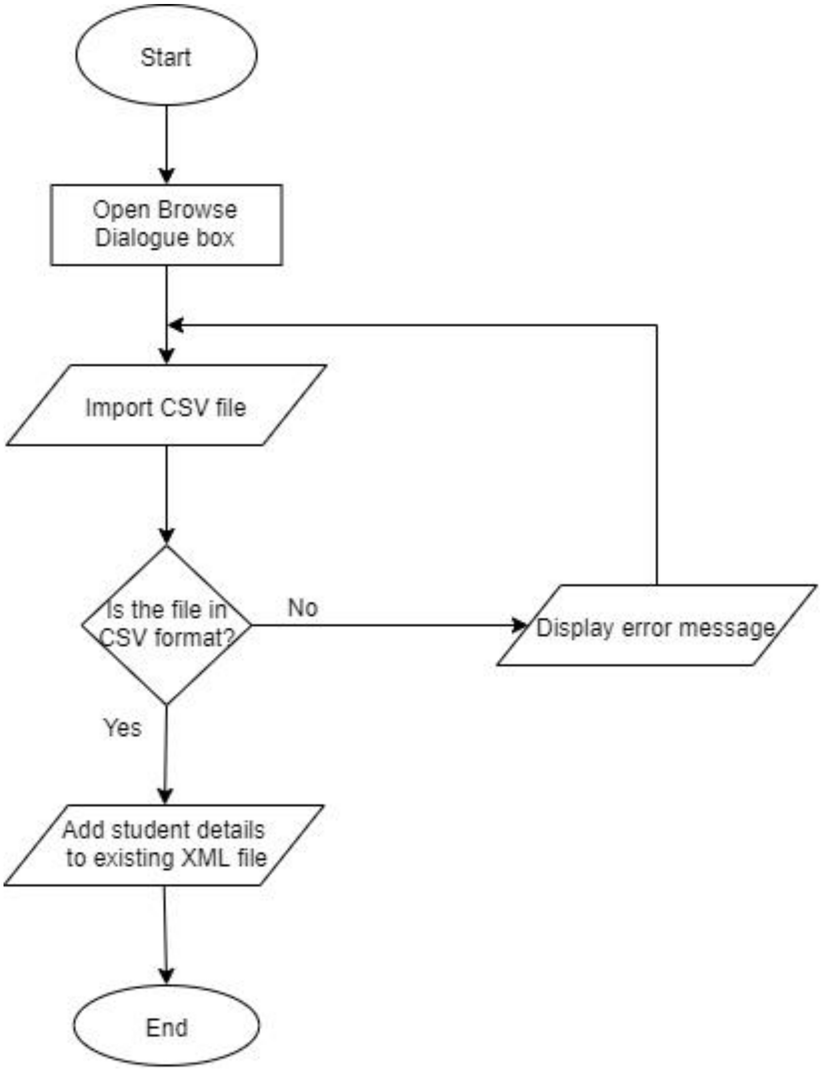


Figure 12: Flowchart - Enroll By Import

To enroll a student into the system, this is another method. In the Import page, at first the user has to click on the button and open Browse Dialogue box. Then the user has to find, select and open the CSV file. Then the system will check if the file is in .csv format. If it's not in the required format, the system will display an error message, and go back to previous step. But, if the file is in required .csv format, the file will be imported and the student details will be added to the existing XML file.

4. Method Description

4.1 Login Window

Method	Description
btnlogin_Click	This method checks the Username and Password entered by the user, and validates and logs in if only the user entered correctly.

4.2 Home Window

Method	Description
btnEnroll_Click	This method takes the user into Enroll page.
btnImport_Click	This method takes the user into Import page.
btnReport_Click	This method takes the user into Report page.
btnWeeklyReport_Click	This method takes the user into Total Students page.
btnHome_Click	This method takes the user into Home page.
btnPieChart_Click	This method takes the user into Chart page.

4.3 Enroll Page

Method	Description
AppendData	This method adds data into an already made XML data, by deserialize and serialize method.
BtnRecord_Click	This method checks if all the text fields are valid or not. If valid, it created a new XML file and stores the data into it.
BtnClear_Click	This method clears all the data of all the text fields of the form.

4.4 Import Page

Method	Description
btnRecordDetails_Click	This method reads the XML file, opens browse dialogue box for the user to choose the CSV file, then imports the data of CSV file and records it into the already created XML file.

4.5 Report Page

Method	Description
btnGenerate_Click	This method reads the XML file and generates report which displays the data in the XML file. This method can also sort the details by Registration Date and also by Student Name.

4.6 Total Students Page

Method	Description
StudentData	This method reads the XML file data, counts nodes and displays the data in data grid.
btnWeeklyReport_Click	This method pulls the public method StudentData, counts the number of students in each course, then displays in the datagrid.

4.7 Chart Page

Method	Description
PieChart	This method reads the XML file data, counts nodes, counts the number of students in each course, then uses Data Visualization Package to create pie chart with the numbers got by the count.

4.8 XmlRecord Class

Method	Description
RecordData	This method Appends and Writes into XML file using XnkSerializer.

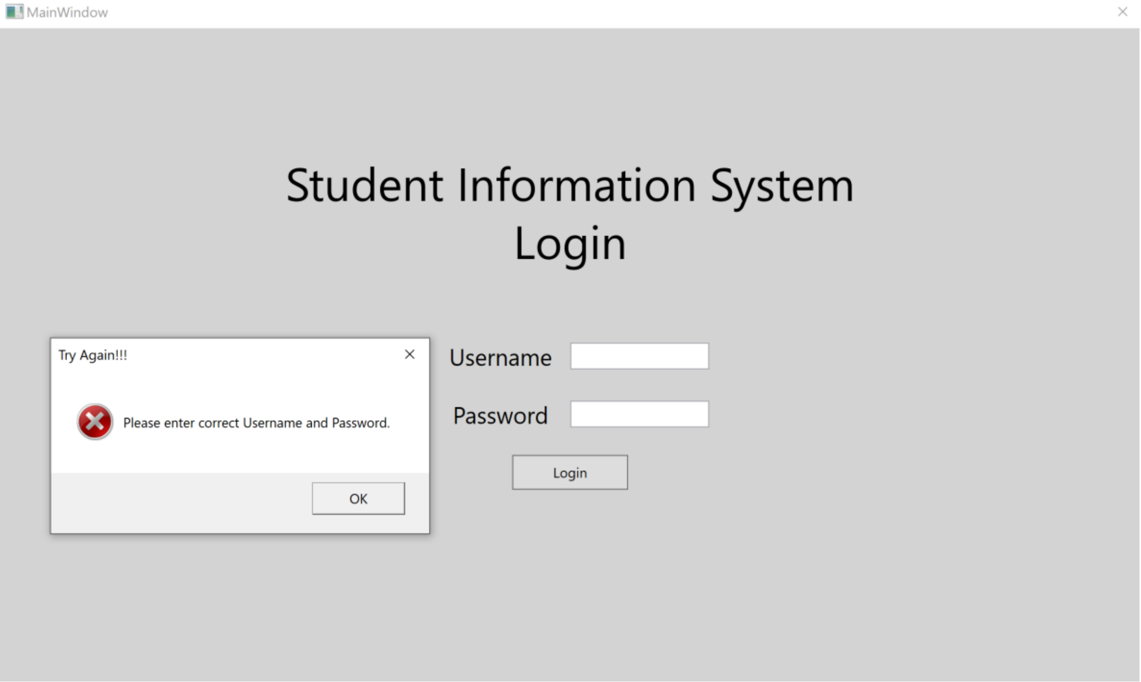
5. Testing

5.1 Testing 1

Objective: To display error message when the username or password is not valid.

Output: Displays error message for the invalid username or password.

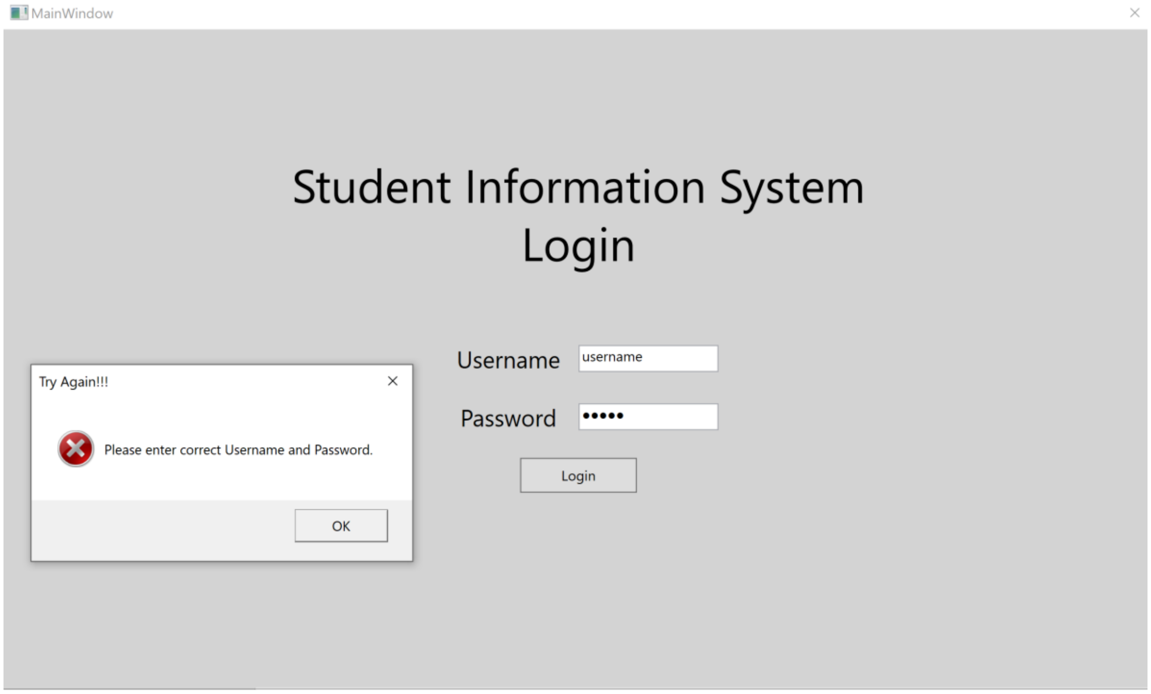
Result: Successful.



Student Information System
Login

Try Again!!!

Please enter correct Username and Password.



Student Information System Login

Username: username

Password: •••••

Login

Try Again!!!

Please enter correct Username and Password.

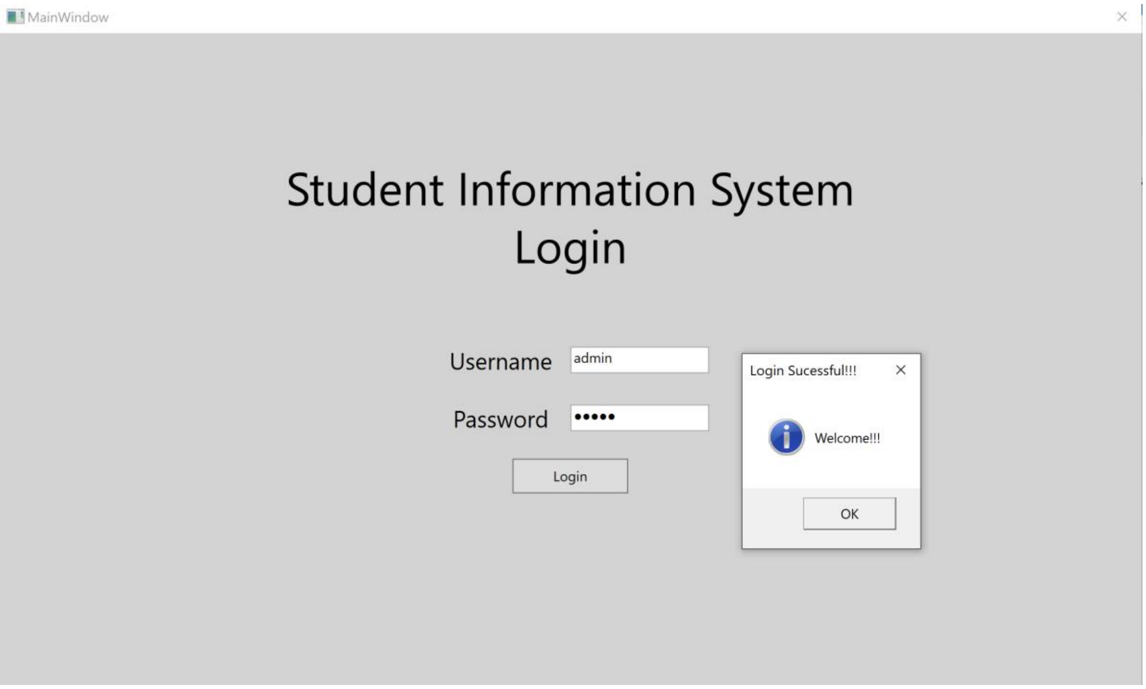
OK

5.2 Testing 2

Objective: To display success message and navigate to home page when the username and password matches.

Output: Displays successful message and navigates to home page.

Result: Successful.



Student Information System Login

Username: admin

Password: •••••

Login

Login Sucessful!!!

Welcome!!!

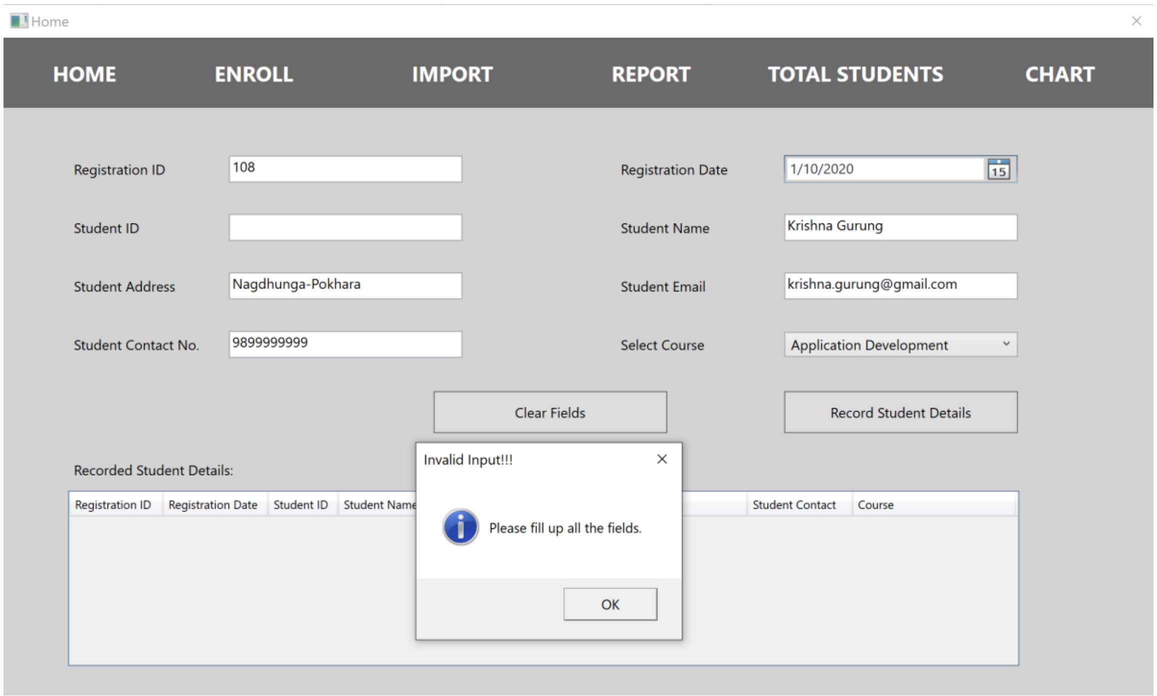
OK

5.3 Testing 3

Objective: To display error message when the user leaves text fields empty in student enroll page.

Output: Displays error message for the invalid input.

Result: Successful.



Registration ID	108	Registration Date	1/10/2020
Student ID		Student Name	Krishna Gurung
Student Address	Nagdhunga-Pokhara	Student Email	krishna.gurung@gmail.com
Student Contact No.	9899999999	Select Course	Application Development

Recorded Student Details:

Registration ID	Registration Date	Student ID	Student Name	Student Contact	Course

Invalid Input!!!

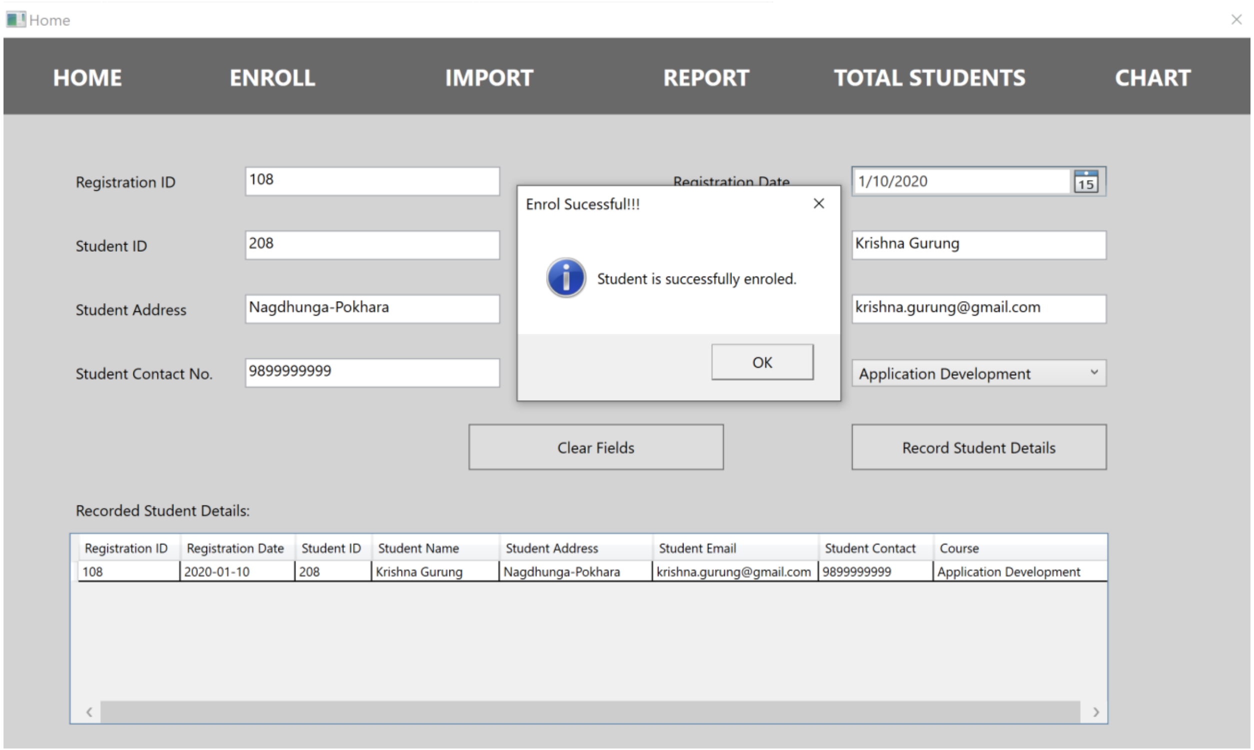
Please fill up all the fields.

5.4 Testing 4

Objective: To display successful message when the user leaves text fields empty in student enroll page.

Output: Displays success message for valid inputs.

Result: Successful.



Registration ID: 108

Registration Date: 1/10/2020

Student ID: 208

Krishna Gurung

Student Address: Nagdhunga-Pokhara

krishna.gurung@gmail.com

Student Contact No.: 9899999999

Application Development

Enrol Sucessful!!!

Student is successfully enroled.

Recorded Student Details:

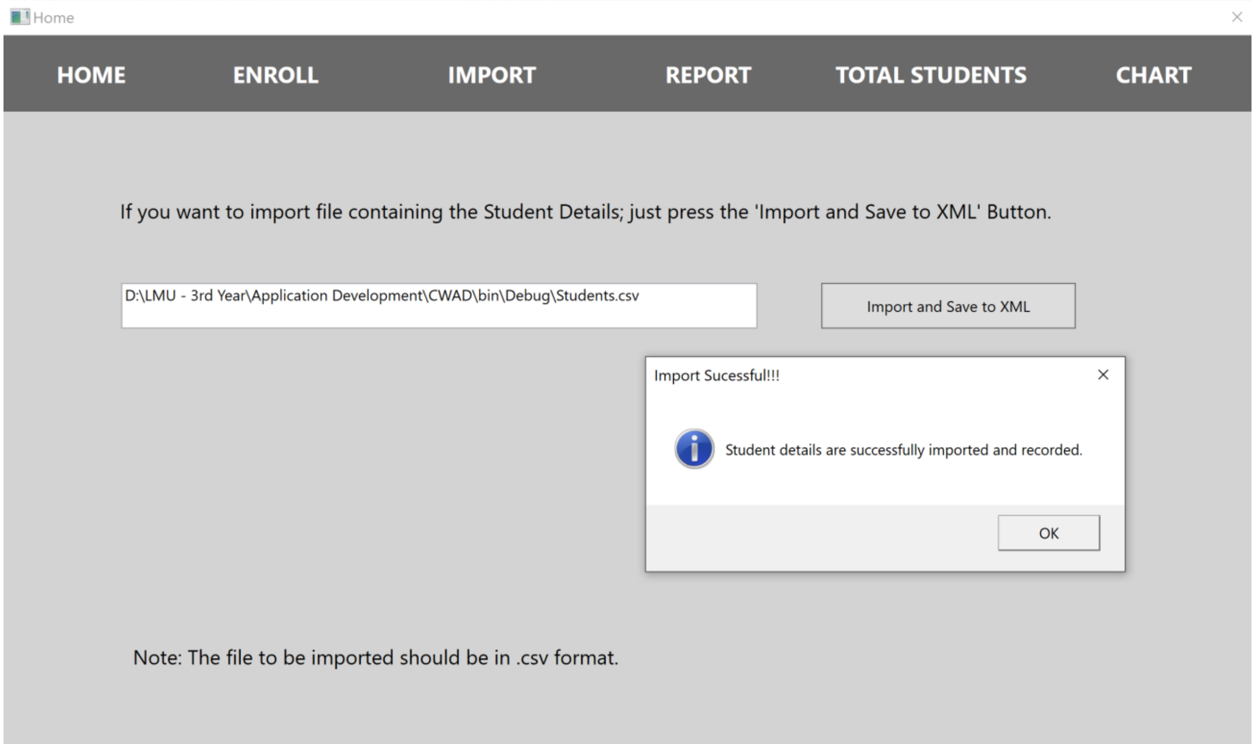
Registration ID	Registration Date	Student ID	Student Name	Student Address	Student Email	Student Contact	Course
108	2020-01-10	208	Krishna Gurung	Nagdhunga-Pokhara	krishna.gurung@gmail.com	9899999999	Application Development

5.5 Testing 5

Objective: Check successful import of CSV file.

Output: CSV file successfully imported.

Result: Successful.



If you want to import file containing the Student Details; just press the 'Import and Save to XML' Button.

D:\LMU - 3rd Year\Application Development\CWAD\bin\Debug\Students.csv

Import Sucessful!!!

Student details are successfully imported and recorded.

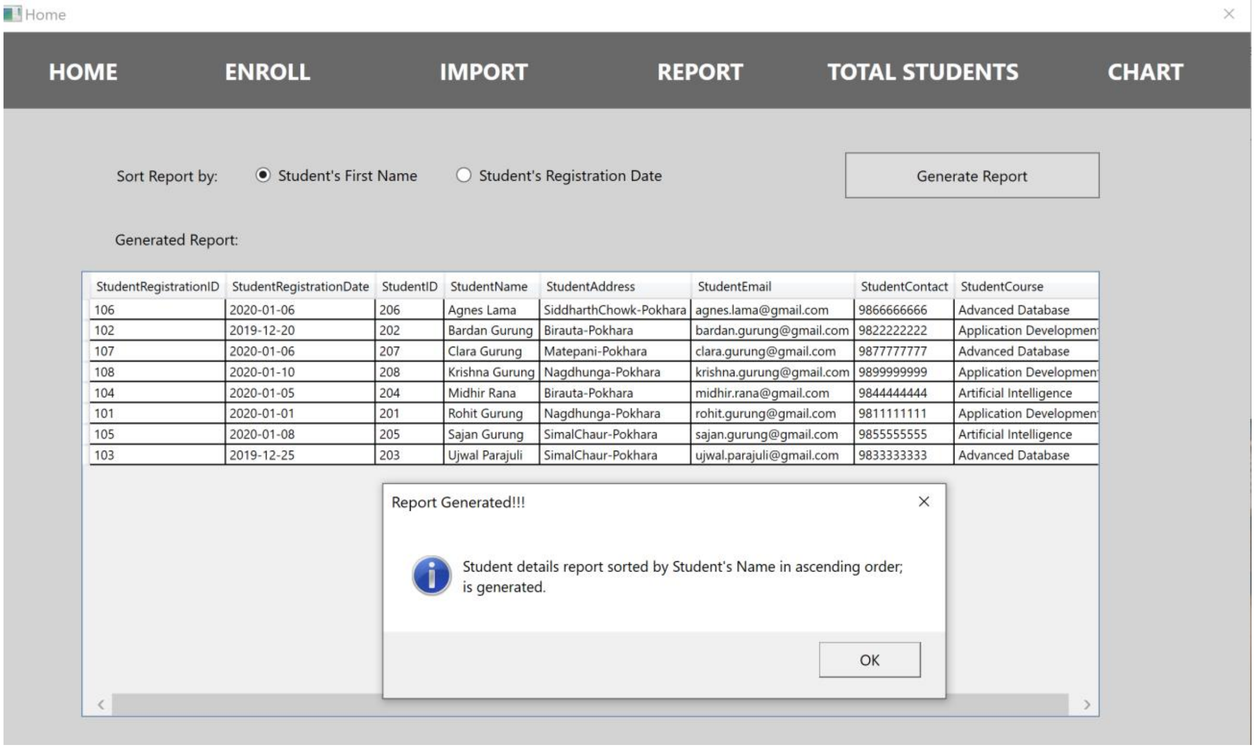
Note: The file to be imported should be in .csv format.

5.6 Testing 6

Objective: Check if the report is sorted by first name and displayed to grid.

Output: Displays the data with the first name sorting.

Result: Successful.



Sort Report by: ● Student's First Name ○ Student's Registration Date

Generated Report:

StudentRegistrationID	StudentRegistrationDate	StudentID	StudentName	StudentAddress	StudentEmail	StudentContact	StudentCourse
106	2020-01-06	206	Agnes Lama	SiddharthChowk-Pokhara	agnes.lama@gmail.com	9866666666	Advanced Database
102	2019-12-20	202	Bardan Gurung	Birauta-Pokhara	bardan.gurung@gmail.com	9822222222	Application Developmen
107	2020-01-06	207	Clara Gurung	Matepani-Pokhara	clara.gurung@gmail.com	9877777777	Advanced Database
108	2020-01-10	208	Krishna Gurung	Nagdhunga-Pokhara	krishna.gurung@gmail.com	9899999999	Application Developmen
104	2020-01-05	204	Midhir Rana	Birauta-Pokhara	midhir.rana@gmail.com	9844444444	Artificial Intelligence
101	2020-01-01	201	Rohit Gurung	Nagdhunga-Pokhara	rohit.gurung@gmail.com	9811111111	Application Developmen
105	2020-01-08	205	Sajan Gurung	SimalChaur-Pokhara	sajan.gurung@gmail.com	9855555555	Artificial Intelligence
103	2019-12-25	203	Ujwal Parajuli	SimalChaur-Pokhara	ujwal.parajuli@gmail.com	9833333333	Advanced Database

Report Generated!!!

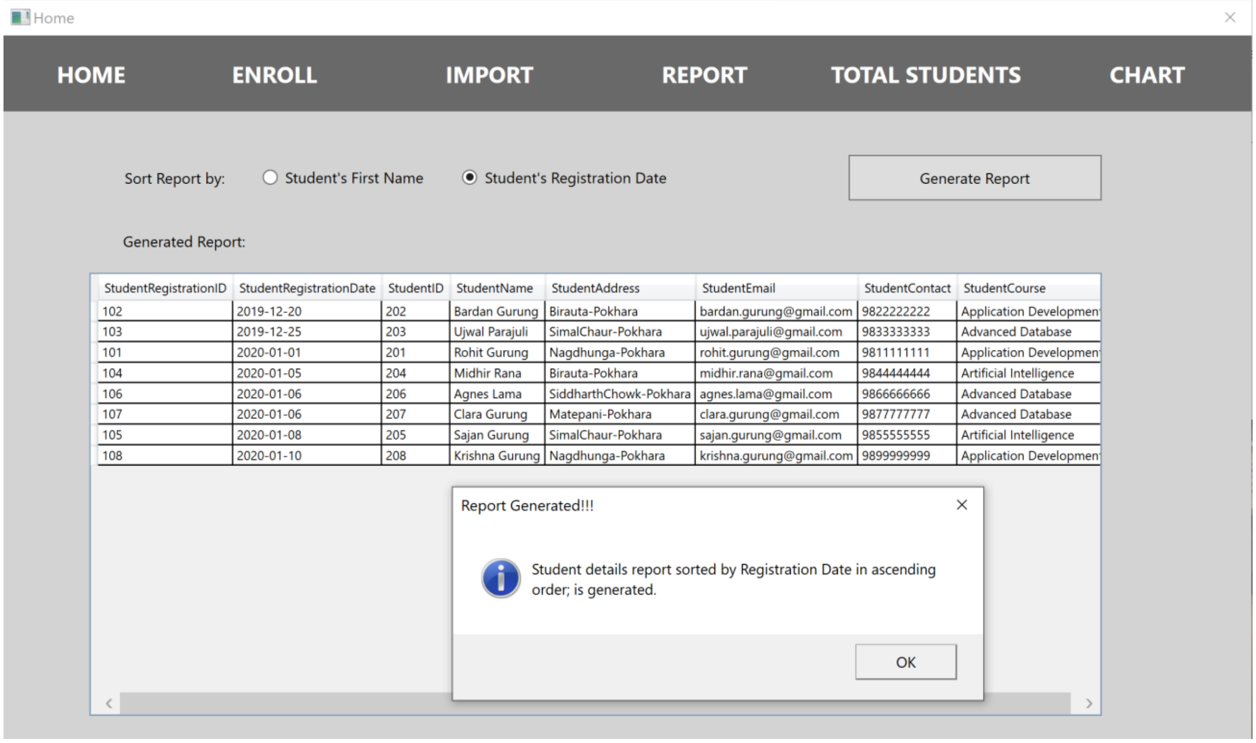
Student details report sorted by Student's Name in ascending order; is generated.

5.7 Testing 7

Objective: Check if the report is sorted by date and displayed to grid.

Output: Displays the data with the date sorting.

Result: Successful.



Sort Report by: ○ Student's First Name ● Student's Registration Date

Generated Report:

StudentRegistrationID	StudentRegistrationDate	StudentID	StudentName	StudentAddress	StudentEmail	StudentContact	StudentCourse
102	2019-12-20	202	Bardan Gurung	Birauta-Pokhara	bardan.gurung@gmail.com	9822222222	Application Developmen
103	2019-12-25	203	Ujwal Parajuli	SimalChaur-Pokhara	ujwal.parajuli@gmail.com	9833333333	Advanced Database
101	2020-01-01	201	Rohit Gurung	Nagdhunga-Pokhara	rohit.gurung@gmail.com	9811111111	Application Developmen
104	2020-01-05	204	Midhir Rana	Birauta-Pokhara	midhir.rana@gmail.com	9844444444	Artificial Intelligence
106	2020-01-06	206	Agnes Lama	SiddharthChowk-Pokhara	agnes.lama@gmail.com	9866666666	Advanced Database
107	2020-01-06	207	Clara Gurung	Matepani-Pokhara	clara.gurung@gmail.com	9877777777	Advanced Database
105	2020-01-08	205	Sajan Gurung	SimalChaur-Pokhara	sajan.gurung@gmail.com	9855555555	Artificial Intelligence
108	2020-01-10	208	Krishna Gurung	Nagdhunga-Pokhara	krishna.gurung@gmail.com	9899999999	Application Developmen

Report Generated!!!

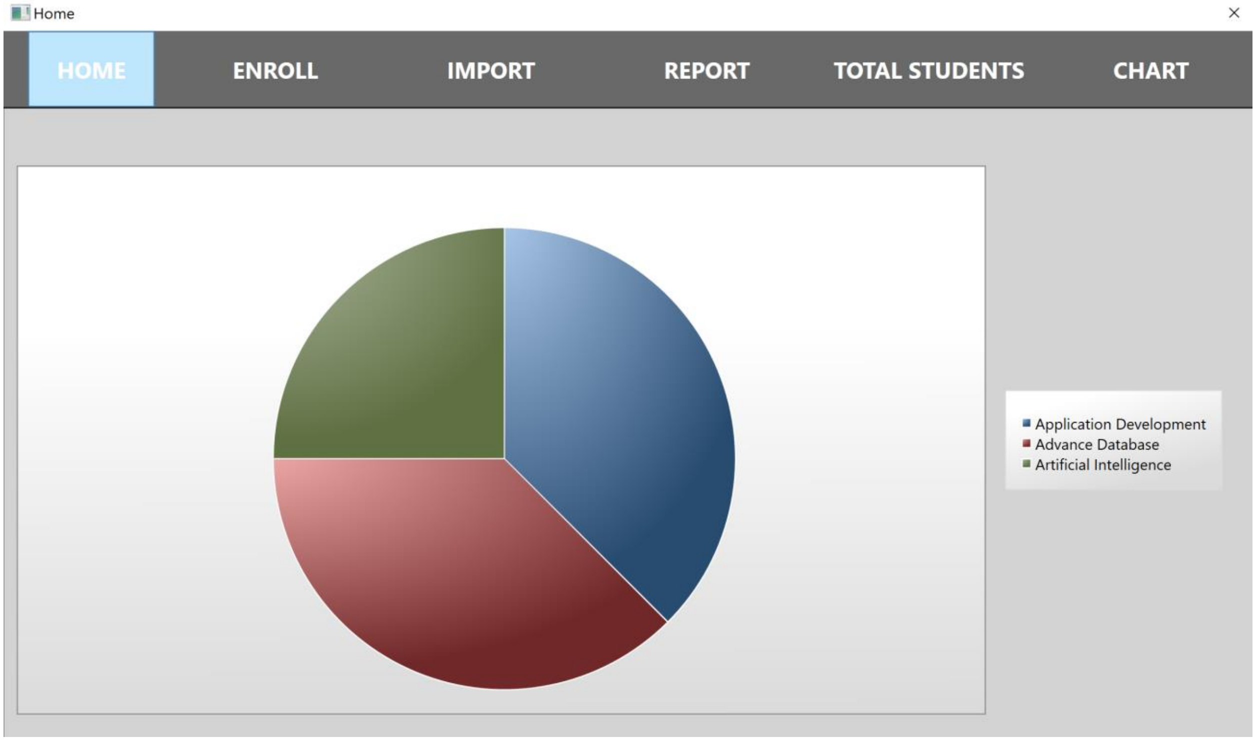
Student details report sorted by Registration Date in ascending order; is generated.

5.8 Testing 8

Objective: Check if pie chart is created with the xml data.

Output: Displays pie chart.

Result: Successful.



6. Learning Reflection

7. Bibliography

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[Accessed 10 1 2020].

8. Appendix