**Assignment 3**

**Windows application (C#)**

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I have developed a windows application, in this application, a student can login to the application and see the subjects they are enrolled in. Also, based on the available subjects they can add or remove them from the enrollment.

Technology used: C# Windows Forms, Entity Framework, SQL database.

Database Schema of application:

Graphical user interface, text

Description automatically generated

I have created three tables:

1. LOGIN: Based on StudentID and Password, user will be able to login to the application
2. SUBJECT: It has details of what all subjects are available for enrollment.
3. StudentSubject : It has details of what all subjects are selected for enrollment by a particular Student.

**Screenshots of Application**

1. **Login Form**: Student need to enter his/her StudentID and Password

Graphical user interface, application

Description automatically generated

**VALIDATIONS**: Here both fields are required fields and if any of the field is missing then error popup will come to notify the user

Graphical user interface, application

Description automatically generated Graphical user interface, application

Description automatically generated

Password will appear in hidden form.

Graphical user interface, application

Description automatically generated

If StudentID or Password is incorrect, it will throw following error.

Graphical user interface, application, Word

Description automatically generated

If user wants to cancel login in, then they need to click on cancel button.

Graphical user interface, text, application

Description automatically generated

1. **Enrolled Subjects Form**: In this form, student will be able to see the subjects he is enrolled in and in another grid, he will be able to see available subjects.

Table

Description automatically generated

In highlighted section, student can see what all subjects he is enrolled in:

Graphical user interface, application

Description automatically generated

Subjects can be removed by the selecting a row in the grid and clicking on button REMOVE SELECTED.

Graphical user interface

Description automatically generated

After clicking on remove, immediately Grid will get updated and in Database, tables will be updated.

Graphical user interface

Description automatically generated

Second Section of this form is Subjects available for enrollment. It has details what is subject name, what is it code, type and how many credits.

Graphical user interface, application

Description automatically generated

This section also has a button, ADD SELECTED.

Student can select the subject and click on the button; it will immediately add to the above grid as shown in the below screenshot.

Graphical user interface

Description automatically generated

**VALIDATIONS**: If subject already exist in student grid, then and we try to add that same subject again, it will throw an error like below:

Here I was trying to add same Complier Design subject, however, this subject already enrolled by student so it throwed error “SUBJECT ALREADY EXITS”

Graphical user interface, application

Description automatically generated

LOGOUT BUTTON: After student is done with enrollment, they can logout of application and go back to login page by clicking on highlighted button.

Graphical user interface, table

Description automatically generated

**DATABASE DETAILS:**

I have created a database named Student, it has three highlighted tables and one store procedure.

Graphical user interface, text, application

Description automatically generated

**LOGIN TABLE**: It has two columns, one is the StudentID, which is unique, alphanumeric, and primary key.

Graphical user interface, text, application

Description automatically generated

**SUBJECT TABLE**: It stores the name of subject, it code, type and credit. In this table SubjectID is auto incremented and primary key.

Graphical user interface, text, application

Description automatically generated

**STUDENTSUBJECT TABLE**:

It has mapping of students and subjects that he is enrolled in. Here StudentSubjectID is primary key and SubjectID and StudentID are foreign keys.

Graphical user interface, text, application

Description automatically generated

**Insert Scripts:**

Text

Description automatically generated

**STORE PROCEDURE**: That will get all the subjects student enrolled in and fill the DataGrid control in Forms.

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, table

Description automatically generated