Proficiency Nexus

Session 2022 - 2026

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Submitted To:

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Contents

1   Overview

1.1   Introduction:

This project is aimed to develop such a system that manages the student data, attendance , create different assessments and generate their reports. This project will be helpful for teachers to maintain information of students and different assesments, clos. There are 6 options. Manage Student, Manage CLO, Manage Rubric and their levels , Manage Assessments and their components , Manage Attendence and generate reports. In manage student option, user can add student update ,delete , search student. In Manage Clo, user will add clo and its details and can update and delete these Clos. In Manage rubric option, user can add multiple rubrics of selected clo and assign these rubrics different measurement levels. In manage assessment, user will add assessments and assign its components different marks.In generate report, user will select given reports and it will be generated.In manage attendence user will mark the attendence of studence and also delete them.

1.2   Significance:

This system will facilitate teachers in efficiently organizing student information, including their results, attendance records, CLOs (Course Learning Outcomes), and assessment data.Additionally, it will enable educators to track student progress effectively and tailor instructional strategies to meet individual learning needs.

2   Analytical Goals

Table 1: Analytical Goals

Analytical Goals	Description
Student Data Management	Understand student information like attendance, and academic progress.
CLO Management	Evaluate how well CLOs match curriculum objectives and student learning outcomes. Analyze student performance to see if they meet these objectives and where they need improvement.
Rubric and Levels Management	Ensure rubrics accurately assess student performance.

3 List Of Features

Table 2: Options and Features

Options	Features
Manage Students	- Add Student
	- Delete Student
	- Update Student
	- Search Student
Manage ClOS	- Add Clo
	- Update
	- Delete
	- Search
Manage Rubrics and Rubric Level	- Add Rubrics and Rubric Level
	- Search Rubric and Rubric Level
	- Update Rubric and Rubric Level
	- Delete Rubric and Rubric Level
Manage Assessment and Assessment Component	- Add Assessment and their Components
	- Delete Assessment and their Components
	- Update Assessment and their Components
	- Search Assessment and their Components
Attendance	- Display Attendance
	- Mark Attendance
	- Delete Attendance
Evaluation and Reports	- CLOS wise Report
	- Assessment Wise Report
	- Class Attendance Report
	- Class Wise Assessment Report
	- Student Attendance Report
	- Student Average Marks Report

4 GUI interfaces

4.1 Welcome Page

This welcoming page serves as an introduction to the Proficiency Nexus application.The project is focused on developing a comprehensive system for managing student data, attendance, assessments, and generating reports.
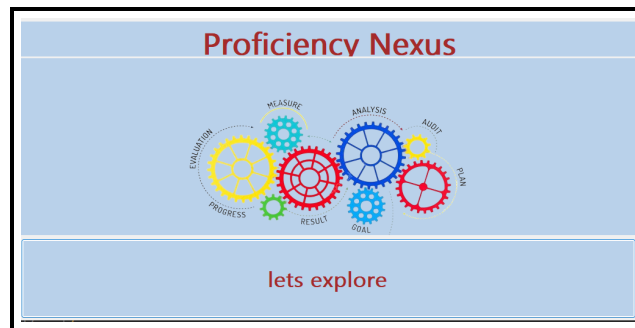
Figure 1: Welcome Window

4.2 Option Page

This is the management system option page, offering users a range of functionalities. Users can efficiently handle student information, course learning outcomes (CLOs), rubrics, assessments and their components, evaluations, and generate reports.

Figure 2: Option Window

4.3   Student Page

This is the Student Management page, providing users with the ability to perform actions such as adding, deleting, updating, and searching for students.

Figure 3: Student Window

4.4   Evaluation Page

This is the Evaluation page where teachers can assess students based on their performance in assessments and CLOs.

Figure 4: Evaluation Window

4.5 Reports Page

This is the Reports page where users can generate various types of reports, including class attendance, student average marks, student reports, and studence report.

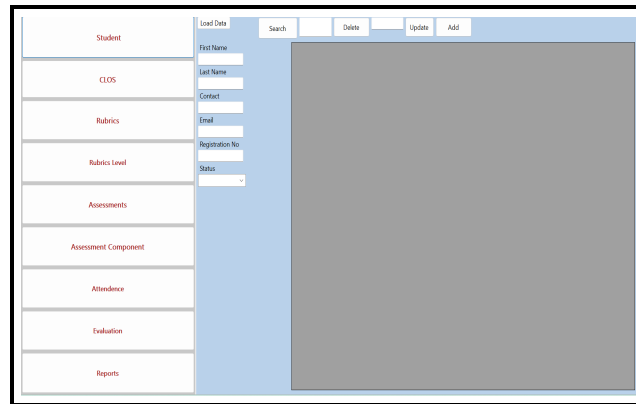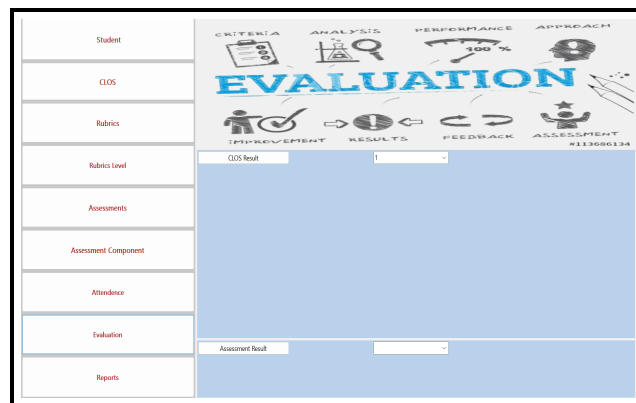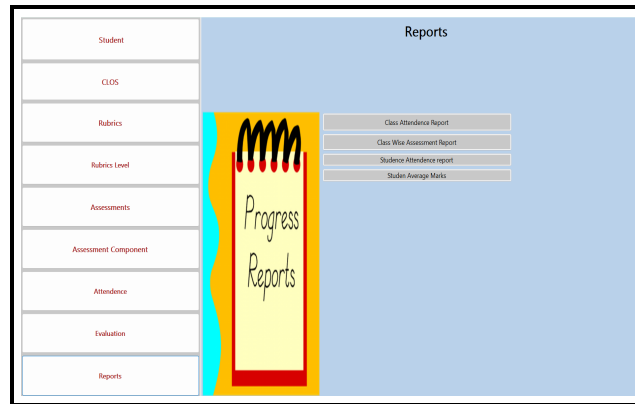Figure 5: Reports Window

5 Libraries Required

The following are the libraries that are needed to run our program

1. **System.Data:**
   This namespace provides classes that represent the ADO.NET architecture. ADO.NET is used to manage data access and manipulate relational data from .NET applications.

2. **System.Data.SqlClient:**
   This namespace contains classes for accessing and managing SQL Server databases using the SQL Server .NET Data Provider.

3. **Configuration**
   This appears to be a user-defined namespace, possibly related to CRUD (Create, Read, Update, Delete) operations in a database application. It may contain classes and functionality related to configuration settings or database access configuration.

4. **iTextSharp.text.pdf**
   The iTextSharp.text.pdf namespace contains classes and interfaces that allow you to work with PDF files. This namespace provides functionality for creating new PDF documents,

reading existing PDF documents, and manipulating the content and structure of PDF documents.

5. **iTextSharp.text**

   The iTextSharp.text namespace contains fundamental classes and structures used throughout the library, such as Document, Paragraph, Chunk, Phrase, and others. These classes represent the basic building blocks of PDF documents, such as text, images, tables, and annotations.

6 Working

6.1 Manage Student:

In the Manage Student section, users can add new students by entering their first name, last name, registration number, email, contact information, and status (active or inactive). The system automatically assigns an ID when the user clicks the add button. Similarly, for deletion, users enter the ID of the student they want to remove, and the corresponding data is removed from the DataGridView, but not from the database. Additionally, there are functionalities for searching and updating CLOS information

6.2 Manage CLOS:

In the Manage Course learning Outcome Section, users can add new Course by entering their Name, Date Created,Date Updated. The system automatically assigns an ID when the user clicks the add button. Similarly, for deletion, users enter the ID of the CLO they want to remove, and the corresponding data is removed from the DataGridView, but not from the database. Additionally, there are functionalities for searching and updating CLOS information

6.3 Manage Rubric :

In the Manage Rubric Section, users can add new rubric by entering their Details, CLOID from Clo table as its is a forign key and ID. Similarly, for deletion, users enter the ID of the Rubric they want to remove, and the corresponding data is removed from the DataGridView, but not from the database. Additionally, there are functionalities for searching and updating student information

6.4   Manage Rubric Level :

In the Manage Rubric Level Section, users can add new rubric level by entering their Details, Measurement level and Rubric ID which is a foreign key which take from Rubric and ID will generate automatically on clicking the button . Similarly, for deletion, users enter the ID of the Rubric level they want to remove, and the corresponding data is removed from the DataGridView, but not from the database. Additionally, there are functionalities for searching and updating student information

6.5   Manage Assessment:

In the Manage Assessment Section, users can add new assessment by entering their Title, Date Created,Total Marks and Total Weightage and ID will generate automatically on clicking the button . Similarly, for deletion, users enter the ID of the Assessment they want to remove, and the corresponding data is removed from the DataGridView, but not from the database. Additionally, there are functionalities for searching and updating Assessment information

6.6   Manage Assessment Component:

In the Manage Assessment Component section, users can add a new assessment component by entering its Name, Total Marks, Date Created, and Date Updated. The Rubric ID and Assessment ID are foreign keys taken from the Rubric and Assessment tables, respectively. The ID will be generated automatically upon clicking the button. Similarly, for deletion, users enter the ID of the Assessment Component they want to remove, and the corresponding data is removed from the DataGridView but not from the database. Additionally, there are functionalities for searching and updating Assessment Component information

6.7   Manage Attendence and Evaluation:

n the Manage Attendance section, users can mark the attendance of active students as Absent or Present. Users can also delete attendance records for specific students. Evaluation reports are categorized by Course Learning Outcome (CLO) and Assessment. Four PDF reports are generated: Class Attendance, Class-Wise Assessment, Student Attendance, and Student Average Marks Report

7   PDF reports

7.1   Studence Attendence

Student Attendance Report

Id	RegistrationNumber	PresentDays	Attendance Percentage
6	2022-CS-76	1	10
8	2022-CS-34	1	10
10	2022-CS-94	1	10
11	2022-CS-21	1	10
17	2022-CS-3	1	10

Figure 6: Studence Attendence

7.2   Studence Average Marks

Student Average Marks

FirstName	LastName	AssessmentComponentId	AvgMarks
Ali	Saif	45	17
Amna	Nadeem	31	12
Hassan	Abqaat	44	14
Noor	Fatima	27	11
Umer Ali	Hayat	24	10

Figure 7: Studence Average Marks

7.3   Class Attendence

RegistrationNumber	AttendanceDate	AttendanceStatus
2022-CS-21	10/3/2023 3:30:00 AM	1
2022-CS-76	8/8/2023 5:00:00 AM	1
2022-CS-34	7/6/2023 10:30:00 AM	1
2022-CS-2	3/6/2023 2:10:24 PM	4
2022-CS-1	8/9/2023 7:30:00 AM	4
2002-CS-2	3/6/2023 11:56:57 PM	4
2022-CS-3	10/9/2023 8:30:00 AM	4

Figure 8: Class Attendence

7.4   CLOS Wise Report

Name	RegNo	ObtainedMarks	TotalMarks
Hassan Abqaat	2022-CS-3	30	30

Figure 9: CLOS Wise Report

7.5   Student Report

AttendanceId	AttendanceDate	StudentName	AttendanceStatus
4	7/9/2023 8:30:00 AM	amama Salar	Present
5	10/3/2023 3:30:00 AM	Ibrahim Waseem	Present
6	8/8/2023 5:00:00 AM	Umer Ali Hayat	Present
9	7/6/2023 10:30:00 AM	Noor Fatima	Present
10	3/6/2023 2:10:24 PM	Amna Nadeem	Late
11	8/9/2023 7:30:00 AM	Ali Saif	Late
12	3/6/2023 11:56:57 PM	Anaya Khurrum	Late
13	10/9/2023 8:30:00 AM	Hassan Abqaat	Present

Figure 10: Student Report

8   Conclusion

The system offers extensive capabilities for managing students, courses, and assessments. Users can efficiently handle various tasks such as adding, deleting, searching, and updating records, with automatic ID generation for new entries.

Data integrity is ensured through removal from DataGridViews upon deletion while preserving data in the database. Moreover, the system enables quick generation of PDF reports for comprehensive evaluation analysis, covering class attendance, class-wise assessments, student attendance, and average marks.

Overall, it provides a robust platform for administrative efficiency, facilitating informed decision-making across student information, course outcomes, assessment criteria, and evaluation data