Examination system

BI Track - Graduation project

Team

- **Ahmed Abdelbasset Aboelhamd Basha**

- **Belal Abdelnasser Mahmoud**

- **Seif Eldin Essam Shehata**

- **Amira Hassan Tawfik**

Outline

- **Project Overview**

- **System Design**

    - **Database Design**

    - **Application Design**

- **Reporting**

Project overview

➔ Implement examination system back-ended with SQL server database.

➔ The system is required to take Student/Instructor ID and password to allow logging on to the app.

➔ Based on the ID the system should direct the user to his corresponding view.

➔ Students are directed to the Courses they are enrolled in with available exams.

➔ Students have a button to start exam that directs them to list of questions and choices with an option to see their grades.

➔ Instructors are directed to their courses and list of exams in each course with option to generate new exam in any selected course.
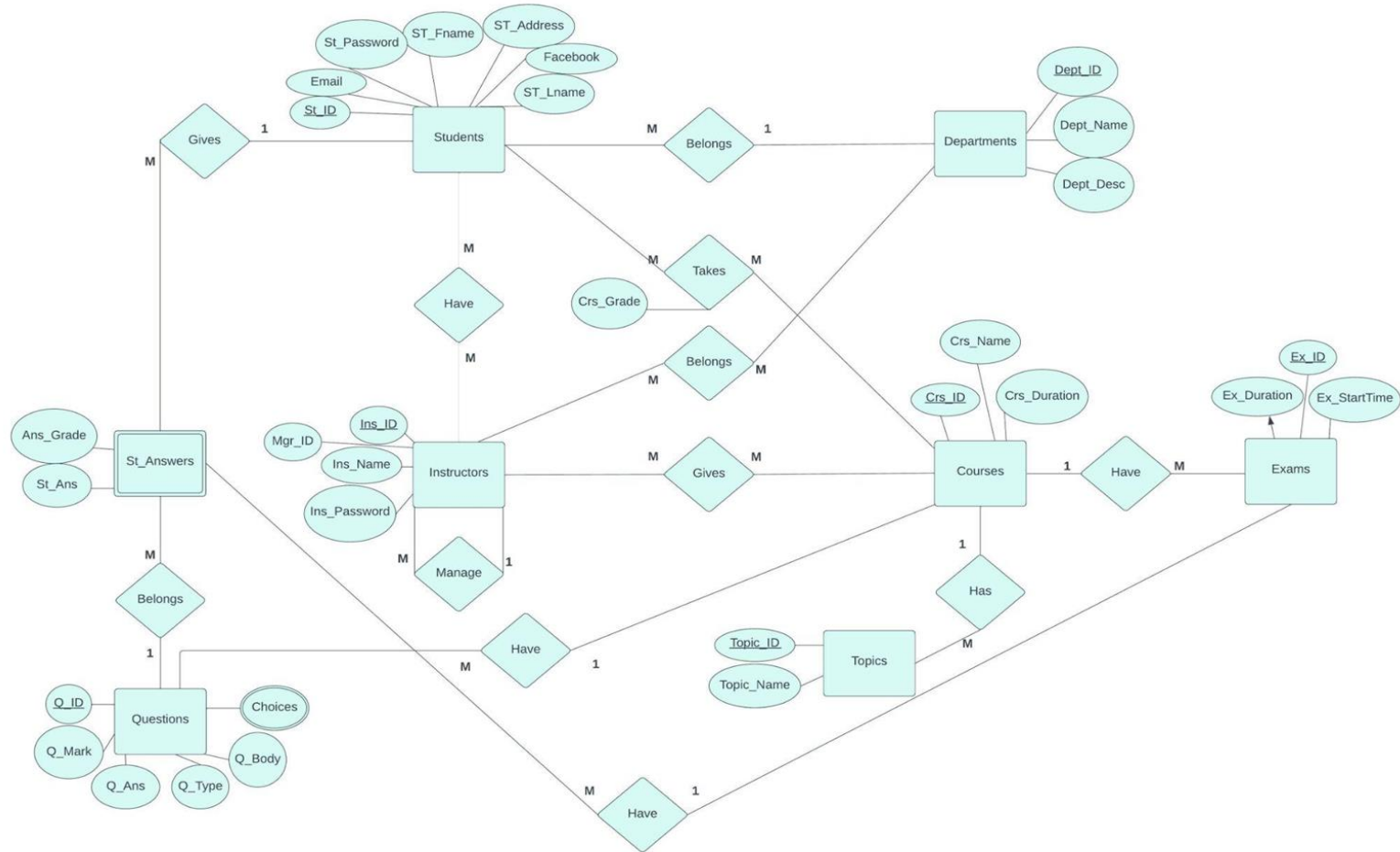
Technologies & Tools

- ER-Diagram: Lucidchart

- Database Engine: MS SQL Server

- Dev Environment: .NET Core 3.1

- IDE: VS 2019

- Reports: SSRS

- Dashboard: Power BI

Database Design

ERD

Mapping

Student (St_Id PK, St_Fname, St_Lname, St_Address, St_Age, Dept_id FK, Password, Email, Facebook)

Instructor (Ins_Id PK, Ins_name, Salary, Dept_id FK, MGR_id FK, Ins_Password)

Courses (Crs_Id PK, Crs_Name, Crs_Duration)

Topics (Topic_id PK, Topic_name, Crs_Id FK)

Department (Dept_id PK, Dept_name, Dept_desc)

Questions (Q_Id PK, Q_Grade, Q_Ans, Q_Type, Q_Body, Crs_Id FK)

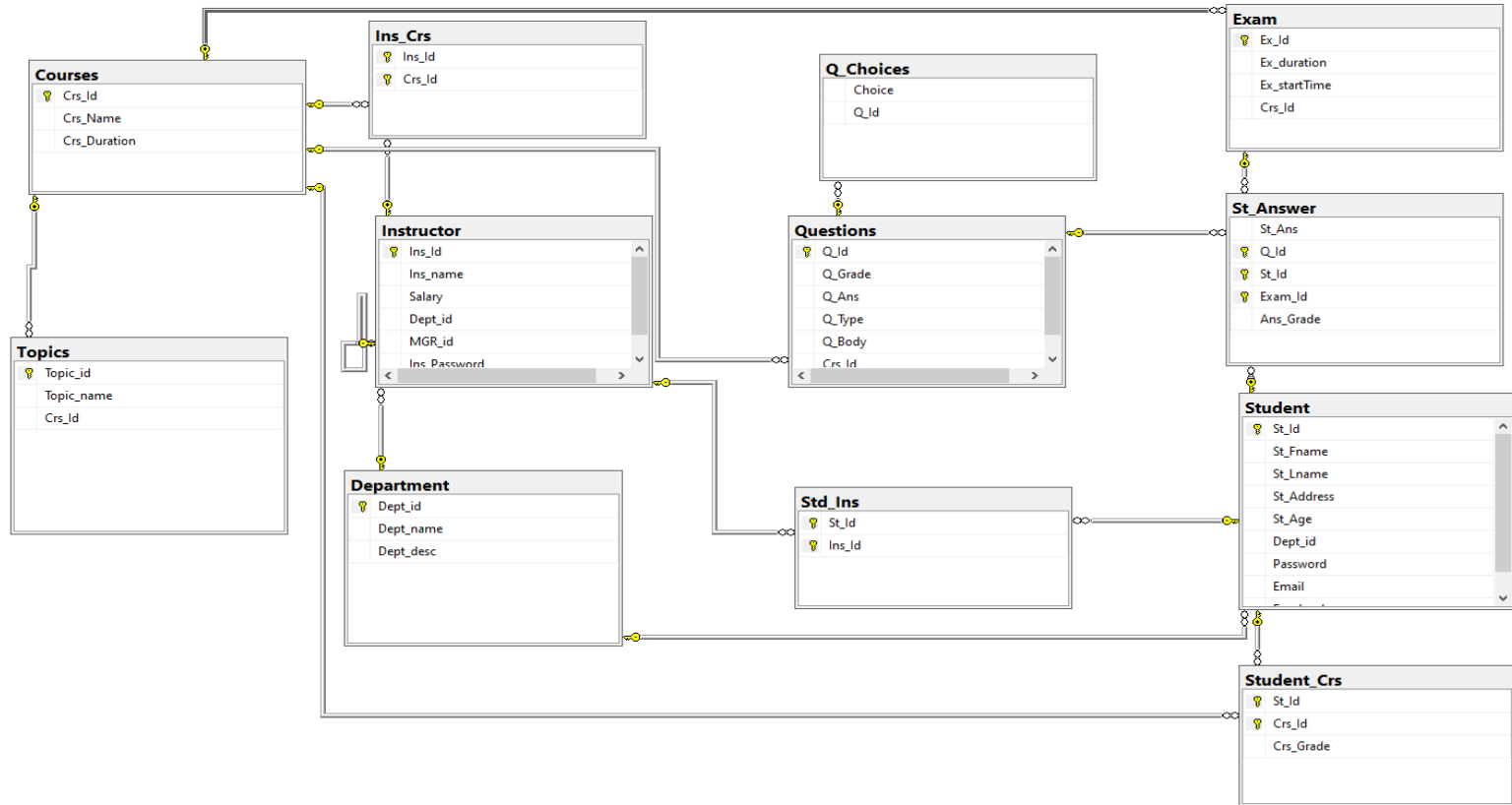Exam (Ex_Id PK, Ex_duration, Ex_startTime, Crs_Id FK)

Q_Choices (Choice, Q_Id FK)

St_Answer ([Q_Id FK, St_Id FK, Ex_Id FK] PK, St_Ans, Ans_Grade)

Student_Crs ([St_Id FK, Crs_Id FK] PK, Crs_Grade)

St_Ins ([St_Id FK, Ins_Id FK] PK)

Ins_Crs ([Ins_Id FK, Crs_Id FK] PK)

Database schema

Ins_Crs
- Ins_Id
- Crs_Id

Courses
- Crs_Id
- Crs_Name
- Crs_Duration

Q_Choices
- Choice
- Q_Id

Exam
- Ex_Id
- Ex_duration
- Ex_startTime
- Crs_Id

Instructor
- Ins_Id
- Ins_name
- Salary
- Dept_id
- MGR_id
- Ins_Password

Questions
- Q_Id
- Q_Grade
- Q_Ans
- Q_Type
- Q_Body
- Crs_Id

St_Answer
- St_Ans
- Q_Id
- St_Id
- Exam_Id
- Ans_Grade

Topics
- Topic_id
- Topic_name
- Crs_Id

Department
- Dept_id
- Dept_name
- Dept_desc

Std_Ins
- St_Id
- Ins_Id

Student
- St_Id
- St_Fname
- St_Lname
- St_Address
- St_Age
- Dept_id
- Password
- Email

Student_Crs
- St_Id
- Crs_Id
- Crs_Grade

Highlighted Stored Procedure

- StudentLogin, InstructorLogin

- ExamCreate.

- ExamGeneration.

- AnswerCorrection.

- AnswerQuestion.

- getCrsGrade.
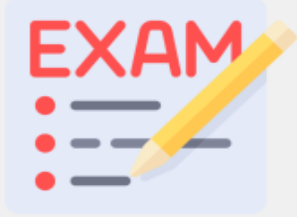
Application Design

Login Form

Instructor View Form

Instructor Profile

Log Out

EXAM

Course Name:

DataBase

Show Reports

Insert Questions

Insert MCQ,T/F

Log Out

Add Question for: DataBase

Insert MCQ

Insert T/F

Go Back

Insert MCQ

Log Out

Add Question for: DataBase

Correct Choice:

Question Body

Choice 2:
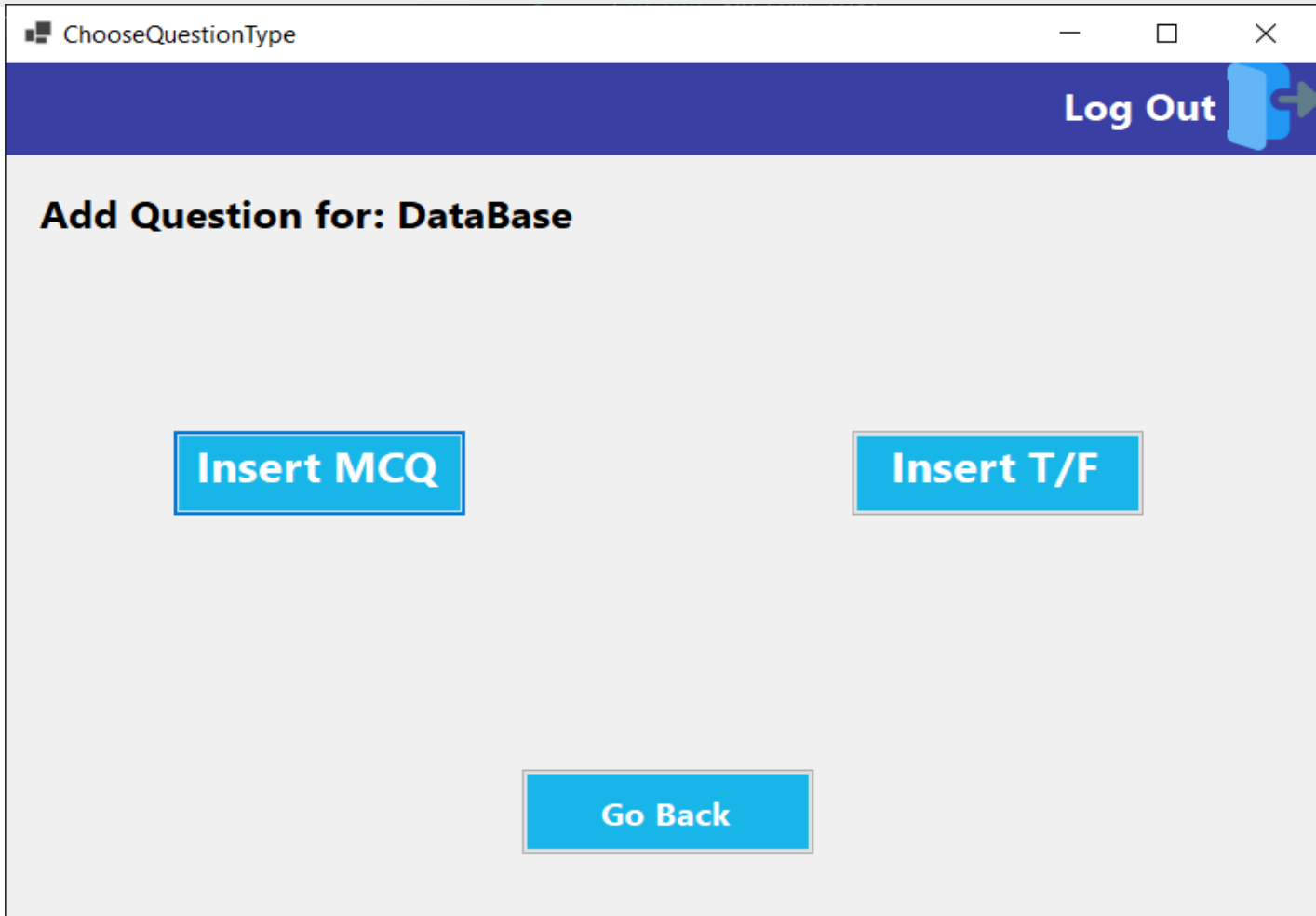
Choice 3:

Choice 4:

Add Question

Go Back

Insert T/F

Log Out

Add Question for: DataBase

Question Body

Correct Choice:

Add Question

Go Back

Student
View Form

Log Out

Courses Exam List

PowerBi

Start Exam

Show Grades

Exam Form

Q1. You are creating a report in Power BI Desktop and want to restrict the data to records where Country="Canada". To accomplish this, what do you

| a custom column ∨ |

Q2. You are creating a report in Power BI Desktop and want to restrict the data to records where Country="Canada". To accomplish this, what do you

| a custom column ∨ |

Q3. In Power BI service, deleted pages are available after deletion until

| midnight of the day on which they are deleted ∨ |

Q4. The Excel function IF is nearly the same as which DAX function?

| IF ∨ |

Q5. Consider the Power BI extract, transform, and load process (ETL). During this process, data is read and then

| assigned a data type ∨ |

Q6. After you enter text in the QA box or OA visual, Power BI will _ your data to create a list of appropriate visualizations.

| filter and group ∨ |

Q7. You want to delete a dataset but the Power BI service will not let you. What is the most likely cause?

| A report contains data from that dataset. ∨ |

Q8. Formatting options within a visualization depend on what?

| the editor you use ∨ |

Q9. Formatting options within a visualization depend on what?

| the editor you use ∨ |

Q10. What is NOT a valid data connection type for Power BI Desktop?

| Azure data ∨ |

Submit Exam

Exams
Grade Form

Reports

Student Departments

Course Topics

Exams Questions by ExamID

Instructor Courses

Student answers

Power BI Report Server   Home > Examination_Report2 > **Exam**

Favorites   Browse

Student Name [Seif Assem ▾]   Exam Id [7 ▾]

|◁   ◁   [1]   of 1   ▷   ▷| ↻   ←   [100% ▾]   💾▾   🖨   [🔍 | →]

DataBaseExam

Quistion	Student Answer
Which of the following is the full form of DDL?	Data definition language
Which of the following is the property of transaction that protects data from system failure?	Atomicity
For performing tasks like creating the structure of the relations, deleting relation, which of the following is used?	Data definition language
What is rows of a relation known as?	Degree
Which of the following is a command of DDL?	All of the above
In a database, data is stored in spreadsheets which have rows and columns.	False
In an enterprise-class database system, business users interact directly with database applications, which directly access the database data.	False
Structured Query Language (SQL) is an internationally recognized standard language that is understood by all commercial database management system products.	False
A database design may be based on existing data.	False
In a 1:1 relationship, the primary key placement is arbitrary.	False

Student Grade

Examination System

Information Technology Institute

Grades by Full Name

Mohamed A...	Ahmed Ab...	Amira Hass...	Belal Abde...
Marwa Ahmed	Ahmed ...	Ali Moh...	Mahmo...
Moaz Gaber			
Seif Assem	Mostafa Ahmed	Eslam Sayed	
		Amira Eid	

TOP student/s:

Ahmed Abdelbaset

Ahmed Samir

Total Salary by Instructors

X-axis: El-Shafie, Ramy, Zanoon, Nermeen, Fares, Mahmoud
Y-axis: $15K, $20K, $25K
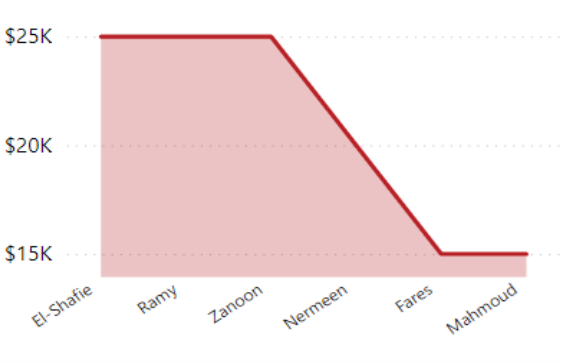
Students and instructors by Department

● Students — instructors

X-axis: DotNet, BI, DevOps, Testing
Y-axis: 0, 1, 2, 3, 4
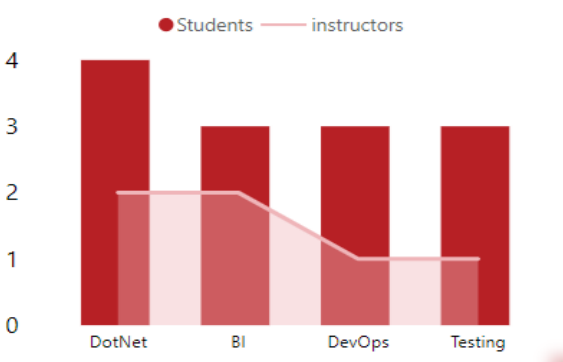
Department: ...

- ☐ BI
- ☐ DevOps
- ☐ DotNet
- ☐ Flutter
- ☐ Testing

80.00
Average grade

6
Instructors

13
Student

8
Courses

Average of grade by Courses

Course	Average
PowerBi	87.14
C#	95.63
Operatings...	94%
DataBase	93.01%
Network	86.93%

Student by Age Range

7.69%, 7.69%, 7.69%, 23.0..., 61.54%
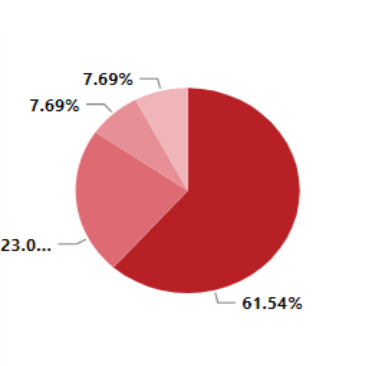
Student Grade and pass degree by Student Name

● Student Grade ● pass degree

X-axis: Mohamed A..., Ahmed Abdelba..., Amira Hassan, Belal Abdelnaser, Marwa Ahmed, Moaz Gaber, Seif Assem, Ahmed Samir, Ali Mohamed, Mahmoud Moha..., Mostafa Ahmed, Eslam Sayed, Amira Eid
Y-axis: 0, 50, 100

Demo

Thanks