University of Global Village (UGV), Barisal

DEPERMENT OF COMPUTER SCIENCE AND ENGINEERING

Project Proposal
on
Online Quiz Management System

Course Title : Project Based Learning-IV
Course Code: PBL 0613-2204

Submitted by-

Name	ID
Hasibul Islam Tamim	12421018
Fardin Khan Nur	12421038

Project Name: UGV Online Quiz
Semester: 4rd
Section: A

Submitted To-

Md. Riadul Islam

Assistant Professor & Head of Department
Computer Science and Engineering

Title: UGV Online Quiz

Introduction: With the growth of digital education, online examination systems have become an important part of modern learning. Traditional exams are time-consuming and require manual effort.

This project introduces an Online Quiz Application that allows teachers to conduct exams easily and students to participate securely.

Teachers can create and manage exams, while students can join exams, submit answers, and view results instantly. The system is designed to be simple, secure, and suitable for academic use.

Objective: The main objective of this project is to develop an Online Quiz Application that makes the exam process easy, fast, and organized for both teachers and students.

This system will allow teachers to create and manage exams online without using paper. Teachers can set exam details such as exam name, subject, semester, number of questions, exam time, exam ID, and password. They can conduct exams at a fixed time and automatically generate result sheets after students submit their answers.

Students will be able to create accounts, log in, search for exams using exam name or exam ID, and see upcoming exams with a countdown timer. By entering the exam password, students can start the exam, answer questions, submit the exam, and instantly view their results.

The system will also allow students to view all their previous exams, scores, and submitted answers. A leaderboard feature will show the performance of students who participated in the same exam, which helps students compare their results.

Overall, this project aims to provide a secure, time-saving, and user-friendly online examination system that improves the traditional exam process and supports digital learning.

Background / Relative work :

Frontend: The frontend of this project is developed using JavaFX to create a simple and user-friendly interface.
Backend: The backend is built with Python Django, which handles application logic, authentication, and exam management.
Database: MySQL is used as the database to store user information, exam details, questions, answers, and results.

Many existing online quiz apps are complex and not user-friendly. Teachers face difficulties in creating exams, and students find it hard to search and join exams.

Our application solves this problem by providing a simple interface where exams can be easily created, searched, and accessed using exam name or exam ID.

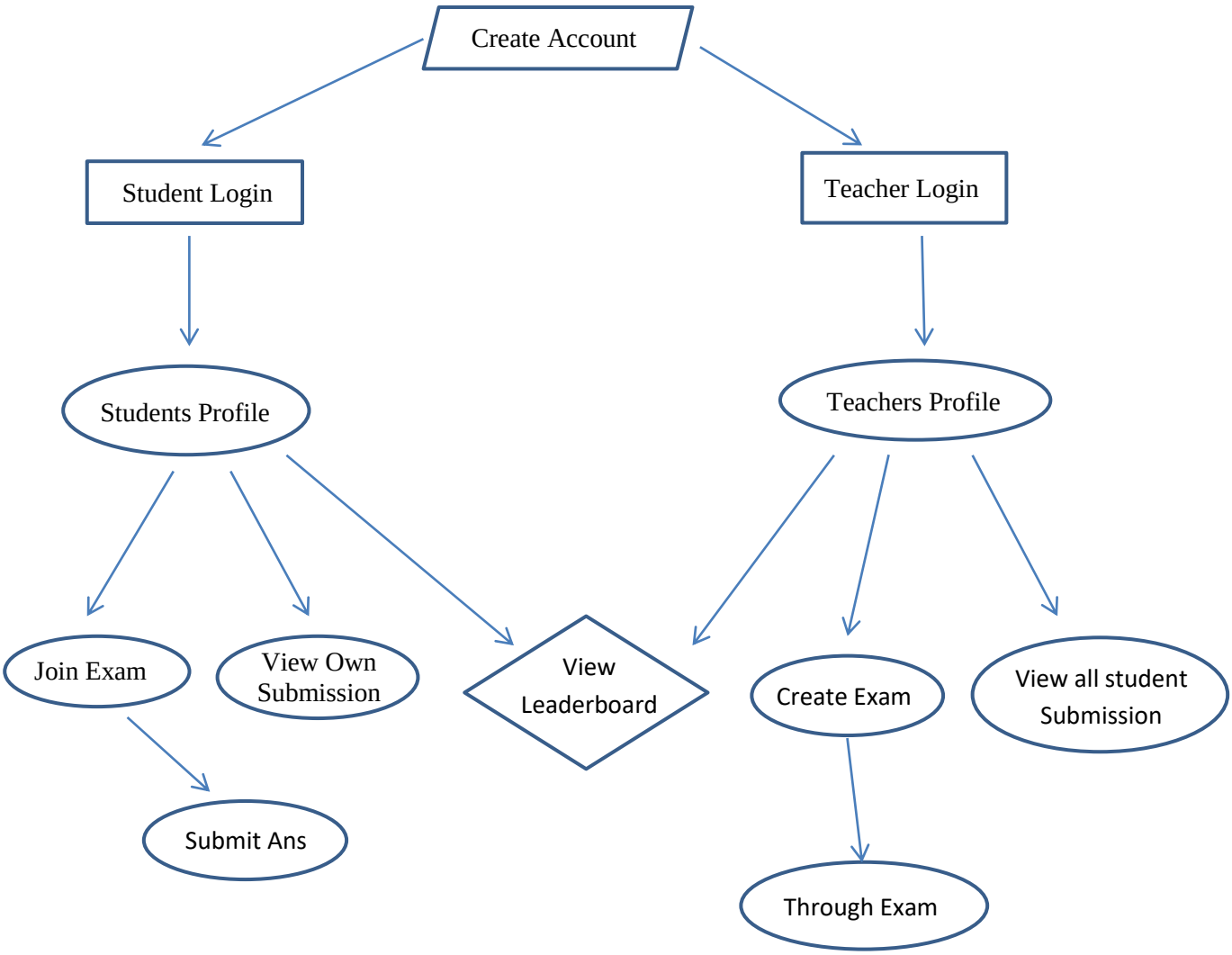
Most existing apps have weak exam control and security. Our system ensures better security by using exam IDs, passwords, fixed exam time, and countdown timers.

In many apps, result checking is limited and often manual. Our application automatically evaluates exams, generates result sheets, and allows students to view their scores, answers, and exam history.

Some apps do not support performance comparison. Our leaderboard feature helps students compare results with other participants.

Overall, this application offers a simple, secure, and academic-focused online examination system, which makes it better than existing quiz apps.

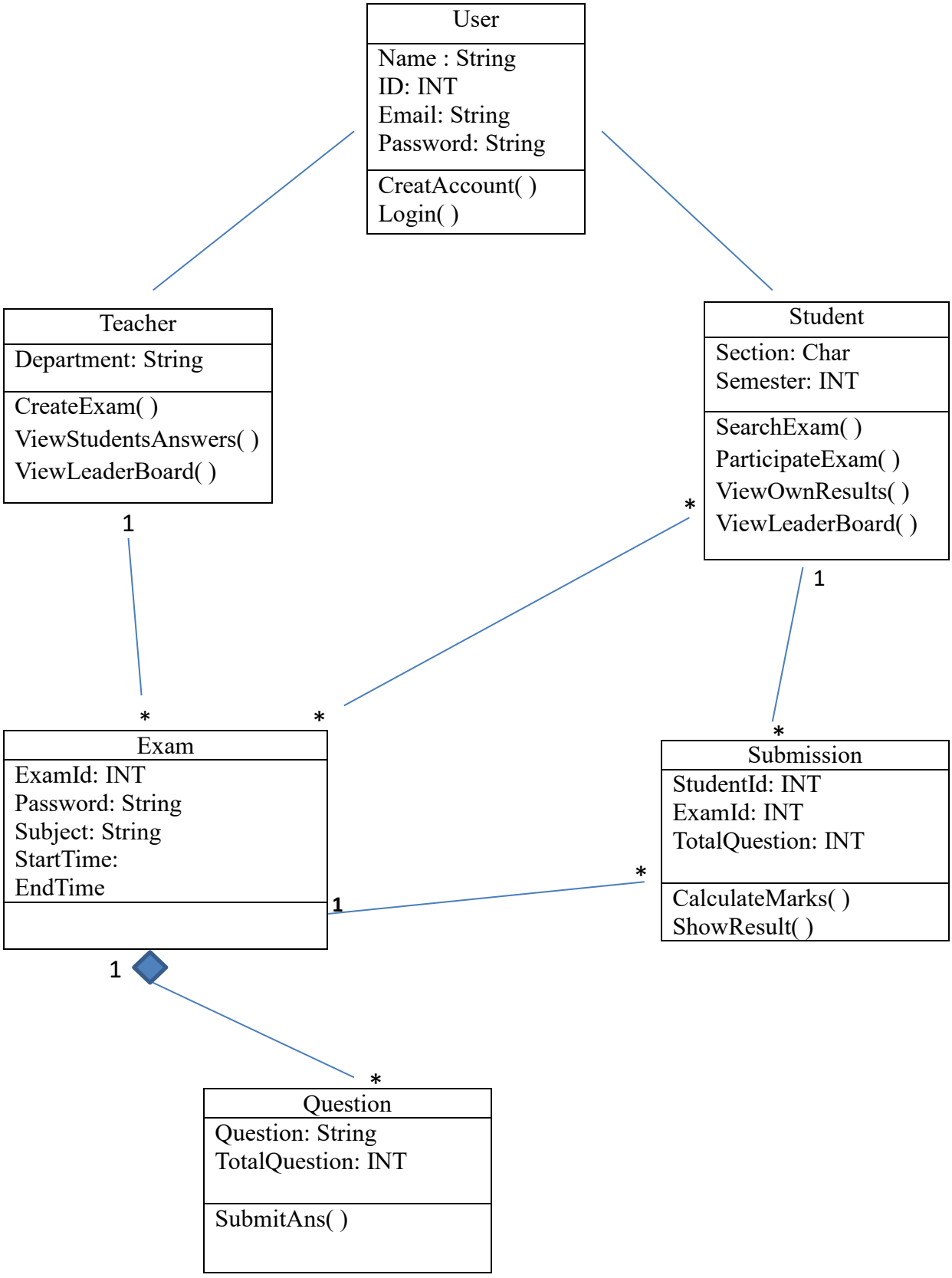
Data flow diagram:



Data table:

Attribute	MySQL Data type	Description
Name	VARCHAR(50)	VARCHAR is efficient because it support to store string and it only uses space for the actual data entered, up to the declared limit, rather than always taking the full declared size.
ID	INT	INT is used to store whole numbers (integers) without decimals.
Section	CHAR(1)	Section is defined by a single character (A, B) .So CHAR(1) is used to store a single character and always occupies exactly 1 byte.
Semester	INT	Semester can defined by a single integer. So INT use to store a integer number.
Email	VARCHAR(100)	An email is a collection of characters, so VARCHAR is used to store it. And max size is 100.
Password	VARCHAR(20)	Password is also collection of characters, so VARCHAR(20) is used to store it. It allows any length up to a maximum of 20 characters.
Question	VARCHAR(255)	Question is also a string, so VARCHAR(255) is used to store it. It can hold any question up to 255 characters.
Answer	CHAR(1)	MCQ answers are submitted as a single character (A, B, C, or D), so they can be stored using CHAR(1), which takes 1 byte per answer.
Time	DATETIME	Stores the specific date and time manually entered by the user.

UML Diagram:


User
Name : String
ID: INT
Email: String
Password: String
CreatAccount( )
Login( )
Teacher
Department: String
CreateExam( )
ViewStudentsAnswers( )
ViewLeaderBoard( )
Student
Section: Char
Semester: INT
SearchExam( )
ParticipateExam( )
ViewOwnResults( )
ViewLeaderBoard( )
Exam
ExamId: INT
Password: String
Subject: String
StartTime:
EndTime
Submission
StudentId: INT
ExamId: INT
TotalQuestion: INT
CalculateMarks( )
ShowResult( )
Question
Question: String
TotalQuestion: INT
SubmitAns( )
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