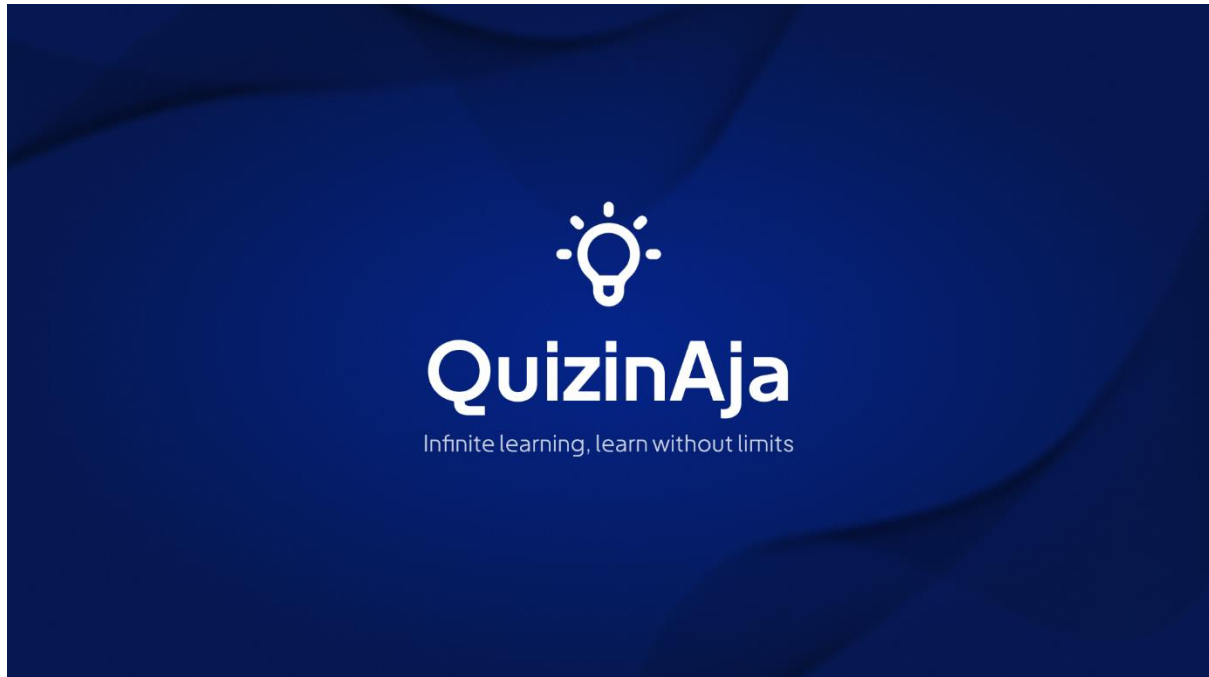


# Quiz/nAja

LKS Nasional 2023  
Test Project

## Introduction



QuizinAja is a newly proposed online quiz application that allows people to take online quiz to enhance their skills. This application is proposed to solve the old-school quiz method where you are given a paper with a bunch of question, and later you have to submit your answer to the administrator. And later on, the administrator himself/herself should check and mark the participants' answer one by one to get the quiz result.

The CEO of QuizinAja wants you to build this desktop application for her. The registered users can create a new quiz and design their own questions. They can also see the quiz report. They can see the average quiz score, average time taken to finish the quiz, and the total participant in the quiz. There are also guests that can join to the quiz by entering the code.

## Contents

In this test project there are some files and usable resources:

- |                        |                                      |
|------------------------|--------------------------------------|
| 1. QuizinAja_TP.pdf    | (Test project file)                  |
| 2. QuizinAja_Style.pdf | (Style guide file)                   |
| 3. QuizinAja_MSSQL.sql | (Microsoft SQL Server database file) |
| 4. QuizinAja_MySQL.sql | (MySQL database file)                |
| 5. Resources           | (Usable resources folder)            |

## Project Description and Tasks

When developing the project, ensure all the deliverables meet the general requirements provided by the project designers:

- Project Criteria:
  - The project name should be “DESKTOP\_II\_[XX]”, where XX is your PC number.
  - Time management is a crucial factor for the success of this project. So, manage your time wisely and submit all your works on time.
- Application User Interface:
  - Use the style guide provided consistently in the entire project.
  - The application wireframe is already provided by the UI designer.
    - You are allowed to modify the application interfaces as long as it doesn't interfere the business and application flow.
  - The scoring will be focused on the features of the application.
  - Please provide scrollbar when the content doesn't fit into the container.
- Validation and Error Messages:
  - The application must runs well with a proper validation and shows a useful error messages to the user.
  - Analyze the required validation(s) that is/are needed in the application. This is one of the scoring criteria for your analytical skills for the project.
  - Any specific validation will be given in the project description.

## Instructions for Competitors

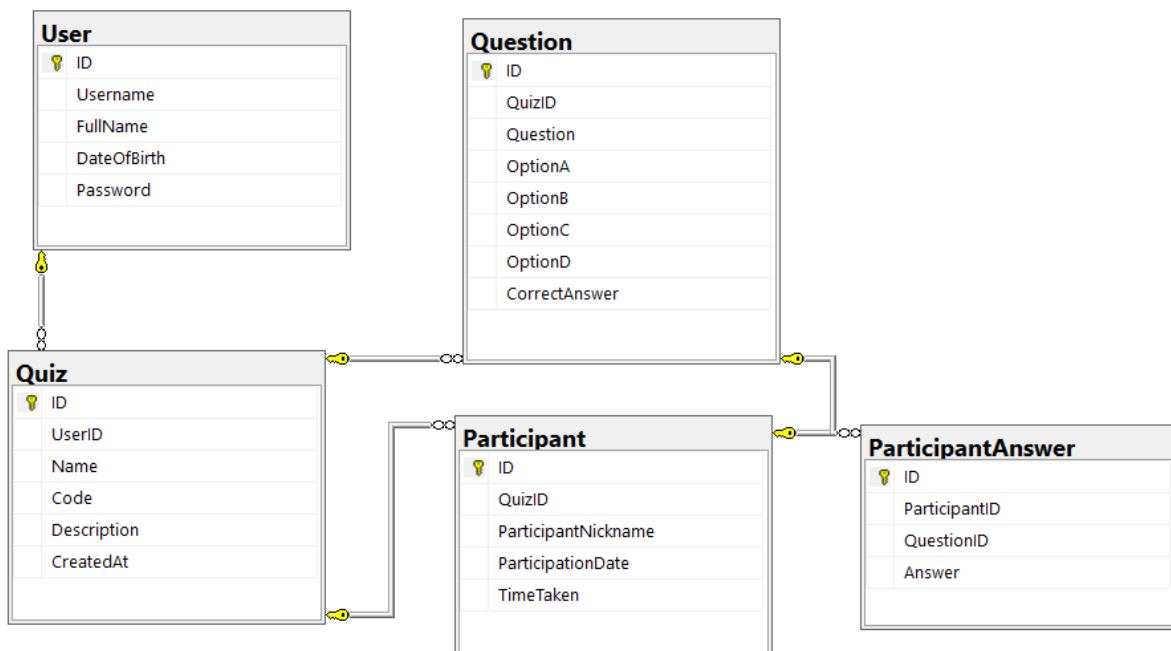
### 1. Import the Database

Import the database from the “.sql” files that already given to you. This will be the only database that you will be working on. You are **prohibited** to change any schema on the database.

### 2. Develop the application and submit the project

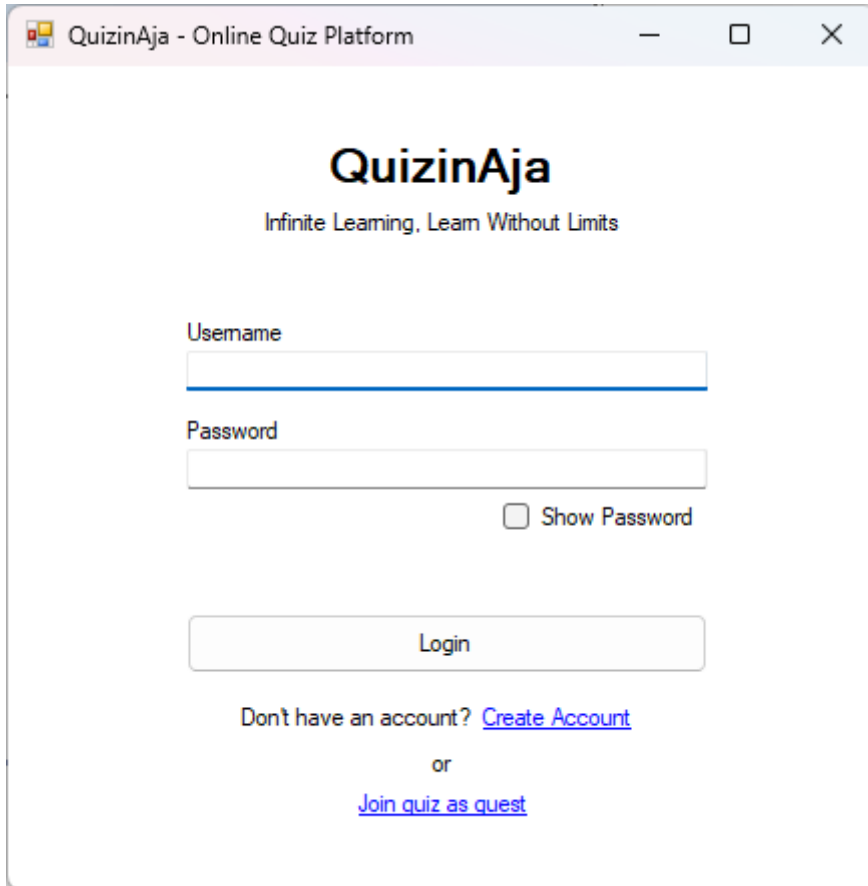
Develop the desktop application based on the description in the next section. And submit all your projects to the jury.

## Entity Relationship Diagram



To make it easier for you to understand the database structure, Database Designers from QuizinAja has provided you an Entity-Relationship Diagram (ERD). This diagram will explain the concept and representation of the data model that is used in the database.

## 1. Login Form



QuizinAja - Online Quiz Platform

**QuizinAja**  
Infinite Learning, Learn Without Limits

Username

Password

☐ Show Password

Login

Don't have an account? [Create Account](#)

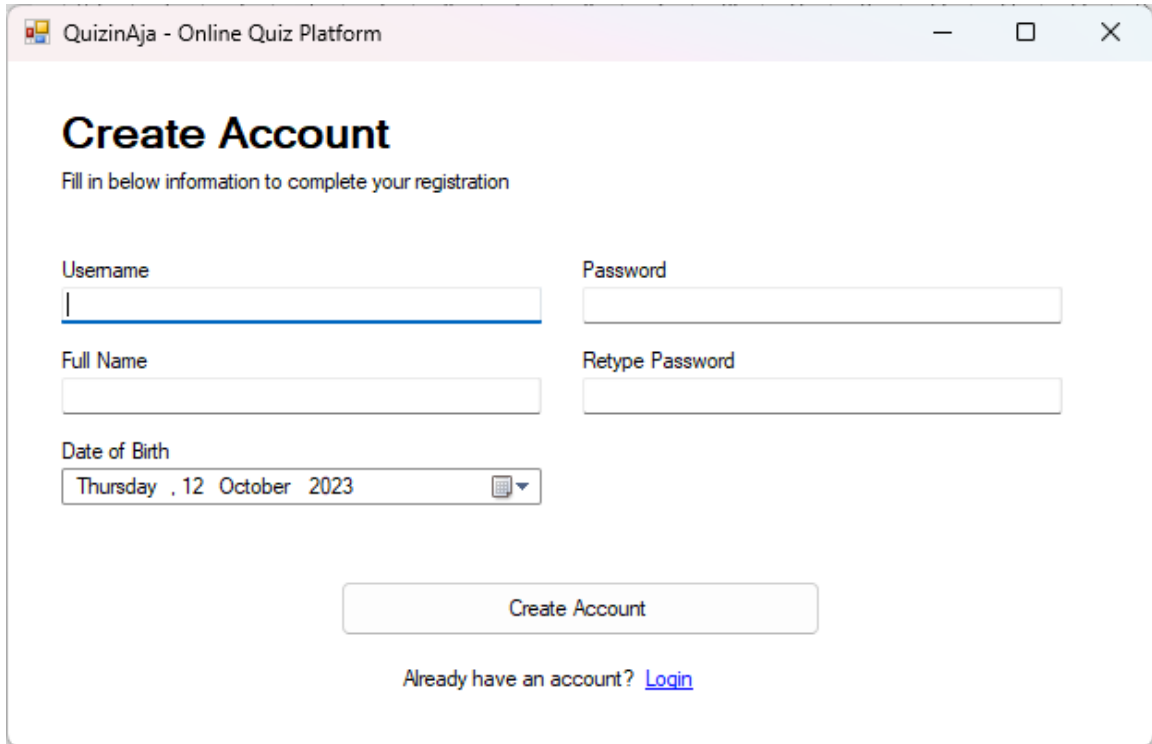
or

[Join quiz as guest](#)

This is the first form that will be used by the user to login to the application. Registered users can login to the system with their username and password combination.

- Users can **login** to the application by **filling their username** and **password**.
  - If the **combination exists** in the database, the user will be **directed to the main screen** of the application.
  - If the **combination doesn't exists** in the database, **let the user know**.
- Put a **toggle** for users to **show the password** that they typed.
- New users can **register** themselves by clicking the **"Create Account"** link below.
- **Guest** can **join** to the **quiz** by clicking the **"Join quiz as guest"** link below.
  - **Show** the **"Enter Quiz Code Form"** in a **dialog** mode.

## 2. Create Account Form



QuizinAja - Online Quiz Platform

### Create Account

Fill in below information to complete your registration

Username

Password

Full Name

Retype Password

Date of Birth

Create Account

Already have an account? [Login](#)

In this form, user can register an account by filling some informations.

- **Username** must be **unique** (must **not registered to the database** before).
- **Password** should have **minimal four characters**.
- When users **successfully registered** their account, **direct** user to the **main screen**.
- Users can also **go back** to the **login form** by clicking “**Login**” link.

### 3. User Main Form

The screenshot shows a web application window titled "QuizinAja - Online Quiz Platform". The interface is divided into two main sections. On the left, a sidebar contains a "Welcome" message, the user's name "Mahdi Jokar", and three buttons: "Add Quiz", "View Quiz Report", and "Logout". On the right, a section titled "Your quiz" displays a table of quizzes. The table has five columns: "QuizName", "Code", "Description", "NumberOfQuestion", and an unlabeled column containing a "Delete" button. The first row of the table is highlighted in blue and contains the following data: "History Quiz", "HIST101", "Test your knowledg...", "5", and a "Delete" button.

QuizName	Code	Description	NumberOfQuestion	
History Quiz	HIST101	Test your knowledg...	5	Delete

This is the main form that will shows a list of quiz that made by the user. Users can delete the quiz data. Users also can add new quiz, view the quiz report, and logout from the application.

- **Show the user full name.**
- **Show the quiz data list.**
  - Quiz name
  - Quiz code
  - Quiz description
  - Number of question
  - Delete button
    - When user **clicks** on the **delete button**, **show confirmation message** about the deletion. **If user confirms, delete the data.**



## 4. Add Quiz Form

**Add New Quiz**  
Fill in the quiz detail below

Quiz Name: New Quiz  
Quiz Code: QUIZ123  
Quiz Description: Some description

**Question Data**

Question: 1 kg = ... gram?  
Answer: ☒ 1000, ☐ 100, ☐ 10, ☐ 1  
Add Question

No	Question	OptionA	OptionB	OptionC	OptionD	CorrectAnswer	Delete
1	How many alfabet...	21	24	26	25	26	Delete

Save Cancel

This form will be used to add new quiz. Users must fill the quiz information and the list of questions that they want to put to the quiz.

- The **quiz code** must be a **combination of only uppercase character and number**.
- The **quiz code** should be **unique** (must **not registered to the database** before).
- Note that the **quiz description** and the **question** can be a **long text**.
- **Display the list of questions** that will be included to the quiz **in the table below**.
  - Number of question
  - Question text
  - Option A
  - Option B
  - Option C
  - Option D
  - Correct Answer
  - Delete Button

- When user **clicks on the delete button**, it will **delete the question from the list**.  
**Don't forget to re-arrange the question number after the deletion process.**
- Users **can only add the question** to the table below **when the question text** is already **filled, all the choices** are **filled**, and **the correct answer** is already **determined**.
- The quiz should have **minimum one question**.
- When users **clicks on the save button**, **save the quiz data** with **all the questions** in that quiz to the **database**.
  - **Direct** users **back** to their **main form** after the data is saved to database.
- Users can **cancel** the whole process and **back** to their **main form**.

## 5. View Quiz Report Form

**View Quiz Report**

Quiz: History Quiz ▼

Average Time Taken : 00:01:24  
Average Correct Percentage : 52%  
Total Participant : 8 participant(s)

Detail Data

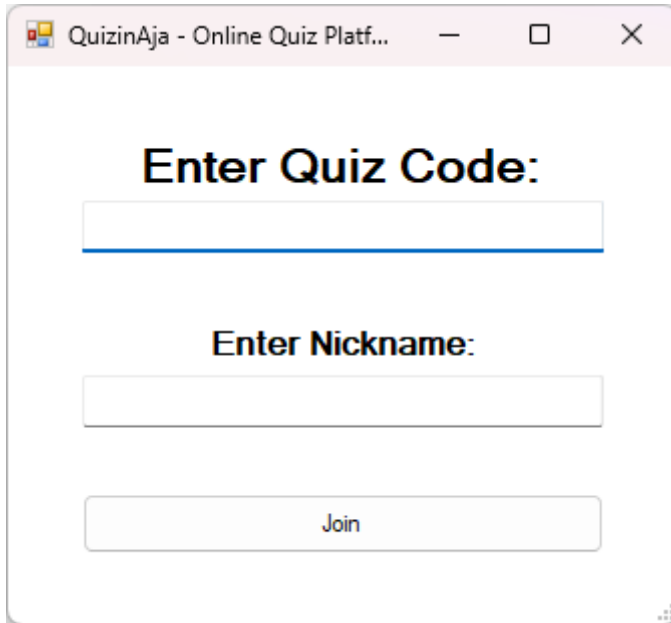
ParticipantNickname	TimeTaken	CorrectPercentage
Andi123	00:02:04	100%
Budi321	00:00:55	60%
Cathy456	00:01:30	100%
David789	00:01:15	60%
Emma246	00:01:25	0%
James369	00:01:12	0%
Sophia481	00:01:33	0%
William602	00:01:18	100%

This is the form for users to view the report of their quiz. They can view the report for each quiz that they already made.

- Display the **list of quizzes** that **made by the user**.
- Show some **summary information** about the quiz.
  - The **average time** for the participants to finish the quiz.
    - Display the average time in format “**hour:minute:second**”.
  - The **average correct percentage** for **all participants**.
  - And the **total participants** for the selected quiz.
- Show the **detail participant data** in that quiz.
  - **Participant nickname**.
  - **Time taken** by the participant to finish the quiz.
    - Display the time taken in format “**hour:minute:second**”.
  - The **correct percentage** for that participant.
- You can use this formula to calculate the correct percentage:

$$\text{Percentage} = \frac{\text{correct answer count}}{\text{total questions count}} \times 100\%$$

## 6. Enter Quiz Code Form

The image shows a screenshot of a web browser window titled "QuizinAja - Online Quiz Platf...". The window contains a form with the following elements: a heading "Enter Quiz Code:" followed by a text input field; a heading "Enter Nickname:" followed by a text input field; and a "Join" button at the bottom. The form is centered on a white background.

This is a dialog form that will be used by guests to join a quiz. They can enter the quiz code and their nickname to proceed to the quiz session.

- **Validate** the **quiz code**. The quiz code should be valid and exists.
- When guest **clicks** on the **join button**, it will **close this dialog** and **direct** guest to the **quiz form**.

## 7. Quiz Form

QuizinAja - Online Quiz Platform

**[Nickname123]**  
Time elapsed: 00:01:03

Question List

1 2 3 4 5

In which year did World War I begin?

Answer

☐ 1914  
☐ 1939  
☐ 1945  
☐ 1917

Prev Next

This is the form for the guest to participate in the quiz and answer all the questions. There are some navigations that the participant can use to navigate through questions.

- **Display the participant nickname** on the top left of the form.
- **Display the time elapsed in real-time** on the top left of the form.
- **Show the question list** on the **left side** of the form.
  - **Place buttons** where participant **can click** to **navigate directly to the question**.
  - **Each row** of the buttons **can only have maximum five buttons**.

So, for example, there are 7 questions in a quiz.

There will be 2 rows that consists of 7 buttons, where:

- Row 1 = 5 buttons
- Row 2 = 2 buttons

Don't forget to add scrollbars when the containers can't fit all the buttons.

- **Differentiate** between **unanswered question** and the **answered one**. You can differentiate them by **giving them different background colours**.
  - Unanswered : light gray
  - Answered : green
- **Show the question** on the **right side** of the form.
  - **Put the question text** and the **available answer options right below it**.

- By **default**, there will be **no selected answer for all the questions**.
  - But **don't forget** when **user navigated to the question that have already been answered before**, you should **display the selected answer that has been selected by the participant**.
- **Provide the navigation button at the bottom of the question.**
  - **Previous button** that will help the participant to **navigate to the previous question**.
    - **Hide the previous button** when participant is **currently on the first question**.
  - **Next button** that will help the participant to **navigate to the next question**.
    - **Change the next button into finish button** when participant is **already on the last question**.
  - **Finish button** that will **save all the answer to the database**.
    - **Make sure that all the questions are already answered** by the participant **before saving it all to the database**.
    - **After all the saving process is done, direct him/her back to the login form**.
- Participants can **cancel the quiz by simply exiting the form**, and they will be **directed back to login form**.

~ Programming is thinking, not typing. But of course, why not both? ~