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# QUIZ MANAGEMENT

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Project Documentation for 2301CS412 - ASP.NET Core



PREPARED BY

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## 1. Project Goals & Objectives

### Overview

- Design and implement a **Quiz Management Application** that allows users to register, login, create quizzes with different categories, add questions, attempt quizzes, and view their scores.
- The application should include CRUD operations, session management, filter & validations for all required screens.

### Goals

- **Efficient Quiz Management:**  
Develop a robust system for creating and managing quizzes.
- **User-Friendly Interface:**  
Ensure an intuitive and responsive interface for both administrators and participants.
- **Secure System:**  
Implement user authentication to ensure the security and integrity of quiz content and user data.

### Objectives

- **Quiz Creation:**  
Allow administrators to create and customize quizzes with various question types (MCQs, true/false, descriptive, etc.).
- **Question Bank Management:**  
Maintain a centralized repository of questions for reuse and easy organization.

## 2. Scope of the Project

- **Quiz Creation and Management**
  - Ability for administrators to create, edit, and delete quizzes.
  - Support for multiple question types:
    - Multiple-choice questions (MCQs)
    - True/false
  - Question bank with options for categorization and search functionality.
- **Quiz Delivery**
  - Publish quizzes for users.
  - Secure access with unique user credentials.
- **User Management**
  - Register, update, and delete users.
  - Password management and recovery options.
- **User Roles and Permissions**
  - Role-based access control for:
    - **Administrators:** Manage quizzes and users.
    - **Participants:** Take quizzes and view results.
- **Quizzes Rendering**
  - Quiz wise Questions/Options rendering (e.g., MCQs, true/false).

### 3. Project Timeline

Week No.	Week Date	Task List
1	13-01-25 to 18-01-25	To study different quiz management apps, web for the understanding of project & Database discussion & Creation.
2	20-01-25 to 25-01-25	Database – Stored Procedure Creation
3	27-01-25 to 01-02-25	Prepare Model Classes for the Project with Appropriate Data Annotations
4	03-02-25 to 08-02-25	Start Screen Design with Common Layout for all the List Pages
5	10-02-25 to 15-02-25	DB Connectivity & Implement Get All Records in All List Pages with Delete Functionality
6	17-02-25 to 22-02-25	Screen Design for Insert/Update Pages
7	24-02-25 to 01-03-25	Implement dropdowns & Insert/Update in for all the tables
8	03-03-25 to 08-03-25	Implement dropdowns & Insert/Update in for all the tables
9	10-03-25 to 15-03-25	Implement Login, Logout & User Registration Functionality
10	17-03-25 to 22-03-25	Quizzes Rendering
11	24-03-25 to 29-03-25	Evaluation

#### 4. Database Overview

MST_User		
ColumnName	DataType	Remarks
UserID	Int	PK, AutoIncrement
UserName	Nvarchar(100)	Not Null
Password	Nvarchar(100)	Not Null
Email	Nvarchar(100)	Not Null
Mobile	Nvarchar(100)	Not Null
IsActive	bit	Not Null, default 1
IsAdmin	Bit	Not Null, default 0
Created	DateTime	Default GetDate()
Modified	DateTime	Not Null

MST_Quiz		
ColumnName	DataType	Remarks
QuizID	Int	PK, AutoIncrement
QuizName	Nvarchar(100)	Not Null
TotalQuestions	Int	Not Null
QuizDate	Datetime	Not Null
UserID	Int	FK_User, Not Null
Created	DateTime	Not Null, Default GetDate()
Modified	DateTime	Not Null

MST_Question		
ColumnName	DataType	Remarks
QuestionID	Int	PK, Auto Increment
QuestionText	Nvarchar(MAX)	Not Null
QuestionLevelID	Int	FK_QuestionLevel, Not Null
OptionA	Nvarchar(100)	Not Null
OptionB	Nvarchar(100)	Not Null
OptionC	Nvarchar(100)	Not Null
OptionD	Nvarchar(100)	Not Null
CorrectOption	Nvarchar(100)	Not Null
QuestionMarks	Int	Not Null
IsActive	Bit	Not Null, Default True
UserID	Int	FK_User, Not Null
Created	DateTime	Default GetDate()
Modified	DateTime	Not Null

### MST\_QuestionLevel

ColumnName	DataType	Remarks
QuestionLevelID	Int	PK, AutoIncrement
QuestionLevel	Nvarchar(100)	Not Null
UserID	Int	FK_User, Not Null
Created	DateTime	Not Null, Default GetDate()
Modified	DateTime	Not Null

### MST\_QuizWiseQuestions

ColumnName	DataType	Remarks
QuizWiseQuestionsID	Int	PK, AutoIncrement
QuizID	Int	FK_Quiz, Not Null
QuestionID	Int	FK_Question, Not Null
UserID	Int	FK_User, Not Null
Created	DateTime	Not Null, Default GetDate()
Modified	DateTime	Not Null

## 5. Functional Requirements

### User Management:

#### 1. Registration

- Fields: UserName, Password, Email, Mobile
- Validation:
  - UserName: Required, max 100 characters
  - Password: Required, min 8 characters with alphanumeric and special characters
  - Email: Valid email format
  - Mobile: Valid mobile number, max 15 characters

#### 2. Login

- Fields: UserName/Email, Password
- Functionality:
  - Authenticate users using UserName/Email and Password
  - Maintain session for logged-in users

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### Quiz Management:

#### 1. Quiz Creation

- Fields: QuizName, TotalQuestions, IsActive, UserID
- **Validation Rules:**
  - QuizName: Required, max 100 characters
  - TotalQuestions: Numeric, greater than 0
  - IsActive: Bit, Default true

#### 2. CRUD for Quiz

- Allow admins to create, view, edit, and delete quizzes they own.
- **Validation Rules for CRUD:**
  - QuizName: Required, max 100 characters, unique per user
  - TotalQuestions: Required, Numeric, greater than 0
  - UserID: Required, valid foreign key reference (retrieved from session)

### Question Management:

#### 1. Add Questions

- Fields: QuestionText, OptionA, OptionB, OptionC, OptionD, QuestionLevel, CorrectOption, QuestionMark, IsActive, UserID
- Validation:
  - QuestionText: Required, max 100 characters
  - Options: Required, max 100 characters each
  - CorrectOption: Must match one of the options
  - QuestionMark: int
  - IsActive: Bit, Default true

#### 2. CRUD for Questions

- Admin can add, edit, view, and delete questions for quizzes they own.



- **Validation Rules for CRUD:**
  - QuestionText: Required, max 100 characters, unique per quiz
  - OptionA, OptionB, OptionC, OptionD: Required, max 100 characters
  - CorrectOption: Required, must match one of the options
  - UserID: Required, valid foreign key reference (retrieved from session)
  - QuestionMark: int
  - IsActive: Bit, Default true

#### **Question Level Management:**

##### **1. Add Question Level**

- Fields: QuestionLevel
- Validation:
  - QuestionLevel: Required, max 100 characters

##### **2. CRUD for Questions**

- Admin can add, edit, view, and delete question levels by they own.
- **Validation Rules for CRUD:**
  - QuestionLevel: Required, max 100 characters

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#### **Quiz Wise Question:**

##### **1. Add Question in Quiz**

- Fields: QuizID, QuestionID, UserID
- Validation:
  - QuizID: Required
  - QuestionID: Required

##### **2. CRUD for Quiz Wise Question**

- Admin can add, edit, view, and delete questions for quizzes they own.
- **Validation Rules for CRUD:**
  - QuizID: Required,
  - QuestionID: Required
  - UserID: Required, valid foreign key reference (retrieved from session)

## 6. Screen Design Reference

### 1. Login Screen

- Fields: UserName/Email, Password
- Buttons: Login

### 2. Registration Screen

- Fields: UserName, Password, Email, Mobile
- Button: Create Account

### 3. Create Quiz Screen

- Fields: QuizName, TotalQuestions, QuizDate, UserID (Retrieve from Session, Never display to user)
- Button: Save – to store data, Cancel – to cancel and redirect to list screen

### 4. Quiz List Screen

- Sections: Search, Quiz List
- Button: Search – to search based on entered criteria, reset – to reset search criteria, Add New Quiz – redirect to Create Quiz Screen

### 5. Add Question Screen

- Fields: QuestionText, OptionA, OptionB, OptionC, OptionD, CorrectOption, QuestionMarks, IsActive (Default true), UserID (Retrieve from Session, Never display to user)
- Button: Save, Cancel – to cancel and redirect to list screen

### 6. Question List Screen

- Sections: Search, Question List
- Button: Search – to search based on entered criteria, reset – to reset search criteria, Add New Questions – redirect to Add Question Screen

### 7. Add Question Level

- A screen where admin can set question levels.
- Button: Save, Cancel – to cancel and redirect to list screen

### 8. Question Level List Screen

- Display list of question levels.

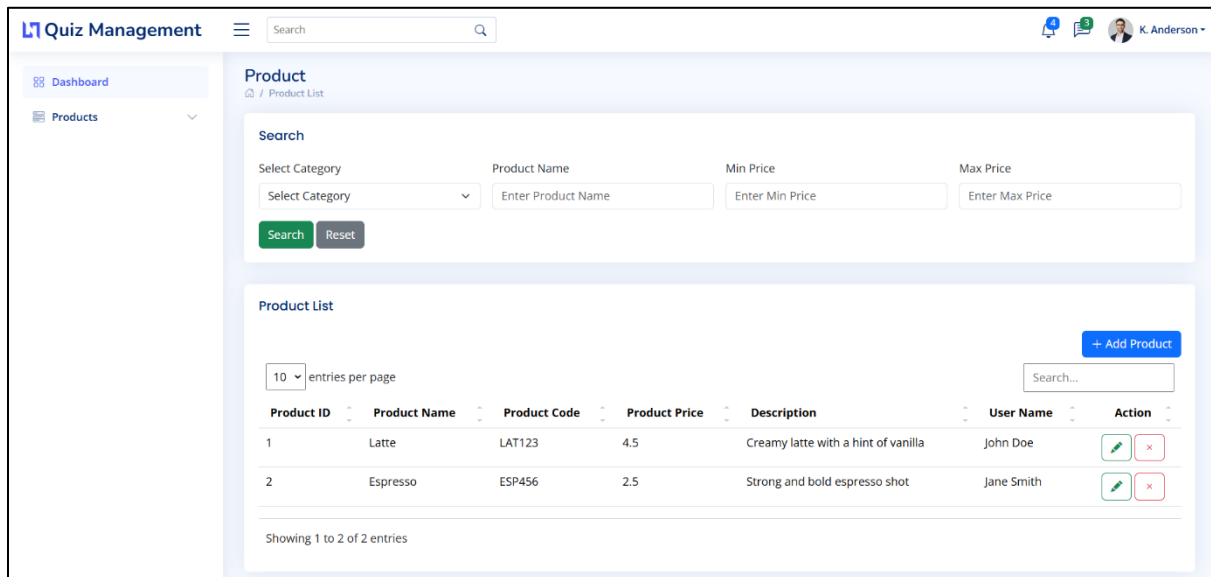
### 9. Add Quiz wise Questions

- Fields: QuizID (Dropdown Menu), QuestionID (Dropdown Menu), UserID (Retrieve from Session, Never display to user)
- Button: Save, Cancel – to cancel and redirect to list screen

### 10. Quiz wise Question List

- Sections: Search, Quiz List
- Button: Search – to search based on entered criteria, reset – to reset search criteria, Add New Quiz Wise Question – redirect to Add Quiz Wise Question Screen

## List Operation with Search Feature



**Quiz Management** Search

**Product**  
Product List

**Search**

Select Category:  Product Name:  Min Price:  Max Price:

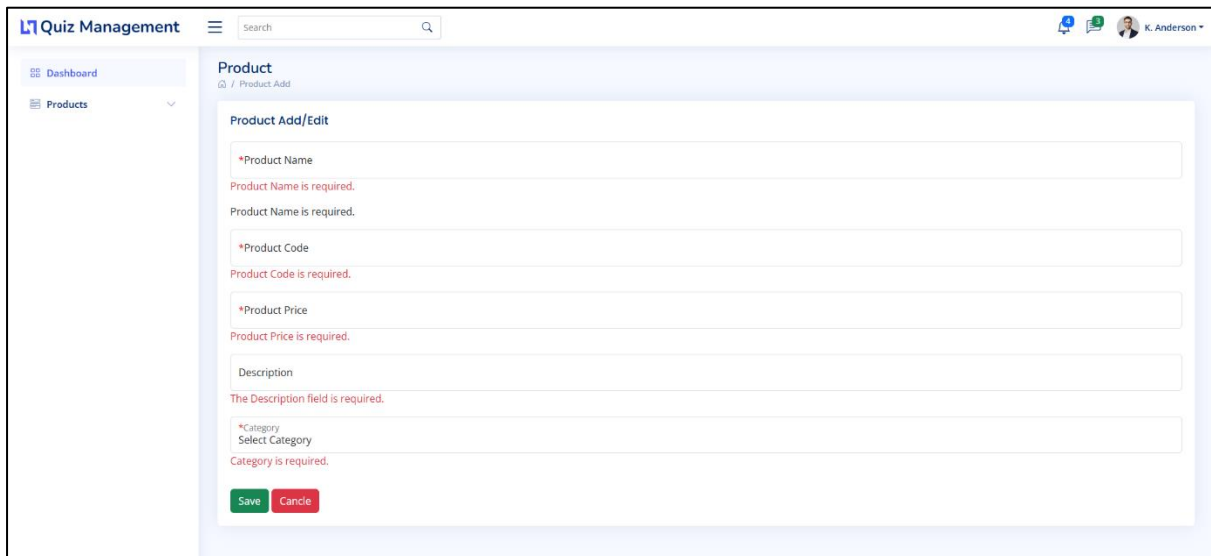
**Product List**

10 entries per page

Product ID	Product Name	Product Code	Product Price	Description	User Name	Action
1	Latte	LAT123	4.5	Creamy latte with a hint of vanilla	John Doe	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
2	Espresso	ESP456	2.5	Strong and bold espresso shot	Jane Smith	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Showing 1 to 2 of 2 entries

## Add/Edit Operation



**Quiz Management** Search

**Product**  
Product Add

**Product Add/Edit**

\*Product Name  
  
Product Name is required.

\*Product Code  
  
Product Code is required.

\*Product Price  
  
Product Price is required.

Description  
  
The Description field is required.

\*Category  
Select Category  
  
Category is required.

## Login and Sign-Up Pages

### Quiz Management

#### Create an Account

Enter your personal details to create account

Username

@

Password

Mobile No

Email

[Create Account](#)

Already have an account? [Log in](#)

### Quiz Management

#### Login to Your Account

Enter your username & password to login

Username

@

Password

[Login](#)

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

