



Fundamentals of Programming – II

Project Proposal

Quiz Application

07/12/2023

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Introduction

The Quiz Application Project aims to develop a user-friendly and interactive quiz application using the fundamentals of C++ programming language. The application will provide a platform for users to test their knowledge in various subjects by answering multiple-choice questions.

The application will store a collection of questions, each consisting of a question statement, multiple-choice options, and a correct answer. The user will be prompted to select their answer from the given options, and their score will be calculated based on the number of correct answers. At the end of the quiz, the user will receive their final score and feedback on their performance. Below we will be discussing the functionalities of the program in detail.


Objectives

This application can serve many purposes. One is it can be used as a learning tool. It allows students to test their knowledge and understanding of different subjects in a fun and engaging way. It can be used by teachers as a form of assessment or by individuals seeking to improve their knowledge in specific areas. Enables particular users to assess their level of knowledge in a particular area.

Functionalities

To make the application interactive and user friendly it will consist of the following functionalities.

1. **Question Storage:** The application stores a collection of quiz questions. Each question consists of a statement, multiple-choice options, and a correct answer.
2. **Display Questions:** The application presents each question to the user, along with the available options, in a formatted manner.
3. **User Input:** The user selects their answer by choosing the corresponding option for each question.
4. **Answer Evaluation:** The application compares the user's answer with the correct answer for each question and determines if it is correct or incorrect.
5. **Score Calculation:** The application keeps track of the user's score by incrementing it for each correct answer.
6. **Timer:** The application can include a timer for each question, limiting the time available for the user to select an answer.
7. **Randomized Questions:** The application can randomize the order in which the questions are presented to the user to add variety and prevent memorization.

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8. Difficulty Levels: The application can offer multiple difficulty levels for the questions, such as easy, medium, and hard, with varying complexity and points assigned accordingly.
 9. Hint System: The application can include a hint system that provides the user with clues or additional information to assist in answering a question, at the cost of a reduced score or time penalty.
 10. Categorized Questions: The application categorized question options.

As we tried to clarify in the introduction, the program is implemented using C++ programming language. We will be using the fundamental concepts to the advanced one like making use of class from the OOP part.

NB: Further functionalities can be added to the program to improve the performance and quality of the system we will be building.