Project Report: "Quiz Application"

ADVANCED DATA STRUCTURES
420-J13-AS
gr.06200

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Abstract

A quiz application in the console that allows the user to create and answer questions

1. Introduction

Our project is going to be a quiz application in the console, where the user can make quizzes with questions such as true or false, or multiple choice. Moreover, the user can choose the number of points for each question, add their desired number of questions for each quiz, and choose the name of the quiz. It is possible to answer quizzes, and a score will be given based on the number of correct answers.

2. UML Diagram
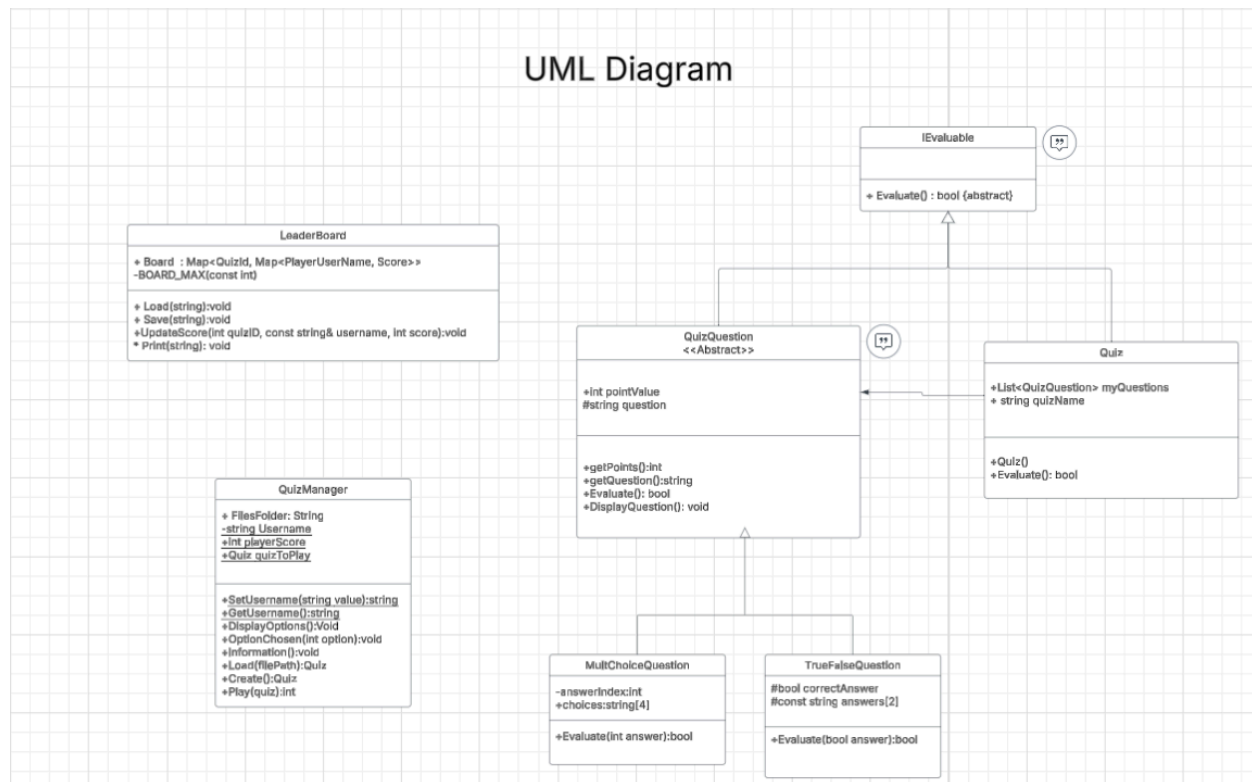
UML Diagram

3. Expected Inputs

When the application starts, it expects to be given a <u>number between 1 and 5,</u> as those are the options that the user has. For option 1, the player will be given a number of quizzes from which they can choose to answer (the input can vary depending on the number of quizzes in the file), but it will be a number between 1 and X (the number of quizzes). After choosing a quiz, a multiple-choice question or a true or false question will be displayed, where for the multiple choice question an input from 1 to 4 will be expected, acting as a representation of the options A, B, C or D. For true or false, an input from 1 or 2 is expected, 1 for false and 2 for true. After each question, the program will validate whether the player chose the correct option or not. The current score and the next questions will then be displayed. Once the quiz is finished, it will ask to input the player's username, which can't be empty, and afterwards it will close the program. For option 2, as the user steps in to create questions, they will be asked to input the number of questions that the quiz will contain after the different types (multiple choice or true or

false), the question, the options, the correct option and finally the score that the question will give if the user's input is correct. Once the player has inserted all the questions, it will ask for the name of the file or quiz, and it will be saved into the system. NOTE: Do not insert any comma(',') at any point during the creation, as it can cause the program to crash. Finally, option 3 gives a brief description and instructions of the application, option 4 displays the leaderboard, and 5 quits the application.

4. Development Process

Throughout the process, collaboration along with communication were fundamental in order to develop the application, avoid overlapping of tasks and merge conflicts in GitHub.

Task	Who's Doing it
UML Diagram	James
Github management	Santy, Michael
Main Menu, display options	James, Santy
Quiz Manager: Create quizzes functionality	Michael
Leaderboard	Rawlings
Quiz Manager: Load functionality	Santy
Quiz Manager: Folder reading	Santy
Evaluate questions and user input	Michael
Ensures to loop through the questions one by one	Santy
Information table	James
Scoring system	Santy
Leaderboard file	Rawlings
Testing and debugging	Michael, Santy
Quiz Manager: Username input validation	James
Report file	Santy, James
Bug tracker	Santy

5. Results and Achievements


```
C:\Users\User\source\repos\A

WELCOME TO YOUR QUIZ LOBBY
Please choose an option from the following ones and press enter
1. Answer a quiz
2. Create a quiz
3. Information
4. Leaderboard
5. Exit the application
|
```



```
C:\Users\User\source\repos\A

1. Basic-CPP-Quiz.csv
2. Basic-Science-Quiz.csv
3. Medium-Difficult-MathQuiz.csv
4. PopCulture-Quiz.csv
5. TestQuiz.csv
6. VideoGamesHistory-Quiz.csv

Please choose one of the options:
Please enter a valid option
```

```
Current Score: 0
Multiple Choice Question
Which keyword is used to define a constant in C++?
1. const
2. var
3. define
4. static
Please chose one of the options
```

```
Current Score: 1500
Multiple Choice Question
What will 'int x = 5 / 2;' result in?
1. 2
2. 2.5
3. 3
4. Error
Please chose one of the options
```

```
Current Score: 2400
True or False Question
A class can contain both variables and functions.
1. False
2. True
Please chose one of the options

2
Correct answer!
current score: 2700

Please press enter to contine

Final Score: 2700


please enter your username for the leaderboard
Santiago
```
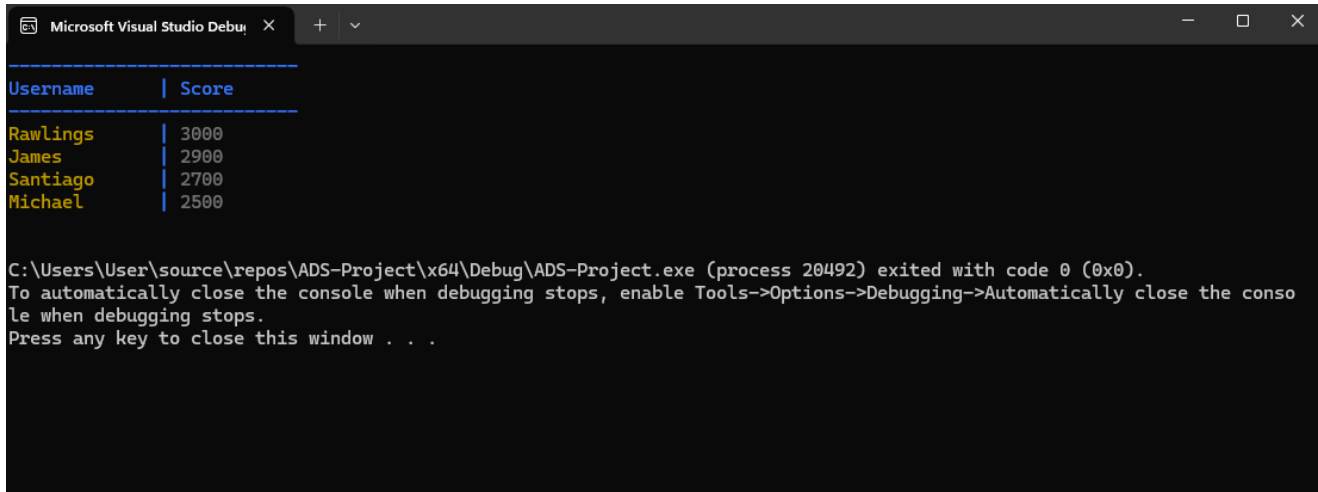
```
How many questions would you like to add?
5
What type of question will it be?
 1. Multiple Choice
 2. True or False
1
Enter the question 1:
Who won the last world cup?
Type choice 1:
Brazil
Type choice 2:
Colombia
Type choice 3:
France
Type choice 4:
Argentina
Which choice is the correct one?
4
How many points is this question worth?
500
What type of question will it be?
 1. Multiple Choice
 2. True or False
```

```
 2. True or False
1
Enter the question 4:
Which company owns the saga avengers?
Type choice 1:
DC
Type choice 2:
Marvel
Type choice 3:
Disney
Type choice 4:
Dreamworks
Which choice is the correct one?
2
How many points is this question worth?
400
What type of question will it be?
 1. Multiple Choice
 2. True or False
2
Enter the question 5:
Is ironman alive?
Is this answer
 1. True
 2. False
2
How many points is this question worth?
900
What is the name of this file?
ExampleQuizCreation
```

```
This is a quiz application that allows you to create and play quizzes.
You can choose from a variety of quizzes or create your own.
You can choose to play a quiz and test your knowledge.
You can also create your own quiz and share it with others.
Please have into account that at the moment you are creating quizzes, dont add any commas for anything, as it can CRASH the
program
Have fun!
Press enter to go back to the main menu
```

6. Conclusion

In conclusion, our quiz application was a project which taught us a lot in C++, advanced data structures, the use of pointers, and the management of heap and stack. The learning experience gained was significant, and left us with a big excitement to use C++ in Unreal Engine, and the upcoming challenges. Throughout testing and debugging, we discovered how things can sometimes turn out more complicated than expected, especially when it comes to error handling and user input. But in the end, we figure there are always ways to manage problems and solutions for them, leaving us a big learning experience, which will help us in our upcoming hardships.