Team Information:

Name: Palak Sharma

Student ID: 2227093

Name: Muhammad Arsalan

Student ID: 2232274

**Project Description:**

We are building a quiz trivia game that will be a short quiz, but its sole purpose is to educate and engage our users and to entertain them with a short, simple quiz.

1. There will be random questions to keep the quiz fresh and difficult for the users.
2. A visually beautiful and user-friendly design that guarantees a smooth user experience.
3. Users can track their progress on how well they are going in the quiz by looking at the result of their answers for each question after submitting.
4. We have a quiz first after user attempt all the questions, he/she will be shown their results with the questions and correct answers as well as their scores too, so they can improve their progress overtime.

**Development Approach:**

1. Understanding the problem.

* Before starting the development, we thoroughly examined related trivia apps to comprehend user expectations and spot potential problems.

1. Formulating the problem.

* We specified the main functions of our trivia app, established project goals, and defined the program's scope.

1. Developing the application \ algorithm.

* Figured out what elements make up a quiz question, added a class for each question consisting of a question, answer and 4 options.
* Added an app class consisting of a list of quiz questions (a list of quiz class type)
* Added a main window and an algorithm to calculate scores, questions, answers, and options for each consecutive question.
* Added a final report xaml window with each question, selected answer, right answer and the final scores and a save button to save the results to a text file in a local location.

1. Implementing the application \algorithm.

* Based on the developed algorithms, implemented the fundamental features. optimized code by applying the concepts of object-oriented programming, using static class, reading and writing from a file.

1. Testing.

* We checked the output by running several times the application and choosing different answers or skipping as well (giving different input to test for getting same output every time).

**OOP Design:**

(Quiz Class): Represents a **single quiz question** with its associated options and correct answer. Allows users to interact with and answer quiz questions. Provides a method to determine if the selected option is correct.

Design:

* 1 constant for the number of options for each question
* 4 data members – a question, answer, selected option, and an array of 4 options
* 4 properties for each of the data member with proper validation
* 1 method member IsRight() with Boolean return type to check if the selected option string and the answer string match and to return true or false based on that.

(QuizTriviaApp Class): This class is used to manage collection of quiz questions (a list of quiz class type), which reads them from an external file and give us ability to access a list of questions.

Design:

* 2 constants, one for the number of options = 4, second for the string name of the file to be read
* 2 data members for a list of quiz (Quiz class data type) – Composition relation, and an integer for storing the number of questions in the file being read.
* 2 Properties for both data members with proper validation
* 1 method member ReadQuizContentFromFile() of void return type.
* This method reads from the quiz file located at the executable level of the program. The question, answer, 4 options are saved for each of the quiz object in the list. The reading continues till there is no more question left, that is, the next line is null.
* Each quiz object is then added to the list of quiz data type.
* The number of questions keep on increasing by one according to the number of questions read from the file.

**Contributions:**

|  |  |
| --- | --- |
| Palak | Muhammad |
| Back-End (Mostly), Classes, Properties, Front End Planning (UI) | Front-End (Mostly), Stack Panels, Grid, Buttons, Back-End (Binding) |

**App Snapshots:**

**A screenshot of a computer

Description automatically generated**

**A screenshot of a computer

Description automatically generated**

**A screenshot of a quiz

Description automatically generated**

**A screenshot of a quiz

Description automatically generated**

**A screenshot of a computer

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**Here is a short video of the two windows showcasing the app running:**

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**Future Work:**

In future we can add an option for users to post their scores on social media and maybe we can implement such thing with which multiple users can play and challenge each other like kind of Kahoot quizzes.

**Appendix A: Team Contract**

This is an informal contract to ensure that all team members have a common understanding of what is expected in terms of work standards, communication, division or work, and conflict resolution.

**Team Members (Name & ID)**

|  |  |  |
| --- | --- | --- |
|  | Name | Student ID |
| Member A: | Palak Sharma | 2227093 |
| Member B: | Muhammad Arsalan | 2232274 |

**Strength & Weaknesses**

Within the context of this project, what are the strengths and weaknesses that each member brings to the team?

Member A: My strengths are that I am curious to learn new concepts and new ways of doing things and I try to write code in a simpler manner so others can understand it easily without having any troubles. I love brainstorming to develop algorithms and solve a problem. Also, first I go with algorithmic thinking rules consisting of ways to accomplish a task and then I work on improving it.

Member B: My strength is to complete the work on time and try to reduce as many errors as possible by testing code several times with several inputs. My weakness is English because sometimes I lose focus since it is not my first language and sometimes it’s hard to process some context of it.

**Definition of “good enough” for this project**

What would the team collectively consider “good enough” of an achievement for the project?

*(One response for the whole team)*

* The good enough for us is to fulfill the requirements as much as possible for the project. Our focus is not to design a very high-class UI but to work on concepts we learnt in class and applying our knowledge to develop a good enough project. If it works properly, we are good enough to go. We try to make UI better, but we work on our back end more to reduce errors and make it work conveniently.

Picked Topic

 Topic 2: Quiz Trivia Game

Division of work

How will each member contribute to the project?

Member A: I worked on the back end mostly by connecting front end elements with back end, developing algorithms, classes, logic and trying to make the UI as good as possible.

Member B: I worked on front end mostly by making UI elements, binding front end to backend and tried to accomplish all the requirements in project.

Frequency of communication

How often will the team be in touch and what tools will be used to communicate?

Our team remained in contact on a daily basis for almost a week to dedicate time and effort on this project. We discussed changes being committed to GitHub and communicated to work in resonance to avoid any push/pull conflict and made sure the UI is made as good as possible.

Response delays

What is a reasonable delay to reply to messages? Is it the same for weekdays and weekends?

* We will stay in touch as long as the project is not finished, and we are a good team according to previous semesters as we also worked on different group projects and never had any issues between us. As for the response, delays may be on weekends because of work.

Receiving feedback

Each member must provide a sample sentence for how they would like to receive constructive feedback from their peers.

(If unsure, assume a hypothetical situation such as you have not completed your work in time or you have not replied to a message in a timely manner).

Member A: I would like to receive feedback if I did anything wrong or if my other teammate has any feedback for me about my work or anything else in the project, an advice on improvement of logic and if I am meeting their expectations.

Member B: I would really appreciate getting feedback from my other team member on how I am doing the work and am I meeting their expectations of what they are expecting from me in this project.

In case of conflict

If a team member fails to communicate as described in this contract or does not respond to constructive feedback, what measures should the other teammate take?

*(One response for the whole team)*

* We never had any conflict so far as we worked together in many group projects but if something happened, we should contact the teacher.

**UML:**

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