

Criterion A: Planning

Scenario

My client and advisor is Mink Li, a student at DCB. He is the president of the school's Rotary Interact Service club and each year they host a trivia night event to help raise money. For the past few years, problems he faced were "Trivia Night lacked a systematic way of marking and scoring contestants. All of this was done manually and people marking the answers did not have a lot of time to manually go through everything". Another issue that Mink faced is the lack of an interactive way of revealing the answers to the questions. "The contestants did not have a way of knowing what they got right or wrong because answering was done on paper. This meant it would be easy for contestants to go back and cheat by changing their answers, if we were to reveal them." I will be creating a dedicated trivia program for my client to use to solve these issues.

The client states that the program should include "some way for contestants to answer once, without the ability to go back to change their answers", "it would also be crucial for the app to be able to mark the questions without the hassle of having volunteers marking the answers". It should "display explanations to correct question once all the teams have answered" and finally "have a leaderboard updating in real-time for the admins' use". The client has also stated that an admin feature is needed so that "the Interact Executive team can login and input the questions and answer choices and be able to host and manage the event".

Detailed notes of the interview can be found in appendix A.

Rationale

My proposed solution is a client server application. This application will allow the Interact executive team to log in and input their questions and answers for the quiz. They will also be able to host the quiz through the application on the day of the quiz. The contestants will be able to enter the quiz when hosted and when a question appears on the hosted screen, the answer choices will appear on the contestants' screen in real time with a countdown timer.

The contestants of the event will own laptops that run on different operating systems and some groups may even want to answer using their tablets or phones. The use of a web application allows everyone to participate no matter their preference of device and removes the need of installing the application.

My application's GUI will be created using HTML and CSS and I will be using JavaScript for frontend development and Java for backend. JavaScript with the help of JQuery allows the application to constantly update the database and retrieve data. This will be needed to constantly update the leaderboard and the question displayed. Java compiler is specifically designed for performance and will ensure everything runs smoothly with multiple teams contacting the server at once. Java contains less ambiguous syntax terminology and OOP makes it easy to organize and maintain.

I will be using an online database to store the questions and answers as this allows all executive members to input, edit, and change the questions. An online database is also sufficient enough to store questions from previous years, allowing new members to look over or reuse questions from before.

Compared to online quiz sites, my program will be much more personalized with unique features fulfilling requests from Mink such as "not having a 'podium' screen at the end so the host can announce the winners", "disguising the points and rankings of teams during the entire quiz to add suspense". Lastly the quiz will be completely controlled by the Interact Exec members. They will have access to an array of features such as a leaderboard, a clock indicating the current local time, and they will have control over when to move to the next question, when to show the answers, when to start the game etc as "Trivia night is quite a big event and sometimes we run into some uncontrollable problems". This allows better control over quiz e.g. if a team disconnects Interact would be able to wait for them to join back before starting again.

Word Count: 697

Success Criteria:

Contestant

- Be able to join the game with a game code
- Be able to see and answer the questions
- Be able to see time remaining for each question shown on screen
- User will not be able to answer questions after time limit
- User will not be able to change their answers after answering
- Be able to see the explanation of the correct answers.
- Be able to see an end game page indicating that the quiz has ended on screen

Host

- Be able to show the game code and game name on screen
- Be able to display the questions on screen
- Be able to display a page indicating that the quiz has ended on screen

Admin

- Be able to see the questions and answer choices of quizzes of previous years.
- Be able to add, delete, edit questions (includes duration to answer question, correct answer, explanation of why etc)
- Be able to see questions from past years
- Be able to host game
- Be able to start game or end game
- Be able to see the teams and their positions
- Be able to see the question that is currently being answered
- Be able to see the local time.
- Be able to go to the next question of the quiz
- Be able to see the final leaderboard when game is ended.