Pocket Trivia

Game Design Document

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September 2017

Game Overview

This game is based off of the concept of "Pocket Trivia" mentioned in the "Game Programming All In One, 3/e" by Jonathan S. Harbour. The concept of the game is Trivia, and as the name implies, simplistic or portable theme. The objective of the game is to answer as many question correctly in an ultimate goal to learn. In this version we have a question bank loaded with chapter questions from the textbook "Game Programming All In One, 3/e" by Jonathan S. Harbour. In this version you are able to select which source of questions to pull from, as well as add your own sources! In addition, there are randomized questions and different options to select which group of questions you wish to tackle! This includes per chapter, per unit, or per textbook.
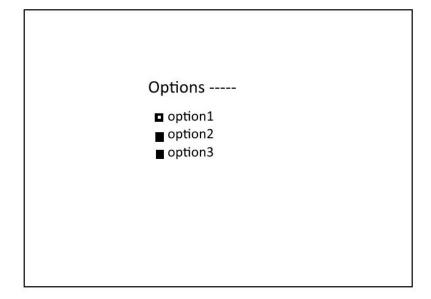
Theme: Graphics and Sound

The overall theme of the game is simplistic yet elegant UI. The graphics of the game should remind you of 8-bit gameboy technology as well as a soothing elegant musical background. The sound effects (ding and whah sounds) and graphics (check mark or X) for an correct and incorrect answer were designed to make you feel accomplished when you got something right, and a drive to learn from your mistakes when you got something wrong. There will be a background track playing on repeat while you play the game.

Menus
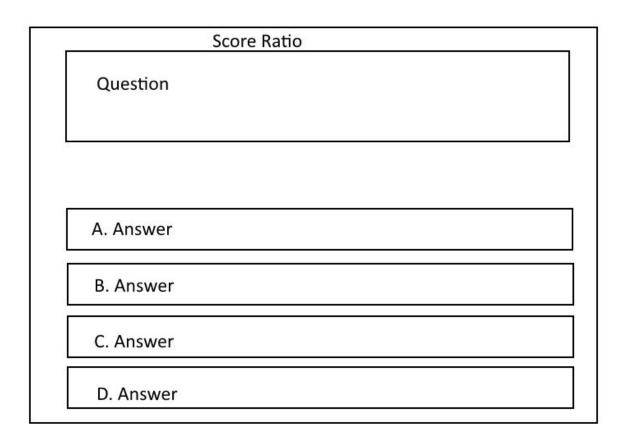
The objective of the starting menu was to instruct the user of the instructions of the game. This should be simple with just a title "Pocket Trivia" and instructions followed below.

Pocket Trivia

Instructions.....

The selection screen should show the options for the user with a cursor controlled by the arrow keys to select (Multiple or single).

Options -----
☐ option1
■ option2
■ option3

Finally the actual Question screen will feature a larger textbox for the Question near the top, under a dynamic score. Followed by 4 smaller text boxes for the answer.

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┌─────────────────────────────────────────────────┐
│                  Score Ratio                      │
│  ┌───────────────────────────────────────────┐   │
│  │ Question                                   │   │
│  │                                            │   │
│  │                                            │   │
│  └───────────────────────────────────────────┘   │
│                                                   │
│  ┌───────────────────────────────────────────┐   │
│  │ A. Answer                                  │   │
│  └───────────────────────────────────────────┘   │
│  ┌───────────────────────────────────────────┐   │
│  │ B. Answer                                  │   │
│  └───────────────────────────────────────────┘   │
│  ┌───────────────────────────────────────────┐   │
│  │ C. Answer                                  │   │
│  └───────────────────────────────────────────┘   │
│  ┌───────────────────────────────────────────┐   │
│  │ D. Answer                                  │   │
│  └───────────────────────────────────────────┘   │
└─────────────────────────────────────────────────┘
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Playing the game

When you start the game, you will be brought to a instruction screen. This will give you an idea of the controls of how to navigate the game. After hitting "ENTER" to proceed, you are able to select which data source (textbook) you wish to pull the questions from. Then different options to select "All Questions", "Select by Unit", or "Select by Chapter" will show up. If the user selected "All Questions" the game will immediately start in which they will require a select an

answer on the corresponding question. If the user selects "Select by…" option then they will be required to further filter out which sections they wish to be quizzed upon. The questions will be randomized and if the user gets an question correct, a winning sound effect and graphics will be presented. A similar action will follow if the user is incorrect but a losing effect. After all the questions are answered, a final score will be presented to the user. At any time the user may press "Esc" to quit the game. The user may now restart the game to play again.

Feature: Multi-source

One feature that I made sure to implement is the fact that you are able to put in your own question sources into the game as an extendable game instead of just for the textbook mentioned above. To do this, just add the title of the new source to topics.txt followed by the foldername in the same format as the existing one. In the new folder you will need a Questions folder to house your question files, as well as chapters.txt, texts.txt and units.txt. This will follow the same format as topics.txt however instead of a folder name, they will now be files. Just follow the same format as the pre-existing one, and change the TOPICNUMBER and TEXTNUMBER definitions in the PocketTrivia.h file. The current version only supports 10 questions per file, however they can be modified in future versions. In addition, the sound effects and graphics can easily be changed by changing the defintions to another file in which you wish to replace in the PocketTrivia.h file. (BACKGROUND_FILE, CORRECT_FILE, INCORRECT_FILE, ERROR_FILE, CHECK_FILE)

Conclusion

In conclusion, I hoped that this can be a great tool for learning - I know I will use it haha. One driving factor in the design of the game was to make it as extendable and encapsulated as much as possible. I stopped at a certain extent because I felt like I was going too much overboard for an introductory assignment specifically. However, what I am really proud of is the ability to add more options and questions rather than just pulling hard-coded questions from just one source. This definitely made coding more difficult but I believe it was worth the effort.