



Handover Document

EduTrivium

Software Engineering

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Project Overview:

The EduTrivium project aimed to develop an interactive quiz application to enhance students' learning experiences through gamified quizzes. The program generates quizzes based on predefined curriculum standards and dynamically selects questions from a comprehensive database. Key features included multiple difficulty levels, assistance features like '50/50' and 'remove one answer,' and tracking the number of lives available to the player during gameplay.

Delivered Features:

- 1. Question Database:** Implemented a robust database (`QuestionDatabase` class) containing questions categorized by subject and difficulty level.
- 2. Quiz Controller:** Developed the `QuizController` class to manage the quiz game's flow, interact with the user, and calculate scores based on responses.
- 3. Quiz View:** Created the `QuizView` class to handle user interaction via the command-line interface, displaying questions, options, and feedback.
- 4. Question Model:** Designed the `Question` class to represent individual quiz questions, encapsulating text, options, and correct answers.
- 5. 50-50 Lifeline Feature:** Implemented a lifeline feature allowing users to remove two incorrect options during the quiz, improving their chance of selecting the correct answer.
- 6. Remove One Wrong Option Lifeline:** Added a lifeline feature enabling users to remove one incorrect option, enhancing their likelihood of choosing the correct answer.
- 7. Number of Lives:** Introduced a "Number of Lives" feature, deducting lives for incorrect answers and ending the quiz when lives reach zero, providing a strategic element to the gameplay.

How to Play:

1. Upon launching the application, users are welcomed and prompted to choose a lifeline option: 50-50, Remove One Wrong Option, or None.
2. The quiz commences, presenting questions one by one to the user.
3. Users select answers by entering corresponding letters (a, b, c, or d).
4. After each response, feedback is provided on correctness, with lifelines available to improve chances.
5. The quiz continues until all questions are answered or lives are exhausted.
6. At the end, the user's final score is displayed, along with a game-over message if all lives are used.

Issues Encountered:

- 1. String Comparison Bug:** A single '.' character caused unexpected outputs and incorrect string comparisons, leading to wrong answers. Resolved by identifying and correcting the issue in string handling.
- 2. Typographical Error:** Incorrect usage of '0' instead of 'O' caused further discrepancies in answer retrieval, requiring correction to ensure accurate answer processing.
- 3. Incorrect Answer Handling:** Despite correct user responses, the application sometimes marked answers as incorrect, necessitating debugging and refinement of the answer verification process.
- 4. Lives Deduction Bug:** The decrementing of lives upon incorrect answers was not functioning correctly, requiring debugging and adjustment to ensure proper life management during gameplay.