Interactive Quiz

Project Report

Pundra University of Science & Technology
Learn for Life
Established 2001
BOGRA-BANGLADESH

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Web Engineering (CSE 2201)

Introduction

The Interactive Quiz Application allows users to participate in an interactive quiz session with real-time feedback and score tracking. The application is designed to provide a seamless and engaging learning experience by dynamically loading questions from an external API and providing instant validation of user responses.

Related Works

Several quiz applications, such as **Kahoot**, **Quizlet**, and **Socrative**, offer interactive learning environments. However, our application focuses on real-time quiz generation with unique visual effects using libraries like **Thanos.js** for enhanced engagement. Compared to traditional quiz apps, this project emphasizes simplicity and dynamic question delivery.

Methodology

Technology Stack:

- **Frontend:** HTML, CSS, JavaScript, jQuery
- **Backend:** PHP
- **Database:** Session-based data storage
- **External API:** Open Trivia Database (for fetching questions)
- **Third-Party Libraries:** Thanos.js, html2canvas.js

Development Process:

1. **Design Phase:** Created wireframes for the user interface.
2. **Implementation Phase:** Developed the frontend and backend, integrating AJAX for dynamic interactions.
3. **Testing Phase:** Tested with sample questions and various user scenarios to ensure accuracy and stability.

Architecture Overview

The application follows a simple client-server model where:

1. **Client-Side:** Handles user interaction, dynamic UI updates, and AJAX requests.
2. **Server-Side:** Manages session data, question fetching, answer validation, and response preparation.

Flow Diagram

1. **Login:** Username entry initiates the quiz session.
2. **Question Display:** Dynamically loaded from the API.
3. **Answer Submission:** Evaluated via AJAX requests.
4. **Feedback:** Immediate display of results per question.
5. **Quiz Completion:** Final score and performance summary presented.

Outcome

- **User Authentication:** Simple session-based username handling.
- **Dynamic Question Loading:** Questions fetched from the Open Trivia Database API.
- **Real-Time Feedback:** Immediate correctness feedback on each answer.
- **Score Tracking:** Ongoing score updates displayed in real-time.
- **Visual Effects:** Integration of Thanos.js for a "disintegration" effect on incorrect answers.
- **Logout Option:** Allows users to quit and reset the quiz.

Conclusion & Future Work

The Interactive Quiz Application demonstrates how a simple yet effective quiz platform can enhance learning. For future development,

User Authentication System:
To allow users to log in and save quiz progress or historical performance.

Timer for Questions:
Adding a countdown timer for each question to increase the challenge.

Leaderboard Implementation:
Displaying top scores to encourage user competition.

Multilingual Support:
Adding support for multiple languages to expand accessibility.

This project serves as a testament to the practical skills acquired in web development and highlights the importance of combining technical proficiency with creative design.

Live demo: https://project.mdriaz.com.bd/bsc/

Github: https://github.com/md-riaz/interactive-quiz-bsc

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