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RawrIT: DEVELOPMENT OF A WEB-BASED QUIZ PLATFORM

Rationale

Quizzes play an essential role in assessing student learning and comprehension. However, traditional quiz formats often lead to repetitive and unengaging experiences, making students feel unmotivated. The limited interactivity between students and teachers further affects engagement levels, and time constraints in face-to-face quizzes can add pressure, leading to lower scores. Additionally, teachers struggle with manually managing student performance, as traditional methods of item analysis and result tracking are time-consuming. These inefficiencies highlight the need for an improved approach to quiz administration and student assessment.

In many educational institutions, missed quizzes pose another challenge. Some schools cannot accommodate special quizzes due to teachers' overwhelming workloads. Additionally, students who miss quizzes often have to retake them in face-to-face settings, which may not always be feasible. With the increasing demand for more flexible learning solutions, an efficient digital alternative is necessary to ensure that students can take quizzes at their convenience while providing teachers with an easier way to track and analyze performance.

This study proposes the development of *RawrIT: A Web-Based Quiz Platform*, designed to address the challenges of traditional quiz-taking and assessment. The platform will provide an interactive and engaging environment for students while allowing teachers to efficiently manage quizzes, monitor student performance, and streamline item analysis. The system aims to enhance accessibility, increase engagement, and modernize quiz administration through digital integration.

Significance of the Study

The development of a web-based quiz platform offers significant advantages to students, teachers, and educational institutions. For students, the system provides a more engaging approach to quizzes by incorporating various question types, ranking systems, and instant feedback. The interactive nature of the platform encourages students to actively participate in assessments, improving their comprehension and retention of learning materials.

For teachers, the platform simplifies quiz creation and performance tracking. It eliminates the need for manual item analysis and reduces the time required to assess students' learning levels. With built-in automated scoring and ranking systems, teachers can focus on providing targeted feedback rather than spending excessive time on administrative tasks. This efficiency allows for better management of class records and overall academic performance tracking.

Educational institutions will benefit from a structured and digital approach to quiz administration. By modernizing the assessment process, the platform aligns with the growing adoption of technology in education. It also ensures that institutions can offer flexible learning environments, catering to students who may need to take quizzes outside the traditional classroom setting. The study will serve as a foundation for future research on integrating digital assessment tools into educational practices, promoting innovation in student evaluation methods.

Scope and Limitations

This study focuses on the development of a web-based quiz platform that allows teachers to create, manage, and analyze quizzes while providing students with a flexible and engaging assessment environment. The system will include the following modules:

The **Account Management Module** will provide access levels for users, including admin, teachers, and students. Admins will manage the platform and oversee quiz records and student performance data. Teachers will have access to student scores, quiz creation tools, and ranking systems. Students will be able to register, take quizzes, and monitor their scores and rankings.

The **Dashboard Module** will serve as the main interface for users, offering different functionalities based on user roles. Teachers will be able to create quizzes, track student performance, and manage subject records. Students will use the dashboard to access quizzes, view rankings, and monitor their academic progress. This module ensures a streamlined user experience for efficient navigation and interaction.

The **Quiz Module** will allow teachers to create and customize quizzes by selecting various question formats, including multiple-choice, true or false, fill in the blanks, and enumeration. Teachers will have the flexibility to enable timers for quizzes to enhance the

challenge. Students will be able to take quizzes anytime, provided they have an internet connection, and receive instant feedback on their performance.

The **Report Module** will provide teachers with access to student performance records, making it easier to track progress and analyze quiz results. It will also include an automated item analysis feature that eliminates the need for manual computation of quiz results. Students will have access to their scores and rankings, with instant feedback on incorrect answers to aid their learning.

However, the platform has some limitations. It requires an internet connection for access, meaning it will not support offline functionality. While the system includes automated scoring and ranking features, it does not yet support AI-based adaptive learning or personalized quiz recommendations. Additionally, the platform is limited to quiz-based assessments and does not incorporate full-course management or broader educational tools. Future research may explore integrations with learning management systems and AI-driven assessments to enhance its capabilities.

Objectives

The general objective of this study is to develop a web-based quiz platform that enhances student engagement, improves quiz administration, and simplifies performance tracking for teachers.

Specifically, this study aims to:

- Identify challenges in traditional quiz administration through surveys and interviews.
- Analyze the collected data using a fishbone diagram to determine key issues.
- Design and develop a system that:
    - Enhances student engagement through interactive and customizable quizzes.
    - Provides teachers with an efficient tool for managing quizzes, student records, scores, and performance.
    - Offers students an alternative way to take missed quizzes conveniently.
- Test the system through unit testing, integration testing, and system testing.

- Evaluate the project based on ISO 25010 software quality standards to ensure functionality, usability, and efficiency.

Expected Output

The expected output of this study is a fully functional *Web-Based Quiz Platform (RawrIT)* that provides a user-friendly interface for teachers and students. The system will feature a quiz creation tool with multiple question formats, automated scoring and ranking mechanisms, and a reporting module for tracking student progress. Teachers will have access to an intuitive dashboard where they can manage quizzes, analyze student performance, and reduce the time spent on manual assessments.

Students will benefit from an engaging quiz experience, with features such as instant feedback, ranking systems, and access to performance analytics. The platform will provide flexibility in taking quizzes, allowing students to complete assessments remotely and at their convenience. The system will also streamline the item analysis process for teachers, eliminating the need for manual computation of quiz results.

A comprehensive user guide will be provided to ensure smooth adoption of the platform, and usability testing will be conducted to refine the system's functionality. The final product will serve as an innovative digital solution for modernizing quiz administration in educational institutions.

References

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