

Online Quiz Application

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Abstract—This project involves the development of an innovative online quiz application designed to provide an engaging and interactive learning experience. The application offers a diverse range of quizzes across various subjects and difficulty levels, catering to users of all ages and educational backgrounds. Key features include a userfriendly interface, real-time feedback, customizable quizzes, and detailed performance analytics. The platform supports both individual and group participation, fostering a collaborative learning environment. By leveraging modern web technologies and educational principles, this quiz application aims to enhance knowledge retention, motivate learners, and promote a culture of continuous learning

I. INTRODUCTION

This project deals with use of web technology in the field of e-learning. Nowadays e-learning platform are encouraged as lot of manual work is not done and also it helps in saving time. People anywhere in the world with an internet connection can easily use these platforms. Not only in this field but anyone connected to an internet connection can use internet from any place in the world to shop online, pay bills, read books or newspaper, book movie tickets, reservation of buses or railway and many more. Although the project is not exactly about teaching or studying but it is about testing students' knowledge on particular topic with the help of some objective type questions with some options. Though some set of questions cannot completely judge anyone's knowledge but this project aims to help students to evaluate themselves so that when after studying any particular topic they corelate their concepts and some

concepts that were not clear to them or those one which they have skipped can be presented to them in the form of questions by their teacher. Thus, teacher can also know about which concepts he or she should focus on as students are more often to give wrong answers on it. To build the web application JSP technology is used with HTML and CSS with it. JSP stands for Java Server Pages which is a server-side technology for programming. JSP enables the creation of dynamic (to be built on run time) and platform independent method for building various Web-based applications. With the help of JSP we can access a wide variety of Java APIs which also include JDBC API to access databases. JSP have extension .jsp. Like Servlet, JSP files also need to be executed on a web server. In simple terms we can say that HT. This project involves the development of an innovative online quiz application designed to provide an engaging and interactive learning experience. The application offers a diverse range of quizzes across various subjects and difficulty levels, catering to users of all ages and educational backgrounds. Key features include a userfriendly interface, real-time feedback, customizable quizzes, and detailed performance analytics. The platform supports both individual and group participation, fostering a collaborative learning environment. By leveraging modern web technologies and educational principles, this quiz application aims to enhance knowledge retention, motivate learners, and promote a culture of continuous learning ML + Java is JSP

which implies that a JSP file have both HTML and Java code

II. LITERATURE REVIEW

According to the various surveys, it was found that the Quiz Apps have proven to be very helpful in day-today life. The Quiz Apps is the best tool for *B. Final Stage*

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conducting the exam. There are ten most innovative QuizApps present today. Those QuizApps work for a different purpose. Our QuizApp is the one that is based on a university level.

III. OBJECTIVE

The main objective of this Online Quiz Application is to provide an online platform for both teachers and students so that teacher can take various tests or assignments in the form of quiz and students after going through a concept can assess him/herself by the quiz questions being uploaded by teacher thus also reducing the manual paper work.

The project presents the following features:

- Making of a quiz.
- Taking of quiz
- Registration of teachers and students.
- Any type of queries from users.

IV. FEATURES

- User interface and experience
- Question formats (multiple-choice, true/false, fill-in-the-blank, etc.)
- Scoring and feedback mechanisms
- Gamification elements (leader boards, badges, rewards)
- Integration with social media and other platforms

V. EDUCATIONAL IMPACT

- Benefits of using quiz applications in education
- Case studies of successful implementations in schools and universities

- Research findings on the effectiveness of quiz applications in learning retention and engagement

Quiz applications have proven beneficial in educational settings:

- Engagement and Motivation: Interactive quizzes make learning fun and engaging.
- Learning Retention:
- Frequent quizzes enhance knowledge retention and recall.
- Assessment and Feedback: Immediate feedback helps students understand their mistakes and learn from them.
- Case Studies: Schools and universities using platforms like Kahoot! and Quizlet report increased student participation and improved performance

VI. FUNCTIONAL REQUIREMENT

- Oracle or MySQL any one of these database
- Eclipse IDE
- Apache Tomcat

VII. NON-FUNCTIONAL REQUIREMENT

- Compatibility in different web browsers.
- Usability which defines that the ease in using the product by the client.
- To use the application user must be registered

VIII. IMPLEMENTATION DETAIL

The application starts with the display of the login page. As discussed in earlier chapters that user have to select its category whether he or she is a student or a teacher. Then user will be asked for his or her username and password and after completing the login process he ore she will be directed to the homepage according to user's category. For a new user the user have to go through the registration process by clicking register and by filling the details asked in the registration page under register.jsp file user can him or herself. Student can see the following page while searching for quizzes related to any subject by searching the name of the subject For teacher to make any quiz above type of form will be displayed on the screen Fristly teacher have to put the

question followed by the 4 options and then the correct answer of the question followed by a subjective description if any about the answer so that if the students wants further description of the correct answer he I.

IX. PERFORMANCE ANALYSIS

While analyzing the performance of any web page speed is a very important criterion. Because if your user find that your web page is taking longer time to load then he or she might not visit your page or will look for an alternative. A recent study by google suggest that 53% of the visit to the web pages are not preferred if the web page takes more than three seconds to get loaded.

Also, various studies have shown that human patience level is decreasing in this world of technology. So, keeping in mind these facts on should keep in mind the speed analysis while analyzing performance of a web page. Analyzing the speed by which the home page of the web application gets loaded we found that most of the images, CSS and JSP files took less than 900ms which is even less than 1second. One important point to be noted here that before loading the home page cache memory was cleared so that it could be more specifically analyzed that without the use of cache how much time is being taken by each file to get loaded.

X OUPUT IMAGES

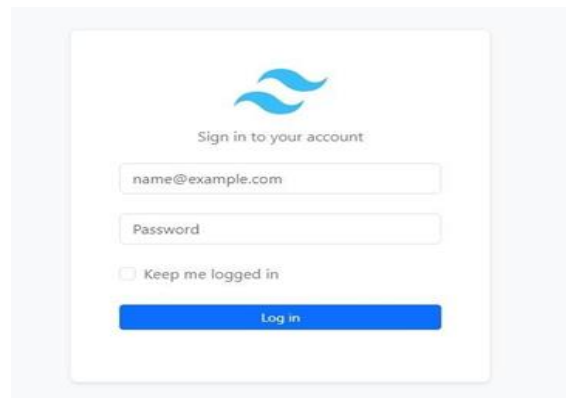


Fig1.Sign/in page for qui

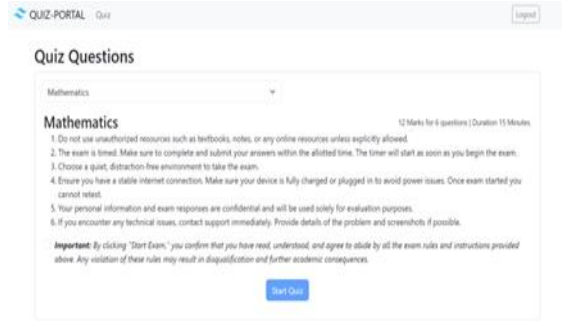


Fig 2.Dashboard for attempting quiz

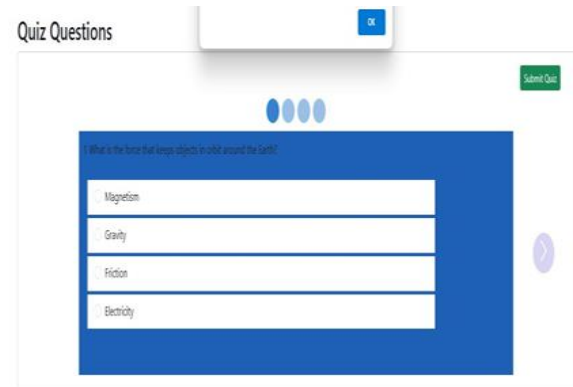


Fig3.:Attempt Quiz Question

XI. CONCLUSION

After completion of this project we concluded that this web application works as per the need and requirement of the client and is user friendly. Also this mini project helped me to understand the design, code and implementation processes which are performed while making any project. Many concepts were revised and many of them were very new which were learnt in making of this web

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