



Quiz Mind Hub: Your Gateway to Knowledge Challenge

P. Prathap kumar¹, S. Nirmala Sugithra Ranjini²

1. PG Student 2. Professor

prathapkumar4942@gmail.com nirmalasugitharajini.mca@drmgrdu.ac.in

Department of Computer Application

Dr. MGR Educational and Research Institute, Chennai-600095.

ABSTRACT

Web application developed or implemented using the Java domain or platform. This project is useful for students of various mock exams. In the current generation, there are various exams like GRE, CAT, MAT, etc. This project also helps students practice for online exams. The online exam portal is implemented in two modules, the student login module and the administrator module. The administration module adds subjects, in the student login module, students must register in the application, select an interesting subject, and take an online test. MCQ-Based Java Java-Based Online Testing System is a test management software that provides a complete solution for Computer Based Testing (CBT). They are used in multiple-choice tests. Due to Covid-19, many universities in our country rely mainly on online exams. Dealing with multiple students can cause a lot of problems, especially if the quiz is administered manually. Sometimes students may miss a manual quiz due to unavoidable circumstances. This scenario is unfair to the student who missed the quiz. So the right solution to this problem is to create a system where all students can take the quiz from anywhere. 2 Online quiz system (OQS) is an online quiz system; system that allows teachers to assess students effectively, efficiently, and comprehensively. The purpose of the online survey system is to save the lecturer's time because the answers are automatically marked. The online quiz system is developed in Java.

KEYWORDS: Online Assessment, Quiz Platform, Educational Technology, Scalability, Real-Time Analytics, Security Protocol, Accessibility, Integrations, User-Friendly Design, Educational Innovation, Adaptive Learning.

I. INTRODUCTION

Online testing refers to an assessment system that uses a web-based computer system to assess student performance. People can take the test at home or online. Online exams allow students to take exams online at a time that suits them and on their own devices, regardless of where they live. Students only need a browser and an internet connection. As the number of students increases day by day, there is a need for a more timely and accurate testing system. The online testing system is free for everyone and very easy to use.[1].

Computer systems are common in education today. Information technology plays a very important role in education. Computers have made dramatic changes in the education system. With the help of information technology, educational institutions can save space and time and enable easy provision of educational services anywhere and anytime. We use multimedia technologies to communicate ideas and create projects. Information technology allows students to do distance learning instead of classroom learning, which allows an unprecedented expansion of home learning.[2].

Quiz Portal is an application that helps you complete your exams efficiently and not waste your time revising the paper. The main objective of this project is to effectively evaluate the candidate's performance through a comprehensive fully automated system that not only saves valuable time but also provides results faster than a manual system.[3].

The Interactive Learning (iLEARN) portal was created with MOODLE so that students and teachers can exchange information not only in the classroom but also online - anytime and anywhere. The main goal is to help teachers create online courses that make teachers and students collaborate and interact online. This e-learning platform allows teachers to conduct classes, administer exams, and manage student notes and grades online. [4].

Data and communication innovation (ICT) has experienced critical progressions in later a long time. In this manner, the plan of the Understudy and Graduated class Web Entry (SAWP) incorporates an examination of the inside and outside components that influence the three colleges. The SWOT procedure was utilized to distinguish the effect of natural variables on the key arrangement. This made a difference in finding the qualities, shortcomings, openings, and dangers of the proposed framework plan. [5].

II. LITERATURE SURVEY

Suganya, D. et al., 2020 say that various MCQ quiz apps on the internet with different criteria. Every existing application has its advantages and disadvantages. Questions must have answer types such as multiple choice and single choice mixed questions and answers. The test screen should provide the appropriate options and easily calculate the score. Most schools, colleges, and other sectors use various applications during this closing period to test the knowledge level of candidates in multiple choice question methods. [6].

Nashtarin Nur, et al., 2018 Say that nearly 15 years ago the HSC and SSC were published in newspapers. But nowadays these public exam results are published on the internet. So, to pace up with the world and also the requirements of students the education system is getting more reliable on the internet. The ONLINE QUIZ HUB is a platform for students to make their life more easy acquiring academic education [7].

Zukhrofy Abbar, et al., 2023 Say that an app is a flexible tool for evaluating participant learning and comprehension of classes. It enables subject-specific evaluation, making estimating participant knowledge levels easier. This app makes it easier to respond to queries and adds a feature that allows users to rate their replies [8].

Euis Nursifa Laila Nugraha, et al., 2021 Say that diagnostic assessment is an assessment that determines students' current level of understanding so that learning activities meet student needs. This type of assessment is done at the beginning of the teaching and learning process. On the other hand, formative assessment is used in the learning process. It is mainly about several continuous practices for specific study materials. These practices are primarily outcome-based, allowing students to increase their understanding. At the same time, the final assessment at the end of the semester is related to the sum assessment. The purpose of this type of assessment is to assess the student's level of understanding and skill. It is used when deciding on a student's study eligibility. [9].

Ninik Sri Lestari, et al., 2019 Say Online learning is happening today and is very necessary to support student success, so a system that reaches students worldwide is needed to make distance learning more effective. Through the Internet, teachers and students can communicate easily, regularly, or whenever communication takes place without the limitations of distance, place, and time because this system provides quite important support and allows access to materials that students can use at any time. whenever and wherever needed, without having to be in a specific facility. [10].

III. EXISTING SYSTEM

Online Quiz Portal is a dynamic platform designed for seamless interactive quizzes. Users can easily create, participate in, and manage quizzes. The system includes user-friendly interfaces for creating, editing, and analyzing the results of quizzes. It uses a secure authentication system to ensure the integrity of user accounts and quiz data. Robust question banks support different question types such as multiple choice, true/false, and open-ended, increasing the variety of quizzes. Real-time evaluations and feedback mechanisms engage participants and promote an interactive learning environment. The system comes with customizable themes that contribute to brand alignment and a visually appealing user experience. In addition, adaptive algorithms can adjust the level of difficulty based on the performance of the participants, optimizing the learning experience. The portal is built with scalability in mind and will adapt to a growing user base and guarantee a reliable and efficient online survey experience.

DRAWBACKS OF THE EXISTING SYSTEM:

- Manual analysis of tests is very difficult.
- More examiners are needed to test more candidates, but there are no referees for online tests.
- Calculations and evaluations are done manually, so the results are not accurate.

IV. PROPOSED SYSTEM:

The proposed online quiz portal introduces state-of-the-art features that improve user experience, efficiency, and overall service. The main innovation is the introduction of periodic quizzes, which promote urgency and encourage faster decision-making by participants. Interactive elements such as real-time feedback and immersive multimedia aim to create a dynamic learning environment. To save time, the system has automatic classification, which reduces manual work and accelerates the dissemination of results. The portal's streamlined design and intuitive user interface make creating, managing, and participating in quizzes more efficient. This emphasis on technological advancement ensures a smooth and time-saving experience for both quiz organizers and participants, ultimately providing better service through improved usability, responsiveness, and overall user satisfaction.

V. ARCHITECTURE DIAGRAM

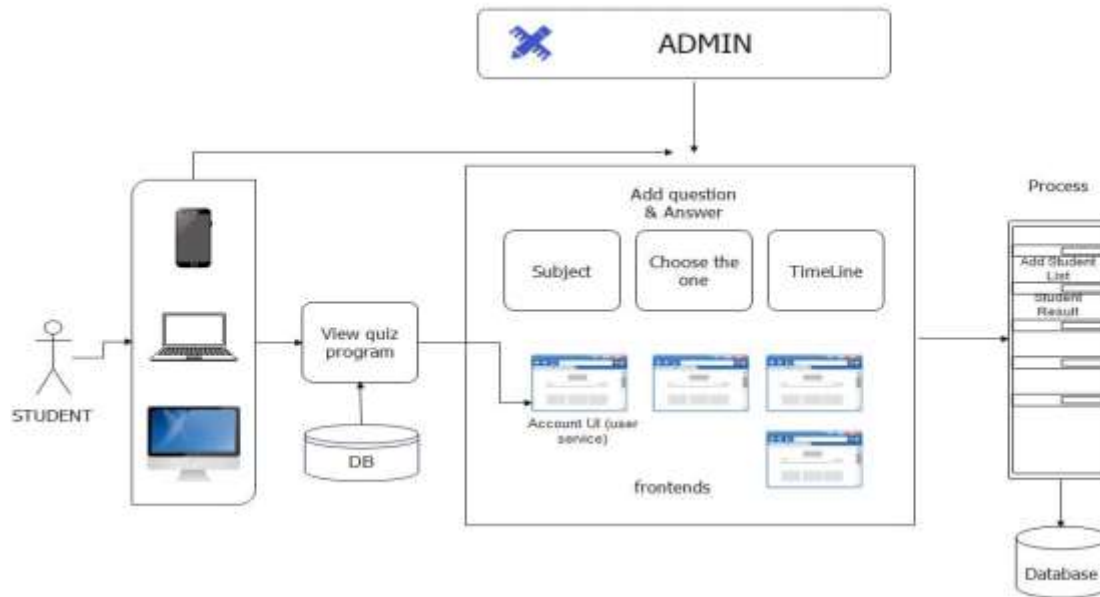


Figure 1. Architecture diagram for online quiz hub

The diagram helps visualize the flow of data and interactions within the web portal system, showcasing the various layers and components that work together to deliver a seamless user experience. Keep in mind that the specific architecture may vary based on the portal's requirements and the technologies used.

MODULES:

In this paper, we have proposed two modules

1. User Process:

1.1 User Registration:

Users access the online quiz portal and register for an account by providing the necessary information. User authentication mechanisms ensure secure access to the portal.

1.2 Login:

Registered users log in to the portal using their credentials. Authentication processes verify user identity and grant access to personalized features.

1.3 Dashboard Overview:

Upon login, users are presented with a dashboard displaying available quizzes, progress, and other relevant information. Clear navigation options facilitate easy access to different sections of the portal.

1.4 Quiz Selection:

Users browse available quizzes, view details, and select the quizzes they want to participate in. Information such as quiz duration, difficulty level, and topic may be provided for user consideration.

1.5 Quiz Participation:

Users participate in quizzes by answering questions within the allotted time. Real-time feedback on correct and incorrect answers learning experience.

2. Admin Process:

2.1 Quiz Creation and Management:

Admins can create quizzes, set parameters such as duration and difficulty, and manage the quiz database. They can add, edit, or remove quiz questions and ensure the accuracy and relevance of quiz content.

2.2 User Management:

Admins oversee user registration, account approval, and account deactivation if necessary. They may have the ability to reset passwords or assist users with account-related issues. Comprehensive reports provide insights into user performance, popular quizzes, and areas for improvement.

2.3 Leaderboard Management:

Admins can manage leaderboards, highlighting top performers and adjusting scoring algorithms if needed. They may also create special leaderboards for specific events or themed quizzes.

2.4 Quiz Moderation:

Admins can monitor ongoing quizzes, address technical issues, or moderate user interactions during live quizzes. Immediate response to any technical glitches ensures a smooth user experience.

2.5 User Support:

Admins provide support to users, addressing queries, technical issues, or concerns related to the quiz portal. Clear communication channels, such as a helpdesk or FAQs, may be established.

VI. RESULT & DISCUSSION:

1. Homepage of quiz hub



Figure 2. Homepage of quiz hub

In Figure 2, the online test hub's homepage may be a portal to a differing test involvement. It gives a user-friendly interface for simple test creation, support, and investigation. Clients can rapidly get to trending tests, track their advances, and lock in with energetic substances. The center guarantees a consistent and intuitive test travel right from the beginning. we can see the results of the exam.

2. Admin Login Page



Figure 3. Admin Login Page

In Figure 3, the net portal's admin login page serves as a secure door for authorized clients to get to and oversee the system's authoritative capacities. It ordinarily requires a special username and watchword combination, guaranteeing privacy and control over pivotal settings, client information, and framework setups.

3. Admin Add Question

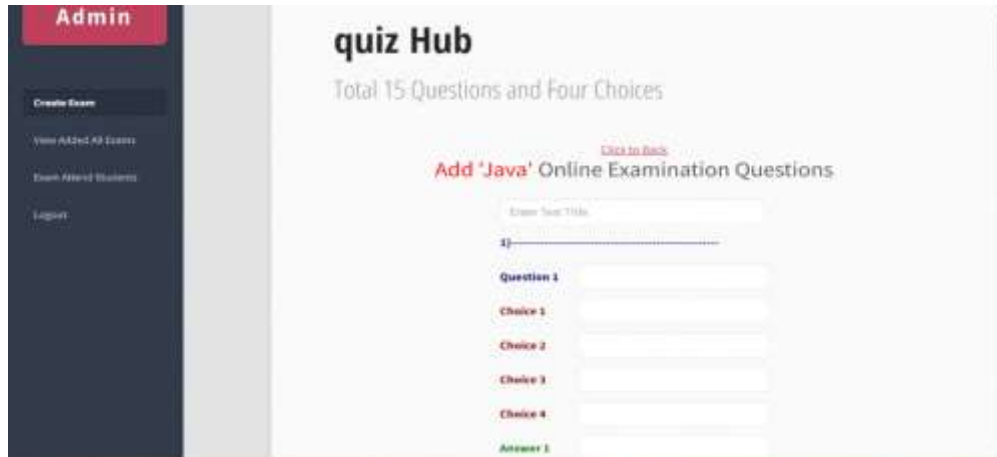


Figure 4. Display Add Question Admin Page

Figure 4, the admin page of our Online Test Center encourages easy expansion of questions. With a streamlined interface, directors can proficiently input differing address sorts, oversee substance, and keep up test keenness. This user-friendly show guarantees speedy and successful control over the test database, upgrading the platform's general functionality.

4. New Users Register Page



Figure 5. New Users Register Page

In Figure 5, the online quiz portal's student registration page enables users to create accounts by providing essential information. Students enter details like name, email, and password, facilitating personalized access to quizzes, progress tracking, and interactive learning features within the platform.

5. User Login Page



Figure 6. User Login Page

In Figure 6, a web portal's user login page is a secure gateway for individuals to access personalized information and services. Users input credentials, typically a username and password, to authenticate their identity. Once verified, they gain entry to the portal's features, enabling them to interact with tailored content, applications, and resources.

6. Display Select Language

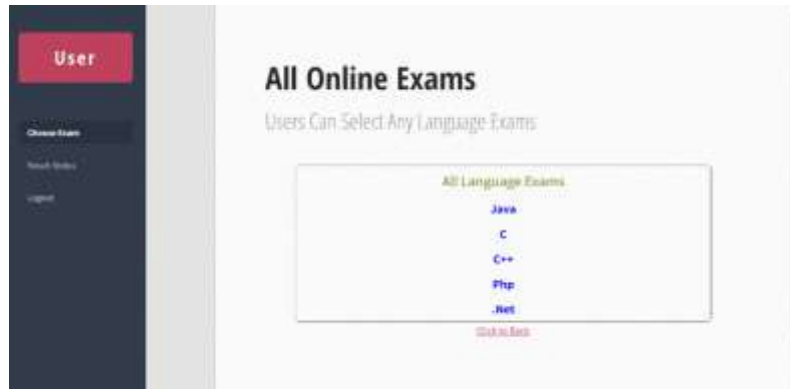


Figure 7. Display Select Language

Figure 7, the "Show Language Selection" feature of the online quiz allows users to set their language preferences. This easy-to-use option ensures a personalized experience that meets different language requirements. Participants can take tests in their preferred language, improving accessibility and promoting a better testing experience.

7. Quiz Problem Display



Figure 8. Quiz Problem Display

In Figure 8, the online quiz hub optimizes the quiz problem display for user clarity and engagement. With a user-friendly interface, it asks in a visually attractive way, ensuring easy understanding. This feature enhances the entire quiz experience, allowing participants to focus on the content and navigate the quiz challenges smoothly.

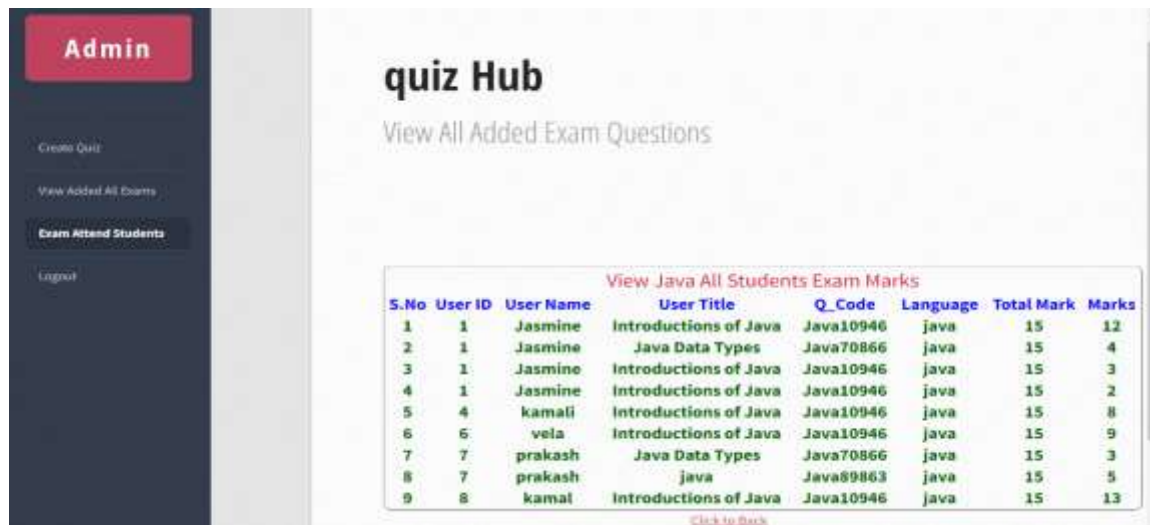
8. Display Automatic Answer Sheet Evaluation



Figure 9. Automatic Answer Sheet Evaluation Display

In Figure 9, the online quiz hub introduces an automated answer sheet that simplifies the grading process. This powerful feature ensures fast and accurate results by automating the scoring of participant responses, saving time for both organizers and participants, and maintaining the accuracy of reporting results.

9. All Students Exam Marks Dashboard Menu (Lecturer)



S.No	User ID	User Name	User Title	Q_Code	Language	Total Mark	Marks
1	1	Jasmine	Introductions of Java	Java10946	java	15	12
2	1	Jasmine	Java Data Types	Java70866	java	15	4
3	1	Jasmine	Introductions of Java	Java10946	java	15	3
4	1	Jasmine	Introductions of Java	Java10946	java	15	2
5	4	kamali	Introductions of Java	Java10946	java	15	8
6	6	vela	Introductions of Java	Java10946	java	15	9
7	7	prakash	Java Data Types	Java70866	java	15	3
8	7	prakash	java	Java89863	java	15	5
9	8	kamal	Introductions of Java	Java10946	java	15	13

Figure 10. View All Student's Exam Marks

In Figure 10. The above screen provides information for educators, a comprehensive view of student test scores based on the total number of students. The same number of questions can be asked in the course. It offers a user-friendly interface to access and review individual and aggregate marks, facilitating efficient assessment and analysis for instructors in managing academic progress and providing timely feedback.

VII. CONCLUSION

As mentioned, the project is Java-based, coded in the NetBeans IDE using HTML, CSS, and JavaScript, and runs as a web page on an Apache Tomcat web server. This project is only for the MCQ test, but in the future, we plan to expand it to support subjective questions and more features. We added an administrative part that allows the system to graphically delete tests, add users, delete users, and so on to view the site. Finally, this is a simple online MCQ quiz that allows the teacher to enter the MCQ questions into the system, which is stored in a SQL Server database, and allows the student to test once. The scores of students are calculated based on the questions they attempt and the system displays them on the test. As mentioned, the project is on the Java platform, coded in NetBeans IDE using HTML, CSS, and JavaScript, and works as a website. Apache Tomcat web server page. This project is only for the MCQ test, but in the future, we plan to expand it to support subjective questions and more features. We added an administrative part that allows the system to graphically delete tests, add users, delete users, and so on to view the site. Finally, this is a simple online MCQ quiz that allows the teacher to enter the MCQ questions into the system, which is stored in a SQL Server database, and allows the student to test once. Students' grades are calculated based on the questions they ask and the system displays them to teachers and students.

REFERENCE:

- [1] Sumaiya Kabir & Md. Parvez Hossain & Kaushik Mallik Mansura Rahman & Md. Jahidul Islam & Ayesha Khatun "An Extensive Online Examination System with Automatic Assessment Technique" volume-54 Date of Issue: 01, DECEMBER (2019).
- [2] Vaishali Bhimte & Soojey Deshpande & Snehal Veer & Sharad Jagtap "Advanced Proctored System for Online Quiz" Vol.70No.1(2022).
- [3] Vikas BO, Anushka Sen "Quiz Portal: for Students and Faculty using Java" volume-6 (2020).
- [4] Richard R. Ayuyang "Interactive Learning (iLEARN) Tool: An eLearning Portal Designed Using MOODLE for Cagayan State University in the Philippines" pages 11-16 (2019).
- [5] Shaimaa Q. Sabri & Akeela M. Ahmad & Maiwan B. Abdulrazaq "Design and Implementation of Student and Alumni Web Portal" volume.5(2017).
- [6] D. Suganya & R. P. Harshini "Web Based Quiz Application to Validate Knowledge" vol-4 (2020).
- [7] Nashtarin Nur "WEB BASED QUIZ SYSTEM" 13th January, 2018.
- [8] Zukhrofry Abbar, Muhammad Affandes, Reski Mai Candra "Web-Based Quiz Application" Vol. 1, No. 1, Page 6, December 2023.

[9]Euis Nursifa Laila Nugraha& Salsabila & Tassya Salsabila Ramadhiani “IMPLEMENTING ONLINE QUIZ APPLICATION IN EFL CLASSROOM” pp-308-314 (2021).

[10]Ninik Sri Lestari& Herlina& Sukirno& Taufik Rahman& Agung Wirjawan& Rahmad Hidayat, “Development of E-Learning Application using Web-Based Tools to Improve Learning Effectiveness (Case Study: STT Mandala bandung)” Conf. Series 1179 (2019).