

Web Application for Online Examination System (e-Examination)

Prachi Singh¹, Prakriti Kushwaha², Shriya Singh³, Dr. Pushpendra Singh⁴

¹Student, Department of Information Technology, RKGIT, UP, India

²Student, Department of Information Technology, RKGIT, UP, India

³Student, Department of Information Technology, RKGIT, UP, India

⁴Associate Professor, Department of Information Technology, RKGIT, UP, India

Abstract

An online examination system is a web-based examination system that allows students to take exams online using a system or the internet. Various online examination systems in the current individual field, proposed a set of design modes for a general examination platform that can be used in colleges and universities, research and analysis of key technology, and proposed an improved scheme, resulting in a perfect system. ONLINE EXAMINATION SYSTEM is an online test simulator that allows you to take an online examination, test quickly, and avoid wasting time physically verifying the test paper. The objective of this web-based online assessment system is to completely evaluate students using a fully automated approach that not only saves time but also provides quick and accurate results. Students may submit papers from any location by using the internet, with no requirement for additional materials such as paper, pen, and so on

Keywords: Online Examination System, PHP, MySQL, Database, Module

1.INTRODUCTION

Because of its precision and speed, the online testing system is now regarded a rapidly evolving assessment method. It also requires less personnel to conduct the examination. Assessment tests, aptitude tests, psychometric tests, personality tests, entrance exams, and campus examinations are all conducted with it. Organizations may also simply track the development of pupils by administering an examination. As a result, the result takes less time to calculate. It also helps to reduce the use of paper. An online assessment project in PHP is extremely good to master today's needs. The online examination system is critical to the educational institution's test preparation, since it saves time and effort in checking exam papers and grading them.

- The Online Examination System is modern the way we take exams. Online testing is a significant improvement over pen and paper examinations since it is more secure and saves time.
- Online testing is also quick since it computes and sends the results to the administrator right away, cutting down on review time.
- As a result, the online examination service is growing and becoming more widely used.

2. OBJECTIVE AND LITERATURE REVIEW

The online examination system is one of the exam-taking methods that does not require any type of paper or pen. It is the most popular way to take examinations online. Because speed and precision are the backbone of this system, speed and accuracy are the basis for its fame.

Many scholars have previously conducted research on online examination systems, and we have established an online examination system to maintain track of these studies as a reference.

[1] Any software application's user interface design is critical. As a result, online assessment is a critical component of eLearning. As a result, online examination design elements play an important role in improving exam efficiency and convenience for examinees. Font (i.e., type, size, colour, and style), backdrop colour, sound alert, questions group, time counters, and number of questions per page are the nine key design characteristics used in the online test.

[2] This article serves a dual function. It begins by explaining what the Internet, primarily the World Wide Web, is and what it has to offer the corporate world. Second, it presents a typology that defines four different ways that the World Wide Web may be used for marketing. This typology is used to show the various ways in which firms may use the World Wide Web to gain a competitive advantage over the flood of other businesses that are adopting this new marketing medium.

[3] The legal strategy to addressing contract cheating has several obstacles, according to this study. To that purpose, it investigates a section of the contract cheating market to see if contractors operate in areas where contract cheating is prohibited. The findings show that contractors operate in plain sight, providing services to and from areas where they are illegal. This article suggests several alternate techniques for dealing with contract cheating based on the existing issues with enforcing legal standards.

[4] While teaching is evolving to meet the needs and demands of digital natives, testing is still done in the old-fashioned paper-and-pencil manner. While oral tests outperform written exams in terms of quality, paper-and-pencil exams offer no significant benefit over online exams and may even obstruct thorough testing of student knowledge, particularly if it was gained using in-class software tools. Written examinations can sometimes result in a lot of work, especially in classrooms with hundreds of pupils, which is common in the early stages of school. Furthermore, even when fewer students are participating, open-text questions provide a significant benefit in terms of response readability.

[5] Research and comparison of various web examination systems in the current individual field, proposed a set of design modes for a general examination platform that can be used in colleges and universities, researched and analysed key technology, and proposed an improved scheme, resulting in a perfect system.

[6] This report describes the results of an institutional online survey at a prominent Australian university that looked at how students used WebCT in their learning and teaching. The purpose of the survey was to find out how WebCT was used, what support services were employed, and what areas, if any, needed improvement. Based on anecdotal information, most student comments were expected to be about technical and infrastructural difficulties, however the poll yielded answers mostly about how WebCT was utilised in teaching and learning, showing that quality control is a key concern for the University.

[7] This study looks at how using the Internet and presentation technologies (such as an interactive electronic whiteboard) in a mandatory general education American literature survey course impacts student retention, attendance, engagement, interest, and success. Students in the technology-enhanced sections self-reported more enthusiasm and interest in the course than students in the traditional sections, and as a result, the retention rate in the experimental sections was much higher than in the control sections, despite no significant differences in student performance..

[8] The research on online teaching and learning is summarised in this overview. It is divided into four sections: the learning environment, student outcomes, student characteristics, and institutional and administrative elements.

[9] This project, Web-based Examination System (WES), arose from a desire to address the issues plaguing the traditional (paper-based) examination system by providing a campus-wide service for e-assessment that is free of irregularities and generally fair to examinees, as well as improving instant feedback. This system, which was created using a mix of CSS, HTML, PHP, SQL, MySQL, and Dreamweaver, is capable of lowering the workload of examiners when it comes to examination, grading, and reviewing.

[10] An Android application for conducting online examinations is the Online Exam Conducting App. The objective is to reduce the cost and time spent on physical exams while still offering quick and accurate results on the same platform.

3. Methodology

The frontend, backend, and database server are the three elements of this system design. We utilised the interpreted programming language javascript, client side Ajax methods to send and retrieve data from the server, css for web page style, and the relational database management system Mysql to create the system. The entire system is broken down into three modules: administrator, instructor, and student.

3.1 Administrator module: The administrator module performs system management and adds the user's registered information to the system data base. The teacher is added to the system by the administrator.

3.2 Teacher module: Test management, automatic examination paper organisation, examination paper management, paper analysis, and result generation are all included in the instructor module.

3.3 Student module: The student module featured a login option to attend the exam, and the result was generated instantly after the exam was completed and submitted.

3.4 Functionality of the System:

- **Log in:** Any student who wishes to take the examination must first register. During registration, students must fill out a form and receive login credentials, such as a username and password.
- **Log out:** After completing the examinations, the student can log out and return to the login page.
- **Construct Questions:** This option allows the teacher to create his or her own questions. The teacher enters the question, selects alternatives, enters the right answer, and then hits submit.
- **Examine the Results:** After the student submits the test, they can view the score sheet that contains the results. Both the student and the teacher may see the results.
- Student and instructor may see the student's ranking depending on their exam score on the ranking board.



Fig -1: DFD diagram

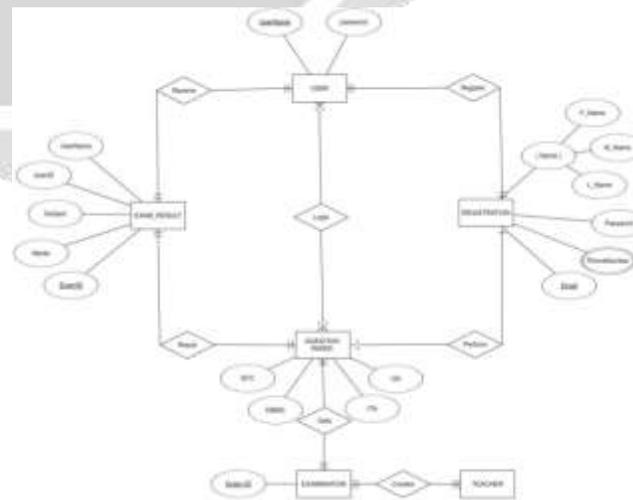


Fig-2: ER diagram

3.5 Database Design: It is critical to ensure that the database is adequately result, contribute to a well-designed system. The first phase in the design process was to identify which tables should be built and what sort of information each one should carry, based on the project's requirements and specifications.

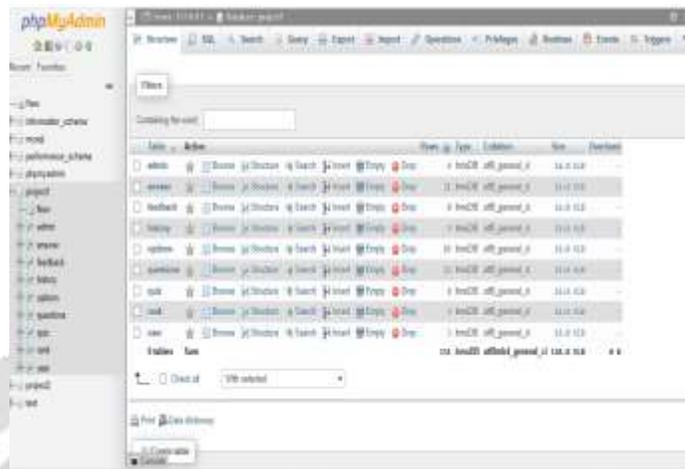


Fig -3 : Database table

4. RESULTS AND DISCUSSION

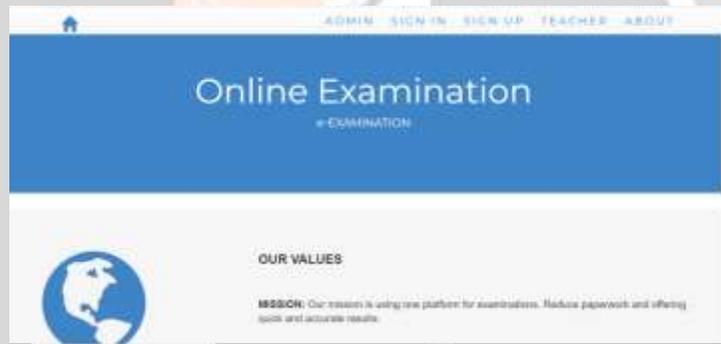


Fig -4: Home Page



Fig-5 : Admin login



Fig-6: Sign up page

Q.No	Topic	Total questions	Marks	positive	negative	Time limit
1	Java	2	2	0	0	4 min
2	PHP Coding	2	4	0	0	5 min
3	C++ Coding	2	4	0	0	6 min
4	JavaScript	2	4	0	0	6 min

Fig-7 : Teacher Dashboard

Fig-8 : Quiz Interface

5. CONCLUSION

This system aims to analyse the present popular examination system, create a set of common examinations for the college platform, and offer a conducive atmosphere for the administration of all sorts of tests, as well as a high reference value for other colleges and universities. The online examination system improves the capabilities of an examination to be more efficient and remove manual paperwork by automating all essential operations. The online examination system is a user-friendly technology that is simple to operate. The system is complete in the sense that it is functioning and has been thoroughly tested by entering data and ensuring that the reports are in the correct sequence. There is, however, always room for improvement and growth. For simple maintainability and flexibility, coding standards were followed during the creation of this. Students' lives can be made simpler by using an online examination system instead of paper and pen for exams. Its environmentally responsible and forward-thinking approach to daily procedures is critical in a world where students may graduate into a climate change-related environmental disaster. These ideals will be instilled in students throughout their schooling.

Examining online may be both effective and efficient. Because they simply click on the best answer that is supplied, the students do not waste as much time answering the questions. The best benefit of this exam administration system is that data security is not compromised. It is impossible to have a question paper leak during an online exam. Everyone may have complete faith in the testing procedure and its security characteristic. Sets of question papers are kept in a security system that will only unlock at the time of the test in this online system. From professors creating the test to administrators ensuring that all students receive enough copies of the exam paper, the sheer amount of resources that may be utilised to set up a single exam is mind-boggling. Many of these procedures and associated labour expenses are eliminated by using an online examination system, which has a major and beneficial influence on the bottom line of the method's implementing educational institution. Another advantage of online exams is that we may find out our results immediately after taking them. Students can take online exams from anywhere at any time. Report analysis can be reviewed and improved at any time. The main benefit of online exams is that they are scalable across a greater geographic area.

It has the ability to reach out to a bigger audience. On any given day, teachers may be extremely busy and may not have time to examine tests. This issue can be resolved by online testing. All of the tests do not need to be checked by the teacher. An online examination is possible. During the open test phase, it may be accessed at any time. It may be timed such that you have M minutes to answer N questions. When a test is submitted, it provides quick test feedback. Students can take advantage of special media; video, audio, or pictures. Student can check their progress on a single click. This enables you to track the report and progress of students just on a click. Improvement in students is checked through a progress report made by the software.

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