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Online Examination System

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Abstract: *Online Examination System is an online test simulator is to take online examination, test in an efficient manner and no time wasting for manually checking of the test paper. The main objective of this web based online examination system is to efficiently evaluate the student thoroughly through a fully automated system that not only saves lot of time but also gives fast and accurate results. For students they give papers according to their convenience from any location by using internet and time and there is no need of using extra thing like paper, pen etc. Online examination system helps students to offer a quick and easy way to appear for the test. It also provides the results immediately after the examination with 100% accuracy and security. Student can enter to perform exam only with their valid username and password. This examination contains multiple choice questions and appropriate number of options. There are no limitations on number of options and it can be randomized so same set of question will not appear to all student so it prevent manipulation. More than one option can be correct but the user can select only one option. This provides time limit. The user can see their results after completing the exam. This helps the students to write the exam from far distance and which can provide security and simplicity and other beneficial features to the user.*

Keywords: *Front-end: HTML, CSS, JavaScript for UI so that users can interact.*

Back-end: *Sql, NodeJS for maintaining Database.*

Security, Client Server Architecture; Browser Server Architecture Random Number Generator; Randomization.

I. INTRODUCTION

A. Purpose

The purpose of on-line exam simulator is to take online exam in an efficient manner and no time wasting for checking the paper. The main objective of on-line test simulator is to efficiently evaluate the candidate thoroughly through a fully automated system that not only saves lot of time but also gives fast results. For students they give papers according to their convenience and time and there is no need of using extra thing like paper, pen etc.

B. Scope

Scope of this project is very broad in terms of other manually taking exams. Few of them are:-

- 1) This can be used in educational institutions as well as in corporate world.
- 2) Can be used anywhere any time as it is a web based application (user Location doesn't matter).
- 3) No restriction that examiner has to be present when the candidate takes the test.

II. LITERATURE REVIEW

Hongmei Nie Math, Physics and Information Engineering College Online examination is the crucial parts among online education. It is efficient and fast enough and reduces the large amount of material resources. Examination system is developed based on web. This paper describes the principle of the designed system, that presents the main functions of the system, analyzes the algorithm of auto-generating test paper, and discusses the security of the system.

Nor Shahida bt Mohd Jamail Abu Bakar Md Sultan Faculty of Computer Science and Technology, Selangor, Malaysia Examination process is important activities for institutions to evaluate student's performance. Thus the quality of the exam questions would determine the quality of the students produced by the institutions, also preparing exam questions is challenges, tedious and time consuming for the instructors.

Current technologies help instructors to store the questions banks in computer databases. The issue arise is how the current technologies would also help the instructors to auto generate the different sets of questions from time to time without concern about repetition and duplication from the pass exam while the exam bank growing. This paper describes the use of shuffling algorithm in an Automatic Generator Question paper System (GQS) as a randomization technique for organizing sets of exam paper. The results displays the shuffling algorithm could be used to overcome randomization issue for GQS.

III.PROBLEM FORMULATION

Online examination will diminish the rushed occupation of evaluating the answers given by the applicants physically. Being a coordinated Online examination framework it will decrease paper work.

To permit programmed reviewing and manual evaluating which can be recorded per test.

- 1) *Require Tools:* Visual Studio Code
- 2) *Feasibility:* The application is feasible regarding technical and economical. During the development of Online Examination System, we have tried to address all these.
- 3) *Complete Work Plan Layout:* 1 week :- Frontend structure and domain name 2 week :- Hosting plan 3 week :- Website platform, Website Theme and contents 4 week :- Work on frontend 5 week :- Work on Database 6 week :- Testing and Debugging

A. Functional Requirements

This section gives a functional requirement that applicable to the On-Line Exam system.

There are three sub modules in this phase.

- 1) Candidate module.
- 2) Examiner module.
- 3) Administrator module

B. Non-Functional requirements

1) Performance Requirements

Some Performance requirements identified is listed below:

- a) The database shall be able to accommodate a minimum of 10,000 records of students.
- b) The software shall support use of multiple users at a time.
- c) There are no other specific performance requirements that will affect development.
- 2) *Safety Requirements:* The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup.
- 3) *Security Requirements:* Some of the factors that are identified to protect the software from accidental or malicious access, use, modification, destruction, or disclosure are described below. Keep specific log or history data sets
 - a) Assign certain functions to different modules
 - b) Restrict communications between some areas of the program
 - c) Check data integrity for critical variables
 - d) Later version of the software will incorporate encryption techniques in the user/license authentication process. Communication needs to be restricted when the application is validating the user or license. (i.e., using https).

C. System Requirements

1) Software Requirements

- a) *Client Side:* .HTML, Web Browser, Windows XP/2000/Vista Web Server: .HTML, Windows XP/2000/Vista ii.

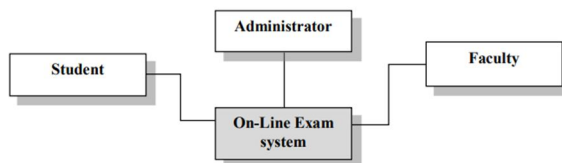
2) Hardware Requirements

a) Server Side

- *Operating System:* Windows 9x/xp, Windows ME
- *Processor:* Pentium 3.0 GHz or higher
- *RAM:* 256 Mb or more
- *Hard Drive:* 10 GB or more Client side:
- *Operating System:* Windows 9x or above, MAC or UNIX.
- *Processor:* Pentium III or 2.0 GHz or higher. RAM: 256Mb or more

IV. SYSTEM ARCHITECTURE

This diagram represents what are the boundaries and scope of On-Line Exam System project. It describes the main objective of the system and its entities involved.



Administrator can do the following: of his student)

- Create/delete accounts (add a list of faculty names and list
- Change password for Faculty/Student**
- Create/ delete/update courses (subject).**

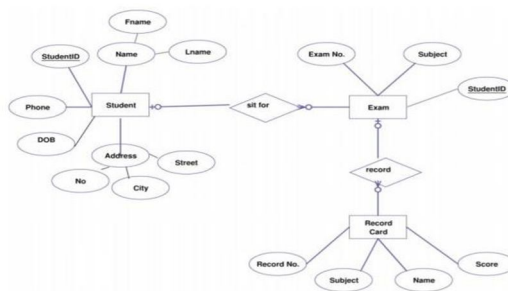
The Faculty can do the following:

- Change password.**
- Insert questions.**
- Specify the answers.**
- Update mark of questions and answers.**

The Student can do the following:

- Change password.**
- Choose exam.**
- Review answers.**

Figures



V. CONCLUSION

Online Examination System (OLES) is a web application. The key concept is to minimize the amount of paper and convert all forms of documentation to digital form. It can observe that the information required can be obtained with ease and accuracy in the computerized system. The user with minimum knowledge about computer can be able to operate the system easily. The system also produces brief results required by the management.

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