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A Comparative Analysis on the Issues of Online Examination, Performances for Online University Examination

Garima Gupta

Research Scholar, Jodhpur National University, Rajasthan

Abstract – In this paper, we propose a system that provides security to improve online examination by using technologies such as biometric authentication, internet-firewall, cryptography, network convention and object oriented paradigms. Furthermore, we propose a framework for directing online exams through insecure internet backbone. However, the proposed system will provide a secure correspondence based cryptography and gathering interchanges. In our research paper, we examine the performance of student's online course exam with respect to security and fundamental challenges faced by online course exams inside the university. We conclude that by enhancing the security system utilizing biometrics face recognition that could be incorporated into the proposed system to satisfy the challenge of online exam.

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INTRODUCTION

Online exam has expanded rapidly. Even in this way, the offline exam is generally chosen as evaluation method for both on-line and offline exams. Online course examinations are useful to evaluate the student's knowledge utilizing modern computer technology without any effects on the customary university course exam that uses Pens, Papers and invigilators.

Online exam can improve the models of student's examination whereas the customary examination system utilizing the pen and paper requires more effort from students and invigilators. Online examinations are considered a vital source for university exam, and the development of network technology polices has given the likelihood to direct the exams online. In this manner, the university students can benefit from these services.

University course exams , utilizing the multiple choice questions and permitting the students to choose just one answer from alternative answers or the true/false questions, are generally utilizing the paper and pens what's more they have dependably been a heavy load for both students and lecturers. Computer new technology has been generally useful to the fields of education. In attitude and apparatuses, the new computer technology gives the lecturer the advantage of an effective assessment.

The conventional method for identifying the students is checking the student card, driving license, resident card or Passport. The online process and security of the online exam system helps with eliminating cheating. This paper proposes the usage of biometrics which underpins the security control, authentication and integrity of online exam process. E-monitoring of students uses finger prints and cameras for preventing cheating and substitution of the first student. This paper targets the online exam for Basic computer in university courses with students at specific areas, at a fixed time and same questions for all examinees at the restricted physical area of the examinees.

REVIEW OF LITERATURE

Most modern online education uses Web-based commercial courses management software such as Web CT, slate, or software developed in-house. This software is not used widely for online exams, due to security vulnerabilities, and the system must rely on students' honesty or their having a honor code.

Online course exam these days becomes more efficient than before; online course exam need for enhancing the security. Jung, I.y proposes an enhanced secure online exam management environment mediated by gathering cryptography utilizing remote monitoring and control of ports and info. Holding the Online course exam for any substance requires more preparations, whether the teacher or through the backing of university students. University on the duties assigned to it to provide the necessary environment entrusted to them. Everyone is there to serve the student and we have to encourage students also prepare them psychologically for a computerized exam, note that numerous universities in the realm of the complexity of computerized tests on its grounds. More of recent research indicates the advantage and disadvantage of utilizing online course exam on the university

grounds, for example, Al-Mashaqbeh, I.f. what's more Al Hamad, A. in the Dept. of Computer. Educ., al-Bayt Univ., Mafraq, Jordan reached to great results showed that there was a positive perception towards the embracing of online exam. They measured students' perceptions at the use of online exam as an assessment apparatus on university facilities inside a Decision Support System Course at al Bayt University.

A study has been conducted on online exam and customary exam which indicates that an online exam has better results than customary exams. Considerable dialog has taken place on gathering conventions and gathering mediated interchanges to ensure secure interchanges among gathering members. This dialog has included the consideration of secure gathering sythesis, secure intergroup correspondence utilizing an open key, and secure intragroup correspondence utilizing the symmetric key through the Diffie-Hellman key exchange. This paper receives two gatherings for secure correspondence between distributed entities in the online exam system.

The intergroup correspondence is protected through open key infrastructure (PKI), while intragroup correspondence uses several symmetric Diffie-Hellman Keys. The "gathering" in this paper is a concept for entities with comparative roles. In this research, we attempt to bring out the challenges what's more some best results that may solve the problems. This paper considers the Challenge of personal identity and unauthorized invention of other users in the network utilizing other clients.

ANSWERS FOR THE ABOVE CHALLENGE

1) Challenge of personal identity

The special cameras of 360o and finger print recognition device will be incorporated for identifying the identity. The camera and the finger print device will be placed at one area in each lab. The biometric scan devices (finger print scanner and camera 360o) will check the students from the data base which is collected and stored in the registration department. The 360o camera is used for double purpose of identifying and controlling of examination lobby activities. Accordingly, we are using the same resource for identifying the students.

2) Unauthorized interference of other users in the network utilizing other clients

To solve this challenge of students entering from different Ips into the domain and attempting the exam for their fellow students, we propose a system, where we create a domain with the set of students user id's allocated by the university domain and each teacher will include all the students user id's of his course; then he will give them the specific permissions like read and write for the specific time of that specific course exam.

The students who enter from the different IP's can't use the allocated domain and accordingly the system is secure.

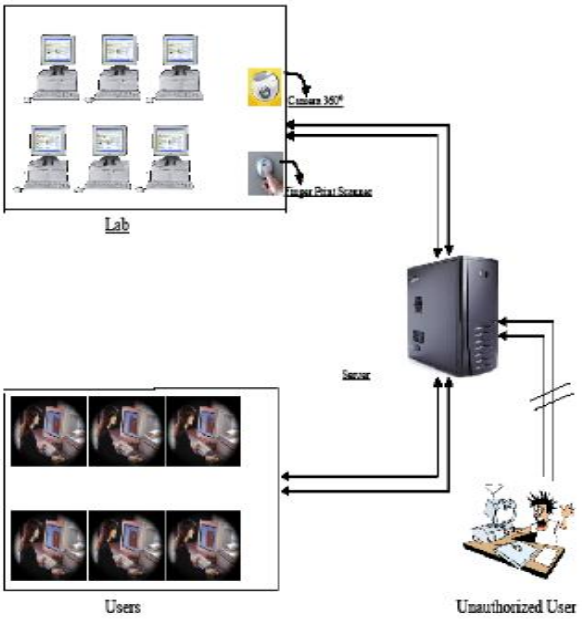

Figure1: The systems are connected utilizing the star topology. The camera and finger print scanner inside the lab are connected to the security server; once the security server authenticates the biometrics of user, then the users are allowed to write the exam at the specific terminal provided to them. When an unauthorized user attempts to access the system from different area he is not allowed.

THE PROPOSED SYSTEM

The special exam gathering is created by gathering the hostnames/ IP of clients for a specific area (Computer Lab) and time. To avoid the malpractice in the exams we use different types of biometrics as a means to log into the exam.

We use the camera and finger print scanner to identify the students as demonstrated in the above figure. The user after identified login into the system uses the user-id and password provided by the university, which are authenticated by the server. This gives him/ her permission to open the exam from the server otherwise the students can't login into the system. The unauthorized users attempting to log into the system from remote computers are blocked by the proposed system Once the session begins the timer is on, the student completes his exam inside the allocated time and once the time is up the system send an alert and logs the user off.

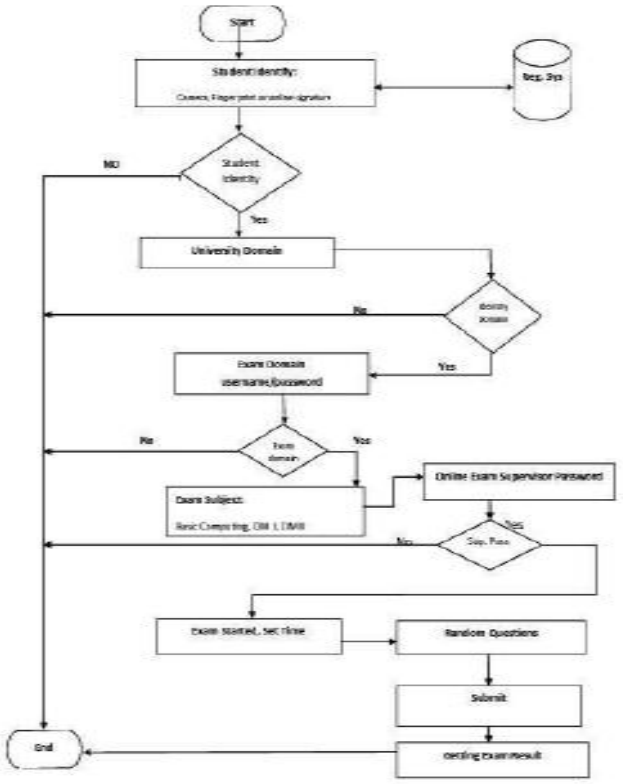

Figure2: Flowchart of secure online exam proposed The figure indicates the stream graph of the secured online exam system proposed. It indicates the series of steps of online exam beginning with the secured login utilizing biometrics and system login through server work the end of exam results. Calculation:

Step 1: Student Identification: The system will check the identity of the student by utilizing biometrics which will take the picture and the fingerprint before entering the exam. This will additionally check whether the student is eligible for that specific exam.

Step 2: University Domain Login: The student will log into the domain of the university with the user name and password provided by the university domain login (Ex: username: SUC, Password: suc).

Step 3: Special login into exam domain: The system asks the user to write the user name and password. On the off chance that the user name and password are correct, then the user will be able to log into the exam.

Step 4: Access the Exam: The user will complete the exam file that is located in the domain desktop window (Online Exam)

Step 5: Online Exam Supervisor Password: The supervisor password is given to the students who are successfully logged into the exam domain. This gives them access to the exam and the exam session begins for that specific exam.

Step 6: Random questions and Results: The irregular questions are given to the students, who submit the answers to the server; when the session is completed, the system generates the result of the exam.

Step 7: End.

CONCLUSION

We believe the online organization is considerably superior to paper-and-pencil exams for our courses. We have come to the conclusion that the above mentioned challenges might be solved by presenting the accompanying security systems. Utilizing biometrics we overcome the conventional method for checking the ID cards of the students after they begin the exam. Biometrics will identify the student as he enters the exam lobby.

The IP address check permits as takes after:

1- Using online signature or showing student photograph

2- Using fingerprint

3- We can provide more security to identify the

Students by utilizing online cameras which are more useful than the conventional method of checking the ID cards. Since we check the identity before the begin of the exam, there are some more security problems regarding the questions and answers which are for a further research.

This type of online exam system reduces the examination work. The future scope of this research might be the security of online remote exam systems.

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