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Evaluation of Improved Technique for Protected Online Exam Process Plan

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Abstract – To direct the exam for thousand people offline process have several problems, to stay away from those problems with gone for the process online exam is a field that is very prevalent and made numerous security assurances. Even however it neglects to control cheating, online exams have not been widely adopted well, however online education is adopted and utilizing everywhere throughout the world without any security issues. Education learning from online process not have any problem and don't aggravate to any one, through online test arrangement we need to control such a large number of things here our work proposes an enhanced secure filled online exam management environment mediated by gathering cryptography techniques utilizing remote monitoring and control of ports and data.

The target domain of this is online exams for any subject's contests in any level of study, and exams in online university courses with students in different remote areas. An easy answer for the issue of security and cheating for online exams and uses an enhanced Security Control system in the Online Exam (Secone) which is based on gathering cryptography with an e-monitoring scheme. This paper likewise determines the correlation effects of existing system, furthermore the proposed processes involved in taking care of failures.

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INTRODUCTION

Presently a day's education becomes online process even the offline is generally chosen as the evaluation method for both disconnected from the net education and online education. We have more benefits on online examinations however security remains a problem such this person composing the exam on a networked computer is monitored by a proctor at some predetermined area. Requirement for an exam area goes against the accessibility the real fascination of e-learning or distance learning may likewise negate cost funds generated by e-learning then again pose obstacles for remote students.

Remove the requirement for human intervention in secure online exam management to capitalize on the advantages of online processes. Security control system in the online exam is based on gathering cryptography with an e-monitoring scheme cryptography backings enhanced security control for the authentication and integrity provides a proctor capacity to remote examinees to prevent cheating and in this manner removes the requirements of needing to go a fixed area. Our work shows the online exams for all subjects in UG & PG university courses with students at remote areas and additionally addresses the problem of monitoring an on line exam at a fixed time with same question paper jumble position for all examinees just like a logged off exam however without restricting the physical area of the examinees to improve the nature of education.

Really an exam proctor is either a person or a machine. Remote Proctor (RP) is supposed to verify the student's ID (thumbprint) and eliminate cheating through a movement detector. Suspicious movement by a student taking an online exam causes a video to record the student's movements. Educators then review these exam videos for evidence of student cheating. Proctor is like RP in that one electronic proctor in a control room screens up to six or eight students taking exams. The teaching personnel does not review videos unless the proctor notes something questionable regarding student honesty.

Some universities provide electronic proctoring devices for example, Remote Proctor to graduate and undergraduate students asserting that it will be required in their courses. Working members are then told that they ought to use Remote Proctor since their students have purchased it and are expecting to use it. University management scenario is rife with clashes of interest and round reasoning. Some personnel members presumably use Remote Proctor simply to abstain from being labeled uncollegial or non-team players. Professors who refuse to use electronic proctoring instruments may end up excluded from online teaching assignments.

BACKGROUND

Offline exam become more hectic everything we need to do physically. For secure online exams based on a secure exam convention with an

omnipotent central manager who controlled all the data for students, teachers problem answer sheets and grades. The weakness of this system was that the manager was assumed cutting straight to the chase. Moreover, a restricted room was required for the exam, to prevent cheating.

(A) Survey on Online Exam

Related security problems to online exams include not just unauthorized access to the problem sheets before the exams be that as it may additionally change of the questions answers and the grades. Different cheating patterns exist including duplicating the answer of the another person, number 2 is composing number one person exam searching the internet for answers utilizing the data and software saved on the students nearby computer and talking about in the lobby or email or message talk. Have numerous problems fighting this includes giving a different one to ser each student, restricting the exam room or constraining the number of answer submissions to one. We focused a method to identify furthermore to communicate securely between teachers and students rather than on counter measures against cheating on online exams.

Monitoring offline exams is likewise a huge problem; in some cases correspondence between teachers and students decreases the tendency to cheat increases. This will effect has direct affect on online exams when students may have little contact with their teachers.

Latest online education uses Web-based commercial course management software, for example, Webct, Blackboard, 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 an honor code. Existing Web-based approaches to online exams have highlighted easy accessibility and simplified exam management. However, authentication through just a user name and secret word could be the weak point in the security of online exams. Environment in which students can use a Web browser and the Internet enables them to search the Internet and to communicate with others for help throughout the exam.

Webcam is used to prevent cheating by haphazardly transmitting pictures of students throughout online exams. However, numerous soundless pictures of a student don't demonstrate what that student is doing or why he or she is doing it, or even on the off chance that cheating is occurring through Web searching, the use of saved data, or visiting. Considerable talk has taken place on gathering conventions and gathering mediated interchanges to ensure secure interchanges among gathering members. Has included the consideration of secure gathering organization, secure intergroup correspondence utilizing an open key, and secure intragroup correspondence utilizing the symmetric key through the Diffie-Hellman key exchange 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.

(B) Steps Need to Follow to Conduct Secure Online Exam

Requirements need to take after for online security exam are as takes after.

- Accessibility Online exams ought to be possible without regard to area and time.

- Monitoring the absence of proctoring on online exams may relax the examinees and encourage cheating. Therefore, it is necessary for an online exam management system to have some monitoring method to prevent and to detect cheating.

- Management Online exam management includes problem creation, problem sheet dispersion, answer sheet collection, checking, grade posting, and treatment of appeals.

The expense investment funds of online exams mitigate the burden of exam enforcement and induce numerous examinees located at very remote sites to participate in the exam. Educators can acquire more objective norms for evaluation. The programmed management of exams lets the examinees know their exam performance very rapidly. Online exams permit both educators and examinees to achieve their objectives efficiently.

The identities of the examinee, examiner, marker and proctor ought to be all authenticated at every step in the online exam process because it is hard to identify them face-to-face online. Problems and answers ought to be checked for their integrity to detect unauthorized changes. One and only resignation of the answer sheet ought to be allowed and the tameness of answers after the exam has ended ought to be prohibited. Unauthorized deletion or the adjustment of the materials related to the exam ought to be impossible.

The problem sets ought to be available to the examinees just throughout the exam period. Answer sheets ought to be kept securely before reviewing. Duplicate of prevention are getting help from others, utilizing unauthorized electronic material that may be helpful in completing the exam and intercepting or interfering with correspondences throughout an online exam

ONLINE EXAMS CHEATING PROBLEMS

Online test cheating without utilizing proctors, because we believe that exorbitant proctor supervision provides just insignificant assurance of

academic integrity. To begin with, we identified the essential methods used to cheat throughout online exams. Since we can't completely eliminate this cheating, we next devised internal online exam control procedures to online cheating by making the expenses of dishonesty outweigh the benefits. At long last, we devised a comprehensive online testing arrangement based on eight online exam control process (Oecps) designed to dodge online exam cheating without utilizing proctor supervision. Our technique to creating an online testing arrangement is like how Cpas approach a fiscal statement review. To begin with, we assess the danger or potential for misrepresentation (here, online exam cheating).

Second, we examine existing internal controls (cheating prevention methods). At long last, we design review process to detect duplicity. The objective is to achieve reasonable assurance that the budgetary statements hold no material misstatements. In a comparative manner, the online exam professor should use control procedures to achieve reasonable assurance that academic integrity has been maintained and that critical cheating has not occurred throughout online exams.

(A) In What Way Students will Cheat in Exam

In the absence of great online exam control process, how do online students cheat? In some cases, students can acquire exam questions or even exam answers before they take the exam. Some educators really make their exams available online for a week so students can take the exam at their convenience. Students then conspire with their network of classmates. A superior student takes the exam initially, records the answers, and/or copies the questions. Then the questions are researched, answered, and distributed to the remaining students.

On the off chance that teachers don't periodically revise exams, then student gatherings develop files for their current and future classmates to use. Students can likewise illegally get publishers' test banks and related results manuals from university libraries, employees, or underground sources. Online exams that remain open available for access to extended periods of time permit one student to take the exam while receiving help from other contriving students who then take the exam at a later time. There are numerous other methods of cheating throughout online exams. Cheating, as in duplicity, seems limited just by one's creative ability.

(B) The most effective method to Control in Online Examinations

Honest student behavior is a capacity of expense getting got furthermore punished vs. benefit possible better grade choice for the student, which is at the heart of any fraudulent demonstration. To cheat or not to cheat: That is the question. A decent control system for overseeing online examinations ought to both discourage and detect cheating by students. On the off chance that deficiencies in the control system are discovered, then new or revised online exam control procedures must be implemented. The control procedures to be used must be consistent with the written exam guidelines related to the length of time of the exam, any materials that could be used as references, and any permitted types of correspondence among students regarding examination questions. The Underground Professor has developed and tested a set of online exam control procedures that will severely reduce in spite of the fact that not completely eliminate students' capacity to cheat and. A review of exam scores and resulting grades indicates face legitimacy of exam integrity and no grade expansion when utilizing this control.

(C) Online Testing Plan Developing

Implementing the online exam control process, professors are utilizing the online exams can build a testing arrange that does not require expending resources on proctor supervision. Such plans won't entirely eliminate exam cheating, however a great arrangement will provide reasonable assurance that academic integrity has been achieved at a palatable level. An exam ought to be scheduled for a specific date and time. The exam ought to close when the allotted time period for work expires.

An exam ought to be open to Internet access for just a 15 minute time period. Students can work one and only question at a time and can't access completed questions. Students can access the online exam one and only time. Online exam access ought to use Repondus Lockdown Browser or its equivalent. An exam ought to randomize (scramble) question sequence what's more answer choices. Something like one-third of objective type questions ought to be rotated/modified on each exam every term.

(D) Check the Student Particular Details before Entering into the Exam Hall

The Oecps described above serve to dodge student cheating on online exams without the presence of a physical or electronic proctor. However, a proctor has two capacities to abstain from cheating, and to verify the identity of the student completing the exam. Without utilizing proctor supervision, the professor must devise some control procedure to assure the legitimacy of the purported identity of a student who completes what's more submits online exams and other assignments. Student ID numbers and passwords are frequently used to fulfill this control objective. More elaborate identity tests are available utilizing thumb print technology and cornea examines. Control costs tend to be corresponding to

the refinement of the technology used. What number of controls are enough and what expenses are warranted to achieve the control objectives for online testing depends on the individual circumstances?

PROBLEM DEFINITION

For many people directing the exam, manual test arrangement generates several problems, for example, center of examinations, paper releases before the exam and cheating process. To stay away from all these we have an answer online test process, exam management team sit at one place and they can screen everything at their same. Online test process result having the weakness that is cheating, our work analyzes the all these weaknesses in this paper.

(A) Preparing the Online Examination

We have presenting few lines how to prepare for online examination her. Every computer user ought to have the freedom to download run duplicate distribute study share change and improve

their software for any purpose without paying licensing fees. Every computer user ought to be able to use their software in the language of their choice Every computer user ought to be given every chance to use software even on the off chance that they work under a handicap.

Algorithm for online exam process:

1. Start

2. Function Setup_exam_environment ()

3. CE[S (i)] registers with AE

4. AE sends identity of s(i) and IP[s(i)] to AA

5. When CE connects to SS, SS sends identity of s(i) and IP[s(i)] to AA for authentication

6. IF AA authenticates CE[S (i)] THEN SS sends problem e[S (i)] set to the examinee CE[S (i)] along with the identity of CT ELSE Stop the exam process ENDIF

7. CE[S(i)] verifies the integrity of e[S(i)] by sending the identity of the examiner to AE

8. IF AE satisfies with the integrity of e[S(i)] and the Examiner

THEN

CE sends “ready” message to SS ELSE Request for the problem set again ENDIF

9. IF SS receives ready messages from all the examinees

THEN

SS sends “start” message to all the examinees CE lets the examinees to see the problem one by one ELSE halts the online exam. ENDIF

10. CE[S(i)] sends answers , problem set and its identity to SS

11. IF CE[S(i)] is authenticated by AA THEN SS saves answers in the database ELSE Rejects the answers from the examinee ENDIF

12. After completion of all the problems/time SS sends “end” message to all the examinees to end the exam.

13. SS marks the answer sheet with the right answers provided by CT

14. SS sends grading to the examinees.

15. IF the examinee is not satisfied his grading then he appeals for re-grading THEN

GOTO Step 13 ENDIF

16. END

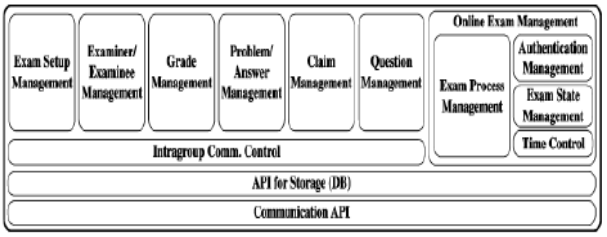

Fig. 1: Shows the online examination process

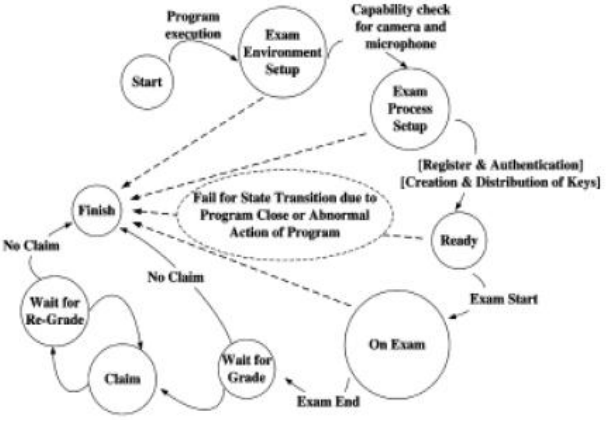

Fig. 2: Shows the online examination flow algorithm/process

(B) SeCOnE System Software

It is divided into two parts depending on the role that is whether it is on the client or server side. The operating system of the examinees computers and the proctors' computer is assumed to be windows

crew. However the program semantics are not confined to windows because the Apis to control the examinees computer and to handle the multimedia data are additionally available in Linux and UNIX environments.

(C) Proposed Analysis for Online Exam Process

The method e-monitoring examinees might be watched just like in an offline exam. Any cheating that was not noticed throughout the exam might be detected through the screen data saved on the screen server. The enhanced security for the online exam is controlled through the intergroup correspondence based on PKI, the intra- bunch correspondence utilizing symmetric keys and the temporary identity. The exam administrative gathering and the examinee gathering are set for every exam. All the entities related to the exam belong to one of those two gatherings. Agents for the two gatherings issue the temporary identities to their gathering members. Neither they nor the gathering members themselves know the identities of the other bunch members.

Furthermore, a gathering member does not know his or her temporary identity, because it is issued in an encrypted structure protected by people in general key of the verifier, the other gathering agent. The identities are exchanged by the gathering agents. Consequently, when a gathering member receives a message, he requests the verification for the sender from the gathering agent. Furthermore, message integrity for problems, answers, and grades is guaranteed through the use of computerized signatures. Because temporary identities are used in the online exam, it is very vital to affirm the identity of someone who is issued a temporary identity. In this paper, that affirmation is performed by means of a Webcam. An exam chairman connecting to the agent program verifies the person to be authenticated, utilizing the Webcam. In this process, a reference photo of the gathering member is taken and saved in the screen server for later detection of possible impersonation.

The problems are managed by the online exam client after they are issued by the scheduler, however they are not opened before the scheduler sends the message to begin the exam. The message is sent just after the online exam environment has been set up and all the online exam clients send the "ready" message to the scheduler. Therefore, it is possible for all examinees to take the online exam simultaneously. The examiners can prepare one set of problems for each of several exam times so that the examinees can choose the time that suits them best.

Even through the proctor, she or he can supervise the examinees with the screen data saved in the screen server in near real time for the problems, their right answers, and the answer sheets from examinees are managed by the scheduler. The authentication, which generally was based just on a user name and secret key, is strengthened by the gathering management. This process includes verification by Webcam furthermore issuance of temporary identities for every exam. No entity can know all the data, for example, the real identities of the entities or the cryptographic keys in the system.

This precaution stays away from the potential for system compromise due to the failure of a single entity because of maliciousness or an external strike. This requisition embraces five methods to prevent and detect cheating. To start with, the identities of entities in the system are verified by a Webcam, and the reference photographs taken throughout the verification process are saved for authentication throughout the exam. Second, the screen data for the examinees are recorded and saved throughout exam. With consistent recording of video and sound throughout the exam rather than isolated images, a proctor can better understand the examinee's circumstance and reduce the chance of false-positives alternately negatives in the determination of cheating, even after the exam. Third, through the screen shots saved in parallel with videos of an examiner, a proctor can better determine what the examinee is really doing with his or her computer. Fourth, all correspondences by the examinees, except for those required for the online exam, are disabled through port control. All ports except those required for the online exam are disabled and the ports used might be chosen arbitrarily for each examinee; the ports to be used have just to be sent to the exam administrative gathering with the IP of the exam client.

Therefore, cheating through a fixed port might be rare. Fifth, all other programs except the online exam client are deactivated by controlling the inputs of the examinees. By cutting off electronic correspondences and impairing other computer programs or inputs on the examinees' computers, the examinees might be prohibited from cheating utilizing their nearby computer or the Internet.

Online exam take place essentially before and after the exam time. Throughout the exam, just the screen data, a few messages to check the exam state, and questions, if any, stream to the server side. Correspondences before exam time are required to authenticate the entities in the proposed system. The proposed browser module presents to the user at startup a full-screen requisition window that encases a browser window. However, no address bar is provided, nor are there any menus, toolbars, catches, or other controls that would be seen on a generic browser. The requisition window is locked in full-screen mode and can't be resized or minimized until the requisition is terminated. Timing the exam helps lessen the good fortune that students have to utilize inappropriate material. In the event that the exam has

no time restrict the temptation to abstain from examining and rely instead on finding answers throughout the exam would be greater. By giving just forty-five seconds per question, we limit the students' capacity to engage in this. We likewise tend to ask lengthy, requisition based questions.

COMPARATIVE STUDY

Different cheating patterns exists in current system counting duplicating the answers of others, exchanging answers, searching the Internet for answers, utilizing the data and software saved on the student's nearby computer and talking about the exam by e-mail, phone, or texting and additionally have numerous hindrances, for example, Level of correspondence between teachers what's more students decreases, tendency to cheat by students increases and system must rely on students' honesty or their having a honor code. The system which overcomes our proposed answer for the issue of security and cheating for online exams. This result uses an enhanced Security Control system in the Online Exam (Secone) which is based on gathering cryptography with an e-monitoring scheme.

The cryptography backings enhanced security control for the online exam process, and additionally authentication and integrity. The e-monitoring provides a proctor capacity to remote examinees to prevent cheating, and hence removes the requirement of needing to go to a fixed area. The target of this project is online exams of any type and exams in online university courses with students at remote areas. Project proposes administering an online exam at a fixed time with the same questions for all examinees, much the same as an disconnected from the net exam, yet without restricting the physical area of the examinees. As the SeCOnE system enables numerous sorts of tests to be given online, it can provide teachers with better evaluation models for students and may contribute to enhancing the nature of education with numerous benefits like. Online exam management system having some monitoring method to prevent and to detect cheating, Without regard to area and time and to Avoid intercepting or interfering with interchanges throughout an online exam.

CONCLUSION

Our proposed system describes how the techniques provide a secure online exam management and a scheme for the prevention and detection of cheating utilizing e-monitoring. This paper targeted towards exams administered through the Internet at a fixed time with one problem set, however without any restriction on the exam area. A powerful feature of the proposed system is that it could be applied to an exam administered at different times. For this situation, the examiner should prepare the same number of problem sets as there are exam times, in order to prevent cheating throughout the exam. One overhead cost for this system is in the preparation of the equipment, for example, Webcams and microphones, to screen and to authenticate the entities. Future work extends with distributed online exam process to reduce and prevent all the cheating methods employed by the personnel.

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