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Online Secure Examination

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Abstract: ***Today there are two forms of examination: Online Examination (M-learning) and Offline Examination. Mobile learning, or "M-learning", offers modern ways to support learning process through mobile devices such as tablet, computers and smart phones. Mobile learning can be used to enhance the overall learning experiences of students and teachers. However, enforcing exam security in open environments where every student has his/her own tablet or mobile devices connected to a Wi-Fi network can be one of the most challenging tasks. The existing system was not based on Service oriented architecture and was using a bulk of PHP code which had been a bit slow and cannot address the exam security issues that exist in m-learning environment. The proposed system aims to recognize various vulnerabilities that may violate assessment safety in M-learning setting and to deal the security and countermeasures that can be put in to make sure exam safety by using a QR code generated for every student. It also aims to integrate the resultant secure exam system with an obtainable, open source and widely conventional Learning Management System (LMS). Further we are using NPL for verifying the answers which has reduced the overall efforts of human beings. The backend of this project would be in My SQL. The front end would be in JAVA and Android which has improved the performance.***

Index Terms: **M-*Learning, Security.***

I. INTRODUCTION

Mobile devices square measure rather additional inside your means that than desktop computers and have a more cost effective technique of internet access. Currently, the pill PCs permits mobile internet access with equal or heaps of usefulness than desktop computers. The term mobile learning or in brief M-Learning refers to the employment of mobile and hand-held IT devices, like mobile telephones, laptops, PDAs and pill laptop technologies, in employment, learning and teaching. The mobile learning is thought-about as a result of the third wave of learning with mainframe and, desktop computers as a result of the first and second waves. Some students may use their mobile devices in foreign language classes. totally different students may use their mobile cameras to photograph blackboards, Power Point or the opposite every important documents.

Therefore, mobile devices square measure associate economical tutorial platform, owing to the particular in disputable fact that mobile devices square measure merely accessible by students and provide adequate support for traditional internet technologies.Victimization trendy ways and techniques integrated in M-learning, facilitate in making the coaching of our student heaps of attention-grabbing, heaps of interactive, wide getable and versatile. M-learning is efficient that helps students to be told heaps of whereas not ancient restrictions. what's additional, the chance to integrate M-learning systems into existing E-learning systems makes it simple to stay committed the newest advances created in teaching analysis. Mobile and wireless technologies are used in M-learning technique for learning and education. M-learning help to learner to learn the experience which available in environment. The main target of the next generation of the learning systems is to use current and modern technologies to provide new techniques of learning, training and education that will be easy access and available to all. One of the main benefits of M-learning is its possibilities to improve students' productivity by making knowledge and learning available anytime and anywhere. It is also possible to enabling learners to participate in learning activities without the traditional place and time restrictions. Mobile technologies support available and generally available learning than the education that used in the existing E-learning environments. M-learning supports performance with easy access to information, which can immediately impact students' performance in a learning environment, facilitating their education.

II. LITERATURE SURVEY

A. Designing And Implementing An Adaptive Online Examination System

Authors: Mustafa Yağci *, Menderes Ünal

Description: A design and application of adaptive online exam system are carried out in this paper. Adaptive exam systems determine different question sets automatically and interactively for each student and measure their competence on a certain area of discipline instead of comparing their gains with each other. Through an adaptive exam technique, a student's distraction and motivation loss that is led by the questions with quite lower hardness level than his/her competency is prevented.

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B. A Platform On The Cloud For Self-Creation Of Mobile Interactive Learning Trails

1) *Authors:* Yiqun Li, Aiyuan Guo, Jimmy Addison Leeand Gede Putra Kusuma Negara
2) *Description:* We present a system to create mobile interactive learning trails. The system includes a web portal running on the Amazon cloud server for people without programming skill to create trails for outdoor fieldtrip learning, and two universal apps for IOS and Android phones respectively to run different learning trails. It enables rapid and easy creation of learning trails within15 minutes without mobile app development

C. The Social & Mobile Learning Experiences Of Students Using Mobile E-Books

1) *Authors:* Jeff s. Kissinger
2) *Description:* This research was designed to explore the learning experiences of state college students using mobile electronic textbook (e-book) readers. The purpose of the study was to build a rich description of how students used e-books delivered on mobile computing devices for college-level, introductory sociology courses at a public state college in the southeastern United States. This research employed a multiple case study design that investigated and documented student experiences with this instructional technology

D. Face Recognition on Consumer Devices: Reflections on Replay Attacks

1) *Authors:* Daniel F. Smith, Arnold Wiliem and Brian C. Lovell
2) *Description:* Widespread deployment of biometric systems supporting consumer transactions is starting to occur. Smart consumer devices, such as tablets and phones, have the potential to act as biometric readers authenticating user transactions. However, the use of these devices in uncontrolled environments is highly susceptible to replay attacks where these biometric data are captured and replayed at a later time. Current approaches to counter replay attacks in this context are inadequate. In order to show this, we demonstrate a simple replay attack that is 100% effective against a recent state-of-the-art face recognition system; this system was specifically designed to robustly distinguish between live people and spoofing attempts such as photographs.

III. EXISTING SYSTEM

The examiner Engine fixed in Moodle is not built based on Service Oriented Architecture. It is implemented as a bulk of PHP code which has to be access through standard web browsers that are a bit slow on mobile devices and cannot address the exam security issues that exist in m-learning environment. Mood bile services extension to Moodle does not touch the Moodle's Quiz Engine. Thus, we need to develop a new Quiz Engine that can be deployed as a service leaning application, so that its services can be consumed by a mobile application designed to cater to m-learning specific security requirements. As well, it should be Integra table with Moodle/Mood bile in order to have a complete LMS which suites the m-learning environment and addresses all of its security issues.

A. Disadvantages of Existing System

1) Does not provide security.
2) Not based on Service Oriented Architecture.

IV. PROPOSED SYSTEM

This aims to recognize various vulnerabilities that may violate assessment safety in M-learning setting and to deal the suitable security armed forces and countermeasures that can be put in put to make sure exam safety. It also aim to integrate the resultant secure exam system with an obtainable, open source and widely conventional Learning Management System (LMS) and its service extension to the m-learning environment, namely "the Mood bile Project". To inspiration a Safe Examination Organization Scheme that possibilities the different security supplies of m-learning environments and to contribute it with the present Moodle/Mobile stage. This will result in a complete LMS that is both equipped with secure exam services and suitable for m-learning. Our goal of incorporating SEMS with a well-known LMS such as Moodle is so to get the benefits of Moodle's readymade services in other learning aspects such as course material management, certification, etc. which contain been experience and valued for the last 15 years. However, the future SEMS can also effort as separate secure exam management system for m-learning setting without addition with Moodle. The system highpoints the benefits and future tasks of mobile learning in our instructive environments in both online and offline mode.

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A. Advantages of Proposed System

1) It has a Service Oriented Architecture.
2) Provide better security.
3) Can be access more lightly.

V. SYSTEM ARCHITECTURE

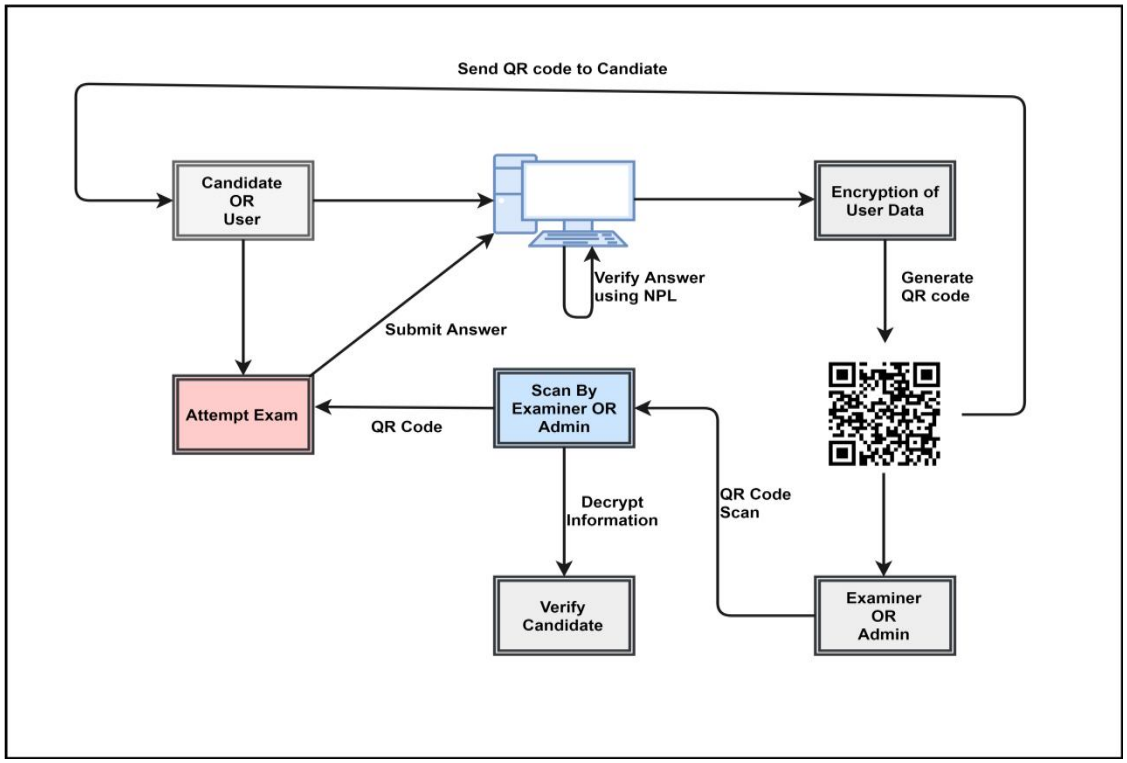


Figure 1. Proposed System Architecture

VI. MATHEMATICAL MODEL

Let 'S' be the set of whole system i.e. S= {IP, PRO, OP}.
Where,
A. IP is the set of inputs given to the system.
B. PRO is step or techniques applied to the system.
C. OP is outcome of the system.

1) IP = {U, QR, K, Q}.
Where,
a) U will be the user.
b) QR will be the QR generated from users details.
c) K will be the secret key to decrypt the encrypted QR code.
d) Q will be question paper.
2) PRO = {R, C, QRCode, K, Q}
Where,
a) R will be registration phase.
b) C will be number of candidates.
c) QRcode will be generated for every candidate and sent to candidate Mail ID.
d) K will be secret key.
e) Q will be question paper generated by administrator.

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Process

i) *Step1:* In this registration phase every candidate or user has to register themselves in order to give an exam.

ii) *Step2:* After registration the will get a QR code image which is encrypted information of user information. The same information will be stored at the server side for admin/ examiner record. The secret key K is send to admin record, which is used for decryption purpose.

iii) *Step3:* User will bring that QR code image while coming for exam then, admin. Examiner will scan that QR code image to check whether authenticated candidate has come for exam or not, the verification process done by that user information stored on server or examiner record, upon verified the admin will send the question paper 'Q' to user account.

iv) *Step 4:* User will login to system, to attempt an exam.

3) *OP= {Output}*

Secure Exam Management System (SEMS) to mitigate the unique exam security threats that exist in m-learning environments.

VII. CONCLUSION

This paper has mentioned the improvement and want of the M-learning for the space education. The system highlights the benefits and future challenges of mobile learning in our educational environments in both online and offline mode. M-Learning produce the association between education and technology doable. The learner includes peregrine, institutional, home, kids and adult users and also the form of learning environments includes networked, internet-based, distance, cooperative, synchronous and asynchronous can arise the interest of the new generation of distance learning (M-learning). The paper has mentioned the background of M-Learning and the way it is wont to expand the full learning system utilized by varied students. The paper conjointly provides highlights of the advantages and also the future challenges of M-Learning in our instructional environments. Finally, our learners, students and academics ought to be ready for consecutive generation of coaching and learning. M-learning is wont to solve the standard learning system issues by the user. Each students and teacher would like a handy and correct system to act with one another and facilitate the teaching system. The M-learning systems don't seem to be specifically to switch ancient school rooms however they'll be helped to enrich the training method in our faculties, schools and universities. We used NPL for verifying the answers.

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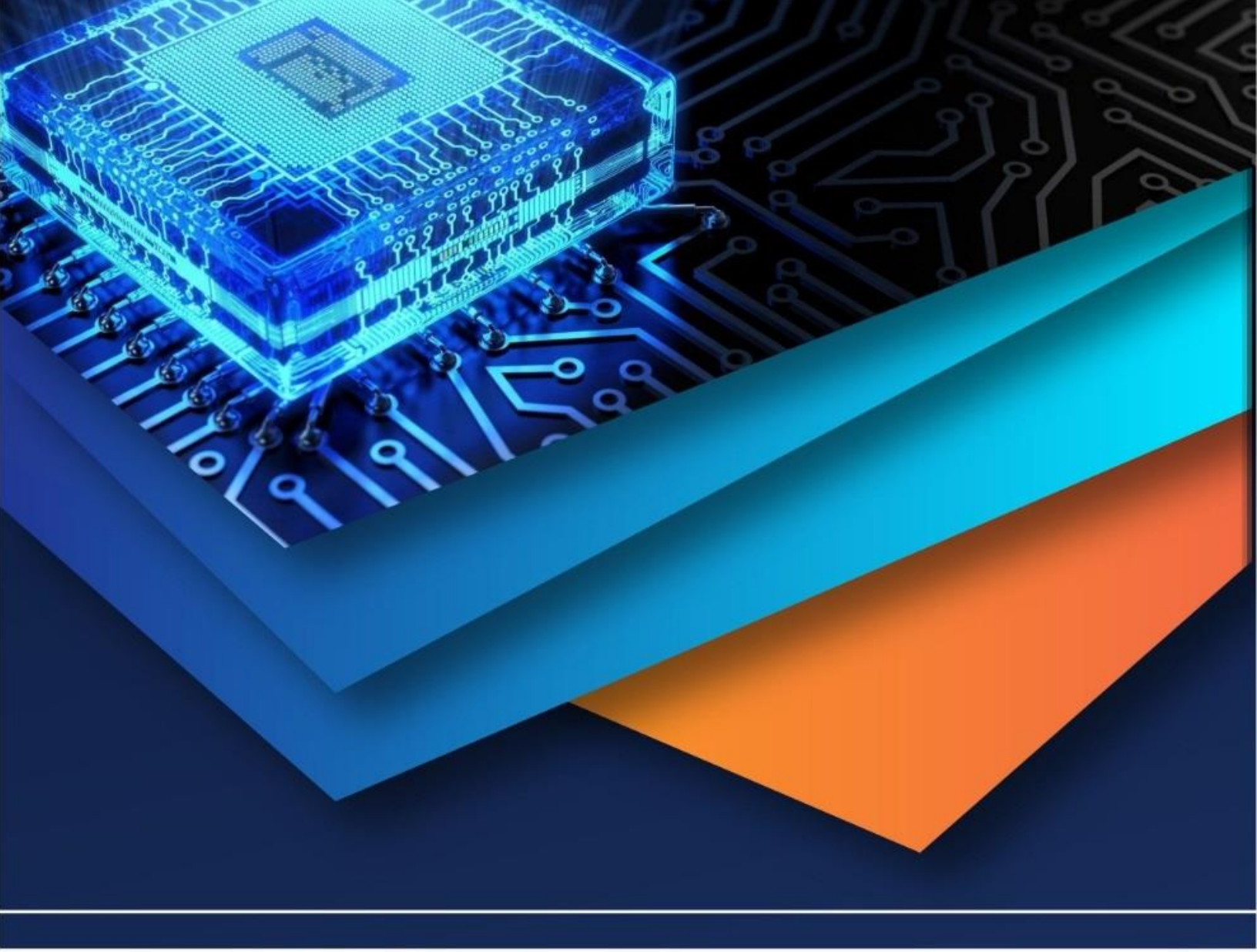
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