

# **Abstract**

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## **A New Remote Authentication Model for Online Examination Systems**

Online Examination System is the most important component of E-Education because of the security issues. Cheating-free is the main challenge that faces the online examination system versus the traditional paper and pencil exams. This paper proposed an enhancement of Remote Online Examination Model (ROES) that can used remotely to authenticate the test taker remotely and also detect cheating in the online test without regard to online human proctor, fixed place, and fixed time. The ROES model is based on using token (PKI Algorithm and Digital signature) for remotely identification, fingerprint and keystroke dynamics for authentication, and live video/audio surveillance for monitoring examinee during the online exam session. The combination of these techniques aim to three goals: (1) the examinee taking the remote online test doesn't apply with a fake identity, (2) he/she is a valid user who is setting from the beginning to the end of the examination session and (3) the examinee can't use any cheating practice during the examination session. So this model provides a secure remote online examination infrastructure without the need to a fixed place to take it. Keywords: Remote Online Examination System, Authentication, Digital signature, and fingerprint and keystroke dynamics Biometrics authentication.