Double Layered Security System for Smart ATM by Fingerprint and RF Technology

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Abstract: *The crucial prerequisite in these days is to get rid of various forms of attacks. Nowadays, for financial transaction, automated teller machines (ATMs) are the mostly used gadgets in which personal identification numbers (PINs) are generally used for transaction. But personal identification numbers (PINs) are not secured from many types of threats (spoofing, eavesdropping, man-in-the middle attack etc.), which can affect the security of the confidential and private information. Due to this reason, different biometric systems gain popularity worldwide for their behavioral and physiological features. However, the current biometric systems, for example, iris, palm, faces or voice are extremely complex to use and have different disadvantages. In order to overcome these disadvantages a new concept has been introduced in this paper, for authentication in ATM a fingerprint authentication method and for information (finger print) transfer a combined approach fingerprint and RF technology scheme is used. Finger authentication system is implemented by the combination of fingerprint reader and fingerprint sensors. For the purpose of information (fingerprint) scanners work by capturing the pattern of ridges and valleys on a finger. The information is then scanners work by the device's pattern analysis. For fingerprint authentication system, the experiment shows that in proposed classification the average recognition accuracy is 99.75% and 99.92 % and the execution time is 0.168 s and 0.187 s respectively..*

Keywords: Fingerprint, RF technology

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