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Securing ATM pins and passwords using Fingerprint based Fuzzy Vault System

Cryptography and Biometrics are two efficient and powerful technologies to achieve high proven information security. As private keys act as an important component in cryptography, one of the main challenges in the cryptosystem is maintaining the confidentiality of these private keys. This problem can be solved by making use of biometric traits. Biometric authentication verifies user's identity using biometric traits. However, a biometric authentication fails to protect the user's biometric template stored in a database, as it is susceptible to various attacks. The fuzzy vault system is the form of bio-cryptosystem that combines cryptography and biometrics together to overcome the pitfalls of these technologies. This work aims at exploring a fuzzy vault system to secure ATM pins and passwords with the fingerprint data such that only the legitimate user can access the pins and passwords by providing the valid fingerprint