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A Comparative Study on Various Techniques Related to Fingerprint Based Biometric Cryptosystems

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Abstract: *In this digital era, data transmission through network is essential for everyone. Users are not confident that their data is secure when it is transferred through a network. So there is a need of protecting data transferring through network in a swollen manner. Cryptography is our conventional method for protecting information and communications using some keys. But keys can be stolen or forgotten. Due to these reasons biometrics are introduced for key generation. Keys generated using biometrics are specific to that person and are generated dynamically with their biometrics. By combining cryptography with biometrics, we can develop a secure system which can be used in different applications like law enforcement, border control, consumer biometrics, financial services and also to provide access for smart devices. In this comparative study of various attacks on Biometric Cryptosystems are discussed and related techniques used in Biometric Cryptosystems for key generation like Fuzzy Extractor and key binding techniques such as Fuzzy Vault, Fuzzy Commitment are discussed and their performance is analysed.*

Keywords: Cryptography, Biometrics, Fuzzy Extractor, Fuzzy Vault, Fuzzy Commitment.

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