Abstract

A biometric system is a secured recognition system that is used for the establishment of the personal identification of the individuals using their biometrics which are unique features and make the system more authentic. Our aim, here is to build such a system which gives more accurate confirmation of the individual identities. In this paper, we have used one biometric trait i.e. fingerprint for identification. The features of fingerprints have been extracted using different combinations of existing transforms generated by the Kronecker product of two transforms at a time to form hybrid transform. The existing orthogonal transforms which are used here are DCT, DFT, Walsh, Haar and Kekre. By generating the energy matrix and extracting the features by varying the energy threshold from 95% to 99.99% efficiency of the fingerprint biometric system obtained is up to 94.64% with the hybrid transform (DCT and Walsh combination).

References


Index Terms

Computer Science                     Security

Keywords

Biometrics; Recognition; Transformations; Wavelets; Kroenecker product; Hybrid transform; Fingerprint.