Abstract

Secret knowledge, like remembering password or token based authentication systems are deemed inconvenience and difficult to use for users such as password may be forgotten or token may be lost. So burdens like remembering password and stolen or forged token based authentication have raised a current trend of biometric authentication system. Now in this current tech world, everyone needs security everywhere to protect our personal gadgets. Now-a-days smartphone gradually becoming a vital tool to manipulate enormous applications which were being done in a computer before. So to keep it secured, biometric based approach can be applied for better convenience and ease of use for the user. In this paper, a novel hybrid multimodal approach for ear recognition and speech recognition has been presented for better robustness and efficiency which can be applied in various fields of applications like authentication in banking transactions. Here two techniques DWT (using haar wavelet) and GLCM have hybridized to extract both shape and texture information from ear images. Again MFCC technique has applied to extract features from speech signals. Afterwards fusion is applied to mix both of those ear and speech features. Those features can be easily and efficiently manipulated by applying Euclidean distance and Bhattacharyya distance as the similarity or dissimilarity measures. This proposed approach is very convenient and simple to use, thereby its ease of use allows very fast feature extraction.
Development of Multimodal Biometric Framework for Smartphone Authentication System

References

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Index Terms

Computer Science Security

Keywords

Multimodal Biometrics Ear Speech Fusion Smartphone