Abstract

The growth and development of the Internet in the recent years has been very significant. But, the security and authentication is still a challenging problem. The security and authentication of the users in the Wireless LANs is also a serious issue. Hence, the security of the network users has become a vital factor. There are various techniques available in the literature which make
use of passwords, smart cards etc., to provide network related security. But these conventional authentication systems have lot of limitations. Most recently biometric features like fingerprint and iris are also used to provide security to the network users. These biometric features are very reliable compared to the traditional methods. This paper proposes an approach for network security using a novel technique for personal authentication, where the biometric feature used for authentication is the retinal vessel tree. The configuration of the retinal vessels is unique for each individual and that it does not vary forever, so it can be used for the authentication purpose. The diverse phases included in this proposed approach are user registration, Extraction of retinal features, Retina Normalization and building secret key. The performance of the proposed approach is evaluated using the experimental observation. The simplicity and efficiency of the proposed method make it readily to be applied alone or incorporated with other existing security methods.

**Reference**


- Li Chen, IEEE Member, Xiao-Long zhang, “Feature-based image registration using bifurcation structures”, Matlab Central

Index Terms

Computer Science

Security

Key words

Biometric Security

Cryptography

Data Security

Retinal Biometrics

Localization and Normalization