Abstract

Today’s era is the era of Smart phones. Smart phones are continually becoming smaller, more powerful and can perform variety of tasks. The data generated by these devices need to be stored and accessed securely. One example of such sensitive data is password. Computer users are increasingly using password for online accounts, email servers, e-commerce sites, financial services and social media websites and it is always advisable that passwords should be complex and reuse of passwords should be avoided. Therefore this leads to a challenge of remembering several complex passwords for various applications, something an average human being is not very good at.

In this paper, a Password Manager, an Android Application is proposed. This password manager takes login credentials (Email Address & Password) as input from user which is then being encrypted using Blowfish algorithm and finally the cipher is stored inside an image selected by user using LSB (least Significant Bit) Technique. A typical password manager uses
database to store all login credentials but our proposed approach replaces database with image and stores all login credentials inside an image and in turn providing dual layer security of data that uses combination of both cryptography and steganography in which first layer is to scramble information using Blowfish Algorithm and second layer is insertion of scramble information inside an Image using least significant approach (LSB).

Finally, performance analysis of cover-image and stego-image shows that image quality is preserved in terms of MSE and PSNR

References

8. O P Verma, Ritu Agarwal, Dhiraj Dafouti, Shobha Tyagi,"PeFORMANCE ANALYSIS Of Data Encryption Algorithms", @2011 IEEE.
12. Mamta Juneja, Parvinder Singh Sandhu, "Designing of Robust Image Steganography Technique Based on LSB Insertion and Encryption", @2009 International Conference on Advances in Recent Technologies in Communication and Computing.
Index Terms

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Keywords

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