2-Layer Security System for Hiding Sensitive Text Data on Personal Computers

Nouf A. Al-Otaibi
Collage of Computer & Information Systems, Umm Al-Qura University, Makkah, Saudi Arabia
Email: noof-awad@hotmail.com

Adnan A. Gutub
Custodian of the Two Holy Mosques Institute of the Hajj & Omrah Research, Umm Al-Qura University, Saudi Arabia
Email: aagutub@uqu.edu.sa

Abstract—High security system suitable to hide sensitive text-data on personal computer is proposed and implemented. The system hiding techniques involves AES cryptography followed by image based steganography as two layers to insure high security. The study involved several tests to increase the capacity within the steganography layer adopting 1 and 2 least significant bits stego methods. The study also explores the data dependency and its security effects by experimenting it on 30 different fixed size images showing interesting attractive results.

Index Terms—security for personal computer, AES cryptography, image base steganography, hiding text on PC.