Secure And Robust Data Security Using Multiple Digital Cover Objects

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September 27, 2016

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Outline

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Introduction
System Analysis
System Requirement Specification
System Design
Discussion
Conclusion

Introduction

- Today each scenario demands the information sharing aspect
- Information security is essential for confidential data transfer
- Data compression, Cryptography and Steganography are considered to be the way used for secure transmission of confidential information
- Hiding information in an audio, video or text file is less suspicious than communicating an encrypted file or compressing it upto an extent.

Introduction

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- Motivation:
  - As computer systems become more pervasive and complex, security is increasingly important
  - Steganographic algorithms and protocols constitute the central component of system that protects network transmission and store data.
  - The security of such systems greatly depend on the methods used to manage, establish and distribute the keys employed by the steganographic techniques.

Introduction

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- Scope:
  - Steganography or cryptography cannot provide maximum trust towards security separately.
  - The combination of steganography and cryptography forming a double layer protection approach can yield better secure solution for information sharing.
  - The main use behind this whole application is enhancement of security,introduce a secure communication system that employs encrypt and embed the secret message to be transmitted over a non-secure channel.

System Analysis

- Proposed System:
  - In order to overcome the existing system, software is implemented which will takes input file which will be the data say message which is send to receiver securely.
  - For that there is need of one file which will be the .wav file for embedding that message into main file we will use steganography technique.
  - Once the file is encrypted using encryption algorithm developed in the JAVA the file will be the secured and encrypted.

System Requirement Specification

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- Hardware Requirements:
  - Processor:intel core i3
  - Operating System: Windows 7
  - RAM: 256 MB minimum
  - 400MB Minimum Free Space on Drive

System Requirement Specification

- Software Requirements:
  - JDK 1.8

System Design

- Modules Of the System
  - Sender
  - Reciever

System Design

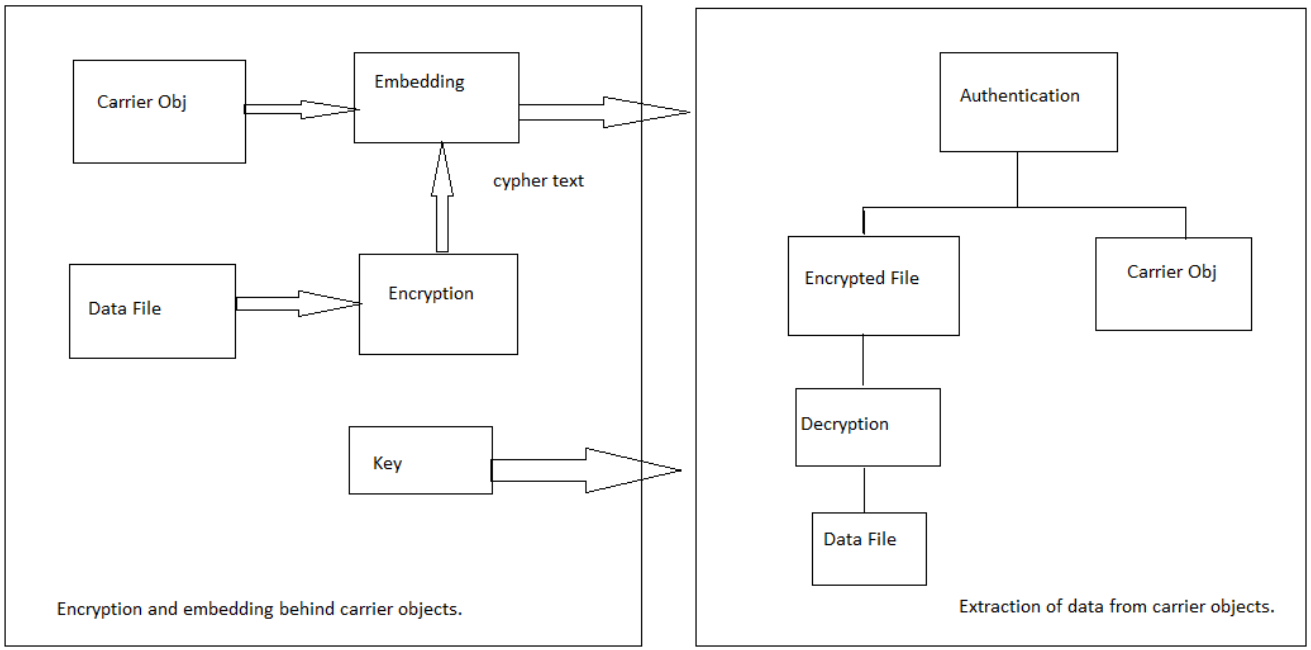

Figure: System flow

System Design

- Algorithms:
  - Image Steganography: Bit-Exchange
  - Text Steganography: Diffie-Hellman
  - Video Steganography: Try way pixel value differencing.

Discussion

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- Advantages:
  - More secured.
  - Fast to work.

Discussion

- Disadvantages:
  - Sometimes system may fail when there is problem occured in hardware device.
  - When the computer system get hanged, the system terminates.

Conclusion

The cryptography and steganography have their own respective pros and cons,but the combination of these three model provides better protection and performance of data from the intruders. As the secure data transmission using text, video and image files is the medium to transfer secure data quickly to the user it uses secure key and that key will known to the receiver only.

THANK YOU.....