Advanced technique for video steganography with an encryption using LSB replacement algorithm.

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***Abstract** - Recently, more and more attention is paid to reversible data hiding (RDH) in encrypted videos, since it maintains the excellent property that the original cover can be losslessly recovered after embedded data is extracted while protecting the video contents confidentiality. All previous methods embed data by reversibly vacating room from the encrypted videos, which may be subject to some errors on data extraction and/or video restoration. In this paper, we propose a novel method for hiding the data with a traditional RDH algorithm, and thus it is easy for the data hider to reversibly embed data in the encrypted video. For hiding the data behind video we are finding space in pixel by using Least significant algorithm (LSB). Experiments show that this novel method can embed more than 10 times as large payloads for the same video quality as the previous methods.The objective of the present work was to be predict to hide the data behind the video by using advance technique for video steganography with an encryption using LSB replacement algorithm and performing cryptography to hidden data. To hide the data in particular bit using public key, original messages can be easily extracted. The receiver decrypts the original video and embedded data using the single key. In the existing System more attention is paid to reversible data hiding (RDH) in encrypted videos, since it maintains the property that the original cover can be losslessly recovered after embedded data is extracted while protecting confidentiality.*

Key Words : Data hiding, LSB Algorithm, Video steganography, Encryption, Decryption, Privacy protection.

INTRODUCTION:

Digital video represents the visual images moving in the form of digital data. Whereas, the analog video represents the moving images in analog video format. Video compression is a technology which is used for transforming the video signals with the maintenance of the original quality under various situations like storage constraint, time delay constraint and power constraint . By manipulate the data redundancy between consecutive frames and computational resources, thus the storage requirement is reduced. The existing techniques manipulate the respective video compression techniques for reducing the size with minimal impact on the visual quality. Multiple video codec standards and algorithms are used for transmitting the video in digital form.

Video Steganography :

Video Steganography is a technique to hide any type of files into a carrying Video file. The dividation of video into audio and images or frames results in the efficient method for data hiding. The use of video files as a carrier medium for steganography is more compatible as compared to other techniques, because of its size and memory requirements .

Video is a sequence of still images. Steganographic data embedding in video is very similar to images. However, there are many differences between data hiding in images and video.

Encryption :

The message to be hidden inside the carrier file is encrypted along with a key to avoid the too inquisitive eyes of nosy people. This is to enhance the security during data transmission. This strong encryption method provides robust to the Stego machine. In this module, the input message is first converted to byte value. The key is obtained from the user which is added to the respective byte and stored in a separate byte array which is then converted to character to get the encrypted form of message. The input to this function is the plain text message and a key value to encrypt the message.

Decryption

The hidden message is decrypted using the key, as once the algorithm gets allow to be seen all encrypted data with the algorithm could be decrypted. This module first converts the input message to byte value. The key is obtained from the user which is subtracted from the respective byte and stored in a separate byte array which is then converted to character to get the decrypted form of message. The input to this function is the encrypted message file and a key value to decrypt the message.

LSB Algorithm :

Least significant bit (LSB) insertion is a common and simple method to embed information in an image or video file. In this method the LSB of a byte is replaced with an M‟s bit. This technique works better for image, video steganography. To the human eye the stego image , video will look similar to the carrier image , video. For hiding information inside the images, video the LSB (Least Significant Byte) method is usually used. To a computerized image or video file is simply a file that shows different colors and intensities of light on different areas of an image, video.
The LSB algorithm is as follows :

- Select a cover image , video of size M*N as an input.
- The message to be hidden is embedded in RGB component only of an image , video.
- Use a pixel selection filter to obtain the best areas to hide information in the cover image , video to obtain a better rate. The filter is applied to Least Significant Bit (LSB) of every pixel to hide information, leaving most significant bits (MSB).
- After that Message is hidden using Bit Replacement method.

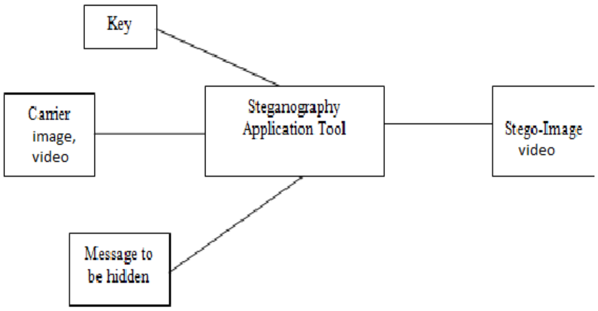

Fig. Block Diagram Of Steganography

5.Conclusion:

In this paper we have are providing a method of impossible to see an audio , video data hiding the data from attackers and send safely to its destination. This system will not alter the size of file even after encoding of data in an audio or video file . Thus we infer that video , audio data hiding can be used for no of task other than communication data and its storage. As there is no limit of sky , so its not for the development human is now pushing away its own boundaries possible to make every condition possible similarly describe above can be further alter as it is in the world of information technology.

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