Image, Audio and Video Steganography

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Abstract: *Steganography is defined as concealing a message inside another data format in a way that makes it undetectable, without committing plagiarism. Steganography is an advanced security technique which allows sensitive information to be concealed and transmitted without detection, making it difficult for an eavesdropper to detect the fundamental principle of steganography is ensuring that hidden message remains undetectable for the casual observer. The primary objective is to prevent unintended individuals from detecting the presence of the concealed message. It is essential that individuals who are not intended to receive the message are not even aware that a hidden message exists. Sometimes, images can hold concealed information that is not immediately evident to the casual observer. Although an image may appear ordinary at first sight, those with specialized knowledge can detect additional details. The objective of steganography is to enable secretive communication, and we have developed a methodology that involves creating a framework for hiding data that is ideal for steganography purposes. This technique is used to hide messages in images, audio, and video files. The data can be encrypted for security purposes, making it difficult for unauthorized users to access the hidden content. The data can also be compressed, making it possible to embed larger amounts of information without compromising the quality of the file. Steganography is covert method of interacting a text undetected in a embedded medium. Researchers have conducted significant work in data hiding methods for digital media, and experimentation in this field is still ongoing. Initially, the primary focus of steganography analysis was on the least significant bit embedding in bitmap and GIF images. This method was later expanded to include JPEG, audio, and video files, which are the most commonly used image formats. As time passed, numerous data hiding techniques and algorithms were created to further develop the field of steganography. This method of data hiding is more secure than other methods as it is more difficult to detect. It works by replacing the least significant bits in the file with data that is to be hidden, while preserving the overall look of the file. This makes it difficult to detect, as any changes to the file will be minor and difficult to spot. Audio and video steganography have gained widespread usage and acceptance among numerous users, and have become increasingly popular in recent times. The proposed system aims to enhance its robustness and security by utilizing audio and video steganography techniques, as outlined in this paper.*

Steganography is a technique used to conceal a confidential message within an image or audio file.

It allows users to securely send and receive data without anyone else knowing that the data is there.

By using audio and video steganography, users can be sure that their data is safe and secure, while also allowing them to send and receive large amounts of data without anyone being able to detect it.

Keywords: Steganography

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