ABSTRACT

Steganography is the art of hiding the presence of a secret data in a non-secret digital data called the covering media, such as text files, audio files, video files, and images. While the image Steganographic systems are extensively being studied, researches on other covering files remain limited. The video is a promising research spot likewise a cover-file is for Steganographic systems.

Accordingly, this thesis proposes an improved approach for the video Steganography. The improvements made in this thesis are first performed by searching for the exact match between the secret text ASCII codes, and the video frames RGB pixels values. Second, by generating a random key-dependent data. Third, by achieving the criteria performance of the Steganographic systems, invisibility, capacity (payload), and robustness. The proposed system is unlimited in its embedding capacity and payload, where none of the existing systems achieves. The proposed system does not modify the covering video since this approach makes the secret data undetectable and invisible to intruders. In fact, this feature fully secures the secret data to be recovered or be modified by unauthorized users. Using a random key dependent data, which is created randomly, and is generated based on the matches between the secret text and the frames RGB pixels values, is considered an important security feature that characterizes the proposed system.

The proposed system is compared with other existing video Steganographic systems, where it is found to be proven from the results that the system is unlimited in its embedding capacity, system invisibility, and robustness. The system achieves a high data recovery accuracy in the receiver side.