Abstract

In today’s highly digitalized world maintaining the secrecy of the secret data is a vital problem. Steganography is an emerging area which may be used for secure transmission of the digital data. It is the art and science of embedding data into different covers such that the data embedded is imperceptible. The covers that can be used cover all forms of digital multimedia object namely text, image, audio and video. This paper proposes a novel multimedia based steganography technique for an un-compressed movie. This proposed work hides the data both in audio and video signal part of the movie. In video part data hiding operations are executed entirely in the discrete integer wavelet domain by converting the gray level version of each frame of the video in to transform domain using discrete integer wavelet technique through 2-D lifting scheme through Haar lifted wavelet. For providing an imperceptible stego-frame/stego-video for human vision, a novel image based steganographic approach
called pixel mapping method (PMM) is used for data hiding in the wavelet coefficients. To enlarge the embedding capacity the secret information also has been embedded in the audio portion of the movie with the help of M4M technique. Experimental results demonstrate that the proposed algorithm has high imperceptibility and capacity and produces satisfactory results.

Reference

- Samir Kumar Bandypadhyay, Deb Nath Bhattacharyya, Poulami Das, Debashis Ganguly and Swarnendu Mukherjee, A tutorial review on Steganography, in In the Proceedings of International Conference on Contemporary Computing, (2008).
Index Terms

Computer Science  Security

Key words

PMM (Pixel Mapping Method)

M4M (Mod 4 Method)

Integer Wavelet Transform