



Video Telegenic Watermarking Based On Visual Steganography

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ABSTRACT: data hiding is used concealed transmissions, closed captioning, indexing, or watermarking. It is in contrast to cryptography, where the survival of the message itself is not masked, but the content is hidden. Digital watermarking is implemented in different fields such as military and industrial applications. In this paper we propose a video telegenic watermarking with text data (verification message) by using the quick response (qr) code technique. The qr code is prepared to be watermarked via robust video watermarking scheme based on the loss-less video watermarking using dct techniques messages can be sent and received securely. Traditionally, watermarking was based on hiding secret information in image files .lately, there has been growing interest in implementing video watermarking techniques to video files. by using video files in hiding information gives added security against hacker attacks due to the relative complexity of video compared to image files. Video-based digital watermark techniques are mainly classified into spatial and frequency domain based methods. The main aim of video watermark is to hide information in the other wrap media so that other persons will not observe the existence of the information. This is a major distinction between this method and the traditional methods of secret exchange.

KEYWORDS: WATERMARKING, HALFTONE VISUAL WATERMARKING, OPTIMIZATION, NOISE TOLERANCE ABILITY.

I. INTRODUCTION

Watermarking is process in which a message is embedded into another message called cover message to generate another message called stego message which is similar to cover message. The watermark can be decoded by processing stego message. The message may be image, audio, video, speech or any other media. Our system is focused on Video Watermarking. Now-a-days, Digital video is one of the popular multimedia data exchanged in the internet. Commercial activity on the internet and media require protection to enhance security. The 2D Barcode with a digital watermark is a widely interesting research in the security field. Most regular watermarking methods for grayscale images, such as Least Significant Bit embedding, cannot be effectively performed on halftone images, because of the 1-bit nature of halftone images. So, in this project we proposed a video watermarking with text data (verification message) by using the Quick Response (QR) code technique. The performance of existing method affected by specific content of cover images and secret pattern. Therefore, we improve the problem formulation and propose a new method 'Content aware Double-sided Embedding Error Diffusion (CaDEED)'. The growing appeal of video watermarking for more general applications is evidenced by the number of proposals for digital TV transmission, satellite broadcast monitoring, video on demand distribution, and authenticating video surveillance for use as legal evidence. The QR Code is prepared to be watermarked via a robust video watermarking scheme based on the SVD and DWT[5]. In addition to that image (or) watermark gives the authorized ownership of video document. In this project mainly two processes are developed. First embedding where original video is watermarked with verification message. Second, extracting process where embedded image and verification is retrieved from the watermarked video.



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II. RELATED WORK

We firstly analyzed the expected performances and limitations of the existing methods. Based on the analysis, we proposed a new general method, via considering the expected performances which is affected by the content of the cover images and watermark (secret pattern), the different noise tolerance abilities of different cover image content and the different importance levels of different pixels (when being perceived) in the secret pattern. To demonstrate the effectiveness of the proposed method, it exploited more by adopting the noise visibility function [4] and proposing the importance factor (IF) for different watermark pixels. After analysing the performance, both the numerical and visual comparisons indicated that our proposed work performs better than existing methods. [1]

Digital watermarking is a technique of hiding information for copyright protection and authentication. An invisible digital watermarking algorithm on Discrete Wavelet Transform (DWT) is presented. The proposed algorithm was proven robust against stream compression. It is hence anticipated that it could be effectively applied for copyright protection and authentication. [2]

We studied SVD (Singular Value Decomposition) algorithm which is used to design a video watermarking technique. The video is divided into different scenes, and the last frame of each scene is selected for embedding watermark. A gray scale watermark is selected for this purpose. Here, Histogram Difference Method for dividing the video into scenes is used. Each RGB video frame is converted into YCbCr format, and then luminance part (Y) is taken for inserting the watermark. Then Y component of the video frame is decomposed it into four sub parts (LL, LH, HL, HH). Then SVD is applied on the LL sub part which decomposes it into U, S, and V components. Finally watermark is also decomposed using SVD to get S_w , U_w and V_w . Then S component of the cover video frame is modified using S_w component of the watermark to embed the watermark in the cover frame. Then Inverse SVD and DWT are applied to get the final watermarked video frame. The Imperceptibility and robustness of the watermarking method is checked by applying some intentional attacks on the watermarked video frame. The results of the scheme are also compared with other existing video watermarking techniques to prove that the proposed scheme works better than other existing video watermarking schemes. [4]

III. SYSTEM ARCHITECTURE

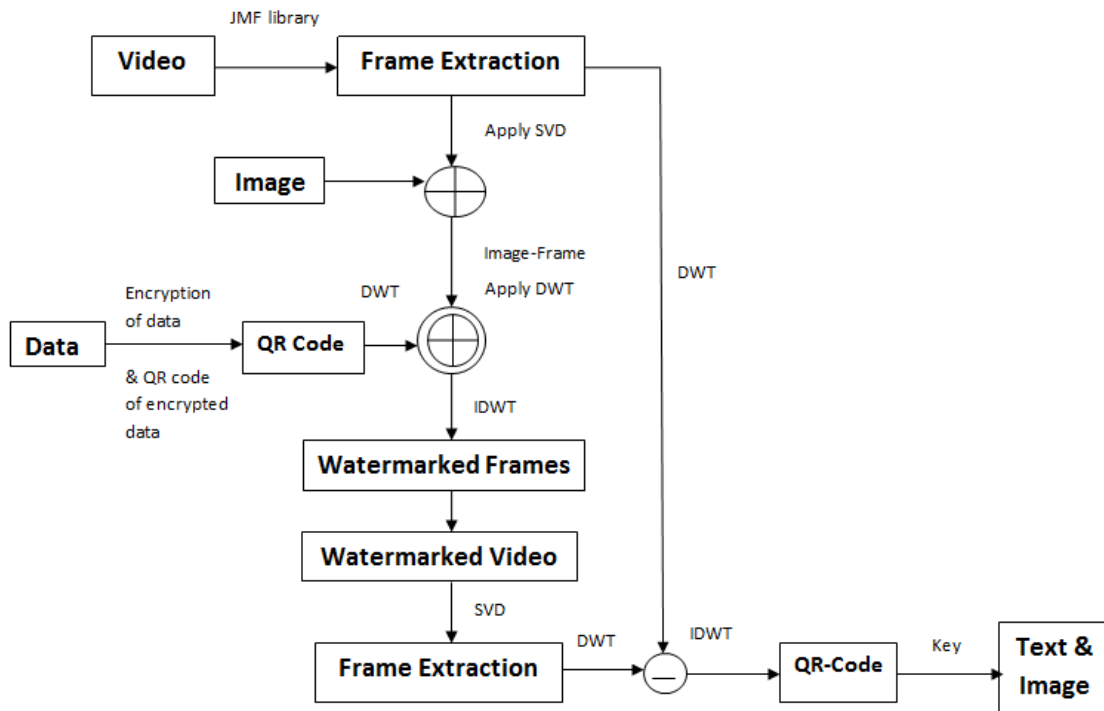
In architecture diagram describes user provide his input video file and from that video input frames are extracted. The image data which you want to hide is embedded into those frames. After that the data or information which you want to hide is given and then data is encrypted and QR code of that encrypted data is generated. Then we get watermarked frames which contains image data and QR code. From those watermarked frames, watermarked video is generated. For decryption process, again frames are extracted from watermarked video and then frames of original video and watermarked video are compared which gives QR code, image and text data.

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IV. CONCLUSION AND FUTURE WORK

Watermarking videos has become more demanding. It is currently a fundamental part of research into the applications of copyright protection, broadcast monitoring, copy control and video authentication. The system gives dual process which provides two authentication details and it is possible to give better security for data. It is feasible for using practically in security. System can achieve acceptable certain robustness to video processing. This proposed system may be further enhanced and used for all format of videos. In addition, the system can be made fully web based application.

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