



EMBEDDING & DETECTION OF WATERMARK IN MPEG VIDEOS

Sagar Chauhan

Sumit Sahu

Mohmmad Zaffer

Guidance: Dr. Anupam Agrawal

Email: anupam@iiita.ac.in

ABSTRACT

Digital Watermarking is a data hiding technique where an information or message is hidden inside a signal transparent to the user. This method is used for copyright protection of digital media. Watermarking differs from encryption in a way that in the former case a general user is allowed to access, view and interpret the signal but cannot claim the ownership of the content, whereas in case of encryption the very access to the signal itself is denied

TECHNOLOGY USED

MatLab 2012a

PETS 2007 Benchmark dataset

Technique Used

Discrete Wavelet Transform (DWT)

The Discrete Wavelet Transform (DWT)[4] is used in a wide variety of signal processing applications. 2-D discrete wavelet transform (DWT) decomposes an image or a video frame into sub-images, 3 details and 1 approximation. The approximation sub-image resembles the original on 1/4 the scale of the original. DWT separates the frequency band of an image into a lower resolution approximation sub-band (LL) as well as horizontal (HL), vertical (LH) and diagonal (HH) detail components[3]. Embedding the watermark in low frequencies obtained by wavelet decomposition increases the robustness with respect to attacks that have low pass characteristics like filtering, lossy compression and geometric distortions while making the scheme more sensitive to contrast adjustment, gamma correction, and histogram equalization. Since the HVS is less sensitive to high frequencies, embedding the watermark in high frequency sub-bands makes the watermark more imperceptible while embedding in low frequencies makes it more robust against a variety of attacks on the output video given by the dwt program

RESULTS

<i>Video size</i>	<i>Size(kb)</i>	<i>Frames</i>	<i>Watermark size*</i>
<i>320 X 240</i>	549	377	40 X 40
<i>320 X 240</i>	1486	630	50 X 50
<i>300 X 240</i>	3000	1440	75 X 75
<i>400 X 224</i>	3178	2150	90 X 90

CONCLUSION

Proposed work an innovative video watermarking scheme with Watermarking as video. The process of this video watermarking scheme, including watermark preprocessing,, video preprocessing, watermark embedding and original video recovery is described in detail. Simulators are performed to demonstrate that our scheme is robust against various video attacks because of immediate watermark changing on every frame.

FUTURE SCOPE

The Further work is necessary to improve the reliability of watermark systems to protect intellectual property and copyrights. Attacks on watermarks are being considered in current development of watermarking tools. Areas for development include watermark detection, recovery, and authentication. One possible approach for authentication is to apply public-key steganography as introduced in and further explored.

