VIDEO WATERMARKING FOR DIGITAL CINEMA CONTENTS (TueAmPO1)

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Abstract :

With the advent of digital cinema and digital broadcasting, copyright protection of video data has been one of the most important issues. We present a novel method of watermarking for video image data based on the hardware and digital wavelet transform techniques and name it as “traceable watermarking” because the watermarked data is constructed before the transmission process and traced after it has been received by an authorized user. In our method, we embed the watermark to the lowest part of each image frame in decoded video by using a hardware LSI. Digital Cinema is an important application for traceable watermarking since digital cinema system makes use of watermarking technology during content encoding, encryption, transmission, decoding and all the intermediate process to be done in digital cinema systems. The watermark is embedded into the randomly selected movie frames using hash functions. Embedded watermark information can be extracted from the decoded video data. For that, there is no need to access original movie data. Our experimental results show that proposed traceable watermarking method for digital cinema system is much better than the convenient watermarking techniques in terms of robustness, image quality, speed, simplicity and robust structure.

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