A Secret Sharing Authentication Scheme for Digital Images

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Abstract. Recently, Lin and Tsai proposed a secret image-sharing scheme using steganography and a parity-checking detection mechanism to provide effective security for secret image sharing. In this paper, we present a robust authentication method to detect stego-images, while retaining the same high capacity of embedding information, with a cyclic redundancy check and hash function both being applied for authentication detection. As observed from our experiments, the quality of shares embedded in the stego-image in our scheme was higher than that of previous studies. Therefore, in terms of precise detection and higher PSNR measures, the requirements for both authentication and fidelity were satisfied.

Keywords: Secret image sharing, Authentication; pattern LSB, Steganography, Cyclic Redundancy Code

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