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A X-OR BASE IMAGE ENCRYPTION AND DATA SECURITY THROUGH HIGHER LSB DATA HIDING APPROACH: A REVIEW

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ABSTRACT

This project proposes double layer encryption and double layer hiding which is supposed to give security to the secret images and the secret data. The project speaks of usage of X- or base visual cryptography and higher LSB data hiding method. Visual cryptography (VC) is a technique that encrypts a secret image into n shares, with each participant holding one or more shares. The original motivation of VC is to securely share secret images in non-computer-aided environments; however, devices with computational powers are ubiquitous (e.g., smart phones). We propose to provide double security and less complexity compared to existing system.

KEYWORDS: visual cryptography, X-or base cryptography, higher LSB data hiding method, image security.

INTRODUCTION

The visual cryptography (VC) is a technique that encrypts a secret image into *n* shares, with each participant holding one or more shares. Anyone who holds fewer than n shares cannot reveal any information about the secret image. Stacking the *n* shares reveals the secret image and it can be recognized directly by the human visual system. Secret images can be of various types: images, handwritten documents, photographs, and others. Sharing and delivering secret images is also known as a visual secret sharing (VSS) scheme.

The NVSS scheme uses diverse media as a carrier; hence it has many possible scenarios for sharing secret images. The proposed NVSS scheme not only has a high level of user friendliness and manageability, but also reduces transmission risk and enhances the security of participants and shares.

LITERATUE SUREVEY

In1995: Moni Naor and Adi Shamir propsed a visual cryptography in that consider a new type of cryptographic scheme which can decode concealed images without any cryptographic calculation. This scheme is secure and easy to implement but there is a conventional share are not friendly.

In 2001: Giuseppe Atenies,Carlo Blundob, Alfredo De Santisb, Douglas R. proposed a extended capibilities of visual cryptography to share the secret information but these shares are meaningful shares but this have poor display quality. In 2004: Jessica Fridrich, Miroslav Goljan, David Soukal proposed a Perturbed Quantization Steganography with Wet Paper Codes they produce a new approach to passive warden steganography. But there is a less security for the perturbed steganography

In 2006: Zhi Zhou, Gonzalo R. Arce, Fellow and Giovanni Di Crescenzo propsed a halftone visual cryptography this paper proposed to achieve visual cryptography via halftoning. This method used in a number of visual secret sharing applications which require high quality visual images such as watermarking, electronic cash. But it has side effects on pixel expansion.

In 2007: Ching-nung Yang And Tse-shih Chen proposed a Extended Visual Secret Sharing Schemes: Improving The Shadow Image Quality in this paper they present a new EVSS scheme by using gray and white subpixel to represent a secret pixel and then gives a clearer shadow images. But it displays low quality images.

In 2011: Feng Liu and Chuan Kun Wu proposed a Embedded extended visual cryptography scheme this paper propose a construction of EVCS which is realized by embedding random shares into a meaningful covering shares and we call

it embedded extended visual cryptography. This embedded EVCS has competitive visual quality and it improves a visual quality of the shares. But it has poor display quality of the recovered images.

In 2011: InKoo Kang, Gonzalo R. Arce, Heung-Kyu Lee proposed a color extended visual cryptography using error diffusion. This paper introduces a color visual cryptography encryption method that produces a meaningful color shares via visual information pixel. It is used for color images. But it has poor display quality of the recovered images. In 2012: Xiaotian Wua, Duanhao Ou, Qiming Lianga, Wei Sun proposed A user-friendly secret image sharing scheme with reversible steganography based on cellular automata. This method uses a two dimensional reversible automata for distorted images. It has low computation cost and pleasing stego images. But this scheme is sensitive when small changes occur means differential attacks against this scheme is useless.

In 2012: Kai-hui lee, pei-ling chiu proposed an extended visual cryptography algorithm for general access structure. This problem solves a existing EVCS scheme. This approach can be used for binary secret images in non-computer aided environment. It is used for modifying the display quality of the cover images. But it reduces the display quality of the recovered images.

In 2012: Cheng Guo, Chin-Chen Chang, Chuan Qin proposed a Multi-threshold Secret Image Sharing Scheme Based on MSP. In this paper multiple secret images can be shared among a group of participants and each secret image is associated with access structure. It can achieve both the high visual quality of the shadow images and high embedding capacity. But these images detected by steganography.

In 2012: Chun-Yuan Hsiao, Hao-Ji Wang proposed a Enhancing Image Quality in Visual Cryptography with Colors. In this paper they use the color model of ateniese et al. to improve the image quality of the reconstructed image of Chiu's image secret sharing scheme. The intuition behind is that a color pixel can be used either as a white or black one, thus solving the problem that the share images do not produce (when stacked) enough black pixels for the reconstructed image in. The technical difficulty of this work is how and where to inject the color pixels so that both the shares and the reconstructed images have high quality.

In 2014: Kai-Hui Lee and Pei-Ling Chiu proposed a Digital Image Sharing by Diverse Image Media. This paper proposes possible ways to hide the noise- like share to reduce the transmission risk problem for the share. This is the first attempt to share images via heterogeneous carriers in VSS scheme. But it has less security and single layer hiding.

In 2015: Sheetal A. Kulkarni and Shubhangi B. Patil proposed a A Robust Encryption Method for Speech Data Hiding in Digital Images for Optimized Security. In this paper the encryption algorithm applied with embedding method is the robust secure method for data hiding**.**

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