



**RESEARCH ARTICLE**

# **An Implementation of a Novel Secret Image Sharing Algorithm**

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*Abstract— Visual Cryptography is a new cryptographic technique which allows visual information (pictures, text, etc.) to be encrypted in such a way that the decryption can be performed by human, without any decryption algorithm. This paper presents the study of the fundamental scheme of Visual Cryptography technique and proposes a novel method for sharing of images taking into account the untouched aspects with respect to the quality of the final image being received by the receiver. The proposed scheme directly focuses on the level of noise interference that deteriorates the final image obtained after decryption process and in turn changing the quality of the original image. The algorithm proposed suggests a novel method for the removal of noise from the final image and bringing it at par with the original image in terms of quality. The proposed technique includes for variant form of images including black and white, grey scale and coloured images. The Secret sharing (SS), which was initially proposed, encodes a secret into  $n$  shares. The secret can only be reconstructed from any  $k$  or more shares. Knowledge of  $k-1$  or fewer shares provides absolutely no information about the secret. The algorithm can be applicable for any size of image and can reconstruct the secret image optimally. The proposed scheme includes no matrix multiplication for construction of shares, rather uses matrix addition which reduces the computational complexity. This algorithm is applicable on grey scale, color and binary images.*

**Key Terms:** - Secret Sharing; Matrix addition; cryptography

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