Abstract

Visual cryptography encodes a secret binary image (SI) into shares of random binary patterns. If the shares are xeroxed onto transparencies, the secret image can be visually decoded by superimposing a qualified subset of transparencies, but no secret information can be obtained from the superposition of a forbidden subset. The binary patterns of the N shares, however, have no visual meaning and hinder the objectives of visual cryptography. Visual cryptography (VC) is a secret sharing scheme of decomposing a secret image into n transparencies, and the stacking of any t out of n transparencies reveals the secret content. The perfect security condition of VC scheme requires the strict requirement where any t-1 or fewer transparencies cannot extract any information about the secret. A HVC construction method is proposed that can encode a secret halftone image into color halftone shares. The secret image is concurrently embedded into color halftone shares. In the present work CMY color model will be implemented
with \((n-1, \ n)\) secret sharing scheme based on visual cryptography for the color image and compared and proved to be better that the black and white model and the RGB color model which is free from the issue of security, pixel expansion and accuracy issue as well. As the printer use the Cyan, Magenta, Yellow and Black color for printing that’s why CMY color model is implemented in this work to prove that CMY color space is better than RGB color space.

References


21.

**Index Terms**

Computer Science  
Security

**Keywords**

Visual cryptography, Gray image