

Title:	Techniques For Image Concealment
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Abstract: In the era of Digital communication huge amount of data are communicated over internet. Military maps, commercial identifications and various other confidential data are also being transmitted over the Internet. A considerable portion of this transmitted data is in the form of images. While transmitting confidential data, security of the data is a matter of concern. In this thesis, we propose various techniques for image concealment. An adaptive energy based image steganography technique for image concealment has been devised. Many carriers such as text, audio, image and videos can be used for steganography. Since a digital image is one of the most popular formats for transmitting data over internet, it is also one of the most popular carriers for steganography. In previous work on image steganography, the hiding capacity of the cover image has been one of the important factors taken into consideration. Here, we use two high frequency sub-bands in the HAAR discrete wavelet transform (HAAR-DWT) domain to increase the hiding capacity without visibly degrading the perceptual quality of the cover image. The energy of all four sub bands of the cover image in the HAAR-DWT transform domain is calculated. The secret image is hidden in the two sub bands having the least energy. We also explore a Visual Cryptography Scheme (VCS) for secret sharing and extend the conventional VCS scheme from binary to grayscale as well as color images. We also combine the visual cryptography technique and Image steganography technique to increase the security of the secret image. A novel forum image steganography is devised for censorship of images, that allows one to hide the identity of the persons depicted in an image within the image itself. Possession of the key enables the recovery of the uncensored image, with no additional inputs.

