DATA SECURITY USING SVD BASED DIGITAL WATERMARKING TECHNIQUE

SYNOPSIS

The project is based on Illegal misuse of copyright information such as forgery, manipulation and duplication is not uncommon. To prevent this,digital watermarking techniques are widely used thus increasing the robustness and imperceptibility properties in a digital multimedia. The main objective of developing a digital image watermarking technique is to satisfy both imperceptibility and robustness requirements.Digital watermarking appears as an efficient means of securing multimedia contents such as copyright protection and authentication. In this paper a hybrid scheme using Singular Value Decomposition (SVD) and Discrete Wavelet Transform (DWT) is being proposed. SVD and DWT are matrix based operations, this hybrid method prevents convolution which would otherwise consume a lot of resources. Computation of a larger set of data occurs faster due to the use of SVD.

The watermarking scheme proposed is blind and uses a signature based authentication mechanism at the decoder which improves security. The method is subjected to various attacks and is evaluated in terms of PSNR and correlation values. A simple digital watermarking algorithm based on discrete wavelet transform and singular value decomposition has been proposed in this paper. This method helps to understand basic concept of digital watermarking. Experimental results demonstrate the effectiveness of the proposed method. One of the major advantages of this scheme is the robustness of the technique on wide set of attacks.

The objective of this project is to develop a watermarking scheme which is based on cascading DWT with SVD.