

ABSTRACT

Watermarking is needed to protect data in the form of images, audio, text, and video by inserting information into the data. Watermarks utilize the senses of human vision that cannot distinguish the intensity of pixels which only changes color. This is used to insert a watermark in a medical image so humans are not aware of the existence of the watermark. Sending data that is done remotely, can make the data sent experience changes. In the field of Telemedicine data is very risky for errors, because if there is a change in the data the doctor cannot give a correct diagnosis. To overcome the error contained in the data sent error correction code is needed.

In this study the use of Singular Value Decomposition (SVD) techniques based on Domain Spatial. The singular value of an image has a good, where compilation is given an attack on the image, the singular value does not change significantly. For the Error Code Correction technique, the type used is Reed Solomon. The advantage of Reed Solomon compared to other detection codes is that Reed Solomon is very effective in correcting it in several bits (burst error).

The conclusion of this thesis, the watermarked image produces the best PSNR value when using a large host resolution with a gain of 0.1. However, when the watermarked image is given an attack, the watermarked image experiences a fairly high error, this causes changes in the inserted information. So you need the Reed Solomon correction code to fix the error. Where when Reed Solomon is implemented in this final project watermarking system, Reed Solomon's coersion code is not robust against scaling attacks, but can minimize errors in rotational attacks at degrees 90 °, 180 °, 270 ° and at translational attacks at coordinate points [20, 20] and [40,40].

Keyword : *Watermarking, Singular Value Decomposition, Reed Solomon.*