

ABSTRACT

The technology had been developed to make the existing data can spread rapidly. Exchange of broadly enabling their presence undesirable things. Various ways to commit crimes such as falsifying data by parties who are not responsible and do not have the authority.

The problem faced by the copyright needs to be protected for the party that has the authority to the authenticity of the host audio. Audio, image, and video is a form of digitalization that are vulnerable to attack, so the data can be acquired by those who do not have the authority. Security technology to prevent the spread of it becomes very necessary to be developed that provide utilities to the owner for protecting the copyright of illegal crime.

Audio watermarking is a technique to embed a form in the form of audio without affecting the quality of the original. Things can be done to maintain and secure the authenticity of the host audio watermark technique is applied to several criteria imperceptible and robustness. Application of some methods in the host audio is providing a better security in the face of existing problems. In this final project mergers method of DWT, DCT, QRD, and QIM in the process of watermark embedding and extraction of the audio watermarking. Embedding performed on the host audio with QIM after the DWT, DCT, and QRD to optimize parameters of audio watermarking using Genetic Algorithms.

The results of this research are ODG > -1, SNR > 30, and BER is close or equal to 0. Audio watermarking tested with attacks such as low pass filter, band pass filter, noise, resampling, and pitch shifting before optimized generate value of BER < 0.7 and after optimized generate value of BER < 0.5.

Keywords : Audio watermarking, DWT, DCT, QIM, QRD