ABSTRACT

The development of digital communication networks more easier for us to access information such as pictures, videos, and songs but these data are susceptible to duplication and manipulation. There is a signaling technique that can insert information into an audio data as a form of copyright protection and content authentication is audio watermarking technique. Technique and audio watermarking method used must be able to maintain the quality of the audio watermarking (imperceptibility) and resistant to attack (robustness). From previous research, robustness and imperceptibility of DWT-DCT merging technique is still low so it is proposed to use the Compressive Sensing technique by combining DWT-DCT method.

Audio Watermarking process passes through two stages, embedding process and extraction process. Watermark input will be processed with Compressive Sensing technique that will be inserted in the audio host. Audio Watermark is the result of the embedding process will be measured in accordance with the parameter of the system performance is ODG and Watermark capacity (C). After the embedding process, audio watermark will be given some attack digital signal processing will be extracted between the watermark and audio so that the watermark can be measured using a test system performasi form of BER.

The results of the study are expected robustness of audio watermarking techniques and methods used still have good quality audio watermark (imperceptibility) and audio watermark is resistant to some attacks of digital signal processing (robustness) and proved to objective assessment BER is 0, ODG is -2 to 0, and capacity watermark (C) $\geq 20\ bit/s$ using MATLAB software and the subjective assessment (MOS) by 30 respondents who listened 15 audio files hosted and watermarked audio file.

Keywords : *Audio Watermarking , Compression Sensing , Discrete Cosine Transform , Discrete Wavelet Transform*