

ABSTRACT

The rapid development of the times makes the dissemination of information on the internet in the form of multimedia in today's era very easy and it cannot be denied that there are many parties who are not responsible for being responsible for information without the consent of the copyright from the creator. The internet also no longer guarantees that information that is not well known is misused. To overcome this, it is very necessary to mark the property rights of the data created or created, namely watermarking.

In this final project, we will design a watermark based on Stationary Wavelet Transform (SWT) using the Statistical Mean Manipulation (SMM) method. In addition, in the extraction process, the application of K-Nearest Neighbor (KNN) is used to monitor ASCII and functions to improve the accuracy of the watermark detection process. SWT functions to get the frequency that will include the watermark. Furthermore, the SMM method for calculating the average host audio in one frame and functions with the insertion of bits.

The results obtained from the design of the audio watermarking system are that watermarking is resistant to attacks. With the average BER growth results of 0.17, ODG of -0.42, SNR value of 31.94 dB, CDR of 81%, the payload of 42.05 bps, and MOS of 4.50. This proves that the quality of the audio watermark that is designed is good enough and has a system that is resistant to compression, filtering, resampling, and other attacks.

Key words: *Audio Watermarking, Stationary Wavelet Transform, Statistical Mean Manipulation, K-Nearest Neighbor.*