ABSTRACT

IMPLEMENTATION OF STEGANOGRAPHY TECHNIQUES ON AUDIO FILE USING DISCRETE COSINE TRANSFORM AND FAST FOURIER TRANSFORM ALGORITHM

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The current condition of the communication system or public internet is not completely secure because there is the possibility of data interception and manipulation by eavesdroppers. One solution to this problem is to apply steganography which is the science of hiding messages into other media so that people other than the sender and recipient do not know the existence of the message. In this study, the implementation of the steganography method was carried out by hiding text messages in audio files. Audio files are used in this study with the aim of exploiting gaps in human hearing to disguise messages. The use of the Discrete Cosine Transform (DCT) method was chosen because of its ability to maintain the integrity of the messenger file which resulted in the message being difficult to detect in the steganographic file. At the testing stage with the black box method, it was found that every feature and button installed in the application can function properly. The Peak Signal to Noise Ratio (PSNR) value obtained during the testing process shows most of the values above 40dB for each successful trial. This shows that the results of the stego audio output have good quality.

Keyword: steganography, DCT, audio, PSNR, black box