

ABSTRACT

Nowadays, technology of computer and telecommunication grow rapidly. Lots of data storage files that can be used in addition to text. For example are image, audio and video. But with technology development that has been increased, it caused so many ways to get that confidential data. There is a need of security system that can maintain confidentiality of data, so data cannot be opened by people who are not concerned. One solution to maintain the security and confidentiality of data is by using cryptographic techniques. This Final Project discuss about cryptography implementation on audio file.

This final project implemented Triple DES symmetric cryptographic algorithms to encode audio files with the extension MP3, WAV, WMA, AAC and AMR where the encryption and decryption process is using 3 variations kind of key, which are 3 same keys, 3 different keys and 2 same keys and 1 different key. Length of key which is used in this Final Project is 96 bits, 144 bits and 192 bits. The purpose of using the varying length and variations kind of key in this final project is to see which of the key length and variations that have a long way to perform encryption and decryption.

Implementation results show if the size of audio files is larger, then the time for encryption and decryption process will be longer. The size of original audio file with the size of audio file that has been decrypted is not change. And based on the result of the encryption time and decryption time testing, the result obtained using 3 same keys will have longer time than using 3 different keys or 2 same keys and 1 different key. The result of Avalanche Effect test also shows that Triple DES algorithm in the audio file proved secure because it has Avalanche Effect value close to or equal 50%. The research of this Final Project obtained a new application of encryption system on audio file.

Keyword: audio, encryption, decryption, cryptography, DES, Triple-DES.