

ABSTRACT

Encryption becoming a vital issue in wireless communication security which use an open medium. The commonly used security algorithm hasn't satisfied the need for wireless communication due to the Avalanche Effect. Avalanche effect makes sure two similar plaintexts won't produce two similar ciphertexts. While desirable in most cases, it won't satisfy the need of wireless communication which included noises in its transmission procedure, because there's a need for a noise generated to protect the real information from outside noises. M-DES Algorithm is used to reduce the high BER rate from the uses of DES in wireless communication, so we won't have to sacrifice the security level of the message transmitted.

In this project, author designed a system using M-DES algorithm and utilizing MATLAB as a tool to create a system that can protect a text based messages that has been converted into 64-bits of binary.

The result of this project is a system that can simulate the M-DES algorithm security level, and also proving that M-DES is secure enough to be a capable cryptography algorithm.

Key words: BER, cryptography, DES, M-DES, message security, wireless communication