

## *ABSTRACT*

*Cryptography is a technique that can be used for data encryption to secure the data. Security has become a major aspect of an information system. A general information only for a particular party. Therefore it is very important to prevent it from falling to the other parties who are not interested. Moreover, if the data is in a network of computers connected to the public network such as the Internet.*

*To maintain the security of the data we can use cryptographic method to encrypt the data. In this final project used Blowfish algorithm and Triple DES algorithm. Both of these algorithms use a symmetric key and block cipher. As the user interface with the application created using Delphi. This application can encrypt and decrypt files and process various types of calculations Avalanche Effect.*

*Average plaintext for Avalanche Effect with Blowfish at 43,638%, 51,655%, 50,738% and TripleDES 50.88%, 49,30%, 49,36% while the Avalanche Effect with keys for Blowfish at 49.49%, 49,39%, 50,27% and TripleDES 47,91%, 49,81%, 48,10%. Both of the cryptographic algorithm can encrypt the data quite well. From data taken, time required for encryption and decryption with Blowfish method faster than TripleDES method. Differences affect the size of the file at the time of encryption and decryption where file size is proportional to the long process of encryption and decryption, means the larger the file size the longer the time process. Factors that affect the results of the ciphertext after encryption using the Blowfish algorithm and TripleDES include plaintext and key.*

*Keywords: Cryptography, Encrypt, Decrypt, Blowfish, Triple Des, Avalanche Effect*