ABSTRACT

Rapid growth can be seen clearly in the field of information and communication technology in the modern era. The exchange of information occurs at any time whenever and wherever. Various ways to exchange information such as voice, image, video and data has been done and is growing over time. With the rapid growth of its technology, not only have a positive impact but also many irresponsible parties steal data that we send the data to be misused. Irresponsible people can very easily take the data we send over the Internet ata other social media. This leads to the need for techniques that can cope with these problems, especially those relating to someone's copyright. One technique that is very often used by people currently is steganography.

In this final project will be designed a messaging system where the method to be used is Division Arithmetic and Generalized Exploiting Modification Direction method. This method is suitable for sending secret messages with a large size because the secret messages that can accommodate large enough. In addition to establishing a system of assured quality, the system will be designed by added a BCH error correction method.

The results of this final task is to get the total message that can be inserted from three cover image with the same size of 300x300 pixels obtained an average capacity of bits per pixel 'baboons' 1,3743556 'fist' 1,7987556 'straw' 1, 6506667, 'lena' 1,572994. Use of the insertion method DAGEMD and BCH coding successfully insert message by not damaging the image quality of the original image with the lowest value of PSNR is 50.38509 dB and MSE greatest value of 0.353422, obtained upon insertion image 'lena' with message length of 190x190 pixels. With schemes 1 and 2 the system can withstand the attack noise 'salt and pepper' with a 0,001 density if the insertion below 75x75 pixels, and the noise 'gaussian' with the variance value 0.0000001. Meanwhile with manipulation of cropping systems can only survive with a 0.83 scale in scheme 1. Meanwhile with manipulation cropping resizing and compressing system is experiencing a very large error or message extraction results can not be read. As for the results of computational time lows in the insertion process is 0.7979267 seconds in the extraction process messages 24x24 pixels and highest message insertion 37.97552 seconds at 190x190 pixels. While for most short-extraction process 7.4029921 seconds in the extraction process messages 24x24 pixels and the longest 365.1651 seconds at 190x190 pixels message insertion.The system can also withstand Bitplane attack.

***Keywords** : Steganografi, bitplane attack, Division Arithmetic and Generalized Exploiting modification Direction, BCH code*