

ABSTRACT

Medical images in the form of x-rays are very important and confidential data, because in medical images there are very important elements that are privacy for patients. Therefore to maintain information, encryption is needed.

In this final assignment, X-ray image through two stages of process, namely the first step is encryption using baker map technique and the output from encryption using Baker Map will be encoding using BCH code technique, the encryption process will be inserted key on the X-ray image, and the parity bit will be added to error correction and error detection, and the second stage is decryption, decryption using the baker map technique and the output of the baker map decryption encoding using BCH code which functions to maintain data inheritance and functions for error correction and error detection. An X-ray image that has been encrypted will be attacked with noise. X-ray images plus BCH after an attack. BCH in the X-ray image functions for error correction when the image signal is described.

Characteristic seen from a baker map is brute force and avalanche effect. endurance from encryption which is inserted code. In this final project an encryption system is produced on the image of Rontgen. Where has a long computing time of $2.0134e + 03$ seconds or 8.98383 minute and the accuracy of the description of gaussian noise is 50.45 percent, and the salt and papper noise is 100 percent and the highest PSNR is in the 256×256 , size of the greyscale image. And brute force which is 8.06×10^{74} years.

Keywords:*kryptography, Baker Map, Digital Image, Encryption, x-ray image.*