# ABSTRACT

Steganography is the technique of hiding a secret message within a cover media in such a way that someone can not know the presence or contents of the hidden message. The hidden message can be text, image, audio, or video. Cover media also can be text, image, audio, or video which will hold the hidden message. The size of the cover media should be greater than secret message to be hidden.

Steganography using Sudoku puzzle method is one of information hiding techniques in spatial domain where as digital image is used as cover media and text is used as secret message. This method uses many Sudoku solutions as reference matrix in embedding and extraction process. Embedding process begin with secret message conversion from text to 9-base number digit, then in digital image as host make pixel pairs that later will be mapped on reference matrix's coordinates to figure out best embedding position for each message digit. In extraction process also use similar way which begin with make pixel pairs from stego image that will be mapped on same reference matrix so that will direct to embedded message position and find the desired message digit and convert them again to text. Using Sudoku puzzle method will only change one pixel intensity with maximum four changes, so stego image will look same with cover image by human visual. Error detection and correction technique using BCH code is used to minimize the error of the received data. In this final assignment, had been done research which combine the Sudoku puzzle method and error correction method to improve the quality and performance of steganography.

The results that have been obtained are stego image with good quality above (PSNR $\geq$ 30 dB), with MOS value 4.8 - 5 which is the average of the results from a survey to 30 observers. And accuration of extracted message is 100% for 3335 characters which is the maximum character of messages. System is tested by Salt & Pepper noise, Gaussian noise, resize, rescale, JPEG compression, rotation, and cropping.

**Keywords : Steganography, Sudoku, informasi hiding, BCH code.**