Abstract

Computer network and internet have been rapidly used for data transmissions. However, there is no guarantee that the network and the internet used for the transmission media are safe from unauthorized party [1]. Many techniques have been developed to protect the data from illegal access. One of these techniques are by hiding or embedding the data to a cover media. In this research, the data hiding is implemented using graph based quantization which utilizes Vector Quantization and graph coloring using Genetic Algorithm. To increase the hiding capacity, the scheme will compress the data using Adaptive Huffman before it is embedded to the cover media. The testing result shows that the scheme can embed 9000 bits data which is about 1800 characters with PSNR score is 27,5054 db.

Keywords: Data Hiding, Graph Based Quantization, Vector Quantization, Graph Coloring, Adaptive Huffman, Genetic Algorithm