ABSTRACT

The advance technology of image processing enables the efficient data storage requirement. In other word, the implementation of signal compression methods are able to optimize the size of the given data storage. The efficient data storages are needed in such way that the network medium is not loaded roughly when data transmission is in progress. The file compression methods which are able to maintain the original content of the corresponding data becoming the alternative solution of this problem. The file compression is implemented for the purpose of problem solving on the spaced storage medium. Therefore, some considerations are taken into account for some compression method, that is, the compression time, redundant and algorithm complexity. Unfortunately, one cannot implement the most effective method for the entire files category which possible to be combined.

In the final project herein, three category of compression method are discussed, such as: DMC algorithm, LZW algorithm and Arithmetic algorithm. The research result shows each algoritm has own characteristic differently dan suitable with certain file. DMC algorithm effectively used for TXT file (Average Ratio=52,07%), DOC file (Average Ratio= 46,92%), JPG FIle (Average Ratio = 97,68%), MPG File (Average Ratio = 98,39%), EXE File (Average Ratio =68,48%), HTML File (Average Ratio = 39,12%). Arithmetic compression algorithm effectively used for compression toward WAV File (Average Ratio =85,36%), MP3 File (Average Ratio 99,01%). Combination DMC Algorithm with Arithmetic Algorithm effectively used for BMP file (Average Ratio=30,38%), AVI file (Average Ratio= 82,5%).

Index terms: Compression, DMC algorithm, LZW algorithm, Arithmetic Algorithm