

## ABSTRACT

The rapid development of any storage media, various kind of technology of data transformation and information has pushed the essential needs in term of efficiency. Those factors which made this, such as: a larger data size that needs to be saved, transmission process, or another need in purpose of information exchange. All those factors make a need of technology in economizing the storage, the bandwidth used in transmission called as compression process.

In this Final Project, the method of Prediction of Partial Matching (PPM) is implemented as one kind of lossless compression method. This algorithm is a category of context-based compression, which means makes prediction of previous character. Its implementation is also including the performance analysis of PPM method. As the comparison, it is used Huffman method. The Huffman method which is applied is a type of static Huffman method. Huffman method is well-known lossless compression algorithm that based on probability calculation of character occurrence. Both algorithm will be compared based on performance side, such as: compression ratio. According to the test result, it is obtained the average of compression ratio for Huffman method is 41,93%. In method of PPM, it is obtained the average of compression ratio for order  $N=5$  is 69,52%. For order  $N=10$ , it is obtained the average 69,08% and last for  $N=15$ , it is obtained the average 68,75%. Therefore, the compression ratio for PPM method is better than Huffman method.

**Keyword : compression, lossless, PPM, Huffman.**