ABSTRACT

ABSTRACT

Improving Text Compression by Introducing Reversed Sequence of Characters on Lempel Ziv Welch (lzw) Algorithm

Devie Ryana Suchendra

Supervisor: Ir. Ari M Barmawi M.Sc., Ph.D

Co-Supervisor: Ir. Hertog Nugroho M.Eng., Ph.D

Data is very important especially for large companies. Some companies require a software or a good tool to compress the data. Data compression is the process of converting an input data stream into another data stream that has a smaller size. Data compression software is very useful because it can reduce the size of the data itself

The main idea of the LZW encoding is to identify the longest pattern for each accumulated segment of the source text and encode them by the indices in the dictionary. If no match is found in the dictionary, the segment will become a new entry to the dictionary. There will be a match found in the dictionary if the same segment is seen next time. We put another check on the segment by adding a second index on a dictionary that represents a reversed sequence of characters

The experiment was conducting on the text file with the size from about a 3.000 Byte up to 60.000 Bytes and a code with length of bits from 9 bits to 16 bits, The results shoq that our proposed method gives better compression ratio compared to the standard LZW and LZW++.

Keywords: Data Compression, LZW, LZW++, reversed sequence of characters