

## Abstract

Nowadays mobile communication is very popular in disseminating information. One of them use SMS (Short Message Service). Maximum characters in an SMS is 160 characters, where a character is 7 bits, so that a maximum of an SMS is 1120 bits. Usually more than one SMS are sent because of the limitations of its character, so people have to pay more.

To overcome this, this final project create SMS compression application with lossless compression technique using the method of Burrows wheeler transform, move to front, and Huffman coding. This application provides information about compression ratio, compression and decompression time, and the number of SMS pulse unit before and after compression.

From testing process, it was found that the SMS will be compressed when the number of characters pretty much. The more characters that are compressed, the compression ratio is better and the compression time is greater. The number of SMS charging units decreases when the number of characters are pretty much.

From the testing process, it concludes that SMS compression with burrows wheeler transform, move to front, and Huffman coding method will be efficient when the number of SMS characters above 531 and the number of SMS charging units are above 5. The more characters that are compressed and the more patterns of the same symbol, the better the compression ratio.

**Keywords:** SMS, compression, burrows wheeler transform, move to front, Huffman coding