

ABSTRACT

In this Final Task was realized a compressor and decompressor which apply a new compression algorithm named Basic SaRWa Compression (sample-reduced wave). The compressor and decompressor were built using Visual Basic 2005 software. The compressor is used to compress an audio file from WAV. The compressed file will saved as new file with SAR extension (*.SAR). The decompressor is used to decompress the audio file of SAR to Ready-To-Play and play it. It means, the decompressor not just decompressing but playing data too right after the decompression process is finish. We can say that the decompressor is a SAR player too.

WAV file as the input of system is limited with 8 bit of bits per sample and mono channel. Right after the process of compressing the audio file is done then the compressed file will saved as a SAR file. To play the SAR file, it needs to decompress the audio data in SAR file first. The decompressed data is a raw data. It has to formatted back to WAV file so the system able to recognizes it. So then, the audio data can be played.

The test result shows that the compression ratio of the system is match with the compression ratio from theory. The value of ratio compression is 62.5 %. The more value of the frequency sampling, the quality of sound from output decoder is getting better too. It means that the decompression process is optimal for the audio file with high frequency sampling. MOS(Mean Opinion Score) audible SAR file is 4.1, it means that the SaRWa Codec has a good performance and applicable in day life.

Keywords : audio compression, lossy compression, Basic SaRWa compression, SAR file type, Compressor, Decompressor.