CHAPTER 5

CONCLUSIONS AND SUGGESTIONS

Conclusions

In this research, the compression-decompression program for map images is created. It contains three parts, the conversion of RGB data to index data, the Optimized Run-Length Coding, and Huffman Coding, that all are lossless compression algorithms. The advantages of this program are that despite a high compression ratio, there is no loss of the content of the map image, and unauthorized persons can not open the computer file. Other commercial application programs can not be supported unless a decompression program is created. In terms of compressed image size and compression ratio, the results show that RTSDZIP give a smaller size and a higher compression ratio than WINZIP 7.0 about 29 – 44%. It is useful for the applications of image data transfer and data backup storage. And it can be well applied for using with map images in a long distance distributive digital printing. It can decrease the size of images and data transmission time while, at the same time, preventing unauthorized persons from accessing the data.

In terms of computation times, it shows that WINZIP is faster than RTSDZIP. However, we can decrease it by lowering the map image resolution and using a higher CPU clock speed and more RAM. Although RTSDZIP still uses substantially more computation time compared with WINZIP, the obtained results which show a dramatic decrease in computation times, are acceptable.

When digital prints was compared with offset prints, there were differences in color reproduction but their quality was acceptable. The color differences happened because the use of different printing processes. Additionally different printing substrates and inks were used, and a color management system was not employed.

Suggestions

This research creates the RTSDZIP that can be only used with Raw format. Further study should modify this program to use with other file formats and point to the modification of the compression and decompression algorithms to increase the compression performance and decrease the computation times. The example images used in the study should have a control strip for inking control. If a color management system is used, the absolute long distance distributive digital printing system for maps can be approached.