

## CHAPTER V

### CONCLUSION AND SUGGESTIONS

#### 5.1 Conclusion

The theoretical Image Analysis technique includes Boundary Descriptions, an Absolute Chain Code, determining Pixel Line Length and Object Classifications. It can be used effectively as a tool for extracting code information out of alphabet characters, under the condition of an image document specification as mentioned in Chapter IV.

The algorithm also matched the letters that had been translated from the document with the original file using a computer. A satisfaction test result of 80% was obtained. This greatly reduced the time needed to verify and check the characters before printing.

The Feature Extraction portion traced out the structure of an object or characters, then mapped them with a code of each function so that they could be compared with existing database information to recognize the characters. Other font types which have a structure similar to Cordia New could be used effectively.

The scanner is set for an input resolution of 100 dpi. This is suitable requiring between 2 and 3 seconds for the algorithm to process the character. Increasing the resolution setting in the scanner requires more time and actually increases the probability of errors because the greater number of pixels being scanned.

The problem of the algorithm operation is incorrect readings of the characters. The reflected light from the document is low and the CCD sensor may not give an entirely accurate reading of the character resulting in distortion.

Compared with other OCR (Optical Character Recognition) software systems, this algorithm concentrates on using the translated digital file characters to match with the words contained in a document file. Other OCR software applications were intended to write translated digital file characters in word processing applications.

The usefulness of the algorithm depended to a great extent on the quality of the apparatus used such as printer and scanner. The ultimate goal was to make as perfect an image as possible, at the same time to eliminate errors in classifying the characters in the document.

## **5.2 Suggestions**

Based on this research the existing and limited specifications of the input image such as the front size can be adjusted to suit the conditions of the work criteria.

For increasing the efficiency of an algorithm, an image composed a fine pixel arrangement and a perfect scanned shape from the characters is essential. For this type of procedure a particularly high quality type of scanner such as a drum scanner should be used.

This algorithm uses a MS-DOS window as a user interface. It might be awkward in operating this algorithm, so changes can be made as demanded by future developments of the program. This algorithm could be easily adapted to use with others Image Analysis field works such as a bar code determination, fingerprint analysis, and a variety of other word correction applications. Finally, this algorithm used only English alphabet characters as a prototype, so other languages' characters should be tested in the future.