

CHAPTER I

INTRODUCTION

1.1 Scientific Rationale

In the printing process, a character on a printed sheet is verified by the spelling and a careful check to determine whether the letter is in the right position. Mistakes frequently occur in this part of the editing process, which is usually time consuming and a costly effort. This research suggests the use of an algorithm to do this work instead of the human eyes and brain.

Using an algorithm first requires the processes of image segmentation, feature extraction, and object classification. Image segmentation is a part of preparing an image for use. Feature extraction uses a technique of absolute chain code and pixel line length which is determined by the number of pixels in each row of an object. This information will be organized according to the group's part of object classification. All recorded data will be kept on a personal computer that is used to detect incorrect character positions on a printed sheet.

1.2 Objective

To create an algorithm for determining the accuracy of a printed sheet when compared with the original artwork file instead of doing the process manually.

1.3 Scope of the research

This research is intended to design an algorithm to match between the characters translated from a digital image file with the words contained in a document file under the following conditions.

1. The algorithm will operate according to the specifics of an image that has been prepared for image segmentation.
2. The characters tested in this research were an English alphabet from A to Z. A Cordia New font type with a size of 16 points was used as a prototype.

1.4 Content of the Thesis

Chapter 2 gives an overview of the theoretical considerations and literature reviews. Chapter 3 describes the operation of the algorithm and experimental work. Chapter 4 contains the experimental results followed by a discussion. Finally a conclusion will be given in chapter 5, together with some suggestions.