

CHAPTER I

INTRODUCTION

1.1. Background

A fingerprint is an impression left by the friction ridge of human finger. Fingerprint ridge is very unique. A person's fingerprint will be different from others. The local characteristic of fingerprint, such as ridge termination and bifurcation, and its relationship can be used to identify person.

There are numerous algorithms that can be used to process a raw fingerprint image. The processing will produce a fingerprint template that can be stored to a database for future usage. Generating fingerprint template using minutiae extraction technique needs three major step; preprocessing to get enhanced fingerprint image, feature extraction includes reference point and minutiae points, and construct minutiae template.

For recognition, a matching method is needed. This research aims to identify fingerprint by using minutiae template. To make this application more useful, the project will be implemented to mobile phone so user can perform fingerprint recognition easier.

1.2. Scope

This project implements on Android based mobile phones. Java programming language will be used for the application development. This research will focus on fingerprint identification phase.

The application will have these following features:

1. Generate fingerprint template
2. Register fingerprint identity
3. Identify fingerprint owner

1.3. Objective

This application creates to identify fingerprint. Selected image will processed through some algorithms to get fingerprint template. These algorithms will be divided into three major processes; preprocessing, feature extraction, and minutiae hashing.

After the fingerprint template (minutiae hash) obtained, user can choose to register or identify the template. Identification will show matching score.