

FINAL YEAR PROJECT REPORT

(Biometric security)



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Abstract

Biometric technologies are on the verge of wide-scale deployment, with fingerprinting being the most researched and proven method in the field. We propose developing a system that can quickly identify individuals via a device using only person's fingerprint. The Fingerprint Identification System (FIS) is a database of digitized fingerprint files. It matches fingerprints submitted electronically (through Live scan electronic fingerprint capture devices) against those in the system to assist in the accurate identification of individuals.

Dedication

This project is dedicated to our beloved parents.

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Chapter 1 Introduction

Fingerprints are imprints formed by friction ridges of the skin and thumbs. They have long been used for identification because of their immutability and individuality. Immutability refers to the permanent and unchanging character of the pattern on each finger. Individuality refers to the uniqueness of ridge details across individuals. The probability that two fingerprints are alike is about 1 in 1.9×10^{15} . However, manual fingerprint verification is so tedious, time consuming and expensive that is incapable of meeting today's increasing performance requirements. An automatic fingerprint identification system is widely adopted in many applications such as building or area security and ATM machines.