DEVELOPMENT OF COMPUTERIZED RESTRICTED ENTRY SYSTEM USING SMART CARD READER AND PERSONAL IDENTIFICATION NUMBER.

Thesis is presented to fulfill the requirement of Advanced Diploma in Electrical Engineering of MARA Institute of Technology.

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ABSTRACT

This project deals with matters pertaining to the application of IC cards (or "Smart" cards") in restricted entry systems for personnels. Smart cards provide a high level of security and enable information to be stored savely. This project is a survey of the existing technology and an attempt to describe some future possibilities. A smart card contains a microprocessor and memory units, so that it can be used for various application. This work also is mainly centered on investigating the architecture of the Smart card and carrying out the initial work necessary for developing a Smart card-based security system. Initially the personalization process must be performed before the card can be used for a particular application.

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1.0 INTRODUCTION

Smart card is a plastic card embedded with an integrated circuit chip, the Smart card size usually similar to a credit card. The integrated circuit chip consists of Microcontroller, ROM, RAM, EEPROM which will be discussed in Chapter 2. It may have temporary or permanent data storage functional ability. The storage may be read externally off the Smart card or it may be used internally for information processing and decision making.

Current system based on Magnetic-stripe cards have some limitation. They have limited storage capacity, passive device without built-in logic for security control of the content or access to read or change the content. The better of Smart card according to its advocates, have more storage capacity, better control and easier connection.
Smart card can be widely used in various application such as Financial services, Medical profile from doctor, Travel agency services, Military etc..

One of the application was applied onto the door access security system. The Smart card is used to activate and deactivate the door based on information given in the Smart card. The operation will be disscussed in Chapter 7.