SMARTCARD DOOR LOCKS

This Project Report is presented in partial fulfillment for award of the Bachelor of Electrical Engineering (Hons)

UNIVERSITI TEKNOLOGI MARA

NORAINI BINTI HARUN

Faculty of Electrical Engineering

UNIVERSITI TEKNOLOGI MARA

40450 SHAH ALAM, SELANGOR

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ABSTRACT

This project report deals with matters relating to the application of IC cards or smart cards in the security for access control systems. This smart card is used as a key to unlock door and it will be implement by using Visual Basic programming software. This software performs bi-directional communication between PC and smart card reader through USB port. The function and operation of the system have been tested successfully and future development to enhance this project has been discussed.

This project is concerned on the development of smartcard applications as a key to unlock door based on electronic identification for access control system. The system comprises of two modules, which are the hardware and the software modules. The hardware is physically requirement materials to implement the project. Besides, the software module is designed and created for communication manners between the hardware itself and to control the function and operation for the entire system of this project development.

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INTRODUCTION

1.1 Introduction

Smart cards are one of the fastest growing segments of the semiconductor industry, fuelled by the increasing diffusions of services based on electronic identification, like access control, banking, health insurance, pay TV, or on pre-paid cards. The main advantage of the smart card, or chip carrying card, over the old magnetic stripe card is essentially in the higher degree of security given by the presence of "intelligent", introduced by a microcontroller integrated in the chip. [1]

This project is concern on the development of smartcard applications as a key to unlock door based on electronic identification for access control system. The system comprises of two modules, which are the hardware and the software modules.

The hardware is physically requirement materials to implement the project. It consists of six major parts, which are computer (PC), smart card reader, power supply (adaptor), interface circuit, relay and electromagnetic lock. USB port at computer is used to communicate with smart card reader. Meanwhile, RS232 port at computer produce signal for control the door to be unlocked.

Visual Basic is now one of the most flexible and powerful visual object-oriented computer languages available, and it remains the most popular language. It uses identifiable shapes, each of which has certain properties and can respond to a variety event. Therefore, the Visual Basic 6 Enterprise Edition is selected for language programming to develop this project. It is very easy to use and understand.