IMPLEMENTATION AND DEVELOPMENT OF SMART MOBILE PHONE SECURITY ACCESS SYSTEM (SmartSAS)

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ABSTRACT

Home security system is very importance for all residents who put safety as a priority in their daily lives. In line with this, a project is developed to construct a security system that is connected via mobile phones when the alarm is activated. The whole project is implemented and developed both hardware and software. This project consists of keypad as the input for password key-in, PIC16F877A microcontroller as a main controller and a DC motor which acts as an output. Once the system is tempered by an intruder, the alarm is activated and the system will notify the user through a mobile phone. This alarm will be deactivated when the correct password is entered. Another feature of this alarm system is that it is equipped with auto lock system when a person enters the premise with a correct password or leaves the house within an allocated time delay (30 seconds). From the analysis, the probability for the intruders to break into the security system are 2^16 since the system is equipped with 6-digit passwords. In software implementation, MPLAB and C program languages are used.

CONTENTS

CHAPTER 1

INTRODUCTION

This chapter provides the background of the project. It also discussed about the background study, problem statement, objectives of the project, scope of the project, and significance of the project in Implementation and Development of Smart Mobile Phone Security Access System (SmartSAS) that led to this project.

1.1 BACKGROUND STUDY

Nowadays, security systems are preferably necessary to ensure the house security from intruders. Installing a security system can improve the safety of family and property. In Malaysia, robbery cases have been reported to be increasing dramatically from the year 2000 to year 2006. These cases increased from 12 000 cases to 18 000 cases, which are approximately 1000 cases increased per year [1]. This statistic indicates the importance of implementing the security system in the residential area. Furthermore, it is crucial to have advanced alarm system, which could secure the premises. Security can be defined as a degree of protection against danger, damage, loss, and crime [2]. Security systems are separated into two types, which are monitored and unmonitored. An unmonitored alarm system is the simplest of home alarm system monitoring devices.

In the case of unmonitored alarms; the system simply sounds like an audible alert when there is a breach of security [3]. In many cases, invasion occurred while homeowners are not at home, so the probability of someone hearing the alarm is slim. The alarms system inclines to scare away intruders. Mostly, intruder will retreat