

# DESIGN AND DEVELOP HOME SECURITY SYSTEM

LIM SIEW CHIAT

SCHOOL OF ELECTRICAL SYSTEM ENGINEERING  
UNIVERSITY MALAYSIA PERLIS

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# DESIGN AND DEVELOP HOME SECURITY SYSTEM

by

LIM SIEW CHIAT

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**DECLARATION SHEET**

**I hereby declare that my Final Year Project Thesis is the result of my research work under supervision of Miss Ernie Che Mid. All literature sources used for the writing of this thesis have been adequately referenced.**

**Name (in capitals) : LIM SIEW CHIAT**  
**Candidate number : 071070330**  
**Supervisor : Miss Ernie Che Mid**  
**Title of thesis (in capitals) : DESIGN AND DEVELOP HOME SECURITY SYSTEM**

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**Candidate's signature: ..... Supervisor signature: .....**  
**Date: ..... Date: .....**

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## ABSTRAK

Kini, jenayah kecurian meningkat setiap tahun. Sistem keselamatan rumah adalah sangat penting untuk dipasang. Namun, masih terdapat banyak keluarga yang tidak berupaya untuk memasang system ini. Oleh itu, projek tahun akhir ini adalah untuk merancang dan menghasilkan sistem keselamatan rumah yang kosnya rendah dengan menggunakan mikrokontroler. Dalam sistem keselamatan rumah tersebut, pad kekunci dipasang di sisi pintu depan untuk mencegah penyusup masuk rumah. Kata laluan perlu dimasukkan untuk membuka pintu. Selain itu, suis mikro dirancang untuk dilengkapi pada setiap tingkap and pintu. Alarm akan berbunyi sekiranya tingkap atau pintu terbuka. Sebagai tambahan, PIR sensor juga dirancang dalam projek ini untuk mengesan samaada penyusup yang sudah berada di dalam rumah. Selain melindungi pemilik rumah dari penyusup, sensor suhu akan dipasang di dapur untuk memberi amaran kepada pemilik rumah supaya kebakaran dapat dicegah. Dalam projek ini, bahasa C digunakan dalam melakukan semua pengaturcaraan untuk mengawal seluruh sistem. Semua sensor di atas akan memberikan isyarat kepada mikrokontroler untuk membunyikan alarm. Pemilik rumah boleh membuka atau menutup sistem ini secara manual. Projek ini adalah sistem keselamatan rumah kos rendah yang mampu diperolehi oleh kebanyakan pemilik rumah dan sistem ini adalah mudah untuk digunakan.

## DESIGN AND DEVELOPMENT OF HOME SECURITY SYSTEM

### ABSTRACT

Nowadays, the burglary crime is increasing every year. Security system is very important to be installed. However, many families cannot afford to do so. Therefore, this Final Year Project is to design and develop a low-cost home security system using microcontroller. This home security system is provided with keypad to prevent intruder from entering the home, a keypad is installed at the side of the front door. Password is needed to be key in to open the door. Besides that, micro switches are equipped on all windows. This is a closed-loop system which the alarm will be triggered if the window has been opened. In addition, PIR sensor is also developed to detect whether there is any intruder already inside the house. Besides protecting the home owners from intruder, temperature sensor will be installed in kitchen to give alert to the home owners so that fire can be prevented. In this project, C language will be used in all the programming to control the whole system. Any of the sensors above can give input to the system to sound the alarms. The home owners can enable and disable the system manually. This project is a low-cost home security system which is affordable by most home owners and the system is user-friendly.