CHAPTER 1

1.1 Overview

In this modern day of digital technology, home security system is becoming one of the fastest developing application-based technologies in the world as people strive to make living more comfortable and safe. This idea of comfortable living in homes has changed for past decade as digital and wireless technologies are now integrated into it. Thus it is leading to the concept of home security system.

The implementation of home security system has few advantages provide to owner as below:

- Prevention of loss property due to burglary

  Burglars won't come across a home that has a home security system installed. Hence, it will protect our property

- Safeguarding life

  Some intruder may tend to inflict to home owner or his family.

- Relaxation after a day's hard work

  Home owner may enjoy peace and tranquility after a hard day's work. It will make home owner feel safer and more protected.

However, home security systems are not flawless. Is got some delay time for the burglar to escape. Hence, the aim of designing a home alarm monitoring network is to solve the problem. This project will ensure this home alarm monitoring network successful after commercialized.

1.2 Problem Statement

Safety for neighborhood is an arisen issue on these days. It is distinct that the safety in the public is getting worse, and people are getting worried when they are trying to leave their home. Hence a lot of securities systems are develop in the market.

Most of the security system that available in the market is providing security system with security service. Such security has their own call service center that will receive signal from owner house when got intruder. When someone intrudes to owner house, sensor will trigger and send to the call center. Call centre will send a text massage to owner hand phone to notify the owner. At the same time, they will make a call to police station that nearby owner house to monitoring the situation.

This system is good initially, but it is less realistic because it need some time to arrive from police station to the owner house. During this period of time, many things may happen. Intruder may also escape during this period of time. The chance to catch the thief has waste. Moreover if it just some misunderstanding such as cat passed by and activated the alarm accidently. It will be waste of time and energy for the police to go and check the house.

Unlikely to people in the past, people in town not only live in normal housing area. They are living in a guarded housed or in a condominium or flats. In such place, guards are employed to check on the people that going and out from the housing area. Guards also keep people safety on that housing area.

Since, there are guard and guard house standby in most of the housing area. Home alarm monitoring network develop to connect the alarm system from owner house to the guard house. When alarm trigger, signal will send to the guard house. Guards will receive signal and go to check the owner house. The traveling time is short, intruder will catch and the owner property and family safety will be protected. The home alarm monitoring network will develop to solve this problem of inconvenience.

1.3 Objective

The main objective of this project is to develop a microcontroller base home alarm monitoring system that able to sending signal form two house and receiving signal from guard house. In order to achieve main objective, following job must accomplish:

i.   Develop algorithm that will wirelessly sending signal and receive signal
ii. Design microcontroller connecting owner house and guard house for network monitoring.

1.4 Scope of Project

This project is using assembly language for the program development. It can divide into two parts that is hardware and software. Hardware architecture is design to meet the requirement of the project specification as well as circuit design of the system. Assembly language will develop to meet the hardware specification.

1.4.1   Hardware Specification

In general, this system can be divided into two parts: Monitoring unit and transmitting unit.

1.4.1.1 Monitoring Unit

- Buzzer
  Buzzer will trigger mean got intruder on this housing area. Buzzer will off when receive disarm signal.