

ANTITHEFT SENSOR CONTROLLED HOME SECURITY SYSTEM

Vijetha T S

Assistant Professor, Dept. of Electronics and Communication Engineering,
Alva's Institute of Engineering and Technology-AIET, Mangalore, India

Meghana, Namratha S H, Nayanashree K S and Kavyashree G B

UG Scholar, Dept. of Electronics and Communication Engineering,
Alva's Institute of Engineering and Technology-AIET, Mangalore, India

ABSTRACT

In day today life security plays one of the most significant role in the different fields which are commonly utilized for home security reason. As the security system has reached its level high in different aspect for example distinguishing unapproved passage into home, ventures, labs which made requirement for financially savvy home security framework. This framework comprises of 89S52 microcontroller board, IR sensor module, Remote camera to catch the picture of an individual, Vibration sensor on the off chance that somebody attempts to break the entryway or glass of the home, Micro switch, ASK transmitter and collector, Vicinity sensor which is utilized to detect the unapproved section, LCD to show the subsequent status and GSM module for the correspondence such sending message and missed call to the client and close by police headquarters in any crisis.

Keywords: Microcontroller, Sensor, Wireless Camera Amplitude Shift Keying (ASK), Liquid Crystal Display (LCD), Global System for Mobile (GSM).

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1. INTRODUCTION

Security might be a major test wherever in light of the fact that robbery is expanding step by step because of the perilous and unreliable security system in homes, business buildings and ventures. A few customary advancements are accessible to remain at home properties safe from gatecrashers, yet commonest keen home security system take a shot at remote Worldwide Framework for Portable correspondence by Global System for Mobile Communication (GSM) modem shown in figure 1. By this our security system gives great

measure of security to the clients. This system is regularly effectively worked and introduced anyplace. The client is informed by Short Message Service (SMS) or a simple instant message, if any risk or issue distinguished by the security framework.

There's an association among microcontroller and GSM modem for sending the message to the proprietor.

The point of the task is to switch a current wellbeing and security model for the house security system. This undertaking structures an implanted framework. For remote checking for the household condition these days home observing is significant for wellbeing and security reason, which help us to comprehend the status of the home in the absence. The parameters inside the home will identify the unapproved passage and criminal operations utilizing particular sensors. The unapproved section and consequently the recognized information are moved to the Solicit beneficiary with the help from Solicit transformer with the help from microcontroller and GSM modem which is introduced inside the security framework. The upside of this computerized security framework is that it offers quicker response time and exact recognition during the crisis by a SMS to the closest police station and along the line of the property holder.

2. LITERATURE SURVEY

The literature survey according to the paper shows different ways to secure the home such as digital door lock [1] is one the most popular devices that is used by people due to its low power, less expensive, easy to use in nature [2]. In present there are many convenient locks but this system tries to meet all the user requirements. It consists of many different activities like detecting user, fetching B-id, verification, notifications, perform actions according to request. As the survey is done many of the system have proposed door lock system using Bluetooth technology [1], to improve security in home automation so as to establish the connection between user and the pc to access the door.

Some have focused on flexible and powerful home security system using GSM technology [5], [8], [14] as its wide area. Some have proposed intrusion protection using proximity sensor in the mobile phones [17]. Proximity sensor not only detects the intruder but also informs owner within second of intrusion. Home owners will be able to receive the feedback status of any illegal activities are under taken in the home using PIC16F887 microcontroller in one of the paper with the integration of GSM [3]. Some have proposed Android interface based GSM home security system where they have developed ANDROID application [14], which senses the message on a mobile device. Some have proposed home automation based on ARM controller that is Arduino Mega2560 for the ease of programming. Hence the overall literature survey mainly focused on home security system and solution to the problems faced by the home owners like switch ON/OFF of water pumping machine, generator set, to controlling of home appliances like television, lighting system, and other industrial appliances wirelessly via SMS [16].

According to the literature survey the main aim is to focus on the home security system which helps the owner to take care of their home in their absence, and to get all the information were ever they travel with the help of the sensor used in the this implementation.

3. PROPOSED BLOCK DIAGRAM

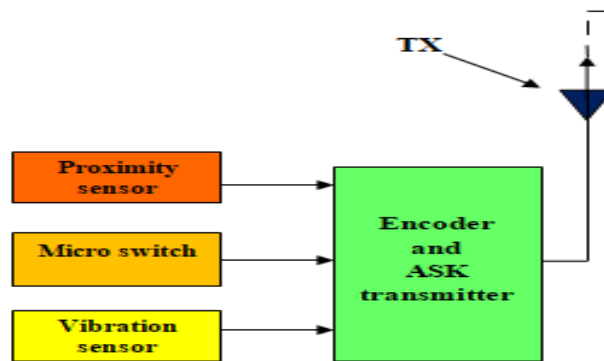


Figure 1 Block diagram of security system inside the home

The used and implemented of the system is proposed accordingly. An antitheft sensor controlled home security system consists of numerous sensors, GSM, encoder and ASK Tx, ASK Rx and to decode and encode the information ARM microcontroller program is written in the keil software to implement this particular system. This system consists of two different parts one is inside the home shown in the Figure 1, and other is outside the home shown in the Figure 2. Inside the home system plays the role of detecting the unauthorised entry surrounding the home in the absence of the owner. This system consist of IR based proximity sensor is utilized to detect unapproved section. A proximity sensor identifies the unauthorized items which have no purpose of contact. Since there's no contact between the sensors and along these lines the detected article and absence of mechanical parts, these sensors have long practical life and high unwavering quality, if things are identified then the message is sent through GSM and the image of the unauthorised person is sent o the owner of the home as wireless camera is placed in the system.

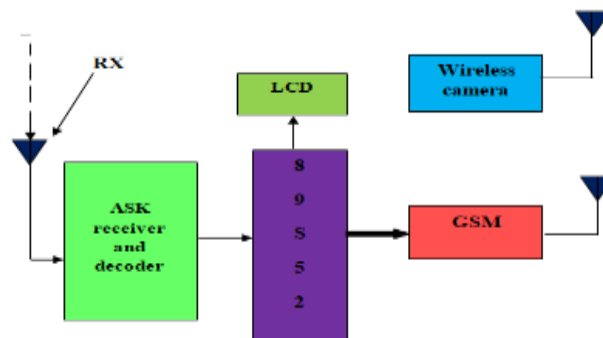


Figure 2 Block diagram of security system outside the home

If there is any breaking of the doors, window, glass, window grilles or anything which cause the vibration while breaking the vibration sensor is activated. Vibration sensor is utilized to identify if an individual attempts to interfere with the entryway or window, and along these lines the yield of vibration circuit is taken care of to the encoder to the information and to the request that Tx transmit the sign and sends the information to the owner of the system the picture of the TX is shown in the Figure 3. On the off chance that anybody inside the range is facing any uneasy things happing around in basic position one can just press the smaller scale switch all together that the encoder will get the sign. Encoder changes over the equal information into sequential information and takes care of to the

Approach Tx for sequential transmission. ASK Tx transmits the bits in sequential mode with a bearer recurrence of 433MHz.

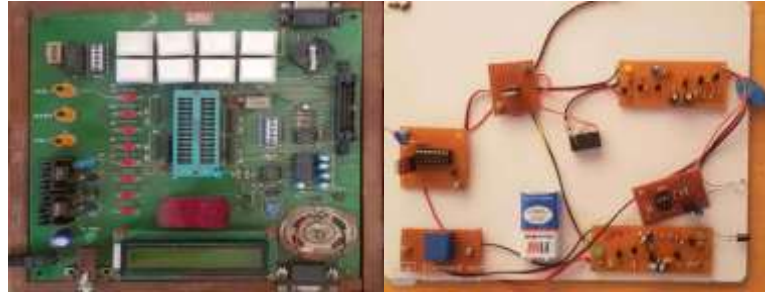


Figure 3 Information is transferred through this kit

ASK Rx gets the computerized information transmitted from the ASK Tx and is taken care of to decoder. The decoder changes over the sequential information into equal information and took care of to the microcontroller. The 89S52 microcontroller is that the core of the task, it controls the working predictable with the program meaning microcontroller is the important part of the system to show unit to show the parameter issues and send the message to the GSM modem. With the help of GSM modem the SMS is transmitted for sending message, a GSM modem named SIMCOM300 with RS232, power supply. The interface between GSM modem and microcontroller likewise should be possible through with the help of wires

4. IMPLEMENTATION OF THE PROJECT

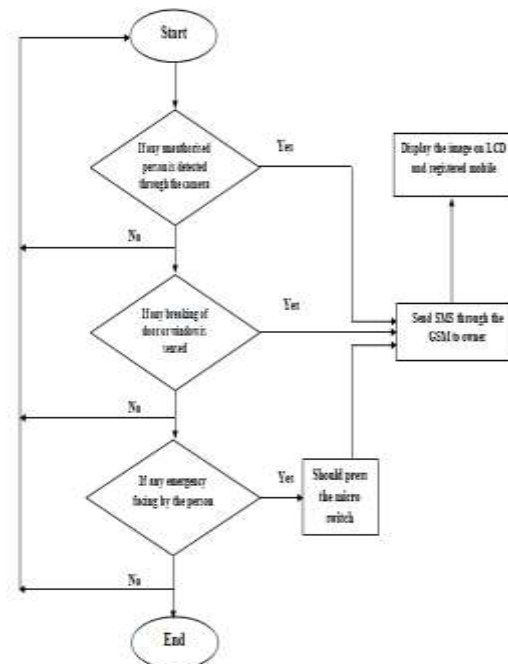


Figure 4 Flowchart of the system

The implementation of the project in the Figure 4, describes the internal structure of the components used to design the anti-theft sensor controlled home security system. This system will be continuously monitoring for security purpose, according to the sensors placed inside the home. If any unauthorised person tries to enters the home will be detected through the camera placed and the sensor will automatically detect the person and if in case he is under any illegal activities then the sensor will recognize and the same will be sent to the owner of

the house in the form of SMS and the image captured. The breaking of the door and window or any things while breaking the vibration is sensed through the vibration sensor and the information detected by the sensors will be sent to the authorised person via SMS and image. In the same way if any emergency or facing any uneasy during any party, if being alone in the home can make use of this switch called micro switch. All the detected information is stored in the data base and the information is sent at the same time if any illegal activates is detected to the nearby police station and the owner of the system with both SMS and the image of the person.

4.1. Results of the Project

The final output of the system is, it will detect the unauthorised person, sense the vibration of breaking any materials and in the time of emergency the micro switch will be used and the information which is detected will be sent to owner, the nearby help centre and the police station via SMS and the image captured by the camera placed in this system.

5. CONCLUSION

This paper provides a quick analysis of various usage of home security system, which says security is most vital in lifestyle and existing add the sector of antitheft sensor controlled home security system, which monitors both inside and out of doors the house. The system will detect the illegal activities within the absence of user if something goes wrong accordingly notifies the user through SMS alongside with the image/video of the intruder and exact location with the assistance of GSM.

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