Broadcasting Emergency Alert for Help on SOS Network

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ABSTRACT: This paper describes about the one touch message alert system for daily general issues which occur all over the world like kidnapping, crime against women, and other aspects using GSM and GPS module of mobiles.The person in trouble can SMS for help just with the press of a catch on this shrewd contraption. This helps to identify protect and call on resources to help the one out of dangerous situations. The basic purpose of this system is to broadcast the message by using SOS network for seeking help of person who is nearer and able help him\her, but this system also send the information or alert to nearby intercrop, here text message have specified for different type of help as ambulance, fire bridge, etc. and also in this system some preferred mobile number (example: family, friends, etc.) embedded which only user defined.

KEYWORDS: SOS network, SOS key press, Microcontroller, GSM, GPS, LCD.

I. INTRODUCTION

Emergency alert is the telephone warning system used emergency services such as police, fire and others to send voice message and text message to mobile phone. This paper presents an analysis review on the principal need of intelligence security system with technology requirement and challenges to build the system. Since the forecast of such occurrence is impractical henceforth to minimize the likelihood of physical viciousness (burglary, rape and so forth.) by keeping all the help apparatuses prepared to securely escape from brutal circumstance. This lessens hazard and brings help when required.Through this framework we are finding to help the people groups by a one touch press button when they predict may be in trouble, that system send text message using SOS network which are available in our mobile phone.
There are several app reduce the risk by informing control centre and their associates through SMS, but in lay of those this apparatus have a great deal more effective approach to educate those this regarded personals and also has a defending system which cannot be provided by existing app. The main software's that are using in this project are visual basic and embedded C.The main advantage of this project is new model for the women security in public places which aims to provide the 100% safe environment. The piece outline of the applied framework is appeared in underneath. The microcontroller acts as an embedded computing system and controls the activities of all the sub-systems. It is interfaced with GPS Receiver, GSM modem.
In the event that all parameters are ordinary and if the Emergency Switch is not squeezed, it goes back in the loop and continues general checking process. But, if any of these parameter values are abnormal or if the Emergency Switch is found to be pressed, it activates system has already implemented codes of tracking and tracing by GPS, The GPS module tracks the longitude and to follow a definite area of a client and sends the pre-put away emergency message including location to the registered contact numbers. The message goes in queue if network problem and send when network gets available. A notification is generated for no-hit deliver message. Also user can select contact through contact list and make a call.

II. OBJECTIVE

The main objective of the system is to reduce the chance of physical viciousness by generating text. For improved security the process is done in the knowledge of the respective person. Thus, there is no chance of physical viciousness.

III. EXISTING SYSTEM

Remembering the same concern numerous engineers have thought of inventive applications. Few of such applications are as per the following-

A.   VithU application

This is a crisis application started by a well known Indian wrongdoing TV arrangement "Gumrah" circulated on Channel [V]. In this application when the force catch of the Smartphone is squeezed twice successively, it will start conveying ready messages with a connection to the area of the client at regular intervals to the contacts nourished into the application.

B.   SHE (Society Harnessing Equipment)

It is an article of clothing planned by three architects from Chennai. This article of clothing has an electric circuit that can produce 3800 KV of current which can help the casualty to get away. If there should arise an occurrence of different assaults it can send upto 82 electric stuns. Since the fabric is bilayer, the client is not influenced. It can likewise send crisis messages.

C.   ILA security

The prime supporters of this framework, McGivern, James Phillips, and Neil Munn , have planned three individual cautions that can stun and confuse potential assailants and attract thoughtfulness regarding risky circumstances.

IV. SYSTEM ARCHITECTURE

The above figure consists of the fallowing sections.

➢   Embedded microcontroller
➢   LCD 16*2 Display
➢   GSM module
➢   GPS module
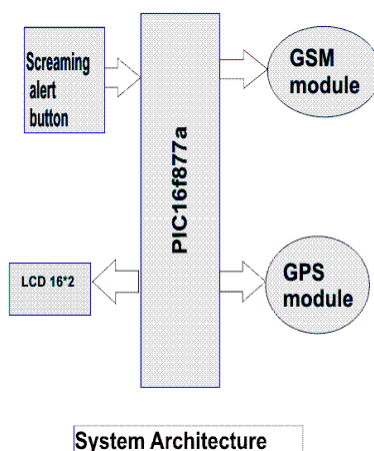➢   PUSH button

System Architecture

Figure 4.1System Architecture

➢   **Microcontroller:**The microcontroller is the most essential piece of this framework is a little PC on a solitary coordinated circuit containing a processor center, memory, and programmable information/yield peripherals. In this system we have chosen PIC 16F877A because is Streak based 8-bit microcontroller

packs Microchip's capable PIC® design into a 40-44 pin bundle and is upwards perfect gadgets shown below in figure 4.2 .
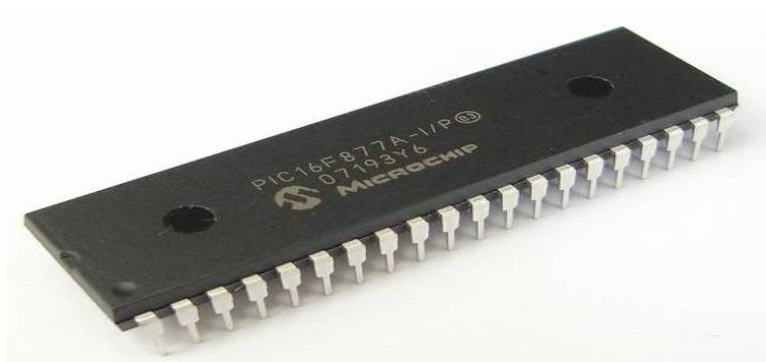

Figure 4.2 illustrates the PIC 6f877a of the model

The PIC16F877A highlights 256 bytes of EEPROM information memory, self-programming, an ICD, 2 Comparators, 8 channels of 10-bit Analog-to-Digital (A/D) converter, 2 catch/think about/PWM capacities, the synchronous serial port can be designed as either 3-wire Serial Peripheral Interface or the 2-wire Inter-Integrated Circuit (I²C) transport and a Universal Asynchronous Receiver Transmitter (USART). These elements make it perfect for more propelled level A/D applications in car, mechanical, apparatuses and purchaser applications.

➢ **LCD 16*2:**A liquid-crystal display (LCD) illustrated in figure 4.3 a level board show or other electronic visual presentation that uses the light regulating properties of fluid gems. Fluid precious stones don't discharge light directly.
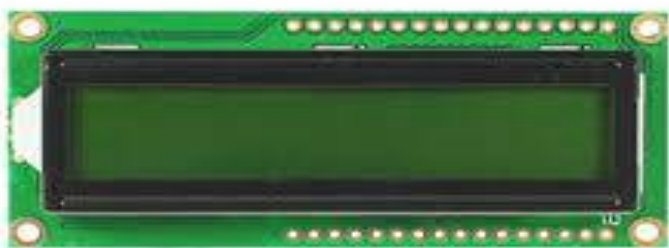

Figure 4.3 illustrates the LCD of the model

LCDs are accessible to show discretionary pictures (as in a universally useful PC show) or settled pictures with low data content, which can be shown or covered up, for example, preset words, digits, and 7-fragment shows as in an advanced clock. They utilize the same essential innovation, aside from that subjective pictures are comprised of countless pixels, while different showcases have bigger components.

The showcase comprises of a speck framework of lights masterminded in a rectangular setup such that by exchanging on or off chose lights, content or representation can be shown. The brilliance of LCD can be controlled by variable resistor. The principle preferred standpoint of LCD is that they are more slender and lighter than CRT's. .All the capacities required for speck grid LCD show drive are inside given. The CMOS innovation makes the gadget perfect for application in handheld, compact and utilized low power utilization.

➢ **GSM module:** A standard GSM modem is utilized here for the sending and accepting of the message. The extent of GSM modem operating recurrence is 900MHz to 1800MHz. This GSM Modem is shown in figure 4.4 can acknowledge any GSM system administrator SIM card and act simply like a cellular telephone with its own one of a kind telephone number.

Figure 4.4 illustrates the GSM Module of the model

It is a remote MODEM and can send and get information through the GSM system. It requires a SIM card and availability to the GSM system. It can like be utilized as a part of GPRS mode to interface with the web and utilize every one of the applications for information logging.

➢ **GPS module:** GPS remains for Global Positioning system. Worldwide Positioning System (GPS) is a system of satellites that consistently transmit coded data, which makes it conceivable to exactly recognize areas on earth by measuring separation from the satellites. The motivation behind utilizing GPS module in the framework is, it consistently transmits serial information like position of a person wearing sensor, regarding scope and longitude, date, time and speed qualities to handling unit.

➢ **PUSH button :**A push-button or essentially catch is a basic switch system for controlling some part of a machine or a procedure. Catches are commonly made out of hard material, generally plastic or metal. The surface is normally level or molded to suit the human finger or hand, in order to be effortlessly discouraged or pushed. Catches are regularly one-sided switches, however even numerous un-one-sided catches (because of their physical nature) require a spring to come back to their un-pushed state.

V. SYSTEM WORK FLOW

A.   PCB layout and design

A printed circuit board (PCB) mechanically supports and electrically connects electronic components using conductive tracks, pads and other features etched from copper sheets laminated onto a non-conductive substrate. Components – capacitors, resistors or active devices – are generally soldered on the PCB. The system layout is proposed by using simulator software as ExpressPCB as shown in figure 5.1. and after that hardware of PCB is fabricated on single sided copper plate as per layout also show in figure 5.1 below.
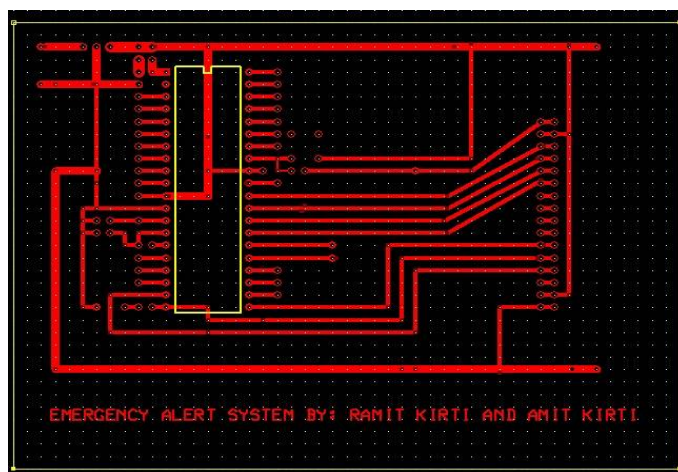
Figure 5.1 systematic model of designed layout

B.   *Working of system*

If he/she feel may be in trouble and pressed the button which available in mobile phone for any emergency, it activate the GSM at SOS network with GPS, generally GSM module of all mobiles are working at 900-1800MHz because it's compatible to all system and most used. Then this system broadcast a text message in all regions rather some is near and far but it does not depend only on phone contacts, here GPS trace the position of victim and include in same text message.

This text message is all received to public safety organization (intercrop, fire bridge, ambulance, etc.) for help solve out from this situation.

VI. CONCLUSION AND FUTURE WORK

The conclusion proposed for broadcasting emergency alert for help on SOS network in references of critical issues which occurs in all over the world through this system we are trying to help to solve this problems by technology innovation and interaction.

Our effort behind this project is to style and fabricate a contraption that is thus compact in itself and also implementing code in mobile phone that offer advantage of non-public security system. In future, this system configuration can be change and improve as per requirements.

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BIOGRAPHY

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