

“Security system using speech recognition for women safety”

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Abstract

The project, women safety system, is totally based on speech recognition of a woman’s voice. We have used the MATLAB software for speech processing purpose. This module will be activated or made ON when a girl speaks specific word. In this project, a specific dictionary of words is created to be spoken in emergency condition. MATLAB based speech recognition system is used to recognize the words spoken by the user so that the system can detect the state of emergency and generate the alarm using Microcontroller based hardware. The location of the girl will be sent to her relatives and police through an SMS based alert system. By tracing location of girl, police & relative can find out about girl’s location.

Key words: Speech recognition, MATLAB programming, Microcontroller, GSM, GPS.

Introduction

Unfortunately, the news has recently been dominated by instances of rape, kidnapping and other heinous crimes. Teaching and schooling about physical education and art is provided, but schools do not equip students with basic life skills - especially the skill of safety. The need for a project that instructs young girls how to defend themselves is immense.

In today’s world, women safety has become a major issue as they can’t step out of the house at night. In 21st century lot’s of technology is developed, but still women’s are not safe in today’s scenario where crime rate is occurring in abundance. There are several app reduce the risk of sexual assault on women by informing control center and their associates through SMS, but in lay of those this apparatus have much more efficient way to inform those this respected personals and also has a defending system which cannot be provided by existing app.

EXISTING SYSTEM:

Now we now that girls’ safety is of prior importance in today’s world. There is no such system which can provide the safety regarding girls and therefore the girl indirectly loses her right to social freedom. There are different products for the girls’ safety, such as shoes, aerosol sprays, etc. But these cannot provide safety in the adverse conditions. There are also certain smartphone apps for tackling such situations,

but they are still not so much responsive and popular in the outside world.

PROPOSED SYSTEM:

1. Advantage:

Advantage of this system is that a woman does not have to use any physical bodily movements to activate it. The alarm (and the whole system) can be readily activated just by her own voice. There is no need of pressing any button or shaking the device just like some of the earlier apps. The system is simple and automatic.

2. Block Diagram:

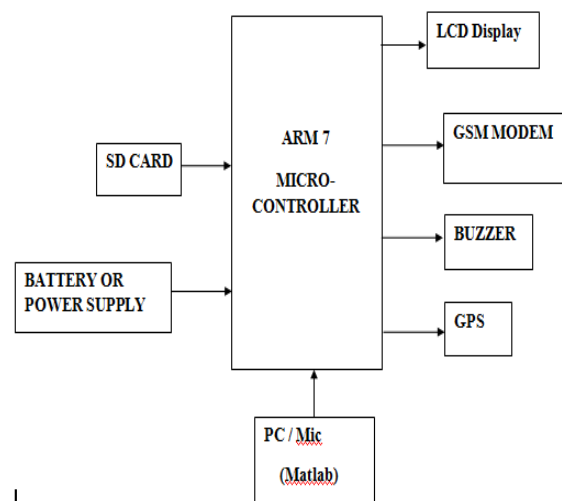


Figure 1:

ARM 7: This generation introduced the Thumb 16-bit instruction set providing improved code processing compared to previous designs. The most widely used ARM7 designs implement the ARMv4T architecture. It is a highly versatile and efficient processor designed for mobile devices and other low power electronic products. This processor architecture is capable of up to 130 MIPS on a typical 0.13 μm process. The processor supports both 32-bit and 16-bit instructions via the ARM and Thumb instruction sets.

GSM MODEM: GSM (Global System for Mobile communication) is a digital mobile telephony system. It uses a variation of time division multiple access (TDMA) and is the most widely used of the three digital wireless telephony technologies (TDMA, GSM, and CDMA). GSM digitizes and compresses data, then sends it down a channel with two other streams of user data, each in its own time slot. It operates on either the 900 MHz or 1800 MHz frequency band.

GPS MODEM: The GPS modem receiver features the 16 channels ultra low power GPS architecture. This complete enabled GPS receiver provides accurate position, velocity as well as high sensitivity and tracking capabilities.

The ultra-low power CMOS technology, the GPS receiver is ideal for many portable applications such as PDA, Tablet PC, smart phone etc.

BUZZER: Buzzers are used in a system to indicate or to grab the attention regarding an emergency situation occurred. Buzzer acts as a panic alarm signal, which indicates the need of emergency action as the condition goes haywire.

FUTURE SCOPE:

1. Use of an embedded camera into the system to capture images and video of the actual situation so that its misuse can be prevented enormously.

2. We can even make the system as much compact and portable as we can.

3. Not only English, but also regional words and phrases can be upgraded in the dictionary so that the device can be used by either of the genders and even in the rural areas.

CONCLUSION:

Through this paper successfully concludes that the human voice interaction with the device (machine) is effectively utilized to tackle hazardous problem of crime in the world. The amount of crimes occurring on a daily basis to mankind can be drastically reduced and we can make the world a safe place to live in. This device will work instantly without any delay and much faster than the mobile phones.

REFERENCE:

1. ONE TOUCH ALARM SYSTEM FOR WOMEN'S SAFETY USING GSM Premkumar, Cibi Chakkaravarthi, Keerthana, Ravivarma, Sharmila. (March 2015).
2. Design and Development of "Suraksha"-A Women Safety Device Nishant Bhardwaj and Nitish Aggarwal (Number 8-2014).
3. Voice Controlled Electrical Appliances Ankita, Astha Mishra (February 2014).
4. SPEECH RECOGNITION USING MATLAB Aseem Saxena, Amit Kumar Sinha, Shashank Chakravarti, Surabhi Charu (Nov-2013).
5. Comparative Analysis of Speech Parameters for the Design of Speaker Verification Systems A. F. Souza', Student Member, IEEE, M. N. S~uza, Member, IEEE.
6. Speaker Identification Based Automation System through Speech Recognition Prabhakar V. Mhadse, Amol C.Wani.
7. How to Build a Speech Recognition Application". B. Balentine, D. Morgan, and W. Meisel. 1999.