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BLIND PERSON NAVIGATION SYSTEM USING GSM/GPRS AND VOICE ANNOUNCEMENT BY USING ARM7

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ABSTRACT:

This paper presents the blind people navigation through the GPS based visually impaired man gadget with client input interfacing(voice based) to get alarms for few spots is a miniaturized scale controller based gadget which mentally discover the area in which it was presently found and gives the caution to the visually impaired man in the event that it was his goal zone. GPS is the acronym for Global Positioning System. It is utilized to discover the position where the client is situated on the earth and using the ultrasonic sensor find the objects In front of persons root and find the motion through the vibration sensors this data given to the blind person through the voice signals by using voice announcement module.

INTRODUCTION:

This data is furnished by the GPS with the assistance of the information it gets from the satellites. Small scale controller is the core of the gadget. It stores the information of the present area which it gets from the GPS framework. So it can make utilization of the information put away to contrast and the goal area of the client. By this it can follow out the separation from the goal and create a caution to alarm the client ahead of time. This gadget helps the visually impaired individuals in their adventures. It causes him to get the cautions with respect to the entry of his goal before couple of minutes. This gadget is intended to give a more prominent preferred standpoint creating voice based declaration for the client i.e. the client gets the voice which articulates his goal area as and when it is going to achieve the goal.

Here rather than the cautioning sound the client can specifically here the area recorded by the client itself. Fake Vision is the most vital piece of human physiology as 83% of data person

gets from nature is through sight. The most established and conventional portability helps for people with visual hindrances are the strolling stick (likewise called white stick or stick) and guide pooches. The downsides of these guides are scope of movement and next to no Information passed on.

EXSISTING SYSTEM:

There is no appropriate framework for daze individuals for route, they need to stroll along the street utilizing a stick or with some other individual's assistance. With the existed technique numerous mischances are occurring so conquered this issue we are running with this task.

PROPOSED SYSTEM:

This task is give route and security to dazzle individual utilizing sensors a GSM/GPRS. In this visually impaired individual will convey the pack with him, at whatever point any obstruction or unevenness of the street recognizes by sensor at that point unit will give him voice declaration which incorporates separate data. A vibration engine will give caution by vibration with the goal that visually impaired individual won't go further if any obstruction present before him and we will refresh this data through SMS to committed individual. We are setting a crisis switch give us correct area of a visually impaired individual. To get the area we are utilizing GSM and for snag identification ultrasonic sensor is utilized.

I. Block Diagram

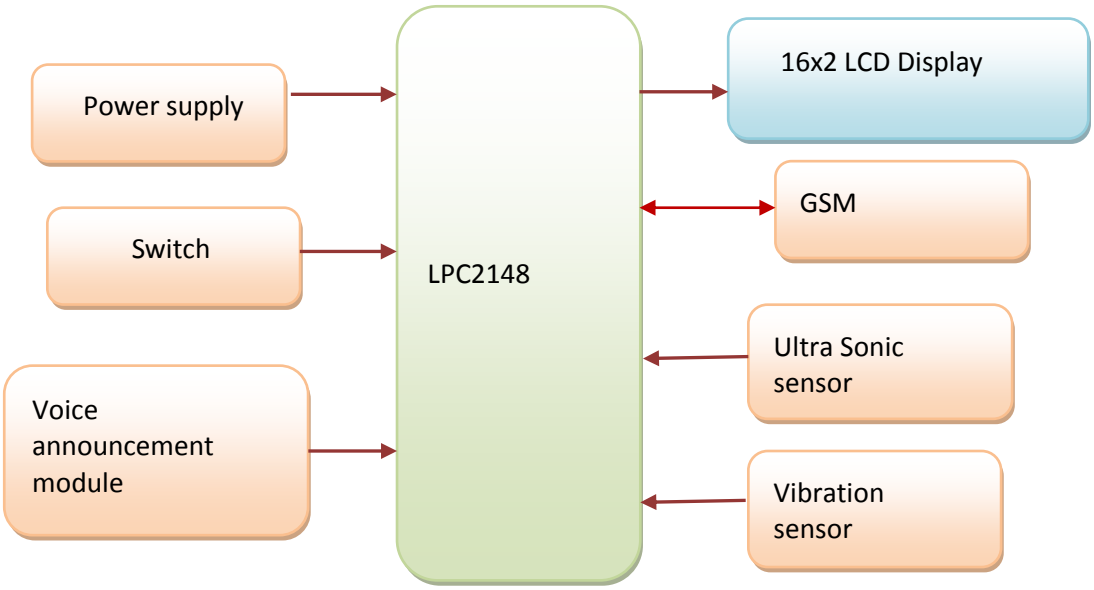


Fig 1: block diagram

About Lpc2148 Microprocessor:

The LPC2148 microcontroller is an advanced one which is of ARM7 family. It's is 32-bit ARMTDMI having excellent features like 32kB to 512kB on chip flashmemory,8kB to 40kB static RAM, 10-bit ADC, 64-I/O pins, 32-bit Timers with external event counter, watch dog timer, Real time clock, EEPROM, 2-UART, 2-I2C busses, 1-SPI supports and advanced processor which is works with 12MHz crystal frequency.

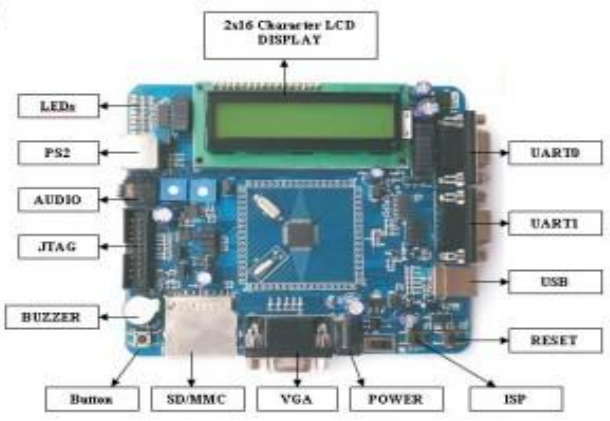


Fig 2 ARM7 LPC 2148 Development Board

ULTRASONIC OBSTACLE SENSOR:

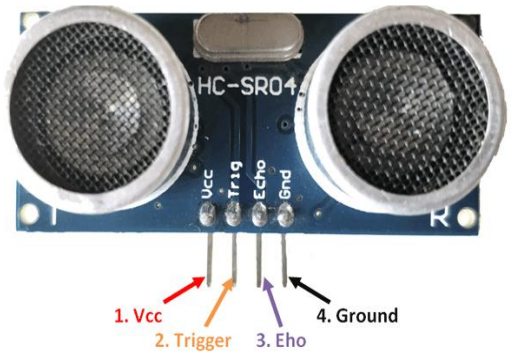


Fig 3. Ultasonic sensor.

This is used to detect the objects which comes in front . This generally works on the reflection process. Transmitter always sends sound waves if any obstacle comes, it will detect based on receiver pulses. This is generally like as Radar system.

VIBRATION SENSOR:

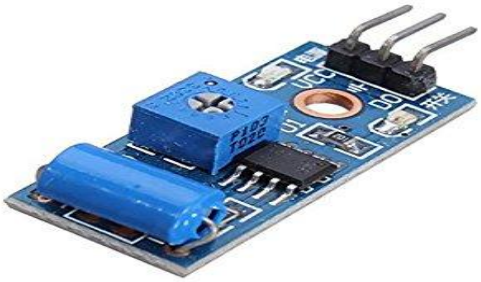


Fig 4: vibration sensor

Accelerometers measure the acceleration or vibration of a device or system. Vibration causes havoc in many applications. In this it will digital value either 0 or 1 directly. It will trigger if any energy dash it hardly. We can also set the vibration levels using inbuilt variable resistor on it.

GSM (Global System for Mobile communications):

Fig 5: GSM module

GSM (Global System for Mobile interchanges) is a portable system, as a result of thisthat cell phones associate with it through endeavoring to discover cells in the promptly region.GSM systems work in 4 particular recurrence levels.It's a low-cost, to the network supplier, opportunity messagetransporter (SMS, in addition known as "printed content informing"), it diverse cellprerequisites also. Another preferred standpoint is that the standard comprises of one universalEmergency cellphone assortment, Entangledfor worldwide vacationers to associate withcrisis contributions without understanding the area crisis assortment.

VOICE ANNOUNCEMENT MODULE:

The voice announcement module,the controller gives digital signals, this signals converts to analog signals through the DAC theanalog signals passes to audio amplifier and amplifier connected to the speaker, and the speaker announce voices to the blind persons.

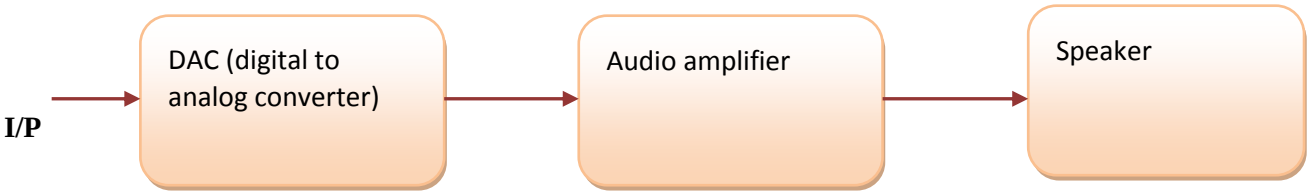


fig 6**:**voice announcement module

SOFTWARE DESIGN:

In this project we are using two softwares especially for compilation and for programming into controller, those are,

1. Keil uVision-4.

2 Flash magic Programmer.

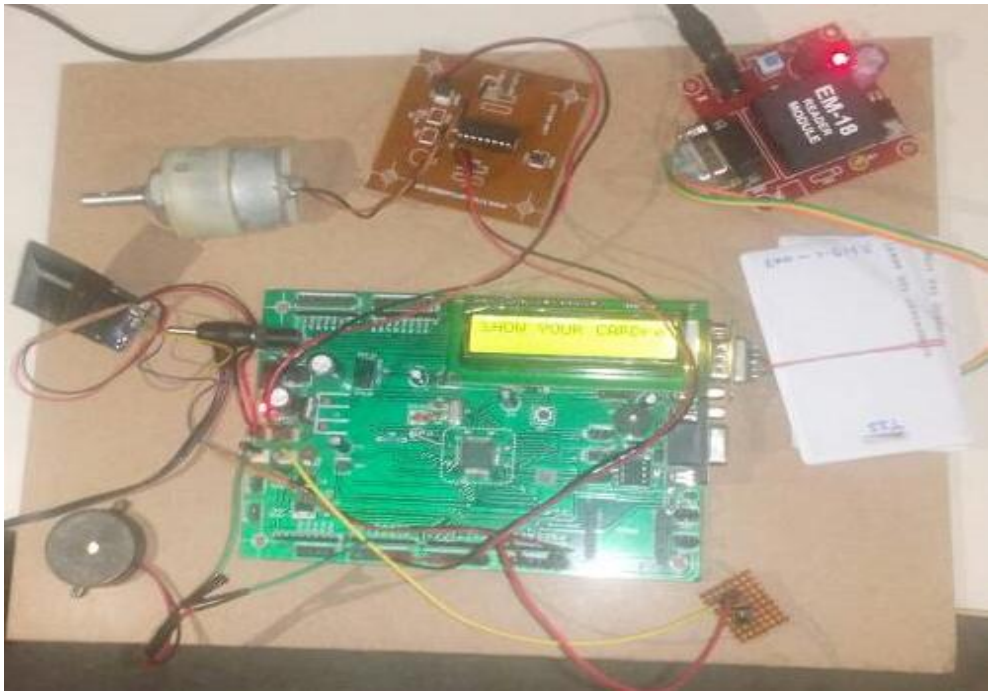
The Keil is an IDE Embedded c Programming. First we need to import all libraries then while creating an project should select required tools. After writing the source code we can compile and generate Hex file without difficulties. Its an user-friendly tool. we will program the Hex file in microcontroller using flash magic software.

WORKING DESCRIPTION

The principle proverb of venture is to give route to dazzle individuals to keep away from miss chances and crisis data to related people through GSM. For that we favored lpc2148 microcontroller to program. It is the excellent fitting controller for this. Program mode is utilized for dumping of this framework into ARM processor from any outside instrument comprehensive of PC. Run mode is utilized for the execution of utility.this framework we pre customized the framework. At the point when the ultrasonic module recognizes impediments then it gives data it will turn on the alert and voice announcements, as like this the controller will screen the area got by GSM

RESULT

The entire model as created was tried on various voltages and distinctive territories. It Furnished the right outcome at voltage of 230v to440v.We've tried circuit in **"Dazzle Person Navigation System Using Gsm/Gprs And Voice Announcement"**,The exact qualities and discovery makes this framework more helpful to see every one of the information in a clean, organized and easy to understand way.



I. CONCLUSION

Every individual will convey the pack with him. ultrasonic sensor is masterminded in this to recognize the uneven streets and approaching vehicles. In the meantime vibration and voice declaration will caution the person. location will be sent to individual utilizing gsm. Thusly the framework is worked.

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