Smart Blind Cap using Ultrasound Distance Measurement Sensor System

A project submitted to the Department of EEE, Faculty of Engineering, DIU in incomplete contentment of the supplies for the Award of Degree of Bachelor of Science in Electrical and Electronic Engineering.

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APPROVAL

A project permitted "Smart Blind Cap Using Ultrasound Distance Measurement Sensor System" approved out by Asaduzzaman pappu, ID: 151-33-2318, Md.Abdul Wahad, ID: 151-33-2601, Batch: 17th, EEE program of Daffodil International University, beneath my direction. This work has been permitted out by them in the Home in partial serenity of the supplies for the degree of Bachelor of Science in Electrical and Electronic Engineering was available to the viewers of the Exam Group on December 2018 and has been reputed as apposite.

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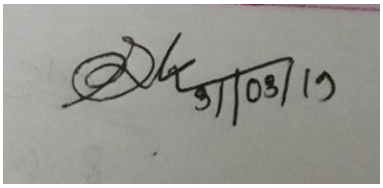

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ACKNOWLEDGEMENT

First of all, we give cheers to Allah or God. Then we would similar to take this chance to fast our gratitude and thankfulness to our project supervisor Saikat Basak sir, Senior lecturer, of Department of EEE, Faculty of Engineering, Daffodil International University, for being keen in supporting, motivating and supervisory us through this project. This project can't be done without his useful information and helps. Also thank you very much for giving us chance to select this project. We also want to take our gratitude to Md. Mahmudur Rahman, Assistant Professor, Department of Electrical and Electronic Engineering, Faculty of Engineering, Daffodil International University, for his help, support and continuous reassurance. Apart from that, we would like to thank Forhad Hossain for distribution information information and helping us in making this projects a success. Also thanks for lending us some tools and gear. To our adored family, we want to give them our sincere love and thankfulness for being very helpful and also for their stimulus and reassurance throughout our studies in this University.

DEDICATION

To my Family and Respectfully

Teachers

ABSTRACT

There are blind people in nearly all nations of the world. We have many blind people in Bangladesh. Many problems have to be overcome in their drive. We have ongoing this ultrasound device scheme caps for them. Sightlessness is a national of missing the graphic vision due to physical or courage issues. In this work, a humble**,** inexpensive, friendly user, smart blind control system is intended and understood to meeting the action of calm blind and visually abridged people in a careful area. The smart blind cap using ultrasound taciturnity length sensor system to help the blind person to steer alone firmly and to avoid any problems that may be hostility, whether fixed to stop any likely chance. The main constituent of this system is the ultraviolet sensor which is used to image a prearranged area about blind by producing-shiny waves. The reproduced signals received from the wall objects are used as inputs to PIC 16F72 microcontroller. The microcontroller is then used to control the way and distance of the matters about the blind. We also use a shake motor that shake when the blind person come to the problem very near. The applied system is inexpensive, fast, and informal to use and an advanced reasonable solution to blind.

CONTENTS

LIST OF FIGURES

LIST OF ABBREVIATIONS

IC	**Integrated Circuit**
AC	**Alternating Current**
V	**Volts**
LCD	**Liquid Crystal Display**
LED	**Light Emitting Diode**
GND	**Ground**
DC	**Direct Current**
Hz	**Hertz**
K ohm	**Kilo Ohms**

LIST OF TABLES

CHAPTER 1

INTRODUCTION

Introduction

Blindness is a special inability into people around the world. Accordant to the World Health Organization (WHO) 285 million people are visually harm worldwide, 39 million is blind and 246 million have low vision. About 90% of the world's visually harm live in the rising countries. For the poor and distant rural living people blindness is the cause they help to work outside and do all other daily necessary works. Distance detector is any device efficient of measuring the distance between two points. The original of distance measure to means of graduated lengths of material such as chain, tape measure or price of articulate lacing are lost to antiquity. Optical distance measure also has a long history, and it it usually taken stem of the work James Watt in 1771.

Ultrasound distance measurement sensor system applications that are used in many applications because their features are back to their features like blind ones. There is a LED that is automatically closed or closed ,It also help blind people in the night. There is an led light that is automatically closed or on, it helps blind people even at night. If the distance can measure 100cm then the first alarm will be given. Also if it measures 70 cm, the second alarm will be given. Finally when the distance between the blind person and the barrier will be 30cm then the signal of vibration motor. The system developing costs are significantly lower and much less then the commercially available cost on the market. Here are the routes selected by the route to offer various materials of interest, easy to manage electronic guide is proposed to be helpful, constructive assistants and blind and visually impaired people

Objectives

The main purpose of this project is to design and implement a smart blind cap using ultra sound distance measurement sensors to calculate distance from the distance from the device. The signal comes from the receiver to the transmitter and increases the speed of the crystal clock. So the signal transmits the quick received. The first recipient receives signals from sensors and send signals in the microcontroller. The microcontroller controls the signal at a specific distance of 100 cm, 50 cm and other functionality of 30cm compress motor.

1. Precise and fix measurement of low range distance.
2. To measure a distance at any obstacle.
3. Design a simple circuit and find a suitable hardware for this project.

Scope of work

When this project will work, If it a obstacle of 100 cm then give a sound. When it gets closer, the total will go near 6o cm double signals. If for some reason blind people do not listen to this world, then the vibration motor will vibrate, near the obstacle around 30 cm

Future Work:

1 Cumulative the range of the ultrasonic sensor and applying a technology for determining the speed of imminent obstacles.

2. Organization with various navigation software applications available on the internet so that new un-programmed purposes can be selected.

3. If the upcoming plan is a hole in the ground it can be easily unspoken.

4. Provision for voice control using speech recognition

5. Delivery for voice switch using speech credit

6. Abridged size

7. Abridged Weight

Methodology

This project is divided into three stages where the first division will be held in 9th semester and second and third stage will be completed in this semester. In the first phase, this project is ongoing by discussing with supervisors concepts to be used throughout this project. Then the review of the literature was studied along with the background of this project and by doing research referring to various sources such as referring books, non govermmatical books, online and relevant data sheets.

Then the project is trailed by seeking information about components, sensors and microcontrollers. With the search result, the most appropriate parts will be selected and will be used in this project development. Next the type of programming language is studied and the programming language most appropriate will be selected as the programming codes for the system.

Also study programs on computer software C used for simulation have been made so that the project can be simulated before continuing on the hardware.

Project Outline

Thesis involves of sis chapters. In the first chapter discuss the entry into this project, the objectives, methodology and extent of the project. In chapter it will discuss more literature reviews this chapter includes the general diagram of the block the circuit diagram the list of components used in the circuit and the completion. Chapter three will discuss about component analysis are used in this microprocessor ultrasonic sensor regular voltage etc. chapter four will deliberate hardware analysis flowchart PLC shape product arrangement and finish. Chapter five will discuss results and discussions, experimental project configuration, noise test, display test advantage and disadvantage.

Chapter six discusses the completion of this project. This includes the limitations of the future work study and how our future project develops.

CHAPTER 2

LITERATURE REVIEWS

Introduction

In this chapter converse about the general block figure to this project. The AC current from the transformer with the bridge rectifying battery is charged. Then 8v DC current drops into the voltage controller. The voltage regulator losses to 5v the cause of our device by 5v. A 12v waits the transformer for a charge that charges on this battery of the equipment. A PIC 16F72 microcontroller that work from a program. Next the type of programming language is studied and the programming language most appropriate will be selected as the programming codes for the system. Also debate about the circuit figure the working process of this circuit and the list of mechanisms of this circuit. It entails of an ultrasonic rang sensor with an unconventional mass vibration motor that vibrates clearly for the earth obstacle and low suspension obstacle. An intelligent guide cover detects obstacles using ultrasonic sensors but cannot know if the obstacle is moving or not. A wireless ultrasonic rang system notices problems using ultrasonic sensors and the PIC16F72 microcontroller discovers the coldness of the difficulty.

Then the project is trailed looking for the information connected to the components sensors and microcontrollers amongst other. With the result of the search the most suitable parts will be selected and used in the development of this project. Then the type of programming language is deliberate and the most appropriate programming language will be selected as the programming codes for the system.

Also software programming C software used for simulation is done so that the project can be simulated before continuing with hardware.

General Block Diagram

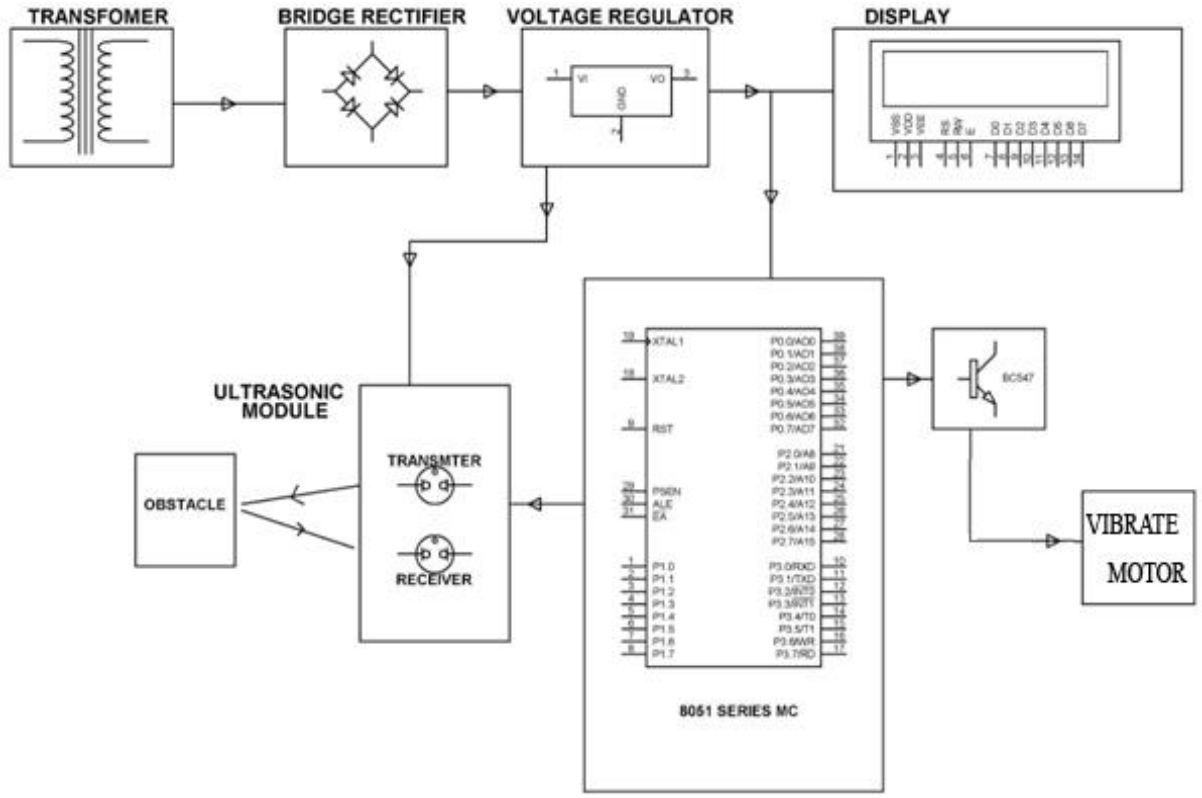

Fig. 2.1 General Block Diagram

Block Diagram Description:

2.1 figure Blind cap intelligent block on the picture. Ultrasonic Distance measurement using the sensor system. The battery is charged from an alternate current transformer to the directional bridge. Then the 8v dc current falls into the voltage regulator. The voltage regulator drops 8v and 5v because our device work with 5v. Transformer 12v step transformer for a charge that charges the battery. A PIC 16F72 microcontroller that operates through a program. Next the programming language type is analyzed and the most appropriate programming language are chosen by the system programming codes.

Also use the PIC 16F72 microcontroller crystal, LCD display, , 7805 IC, TIP 122, 16MHZ Buzzer ,vibration Motor resistance capacitor, module and transformer diode ultrasonic.

Circuit Diagram

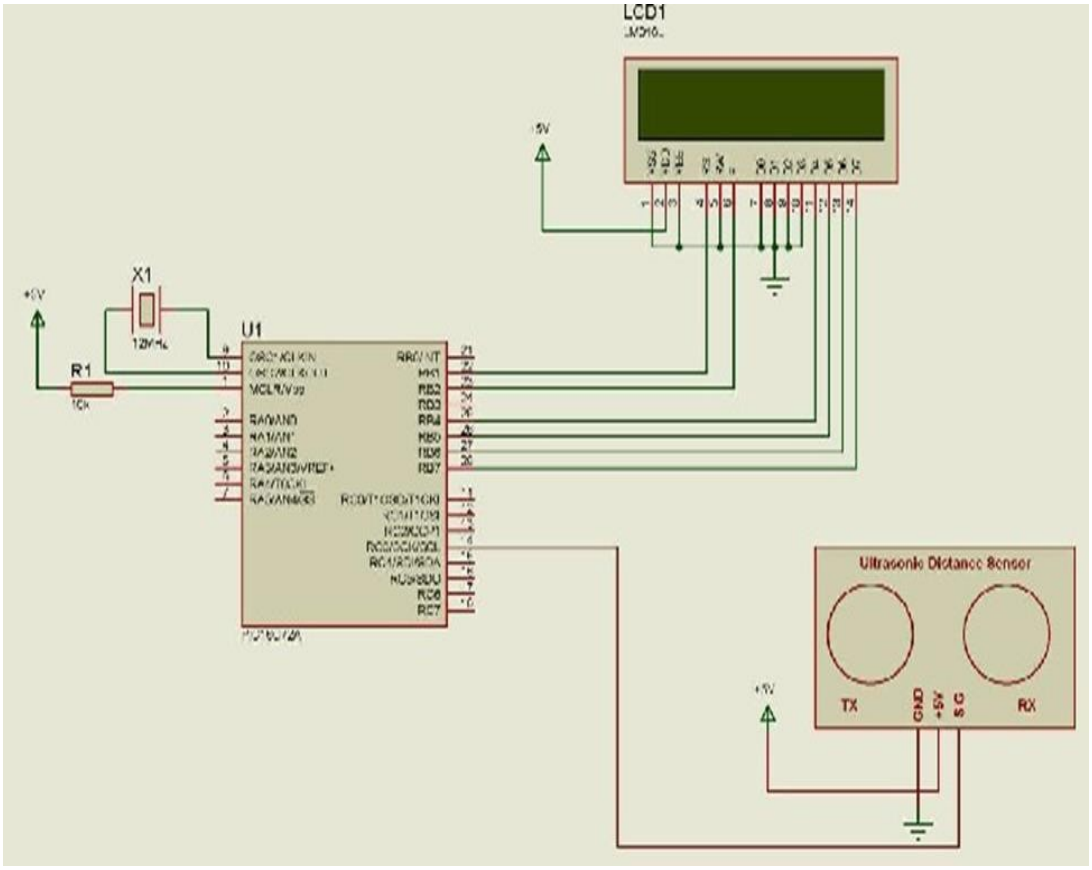

Fig 2.2 Circuit Diagram of Project

Working Process of Circuit:

From this image 11 and 12 VDD microcontrollers are connected to a voltage of 5V and 2 VDD on the screen 26 microcontroller pins are connected to 2 pins connected to 2 VDD pins connected to the sensor. LCD D4, D5, D6,D7 pin are connected to 35,36, 37 and 38 microcontroller. The RS and LED pins are connected to a 40-39 pin microcontroller.

The circuit board contains both the transmitter module and the built in receiver module the transmitter transmits the signal by means of modulating and after the sound reflection of the impedance the receiver circuit receives signal and demodulates. An LCD connects to indicate the start and end of the device.

List of Components used in Circuit

No	Equipment	Quantity	Price
1	PIC16F72 MICROCONTROLLER	1	90
2	CRYSTAL 16MH	1	5
3	LCD DISPLAY	1	160
4	CAPACITORS	4	20
5	RESISTOR	3	10
6	DIODE	1	12
7	TRANSFORMER	1	120
8	WIRES	3	20
9	SAMPLE PCB AND MODEL BORD	1	1000
10	.7805 IC	1	10
11	CONNECTOR	1	16
12	SOLDERING LEAD AND ETC	2	100
13	TIP122	1	12
14	VIBRATE MOTOR	1	65
15	BUZZER	1	80

Conclusion

Measurement of ultrasound distance metering sensor which is used in many application due to its properties as a blind person for their walking backwards here is led light that automatic switches on or off also helps the blind person at night. It can measure the distance of 100 cm then the first alarm will be given also it measures 70 cm and then the second alarm will be given. Finally when the distance of 30 cm between the blind person and the obstacle vibration will be signal the cost involved in system development is significantly lower and is far less than the market cost available in the market.

CHAPTER 3

ANALYSIS OF COMPONENTS

Introduction

In the chapter discuss module analysis. It includes the description of the PIC 16F72 chip plan microcontroller ultrasonic sensor capacitor down transformer ultrasonic sensor LCD display shake motor and circuit limits.

Microcontroller chip

PIC16F72

Figure: 3.1 PIC 16F72

A chip integrated into a built in microcontroller system. The microcontroller has timer like cup ram rom port and a normal computer but it is designed to run just one signal system much smaller and basic. All the functions obligatory in a signal chip.

A microcontroller is dissimilar from a microprocessor which is a chip that is used to create a multifunction computer or device and needs numerous chips to handle dissimilar takes. A microcontroller wants to be self controlling and sovereign and is a small devoted computer.

The great benefit of the microcontrollers is to keep at least the cost of counting and design cost of the item controlled than using larger microprocessors. They are classically designed with CMOS technology, a more efficient manufacturing technique that use power less and less powerful.

Many architectures are also used but primary architecture is the CISC the microcontroller allows many control instructions for multi control machine instructions some use the RISC architecture which implements fewer instruction but consumes less energy and ease.

Initially the supervisor were built from logical mechanisms and were usually quite larger. Later microprocessors were used and controllers were able to access a circuit board. Microcontrollers place all the essential ingredients in a single chip because it is controlled by a single function some complex devices have a microprocessors.

They have become common microcontrollers in many areas and they can be found in home appliances computer equipment and tools. They are often used in automobiles and have a lot of industrial uses and have become the main part of the robotic industry. Because they are used to control single process and run simple instructions microcontrollers do not need a significant power process.

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General Features:

1. Flash memory
2. SRAM (data memory)
3. EEPROM memory (programmable at run time)
4. Sleep mode (power savings)

5. Crystal

Ultrasonic sensor

Figure 3.2: Ultrasound Sensor

The main part of the system is the microcontroller that panels the system mechanisms. When ultrasonic sensors notice 100cm any Thing or problem of 60 cm it will activate the report mechanically. Ultrasonic sensor element 3.2. In the picture it is an audio gesturing maneuver that can be mechanical and electromechanical buzzer. The typical uses of Buzzer are alarm devices timers.

Buzzer

Figure 3.3: Buzzer

The work principle of magnetic buzzer. The magnetic flush disc attracts the magnetic field. When the oscillation signal moves through the coil it creates a variable magnetic disk that vibrates in a frequency that is equal to the disk signal.

Crystal

Figure 3.4: Crystal

Crystal is an electronic expedient. It is used as a constituent of the device. Crystal function is to upsurge the haste of the clock signal. The crystal oscillator is used with a high quality factor barely something like 10k at 20k and some of crystal have a higher quality issue. So due to the

possessions of needs this crystal oscillator is used in radios and telecommunications. As well as their parity of various numerical circuit. They are used in smart phone and desktop computers 4 by making the table clock frequency. Likewise it is an vital part like the microcontroller 4 that makes the clock signal. So this crystal is a steady frequency from 100 KHz to 100 s of MHz

Crystal oscillator frequency may change due to:

1. Alteration in temperature
2. Alteration in power source voltage
3. Alteration in module value

: Voltage Regulator

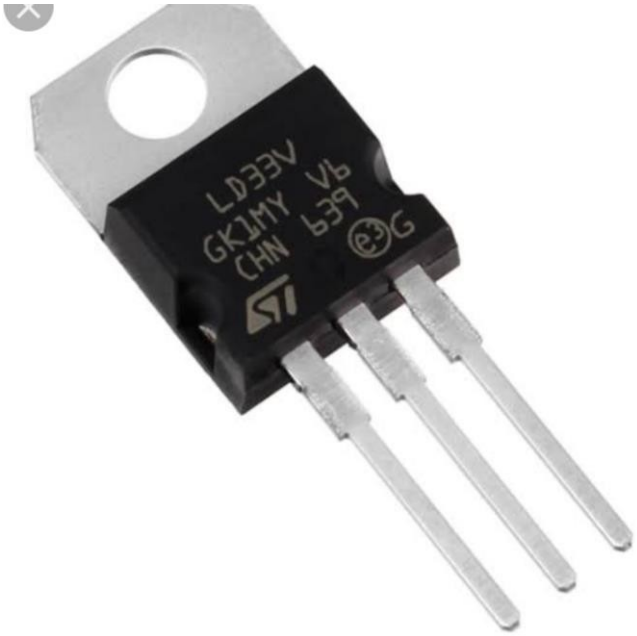

Figure 3.5: Voltage Regulator

A voltage regulator is a maneuver used to switch the voltage of the device. To this project 5v dc voltage regulator that changes the 12v dc current from the battery to the 5v dc current. It is defense the device from any type of AC fault current. There are mostly two types of voltage regulators linear voltage and switching voltage regulator these are used in larger application. The linear voltage regulator is the simplest type of voltage regulators it is available in two types which are compact and used in low voltage and low voltage system principle.

Working principle:

1. The maximum value for entering the voltage regulator is 12v. it can provide a constant voltage input up to the threshold limit of 12v. If the voltage is closed to 7.5v then it does not produce heat and therefore does not need a heat sink. If the voltage input is higher a voltage regulator is a device with a simple preliminary design and uses negative feedback control circuit. There are mainly two types of voltage regulators. Linear voltage regulators and voltage regulator these are used in larger application. The linear voltage regulators. It is available in two types which are compact and are used in low voltage and low voltage system so that excess energy is output as heat from 7805.
2. It controls stable output of 5v if the input voltage is in the variety of 7.5v to 12v. Therefore to evade the loss of energy try to save the input in 7.5v.

: Capacitor

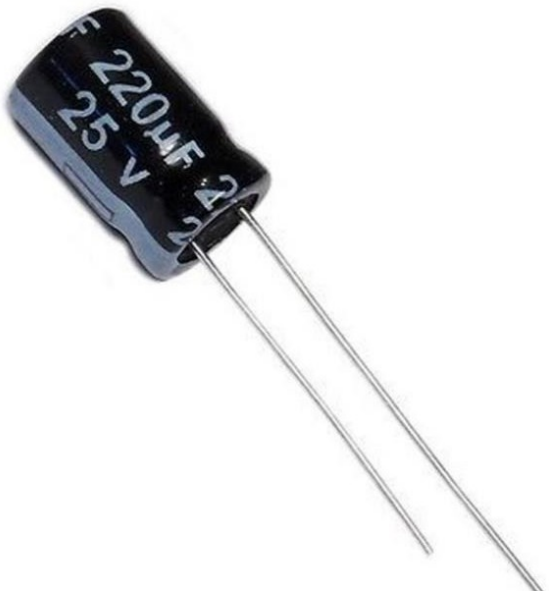

Figure 3.6: Capacitor 220 µF, 16v

It is a passive component of the capacitor device. Capacity for storage, two plates separated from dielectric plates. The condenser is much less stored. The process of increasing any potential of it is behavior is the capacitor principle. 220uF/ 16v electrolytic capacitor is a passive electrical component of two terminal, in an electric field for the storage of electrical energy field for the storage of electrical energy. The capacity of a charge conductor increases the other uncharged or low potential near the other conductor. The condensers charge the battery

1. Capacitance 220 µF
2. Voltage score 16v
3. Lenience 20%
4. Termination Style Radial

: Step Down Transformer

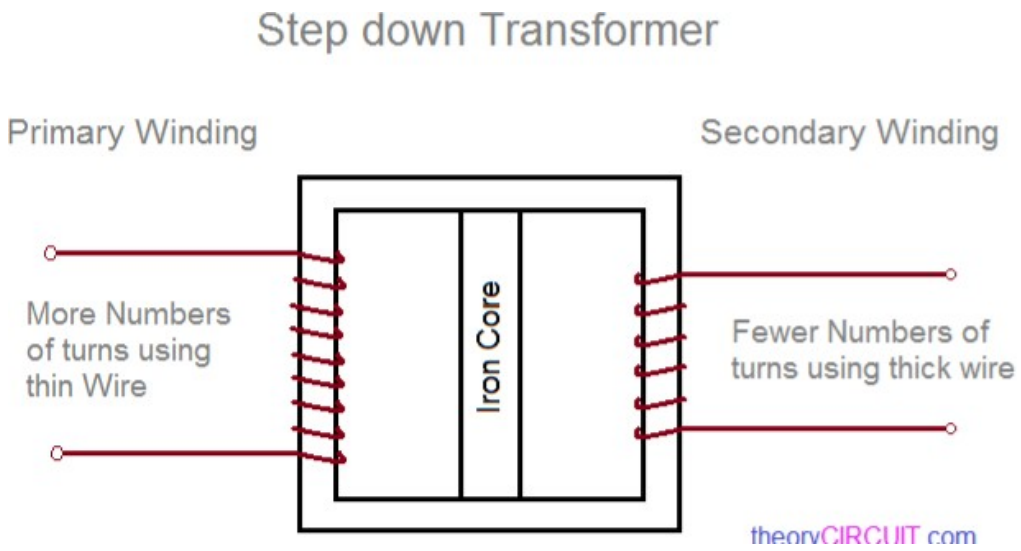

Fig 3.7: Step Down Transformer

The transformer is an electric device that can charge the voltage of the electrical current. It is capable of converting high voltage low voltage and low voltage. the electrical and electronic device we use in our daily lives requires energy supply. In general we use a 220V 50Hz AC supply but this power must be modified in the from necessary to supply the necessary values or supply voltage with different types of power.

: Vibrate Motor

Figure 3.8: Vibrate Motor

It is a mechanical device for generating a vibrating vibration. Often the vibration is generated by an electric motor. The use of vibration gravity forces the material to move through a process.

: Resistance

Figure 3.9: Resistance

Resistance is a passive electrical component with the first function to limit the flow of electrical current. Resistance protects the essential components of our devices from the fault stream.it is the most common element of the circuit .reduces current our device work there are many types of resistance:

1. Fixed
2. Variable: Potentiometer, Control, Trim pot
3. Dependent on physical amount: Thermistor (NTC&PTC), Photo resistor (LDR), Varistor (VDR), Magneto (MDR), Straining Device.

: Ultrasonic Module

ultrasonic detector is used in the most widely used application to detect hidden tracks, detect metals composites plastic ceramic continuous discontinuities and water levels for this purpose the laws of physics that indicate sound dissipation of sound materials have been used by ultrasonic sensors instead of using sound to detect light instead of sound. When a high voltage electric pulse is applied to the ultrasonic transducer it vibrates in a specific frequency spectrum and breaks the sound waves. First of all the transmitter transmits the object to the obstacle. Next it transmits the transmitter to the microcontroller. Then the recipient receives a microcontroller signal and then sends a buzzer led and vibration engine.

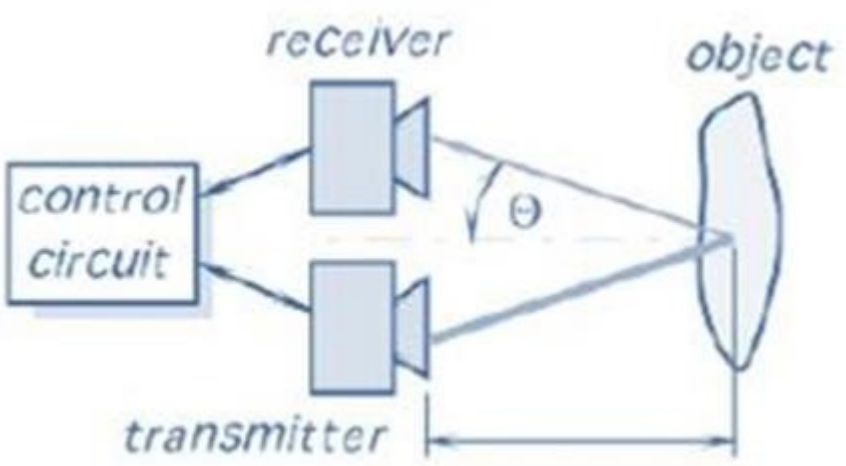

Figure 3.10: Transmitter and Receiver

: Ultrasound sensor

Figure 3.11: Ultrasound sensor working principle

Ultrasonic sensors periodically provide low frequency sounds. These spread in the air at the sound velocity. If they hit an object then the sensor echo signals are reflected backwards that is it calculates the distance between the target signal and the time interval it receives

: LCD

Figure 3.12: LCD Display

It is a technology used to display LCD notebooks and other smaller computers like LED and plasma gas technology LCD screens make it much thinner than cordial ray technology.

PF Capacitor

Figure 3.13: PF Capacitor

This is the smallest capacitor. Electronic is used on all devices. There are many size of PF conductor. It affects dielectric properties.

1. Capacitor levels attainable
2. Voltage endure competence

Transistor

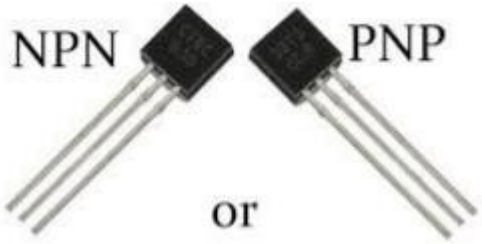

Figure 3.14: Transistor

Two transistors PNP and NPN .the NPN transistor is the most commonly used device. Here are three links to common Base, Common Emitter, Common Collector. On the basis of the current transistor the current emitter is collecting

LED

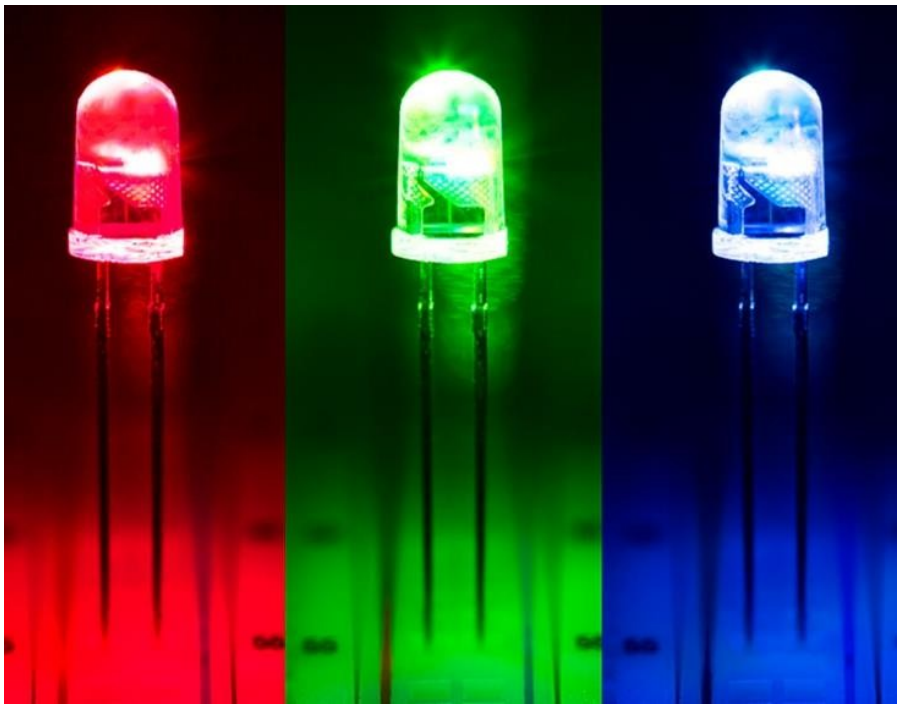

Fig. 3.15 LED

It show a 100 cm LED light and then the green LED is activated automatically. Then the green LED of 60 cm will be automatically switched on. But the red LED will light up.

Limitations of the Circuit:

1. This scheme is not talented to amount lengthier reserves.
2. Has angle curb. Only 180 grade view is applied.
3. Does not offer urbane progressive skills
4. It can’t notice the fleabag in the street.

CHAPTER 4

HARDWARE ANALYSIS

Introduction

In this chapter, we will discuss, in general, hardware analysis through a pulsed measurement distance and phase measurement method. This chapter discusses the diagram chart, pin diagram, vision product components, the key issues in the PIC16F72 microcontroller, the ultrasonic sensor, the PCB design, and the interface resulting from this project. Design of the project carried out, design and operation of our project connection.

Flow Chart Diagram

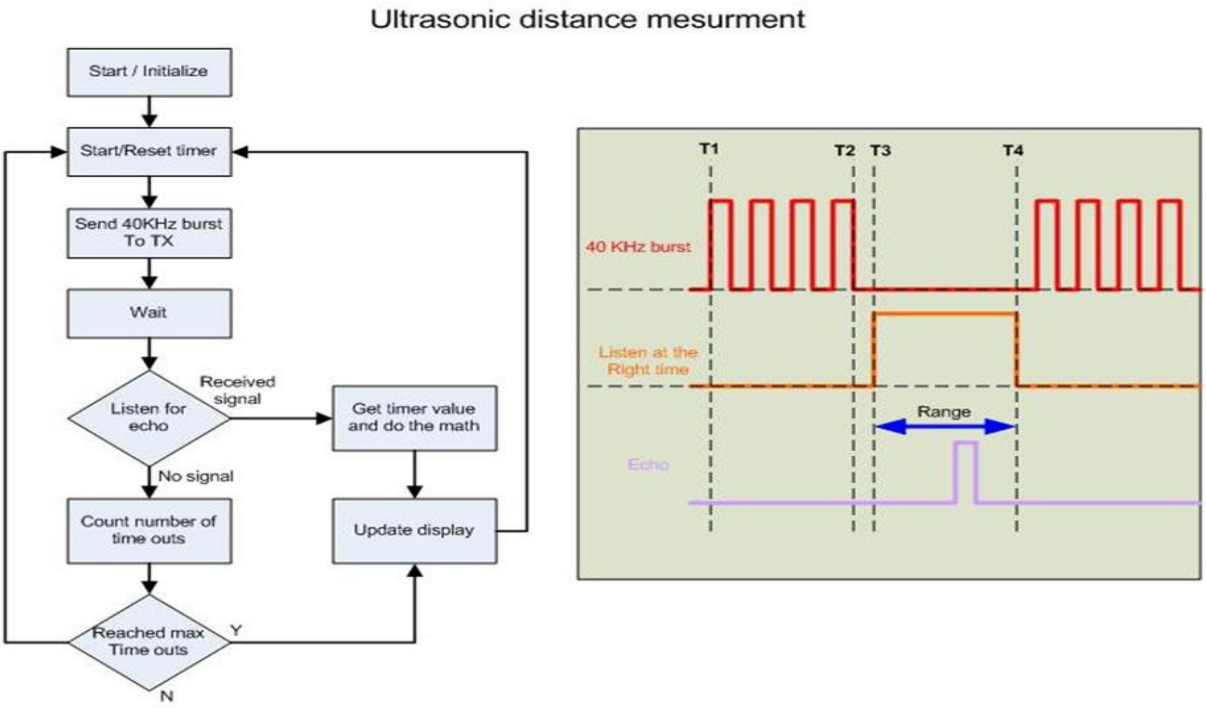

Fig.4.1: Flow Chart Diagram

: Pin Configuration:

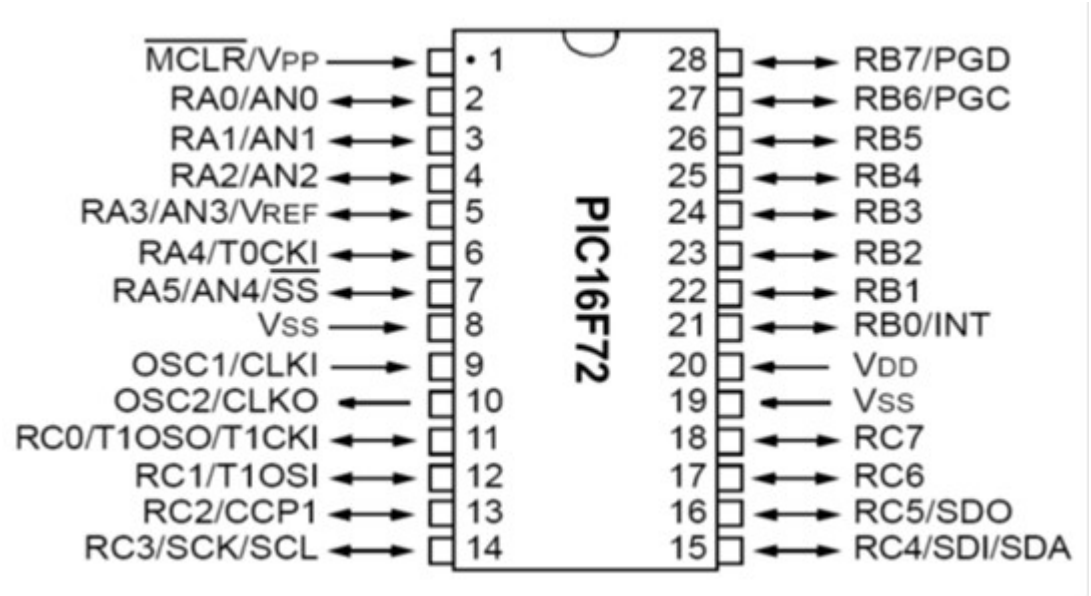

Fig.4.2: Pin Diagram

High Performance RISC CPU:

1. To learn only 35 single words from a single word
2. Except one program with one single cycle program
Two cycles that are twigs
3. Operation speed: DC - 20 MHz clock input
DC - 200 ns instruction cycle
4. 2K x 14 program memory.
128 x 8 byte data memory (RAM)
5. PIC16C72 / 72A and PIC compatible
PIC16F872
6. Suspension of suspension
7. Deep pile of eight levels of hardware
8. Direct, indirect and relative directions

9. GND: This pin is connected to the ground.

PIC16F72:

Key Reference Manual Features	**PIC16F72**
Operating Frequency	DC - 20 MHz
RESETS and (Delays)	POR, BOR, (PWRT, OST)
FLASH Program Memory - (14-bit words, 1000 E/W cycles)	2K
Data Memory - RAM (8-bit bytes)	128
Interrupts	8
I/O Ports	PORTA, PORTB, PORTC
Timers	Timer0, Timer1, Timer2

Capture/Compare/PWM Modules	1
Serial Communications	SSP
8-bit A/D Converter	5 channels

The PIC16F72 microcontroller it uses 16-bit instructions, and 8-bit wide data path. Input supply is DC-20 MHz clock.

: Component view of product

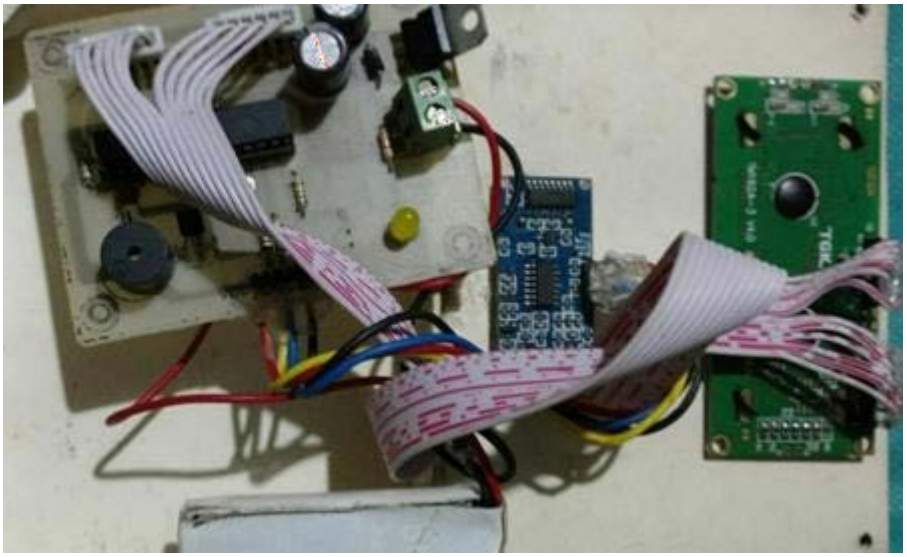

Figure 4.3: Component view of product

Operational Procedure:

1. Initially the program is a microcontroller for smoking when the load voltage increases in the circuit board.
2. From this figure to the connection of the 4.3 circuit diagram.

3. When connected, make sure that the VCC 5V DC Ultrasonic Module is connected.
4. Power source switch on board
5. Put the barrier in front of the ultrasonic module, now it can detect LCD distance.

PIC16F72 BLOCK DIAGRAM

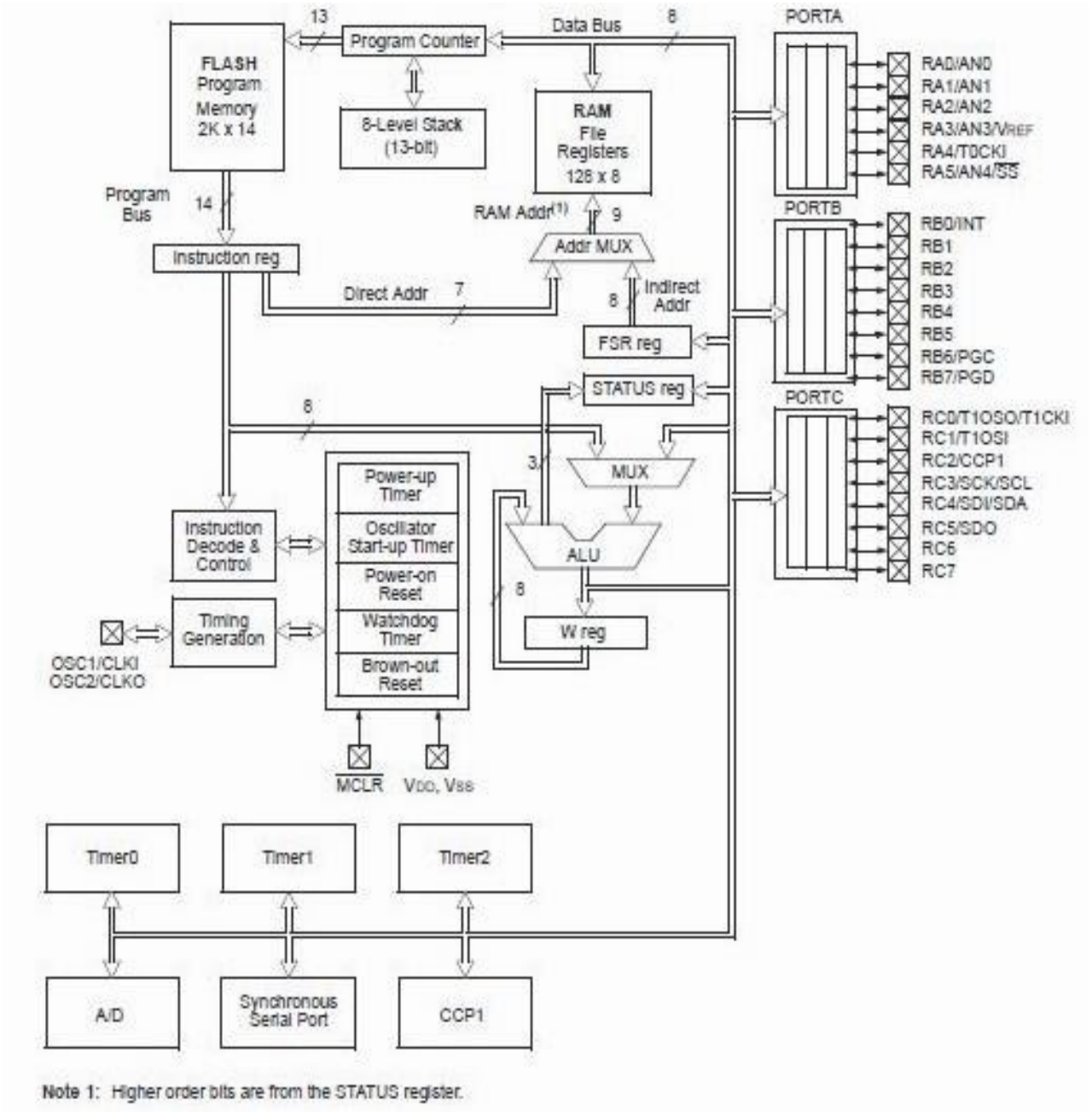

Fig.4.4 PIC16F72 Block Diagram

Pin Descriptions

VCC: Digital supply voltage.

GND: Ground.

: Interfacing of Ultrasonic Sensor

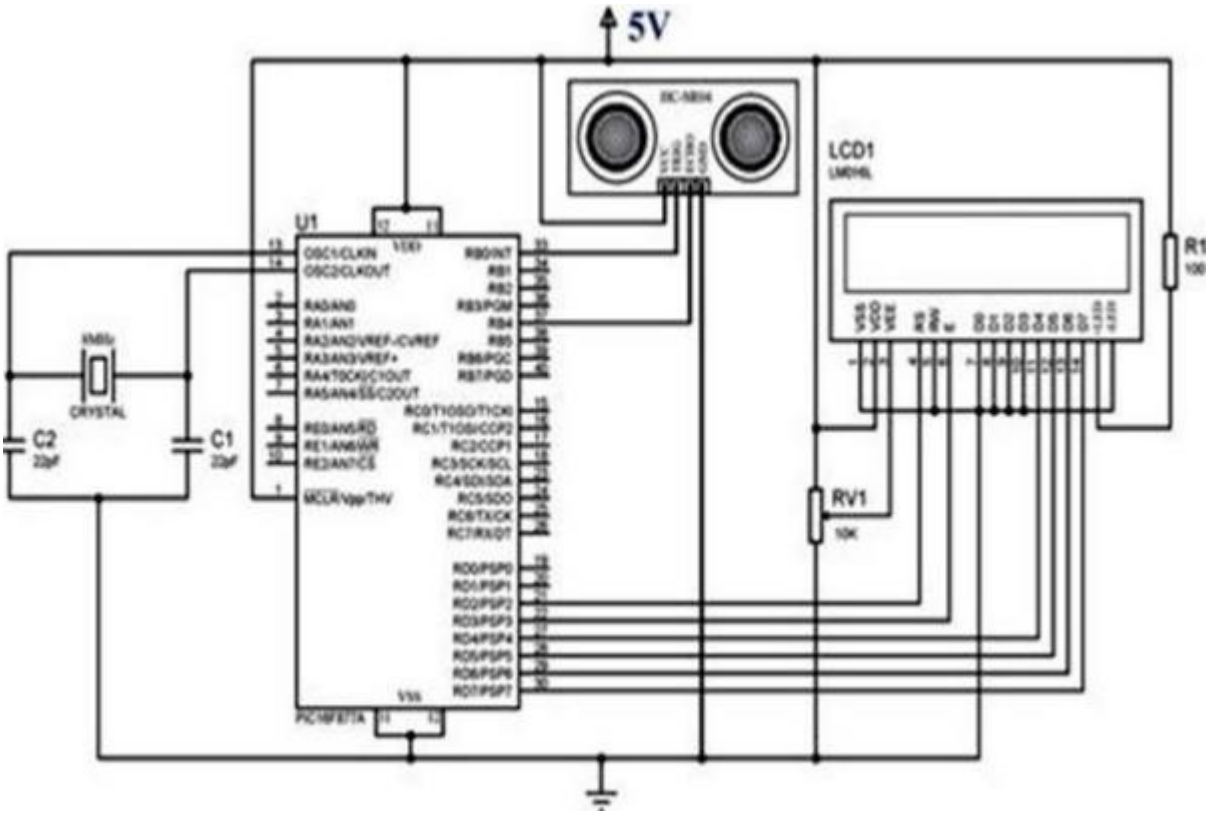

Fig. 4.5: Interfacing of Ultrasonic Sensor

1. Give TRIGGER signal, at least 10µS Higher (5V) pulse.

2. The module will automatically transmit eight 40 KHz ultrasound explosion.

3. The module will be transmitted 40 kHz when it explodes in the ultrasound.

4. If the signal returns, the sensor ECHO output will be HIGH STATE (5V) for a required period of time to send and receive the ultrasound explosion. The pulse widths are between 100 cm and 70 cm, and if there is no obstacle, it will be echoed.

5. First, the receiver has received the signal and signal the signal into the microcontroller. The microcontroller controls the signal distance 100 cm, 50 cm and 30 cm vibration engine in another work process.

PCB Layout

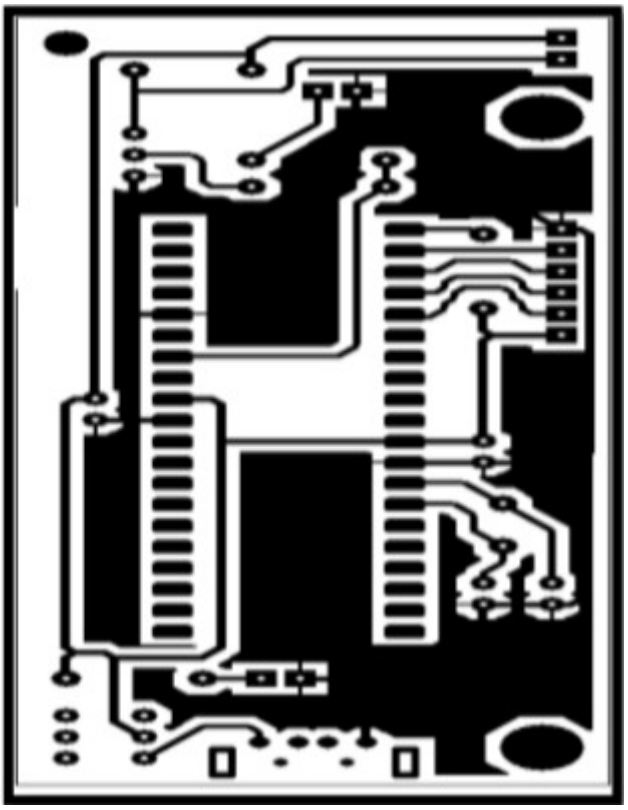

Fig. 4.6: PCB Layout

Image. 4.5 PCB (printed circuit board) is shown in the design. It is the main part of a circuit. Here, there are many connections to connect the circuit components. Design of a PCB design after a circuit.

: Conclusion

To design, our project's basic purpose is to connect the circuit's ultrasonic sensors to the blind circuit of the circuit system. Our project is already finished. The built circuit works very well. These are the ways used to offer obstacles to a variety of interesting materials. A simple, inexpensive, configurable and easy-to-use electronic guidance system is proposed to provide blind and visually impaired people with constructive helpers and support. The system has been designed, implemented, tested and verified.

CHAPTER 5

RESULT AND DISCUSSUION

Introduction

In this we will analyze the results and discussion in general how to create the experimental configuration project test show test buzzer test project results work advantage and disadvantage and consequences. The proposed system has modules that is the display unit the rumor the 8 bit microcontroller. It finds wide applications due to it is function and low power. Visual signals provide more information than visual information visual signals when human beings perceive information. Establishing a smart cane by informing the blind person about what he or she knows instead of visual or hearing information using a vibrating pattern

Experimental Setup

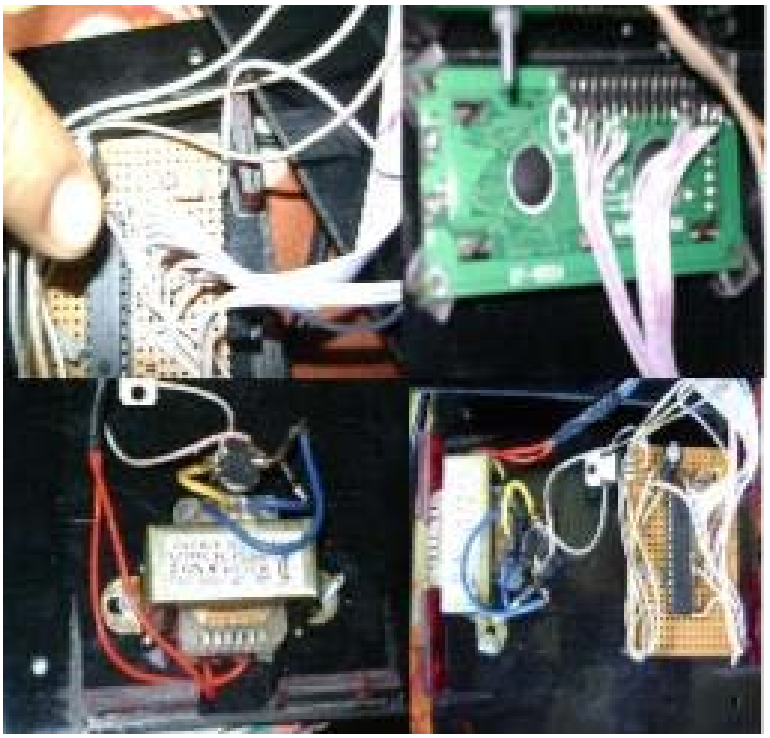

Fig 5.1: Experimental Setup

This system has been experimenting around the inner environment. The algorithms for detecting and recognizing the faces of other have been studied. They show great performance

in the algorithms used to detect and recognize other faces. He has examined our system of applications using the vibration models to verify how this system can cause blind people to face recognition. This implemented 10 types of vibration models. Vibration pattern is determined periodically by the ratio of tasks.

Testing of Project

After the development of the circuit board it is designed to complete the entire system. Here you can see this output:

Display Test

Fig 5.2: Display Test

In this project use a 16*2 LCD screen. The following 5.2 images shows the state of the LCD module massage commands. The blind person close to 100 cm away from the obstacle automatically gets an alarm. Then 60 cm gets an alarm in the end up to 29 cm the vibration engine is vibrating. 100cm 60 cm and 29 centimeters wide.

Buzzer Test

Fig 5.3: Buzzer Test

This project uses a simple electromagnetic rumor. This buzzer sound is very loud and clear. When the device is 100 cm away from the obstacles the rumor will be the only signal. In the same way the 60 cm device from the obstacle will be a sign of two rumors. At that time people will act quickly.

LED Test

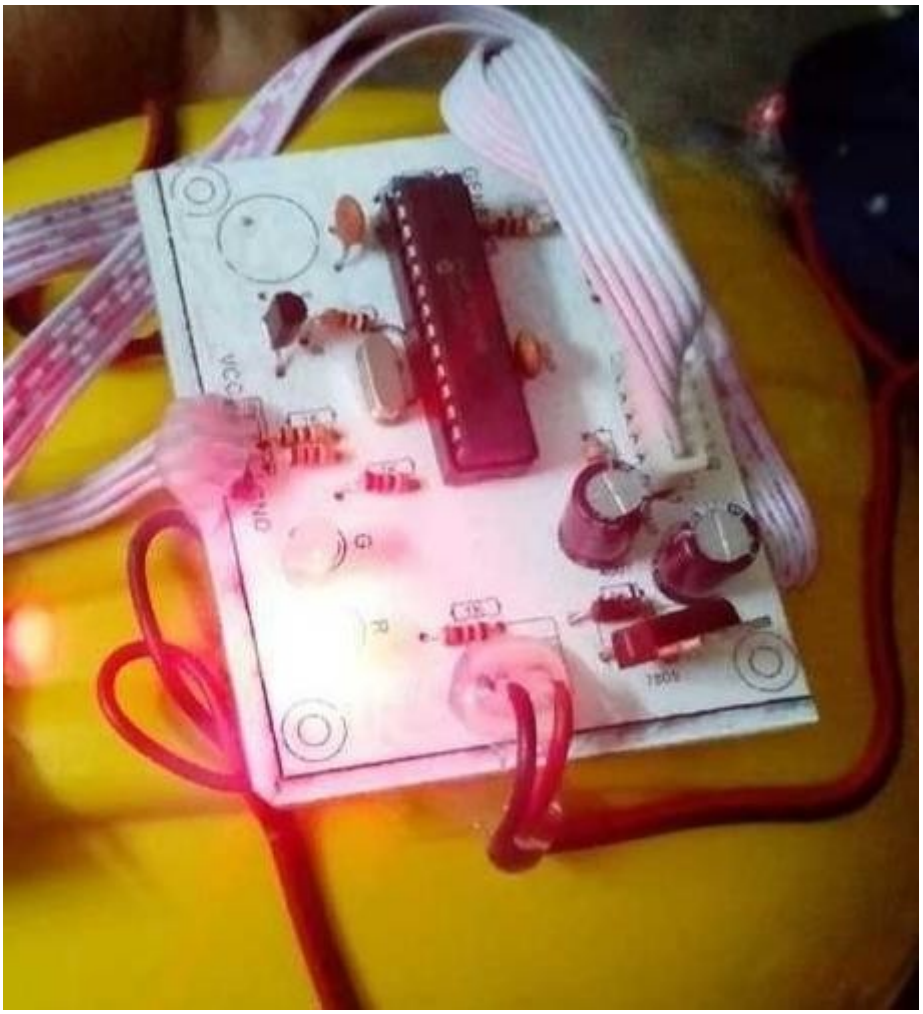

Fig 5.4: LED Test

When a blinds person blinds from a distance from 100 cm will automatically turn on. Then the green LED of 60 cm will be automatically switched on. But when the red LED is switched on.

Result

Screen test pictured 5.3 rumor test the rumor automatically gets the alarm fig 5.3 and image LED test is show the green LED will turn on automatically. But when the red LED is switched on.

Sensor Test

Fig. 5.5 Sensor Test

Here the sensor work 70 cm, which is already shown in the figure 5.5 sensor test. The sensor is 100cm 70 cm and 30 cm.

Advantages:

1. Other have to keep for a long time.
2. It can be used internally and externally.
3. We use a vibrating motor that vibrates at a minimum of 30 cm between the blind person.

Disadvantages:

1. It cannot detect the holes in the road.
2. The cost of a blind person is not adequate.

Conclusion:

The system works correctly. At the start of the code section we use unit tests. We test units in our modules when we test them. After completing the entire development process for our entire system. We test the integration testing system, we have encountered some problem in every test section and fix these problem as soon as possible.

CHAPTER 6

CONCLUSION

Conclusion

This paper outline the system of search and system, which provides great assistance and support for blind people. With the proposed architecture if build with greater precision blind people and move from one place to another without the help of other. If such a system develops it will act as a basic platform for generating more such devices for the prospect of the injured which will be more cost Effective. Effective cost is one of the important factors of this project it is very suitable for developing countries. Tests have shown that this product is more suitable for it is internal application. In the market today is not available in the market but in the future adding additional features of the auxiliary movement with simple and low cost technology will definitely help capture a huge market in developing countries.

Limitation of the Study

This project essentially an ultrasound where the sensor controls the microprocessor signals. When this project will work if it has a 100cm barrier then give it a signal sound. When approaching the amount will go close to 60 cm double signal. If for some reason the blind person does not here the ringing tone then near the obstacle close to 30 cm the vibration motor will shake in the constructing field the use of electronic measuring devices has not yet been widely used. Due to the high cost of these devices in the market one should think of an economical way to create an accurate low cost metering device. Now a days the measuring distance is considered a problem in the field of construction or internal measurement activities because this task is done using a measuring tape. Other devices have laser based system that have improved precision and precision. Currently laser detection radar and infrared rays are widely applied in terms of detection of obstacles and distance measurement. Because of the expensive price the laser and radar distance measuring system is only set up in a minority of instruments. For the infrared sensor the range of the distance that can be measured is very short with only an interval of 4-30 cm. I cannot measure the hole in the street.

Future Works:

However reducing costs leads to performance commitments it is recommended to improve design compared to commercial production. Some of the improvements that way be made are:

1. Increase the range of ultrasonic sensor and establish a speed limit for speeding up barriers.

2. Synchronize with internet browsing software application to choose from new and unplanned destinations.

3. Provision of voice control device

1. The charge module can be integrated with a USB system
2. Abridged size
3. Abridged weight
4. Improvement of weight balance
5. Ergonomic maturity
6. Better angle change mechanism
7. A test move objects must be done
8. Simple controls
9. Ultrasonic and control circuit with reduced size

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APPENDIX-A

```
#include <PIC16F73.h>

#use delay(clock = 16000000)

int time,distance;
```

```
void main()
{
    lcd_gotoxy(1, 1);
    printf(lcd_putc,"  WELCOME TO    ");
    lcd_gotoxy(1, 2);
    printf(lcd_putc,"                ");
    delay_ms(1000);

    lcd_gotoxy(1, 1);
    printf(lcd_putc,"    DAFFODIL    ");
    lcd_gotoxy(1, 2);
    printf(lcd_putc," UNIVERSITY ");
    delay_ms(1000);

    lcd_gotoxy(1, 1);
    printf(lcd_putc," SUBMITTED BY: ");
    lcd_gotoxy(1, 2);
    printf(lcd_putc,"                ");
    delay_ms(1000);

    lcd_gotoxy(1, 1);
    printf(lcd_putc,"      SHOVO     ");
    lcd_gotoxy(1, 2);
```

```
    printf(lcd_putc,"     BIPLOB     ");
    delay_ms(3000);



 while(TRUE)
 {
   output_high(PIN_C0);
   delay_us(10);
   output_low(PIN_C0);
   set_timer1(0);                          // Reset Timer1
   while(!input(PIN_C1) && get_timer1() );

     time = get_timer1();                  // Store Timer1 value in i

     distance = time/116;                  // Calculate the distance

    lcd_gotoxy(1, 1);
    printf("DISTANCE:%3D cm ",distance);
    delay_ms(500);
  }
}
```