International Journal of Advanced Technology in Engineering and Science
Vol. No.5, Issue No. 01, January 2017
www.ijates.com
ijates
ISSN 2348 - 7550

ACCIDENT PREVENTING ROBOT

Ch. Sravya Reddy[1], P. Rithika[2], S. Sudha[3], H. Raghupathi[4]

[1, 2, 3] B.Tech (ECE), [4] Working as Asst. Professor, Department of (ECE)
Visvesvaraya College of Engineering and Technology, M.P Patelguda,
Ibrahimpatnam (M), Ranga Reddy (D), Affiliated to JNTUH, (India)

ABSTRACT

A robot obstacle detection system comprising: The main aim of the project is to detect the obstacles and avoid the accident. The robotics are mainly used coal mines, surveillance applications and navigation purpose. The obstacle detects and avoidance robot is an intelligent robot which can perform the desired task for finding and avoidance the obstacles without human guidance.

In this project mainly used the obstacle avoidance so if any obstacle is detected at any side like right, left and front, and the robot is moved correspondingly depending on our program .in this two motors are controls the robot if any pro is detect at right it will automatically moves left depending on the our program. The ultrasonic sensors are used for the sensing the obstacle. When the robot is stops it automatically gives buzzer. The LCD is used for the displaying purpose which is way is moving and we are using the 5v dc power supply.

Keywords- At89c51 Microcontroller, Ultrasonic Sensor, Buzzer.

I. INTRODUCTION

Now a day's Robotics are the part of today's communication and it is the part of advanced of technology, so we need to know about the robotics, and design of some very useful to human life.We have the different type's robots which are used in different application. This robot uses ultrasonic sensor to detect the obstacle in between the path .When an obstacle detects by ultrasonic it gets reflects by the ultrasonic. And it generate a positive high or low signal with the help of the receiver. The main of this project is to avoid the accident in the metropolitan cities by pressing the sudden breaks. This project can use anywhere like cars and bikes.in this the obstacle by the ultrasonic sensor detect and it automatically in free space without human guidance.

1.1 Liturature Review

The mostly accidents are occurred fatal roads and metropolitan cities .this project is mainly is used in the transport industry. Where the drivers the monitors hours of hours with out taking the such rest with heavy load,Detecting driver's problems has been a research topic for many years.The work in proposes the detection of the face region using the difference image between two images. Driver's yawn is then detected based on the distance between the midpoint of nostrils and the chin.so we are implemented the obstacle which can automatically avoidance the robot and prevention the accident, which can automatically moves side when an obstacle is detected by the ultrasonic sensor

II. HARDWARE DESIGN

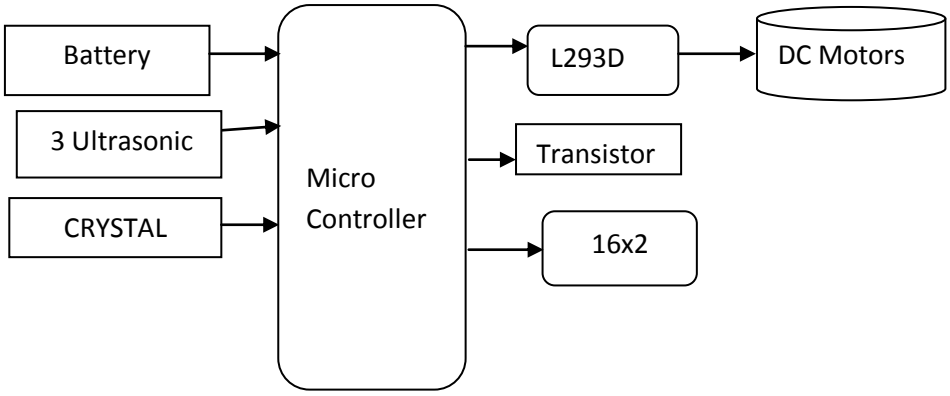


Fig1: BLOCK DIAGRAM

2.1 8051 Microcontroller

8051 is a microcontroller. Normally we are using AT89S52 series controller, in this it contains totally 40 pin dual in package. These 40 pins are can be divided into the four ports(port0,port1,port2,port3),two timers ,6 interrupts lines and on chip memory.2 kb ROM and 256 bytes of RAM.

There are two different memory types: RAM and ROM. RAM (random access memory) is used store the code, and it usually called as temporary memory and ROM(read only memory) memory is used to store the program itself, that is ROM can be called as 'program memory' and it is cleared by the central processing unit(cpu).

Out of 40 pins we can use 32 general purpose input output pins these 32 pins we can used input and output pins.

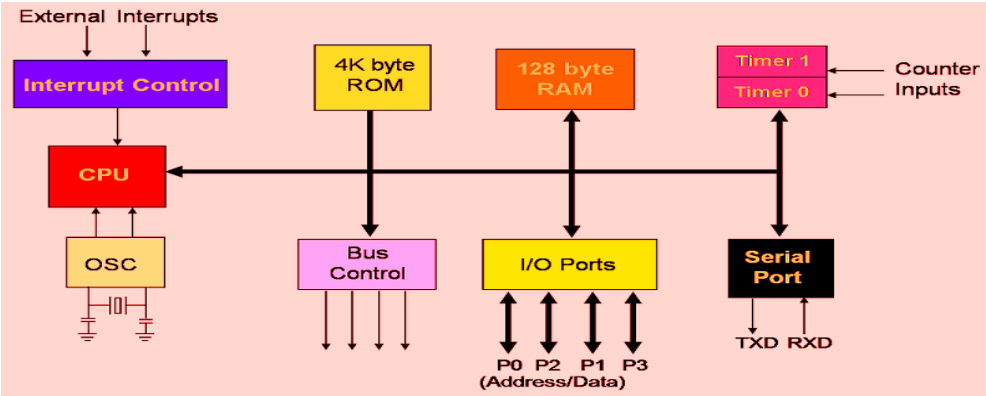


Fig:8051 block diagram

2.2 Liquid Crystal Display

LCD **(**liquid crystal display)is most important thing for the every project.it contains the 16x2 matrix form, that it contains two lines and every line we can use the 16 charectors.in this lcd every character is displayed by the 5x7 matrix form.in this we have the 8 data pins, two power supply pins ,one contrast pins, two back light pins, and three control pins. The data will transmits or received through that 8 data lines only.The data is that the ASCII worth of the character to be shown on the LCD.In this lcd we have some commands like clearing, for next line and for shifting having some different commands for the lcd.

2.3 Ultra Sonic Sensor

Ultrasonic sensors are devices can be used for the to detect the obstacle. In this use electrical–mechanical energy transformation to measure distance from the sensor to the target object. Ultrasonic are produces waves which travel as some distance through the medium.

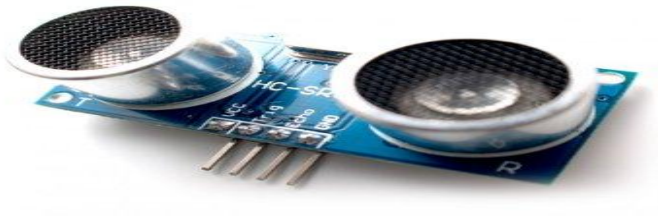


Fig: Ultrasonic Sensor

2.4 L293D

L293D is a motor driver integrated circuit (IC). Motor drivers takes low current signals and gives the high current signals. Commonly by using l293d we can run motors in both directions (forward an reverse). The motors can be controlled by input logic at pins numbers 2 & 7 and 10 & 15. Input logic 00 or 11 will stop the corresponding motor. Logic 01 and 10 will rotate it in clockwise and anticlockwise directions, respectively.Enable pins 1 and 9 (corresponding to the two motors) must be high for motors to start operating.

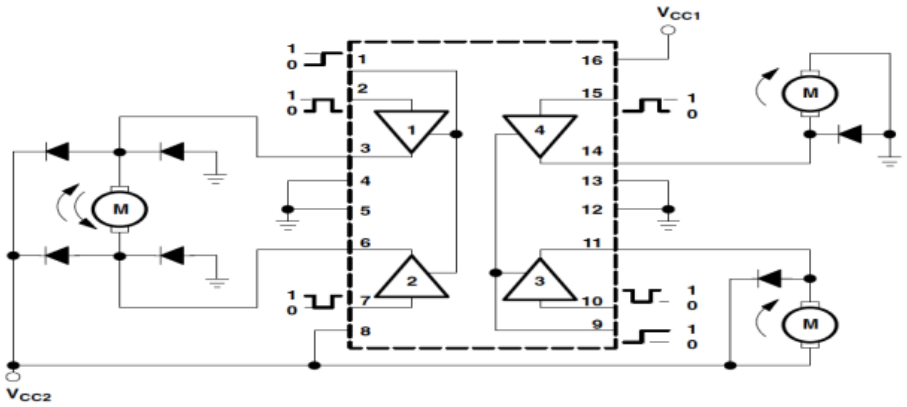


Fig:L293D

2.5 Buzzer

buzzer is an electronic which we can commonly used for the sounds. This buzzer commonly used for the indicator, call bells ,emergency case etc. thise buzzers are piezo electric buzzers. These buzzers we can't use the buzzer in directly in project by using bc54 directly by using BC54 transistor only we can use this one.

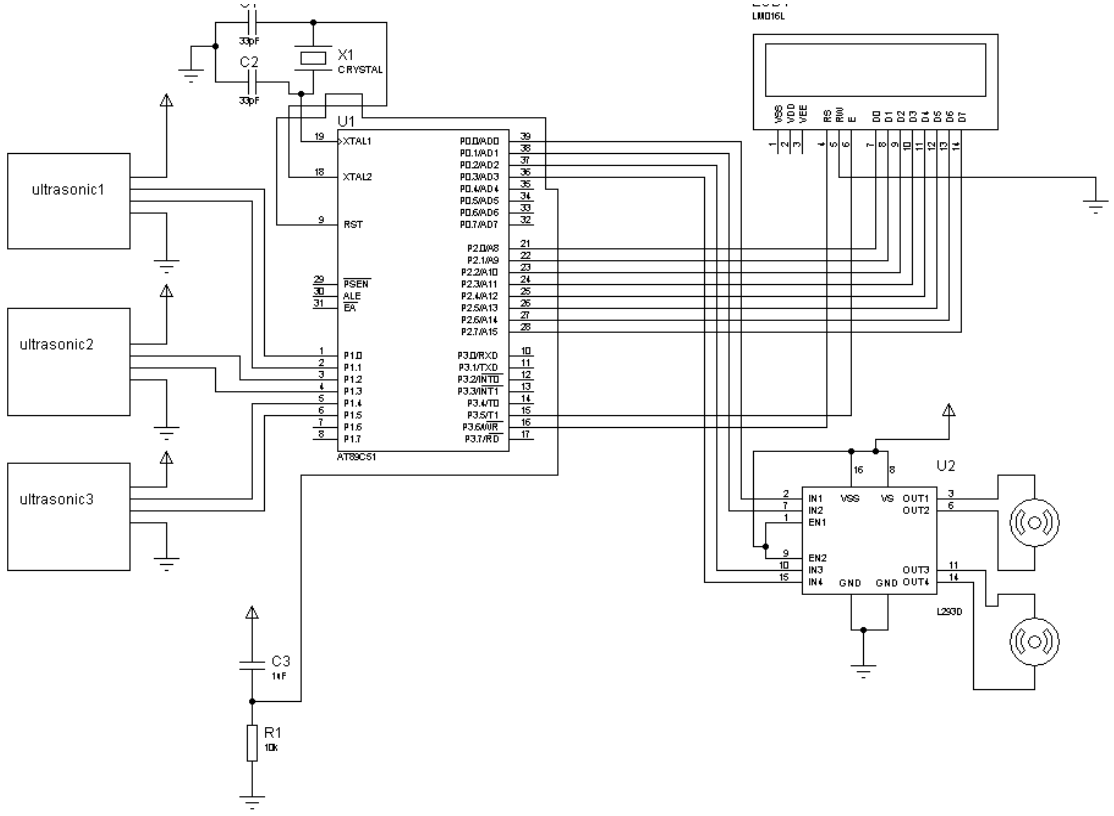
III. SOFTWARE DESIGN

To finish the undertaking on equipment need to installed programming on to the controller utilized as a part of this venture for that reason we need programming's similar to Keil u vision and glimmer enchantment those are examined in given beneath. Compiler that keeps running on one pc however delivers PC code for an unmistakable sort of pc. Cross compilers square measure usual produce PC code which will keep running on

PCs with a substitution plan or on exceptional reason gadgets that can't have their own compilers. Cross compilers square measure extremely in vogue for implanted improvement, wherever the objective more likely than not couldn't run a compiler. Normally relate degree inserted stage has limited RAM, no plate, and confined I/O ability. Code are frequently adjusted and accumulated on a brisk host machine, (for example, a tablet or working framework workstation) and in this way the resulting feasible code will then be downloaded to the objective to be tried. Cross compilers square measure helpful at whatever point the host machine has a ton of assets (memory, circle, I/O and so on) than the objective. Keil compiler is one such compiler that backings a gigantic assortment of host and target blends. It underpins as an objective to eight piece microcontrollers like Atmel and Motorola and so forth. Streak Magic is partner application created by Embedded Systems Academy to allow you to just get to the choices of a microcontroller gadget. With this project you'll have the capacity to delete individual squares or the entire nonvolatile stockpiling of the microcontroller.

IV. WORKING DESCRIPTION

Here using AT89c51(8051) micro controller. The LCD is connected to the PORT-2. We are using 8-bit LCD. So we used 8-data lines. The register select is connected to the P3.7 and enable is connected to P3.6. So whatever the data we want we can display it on LCD.Here we are interfacing sensors like ultrasonic sensor to our 8051 Microcontroller and these three ultrasonic sensors.in that one is connected to 1.0 and 1.1 port pins,second one is connected to 1.3 and 1.4 and third one is connected to 1.5 and 1.6.L293D is used for amplification purpose to the DC motors. Wheels motion is depending on L293D in that one motor is connected to P0.0 and P0.1, second motor is connected to P0.2 and P0.3.



V. RESULTS

Here the results are shown our project "Accident preventing robot" whenever object detects near ultrasonic sensors robot can change their direction and also indicate through buzzer. L293D is used to amplify the current which comes from micro controller wheels can move in forward, reverse, left, right, depending on ultrasonic sensors. If any false occur in these process buzzer will ON

VI. CONCLUSION

From this project we can conclude that It is due to the driver's fatigue, traffic accidents keep with a yearly increasing of a high rate. This project shows the obstaleusing ultrasonic sensors. In this obstacle is detected by the ultrasonicsensor and automatically moves another directions.If we have propsed an intelligent car system for accident prevention and making the world a much better and safe by avoiding the obstacle . any object is detected when robot is moving on the highway. The ultrasonic is detected is detected the automatically buzzer will ON.

VII. AUTHOR DETAILS

CH. SRAVYA REDDY
B.Tech (ECE) from Visvesvaraya College of Engineering and Technology, M.P Patelguda, Ibrahimpatnam (M), Ranga Reddy (D), Affiliated to JNTUH, India.

P. RITHIKA
B.Tech (ECE) from Visvesvaraya College of Engineering and Technology, M.P Patelguda, Ibrahimpatnam (M), Ranga Reddy (D), Affiliated to JNTUH, India.

S. SUDHA
B.Tech (ECE) from Visvesvaraya College of Engineering and Technology, M.P Patelguda, Ibrahimpatnam (M), Ranga Reddy (D), Affiliated to JNTUH, India.

H. RAGHUPATHI
Working as assistant professor, from visvesvaraya college of engineering and technology, patelguda, Ibrahimpatnam, Rangareddy dist., telangana, INDIA.