AUTOMANAGEMENT FOR COMFORT IN VEHICLE

Sonal Tiwatane[1], Deepali Jadhav[2], Pooja kumbhar[3] , Dr.Bhavna Ambudkar[4]

[123]*Student,Dept of E&TC,DIT,Pimpri*
[4]*Professor, Dept,of E&TC , DIT,Pimpri, Maharashtra, India*

---***---

Abstract - *A few years ago the car system designed were costly and were no that automatic in the user point of view. With the growing number of vehicles on road, the parking problem in major cities to is increasing. Parking spaces are getting congested, and almost all the metropolitan cities are facing a chronic shortage of public and residential parking slots; even if you find out space, parking won't be an easy task. Another reason behind increasing parking problem is the increment in the width and length of the car, which wasn't the case before while reversing it may cause an accident and now Due to huge traffic the AC in car is not immediately turned on some car has a Bluetooth system and the privacy of call is not maintain. So The idea of this paper is to design and provide a facility in a car which helps in developing an automotive environment inside the car which is comfortable for the users. The system consists of 'Temperature comfort organizer', 'Obstacle detection', 'Auto radio management functionalities'. The 'Temperature comfort organizer is used to turns ON/OFF the air conditioner/blower according to the temperature in a car. The 'Obstacle detection' technique detects the obstacle present behind the car when the car is moving in the reverse direction. It helps in giving alert to the driver and prevent an accident. The system also carries 'Auto radio management' which helps to turn OFF the music system when the mobile phone c rings/vibrate and it will again turn ON when the call gets over.*

KeyWords: **Temperature sensing, auto radio management; obstacle detection.**

1.INTRODUCTION

During the undesired situation, the obstacle detection and the temperature organizer will help to provide safe and comfort zone. Years ago when the cars were designed the car didn't have any application for comfort and safety. Which used to cause accidents. As per the development of the car, it started providing the Ac system which provides comfort to the user, but it is not automatic. The System here is used to move the window up and down to make the system work more comfortably for AC. And providing the comfortable temperature in the car it.

Some cars consist of a camera system to detect the obstacle the camera identifies the obstacle behind the car during the car reverse but as this system is costly so this system uses to use PIR and the ultrasonic sensor to detect the obstacle and indicate it to the user. Many car systems also consist of a Bluetooth concept to receive the call but disturbance and privacy both are not maintained so this system is to maintain the call privacy by using the sound sensor it identifies the call and turns off the music system. The goal of this project is to design and provide a facility for a car which helps in developing an automotive environment in a car which is comfortable for the users. The system is used to different type of the sensing parameters like Ultrasonic sensor, PIR sensor, Temperature sensor etc. The temperature sensor is used to measure the inside and outside temperature of the car motor is used to handle the movement of the window. The IR sensor is used to detect a non-living object. The PIR sensor is used for detection of the living object. The PIR sensor is used for detection of a living object. All sensor perform their function and provide a comfort to the user.

2. Literature survey

1. Intelligent safety warning and alert system for car driving. Author: Ioannou P., XU, Z. This system is very useful for the safety of car while the car is parked-The paper present a system of an intelligent safety of a car with a warning and alert system.
2. Sensored Car.Author:: Mrs.Bhavna Ambudkar. An idea is using a sensor network for next-generation car. Important of all health parameter is identified and if the driver is not suitable to drive he will not be allowed to drive.
3. ARM7 based automatic blower control system. Author: K GaurishankarIt consists of to detect the outside and inside temperature of a car and detect the inside temperature and turn on/off the ac /blower.
4. Automatic car using can controller Author:L. Shreenath Sudheer It consists of AC monitoring system and the relation of it with the can is shown with a can.

5. Vibration proof high-pressure electrical luminance device Author: A.Bolotnikov and B.Ramsey It consists of automatic management of radio through the Bluetooth system it makes the system easier and comfortable.

6. Car talks to phone a DSRC based vehicle pedestrian safety system.Author: HondaR&D American Inc. It

3. BASIC STRUCTURE

The main structure consists of a PIC18F4520, Ultrasonic sensor, PIR sensor, Sound sensor, 2 Temperature sensor, Motor, LCD, Music player, LED, Buzzer. The IR sensor detects non-living objects. The PIR sensor detects living objects. Here we have used two (LM35) temperature sensor to detects inside and outside temperature of the car. The analog output of all the sensor is given to microcontroller (PIC18F4520). The ADC of microcontroller converts the analog input into digital format and it will be displayed on LCD.

3.1BLOCK DIAGRAM
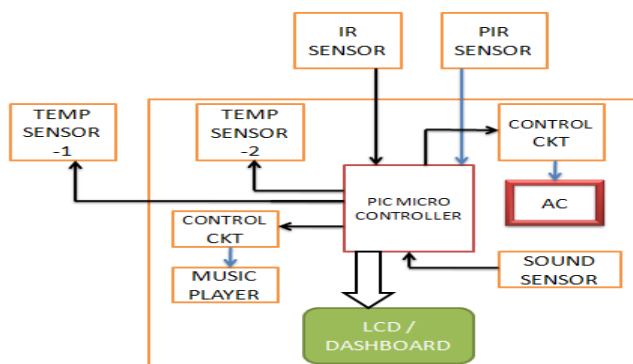
3.2PARAMETER SENSING

The various sensor is used to provide comfort and safety in the vehicle. Parameters used for sensing are a temperature sensor, ultrasonic sensor, PIR sensor, microphone(sound sensor).

3.3 IR SENSOR

An IR sensor is a device that can measure the distance to an object by using sound waves. The Component consists of LED and photodiode. When LED emits the light ray and if that light ray falls on the object it is reflected back and absorbed by the photodiode.
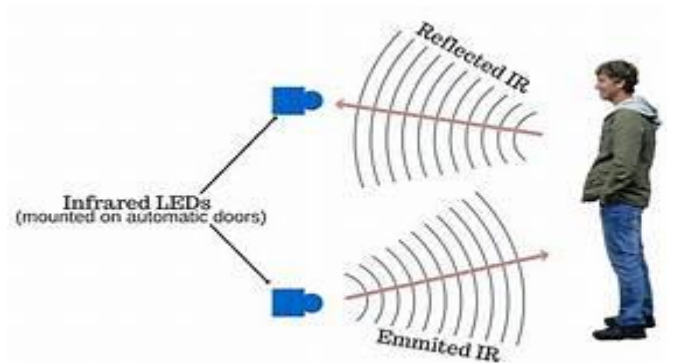
Fig 2:IR sensor detection

3.4 PIR SENSOR

A PIR Sensor is used to detect the live objects.PIR is basically made of a Pyroelectric sensor which can detect levels of infrared radiation. Everything emits somehow level radiation and the hotter something is, the more radiation is emitted. The sensor in a motion detector is actually split into two halves. This helps to detect the living object.

Fig 3: PIR Sensor Detection

3.5Temperature sensor

The LM35 series is a precision integrated circuit temperature device with an output voltage linearly proportional to centigrade temperature .it has a voltage specific range which helps to detect the temperature inside the car. It does not require any calibration.

3.6 Microphone/Sound sensor

A microphone or a mike is a transducer that converts sound into an electrical signal .mircophone are used in many application such as telephone, hearing aids etc. It helps to recognize the sound and turn on/ off the radio system. Several different types of microphones are in use, which employs different methods to convert the air pressure variations of a sound wave into an electrical signal.
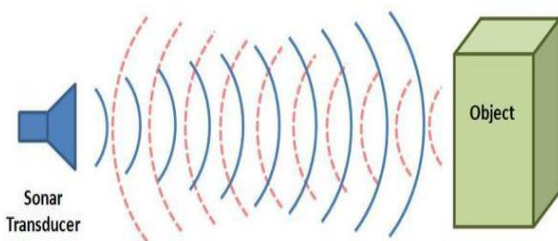
Basic sonar illustration – a transducer generates a sound pulse and then listens for the echo.

4. HARDWARE IMPLEMENTATION

This system is used to design and provide the facility in a car which is Comfortable for the users. In this system, the temperature sensor detects the inside and outside temperature of the car. Here we have decided one particular temperature range which is comfortable for the user and according to that range the AC/ Blower will turn ON/OFF. The IR +sensor is used to detect a non-living object and PIR sensor living objects. The output of all these sensors are in analog form and this all outputs are given to the microcontroller. The microcontroller will convert analog input to digital output and that output will be displayed on LCD. The motor is used for the functioning of car window UP/DOWN. The sound sensor is used to control the ON/OFF the music system when mobile phone vibrates/rings. When mobile is placed on dashboard and music system is ON inside a car and if at that time mobile phone rings then the microphone sense and the music system will turn OFF.

5.FLOW CHART
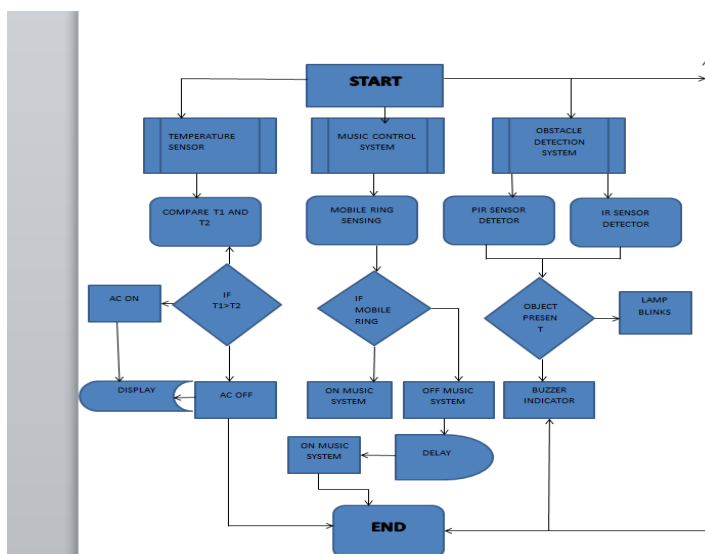
The above flowchart tells the working flow of the system. The system code is set to a value. If the temperature T1>T2 then the AC is turned on. The music system detects the sound by the sound sensor and relay used will turn off the music system. This system detects the obstacle beside the car it detects the living as well as nonliving and gives the output on LCD.

6. RESULT
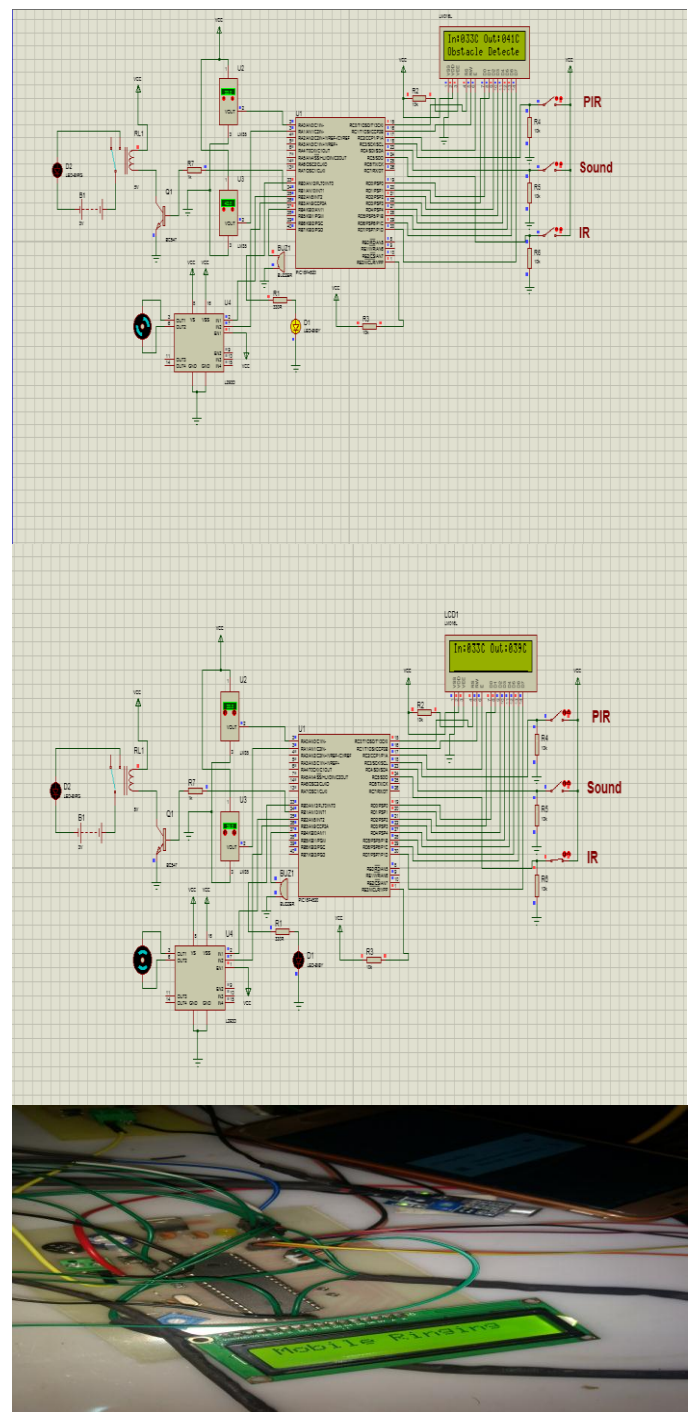
7. CONCLUSIONS

This system consists of a "Temperature Comfort Organizer" which aims at regulating the temperature inside the car and similarly outside the car. The car consists of a system which helps to prevent accident and provide safety by obstacle detection. It has an "Auto Radio Management System" which helps This system turn off the radio while phone rings or vibrate and after the call ends it turn on the radio. For car safety, This system consists of obstacle detection which detects the obstacle behind the car.

ACKNOWLEDGEMENT

REFERENCES

[1] Ioannou, P., Xu, Z., Eckert, S. and Clemons, D. Sieja,"Intelligent Cruise Control: Theory and Experiment,"Decision and Control, 1993, *Proceedings of the 32ndIEEE Conference on*, Vol. 2, pp. 1885_1890 (1993).

[2] K. Gouri Shankar, (2008) "Control of Boiler Operation using PLC-SCADA, "International MultiConference of Engineering and Computer Scientists, Vol. 2, ISBN: 978-988-17012-1-3.

[3] Bolotnikov and B. Ramsey, "Improving the energy resolution of highpressureXe cylindrical ionization chambers," *IEEE Trans. Nucl. Sci.*, vol. 44, pp. 1006–1010, 1997.

[4] T. Abdelzaher, Y. Anokwa, P. Boda, J. Burke, D. Estrin, L. Guibas, A. Kansal, S. Madden, and J. Reich. Mobiscopes for human spaces. IEEE Pervasive Computing, 6:20–29, April 2007.

[5] L. Shrimanth Sudheer, Immanuel J, P. Bhaskar, and Parvathi C. S. (2013) "ARM7 Microcontroller based Fuzzy Logic Controller for Liquid Level Control System, " International Journal of Electronics and Communication Engineering and Technology, Vol. 4(2), pp. 217-224.

[6] †Honda R&D Americas Inc ∗Qualcomm Research Cars Talk to Phones: A DSRC Based Vehicle-Pedestrian Safety System.it instruct both driver and pedestrian by alerting.

[7] Bhavana Ambudkar "Sensored Car" The car is controlled by the network depending on parameters like license of the driver, battery, fuel, servicing status, the speed of the car IEEE 2009