A CHILD LEFT BEHIND WARNING SYSTEM

[1]Ms S.Shravani, [2]V.Anusha, [3]N.Manohar Reddy, [4]Arroju Akhil
[1]Associate Professor, [2]Student, [3]Student, [4]Student
[1]Electronics and Communication Engineering,
[1]Geethanjali College Of Engineering and Technology, Hyderabad, India

Abstract : About 500 children died in all over world, between 1998 and 2010, because they were left alone inside parked cars. This has been reported by a non-profit organization called Kids n-cars. Similar, unfortunate, incidents also happens in various parts of the world. Once a car is turned-off and parked, keeping its window glasses closed, the temperature inside the car increases rapidly even on a day with atmospheric temperature of about 50-60. As the thermoregulatory system of the child is not well developed, this condition may lead to hyperthermia or heatstroke which can be fatal.

As we know, the child entirely depends on elders but, unknowingly, in a busy schedule, the driver or passengers may forget to take the child in the infant seat, usually kept in the back seat of the car. Such incidents can be prevented by sensing the presence of a child soon after a car is turned-off

Index Terms - GSM , ARM7 Processor, PIR Sensor.

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I. INTRODUCTION

The Technology is increasingly extended as the demand from several of usage is growing. Although many inventions have taken place, there are still the incidents that involve to death of children which has been left in vehicle. In this project, a child left behind in the vehicle when parents in a hurry forget to take their children alert system is provided. Also, a temperature and gas monitoring is provided since thermoregulatory system of the child is weak when the doors are closed and there is no ventilation. For this, sensors are used along with GSM technology to alert the parents with an alert message.

The temperature inside the car increases even in the 21 degrees day time, when it is turned off. The windows are kept away and the glasses will be closed at that time. This may lead to heatstroke. In a busy schedule, the driver or passenger may forgot to take the child in the infant seat, usually kept in the back seat of the car . By sending a suitable signal to the driver or parents the incidents can be prevented. The warning signal is sent to driver or parents, so that they can take immediate action to save the child PIR sensor.gas sensor and temperature sensor are used to check the status of child.

II. LIETRATURE REVIEW

According to the statistic in the US, 10% of child's deaths are caused by heat stroke due to negligence caused by parents or caretaker. A lion's share of the cases happen when folks get diverted from their hectic lives and they don't realized that the child was in a death-defying situation. Busy folks that tend to position their child in the back of the car and could make them overlook that they are carrying their child along. They could possibly go about their routine and leave children secured in the shut window's vehicle. The impacts from work stress related are one of the reason why most of people tend to forgot. This clarifies that individual's day by day life could influence their conduct and contribute to one's decision to leave their child unattended in the vehicle because of distressing and work load. There are numerous research work on this subject, in the recent years

In the patented design by J. Morningstar, the warning system will notify the parents immediately when the children were left inside the vehicle.

III . OBJECTIVES AND METHODLOGY

Aim: To design and implement Child left behind warning system setup.

Objectives:
1)Saftey of children
2) To design CLBWS as per our requirements
3) To develop the hardware of control unit
4) To test and validate the designed system

Methodology:
Methodology for objective1:
- PIR sensors used to detect the presence of human beings in the car or any room.

Methodology for objective2:
- LCD used to display the status of sensors.

Methodology for objective3:
- GSM used to send the alert message for parents about child condition.

IV. FUNCTIONAL DESCRIPTION

The entire system is designed with ARM7 processor and whenever it receives the signal from the PIR sensor, immediately it transmits an alert message to the parent mobile if the vehicle is locked. The ARM7 processor is a 32-bit RISC processor, meaning it is built using the reduced instruction set computer (RISC) instruction set architecture (ISA). ARM processors are widely used in personal digital assistants

(PDA), digital media and music layers, hand-held gaming systems, calculators, and even computer hard drives as well. So this project is designed using the ARM processor
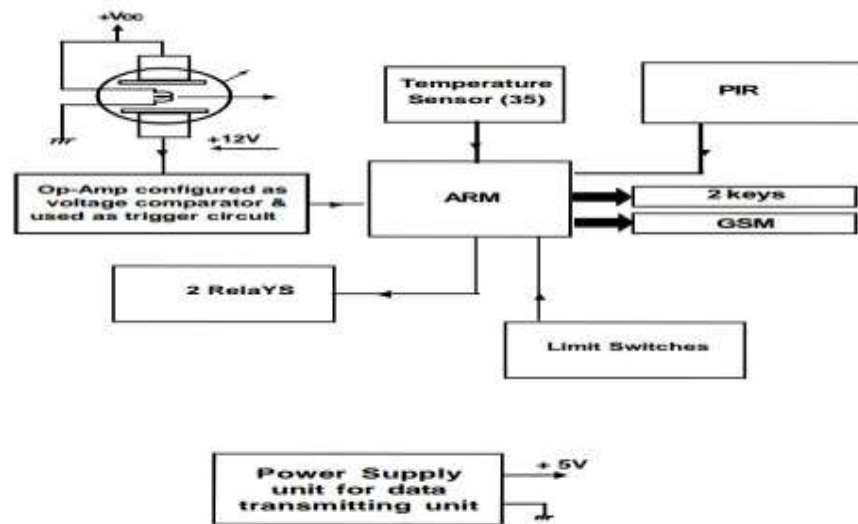

Fig 1. Block Diagram

In this project, we propose a simple and compact motion detector that can be placed in an infant seat to detect presence of a child. The proposed system also has a vehicle ignition monitor to confirm presence of driver inside a car. It has a temperature sensor to keep track on current temperature inside the car and a gas sensor for detecting the harmful gases. A GSM modem is used to alert driver or parents/guardians as soon as a child left in the car in an infant seat is detected and the car is found to be turned-off. Principle of operation of the PIR sensor, measurement scheme employed details of prototype sensor and warning system developed and test results are discussed in the following sections of the project work.

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The advantage of using GSM technology is that there is no limitation in the range, because it is a global network, therefore the user can get the message whenever the child is left behind in the vehicle automatically. The PIR sensor acquires this information of the child left behind and the same will be transmitted to the concern mobile number automatically through the GSM modem.

V. PROPOSED WORK

The system starts in five minutes after the vehicle is in its parking situation. The vehicle is considered to be in parking situation based on several conditions such as ignition engine is central lock is on or handbrake is locked or ignition engine is off. The alert message will be sent to the vehicle driver about the activation of the detection and feedback system. The system then will activate the temperature sensor first, follow by motion, voice and odour detectors respectively. However, to make the system more robust, in real implementation of the project, any detector activated will trigger the feedback system either by sending SMS to vehicle driver and rolling down the vehicle's window. Here, the temperature sensor will activate when the cabin temperature greater than 40oC. Meanwhile, the voice and motion detectors will take place to activate the system if detecting any movement or voice from the child. The child will start to cry or move his or her body when feeling uncomfortable due to the increasing cabin temperature.
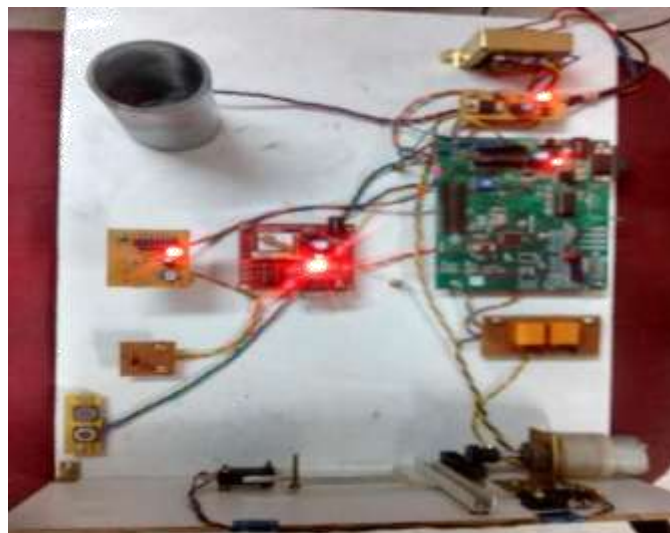

Fig 2 Implementation

VI.　CONCLUSION

The alert system is proposed to be used by parents to always alert them about their children. By using system, it can avoid from death cases of dying child increase every year. The death cases are very tragic because it involves child or person that are very young. This system is created and develops by using simple components that easy to get in any types of components store It always comes in very small of product that can easy to install inside the car.

VII.　REFERENCES

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