HUMAN DETECTION IN CLOSED CARS

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Abstract

Human detection in closed cars System by Arduino is a device that alerts the driver if a child is left in the car. The system is developed using the Arduino board which incorporates the integration between sensor and GSM module. This system uses PIR sensor to detect the presence of a child located at the back seat of the vehicles. Meanwhile, the GSM or Global System for Mobile Communication allows the system to send an alert to the driver within a short period. The GSM is chosen due to its ability to lower the energy consumption per bit while providing higher data rates. A Pressure Infrared (PIR) Sensor is used. The alert system is triggered when sensor detect the presence of a child at the back of the car seat which will then notify the parents or a driver immediately through a message sent via a mobile phone.A bluetooth is connected to the module so we can on it when we get out of the car and through this bluetooth module the phone is connected which operates the on and off of the system.

1. INTRODUCTION

Every few days in the world, there are reports of young children dying from heatstroke after being left in parked cars. With cases of clear neglect, the justified intervention and local solution must be addressed accordingly. Even though an emphasis on education and awareness focused at parents or drivers and to the public, in general, have been given, this could not stop the number of a child end up in this kind of tragedy. This shows that it's very important to develop a device or system that can notify the driver or alert them on the issue. To summarize this section, the death could have been prevented if the parent being notified in case, they leave a child behind. To prevent this tragedy, Arduino-based-system is developed to send out a warning message once the system detects the presence of the children based on PIR sensor placed at the back seat of the car after the driver left. This project aims to develop a lab prototype of a low-cost and simple implementation of a Child Safety Car Alert System using Arduino Uno system that sends alerts to the drivers . Based on the comparison, a Passive Infrared (PIR)

sensor is chosen to detect the motion of the child through IR radiation emission.

2. RELATED WORK

Each year children are left unattended in and around vehicles that can lead to deadly consequences. These consequences include the dangers of abduction, heat stroke, strangulation, trunk entrapment, being backed over, and personal injuries to themselves or others by causing accidental and uncontrolled movement of the vehicle and Nationally, four children are killed in preventable non-traffic automobile incidents every week so to prevent this we have proposed this solution with arduino board.A human detector is an automated device which actually alerts the parent. The primary benefit of a human detecting system in closed car is to save the child from the suffocation, suffocating for longer period of time may leads to death of the child. The system alerts the driver if a child is left in car. The system is developed using the Arduino board which incorporates the integration between sensor and GSM module

3. IMPLEMENTATION

A human detector is an automated device which actually alerts the parent. The primary benefit of a human detecting system in closed car is to save the child from the suffocation, suffocating for longer period of time may leads to death of the child. The system alerts the driver if a child is left in car. The system is developed using the Arduino board which incorporates the integration between sensor and GSM module. This system uses PIR sensor to detect the presence of a child located at the back seat of the vehicles. Meanwhile, the GSM or Global System for Mobile Communication allows the system to send an alert to the driver within a short period. The GSM is chosen due to its ability to lower the energy consumption per bit while providing higher data rates. A Pressure Infrared (PIR) Sensor is used. The alert system is triggered when sensor detect the presence of a child at the back of the car seat which will then notify the parents or a driver immediately through a message sent via a mobile phone.

It is helpful for all the parents out there to prevent the risk of losing their child in these busy days.

Every few days in the world there are reports of young children dying from heatstroke or suffocation after being left in closed cars so to prevent these type of deaths this human detection in closd cars based on arduino uno board controller is helpful

The aim of this project is to save the child who are stuck in a closed car. So, by this kind of system may help the child from suffocation or from death. This system is made of Arduino, PIR sensors and GSM module which gives or sends an alert message to the person or driver. An

algorithm is implemented to solve the problem.

The project came into existence for one sole purpose to help the children who are trapped in the cars in absence of their parents.
The aim is to detect the human in the car when its engine is off and send the message to the owner of the car to alert them.
It is further integrated with only some range of detection which doesn't include people who are out of the car.

4. EXPERIMENTAL RESULTS

1. Arduino is an open source physical computing platform which implements the processing language on a simple input output board.

2. The human detection in closed cars is an arduino based system it is a stand alone system where the system does not interact with the vechicles internal system.

3. This system is controlled by arduino uno and GSM module.

4. This has two major parts which are the detection mechanism and prevention mechanism.

5. The detection mechanism is used to detect the presence of child at the back seat.

6. PIR is used to detect the motion based on IR radiation emission produced from the child.

7. Whenever the detection mechanism detects and confirms the presence of a child while the driver left,a signal will be sent to to the control unit to trigger the GSM module.

8. As the GSM module get triggered it will send text alert to the parents.
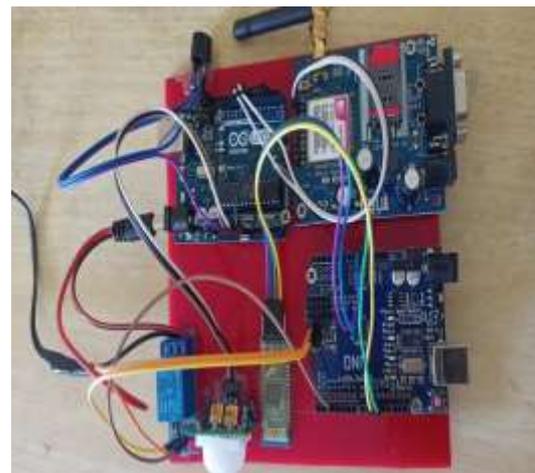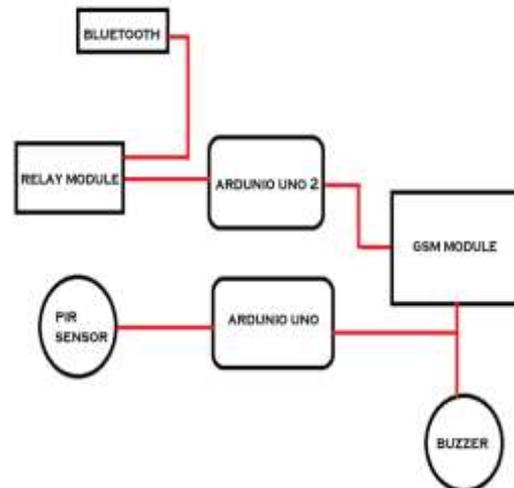
5. CONCLUSION

Human detection in closed cars system may not accommodate all possible technologies; however, it shows great potential for parents/driver to leverage on its benefit to prevent any fatal incident from happening. The system intends to provide reminders to parents who left their child in car unintentionally. This effort is more applicable and relevant for children in a dominant age range between newborn

to toddler. The add-on confirmation detection mechanism allows a rigid and precise detection of the entity mechanism to be working perfectly. Issuance of notifications/alerts to parents on add-on integrated GSM module fulfilled the objective of the project. Nevertheless, this system does not address the effectiveness of notification once issued. Despite low-cost, the system's easy set up make human

detection in closed cars a user-friendly device. Yet there are always rooms for improvement. For future work, the system should ideally be equipped with robust operating capabilities such as battery life, feedback to indicate proper function, provide end-of-trip convenience reminder and minimal additional user action

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