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RESCUE BRACELET

ABSTRACT

My colleague and I propose a solution to address the issue of children being left unattended on school buses, which, although uncommon, unfortunately occurs with some frequency. Our suggestion involves the implementation of a GPS-enabled rescue bracelet that would establish a connection between the child and their parents. Additionally, we propose the installation of an RFID sensor on the bus doors to track the entry and exit of children, and the inclusion of an emergency button to provide immediate assistance when needed.

OBJECTIVES

*Our objective is to minimize accidents and increase parental awareness regarding the whereabouts of their children, providing reassurance and alleviating concerns about their well-being.
* Preserving the lives of children.

PROCESS METHODOLOGY

The bracelet is utilized in the following manner: In the Emergency situation a child can activate the bracelet's emergency button, which will promptly send their location to their father or guardian. Additionally, the bracelet incorporates an RFID feature that allows for accurate counting of the number of children boarding and disembarking the bus. The bus driver is also vigilant to ensure that no child is inadvertently left behind on the bus.

INTRODUCTION

Some time ago, there was a tragic incident that received widespread attention.
It involved a child being unintentionally left on a school bus, resulting in a loss of life.
Despite considering such occurrences to be rare, the news continues to report new incidents,repeating the painful scene .

In response to this distressing issue, my colleagues and I have proposed an innovative solution:
The implementation of a rescue wristband system.
the wristband on the child's hand connected to their parents by GPS. At the same time, there is an RFID sensor on the door of the bus, which counts the number of children entering or leaving and there is also an emergency button.

TECHNOLOGY UTILIZED & RATIONALE

RFID Circuit:
The RFID circuit consists of essential components such as an Arduino microcontroller and an RFID sensor. Its primary function is to accurately count the number of children who board and leave the school bus. By employing this circuit, the system ensures that no child is inadvertently left behind on the bus.

Bracelet Circuit (Rescuer's Wrist):
The bracelet circuit is designed with specific components, including an A9G module for GPS and GSM communication and an ESP32-C3 microcontroller.

RESULTS

Receiving the location from the bracelet via the emergency button or by sending a message to the number on the bracelet When the student enters the bus, the student scans the RFID card on the bracelet on the sensor on the bus and when exiting it.

CONCLUSION

The project commenced with thorough research into the issue of children being inadvertently left on buses, including an examination of the underlying causes and potential solutions. After careful consideration, a suitable solution was identified, involving the utilization of a wristband equipped with a location tracker, emergency button, and RFID card. Additionally, an RFID sensor was installed at the entrance of the bus to accurately track the number of students boarding and disembarking. To enhance the functionality, the bus driver was provided with a screen displaying information to ensure no child was left behind.

Once the design specifications were determined, the next step involved creating circuits tailored for both the bus sensor and the child's wristband. These circuits were carefully designed to accommodate the specific requirements of each component. Subsequently, the corresponding codes were developed and programmed to enable the circuits to perform their intended functions effectively. This comprehensive approach aimed to address the issue of child safety and minimize the occurrence of children being unintentionally left behind on buses.

APPLICATIONS

FUTURE WORK

* Reduce the circle of the bracelet and make it similar to a bracelet
* Making a prototype of one of the buses
* Improve location accuracy
* Add ESP-32 piece
* Making a bracelet locator application Live Location

Basic RFID System

Computer Database
Data is transmitted into the RFID database where it can be stored and evaluated.

RFID Reader
Connected to the antenna wirelessly and receives data from the RFID tag.

RFID Tag
Attached to assets to transmit stored data to the antenna.

Antenna
Receives the stored data from the tag and transmits that data to an RFID reader.