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IOT BASED CHILD TRACKING AND SAFETY SYSTEM

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ABSTRACT:

There are certain safety concerns as more children study and live in cities in India due to the country's increasing urbanisation and development. For the goal of protecting children, many security solutions are available. The children safety wearable system is put in place to solve such issues. This method is simple to use and does not require any expensive equipment, making it accessible to both educated and unskilled individuals. As a result, we have decided to suggest a gadget in this project that will serve as a tool to ensure security and the protection of children. An emergency pushbutton switch is part of this safety gadget. Using an Android application, it lets parents monitor their child's health. Although the environment for GSM mobile communication is constantly providing, the focus of this study is on having an SMS text-enabled communication medium between the child's device and the parent. Parents may examine the position on a real-time map and track the child by using the GPS data.

Keywords: IoT, GSM GPS system, Child Safety, Arduino Based

[1] INTRODUCTION

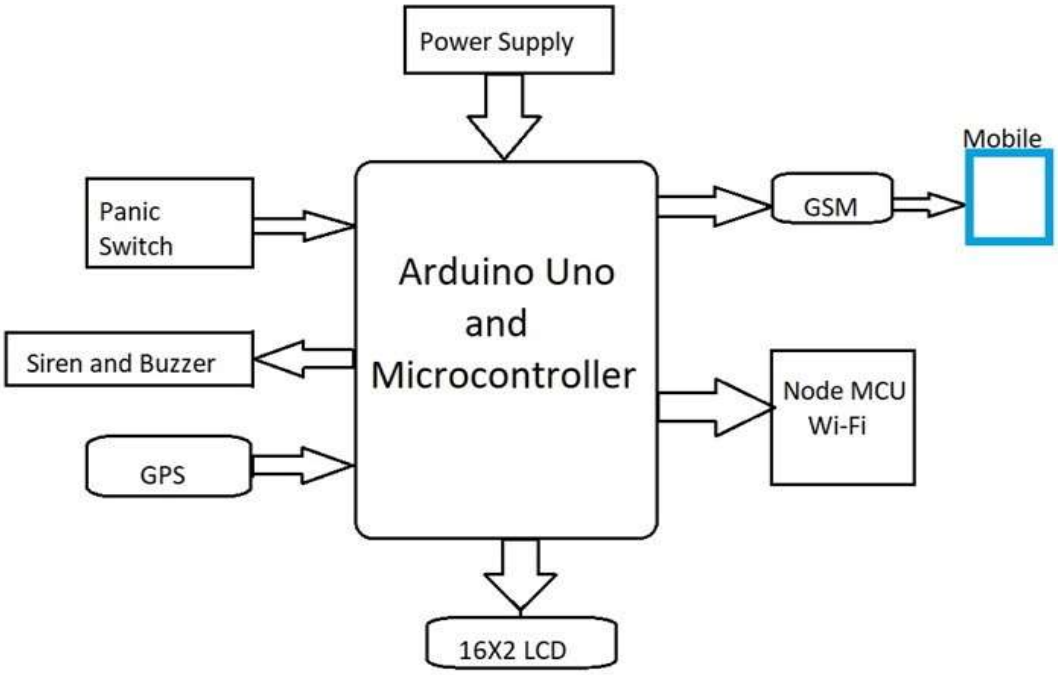
The term "Internet of Things" refers to a network of devices and systems that are connected to the internet through physical sensors and actuators. The need for child safety has led to the development of wearables that enable anyone nearby to assist children in danger. While most wearables today use Wi-Fi and Bluetooth to inform parents about their children's whereabouts and activities, these technologies have limitations in terms of information transfer. As a result, SMS is being considered as a more reliable means of communication for parent-child wearables.

Child abuse and kidnappings are increasing at an alarming rate, particularly during the time children attend school. Thus, implementing a tracking system for each child attending school is crucial, as current systems are inadequate in preventing such crimes. With this in mind, a project has been developed.

[2] LITERATURE SURVEY

Sr. no	Author	Paper Name	Description
1	Gowri Priya. B, Kunguma Abirami. B, Monisha. T, Kalaiarasu	"SMART CHILD SAFETY MONITORING SYSTEM"	This paper demonstrate the design Child safety system using GPS and GSM with IoT platform and siren alert system
2	Vishaka Asundkar	"ENHANCE SAFETY SECURITY AND TRACKING SYSTEM FOR SCHOOL BUS AND CHILDREN "	The system consists of three main units, bus unit, parent unit and school unit. The bus unit consist of hardware parts. The bus unit is used to detect when a child enters/exits from the bus using RFID Card.
3	G.Bharathi, L. Ramurthy	IMPLEMENTATION OF CHILDREN TRACKING SYSTEM USING ARM7 MICROCONTROLLER	The proposed system includes tracking the child's movement to and from school.
4	A. Al-Mazloum, E. Omer, M. F. A. Abdullah	"CHILD SAFETY WEARABLE DEVICE"	This paper discusses the concept of a smart child wearable device for little children. The major advantage of this wearable over other wearable is that it can be used in any cell phone
5	Ms. Thania Kumar, Athul P Ravi, AThulya Balachandran, K C Reshma, Sruthi Suresh	"MY KID : AN ANDROID BASED CHILD TRACKING SYSTEM"	The proposed system includes monitoring of the child's movement to and from school. The info pertaining to missed child is sent to their respective parents. Not only the information about the child's whereabouts but also whether the child is crying is sent to parents through text message to their Android mobile device.
6	Rajkumar 1, D. Rajendra prasad 2	"CHILD SAFETY WEARABLE DEVICE"	This paper discusses the concept of a smart child wearable device for little children. The major advantage of this wearable over other wearable is that it can be used in any cell phone.

[3] BLOCK DIAGRAM



[4] SPECIFICATION

HARDWARE REQUIRED

- Arduino:
- NEO-6M GPS Module
- GSM 800C
- ESP-01 ESP8266 Serial WIFI Transceiver Module

SOFTWARE REQUIRED

- Proteus
- ARDUINO IDE

[5] OBJECTIVES

- To Initializes system on Arduino UNO.
- To implement an SMS text enabled communication medium between the child's device and the parent as the environment for GSM mobile communication is almost present everywhere.
- Realtime location and the heartbeat rate of the child are periodically updated in the android application in the parents mobile.
- Realtime data uploaded to IoT platform using wifi

[6] CONCLUSION

Children will find this system useful when they are in heavily populated regions. This app is made to help find a missing kid. The parents can use this device more effectively because it employs SMS-based technology. In contrast to some earlier works on SMS-based tracking, which made it difficult to determine an exact position, our proposed system offers

real-time tracking. The wearable technology's sensors allow the parents to monitor their child's health circumstances. This method can dispel the concern for a child's safety and security that pervades the nation. This initiative focuses on tracking a child's location and notifying the guardians of their location. By making the kid module as small a chip that is attached to the ID card as possible, it can be made available to all children. By informing the police control centre of the missing child information, it can also be changed. Similarly, a camera can be included in the child section.It can be used by females as well because today, a woman's health is crucial.

[7] ACKNOWLEDGEMENT

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