

CHILD SAFETY WEARABLE DEVICES WITH IOT

Ms. S.Sorna valli

Reg No: 950716621336

Department of Computer Applications

Francis Xavier Engineering College

sornavallisubbu@gmail.com

Mrs. A. Jasmine Sugil

Assistant Professor

Department of Computer Applications

Francis Xavier Engineering College

findsugil.a@gmail.com

Abstract— Now a day's child safety is important, so we can develop the "CHILD SAFETY WEARABLE DEVICES". The devices consist of a child safety. This device is programmed for daily activity in child. Any dangerous or go to unknown location for child when this device automatically send SMS on the parent mobile, because the device programmed for particular location on child daily activity. The devices very help to school children. It working devices, SMS based solution using magnetic sensor to identify the child position in real time using for temperature sensor. This work for physically analysis of body temperature, happy, pressure etc. The daily activity of children and also help find the child using Wi-Fi and Bluetooth services present on the devices, but to be an unreliable medium of communication between child and parent, so communicate enable to be SMS service. i.e., a child going home, school, dance class the daily activity programmed the devices some of time these child go unknown location for automatically send alarm or SMS on parent mobile. This is followed some characteristics of high reliability, short response time, high accuracy. The requirements enable to children's safety.

Keyword—IOT, Sensor, Children.

I. INTRODUCTION

In present time increase in number of kidnapping cases to child. So we implement on "child safety wearable devices" using IOT. The Internet of Think (IOT) refers to the set of devices and system that stay interconnected with real-world sensor and to the internet. IOT using many type of project system likes as self-driver car, home automation system which are used to world. There are two types of aspects to the IOT the devices themselves and the server-side architecture that support them. The devices motivation for increasing safety for children. The child to the parent via Wi-Fi and Bluetooth, but some time unreliable source to transfer information, so send SMS text enable communication between child and parent.

SMS services used when phone do not support internet connectivity in enable send text message or exact location in the parent mobile. The magnetic sensor using for child position. The sensor using the different types of application: position, presence, fluid level, speed, safety etc., and then using for temperature sensor. This work for physically analysis of body temperature, happy, pressure etc., this not only using identity child location, analysis for child health level and temperature, happy, blood pressure

normal, energy level of child. The sensor every time analysis of child position and health level. The device has the characteristics of high reliable, short response time and high accuracy, and can meet the requirement to ensure children's safety. The application was implemented in PHP enable mobile devices which support sensor. PHP: Hypertext Preprocessor. Server-side scripting language is used for web development.

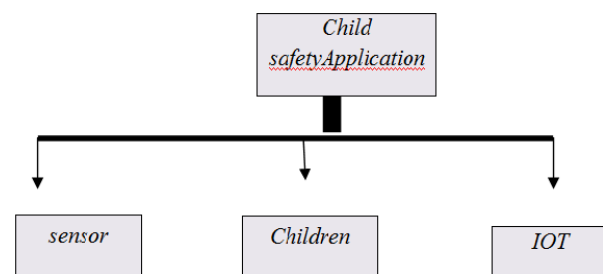


Figure 1: Components of the App

[1]Smart security solution for women and children safety based on GPS using IOT, the threats against women and children using smart device based on IOT. The system intends to a wireless technique in the form of embedded devices. This issue of women safety they developed a prototype which is easy to use and efficient to provide help to that victim. So when the victim press kits button, collect user information to send notification to registered phone number with link of capture image. The case of children security the system proposes a speed monitoring and location tracking facilities using GPS, GPRS, and GSM. [2]

Design and implementation of child safety monitoring system approach of security application of child. There is a severe rise in number of kidnapping and road accident circumstances. In existing system SMS based solution using GPS system to aid parent to track their children location in real time. The system acquires GPS and GSM based system are used to track the location of children health monitoring heartbeat, pressure etc., [3]

A Mobile Safety Monitoring System for Children, (MCSM) based on android mobiles to help guardian to acquire whether the children safe or not. MCSM implements the software hand function and the danger zone function for two typical safety scenarios, i.e., going outside with their guardians and without their guardians respectively. The software hand function can keep children in guardian's view by using Bluetooth near field communication, and the safety zone function can make guardians know children's location

timely by using GPS sensors, acceleration sensors, and mobile GIS(Geographic Information System). Experiments shows the system has the characteristics of high reliability, short response time and high accuracy, and can meet the requirements to ensure children's safety. [4]

Child Safety and Tracking Management System technology is growing rapidly and providing all essential and effective solutions for every requirement. Today child safety is an important area of concern. This ideal is developed to resolve the worries of parents regarding their kid safety. In this scenario, our system ensures maximum security and ensures live tracking for their kids because parent feels anxious. This paper suggested a model for child safety through smart mobiles that provides the option to track the location of their children as well as in case of emergency kids is able to send a fast message and its current location via Short Message Services. This proposed system is validated by testing on the Android platform. [5]

IOT wearable devices for the safety and security of women and girl child to create a wearable IOT device for the security and shielding of women, girl children. This is accomplished by the examination of physiological signs in concurrence with body gestures. The symptoms are analyzed and body temperature is measured by galvanic skin resistance. This work compacts with body temperature and stress and skin resistance and connection between them. By applying the records, activities people's position is analyzed. The devices make an analysis of skin resistance and body temperature to analyze the position of the person.

II. THEORY

We have implemented the devices of child safety wearable devices. The devices help for child safety. A child wearable devices inside be the magnetic sensor. The work for analysis the child position, using four types of zones. The zones outside go to another location or unknown location for automatically send a alarm or SMS on the parent mobile. The programmed write the particular location of daily activity of child doing regular work.

Fig1 The devices possible to school student or child. Sensor is useful for tracking child and also provides the information where the child is currently located as well as it also informs the parents how long his child is far away from his parents. SMS services used when smart phones do not support internet connectivity in this case child is able to send a text message or exact location in the parents. This system is going to help the parents to track the location of their children without informing them because their movement is displayed on the parent mobile.

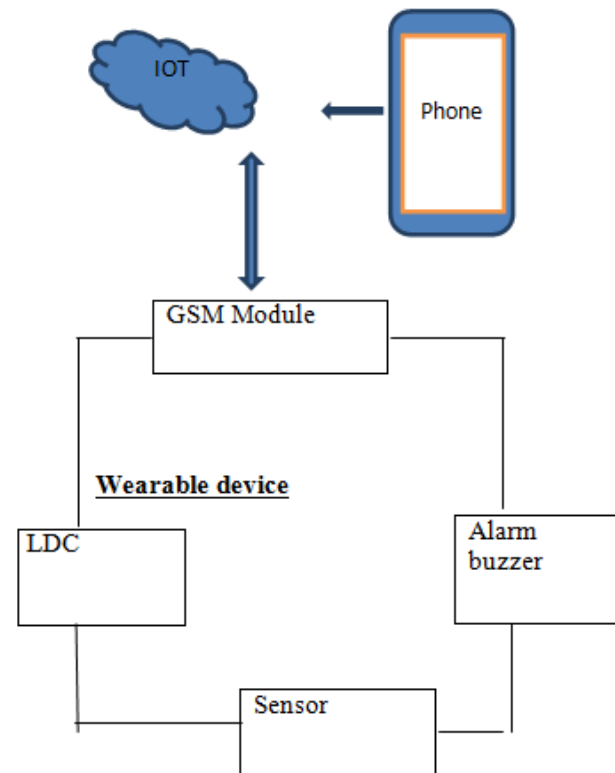


Figure 1: Architecture Diagram for the device

The application was implemented in PHP enable mobile devices which support Sensor. The application support two type of module these for child and parent. The application programmed for particular four or five zones, the child go to unknown location for send SMS or alarm on parent mobile with display for current location. This application used to four zones in a single parent application. Parents can monitor their child moment as each five second as they are receiving the information of their child movement from their devices, because each five second automatically update the location on the parent mobile, so easy to analysis the current location.

<meta http-equiv="refresh" content="5">

The devices are using the sensor, so we using the update the each five second. Then last zone using for unknown location, it not using track, because using the refresh the location.

In developing this application for parents, we required sensor enable smart phones which are used to track the child's location and for developing Arduino based applications. The child sends location coordinate by using sensor updates to the server and the updates saved in the database on the server. The reason for selecting Arduino operating system is that now days millions of users are using smart phones.

III. EXPERIMENTS AND RESULTS

A. EXPERIMENTAL SETUP

The usage of device find the corresponding location on missing child. If any danger for send the text message or alarm on parent mobile. The hardware and software requirement are

- ATMEGA 328
- MAGNETIC SWITCH
- BUFFER
- GSM MODEM

Arduino is a software stack for mobile devices that includes an Operating system, middleware and key application. We use a MySQL Database along with PHP. The solution for tracking and a missing child is done with the help of sensor. There are two main services are used for this application that is sensor and SMS. For location services is sensor and telephony services is SMS. Generally the selected operating system is Arduino to over all the features. SMS is used for connecting between child side and parent side. The application developed to make a user-friendly approach on both sides, we require PHP. Parent's side used SMS and Sensor server for communicating with child's mobility, automatically update the child location on the parent mobile.

Fig 2: The below diagram is block diagram of child safety. That measures the child location show on the parent mobile. The short messages are used for child to send current location and update to his parent. The SMS is important services of the purpose of the devices. The application stores the last update location in database server

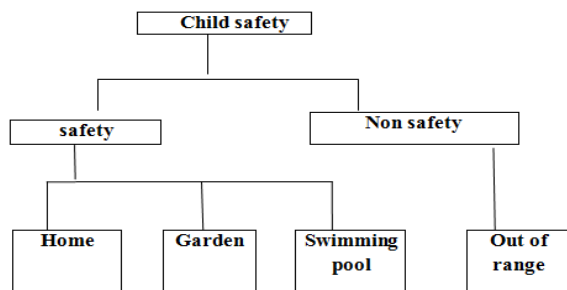


Figure 2: Work flow diagram

The short messages are used for child to send current location and update to his parent. The SMS is important services of the purpose of the devices. The application stores the last update location in database server.

Fig 3: GSM Modem searches the corresponding location on the travel the child, that using the GSM Modem with SIM. The proposed system intends to a device wireless technique in the form of embedded device for

children that will serve the purpose of alerts and way of communicating with secure channels and it update the current location through IOT. Safety device with wearable's which help track the daily activity of children and also help find the child using Wi-Fi and Bluetooth services present on the device. The child sends location coordinate by using sensor updates to the server and the updates saved in the database on the server. An ATmega328p micro-controller controls the system architecture of the wearable with an Arduino boot-loader.

The system architecture of the wearable is based and controlled by an ATmega328p micro-controller with an Arduino UNO boot-loader.

B. Experimental Results

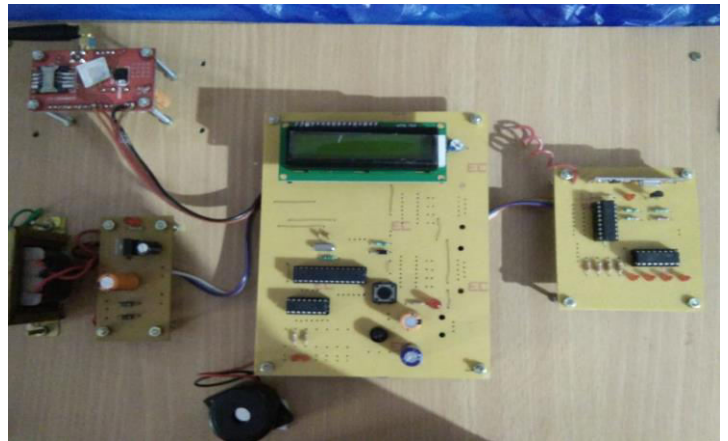


Figure .3: Receiver

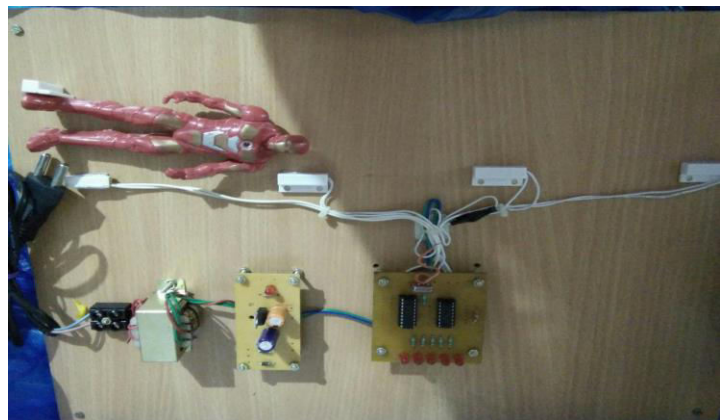


Figure .4: Transmitter

Fig 4: This is devices on location. It consist the four zones; one is home, second of garden, third of swimming pool and final for out of range. A child goes to unsafe location or unknown location, and then message with alarm sent to parent mobile.

IV. DISCUSSION AND CONCLUSION

In conclusion, this application is designed for trace to missing child. The result represented in this paper takes the advantages of smart phones which offer rich features like Sensor, IOT, and SMS etc. Some past works on SMS based tracking which is not supportive to get an accurate location in our proposed system we have provided real time tracking.

V. FUTURE SCOPE

In future it can be developed the security devices using GPS. GPS is checking the location on each every movement. Which focuses on children safety, tracking of school bus and exact location of school bus with the help of longitude and altitude positioning of GPS and sending information through SMS.

REFERENCES

- [1] Asmita Paear, Pratiksha Sagare, Tejal Sasane and Kiran Shinda “Smart security solution for women and children safety based on GPS using IOT “.In International journal of Recent innovation in engineering research-2017.
- [2] R. Archana, A. Priyadharshini, R. Sathish Kumar, R. Subashini “Design and implementation of child safety monitoring system” In International journal of intellectual advancements and research in engineering computation.
- [3] Zejun Huang, Zhigang Gao, Huijuan Lu” An Mobile Safety Monitoring System for Children” In IEEE paper on International conference on mobile Ad-hoc and sensor network-2014.
- [4] Aditi Gupta, Vibhor Harit “Child Safety & Tracking Management System” In International conference intellectual & communication-2016.
- [5] Uday Bhasker, Shikha” Iot wearable devices for the safety and security of women and girl child” In paper on International journal of mechanical and technology-2018.