

Child Tracking System

**Prof. Aparna Kare¹, Ms. Anjali Kshirsagar², Ms. Rutuja Bhandare³, Ms. Vaishnavi Madole⁴,
Mr. Tushar Sontakke⁵**

Lecturer, Department of EE, NBNSSOE Ambegaon BK Pune, Maharashtra, India¹

Student, B.E. Electrical Engineering, NBNSSOE Ambegaon BK Pune, Maharashtra, India^{2,3,4,5}

Abstract: *The child tracking system includes a tracking system which is capable of detecting various dangers to the child (one or more than one). When a violation of child safety is detected a specific sensor in child module will produce a signal. This signal will be sent from these sensors to controller then through transmitter to parent module which will take the required decision and start the violation handling procedure. The parent can set the system to work indoor or outdoor and depending on this selection the parent module can calculate the distance at any moment between each child and their parent. Global Positioning System (GPS) is used for outdoor distance calculation while change amplitude of RF Signal is used for indoor distance calculation. Also, the parent can adjust the safety distance for each child and when it is overtaken the system will alarm both parent and the child. The hardware and software for this design is simple and can be implemented on a single chip microcontroller.*

Keywords: Global Positioning System, etc.

I. INTRODUCTION

Today, Technology is growing rapidly and providing all essential and effective solutions for every requirement. Now a day's child security is an important area of concern. This model is developed to rectify the worries of parents regarding their child security. In this scenario, our system ensures maximum security and ensures live tracking for their kids because parent worries are genuine. This project proposed a model for child safety through smart phones that provides the option to track the location of their children as well as in case of emergency children are able to send a quick message and its current location via Short Message services. This proposed system is validated by testing on the Android platform.

II. LITERATURE SURVEY

1. Shatha K. Jawad, Al-Gawagzeh Mohammed Yousef, Balkiest Essa Al-Shagoor have been worked on, "A Multipurpose Child Tracking System Design and Implementation". "The system consists of parent module and child module. When a violation of child safe is detected, a specific sensor in child module will produce a signal. This signal will be sent from these sensors to controller then through transmitter to parent module which will take the required decision and start the violation handling procedure. The parent can set the system to work indoor or outdoor and depending on this selection the parent module can calculate the distance at any moment between each child and their parent. Global Positioning System (GPS) is used for outdoor distance calculation while change amplitude of RF Signal is used for indoor distance calculation. Also, the parent can delimit the safety distance for each child and when it is overtaken the system will alarm both of them the parent and child. The proposed hardware and software for this design is simple and be implemented on a single chip microcontroller with low cost". International Journal of Soft Computing Applications.

2. Fairuz Rauf, Gothiswary Subramaniam, Zuraidy Adnan have been worked on, "Child Tracking System" consists of app that can track and monitor the child location. The aim of the project is to create a system to allow the parents to keep track of their kids when their child is out of their view. However, with the child tracking system the parent can track and monitor their child location in just a simple app when the parent

is in office. A study on few existing tracking systems have been done to gather the information and existing problem. Methodology applied in this project is Rational Unified Process (RUP) model. Data collection method which are questionnaire and interview also conducted to gather the user requirements and needs for the system. The result has been analysed based on user responses. Most of the user (parents) agree and looking forward the system to be implemented.

III. IMPLEMENTATION

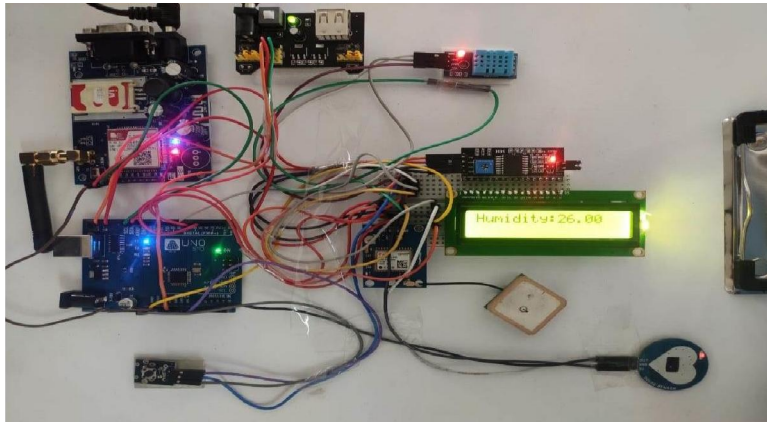


Figure 1: Constructed Project

Today smart phones are the basic need of the user, these smart phones, providing lots of features which make our life so simple and easier. This project is focused with the safety of children. Today child safety is an important issue across the world as child crime is rapidly growing across the world in this paper, we have discussed how a smart phone provides safety and monitoring for the parents so that they can easily track their children according to their requirement. This proposed application is developed on android platform for this application the basic techniques required mentioned below

1. Geo-Fencing
2. GPS (Global Positioning System)
3. SMS (Short Messaging Service)

IV. SYSTEM ARCHITECTURE

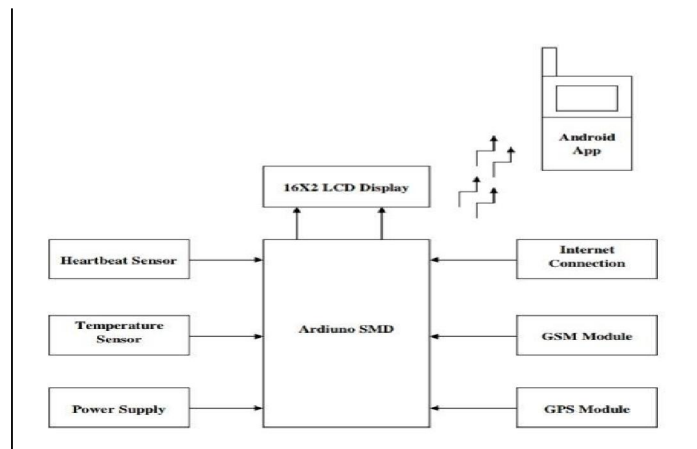


Figure 2: Block Diagram

The block diagram for proposed Child Tracking system is shown above Presented here is a GPS based child tracking system based on the Arduino using global positioning system (GPS) and global system for mobile communication (GSM). The solution for tracking and a missing child is done with the help of GPS and GSM technologies. There are two main services are used for this application that is GPS and SMS. Generally, the selected operating system is android to over all the features. The application is user-friendly on both sides. This system is based on client-server architecture. Parent side acts as server and child side acts as a client. The system can be mounted over a device in a hidden or suitable compartment. After this installation, you can easily track your child using your mobile phone by dialing the mobile number of the SIM attached to the GSM modem. You will automatically get the location of the child position in the form of an SMS (short message service) on your mobile phone.

V. CONCLUSION AND DISCUSSION

In conclusion, this application is designed for locating missing children. The solution represented in this paper takes the advantages of smart phones which offer rich features like Googlemaps, GPS, SMS etc. Some of the best works implemented in past relies on SMS based tracking which is not helpful to get an accurate location in our proposed system we have provided real time tracking

The scope of this project is limited to develop SMS platform and Hardware implementation prototype. The project contribution is sensing the children status and displaying the output. This system also provides the real time data to be available on mobile phone, so that it can send text message all the sensor data gathered from the children.

REFERENCES

- [1] Niti shree "A Review on IOT Based Smart GPS Device for Child and Women Safety Applications" International Journal of Engineering Research and General Science Volume 4, Issue 3, May-June, 2016.
- [2] Al-Gawagzeh Mohammed Yousef "A Multipurpose Child Tracking System Design and Implementation", 2009.
- [3] Crossbow Technology: Inertial Systems: Company Overview-Crossbow, Investors Archived July 11 2007, at the Wayback Machine, https://en.wikipedia.org/wiki/Crossbow_Technology
- [4] Morris Williams, Owain Jones, Constance Fleuriot and Lucy Wood, "Children and emerging Wireless Technologies", Conference on Human Factors in computing systems, 2005.
- [5] Katin Michael, "The Emerging Ethics of Human Centric GPS Tracking and Monitoring", International Conference on Mobile Business (ICM'06), 2006.