

# **Literature Survey on “Safety gadget for child Safety Monitoring and Notification”**

## **1.Designing and implementing the people tracking system in the crowded environment using mobile application for smart cities**

The tracking system is used to track moving individuals and provide an instant timeline of position information for tracking analysis. People Tracking System in the crowd for Smart Cities is a mobile application that allows parents to monitor the location of their children in a crowded environment. Besides children, there are also elderly and disabled people, so the person responsible for them can use this application to track their location. The parents have the application in which they can track the location and on the other hand, the child or the old person or the disabled person has a device that contains the Global Positioning System chip. The main objective of this study is to design an application with the system that will help the parents to track their children to reduce the cases where the children or the other mentioned categories of people might get lost. The current solution to this problem is that the children first have a wearable wrist where they imprint the phone number of their parents so that if the child is lost, there is an office where the child is taken and taken care of until they contact the parents to come and pick up the child. The problem with the current way that it takes time and there is a risk that child will be lost or kidnapped before ever reaching for any help, so the new way is better to also prevent them from going far away or being lost for hours, so the recovery here will be quick unlike the regularly used way today. This goal will be achieved by systematic objectives, starting from studying the existing systems, planning, and analyzing, designing, and implementing, and finally testing the proposed system.

## **2. Implementation of Children Tracking System on Android Mobile Terminals**

Recently, all over the world, crime against children is increasing at higher rates and it is high time to offer safety support system for the children going to schools. This paper focuses on implementing children tracking system for every child attending school. However the existing systems are not

powerful enough to prevent the crime against children since these systems give information about the children group and not about each child resulting in low assurance about their child safety to parents and also does not concentrate on sensing the cry of the child and intimating the same to its parents. The proposed system includes a child module and two receiver modules for getting the information about the missed child on periodical basis. The child module includes ARM7 microcontroller (lpc 2378), Global positioning system (GPS), Global system for mobile communication (GSM), Voice playback circuit and the receiver module includes Android mobile device in parent's hand and the other as monitoring database in control room of the school. Finally, implementation results for the proposed system are provided in this paper.

### **3. Design and Implementation of a Smart System for School Children Tracking**

What the world is seeing about the deterioration of public safety in various cities and the increase in the rate of crimes against children makes parents constantly worry about their children when they go to school and until they return from it. To dispel these fears, the idea emerges to create an application that allows parents to know the whereabouts of their children and notify them with a message if the children exceed the area specified for them. In this application, the process of discovering the child's precise location in a specific area is carried out by determining the latitude and longitude using the GSM radio navigation system. After that, the mobile receives all the information about the location via the GSM modem. A GSM modem has been programmed to achieve communication between the modem and the child by two methods of communication through which the child's location is determined. Ensuring that the child's location is known at any time and informing the person responsible for tracking him is the primary function of this system. This device connects to the child in an appropriate manner and it turns on when the child exits the designated area for him, after which a message is sent to the tracker. The device can be triggered using a short messaging system (SMS) where the user can communicate remotely to the GSM using a mobile.

#### **4. Design and Implementation of Children Tracking System using ARM7 on Android Mobile Terminals**

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#### **5. IOT-based Child Security Monitoring System**

Nowadays, crime rate associated with children keeps increasing due to which draws peoples' attention regarding child safety. This research is conducted to propose a child security smart band utilizing IOT technology. Online questionnaire and semi-structured interview are methodologies used to collect data. The online questionnaire gains feedbacks by sending questions electronically, where answers need to be submitted online. In the semi structured interview, researcher meets and asks respondents some predetermined questions while other being asked are not planned in advanced. Through information obtained, a smart band have been proposed to monitor the safety of children. By this, parents know what is happening remotely and can take actions if something goes wrong. The future improvements of this device will be adding functions and software to make it works like a phone such as messaging, gallery, Google, YouTube, meanwhile, adding more child security features so that child safety is guaranteed.

## **6. Design of Wearable Device for Child Safety**

Now-a-days attacks on children are increasing at an unprecedented rate and the victims are in dangerous conditions, where they are not allowed to contact the family members. The key idea planned in this research work is an advanced technology that offers “Smart Child Safety” for the children. Therefore, the awareness of this method is to send an SMS from children’s wear tool to their parent or guardian. In the prevailing structure, there is no monitoring method for child, it should create many problems for them and the no protection mechanism to protect the child from the misbehavior. In addition, there is no aware device for the child’s protection; it must be completed by hand only. Thus, the planned method will be highly effective when compared to the other existing techniques in helping the victims. Moreover, it doesn’t need any manual operation. This paper recommends a newfangled technology for child protection by using GSM so that the children will not feel abandoned while facing such social problems. The problems overawed here using Arduino UNO, GSM, sensors, MEMS, temperature and panic button by using IOT. In such case, Heartbeat Sensor tracks the best rate for children and sends the emergency message by using the GSM to save contacts. Such method is actually supportive for children in today’s world. Hence, this provides a security to the children and secures the feeling of parents.

## **7. Child Safety & Tracking Management System**

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 paper 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 is 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.

## **8. IOT-enabled Smart Child Safety Digital System Architecture**

Safety of a child in a large public event is a major concern for event organizers and parents. This paper addresses this important concern and proposes an architecture model of the IOT- enable smart child safety tracking digital system. This IOT-enabled digital system architecture integrates the Cloud, Mobile and GPS technology to precisely locate the geographical location of a child on an event map. The proposed architecture model describes the people, information, process, and technology architecture elements, and their relationships for the complex IOT-enable smart child safety tracking digital system. The proposed architecture model can be used as a reference or guide to assist in the safe architecture driven development of the various child tracking digital systems for different public events.

## **9. CHILD SAFETY WEARABLE DEVICE**

The objective of this project is to safeguard the child from threads. Now a day the safety measures of children have been reduced in huge number. Thus the violence against children increasing day by day. Not only kids even women are also abused both physically and mentally. We are taking small step towards violence against the kids. Our project mainly focus on sensing the children's Temperature and Heartbeat. By monitoring the activities the state of the child is analyzed. By using GSM, if child reaches the critical state then the latitude and longitude of that particular location is sent as an alert message to the parents. In this system, it has a MEMS sensor which is used to detect the abnormal vibration and it is controlled by NodeMCU micro controller.

## **10. An Integrated Child Safety using Geo-fencing Information on Mobile Devices**

In Indonesia, the child abuse has been huge problem as the number of case gains year by year. In this paper, the IT-based child abuse prevention is built by engaging the geo-fencing technique and gravity sensor. This paper is conducted to provide IT-based child protection that can facilitate the parents and government the children monitoring. The use of sensing module triggers the system to send notification to parents and systems server. Meanwhile, the geo- fencing technique aims to enable the feature of virtual fence which enable the parents to monitor the children

