

Children Tracking Classification Control Using Android

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ABSTRACT

Children tracking system based on android terminals is proposed. Recently, all over the world crime against the children in the age of 14 to 17 years is more popular. Parent's always worry about their children whenever they are outside from the home. In this paper, the proposed system consists of two sides out of them one is parent module and another is the child module. The child module consists of ARM7 Microcontroller (LPC 2148), GPS (Global Positioning System), GSM (Global System for Mobile Communication) and voice chip where the parent module consists of android mobile phone. This paper gives the information about missing child from school campus. There are two android mobile phones for the safety of the both modules. The system tracking the child from source to destination i.e. from home to school or anywhere.

Keywords : ARM Based Children Tracking System, arm7microcontroller, GSM, GPS and Android Mobile Phone.

I. INTRODUCTION

Children tracking system is widely used all over the world to assure their parent's that their wards are safe from suspicious actions in today's world over 80% of the world population in the age of seven or eight owns smart phone. The proposed system includes tracking the child movements outside from the home. This is due to reason one of them is the remarkable features and capabilities that new smart phone offers especially android based smart phones. GPS offers outstanding capabilities in locating positions and this can be used to developed resourceful application that helps in locating missing or lost children. This project is designed to be used by parents and aimed to help locating missing or lost children. It takes advantages of the fact that many of today 's children bring smart phone which is convenient for this kind of situation. In this paper GPS is combined with one of the basic

services of a smart phone which is GSM more specifically SMS in one system.

II. METHODS AND MATERIAL

LITERATURE SURVEY

Monitoring mobile devices has been a concern for not only individual users, but also for organizations, communities, and scientific researchers. The challenge of using monitoring applications is about how the collected data will be handled and the how to build a macroscopic pattern from the collected data. This part of the survey discussed the summary of the selected research papers related to monitoring mobile devices. In, the authors discussed the importance of having mobile phone sensing to develop micro and macro views of mobile usage. This importance increases as the mobile devices have become the main computing and communication

devices. Therefore, research areas on data collection, analysis and patterns learning are becoming rich discussion area, especially with all the cheap features and technological advances available on phones allowing for a variety of users experiences and usage. The framework architecture proposed in is built upon using mobile phone sensing and the cloud computing. The paper discussed the different challenges with gathering data techniques using mobile and unexpected environment (mobile context), as well as, the privacy issues on gathering personal information from a third-party application. The study discussed the three different scales mobile sensing considered beneficial on: individual, group, and community data gathering. The scalability feature of gathering individual behaviour to learn from community patterns may help improve communities in social, healthy and environmental studies. The study also explained the two sensing paradigms: participatory sensing, which involves users who launch sensors manually, and opportunistic sensing, where sensors automatically collect data. The main focus of the introduced work in is about understanding how personal data travels through selected third-party applications. The authors raised the issue about violating privacy barriers when applications access the personal information by only ask for users' permissions to access the data with no explanation of how the data will be used. The research proposed a monitoring platform based on Android mobile phone to track the data flow through 30 selected applications. After testing the proposed the platform, the research concluded that 20 apps miss used the users' private data and 15 apps used users' locations to support marketing services. The main challenges in monitoring the use of mobile apps include the shortage of Smartphone used data as a resource constrained, as well as, the dynamic nature of data flow using mobile devices. This dynamicity causes another context-based challenge because data could be sent at any time and any place. Further, mobile apps allow for across sharing data and information

among different apps, which increase the difficulty in monitor single flow between an app and the operating system. The proposed platform only tracks data flows but not control flows. Data flows are the explicit flowing of data through the apps. Control flows are the implicit flowing of data that require analytical analysis.

EXISTING PROCESS

Android terminals have wireless LAN and Bluetooth device. It results in lack of individual attention towards the children. It offers less security. Studies conducted by Cyber Travel Tips, showed that in Malaysia, missing children are basically classified into two categories. The first category is disappearance, which includes running away from home. Children tracking system is also developed on mobile ad hoc networks. System developed in says that in GPS system and tag-based system, each parent cannot obtain group information on the vicinity of the child. A self-configurable new generation children tracking system. Hiroshima City Children Tracking System is a safety support system for children based on ad hoc network technologies. Field experiments have been conducted in cooperation with an elementary school in Hiroshima. In this paper, propose a new generation child tracking system which is based on experiences and findings of the field experiments for Hiroshima children tracking system. Existing technologies, however, are not powerful to prevent crimes against children and helpful parent 's since it is difficult to take information of children as a group.

PROPOSED METHODOLOGY

The children information is transmitted and received using GSM technology. The child module acts as a transmitter which includes ARM7 microcontroller (lpc 2148), GSM module, GPS module and voice chip as well as android mobile phone. The receiver module includes Android mobile phone and

monitoring database. The position of the moving child is tracked by is tracked by GPS and is sent to ARM7 microcontroller. This controller forwards the GPS data (latitude and longitude) to GSM board. GSM will in turn send the position of the moving child to two receivers. It allows the parent to get their child 's location.

III.RESULTS AND DISCUSSION

IMPLEMENTATION RESULTS



Child Module The child module is attached to child. Its primary role is to periodically receive messages and in response send messages to the parent module and alert them if the child is in danger. The child module also has a buzzer alarm that sounds whenever the child is in an alarmed state. This allows a parent to more easily locate the troubled child. The sensors that used with this module are described below.

Parent Module The parent module is the computational brain of the entire system. It is responsible for communication with all the children and calculating their distance. It also analyzes incoming packets to see if any child has been in an alarmed state or not. Finally, if any child stops sending packets, the parent assumes it is out of range or in some other danger and also triggers an alarm. Every time the parent module cycles through all the children, it packs the status of every child and displays information on the LCD. Also, parent module has a keypad which is used to let the parent

defining the location of their children (indoor or outdoor) and to give the safety distance for each child.

Detection of Safety Distance When parent starts the system, she/he should select where they stay; indoor or outdoor; in order to calculate the distance between them and each child. Indoor option limit child range to 3m by reducing child transmitter source so signal attenuated will not be detected. But if parent selects outdoor option, distance will be calculated by taking child and parent locations from GPS chips. Child module will send its GPS reading to parent module which calculates distance and compares it with distance threshold; this threshold value should be entered by parent after selecting outdoor option.

IV.CONCLUSION

All parent wishes to shield their children from real dangerous they will inevitably undergo hard times. Normal behaviour of any child depends on the child's age, personality, and at the end the physical and emotional development. A child's behaviour may be a problem if it doesn't match the expectations of the family or if it is disruptive. So Parents may face many problems with their children, when they let them free without any observation especially if they have many children that may face many dangers.

V. FUTURE ENHANCEMENT

There are many tracking system available in present time, these systems use different technologies but each of them has one or more limitation such as not suitable for many children or monitor how far the child from their parent without monitoring the environment surrounded the children or can monitor only one state at a time. While the designed tracking system allows parent to monitor multiple children and they will be alarmed if any child be in danger state. The danger states that were taken in the consideration are: missing far away from their parent,

falling into a swimming pool, leaving in a hot car, leaving behind gas heater. The flexibility of the designed system makes it easy to add new sensors for any child.

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