

A SURVEY ON CHILD SAFETY & TRACKING MANAGEMENT SYSTEM

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Abstract - 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. In this state of affairs, Our system ensures maximum security and ensures live tracking for their kids because parent worries are genuine. The project entitled "**CHILD SAFETY & TRACKING MANAGEMENT SYSTEM**" is an application that enables folks to observe their child's mobile phone. The parents can monitor where their children are (through GPS), and access a history of where they've been and set up alerts if their children are going outside of approved geographical zones. 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 in a position to send a fast message and its current location via Short Message services. This system uses golem based mostly mobile phones for the computer code to be run.

Key Words: Global Positioning System (GPS), Geo-fencing, Short messaging service (SMS), Android, Child Tracking.

1. INTRODUCTION

Cell phones make life more convenient. With one device, you'll create calls, send text messages and take photos and video. You can even check your email, surf the online and use GPS on several cell phones. This is why many children have cell phones. While cell phones are priceless resources, will typically be problematic and kids can become the victims. It's time for you to maximize and monitor your child's virtual life and his or her mobile phone and net use.

Child Safety and Tracking System is an android application that help parents to monitor their child's cell phone activities .Cell phone monitoring can not only help them avoid dangerous situations, but also can help you keep track of your children in other situations. The application conjointly provides GPS location of kid so the oldsters will monitor the history of wherever their child are and may started alerts if their kids are going outside of approved geographical zones.

1.1 Android

Child tracking System is Associate in Nursing android primarily based phone chase application. Android could be a mobile software developed by Google. It is based on a modified version of the Linux kernel and other open source software, and is designed primarily for touch screen mobile devices such as smart phone and tablets. In addition, Google has more developed android TV for televisions, android car for cars, and Wear OS for wrist watches, every with a specialized computer program. Variants of android also are used on game consoles, digital cameras, PCs and different natural philosophy. Android's default computer program is especially supported direct manipulation, using bit inputs that loosely correspond to real-world actions, like swiping, tapping, pinching, and reverse pinching to govern on-screen objects, in conjunction with a virtual keyboard. Since android devices are typically powered, android is meant to manage processes to stay power consumption at a minimum. When an application is not in use the system suspends its operation so that, while available for immediate use rather than closed, it does not use battery power or CPU resources. Android's ASCII text file is free by Google beneath Associate in Nursing open supply license, and its open nature has inspired an oversized community of developers and enthusiasts to use the ASCII text file code as a foundation for community-driven comes, that deliver updates to older devices, add new options for advanced users or bring android to devices originally shipped with different operative systems.

1.2 GPS

The Global Positioning System (GPS), originally Navstar GPS, is also a satellite-based radio navigation system owned by the US Government and operated by the U.S.A. Air Force. it is a worldwide navigation satellite system that has geolocation and time information to a GPS receiver anywhere on or on the brink of the globe where there is a clear line of sight to four or loads of GPS satellites. Obstacles like mountains and buildings block the relatively weak GPS signals. The GPS does not would like the user to transmit any data, and it operates severally of any telecommunication or net reception, though these technologies can enhance the standard of the GPS positioning information. The GPS provides important positioning capabilities to military, civil, and industrial users around the world. The US Government created the system, maintains it, and makes it freely accessible to anyone with a GPS receiver.

The GPS idea relies on time and therefore the renowned position of GPS specialized satellites. The satellites carry terribly stable atomic clocks that are unit synchronized with each other and with the bottom clocks. Any drift from true time maintained on the bottom is corrected daily. With in the same manner, the satellite locations are unit renowned with nice preciseness. GPS receivers have clocks additionally, however they're less stable and fewer precise. every GPS satellite unendingly transmits a radio emission containing the present time and information regarding its position. Since the speed of radio waves is constant and freelance of the satellite speed, the time delay between once the satellite transmits an indication and therefore the receiver receives it's proportional to the gap from the satellite to the receiver. A GPS receiver monitors multiple satellites and solves equations to see the precise position of the receiver and its deviation from true time.

1.3 Geofencing

A geo-fence could be a virtual perimeter for a real-world region. A geo-fence may be dynamically generated—as in an exceedingly radius around a degree location, or a geo-fence are often a predefined set of boundaries (such as college zones or neighborhood boundaries). The use of a geo-fence is named geo-fencing. Geofencing, used great location services, will inform oldsters if a toddler leaves a delegated space. Geofencing used with locationized firearms will prohibit those firearms to fireside solely in locations wherever their firing is permissible, thereby creating them unable to be used elsewhere. Geofencing is important to telemetric. It permits users of the system to draw zones around places of labor, customer's sites and secure areas. These geo-fences once crossed by associate equipped vehicle or person will trigger a warning to the user or operator via SMS or email.

1.4 SMS

SMS (short message service) may be a text messaging service element of most telephone, internet, and mobile-device systems. It uses standardized communication protocols to modify mobile devices to exchange short text messages. The protocols allowed users to send and receive messages of up to a hundred and sixty alpha-numeric characters to and from GSM mobiles. Though most SMS messages are mobile-to-mobile text messages, support for the service has expanded to incorporate alternative mobile technologies

2. LITERATURE REVIEW

Hiroshima town youngsters trailing System may be a safety network for children supported spontaneous network technologies. Field experiments are conducted in cooperation with associate degree elementary school in port. In this paper[1], they propose a brand new generation children trailing system that is predicated on experiences and findings of the sphere experiments for port town youngsters Tracking System. Our planned system consists of humanoid terminals that has Wireless computer network device and Bluetooth device with the spontaneous communication operate. Our system manages teams of humanoid terminals mistreatment Autonomous bunch technique. during this paper, THEY show system requirements for our kids trailing system and describe the implementation features to satisfy the system needs. Finally, they supply some preliminary implemented results for our planned system.

This paper[2] proposes a brand new technology for youngsters chase system based on mobile unplanned networks and describes define of kids chase system in metropolis town. The aim is to predict, as well on dynamic and infrastructure less nature. within the past few years totally different researchers have planned totally different solutions for providing security to MANETs. within the developing System, Android terminals communicate with every other with Bluetooth and piece a Bluetooth Manet. Also, they piece clusters autonomously by changed information. Tags within the Mesh Network use Wireless LAN to speak with neighbor tags. they convey with every other victimization the unplanned routing protocols. They implement Secret Sharing theme for secure their end-to-end communication. In most of the cases but, the answer is targeting a selected attack or multiple attacks however fails to search out the foundation explanation for it. In this paper they use system level security for deploying the security in MANETs. The system level security is that the security at node level as they believe that if nodes behave properly and in an exceedingly coordinated fashion, the insecurity level can go drastically down. Our simulation results gives the advantage of victimization this approach. The field experiments victimization the youngsters tracking system are performed and the effectiveness of the system is shown by data analysis for the experimental results. This paper investigates the design of the mobile adhoc network security (MANS), a novel system that has security to mobile ad-hoc networks (MANETs). MANET nodes operate in an exceedingly decentralized "trust no peer" mode that complicates and inhibits security services, so making a formidable security challenge. Here the design of MANS is given and its performance is investigated. MANS relies on a "neighborhood watch" conception. This approach builds a totally decentralized scalable security policy that's law-governed globally victimization solely native actions. MANS formally prescribes a neighborhood cooperative group operate by process neighborhoods, their states and neighborhood-wide majority voting selections. It utilizes these ideas in developing the safety recovery policy, including specification, implementation, and enforcement. MANS has been tested

successfully with simulation experiments; the results given here cover the case of an attacked however honest node furthermore as that of a compromised dishonest node. In both cases, it's shown that MANS identifies the attacked and/or compromised node, requiring solely a modest size neighborhood to accomplish it. Then, MANS acts to isolate the node and so avoid or minimize any adverse impact of its compromise. Recently, mobile devices like mobile phones or moveable digital displays (PDAs) are equipped with world positioning system (GPS) receptors that enable US to induce the device geographic position in real time.

This paper[3] describes a pursuit application tool, known as mobile huntsman, which uses location-based services (LBs) like GPS or global system for mobile (GSM) network to track a mobile device. the most objective of this system is to trace a tool in keeping with an interest purpose, as well as, a security radius around it. the most objective has been absolutely achieved. Through the celebrated geographic position, this application permits the user to track a mobile device and send alerts if it's out of the radius around AN interest purpose, previously outlined by the applying administrator. mTracker application includes several options, like causation distress calls via SMS, police work unauthorized SIM card within the device and therefore the total capability for system customization. mTracker may be a helpful mobile application that mixes many features that aims at the user's security. To improve security measures, mTracker is also capable to notice AN unauthorized SIM card within the device, then send a warning via SMS with the present GSM cell and GPS position. They will conclude that the tracking exactness is way additional correct in urban areas. In rural areas, obtaining the device position via GSM cell, can result in inaccurate results than in urban areas. To interact with each mTracker and mTrackerMap it's not necessary associate degree advanced data user or associate degree professional in tracking technology, since each applications are user friendly. what is more, the use of Google Maps within the mTracker Map application is extremely intuitive. Since chase through GSM cell isn't as correct as GPS tracking, they need complete that the tracking of the device ought to solely be with GPS coordinates. Despite the shortage of accuracy in comparison with the GPS, the GSM cell chase is terribly helpful since it works even once the device is inside, unlike GPS. they need tested the GSM cell ID in many eventualities like urban areas and rural areas. mTracker includes a record of the positions that were monitored. It conjointly consist a laptop application that shows within the Google Maps the positions that were keep within the PDA, permitting the user to check once and where the device was.

In this paper[4], a completely unique methodology referred to as location-based delivery (LBD), which combines the short message service (SMS) and international position system (GPS), is proposed, and additional, a sensible system for tracking a target's movement is developed. LBD reduces the quantity of short message transmissions whereas maintaining the situation tracking accuracy inside the appropriate range. The pro- display approach, LBD, consists of 3 primary features: Short message format, location prediction, and dynamic threshold. The outlined short message format is proprietary. Location prediction is performed by exploitation this location, moving speed, and bearing of the target to predict its next location. When the distance between the expected location and the actual location exceeds a definite threshold, the target transmits a brief message to the hunter to update its current location. the edge is dynamically adjusted to take care of the situation trailing accuracy and also the variety of short messages on the premise of the moving speed of the target. In LBD, the moving pattern information of the target is transmitted solely when the space between the anticipated location and also the actual location exceeds a certain threshold, that is dynamically adjusted in step with the speed of the target. The experimental results show that LBD, indeed, outperforms alternative strategies as a result of it satisfactorily maintains the situation tracking accuracy with comparatively fewer messages. a few of studies have developed location trailing applications through SMS. However, SMS may be a user-pay service. the amount of SMS transmissions must be reduced whereas maintaining the location trailing accuracy inside the acceptable vary to cut back the transmission cost. This study proposes a completely unique resolution, LBD, to the present downside, and any develops a realistic system for trailing the target location. additionally to process the short message format, LBD uses this location, speed, and bearing of the target to predict its next location. The experiment shows that, in LBD, the amount of short messages needed is considerably reduced as compared with TBD and DBD. In addition, LBD achieves an appropriate location trailing accuracy. Finally, the use of a dynamic threshold reduces the desired number of short message transmissions compared with the fastened threshold.

3. CONCLUSION

Child pursuit System will overcome the drawbacks of presently existing system. It is a very helpful application that facilitate oldsters to monitor their youngsters by pursuit their and GPS location. It's associate degree golem primarily based application that is developing with scalability. therefore further modules may be easily supplemental once necessary. Also the application is incredibly versatile, versatile and user-friendly that permits user to use while not any inconvenience. therefore the system will fulfill all the objectives known and is ready to replace the prevailing system. the answer represented during this paper takes the advantages of good phones that offers rich options like Google maps, GPS, SMS etc. A number of the simplest works enforced in past depends on SMS primarily based pursuit that is not useful to induce associate degree correct location in our proposed system they need provided real time tracking. We have added Geo-fencing and Emergency messaging services to enhance the system.

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