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Android Parental Control for Children

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ABSTRACT

In today's life it is not easy for the parents to keep an eye on their children every now and then. The kidnapping of children, unnecessary browsing of internet and unwanted calls has increased. This paper presents a mobile based application solution to have a better parental control so that the parents can guard their children and protect them from bad communication and links . "Great things come in small packages" , Smartphones are one of them and many children use smartphones . The application uses the GPS , call services , SMS services , browsing services and dropbox in Android mobiles .It allows the parents to track their child's location on G-MAP , browsing history ,SMS history and call history.The main responsibility of parent's device is to fetch the files from dropbox.These files contains the data of the child's cell ,whereas the responsibility of children is to install the app on his smartphone.
Keywords : Call Log, Message Log, Content of calls and message, browser , log, location(GPS).

I. INTRODUCTION

Android is the most commonly used operating system developed by Google(American Company).It is mostly used in smartphones as well as tablets. Now-a-days a lot of misuse is done on smartphones operating android by recent generation. To control this misuse we are developing a parental security control apk which will be installed on child's smart phone by parents which will

Create and maintain log of calls
Create and maintain log of message
Browser History
Location
Contact List
Installed Apps

This entire detail is maintained and recorded by our .apk in background. This entire data will be sent onto cloud named as "DropBox". We will create an .apk for Parent which will be linked with DropBox where parent can read call logs, message logs and contents of message, browser log, location detail in files format. Parent App has the facility to call to child as well as message to child from our .apk

II. RELATED WORK

In Al-Suwaidi and Zemerl work, the problem was solved by proposing an application "Locating Friends and Family Using Mobile Phones with Global Positioning System (GPS)". The architecture is based on client-server technology for this system. The client phone has to first register to login into the server. Then, the client periodically sends his latitude and longitude location updates to the server which stores it in a database. Thus, if any client wants to know the location of another client, then another client will also have to register and login to the server to request the location. This application was developed for help to locate family member and friends. The mobile application was developed using J2ME. It uses MySQL Database along with PHP to guarantees so that the server would not be hanged. This proposed solution makes each client has same control and privileges as the other which is not convenient for use in child tracking application where only the parent should have the control and command privileges. A demerit of this solution is that in order for the system to work there must be internet connectivity in both client and server sides[1].

Chandra, Jain and Qadeer used a simple web server approach along with SMS to solve the problem. It was implemented for JAVA enabled mobile devices equipped with GPS receptor. The control is on both side client as well as server. Some of the above discussed systems require internet connectivity on both sides[3].

III. SYSTEM ARCHITECTURE

A. Existing System

To fetch the user data and service request from smartphone to server and response from server back to user, medium used was internet.
Following elements constructs the system:

Client : Client is a person who send a service request to server through communication medium to fetch data about his/her family member or employee.

Server : Server is the most important element of the system. Server will fetch the data from database which must be appropriate to the request. It will give fetched data as a response to the client request.

Database : Database will maintain the information of the user. For this user must be registered. A list is maintained for every user that can store their respective family member's or employee's data.

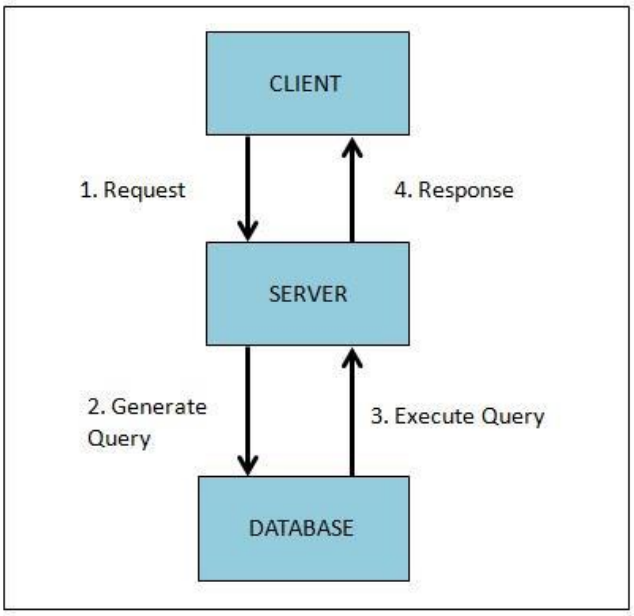

Figure 1. Existing System Architecture

B. Proposed System

The "Android Parental Control For Their Children" system/paper is developed for parents and childrens. It may also be used by employers to keep eye on their employees. The one who wants to track their employee/children both should have android phones, as android phones support both as well as SMS facilities. This application/paper is used by parents to monitor their child's activity which include the following :

Call Log
Message Log
Browsing History
Location
Contact List
Installed App List

According to the statistics, the market share by android operating system is 86.8% for the year 2016 which makes the highest market share of an android OS over other smartphones. This is the main reason to choose an android platform as more number of users are using android smartphones.

Call Log

This feature will give the information about the phone number of a person to/from the call is being made, type of call, time of call , date of call and call duration.

Phone number of a person to/from the call is being made

This will give the phone number of the person to whom the call is being made as well as from whom the call is being received.

Call Type

This will give the type of call i.e. incoming call, outgoing call or missed call.

Date and Time

This will give the system date and time (of the child) on which he made the call or received the call or got a missed call.

Time Duaration

This will give the time duration of the child to whom he spoke to.

Message Log

This feature will give the information about the phone number of a person to/from the message is sent/received respectively, type of message, date and time of message and the content of the message of the child's system.

Phone number of a person to/from the message is sent/received respectively

This will give the phone number of the person to whom the message is being sent as well as from whom the message is being received.

Message Type

This will give the type of message i.e. an inbox message(i.e. the child is the receiver) or outbox message(here the child is sender).

Date and Time

This will give the system date and time (of the child) at which he sent/received the message.

Content of the Message

This will give the content i.e. the body of the message that is being sent from the chid and received by the child.

Browsing History

This feature will give the history of the default browser. It will provide the link along with the date and time.

Link

It will provide the URL that is being browsed by the child on the default browser.

Date and Time

This will give the system date and time (of the child) on which he made the call or received the call or got a missed call.

Location

This feature will provide the location of the child i.e. where the child is, along with the accurate latitude as well as the longitude provided that the location of the child's phone must be on.

Contact List

This feature will give the information about the phone number of a person, name of that person, photo, email-id, address(if available) saved on the child's system.

Some apps need to save a contact to have a conversation. It might be impossible to know the conversations held in that app, but it is possible to know the person whose contact is saved in child's system.

Installed Apps

This feature will give information about the apps that are installed on the child's system.

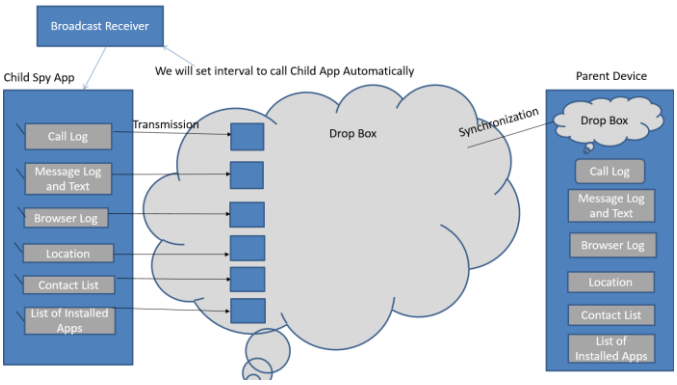

Figure 2.Proposed System Architecture

C. Architecture

The architecture consists of three parts i.e :

- ✓ Child Spy App
- ✓ Drop Box
- ✓ Parent Device

This app will be installed in the child's cell (i.e. Child Spy App in the architecture) which will create and

maintain log of call that will provide the call type (i.e. whether it's a missed call, incoming call or an outgoing call). It will also provide the date and time of the call as well as the duration of the call.

This app will also create and maintain the log of message that will consist of the date and time of the message being sent/received by the child . It will also record the message text. As this app is an integrated system it also consists of the browser log (which will provide the links available in the default browser of the child's cell phone), location (it give the accurate location i.e. latitude as well as the longitude of the child), contact list(it will provide the contacts stored in the child's cell phone) and the installed apps(i.e. the list of installed apps on the child's cell phone).

Parent will be provided with the drop box id as well as the password and as soon as the parent will login (through the parent device as shown in the architecture) the parent will be able to fetch the files containing the call log, message log and text, browser log, location contact list and the list of installed apps in the child's cell phone (i.e. Child Spy App in the architecture).
Drop box is included in this app with the help of android sdk tool kit.

Broadcast receiver provides the background services (when an event occurs in the system). Every event occurs after a specific time period and after this time interval the events occurred in the child's cell phone will be transmitted to the drop box. Parent registered on the drop box will be able to login and fetch the events (i.e. the history of call log, message log and text(i.e. the content), browser log, location, contact list and the installed apps) stored in the drop box(cloud) in the form of files.

V.CONCLUSION

"Android Parental Control" is an app which requires android version 5.3 and above. This paper results into an integration of many retrieval task in a single android application which were previously available separately. It provides user friendly environment .It will help the parents to monitor their children child's activity.
Kidnapping of children, unnecessary browsing of the internet and unwanted calls has increased .This presents a mobile based application solution to have a good parental control so that the parents can guard their children and protect them from bad communication and links. As a lot of misuse on smartphones with android operating system is done by recent the generation. To control this misuse we are developing a parental security control apk which will be installed on child's smart phone which will create and maintain log of calls ,create and maintain log of message ,record message text, provide location, Browsing History, contact list, installed apps.

It also allows the parents to track their child's location (latitude, longitude) on GMAP, browsing history, SMS history and call history.

The main responsibility of the parent is to read the files fetched from the child's cell, these files contain data about the previous activities of the child performed on his phone whereas the responsibility of the child is to install the app on his smartphone. This will help the parents to monitor their child's activity on their smart phone while keeping an eye on them and guard them from bad communication and links.

V. ACKNOWLEDGMENT

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IV. REFERENCES

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