Monitoring and Tracking Tool for Marketing Jobs

"A Critical Review of Present and Future Applications"

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ABSTRACT

The Rapid growth of android applications is creating a great impact on our lives. The aim of Monitoring and Tracking Tool for Marketing Jobs is, to automate the employee monitoring process in company by their Employee's office cell phone and also improve the organizational growth of the company. In this paper, the discussion is done about the design and Implementing admin application, employee application and Centralized server for monitored company employee's is done using android technology. In this system we are providing dynamic database utility which retrieves data or information from centralized database. The android application in smart phone contains all information about the employee phone uses like their all Employee SMS history, Employee call Logs, Employee Locations. All communication between the Employee phone and the admin is done through 3G network technology. This application is user-friendly. This system saves time, reduces manager efforts; avoids the unnecessary use of company phones which are provided to the Employee for their office use only and thus, improves accuracy in managing employees of the company. This System is also connects to the centralized server for accessing detailed history of employee phone uses. The main goal of our paper is that it manages to navigate all Employees of the company with the help of mobile phones and to know their behavior.

Keyword : Android, Global Positioning System (GPS), Smart Phones, Employee Tracking.

I. INTRODUCTION

Android is a mobile operating system based on Linux kernel which was developed by Google. Android is designed primarily for touch screen mobile devices. Smart phones are very effective tools for increasing the productivity of business users. With their increasing computational power and storage capacity, smart phone allows end users to perform several tasks and be always updated with the latest updates available. In the organization, most of the employees do many activities other than their office work that is not known to manager because of his busy schedule. This application allows manager to monitor their employee cell phone. All communication be it incoming or outgoing calls, texts and multimedia messages can be seen and interrupted by the manager, who then can monitor where their employee are (using GPS) and access a history of their location.

The Global Positioning System (GPS) is a space-based navigation system that provides location and time information in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites. Various critical capabilities to military, civil and commercial users all around the world are provided by this system. The U.S. government created the system and now maintains it, makes it freely accessible to anyone who owns a GPS receiver[1].

Our goal is to be able to develop a coherent and enhanced geographical asset tracking solution and conserve precious mobile resources by dynamically adapting the tracking scheme. The server stores details of incoming call, text and multimedia messages and the timely location update of their employee. Manager may later login into the server that is centralized and see the details of his employee's mobile usage on his computer screen.

Even if the employee deletes its call log and SMS details, they can still be viewed by the manger. The details of employee call will be updated as soon as the employee have a new incoming or outgoing calls[2].

II. METHODS AND MATERIAL

1. Literature Review

In existing system the tracking of the employee is done by fixing tags in different location for identifying the actual position of an employee. Also the android smart phone is connected to Bluetooth and wireless LAN. So, very short distance of employees can be traced by using Bluetooth. The tracking system in existing was not secure as compared to the proposed system because the communication link between centralized servers and employee phone is maintained by wireless LAN which is relatively slow as compared to the 3G network. The dynamic paring of mobile terminal is also mandatory. The communication network is more complex and it is not reliable. The alert message which is transferred through wireless LAN is less secured[2].

In the existing system the Managers cannot get the Employee's activity information in the mobile through text, like SMS and Calls. The Managers doesn't know the Employee's current location. There is a possibility of data loss during the message transfer from one mobile terminal to another mobile terminal due to 2G. And also in existing system the employee behavior is not calculated so that organizational growth may be less, to overcome this problem we can implement the proposed system.

The problem that occurred in the existing are overcome in proposed system. In this application we are implemented some functionality by using android phone for manager to handling of the company employee to avoid the misuse of their office phone. In this tracking system also uses one important part such as telephony manager which is used to track all incoming, outgoing calls and text messages multimedia messages etc. The Android

mobile terminal in the hand of employee is connected to high speed 3G network for transferring of effective data between two mobile terminals. So, now the manager can Track the employee at a very high speed because of the high speed network there should be not any interrupt in the network. This proposed system is very secured and reliable as compared to the existing system because of the high speed 3G networks and also provided web service security to this application[1]. The employee tracking system use centralized server for retrieving of the detailed information of the employee phones uses like for the incoming and outgoing calls the centralized server stores its call date, time and duration. For messages stores its date and time etc. So whenever manager wants detailed information about the related employee he will login on to the centralized sever, It very beneficial for the organization in case of business improvement purpose, because if any employee will misuse the company phone it will immediately inform to manager in the form of text and manager will take appropriate action on that employee. In this system also use GPS tracker is used for knowing the location of person or things. It consists of minuscule chip which is attached to the object to be tracked. This chip will give out signals which are tracked by the satellite which sends data to the earth giving the exact location of the things or object[3].

2. System Design

The application can uses Android based cell phones for running the implemented software. In this system we can use different modules, and main two apps are employee app and server app. And whole employee phone uses data will be stored in centralized server app. For detailed data it can be stored in the centralized server like the details of incoming call, text and the timely location update of their Employee. Managers may later login into the centralized server and view the details of their Employee's mobile usage.

3. User Module

- This module is made for the use of employee which is works in the organization.
- In the side of user consist of android phone
- contain call log, SMS, tracking features.
- They will be enabled with the 3G connectivity.

4. Manager's Module

- These desktops are especially for the use of the employee monitoring.
- The manager should be able to control the function of whole organizational employee from a single centralized server.
- He can access any phone uses information and should be able to take decision on that.

5. Sub Modules

1. Call Logs: Employees should not use their company phone for personal use, if they call to an unapproved number from employee list; it will be logged on to server. Calls Logs should show the details of incoming and outgoing calls history from employee's phone like date, time, and phone number.
2. Message History: Manager should get the message history from employee cell phone like text messages (inbox/sent/draft) and multimedia message with date and time.
3. Track Employee Location By using GPS Employee location gets by using the GPS. If employee goes outside of approved geographical zones then a notification is sent to managers.
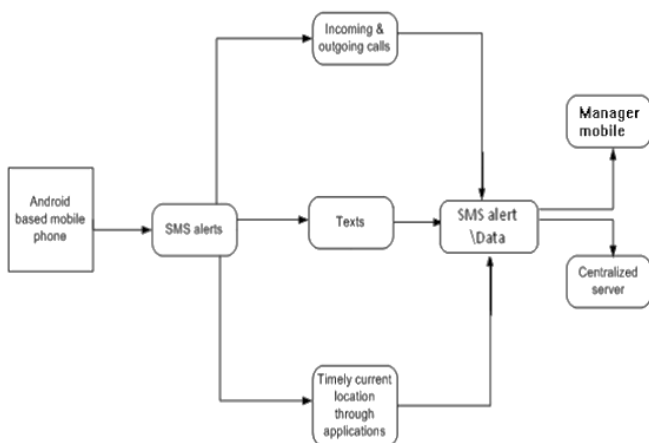

Figure 1. Flow of System[4]

III. RESULTS AND DISCUSSION

System Model

Employee: An Android application is developed and installed on the android smart phone. This application is run on client side. All details are stored on SQLite database and further updated on server.

Manager : Manager has authority to login on server and check all details. The server uses a MySQL database. MySQL is a relational database, which uses Structured Query Language. It stores data in tabular format. So it is easy to understand. MySQL is reliable and flexible. Centralized server contains details like incoming call, text and multimedia messages and the timely location update of their Employee. So for detailed data manger can login on server.[5]

The system which are currently developed are using WiFi and 2G technology which face the problem of speed due to which the manager is not able to correctly determined the exact location of the employee who are not in the company premises. In this the employees are monitored by the manger using central server.

The system consist of three main apps : Employee App, Central Server and Manager App. The Employee App should be run continuously in the android mobile phones of the employees of the company. The database is stored in the central server which is accessible only to the Manager[6].
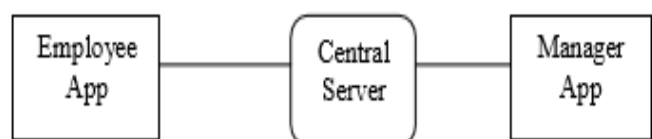

Figure 2.

The details about employee like history of incoming calls, outgoing calls, SMS history, unauthorized call list and location of employees are provided to the manager and it helps the manager to determine the behavior of employees working in the company. The system uses JSP for server side implementation. The database used is mysql as it is open source and user friendly. Apache tom-cat and Xampp along with Android Studio or Eclipse are used designing the system. The database connectivity is done and thus information is displayed to the manager in the form of

JSP and HTML web pages and thus it helps the manager to improve the output of company.

IV.CONCLUSION

In this paper, we have implemented the new generation employee monitoring system and system features to meet the organization requirements. By using this system it is possible for the manager to track an employee in the organization . In this application it is also possible for the manager to know all the incoming calls, outgoing calls and text messages sent by an unknown person to the employee. Manger can see the call and message details even if employee deletes call log and message. we are tracking the mobile using it's IMEI number. So manager can track the employee even if employee changes mobile number. Using telephony manager technique, the proposed employee monitoring system can get detailed information about mobility of employee by adjusting network. In reference to the future scope, an intelligent tracking system of information can be developed with the combination of android features and various sensors.

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