Employee Monitoring System Using Android Smart - Phone

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Abstract: The basic aim of the system is to develop a low cost solution for GPS based tracking system which can applied to various domains of the industrial and personal use just by using the very common mean mobile android enabled. The main objective of the system is to track the current location of the person which has an android longitude of that target person. The primary objective of our system is to track the person the location on real time system like google map. All the functions of the employee will be monitored using this system. By using this system, it allows the managers to know when the employees are expected to actually in office or other areas. This system is really helpful for the managers to monitor their employees through mobile phones. Field service work requires service organizations to have a fast and reliable way of assigning and monitoring field service job orders. The nature of such business often requires employees to be in the field and capabilities such as location mapping and task assignment notification would greatly assist them in performing their work. This paper highlights the importance of mobility and data accessibility in field service work. Admin assign job orders remotely to their employees in the field, providing all the crucial information for performing specific field service task. The online system sends job request notification straight to each field Service employee mobile device, allowing a faster way of communicating job responsibilities. The Mobile application on the other hand provides a portable online access to each job order details. Information such as structure standards, and material list would assist in ensuring the quality of work. Android applications are increasingly gaining popularity these days because of the simplicity of its use. An Android application can be used for both personal use or in the business. This paper introduces an android based application for location tracking and conferencing which can be used by employees working on site, outside office. A discussion on how location tracking can be useful in a variety of ways is made. A comparison of proposed system is made with present system, also the actual implementation of this application is discussed. Lastly a discussion on how this app can be enhanced further is made.

Index Terms **- Tracking, search and rescue, Android Operating System, Employee, Tracking System, Java programming and SQLite Database.**

I. INTRODUCTION

GPS tracking can be used to find and recover a lost mobile, for example. Whether in business or personal use, losing a mobile phone is a pain, costs money to replace and could potentially expose sensitive information such as your clients confidential contact data. GPS Tracking can show you exactly where your device is, so you can go and recover it. GPS tracking system offers the added protection of being able to remotely_lock or remotely wipe a mobile device, making sure your data is always safe. Delivery companies are also making use of this tracking to know where all its delivery trucks are. Managers can also easily see that all employees are where they should be, and even improve customer service as they can let customers know the location of an employee that is due to deliver to their house. In the families, parents can keep track on their children with GPS tracking as lots of children have mobile phones and rarely put them down. Lots of businesses are waking up to the many benefits that GPS tracking offers. By this application the manager can track or monitor the employees from outside of the company premise also. The manager has the permission to access the central server. Employee monitoring is the advanced monitoring technique in which 3G network is used for communication among the company. Android is a mobile OS developed by Google, based on Linux kernel. For touch screen mobile devices android is designed primarily. E.g.: Smartphone, tablets. This android system includes 4 layers: The Linux kernel, native libraries, the virtual machine, and an application framework. In which Linux kernel provides basic OS services and hardware abstraction to the upper level software stacks. The Native libraries provides functionalities of web browsing, multimedia data processing, database access, and GPS tracking which is optimized for a resource-limited hardware environment. The Java code with low memory acceptance is run by virtual memory. At the top layer of the android architecture provides a component-based programming framework because of that user can easily build own applications. Traditionally monitoring of employee is done with the manual reports generated by the employee or team leader. The team leader or manager calculates the performance of the team. It requires lots of paper work to keep record of employee activity. This application reduces the paper work of manager and employee also. The employee can also spend time on internet browsing, may access any website which is not come under company policy, and send unnecessary messages or calls. Managers are unaware about that. Therefore, a system that gives manager idea like where employee is and what messages he gets and to whom he calls will get. This Application uses android based phones which are provided by company. The employee must have android pone and manager can have any kind of mobile phone.

II. LITERATURE SURVEY

Through this application all information about the employee phone like their incoming calls, SMS history, outgoing calls, data usage, employee locations, web browser history and unauthorized call history details are tracked. The necessary condition is that

there is a need for employees to have the android smart phone. This application helps managers to monitor their employees through mobile phones. All incoming call details, outgoing call details, text details, emails and multimedia messages can be seen and interrupted by the managers, they can also monitor where their employees are, access a history of where they have been and set up alerts if their employees are outside of the approved geographical zones, are receiving texts from unapproved numbers or calls from banned persons. The global geographical position of the employee will be traced by using GPS.The system is beneficial for the progress of the organization and will allow manager to check the dedication of his employees towards work. In the study all activities like incoming, outgoing, missed call, SMS history, web history, data usage, unauthorized call list/website list are stored on centralized database. Manager can see that history by logging into the centralized server. GPS is designed of or bitals. GPS finds the user location by calculating differences in the signals. It is calculated by time which is required to reach signal from satellite to receiver. After that GPS signals are decoded to find location. In this system user have to provide input to the system and after that it gives location as output. But in proposed system user input is not required. The user's location can be obtained by using Global Positioning System.

III. EXISTING SYSTEM

A. Existing System: In Existing System, location of employee or a person is trace by fixing tags on different location in company premises. It gives exact position and location of an employee but only incorporate area.
Bluetooth and wireless LAN connects the android devices to each. By wireless LAN the communication link to the management server is managed. It is not very fast. The dynamic paring of mobile terminal is very important. The network is more complex and it is unreliable.

B. Drawbacks of Existing System: RFID tags do not cover larger distance so tracking can be done in shorter distance only. Android devices are connected to each other via Bluetooth and Wireless LAN so it becomes very slow. Manager cannot get alert message when employee goes outside the corporate area. It uses 2G so it is slow. 2G uses circuit switching. For circuit switching channel has to be establish first.

IV. PROPOSED SYSTEM

The proposed system is an android based application that will provide a location based service of location tracking. Location tracking refers to attaining of the current position of an object stationary or moving. This application will allow administrator to locate and track employees working on field nearby. In this system admin will add employee details. Admin can see GPS location of the particular employee by entering employee ID and date. Admin will assign task to employee. Employee will access the system with his user identity number and password with his android phone. User capture his image and clicks on submit. User's image and GPS location will be send to admin. Once the employee logout the system, image of the employee and current GPS location will be send to admin. A wide range of tracking systems has been developed so far for tracking vehicles and displaying their position on a map, but none of the applications has been developed so far which tracks or monitors the mobility of a human being. Now a day's tracking a person's mobility has become a crucial issue these days be it tracking a criminal came on payroll or a system which is cost effective and can also be used for tracking a human being using a GPS and GPRS equipped mobile phone rather than using a handheld GPS receiver. The main focus of our project is to reduce the overall cost of tracking based on GPS system which is based on satellite service and is available 24X7 everywhere in the whole world. GPS system can also use to get location which includes details like latitude, longitude and altitude values along with the timestamp details etc. It a free of cost service available to everyone. In order to track the movement of the person or employee we have used google Maps for mapping the location sent by the mobile phone. The mobile phone which fetches the GPS location communicates with the server by using General Packet Radio Service (GPRS). This service is low cost service provided by the service providers which is a wireless data communication system. Android phones equipped with GPS receiver are easily available in the market these days and is a booming technology these days. This cell phone technology has allowed us to communicate almost every part of the world across the boundaries. The GSM/GPRS is one of the best and cheapest modes of communication present these days and in future. Since we are implementing the system with the help of mobile it will eliminate the use of GPS and GSM modems which are not cheap devices. These system uses an android operating system for tracking eliminating the need of SMS creation and sending. The proposed system imposes some new functions for the existing system. It uses a Telephony manager to store subscriber id, SIM serial no, etc. All the details like call log, SMS history, Data usage history, web browsing history, location are monitored and recorded. Employee location is traced by using GPS i.e. Global Positioning System. It can also give location of employee or a person at outside the corporate area.

The User of system:
1. Any Employee: On the android smart phone an android application is developed and installed This application is run on client side. On SQLite database all details are stored and further updated on server.
2. Admin: Only 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 text, incoming call and multimedia messages and the timely location update of their employee. So for detailed data manger can login on server.

V. CONCLUSION

Thus this application will provide high quality and transparent policies that satisfies the application of tracking, the human position. To overcome the existing system problem, the system will provide functionality and user friendly environment. As

technology is used there is no doubt about errors. Ultimately it will help us for monitoring human position by making the guidance for new user, applications for finding exact position, locating the point and controlling activities etc. By using this application, we are able to track the employees in the company so that the managers can examine each and every employee from and outside the company also. The details are accessible to the managers using this system like SMS history, data usage, unauthorized call list. It also helps the company thus getting good position in the world, wastage of time will be minimized and thus company's annual growth is increased. It helps to monitor employee's log in and out. It reduces the complexity of employee detail maintenance. And helps to see employee details and their activities. This application increases the overall performance of employees. Manual entering of the daily activity details of each employee into database is not needed. It completely reduces the traditional way of calculating performances and also reduces the paperwork and saves the time This application has substantial business value because it reduces hardware and maintenance cost and increases customer's satisfaction.

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