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AN ANDROID BASED EMPLOYEE TRACKING SYSTEM

Mr. Harsh Namdeo Bhor¹, Mr. Pratik Chudasma², Mr. Mitul Patel³, Mr. Vatsal Parekh⁴

Department of Information Technology, K. J. Somaiya Institute of Engineering and Information Technology,
Mumbai, India^{1,2,3,4}

Abstract: Use of Smartphone is increasing day by day and is very effective tools for increasing computational power and security along with search and rescue. The aim of this project is to track the employee and monitor the employee activity in company by their office cell phone and improve the growth of the company by securing company data. In this project, we discuss about the design and implementing admin, employee application and Centralized server for monitoring employees of the company using android by separating corporate and personal data. In this project we provide different security profile on same smart phone. In this system we are using dynamic database utility which retrieves data or information from centralized database. We also provide separate mode to employee when he enters company premises. Through smart phones all information about the employee phone like their SMS history, Incoming calls, Outgoing calls, Employee Locations, Data usage, Web browser history, and Unauthorized Call History details are tracked. The necessary condition is that Employees should have the Android phone whereas Manager Activities are also monitored. This system increases accuracy in managing employees, manager and company data; avoid the unnecessary use of company phones which are provided to the Employee for their office use only and save the time of manager. Manager can monitor their Employees through mobile phones and know the employee behavior. Thus unnecessary wastage of time and money of company is avoided and it helps to protect trade secrets and avoid legal liability.

Keywords— Android Operating System, Tracking System, Employee, JAVA programming and SQLite database.

I INTRODUCTION

Employee tracking and monitoring system is advanced monitoring technique in which 3G network is used for communication among the company. In this paper we are mentioning the designing and implementation of android app which is continuously running in background on the android phone of the Employee. The central server is designed to store the database of all the details of the Employee including incoming call history, outgoing call, sms history, data usage, web browser history, location and unauthorized call list. The manager is only having the permission to access the central server. For security purpose AES algorithm is implemented. The advantage is it reduces the wastage of company's value. It helps to determine the behavior of the Employee's working in the company as Good, Loyal, Best, Average or Worst. For determining the behavior of the Employees K-means clustering algorithm is implemented. It helps to avoid the wastage and thus help to increase the company's output. This application also helps the manager to monitor the employee from outside of the company premises also.

II LITERATURE REVIEW

Sonal et al (2016), worked on Employee Tracking and Monitoring System Using Android. In their study they provided different security profile on same smartphone. They used dynamic database utility which retrieves data or information from centralized database. They provided separate mode to employee when he enters company premises. Through smart phones all information about the employee phone like their SMS history, Incoming calls, Outgoing calls, Employee Locations, Data usage, Web browser history, and Unauthorized Call History details are tracked. The necessary condition is that Employees should have the Android phone whereas Manager Activities are also monitored. [1]

Aparna, (2013), worked on Smartphone Monitoring System, The System is a software that allows supervisors to monitor their employee's office cell phone. All incoming call details, outgoing call details, text details, emails and multimedia messages can be seen and interrupted by the managers, who can also monitor where their employees are, access a history of where they have been and set up alerts if their employees are going outside of the approved geographical zones, are receiving texts from unapproved

numbers or calls from banned persons. The system helps managers to monitor their employees through mobile phones. It enables organizations can avoid the unnecessary involvement by the employees by monitoring their mobile phone usage and also by tracking their current location. [2]

Avinaash et al (2015), worked on Mobile Attendance Management and Employee Registration. Staff attendance management and employee registration is a mobile application which can be used by the staffs to login their attendance through mobile phone and track other staffs location through mobile phone. Manual registration in biometric systems and entering in the attendance catalogues in different physical locations is the current system used in all the colleges. The staff will get updates regarding their attendance regularly from the admin as they login and log out so that they can keep a track on their attendance by using this application. [3]

Nitin et al (2015), worked on Mobile Activity Monitoring System Using Android Spy, Their system was implemented for tracking the daily activity of the users with their android mobiles. The information such as missed call, incoming call, outgoing call, call duration, incoming SMS, outgoing SMS along with its date and time will be tracked and updated to the server this server will be monitored by the administrator. This information can be maintained for security purpose of the organization such as leaking the confidential data and maintaining policies of organization. [4]

Nirmal, et al, (2016), worked on Employee Surveillance System Using Android Smart Phone, Their system integrates Employee monitoring and GPS location Tracking System using Android phone. All the activities of the Employee will be monitored using this system. The system works on 3G communication between the terminal ends. All the activities of an employee on his cell phone and computer, like data usage, all incoming and outgoing calls, web browsing and secured document modification and illegal transfer of company's informative details like blue print, stocks, projects etc. will be set under surveillance. Not only this, the global geographic position of the employee will be traced using GPS. Therefore the organization will be set to surveillance that will restrict the unwanted usage of its resources by the employees during working hours. The system was beneficial for the progress of the organization and will allow the Manager to check the dedication of his employees towards work. [5]

III COMPARITIVE STUDY

Existing System

The program 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. Employee time tracking phone uses data will be stored in centralized server. Mobile device which is on the Head of Department's table should be an Android device and the administrative manager can get the alert through text messages only. For detailed data it can be stored in the centralized server like the details of incoming call, text and multimedia messages and the timely location update of their Employee. Managers may later login into the centralized

server and view the details of their employee's rate of attendance. The classes in the application can be broadly divided into those for UI, background services, data-structure and utilities Design of the new system.

Proposed System (Block Diagram)

This system is a combination of web as well as android application where the user will be using the android application and admin will work with web application. This application is meant for field work Employers. The Employee will have this application in his android phone, when the user will log into the system his image will be captured and his GPS location will be send to the admin where admin will view image and GPS location in web application. After Log in, GPS location of the employee will be tracked automatically by the system and send to the admin after every 5 minutes. When employee log out the system again the image will be captured as well as GPS location will be send to the admin.

Admin can view the GPS location of the employee by entering Employee Identity Number as well as Date. Admin can view latitude and longitude of the GPS location sent by the employee. This application helps admin to easily check the salary of the employee. Since GPS location of the employee is tracked, so employee will not attempt to add proxy attendance.

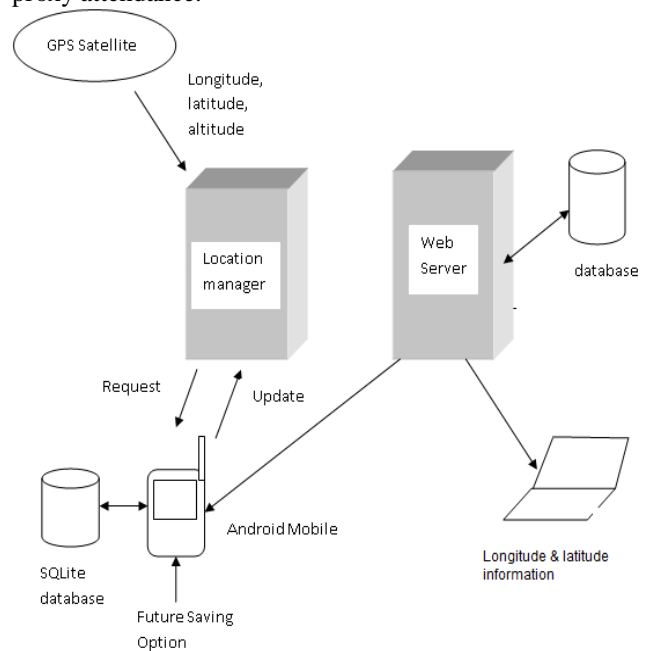


Figure 1: Block Diagram

Summary of Comparison

For tracking the live location, the android device of the employee should always be connected to the internet which practically may be not possible as in some regions there may not be strong network connection or in other scenario if the employee is moving too fast from one place to another which may also result in distortion of network. So to overcome the problem of network issues based on internet i.e. GPRS, in this paper we introduce a new feature to send offline message for location of nearest base station tower from the current location of employee along with capturing

image of the employee from its locations and sending it to the server.

Comparison

Proposed System	Existing System
In proposed system we can send location to the server without using internet i.e. GPRS	In existing system internet connectivity is required.
In proposed system image will be captured, due to this fraud attendance is not possible.	In earlier system this feature was not introduced.
Capturing image will be uploaded directly from the camera and not from phone's gallery.	In existing system image can be uploaded from the gallery which may result in fraud.
Proposed system automatically verifies authorized users.	In existing system there is no automatic verification of users.
Proposed system uses ASP.Net technology.	Existing system uses Java.
Proposed system has high performance even when if network traffic increase.	Existing system has low performance as network traffic increase.

IV METHODOLOGY, TECHNIQUES AND ALGORITHMS

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This feature works based on the principle of CELLULAR BROADCAST MESSAGES also known as CBM. CBM must be integrated with the base station tower of the carrier service provider for accessing information about the location. With the help of CBM, even if the internet is turned off due to some reasons on employee's device, the admin can still get an approximate location of the employee through an offline message with the click of a button.

- ✧ User will do registration on designed website.
- ✧ Access location online.
- ✧ Reminder will be entered by user and stored in SQLite

database.

- ✧ Location tracking will be performed using the GPS service.
- ✧ Changes in location can be emulated with the help of Android.
- ✧ The location change will be compared with the database entries to see if there are no tasks associated to the current location.
- ✧ Corresponding task information will be displayed on the mobile screen.
- ✧ Location server will constantly deliver the location information to mobile every 3 seconds.
- ✧ Based on this communication with the back-end server for displaying corresponding task will be established.

Features:-

- Admin login
- Add Employee
- View Location
- Check salary
- Viewpoint
- Change password
- Check location
- User log in
- Tracking GPS location
- Log-out

Application

This application can be used for the employees who go for field work so that they can be easily tracked with the help of GPS location.

V CONCLUSION

Using this system we are able to monitor and track the Employees in the company and thus it helps the manager to examine each and every employee from and outside of the company also. The details like SMS history, incoming call list, outgoing call list, web browser history, data usage, and unauthorized call list accessible to the manager using this system. It helps to increase the output of the company thus getting good position in the world. The company's annual growth is increased and the wastage of time is minimized. It helps to track easily employee's log in and out. It helps to see employee details and their activities and also reduces the complexity of employee detail maintenance. This application enables the managers to update the overall performance of the employees in their respective areas. This monitoring system is a revolutionary mobile application which uses Android OS for monitoring time attendance of employees. There is no need of manual entering of the daily activity details of each employee onto the database. It completely abolishes the traditional way of calculating performances. This will considerably reduce the paperwork and save ones precious time. This application makes good use of the recent mobile development technologies and thereby increases the overall performance of the employees, also has a substantial business value because it reduces hardware and maintenance cost and increases customer's satisfaction.

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