INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 8.165

On-Site Android Location Tracking System for Employees

Sudarshan G K[1], Ashwini M S[2], Chandana K S[3], Nayana G[4], Saniya Kausar[5]

Asst. Professor, Dept. of Information Science and Engineering, Malnad College of Engineering, Hassan, India[1]

Student, Dept. of Information Science and Engineering, Malnad College of Engineering, Hassan, Karnataka, India[2,3,4,5]

ABSTRACTThe on-site android location tracking system for employees is an android application built using the android studio. When people works in the field, tracking employee location just makes sense. Employee GPS tracking apps give the visibility into how the workers team moves from client site to client site. This means admin can track their time and attendance based on their locations without needing to travel to each site. It will save even more time with the ability to automate how the admin can crew clocks in and out using their GPS locations.

KEYWORDS: Android Application, Global Positioning System, Time-specific Tracking, Employee.

I. INTRODUCTION

A location tracking unit or simply tracker is a navigation device normally on a vehicle, asset, and person or animal that uses the Global Positioning System to determine its movement. Today, most cell phones come with a location tracking system. While the standard location that comes in an iPhone or Android phone may not be sensitive enough to give an exact address where the phone is located, it can narrow the location to within a small area. A location tracking system does this by using the Global Navigation Satellite System (GNSS) network. This network consists of satellites that communicate with location devices to provide information on the current location, direction, and time. Android Studio provides the fastest tools for building apps on every type of android device. An Android App can be very useful in determining the location of the user. Identifying an employee's location in an Android app can be useful. Employees take their mobiles all over the place and are frequently using them on the go. Mobile phone- a mass media for making communication & sharing information in present days among the people has been enriched with different applications by the advancement of internet & network technology. It brought the new eras of services by tracking the location of a mobile user. In a government-owned enterprise, the number of employees needed to perform certain functions could run into hundreds if not thousands. Managing and keeping track of these numbers using traditional methods could prove cumbersome and problematic. The need for an employee tracking information system to assist in the management, monitoring, searching, tracking, and updating of the employee's records becomes paramount. An employee tracking system based on the Android operating system was developed. All the activities of the Employee will be monitored using this system. Scheduling information and time-off requests are often considered part of personnel tracking; as this information will enable the admin to know when employees are expected to be in the office or other work areas. This system is very helpful for the admin to monitor their employees through mobile phones. This application is meant for fieldwork Employers. TheEmployee will have this application on his android phone when the user will log in to the systemhis GPS location will be sent to the admin where the admin will view his location in the android application. AfterLogin, the GPS location of the employee will be tracked automatically by the system and sent to the admin after every few minutes.

II. RELATED WORK

The location tracking of the employeeis implemented using Global Positioning System . GPS uses a constellation of 24 satellites orbiting the earth. GPS finds the user position by calculating differences in the signals, from different satellites, taken to reach the receiver. GPS signals are decoded, so the smartphone must have-a built GPS receiver [1]. A positioning component is usually needed in a Location-Based Service (LBS) application to determine the location of the user's mobile device. Most of the current LBS services do not require users to input location manually, like giving a zip code. The user's location can be obtained by using some positioning technologies, such as satellite positioning, cellular network positioning, Wireless Local Area Network stations, or radio beacons [3]. The application namely the Android Application uses GPS Navigation to provide the facilities to the users when the user is newer to any place through the application named places directory [2]. This application is also used to provide the service for mining the shortest distance between source and destination. The last featurenamed GPS Alarm of this application provides the

notification to the user of the arrival of its specified destination while traveling in the form of an alarm. This form will take the input from the user for one of the new features of the places directory that is tagging. In this user will taghis or her favourite place. And after filling it, the user will switch to the next form in which the user will get information related to his tagged place. The Weather Forecasting feature provides service in terms of weather information of specified places with pictorial information. Compared to other applications, this application provides more features to monitor employee activities by using various technologies. By using this application the supervisors can monitor and can save the details about their activities. Location-based service provides a huge field to work on. The papers that we go through in the process of our total research provide us to get an immense idea of how location-based service works on different communication platforms. Already there are some services based on a user's location started to provide in our country. Dynamic pricing offer of Grameenphone which is an offer of special call rate of a user -based on which zone he is located in or the "GP Buddy Tracker" or "Banglalink Friend Finder" which are used to track our friends & families, also the examples of location-based service available in our country. But these popular location-based services are provided by the mobile operators' SMS service using the GSM network [11]. To track the location of a user we don't need to have an internet connection to provide those services. Some of our mobile application developers used the LBS API provided by the mobile operator to develop some LBS services. But due to the development of the security of this platform, this is not available now. So the location information of a mobile user that is available from the GSM network is no more available in our country for the mobile application developer who wants to develop location-based service in our country's perspective. So our work is based on a GPS network where we use GPS technology to track the location of our mobile users [7] [8] [9].

III. PROPOSED SYSTEM

The objective of the proposed system is to determine whether the site engineer visits the particular site in time. In the traditional system, site engineers do not usually visit the sites where the construction is in progress andsimply they report to their chief engineers being somewhere else. Thechief engineers may not know properly whether the site engineers have visited the sites or simplyreported sitting somewhere else. The organization's success depends on employees' performance. The application is highly user-friendly and efficient. The application is developed in such a way that the privacy factor is focused, if a new user has to sign up, then he/she must contact the head of authority or the administration and provide all the details with biometrics. Theemployee can log in by using the biometric/fingerprint. The application is applicable only during working hours and tracks the location during the same hours. There is a feature of live call and uploading of images to the administration. The auto pop-up messages are to be added to both administration and employee if a new message arrived.
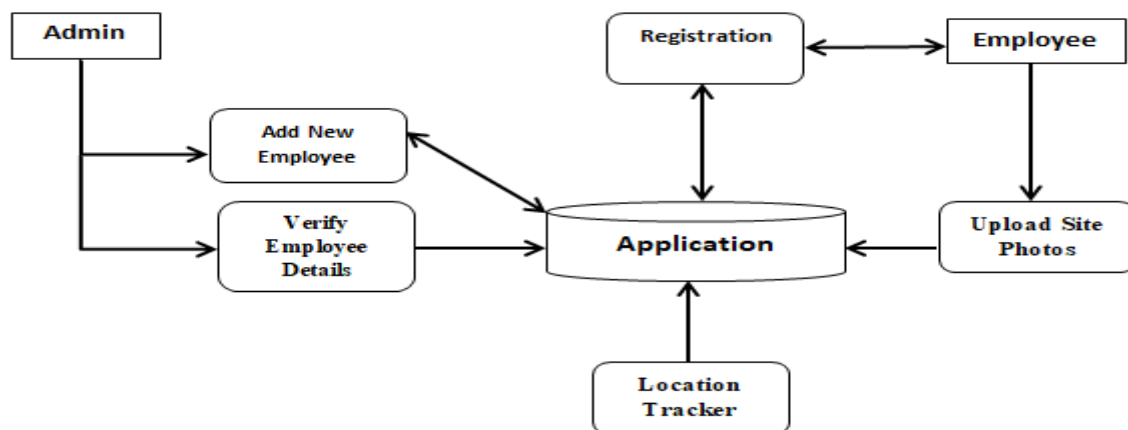

Fig3.1 Block diagram of

IV. IMPLEMENTATION

ADMIN PANEL

The Admin panel includes a login page that appears when an admin opens his system. This login page will ask the admin to enter a valid username and password. Ifin casehe/she enters an invalid username or password a small message will pop up saying "invalid username/password". After successful login, the admin will get further access. After

successful login admin will go to the home page of the application. This home page includes the profile of the admin. The admin can register/add the new employees to the application. He / She can track the employees and also view the images uploaded by the employees through the application. Here admin will view the details of the employees and also who are all working at those particular working hours. The main aim of the admin is to track the employees using the application. If the admin had any quires regarding the fieldworkhe/shecan call the employee directly who is in the particular field, even he/she can send a message through WhatsApp.

EMPLOYEE PANEL

The employee panel includes a login page buthere the admin needs to provide the authentication for the employee to log in. Afterthat the employee can register by filling in the details like name, phone number, email, and also password then the pop-up message as 'login success' will appear in the email/password are correct otherwise the message will pop up saying 'invalid email/password. The employee home page includes their profile of them. To track the employeeby the adminhe/she should switch on the GPS on his/her cell phone. When an employee visits the site he/she needs to upload the photo of the field that admin to know how much the work has been completed.
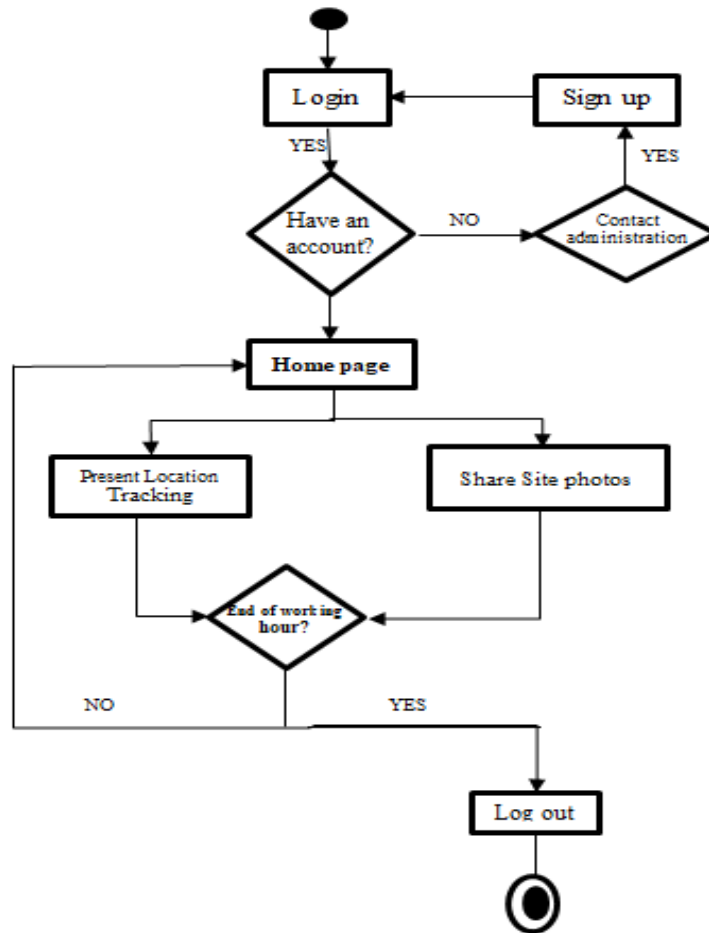

Fig4.1 Flowchart

FEATURES

- **Admin Login**: - Admin will access the application with admin email and password.
- **Add Employee**: - Admin will add a new employee by entering the employee's details.
- **Employee Login**: - Employee will access the application with employee email and password.
- **View Location**: - Admin can view the GPS location of the particular employee.
- **Tracking Location**: - Application will Track the GPS location of the employee and will be automatically sent to the admin after every few minutes.
- **Image**:- The employee can upload the image and the admin can view the uploaded image in the application

V. FUTURE WORK

The project was completed for the Android operating system. But in the future, if possible we want to offer this service through automated means that will automatically show to the mobile screen of a mobile user if they once activate the application and we want to develop this application for commercial purposes.

VI. CONCLUSION

This application enables the managers to update the overall performance of the employees at their respective sites. This monitoring system is a revolutionary mobile application that uses Android OS for monitoring employees based on location. There is no need for 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 one precious time. This application makes good use of the recent mobile development technologies and thereby increases the overall performance of the employees. The "On-Site Location Tracker for Employees",android application workforces on the live employee location to know the exact location of the employee in the Google maps during working hours. The time-specific tracking, only tracks during the specific pre-defined timings. Auto capture attendance marks attendance based on the defined time and location.

REFERENCES

1. GPS Tracking System A PROJECT REPORT | Iyad Axe - Academia.edu.
2. What Is GPS Tracking and How Does It Work? - MiX Telematics North America.
3. https://www.slideshare.net/RishiAadi/gps-ppt-18656545.
4. EMPLOYEE TRACKING SYSTEM | NiteshGhimire - Academia.edu.
5. An Android based Employee Tracking System (researchgate.net).EtukEnefiok A. Department of Computer Sciences, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria.
6. GPS Based Vehicle Tracking System and Using Analytics to Improve The Performance. (researchgate.net), NiraliPanchal, Ahmedabad University.
7. Employee Tracking System using Android Smart Phone – IJERT, TusharShinde, Harshal Pore, TejasChavhan, AmrutaPokhare, Information Technology Department Atharva College of Engineering Mumbai, India.
8. GPS-based Location Tracking System via Android Device (researchgate.net),Md. PalashUddin, Md. Zahidul Islam, Md. Nadim, MasudIbnAfjal.
9. Sharma, R. and Lobiyal, D.K. 2018. Intelligent Water Drop Based Coverage- Connectivity and Lifespan Maximization Protocol for Wireless Sensor Networks. Recent Patents on Computer Science, In Press.
10. Wendy E. Mackay, Anne-&am-e Fayard, Laurent Frobert and Lionel Mtfdini Centre d'Etudes de la Navigation AtkienneOrlySud 205 94542 ORLY AEROGARES FRANCE
11. ManavSinghal and AnupamShukla, "Implementation of Location Based Services in Android using GPS and Web Services" ,International Journal of Computer Science Issues, vol. 2, 2012, pp. 237 –242.
12. BagrechaKomal, S., BramhechaAmit, R., ChhajedSneha, S. and Khivsara, B.A., "Android Application using GPS Navigation", Issue of International Journal of Electronics, Communication and Soft Computing Science and Engineering,Berkeley, vol. 5, 2012, pp. 84 – 89.
13. Design of an employee tracking system using rfid| International Journal of Innovative Science and Research Technology (ijisrt.com),Agaba, Francis, Ojekundu, Nathaniel.
14. PankajVerma, J.S Bhatia, "Design And Development Of GPS-GSM basedTracking System With Google Map Based Monitoring",IJCSEA june 2013.
15. Iman M. Almomani, Nour Y. Alkhalil, Enas M. Ahmad, Rania M. Jodeh, Ubiq-uitous GPS Vehicle Tracking and Management System, IEEE Jordan Conference onApplied Electrical Engineering and Computing Technologies (AEECT) 2011.

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

Scan to save the contact details