Enhanced Functionality for Tracing Places, Weather Forecasting and Geo Fencing using Android

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Abstract— Android is a java based operating system which runs on the Linux 2.6 kernel. Android is full featured and lightweight. Android application are developed using Java and can be ported to new platform easily thereby adopting huge number of useful mobile applications. An amazing mobile application in this there is a three technologies are used, place tracking you can track nearest places like ATM, petrol pumps, restaurants, hospitals, etc., and also obtained complete information like phone number, address, image, website, etc., and another is RTLT real-time location tracking you can track accurate location of the particular parson location and the last is geo-fencing you can create the fence of the particular geo location the fence are user define with the help of this fence you can easily track these place, city or any particular area and you can easily get notify to enter and exit the fence.

Key words: Real-Time Location Tracking, Place Tracking and Geo-Fencing

I. INTRODUCTION

THIS document is a template for Android Rapid evaluation of wireless technologies has provided a platform to support cost-effective systems in the domain of location tracking. Mobile devices such as mobile phones are common and mobile internet access is possible everywhere in daily life in most of the cities. Global mobile operating system usage rates of Android was at 84.7%, iOS was at 11.7%, Windows Phone was at 2.5% in 2014 according to international Data Corporation market researches . Android is common with its open source nature and working capabilities on inexpensive mobile devices. Real-time location tracking is continuously monitoring a vehicle or a person by using obtained In proposed system, we can use the application on the home screen. So that, there will be no chances on running the app unknowingly. In this we have the extra features like location tracing and weather forecasting and geo fencing. Place tracking unit is a device, normally carried by a moving vehicle or person, that uses the Global Positioning System to determine and track its precise location, and hence that of its carrier, at intervals. The recorded location data can be stored within the tracking unit, or it may be transmitted to a central location data base, or Internet-connected computer, using a cellular GPRS, radio, or satellite modem embedded in the unit. Weather forecasting is the application of science and technology to predict the state of the atmosphere for a given location. Human beings have attempted to predict the weather informally for millennia, and formally since the nineteenth century. Weather forecasts are made by collecting quantitative data about the current state of the atmosphere at a given place and using scientific understanding of atmospheric processes to project how the atmosphere will change. Geo-fence is a virtual perimeter for a real-world geographic area. A geo-fence could be dynamically generated—as in a radius around a store or point location, or a geo-fence can be a predefined set of boundaries, like school attendance zones or neighborhood boundaries.

II. PROCEDURE FOR PAPER SUBMISSION

A. Review Stage

Yunus Ozen[1] proposed Android Based Energy Aware Real-time Location Tracking System. This paper presents design and implementation of an android based energy aware real-time location tracking system (EWAREL) using GPS sensor. Its hybrid positioning technique employs other inertial sensors and data sending mechanism for saving energy to be efficient. Introduced EWAREL is a lifesaving application especially for real-time monitoring elderly people suffering from Alzheimer's. Alzheimer's people are monitored with EWAREL application and are prevented from being lost. EWAREL is ready to be generalized for other scenarios such as other health monitoring applications, giving direction, monitoring and directing of field staff.

B. Final Stage

Mihaela Cardei[2] introduced Campus Assistant Application on an Android Platform. This paper states that, College campuses can be large, confusing, and intimidating for new students and visitors. Finding the campus may be easy using a GPS unit or Google Maps directions, but these changes when you are actually on the campus. There is no service that provides directional assistance within the campus itself. This paper presents the architecture and design specifications for a campus assistant application on an Android platform. Scenarios are illustrated for the Florida Atlantic University – Boca Raton campus.

C. Figures

Ing-Chau Chang[3] proposed Design and Implementation of the Travelling Time- and Energy-Efficient Android GPS Navigation App with the VANET-based A* Route Planning Algorithm. This paper has three major contributions. First, a vehicular ad-hoc network (VANET)-based A* (VBA*) route planning algorithm is proposed to calculate the route with the shortest travelling time or the least oil consumption, depending on two real-time traffic information sources. The first one is the recorded traffic information of the road segment that the vehicle has passed through. This traffic information is further exchanged between vehicles when they enter the transmission range of IEEE 802.11p wireless link in the VANET. The second one is the traffic information provided by Google Maps. Then, a GPS navigation app is implemented on the Android platform to realize the VBA* route planning algorithm. Finally, simulations for six route planning algorithms are executed by the well-known VANET simulator, i.e., The ONE. In summary, VBA* achieves significant reductions on both the

average travelling time and oil consumption of the planned route, as compared to traditional route planning algorithms.

Yi-Nan Zhang[4] introduced Elderly Safety Early-warning System Based on Android Mobile Phones. This system designed a novel remote mobile early-warning system which set up a bridge between the old and their family members. This system can help reduce the risk. Firstly, we analyze current data push methods in android-based mobile phones, and a model with locate function and low communication is established. Then, based on the working principle of acceleration sensor, using data from acceleration sensor, a fall detection analysis and assessment models is provided, in which the fall detection judgment is given by the acceleration comparison algorithm. The location information by GPS is sending via SMS to the guardians. The multi-threading technology is adopted to monitor the elder's real-time position and gravity status, so as to do real-time remote emergency warning to their family members. In the actual application, it shows that the method provided here is of high recognition rate for emergencies and timely early-warning. It has a high practical value. In addition, the system we designed also won the first prize of the 2013 North China College Students' Computer Application Contest.

C.G. Low[5] proposed SUNMAP+: An Intelligent Location-Based Virtual Indoor Navigation System Using Augmented Reality. This paper sets to present a mobile software application that uses a visual recognition and pedestrian dead reckoning (PDR) system to create an interactive indoor navigation system using augmented reality (AR). In order to provide an intelligent and context-sensitive navigation platform, data from Smartphone sensors are utilized to enable the navigation system to work in an indoor environment. These sensors include using the accelerometer, compass and camera - sensors which already exist in today's mobile devices. Using these technologies, a prototype for an Android application called SunMap+ has been developed to showcase the possibilities of indoor navigation using AR in the test environment of Sunway University campus.

Lo Chi [6] introduced Developing an Efficie nt Navigation System based on Driving Time Data Manipulation. This study focuses on about 1,400 intersections in Taoyuan County to build road map (network model) to achieve route planning research in order to develop a big driving data collection system to support navigation technique. The collection and transformation of the GPS data to server-site is performed by using either telematics or Android platform. Our system outperforms Google map navigation system in terms of time estimation.

III. PROPOSED METHODOLOGY

In proposed system, we can use the application on the home screen. So that, there will be no chances on running the app unknowingly. In this we have the extra features like location tracing and geo fencing. Place tracking unit is a device, normally carried by a moving vehicle or person, that uses the Global Positioning System to determine and track its precise location, and hence that of its carrier, at intervals. The recorded location data can be stored within the tracking unit, or it may be transmitted to a central location data base, or Internet-connected computer, using a cellular GPRS, radio, or satellite modem embedded in the unit. Geo-fence is a virtual perimeter for a real-world geographic area. A geo-fence could be dynamically generated—as in a radius around a store or point location, or a geo-fence can be a predefined set of boundaries, like school attendance zones or neighborhood boundaries.

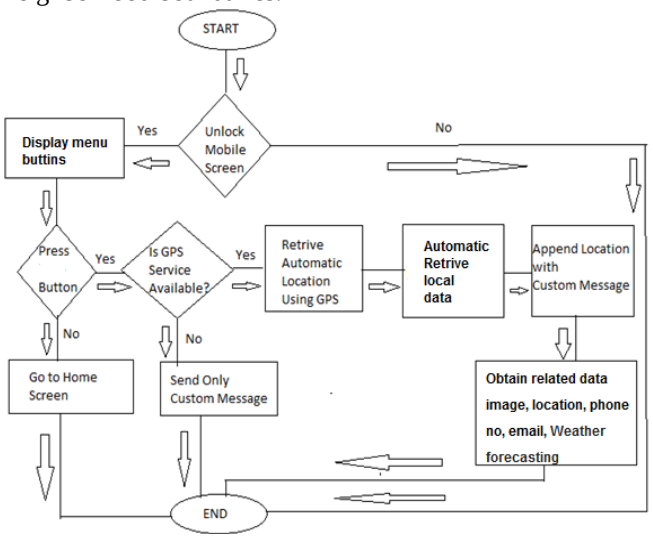

Fig. 1: Flow Chart Showing Working of this Project

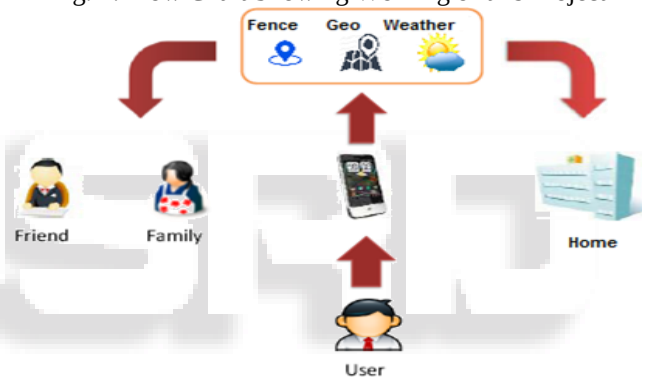

Fig. 2: Flow Chart showing functionality of this Project

Place tracking unit is a device, normally carried by a moving vehicle or person, that uses the Global Positioning System to determine and track its precise location, and hence that of its carrier, at intervals. The recorded location data can be stored within the tracking unit, or it may be transmitted to a central location data base, or Internet-connected computer, using a cellular (GPRS or SMS), radio, or satellite modem embedded in the unit. This allows the asset's location to be displayed against a map backdrop either in real time or when analysing the track later, using GPS tracking software. Data tracking software is available for smart phones with GPS capability. The real time location tracking track the nearest places as per the your current geo location means location of your device, The android mobile device resives the geo data in thr ways,

1) GPS (offline or hardware) less accurate.
2) Network provider (provided by mobile network provider) medium accurate.
3) Passive provider (provided by internet) more accurate

That that coordinate send to Google with the help of Google api and Google provide the information regarding to that location and you can simplified that data in the readable format that information is useful in your day-to-day life.

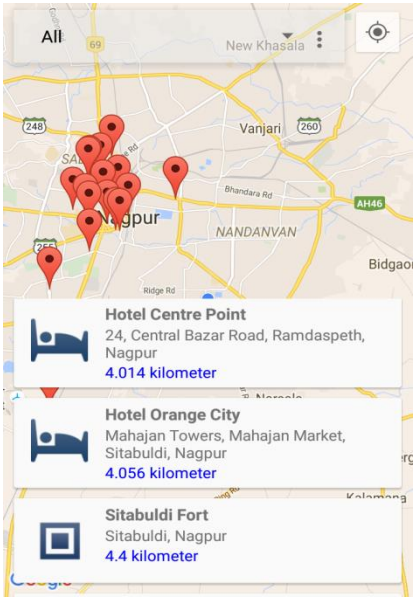

Fig. 3: Screen shot place tracking

In this feature you have to find place according to your interest which content different category like bank, hospital, restaurant, ATM, etc., as well as we provide the navigation facility to that particular location

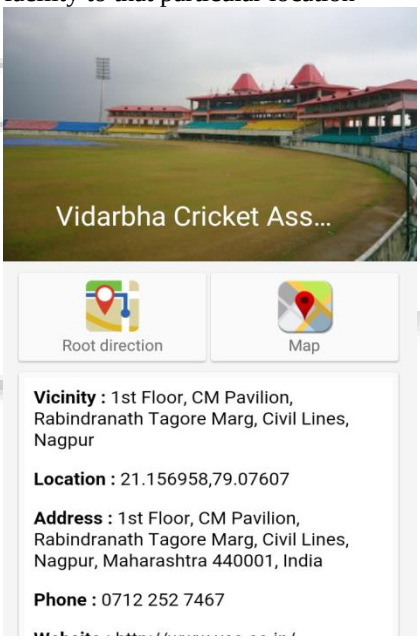

Fig. 4: Screen shot Real-time locating systems (RTLS)

Real-time locating systems (RTLS) are used to automatically identify and track the location of objects or people in real time, usually within a building or other contained area. Wireless RTLS tags are attached to objects or worn by people, and in most RTLS, fixed reference points receive wireless signals from tags to determine their location. Examples of real-time locating systems include tracking automobiles through an assembly line, locating pallets of merchandise in a warehouse, or finding medical equipment in a hospital. The physical layer of RTLS technology is usually some form of radio frequency (RF) communication, but some systems use optical (usually infrared) or acoustic (usually ultrasound) technology instead of or in addition to RF. Tags and fixed reference points can be transmitters, receivers, or both, resulting in numerous possible technology combinations. RTLS are a form of local positioning system, and do not usually refer to GPS, mobile phone tracking. Location information usually does not include speed, direction, or spatial orientation.

The real time location tracking provides the details information of the particular place that provides to help to track. It can also provide the detailed information like place image, postal address, phone number, website, rating, etc.

Geo-fence is a virtual perimeter for a real-world geographic area. A geo-fence could be dynamically generated—as in a radius around a store or point location, or a geo-fence can be a predefined set of boundaries, like school attendance zones or neighborhood boundaries. The process of using a geo-fence is called geo-fencing, and one example of usage involves a location-aware device of a location-based service (LBS) user entering or exiting a geo-fence. This activity could trigger an alert to the device's user as well as messaging to the geo-fence operator. This info, which could contain the location of the device, could be sent to a mobile telephone or an email account.

The geo-fence is useful in day-to-day life, In this feature you can create a fence for particular location when you are reached to that area we will notify

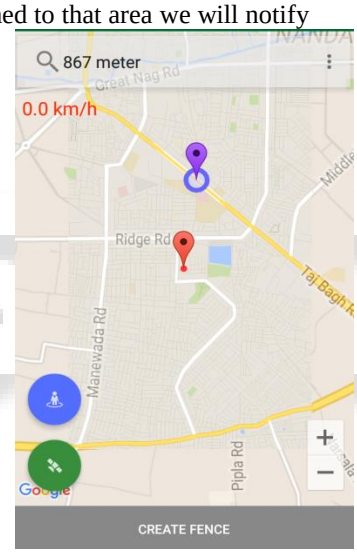

Fig. 5: Screen shot geo-fence

IV. CONCLUSION

This application as stated earlier can be of immense help for all those people who are in need when they are out of home and unable to do anything. The user neither takes time to trigger the application nor the application uses longer time to process. The application is looked forward to be incorporated with automatic location of the user using Google Map. This model is designed and implemented with the objective that it has to be user friendly and triggering of the application should take least time. This app is the quick and safe app because, as we unlock the mobile and on the home screen only we can run the app.

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