"Connect and Access": An Utility of Location Based Services to Notify Physical Object Location in Connection with Easily Searches

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Abstract— Location Tracking Systems are becoming very popular in the modern world. The growth of tracking systems scales great heights to facilitate the utmost customization in searching and finding everything under Global Positioning System surveillance. In this paper, we proposed a methodology that helps notifying the user through a message when the user crosses a store that sells the item which was searched by the user sometimes before. The proposed idea not only lists down the places or stores that are selling the searched goods, but also it pops a message in the cellular phone or alert the user when the user is close the proximity of the store that sells the products that the user searched earlier.

Index Terms—Global Positioning System, Location Based Service, General Packet Radio Service, Databases, Mobile Devices

I. INTRODUCTION

The predominant focus of mobile phones creation to make easy the voice communication, but recently the usages were changed; voice communication is just one small part of mobile phones usages. There are so many other major aspects of entertainment and advanced features also incorporated in the mobile phones. The mobile phones become very vital instruments and mandatory need of our day to day life. Two such important features are web browser and GPS services. Though these features were already implemented earlier but it was depends on the manufacturers and they controlled the access and hardware operations with their proprietary rights, the system does not allow the mobile user to access the phone hardware directly. But in the recent past, the evolution of android based open source mobile phones, a user can directly access the hardware and make their own application customization and install new API with web and GPS enabled services. Also the user can install applications such as camera, speaker, etc.

Throughout this paper, we are going to discuss about the various facilities available in android based phones and its implementations. First, let us discuss about the LBS, Location based service that provides a user with customized API by the users and track the current locations, such as the nearest restaurants, hotel, cinema theaters, which were received from spatial list stored remotely in the location based service server. The LBS not only serve the individual mobile users, but also play a very significant and vital role in public safety, transportation, ERT emergency response team and disaster management. GPS – Global Positioning System built-in with features with an increasing number of phone devices, LBS service has significantly grown in the recent past with its advance features and usages. Location Based System service is a mechanism that gives more details services depending on the recent or marked location through Google map technology. The location information of mobile users can be obtained through the service provider network or Global Navigation Satellite Systems (GNSS) [1]. Secondly, now let us discuss about the LTS – Location Tracking System seems to be an interaction of multiple technologies such as mobile phone telecommunication systems , Cell Identification, Global System for Mobile communications (GSM), General packet radio service (GPRS).

In this modern world, the development of mobile phone application is gaining a significant growth trend in the market with great performance parameters. During the past decade, the development of mobile devices has gained important progress with respect to memory capabilities, advanced processing system, last longing power, and highest transfer rates to name only a few performance parameters. Positioning and Navigation is most outstanding features that support greatly towards the growth of smart automation systems. The two features, Location Positioning and Telecommunications technologies lead to the basis of multiple real time applications that very smart and customized at present and may be expected more in the future.

The location information may be retained in one or many places in the telecommunication network and connected with the mobile node addressing information. If any request received without location based information service, the gateway can use the mobile node to provide location based services. LBS has requirements that challenge traditional data representation system. We consider particularly the areas of location representation, assets, gathering location data, location system architecture and location based queries, all of which are important to location based systems and are specializations and extensions of existing database issues [2].

II. LOCATION TRACKING SYSTEM

The Location Tracking system can be functioned with existing market mobile devices with communication networks such as GPRS and GSM. Fig.1 illustrates the functioning of Location Tracking System.

Fig. 1 Location Tracking System

A) Cell Identification

Cell Identification is a simple, cost effective and easy mechanism to give the Location details of mobile device. This feature functions in Wideband Code Division Multiple Access (WCDMA) and GSM based networks. It defines the serving mobile of Wireless Communication Network. The Location of Base tower is sent as a Location of mobile users. The accuracy of cell identification technique based on the density, size of cells. These systems have very small cells that have more precision in rural areas compared to the systems that have very large cells. 200 m to 20 km is the precision of cell identification that is not accurate. Cell identification accuracy may be high value by adding the strength of signal and Time advance. So, this mechanism is useful if the customer is either 500m or more than 500m from base station [3].

B) Global Positioning System

GPS is an important navigation system in world wide. It provides higher accuracy and precision. This system has communication networks of 24 satellites in different orbital routes spaced. So, at least five satellites are visible from each point. Trilateration is the base of GPS. A user can determine the Latitude, altitude and longitude of device. GPS gives much higher accuracy as compare to cell identification, but after every 5 sec it changes the location of device. So, it's responding time is very slow that is the major disadvantage of GPS. To calculate the exact location of GPS user, a user may get the correct position of satellites at any time. To locate device indoor is the other drawback of GPS. Generally, GPS works in outdoor but not in indoor [3]. Assisted GPS identifies the limitations of GPS for investigating a device indoor. Its receiver inside the cellular device may identify and demodulate the poor signals that are needed by GPS receivers. The GPS optimizes the air interface traffic. The main advantage of GPS is that the user may keep the data for privacy. The assistance to service providers can be restricted by the network operator [3].

II. PROPOSED SYSTEM

Now a day's mobile is an essential factor in our day to life. Whenever a need of an item, we should directly search the shops and check the item whether it is available or not. If the item was not found then have to search for other shops. When we do manually, this is a tedious job and consuming much of our valuable time. To overcome this problem, our new proposed idea helps the customers to locate the nearby shops through mobile. Also, when the customers cross the shop, they can receive a message in mobile through GPRS. For achieving this, each shop has to keep registered mobile number with GPRS. So that customer can easily track the shops to buy things. Now a days, Location based services are defined as a new emerging, promoted and valuable application for a mobile phone users. This feature helps someone to move in a right direction or route while travelling in a new place; also the push services, advertisement and marketing information are sent to the user to respective geo-locations, finally, LTS includes searching friends, child security, product security and for business prospective and vehicle tracking etc. Fig. 2 illustrates the identification of shop through Location Base System.

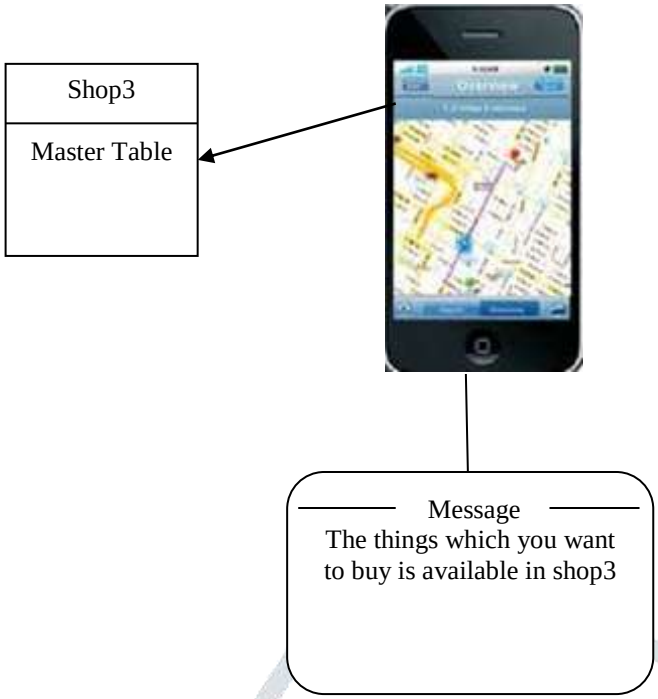

Fig.2 Identification of Shop through Location Base System

Methodologies:

- Type the requested item to buy.
- Master tables of nearest shops are verified with the requested list.
- If the requested item found that shops details will be notified to the user along with the distance.
- Minimum distance shops are located via GPS and user can reach shortly.

Fig. 3 illustrates the methodologies used in this paper.

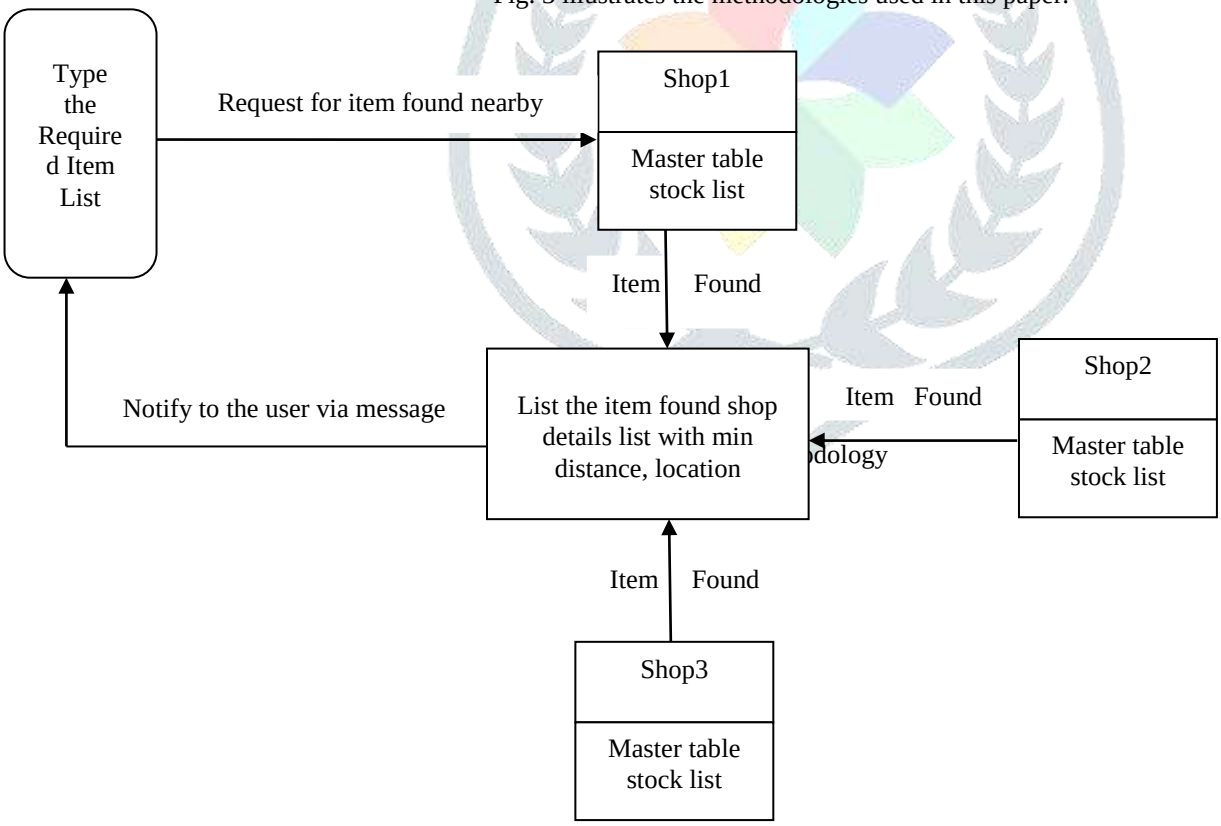

Fig. 3 Methodology

IV. CONCLUSION

In this paper, Location Tracking System has been proposed for identifying the kiosks to buy products via GPRS. In an existing system, there is no tracking system to identify the kiosk. In proposed system, various advanced technologies are used to track kiosks so that the customer can buy products in easy manner. The customers need not spend much time for tracking kiosks. This can be reduced by Location Tracking System.

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