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SPATIAL DATA SEARCH USING LOCATION BASED SOCIAL NETWORK

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Abstract

The introduction of mobile location in services of social networking that allows people to know which place they are at given time. Basically social network is social construction created up of individuals can connected by single or more particular interdependency types, like common interest, friendship. LBSN (Location based social networks) have engaged an excessive no of users and greatly improve the built-up in last few years. The spatial availability, secular and general information of online LBSNs helps unparalleled chances to learn different human behavior and allows a different type of location based services like location recommendation.

Existing work studied social and spatial influences on recommending location in LBSNs. Because of the powerful connection between check-in time of user and the relating check-in location, recommender system planned for location recommendation naturally need to examine secular effects. In proposed system our main aim is to create high advantage of LBSN to conclude user spatial secular activity inclination so as to supply customized context aware POI (Place of Interest) recommendation and to combine systematic identification of mobile theft system and changer profile of context aware.In our project we are going to implement 1. Identification of user mobile and profile construction, in which user can creates various types profile. 2. Implementation of service thread by the identity of user mobile and process of profile monitoring is implemented.3. Modeling of user preference on PFR is achieved by spatial and particular user secular activities. 4. Location Based services in integrated manner like profile management and theft.

Keywords: LBSNs, Place of Interest (POI), Profile Management.

1. Introduction

In pre – smartphones era, cell towers and cell ids were used to identify the phone location. It has been overcome by GPS that gives the user information such as their current exact location and closeby landmarks. GPS allows searching

different places in all over the world and closing by location [1]. Triangulation method is used in the GPS to identify the user exact location [2].The GPS provides the exact latitude and longitudewhich notify the user current location.The concept of GPS became a largely placed and more useful tool for scientific uses, tracking, etc. GPS is totally related on time. The satellites transfer blocks of atomic which are synchronized and stable. Satellites of GPS move the data continuously and that gives the present position and time. A receiver of GPS correlate with no of equations and satellites are answered related on values collected to decide the exact position of receiver and its delay time.The think of using the phones and mobile handsets is to bring thegood services excluding the basic communication that services started at 1990s when the service of internet was joined in voice telephony [3].LBS (Location Based Services) give the customized services related to their present location to mobile clients. They also give new area for operators of cellular service network, developers, and provider of services to develop and give value added services: guiding the present traffic condition to clients.Providing information of routing, helping to user to identify close by shopping malls [4].This proposed system is created on the base of "Location based services on smart phone using Android application." and is been sketched to be robotic by the GPS Services given by the manufacturers of smart phone and utilizing the smart phone internet services.

The inspiration is that to give application to user based on the android environment that does not care her/him to change their phone profile related on that place but allow them to set predefined profile for that location and it would be automatically updated once user reaches that place, at the same time when user start from that location the predefined profile will be changed to normal or default mode [5][8].This process can be feasible because of the fast extension of the global system of location positioning and wireless communication system. Basically we know android platform is a open source it permit to anyone can create application based on the android environment and can use it for particular purpose on the running android devices [6][7]. In this proposed system we have designed an application that will provide the automatic profile change.

2. Related Work

Author et al inspected [9][10] the social, geo-social and geographic properties of four social related networks (Foursquare, BrightKite, Twitter and Live Journal). Noulas etal analyzed [11] the spatio-temporal presence pattern and user check in dynamics in Foursquare. Author Cheng et al studied [12] Foursquare user mobility patterns and disclosed the part affecting mobility of people's. Author Vasconcelos et al investigated [13] how users of Foursquare utilized three features (these are dones, to-dos, and tips) to expose various behavior profile.

To exposing LBSNs group profile only two works aimed for that. Author Li et al suggested [14] two various clustering approaches to recognize patterns of user behavior on BrightKite. Author Noulas etal used [15] an incorporeal clustering algorithm for grouping foursquare users related on the venues categories they examined in, focusing at finding communities and specifying the activity type in every city region. Even though the studies of aforementioned helps important perception into user interaction properties in LBSNS, other them worked over identification of overlapping community using node attributes and network links.

Our aim of work is to charge in this space by profiling and locating communities based an overlapping manner. Prathamesh Hule, Vedang Moholkar, Sumit Sourabh and Vedang Moholkar [16] proposed automatic service to smart phone users based on the location. They concentrated on creating anapplication that gives friends location, profile changing, and if both people have similar application on their smart phones it allows remember the particular person and place they are going to meet.

It will save more time for both person and also waiting time headache for other person to come by application.Archana gupta, Mohammed Abdul Qadeer, and Sandeep Kumar [17] analyzed about constructing application which will give the geographic location information to users who are going abroad or within their country and are not mindful of particular places, their suggestion specified that if such that application is constructed then user no need depend any tourist guide for guiding the location and places when taking tours for any country.

It will be possible when the application is constructed based on their suggestion.Pooja Jain, Abhishek Shakwala and Pankti Doshi concentrated [18] on theproviding similar things of similar services of identifying the closest hospitals and gas filling stations etc. by the mobile phone application construct for the motivation. They also proposed the integration API of Google maps in application to get location more understandable and more clearly format. Different types of Goggle maps related APIs are obtainable such as satellite view, map view and Grid view and so on.

Specific map integration will allows the user to identify the location clearly from the user place, and also it will show the clear route map to user by help of Google maps.

3. Proposed Work

3.1 Overview

In the proposed system we create application with location based integrated services which includes novel user STAP (Spatial Temporal Activity Preference) model for customized poi recommendation, an well planned framework for identification of theft and a situation aware methodology for robotic profile management, leveraging memory utility

and battery consumption. First, for minimize the complexity of problem; we individually consider the temporal and spatial attribute of user preference activity in LBSNs. Second, to catch the features of spatial, instead of separating city into mesh cells; we construct Regions of Personal Functional for check-ins of each user, which can be used to conclude ones preference spatial activity.

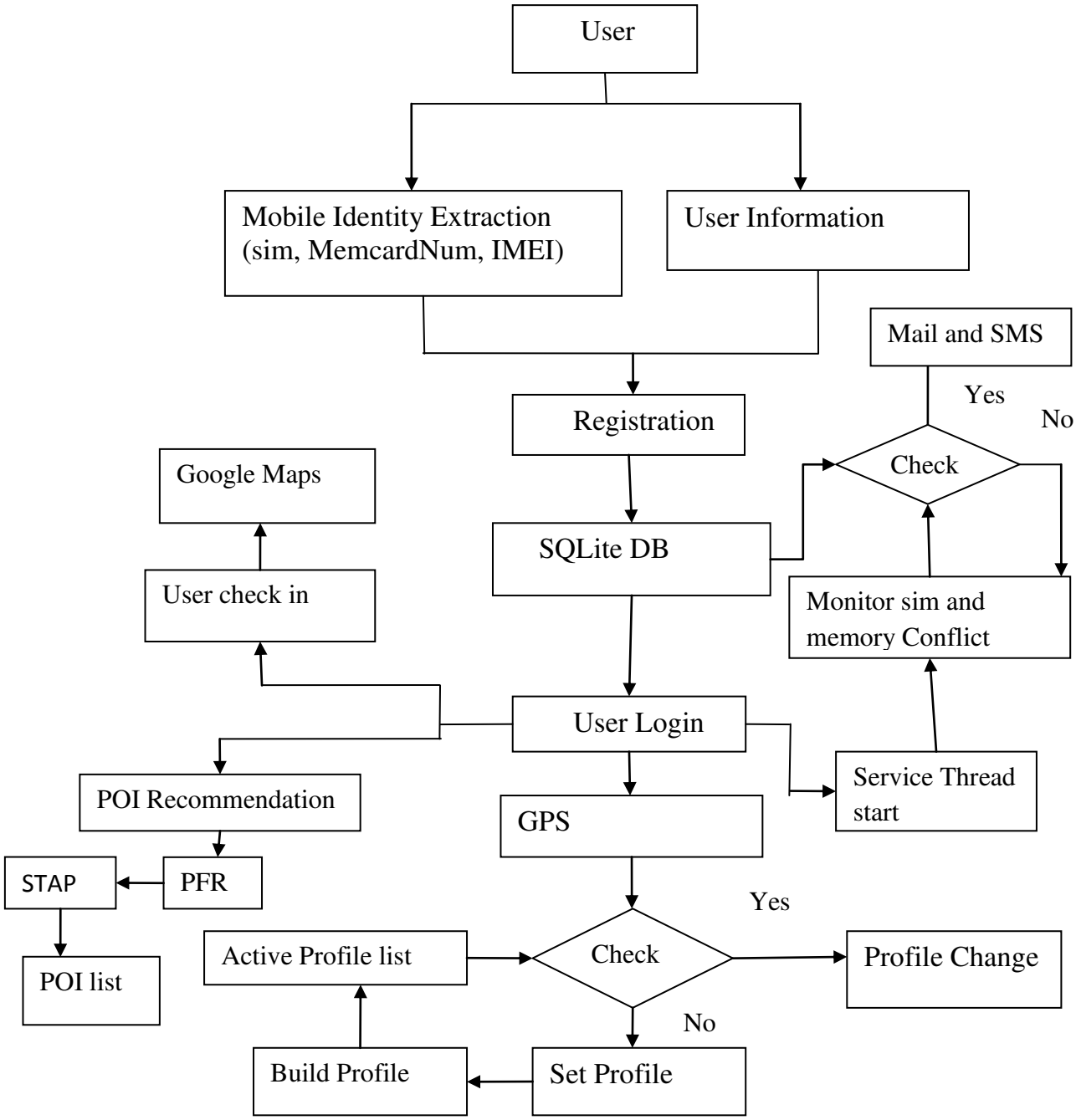

Figure-1: Location Based Social Network Technique.

Third, to solve the problem of data sparsity in catching features of temporal, we utilize other activities of similar user and collaboratively construct one's preference model of temporal activity. Lastly, a framework of context aware is suggested to join them jointly. Framework of theft identification is applied as background service and it executes always on the device as service thread. This service of LBSN is arranged as light weight implementation process for minimize the memory and less battery for location based multiple services.

3.2 Context Aware Profile Monitoring and Service Thread

The mobile identity of user andmonitoring process of context aware profile is applied by service thread that executes in background. Even if the mobile device gets restarted the service thread executesforever by boot complete receiver.Continuously the service classwatcheslocation of GPS and activates the close presence profile. It additionally checks number of memory card, IMEI, and sim number continuously.

3.3 User Preference Modeling Based on PFR

Modeling of preference is achieved by secular and spatial activities ofspecific user in the independent way and then collaborate together (freq = Au,r/Au >= sfreq). Check in of user is arranged in descending order and estimated for PFR for every check in by taking the close by region thorough the check in. Here collaborating filtering is used to calculate the secular preference by utilizing similar preference of user and estimated for scheme preference in a week for all one hour time. Preference of temporal activity is estimated based on the similar user temporal patterns.

3.4 Integrated Location Based Services and Personalized POI

All the service related to location is considered above are united together as location service is used by services in a constant way when it runs independently. The thread of service constantly checks the SIM nos, GPS, IMEI, No of memory card for changing the automatic profile. Customized poi recommendation and theft identification and advises user by forwarding email and sms to registered alternate email and mobile number provided.

The secular and spatial preference type extracted is collaborated together to provide a poi recommendation in personalized way. The recommendation of POI is identifying by the closest PFR from current location of user and the secular pattern is estimated for preference of user activity and respective interest points will be recommended to user based on the Top Down Scenario priority.

3.5 Individualized POI Algorithm

Algorithm 1: BPP (Breadth-first Preference Propagation
Input: user u1, time t1, GTAG graph Gt1, recommendation size k1
Output: Top-k1 POIs as results of recommendation
1 Q1 ←nodes queue to be visited;
2. N1 ← node set of visited;
3. pushu1 into Q1;
4. while Q1 is not empty do
5. n1← Q pop head node;
6. if n1∈ N1 then

7. continue;

8. if n1 is not a session node of users who distribute at least one POI with user u1 then

9 add n1 into N1;

10 _rn1← 0;

11 foreach n1_∈ An1 do

12 if n1_ _Lu1 and n1_ _N and n1_ _Q1 then

13. Q1.push(n1_);

14 $rn1\_ \leftarrow rn1\_ + rn1 \cdot wn1,n1\_$;

15 if $n1\_ \in Q1$ *and* $n1 \in An1\_$ then

16 $\_rn1 \leftarrow \_rn1 - rn1 \cdot wn1,n1\_ \cdot wn1\_,n1$;

17 $rn1 \leftarrow \_rn1$;

18 return top-*k1*POIs in *L1–Lu1*related on recommendation scores;

4. Result and Discussion

In this paperour aim isprovide a service based on location by Using GPS Enabled Smartphone. Here we demonstrate our experimental result in graph and show some output sample of our project. This result will show our proposed system provide a better services to user based on the exact region.

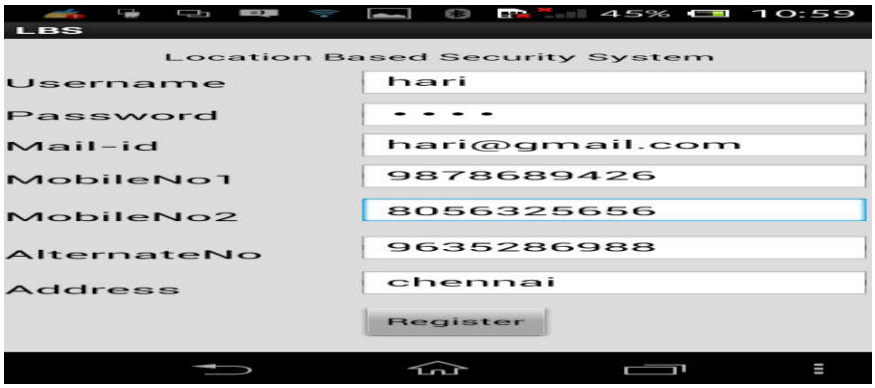

Figure (2) show user register with location based security system.

The above shows registration process of user. First two mobilenumber and alternate number isused securable for mobile theft and using personalized POI.

Figure (2) show Smartphoneactive profile screen.

The above figure shows Smartphone active profile display settings. This setting defines for secure purpose. Offline mode active somephone context acting in Smartphone.

Table (1) shown comparison propose and existing technique result in accuracy percentage.

Technique	Process time in sec			
	1	2	3	4
Existing	65	70	80	85
DWT	60	65	70	75
RIDH	55	60	65	65

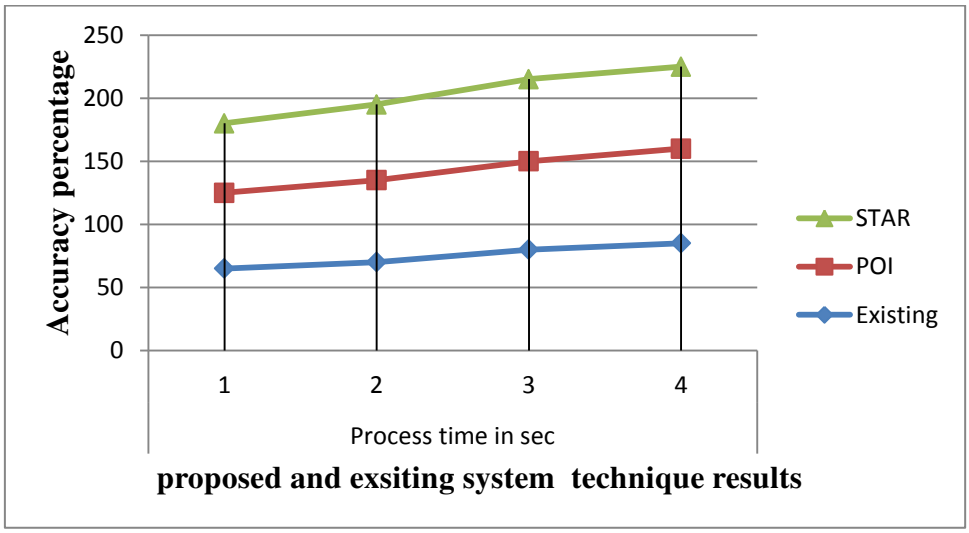

Figure (3) compares proposed and existing result in accuracy percentage.

Table (2) show overall result compare between proposed and existing system.

Technique	**Efficiency**	**Quality**
Proposed	80	90
Existing	60	70

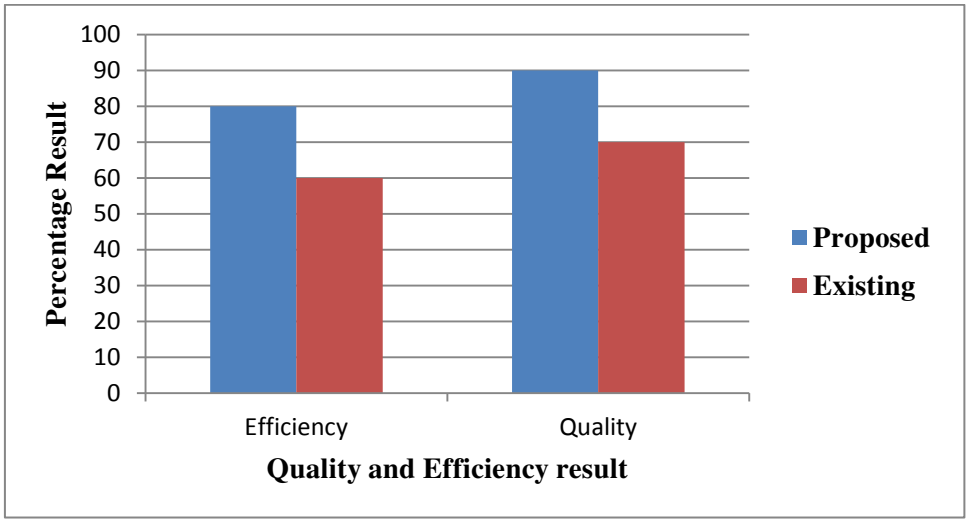

Figure (4) Quality and Efficiency of Proposed system.

5. Conclusion

Integrated service allows increasing the memory utility and battery efficiency.When applications considering similar resource or services are combined to create integrated services, user can be acquiring services by the single touch of smart phone application. Understanding user activity preference based on the spatial secular can advantages users by giving them with location related services. In this proposed system we proposed STAP (Spatial temporal activity preference) model. To minimize the complexity of issues STAP consider the user activities secular and spatial characteristic by initiate the spatial specificity notion and correlation of temporal. First we describe regions of personal functional to quantitatively estimate one's partiality bias in he/her visited places and operate them conclude preference of spatial activity. Second correlation of temporal recommends that user with similar preference activity at the similar time. Lastly, we suggest a framework of context-aware fusion to create best advantage use of both features in inference of activity preference.

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