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Location based Social Networks using Spatial Computing

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ABSTRACT

Now a days we are using various type of social networking .which include only friends and relatives, not including unknown person without our permission .But the Growth of social networking is location based services. It includes both location and social networking. In the Exiting system, we are using unweighted graph. so we can't get exact solution. In order to overcome this problem, we move on to weighted social graph which leads to get an exact solution. Here we are using Enhanced SAR tree algorithm which is used to branch and bounding the users in the group. Then K-Cover group algorithm which is used to retrieve the minimum number of users in the group.

Keywords*:* *KCG Finder Algorithm –K cover group, Spatial Computing, R-tree algorithm, Geographic information system.*

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1. INTRODUCTION

In the era of mobile development, Social computing technology has reached the next form of getting collaborated. Spatial Computing is a set of ideas and technologies that will transform our lives by understanding the physical world, knowing and communicating our relation to places in that world, and navigating through those places. Location-based social networks (LBSNs), Geo-crowd sourcing, activity planning, group decision making, and disaster rescue are application of collaborative social computing. One of the most important applications of collaborative social computing in the database field is social queries, which are attracting increasing interest from both industrial and academic communities. One of the most important applications of collaborative social computing in the database field is social queries, which are attracting increasing interest from both industrial and academic communities. The proposed social queries which take as inputs a set of query location point and certain social acquaintance constraint and return a set of users with minimum location distance while satisfying the social constraint. We formally define a KCG query to capture natural requirements driven by the real-life applications. For the social factor, instead of finding a group whose associated regions jointly cover a set of query points. Here we quantify the desire social relationship

within a user group in terms of k-core. And also we propose a novel index structure, known as the Enhanced SaR-tree. It is easy to extend our algorithm to support the case where each user has multiple associated regions. The following branch and bounding process remains the same as the case where each user has exactly one associated region.

2. LITERATURE SURVEY

The paper "Density-based placed clustering in geo-social networks" [14] says about the Spatial clustering deals with the unsupervised grouping of places into clusters and finds important applications in urban planning and marketing. Current spatial clustering models disregard information about the people who are related to the clustered places. In this paper, we show how the density-based clustering paradigm can be extended to apply on places which are visited by users of a geo-social network. Our model considers both spatial information and the social relationships between users who visit the clustered places. After formally defining the model and the distance measure it relies on, we present efficient algorithms for its implementation, based on spatial indexing. We evaluate the effectiveness of our model via a case study on real data; in addition, we design two quantitative measures, called social entropy and community score to evaluate the quality of the discovered clusters. The results show that geo-social clusters have special properties and cannot be found by applying simple spatial clustering approaches. The efficiency of our index-based implementation is also evaluated experimentally. Drawback in this paper, there is influence of the time-span of user visits to places and the multiplicity of user visits to a place to cluster places.

The paper "Socio-Spatial properties of online Location-Based Social Networks" [8] says about The spatial structure of large-scale online social networks has been largely un accessible due to the lack of available and accurate data about people's location. However, with the recent surging popularity of location-based social services, data about the geographic position of users have been available for the first time, together with their online social connections. In this work we present a comprehensive study of the spatial properties of the social networks arising among users of three main popular online location-based services. We observe robust universal features across them: while all networks exhibit about 40% of links below 100 km, we further discover strong heterogeneity across users, with different characteristic spatial lengths of interaction across both their social ties and social triads. We provide evidence that mechanisms akin to gravity models may influence how these social connections are created over space. Our results constitute the first large scale study to unravel the socio-spatial properties of online location-based social networks. The drawback of this paper is Unable to understand the how such heterogeneity arises in correlation with the temporal evolution of the social network, as users spend more time on the service

The paper "THE Where AND When of finding new friends: analysis of a location-based social discovery network" says about the With more people accessing Online Social Networks (OSN) using their mobile devices, location-based features have become an important part of the social networking. In this paper, we present the first

measurement study of a new category of location-based online social networking services, a location-based social discovery (LBSD) network that enables users to discover and communicate with nearby people. Unlike popular check-in-based social networks, LBSD allows users to publicly reveal their locations without being associated to a specific "venue" and their usage is not influenced by the incentive mechanisms of the underlying virtual community. By analysing over 8 million user profiles and around 150 million location updates collected from a popular new LBSD network, we first present the characteristics of spatial temporal usage patterns of the observed users, showing that 40% of updates are from the user's primary location and 80% are from their top 10 locations. We identify events that trigger bursts of growth in subscriber numbers, showing the importance of social media marketing. Finally, we investigate how usage patterns may be utilized to re-identify individuals with e.g. different identifiers or from datasets belonging to different online services. We evaluate re-identification by usage, spatial and spatial-temporal patterns and using a number of metrics and show that the best results can be achieved using location data, with a high accuracy: our experiments demonstrate that we can re-identify up-to 85% of users with a precision of 77% using monitored spatial data. Overall, we find that although users exhibit strong periodic behaviour in their usage pattern and movements, the success rate of re identification is highly dependent on the level of activeness and the lifetime of the users in the network. Drawback of the paper is It does not support a large groups and It requires re-identification.

3. TECHNICAL GLOSSARY

3.1 Local Based Services

Location Based Services (LBS) is a service that integrates location and otherinformation relating to the current location to the user. Geospatial data identifies the geographic location of features and boundaries on Earth. Spatial index can be used for indexing geographic data. Spatial indexes can improve spatial query efficiency. Using the spatial index method is suitable for the huge volume of data. There are many spatial index methods such as R - trees.

3.2 Query processing

The retrieval of information from a data base according to a set of retrieval criteria, the database itself remains unchanged. In the context of a specific query language, the technique of translating the retrieval criteria specified using the language into the more primitive database-access software, including a selection among different methods to choose the most efficient in the particular circumstances.

3.3 Group Queries

A Grouping Query is a special type of query that groups and summarizes rows:

SELECT * FROM table WHERE condition GROUP BY column [, ...]

A Grouping Query groups, rows based on common values in a set of grouping columns. Rows with the same values for the grouping columns are placed in distinct groups. Each group is treated as a single row in the query result. The geometric properties (e.g., shape, location) of the group are relatively stable.

4. PROBLEMS IN EXISTING SYSTEM

In Existing system, the Social graph is unweighted, and here we can't get exact solution. Even though, while creating the group based on location or social network, it will be created approximated only. In this system, the partial results may not identify all the profiles that correspond to the user group. Demerits of the existing system are though it is the single user system it won't have the collaboration with social networks. The main problem of this system is sharing reviews or sharing the information within the group members is not efficient.

We cannot organize the user chat according to the names of the persons. The time consumption has not been maintaining here.

4.1 proposed system

In this system, [9][14]we have proposed the Social graph is weighted, so we can get exact solution. While creating the group based on location or social network. And the proposed system is used to improve an efficient approximation bound. It serves user's needs in a consistent and transparent manner. It should cater the needs of information sharing. The main objective of this system is to detect or identify groups based on the location and the social networks and sharing reviews or sharing the information within the group members. To reduce accident risks and who have relatively tight social relations in order to make the chat more trustful and more harmonious. It allows the users to exchange their reviews in an effective manner. It should have all traditional things such as chat, comment, etc. For the admin part they have the rights to remove the users from the database registry. In this system the users can view the conversation by name wise. So the time consumption process is maintaining here.

4.2 System architecture

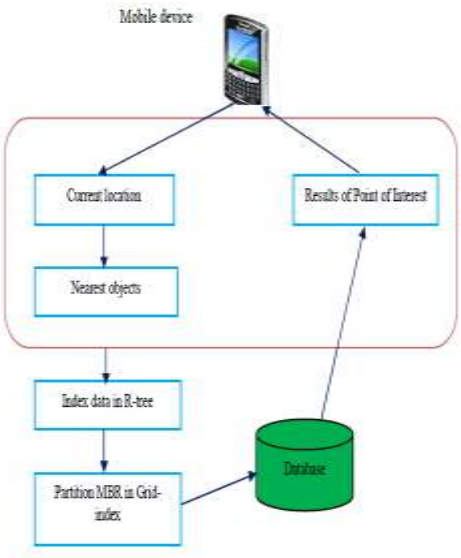

Fig 1 System architecture

The user location is found by tracking the IMEI number of his/her mobile. The data set has been mined from the data base. A profile will be created in the database for each new user. The admin is able to track or gather the information of a moving object in a particular location by monitoring or getting instructions from the user. This gathering pattern process is done through online so, that the updating process of the moving object will be faster.

5. ALGORITHM DETAILS

A. *KCG Queries*

To satisfy the minimum cardinality requirement of KCG query, is to process the user groups in increasing order of group size and return the current group as soon as it is valid. It is to find the relationship between the users and their locations.

B. *Social aware Based R Tree*

This algorithm is used to indexes both spatial locations and social relations. And also it is used to find the optimal solution.

C. *Enhanced SaR-Tree*

Enhanced SaR-Tree was mainly developed to support both location as well as social networks. In that there are two bounding, core bounding rectangles (CBRs) and minimum bounding rectangle (MBR) that includes the social information and a minimum bounding rectangle(MBR) that includes the spatial information as in an R-tree.

1. MBR(p)←The minimum rectangle containing all points in P;
2. Initialize H with the root of rtree;

3. While H has non-leaf entry in H;
4. For each child entry e' of e do
5. If MBR(P) intersection e. MBR equals α
6. H.push(e');
7. $V_{H<}$.The set of users represented by the entries in H;
8. Return KCG Finder (P,K,G[v_H]).

5.1 ADVANTAGES

Here groups are created based on the location and the social networks, so the interaction within the group will be more efficient. Users can query about their surroundings based on current locations at any place, any time. Then the server sends the corresponding reply to the user. The user will get the point of interests with details.This proposed system is the Multi User system. It has been collaboration with social networks. We can able to separate the various groups and can chat with in the group members.

6. . EXPERIMENT RESULT & DISCUSSION

1. Creating the User Account in the LBSN

In the authentication phase each have register and login into the application

In this project we are getting the details like Name, User Name, Password, Gender, Email ID, Location, Mobile Number, Social network from users. If the user didn't enter their details, while submitting the form, the validation takes place over the registration. After entered the details as per the validation, the user can register his account.

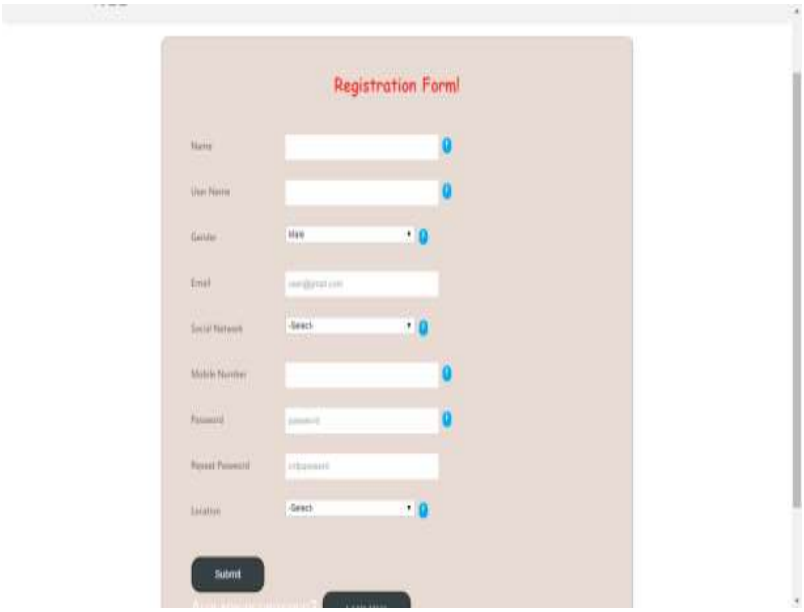

Figure 2.

Fig 3 User Login

2. User Activities in LBSN

In this part the user can share their reviews and the information within the group members about the location and issues which happened in the particular location. And the users can be allocated automatically in the group which is created by the admin. The group is based on the input named social network which is getting from the user while registration. in the comment part the user can send their reviews to that photo which is uploaded by the admin. The sent comment will be displayed like a table which will be visible to the users who all are in the group. Through this part the user can interact with the admin.

Fig 4 User page

Fig 5 Upload a photos

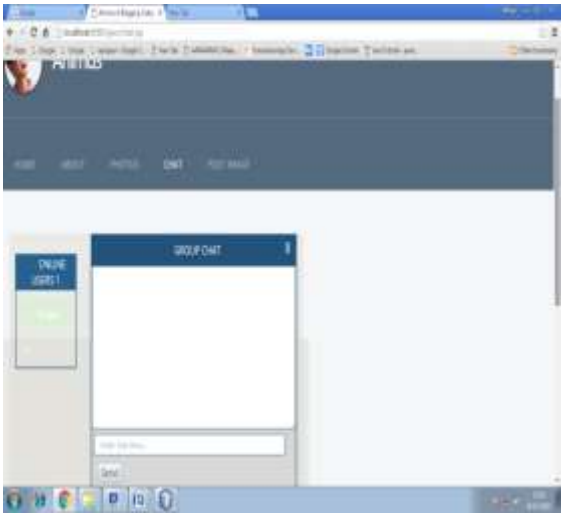

Fig 6 user group chat box

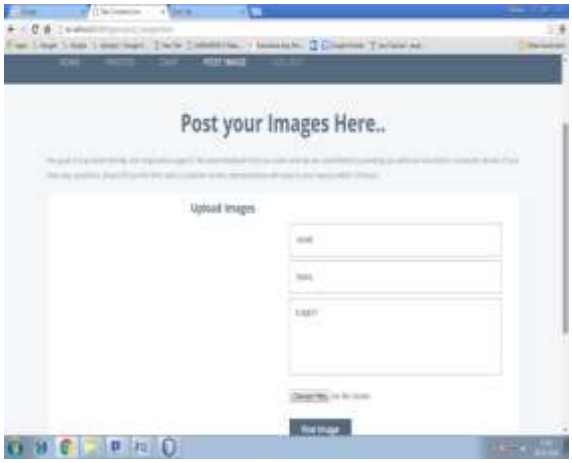

Fig 7 Post images

3. *Creating a user group in the application by admin*

After login, the admin will upload the image which will be visible to all the users in the group. And also the user can send their comments to that image. The admin will manage the group which will be created based on the input while got from registration. The admin can view the queries which were raised by the users. The admin can see the details of the users which were given in the registration.

To manage the group admin uses the

- Enhanced SAR tree
- KCG quires

6. CONCLUSION

This paper proposed system as weighted social graphs that improve the performance of the chat system and improve information sharing in efficient way and secure. Future enhancement work in this Then optimization of this chat System is portable to particular Chat service to convey the message. We have some additional features to deliver by more attractive to the user experience. Our future enhancement is the evaluation of a system for location based social applications (LBSAs) while preserving user location privacy. It will provide location privacy for users without injecting uncertainty of the system, and does not rely on any trusted servers or components. Overall, we will believe that this system will take a big step towards making location privacy practical for a large class of emerging geo-social application.

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