Optimal Meeting Point Notification for Moving groups of Users In Network Region

Hrishikesh Nikam[1], Vishal Pawar[2], Snehal Jadhav[3],Suraj Agarkar[4]

Department of Computer Engineering
Trinity Academy Of Engineering Pune, Maharashtra, India

---***---

Abstract - *In Efficient notification of the meeting points for moving groups of user required time to call everyone to finalize the meeting point. This is the time consuming and costly process. They won't be an essential need to call everyone for finalize the meeting point. User finds the meeting location exactly. Due to his particular safe region, with the help of Trilateration and Haversine algorithm brings to find location. Circular safe region of algorithm widely helps to find the user current location. The notification sends to all groups of users and users check the meeting point. After getting the alert from an application, particular user will be ready to reach that destination i.e. meeting point which is optimal in nature. Thus, to minimizing the communication frequency and also reducing the unnecessary computational work load at server.*

***Key Words*: Query processing, spatial databases, Shape, Processor, Architecture, Servers, Mobile Processor, Parallel Architecture.**

1. INTRODUCTION

In proposed system, we study the continuous monitoring of moving groups of user in network region. The safe region concept has been extensively studied for saving the communication cost on processing continuous queries. Safe region gives users optimal location and calculate the optimal meeting point for every group of the user, using the divide and conquer algorithm. Due to availability of inexpensive position locators, cheap network bandwidth And mobile devices with computation and storage capabilities, location based services are gaining increasing popularity. We are trying to create real time application. This application reduces the frequency of communication. Finding optimal meeting point in real time to reduce time exhaustion.

1.1 Existing System

Previous work on moving query processing can be classified into two categories: Report query results to a single user continuously, e.g. kNN, circular range queries, moving window (rectangle range) queries [5], [3]. Number of messages exchanged between the server and the moving objects. Intuitively, although in practical applications there exist numerous objects that move with arbitrary velocities toward arbitrary directions, we only care about the ones that may influence some query (i.e., they may be included in the nearest neighbor set of some client). For the rest of the objects, we do not need up-to-date information; by dealing with the certain methodology, we can avoid the continual transmission of a large number of rapid data streams corresponding to the location updates. [4] Detect relationships among moving objects. E.g. Proximity detection, constraints monitoring. [6] In previous system proximity detection solutions either incur substantial location update costs or their performance does not scale well to a large number of users.[6] They present a centralized proximity detection solution that assigns each mobile client with a mobile region then design a self-tuning policy to adjust the radius of the region automatically, in order to minimize communication cost. In addition, they analyze the communication cost of our solutions, and provide valuable insights on their behaviors.

1.2 Proposed System

We propose a novel monitoring problem, Efficient Notification of Meeting Points (ENMP) for multiple moving users: given a group of moving users U, a set of points of interest (POI) P, ENMP continuously reports the optimal meeting point p to users in U such that their maximum distance toward po is minimized. ENMP is motivated by many applications in social networks, location-based games and massively multi-player online games. A real application relevant to ENMP is EchoEcho2, invented by

Google Venture. EchoEcho assists users to browse their friends' real-time locations and share their own. As a highlight feature, Echo Echo allows a user to continuously observe his/her friends 'locations regarding to a predetermined meeting point. Mobile users with such interests have also been investigated in the collaborative system research.

2. . Preliminaries and System Architecture

We first provide the definitions for distances, the optimal meeting point, and safe regions. Unless otherwise stated, we denote both a user and her location by ui .Table1 summaries the notations to be used throughout the paper.

Definition 1 (Distances): Let kp be the Euclidean distance between points p and l. The minimum distance and the maximum distance from a point p to a set/region S.

Definition 2 (Optimal meeting point): the point in P with the smallest ||p0,U|| Given a group of users U and a data set of points P, the optimal meeting point p0 is max . It is also called MAX-GNN [21].

Definition 3 (Independent safe region group): Let m be the number of users in U. A group of regions R is said to be independent if the optimal meeting point p0 is the same for every instance of user locations.

Definition 4 (Maximal safe region group): R said to be a set of maximal safe regions if no other (independent) set of safe regions R' satisfies: R 'is not equal to R*.

Table -1: Notations:

Notation	Meaning
U	a group of users
P	points of interest
U	a set of safe regions for U
R*	a set of maximal safe region

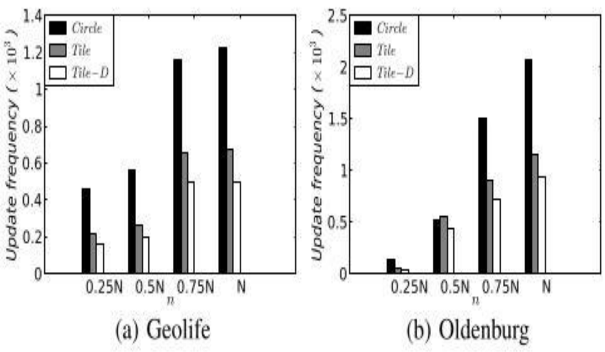

Chart -1: Vary group size m.

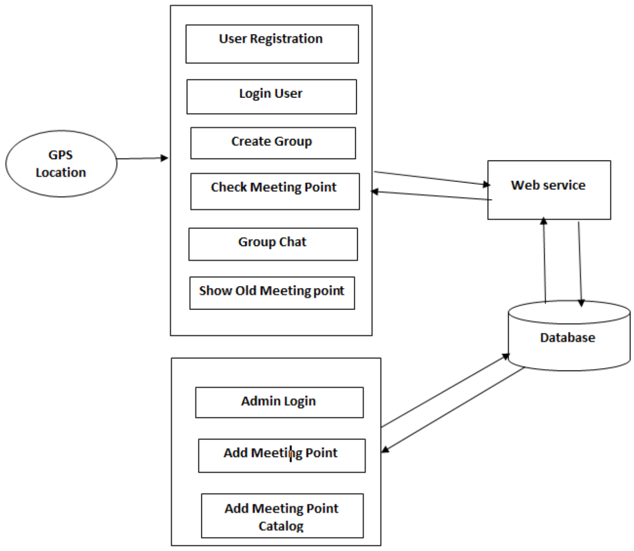

Fig -1: System Architecture

3. CONCLUSIONS

In this proposed system, we are focusing on minimizing the communication cost for monitoring the optimal meeting point for a group of users. We propose the concept of independent safe region group, in order to reduce the communication frequency of users.

ACKNOWLEDGEMENT

We express deepest gratitude to our project guide Prof. P. R. Patil who modeled us both technically and morally for achieving greater success in life. As a mentor and torchbearer, he guided us to overcome the odds and evens faced during the project work. The supervision and support that he gave indeed paved the path for the smooth completion of the project.

We are deeply indebted to our Head of the Department Prof. S. N. Maitri and to our project Co-ordinator Prof. R. R. Ranawre for their unwavering moral support and motivation during the entire course of the project.

We would also like to thank our Principal Dr. V. M. Wadhai who encouraged us and created a healthy environment for all of us to learn in best possible way.

We also thank all the staff members of our college and technicians for their help in making this project a successful one.

REFERENCES

[1] D. Papadias, Q. Shen, Y. Tao, and K. Mouratidis, Group nearest neighbor queries, in Proc. IEEE Int. Conf. Data Eng., 2004M. Young, The Technical Writer's Handbook. Mill Valley, CA: University Science, 1989.

[2] R. Nicole, "Title of paper with only first word capitalized," J. Name Stand. Abbrev., in press. H. G. Elmongui, M. F. Mokbel, and W. G. Aref, Continuous

aggregate nearest neighbor queries, GeoInformatica, vol. 17, pp. 6395, 2011.

[3] M. A. Cheema, L. Brankovic, X. Lin, W. Zhang, and W. Wang, Multi-guarded safe zone: An effective technique to monitor moving circular range queries, in Proc. IEEE Int. Conf. Data Eng., 2010, pp. 189200.

[4] X. Yu, K. Q. Pu, and N. Koudas, Monitoring k-nearest neighbor queries over moving objects, in Proc. IEEE Int. Conf. Data Eng., 2005, pp. 631642.

[5] Y. Tao, D. Papadias, and Q. Shen, Continuous nearest neighbor search, in Proc. 28th Int. Conf. Very Large Data Bases, 2002, pp. 287298.

[6] M. L. Yiu, L. H. U, S. Saltenis, and K. Tzoumas, Efficient proximity detection among mobile users via self-tuning policies, Proc. VLDB Endowment, vol. 3, no. 1, 2010, pp. 985996.