



UI to Access Server Information based on Location

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Abstract: In recent years, there has been a large variety of applications of crowdsensing in mobile social networks and vehicle networks. As centralized learning methods cause unreliability of information assortment, high price of central server, and concern of privacy, this majorly motivated to use distributed servers using distributed algorithms and network analytics. It is dedicated to develop a possible framework that expeditiously and accurately learns the parameters in crowdsensing networks, well generalizes the previous learning ways during which it supports heterogeneous dimensions of information records determined by totally different nodes, similarly as supported non-smooth error functions. Specifically, implementation uses a completely unique Distributed Record Completion rule that permits every node to get information by communicating with neighbors, and a Distributed Data Acquisition that achieves the potency of minimizing traffic, delay, noise. Distributed server concept tends to evaluate the performance of the framework with experiments on artificial and real-world networks.

Index Terms – Distributed Algorithms, Distributed Record Completion, Distributed Data Acquisition.

I. INTRODUCTION

Heterogeneous networks are interconnected with nodes and links of different network types. Nowadays, different types of access networks which are available are used by end users to connect to internet. Users must be connected with seamlessly network connectivity while moving from one place to another. Crowd or Traffic which is formed when more number of users is accessing the application is known as crowdsensing Network. Crowdsensing is generally referred to as mobile crowd sensing which lets individuals to sense and compute data and extract information, analyze and process based on their common interest. Accessing and retrieving the information in one server is difficult, which leads to server crashes, server gets down. To overcome all the issues distributed server concept is proposed. Compared to centralized computer distributed server provide better performance.

II. LITERATURE SURVEY

Mobile computing stimulates a research on wireless Indoor Localization. Room level location based services were introduced. Example: locating a person, printer in a office building. It utilizes Received Signal Strength for location Determination. RSS fingerprints can be obtained using wireless equipments like wifi, zig bee. Engineer records RSS fingerprint at each location and can build fingerprint database in which fingerprint can relate the location where they are recorded [1].

Mobile crowdsensing facilitate people's life in various aspects. Applications provide high Quality of Service(QoS). Smartphone users have heterogeneous costs across sensing area. User with different area has different cost distributions. Mobile Crowdsensing allow smart phone users to collect diverse information such as location, sounds, images with which researches realize sensing application to facilitate peoples life such as traffic monitoring, population monitoring, social networking. The paper aims to maximize the minimum user cardinality across all ROIs[2].

[3] Paper introduces number of utility models representing user's strategic behavior each consisting of 1 or both truth element or image element, reflecting the user's desire to get an accurate view of others. The paper focuses on two specific applications to motivate the study. The first application is the class of online and shopping community where the rating and reputation system are routinely used. E.g. Amazon, e-bay. The second application comes from the use of Internet Host Reputation Block List (RBL). Example of such system includes scanning detection, firewall logs. It is commonly used by network administrator to configure access control lists. Paper shows that centralized solution is not achievable. Most of the mobile users expect seamless network connection with low cost. This can be achieved by using accurate received signal strength map of wireless access points. Existing methods are either costly or unscalable. Mobile Crowd sensing is a promising technique of building RSS maps. Mobile crowdsensing network can be built using iMap to collect RSS measurements with heterogeneous mobile devices. Crowdsensing applications usually require high network bandwidth for data transmission. This information can be obtained from the Received Signal Strength (RSS). It is non-trivial to collect complete RSS data in large areas, and many researchers have put their efforts to achieve it [4].

III. PROPOSED SYSTEM

In real world mobile devices are likely to be located over enormous space which makes it both energy consumption and prone to error for central server collecting data from mobile devices, dealing large volume of data by centralized algorithms requires expensive data center configurations which posses huge memory for both data storage and for processing, managing data by central servers leads to privacy information leakage. To overcome all the issues distributed servers are implemented using different algorithmic techniques. It is mainly used to search the location based on servers. Existing system uses only one server for particular location. Crowdsensing network refers to crowd or traffic which is formed when more number of users is accessing the application. It causes server crashes, server may slow down. To overcome all the issues the proposed system uses multiple server concepts. Proposed system is implemented on one of the real time applications such as hotels, where hotel database is distributed at different locations based on distributed server concepts. Admin can add hotel details at different locations. Let us considers three different locations such as Chennai, Bangalore, and Mumbai. Admin has to set the server for each location based on distributed algorithms like Distributed Record Completion Algorithm (DRC), Distributed Data Acquisition Algorithm (DDA). Server for each location is different. DRC Algorithm allows each node to communicate with each other to complete the data on the condition on successive observation is required. Distributed Dual Averaging Algorithm is implemented to remove error functions, noise, to improve accuracy and efficiency of crowdsensing networks. Sub gradient method used for solving non-smooth optimization has time efficiency. During server setting for each location DDA Algorithm is implemented to distribute multiple servers at each location. Server Distribution is based on network size and Topology. Convergence rates are calculated under the following conditions:

a) For k- connected paths and cycles,

$$f(x_{bi}(T)) - f(x^*) = O_{RL} \sqrt{T n \log(T n) k}.$$

b) For k-connected $\sqrt{n} \times \sqrt{n}$ grids,

$$f(x_{bi}(T)) - f(x^*) = O_{RL} \sqrt{T \sqrt{n} \log(T n) k}.$$

c) For random geometric graphs with connectivity radius.

$$r = \Omega(q \log 1 + n/n) \text{ for any } q > 0, \text{ with high-probability}$$

$$f(x_{bi}(T)) - f(x^*) = O_{RL} \sqrt{T r n \log n \log(T n)}$$

K nearest Neighbor is used to identify the nearest location of the hotels. It helps to find out nearest neighbor so that it will be helpful for the user to identify nearest hotels nearby to the users location.

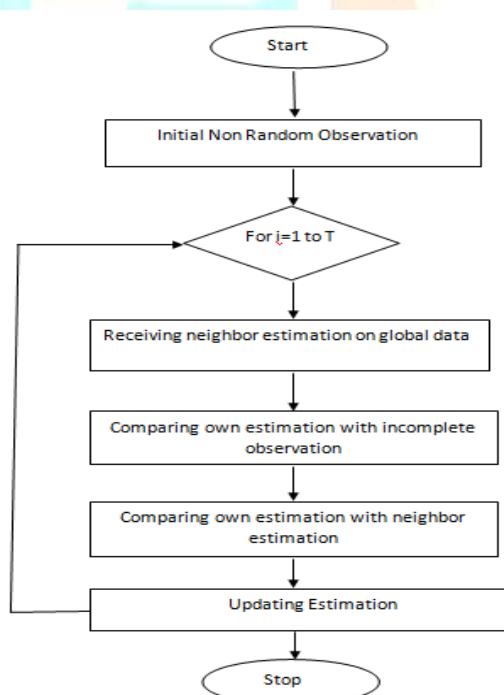


Figure 1: DRC Algorithm

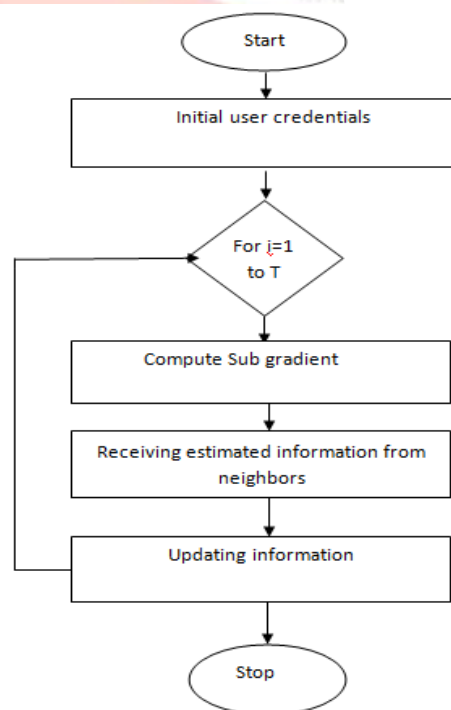


Figure 2: DDA Algorithm

Figure 1 and Figure 2 shows the flow chart of DRC and DDA algorithm. DRC algorithm allows one node to communicate with each other on the condition where successive observation is required. It allows each node to obtain complete data. Algorithm allows every node to exchange information with its neighbors. Exchange follows weighting process where each node is assigned a weight. Distributed Data Acquisition is used to distribute the servers across dissimilar locations. It is implemented to remove error functions, noise and to improve accuracy and efficiency of crowdsensing networks. Sub gradient method is used for solving the optimization problems with time efficiency. Distributed algorithms launch the learning process in distributed manner.

IV. IMPLEMENTATION

The concept is mainly used to search the location based on servers. It would be difficult for the user to access the application when more number of users is accessing the application. It leads to server crashes where the crowd or traffic is formed. To avoid all the issues multiple server concepts are implemented. Admin can upload the location in any of the servers and view all the server details to check how many hotels are updated in one server. The hotel details uploaded at different location is based on TCP/IP protocols. It is based on client-

server model in which the user is provided the service by other computer in the network. TCP/IP protocol is considered as stateless since each client request is considered new because it is unrelated to previous requests.



Figure 3: Admin sets server



Figure 4: Admin uploads location

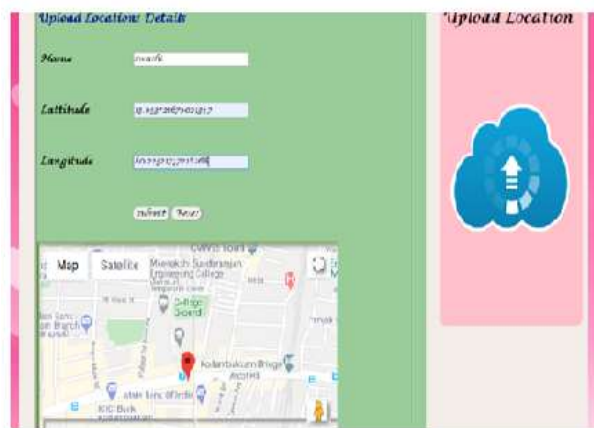
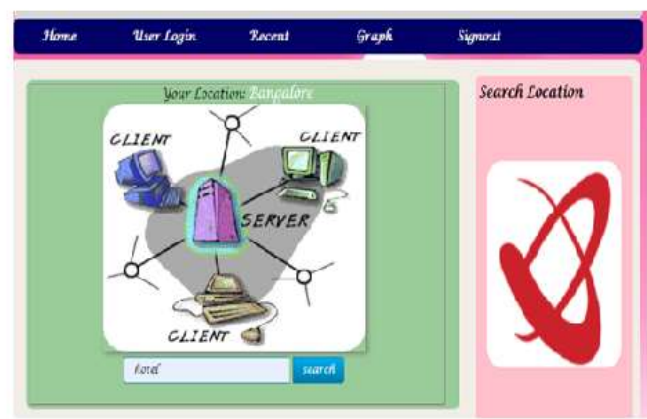
Figure 5: Location upload based on latitude
And longitude

Figure 6: User search based on location



Figure 7: User Authorization



Figure 8: User verification based on secret key



Figure 9: server and its nearest neighbor

V. RESULTS

The software used is Eclipse which can be used as Integrated Development Environment for computer programming. It includes Java development tools which compiles java native interface. Figure 3 to figure 9 shows the snapshots of distributed servers. Figure 3 indicates admin login where admin has the access to user credentials. Admin sets the server at different locations. Figure 4 indicates the location upload; here server location is uploaded based on category and sub category. Figure 5 indicates server location which can be uploaded based on latitude and longitudinal information. Figure 6 and 7 shows user login. User can search the hotels nearby to their location. Authorization of user is shown in Figure 8 where verification can be performed to check whether authorized or unauthorized user. Here secret key is generated. User must enter the key and password shown in Figure 8. Figure 9 shows the server and its nearest neighbor nearby to the location. It shows which server is available and which are its nearest neighbors. Implementation of distributed servers at various locations reduces traffic, delay, noise.

VI. CONCLUSION

Implementation of multiple servers with respect to Distributed Algorithms is able to meet its goals, by reducing energy consumption, traffic, delay and increasing accuracy in performance of the system. Distributed architecture for multiple distributed servers was able to maximize the network lifetime by using distributed algorithms. Server distribution is based on network size and topology. KNN algorithm identifies the hotel nearest neighbor. Implementation of distributed servers at different location reduces the execution time, traffic delay. It is difficult to retrieve all the details in one server when more number of users is accessing the application. Server gets overloaded which leads to server crashes. Multiple server concepts show reduction in execution time.

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