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A REVIEW ON ENHANCED SECURITY FOR THE MIDPOINT MEETING LOCATION USING MOBILE DEVICES

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ABSTRACT:

The rapid proliferation of smart phone technology in urban communities has enabled mobile users to utilize context aware-services on their devices. Today's highly interconnected urban population is increasingly dependent on these gadgets to organize and plan their daily lives. They often rely on the preferred locations according to their demands thus lacking security. In this paper we propose algorithms which provide privacy and security to user contents and requirements. Users may not want to reveal their actual locations to a third party which are not trustworthy. We perform a thorough privacy estimation and optimization for determining the midpoint meeting location for a group of users. Our solutions are based on the homomorphic properties of well-known cryptosystems.

This paper present the haversine algorithm use for the finding midpoint meeting location of various user this place will be in same distance from all the participated entities. For security purpose it uses Advanced Encryption Standard(AES) which is specification for the encryption of electronic data.

Keywords: Location Privacy, Midpoint Meeting Location, User Authentication, Security.

1. INTRODUCTION

In today's fast and busy life where every person want that their work should done as fast as possible so that they save their as much as time possible. Obstacles that prohibit the person to reach to certain destination is traffic that consume most of the time and waste much time of the person. Though we have lots of advanced transportation facility still sometime we does not able to reach to desire place on time so we must have certain technique that will enable to get to desire place. In this project we will develop an application that will give us the information of the location that will save our time.Meet point as the name suggest is the particular point where some entity will going to meet. This point can be any place or say location . The important point of this location or place is that this place will be in same distance from all the participated entities. This application will prove to be very useful that will save the valuable time.

Location based Services (LBS), for example, are used by millions of mobile subscribers every day to obtain location-specific information. Location privacy preservation in mobile environment is challenging for two reasons. Firstly wireless communications are easy to intercept. Second, the limited resources of mobile devices greatly restrict Privacy Enhancing

Technologies one could apply and deploy in wireless network. Current solutions reply on simple schemes to hide the real identity of a mobile user from a passive adversary.

Two popular features of location-based services are location check-ins and location sharing. By checking into a location, users can share their current location with family and friends or obtain location-specific services from third-party providers. The other types of location-based services, which rely on sharing of locations by a group of users in order to obtain some service for the whole group, are also becoming popular. Privacy of a user's location or location preferences, with respect to other users and the third-party service provider, is a critical concern in such location-sharing-based applications. For instance, such information can be used to de-anonymize users and their availabilities, to track their preferences or to identify their social networks. In the taxi-sharing application, a third-party service provider could easily deduce home/work location pairs of users who regularly use their service. Without effective protection, if the collected data is leaked in an unauthorized fashion or improperly shared with corporate partners, which could have severe consequences on the users' social, financial and private life.

2. LITERATURE REVIEW

Igor Bilogrevic, MurtuzaJadliwala [1] proposed privacy-preserving algorithms for determining an optimal meeting location for a group of users. They perform a through privacy valuation by formally quantifying privacy-loss of the proposed approaches. They address the privacy issue in LSBSs by focusing on a specific problem called Fair Rendez-Vous Point (FRVP) problem. Given a location preferences for set of users, the FRVP problem is help to find out a location among the proposed ones such that the greatest distance between this location and all other users' locations is minimized. RinkuDewri and Ramakrishna Thurimella [2] proposed a user-centric location based service architecture where a user can observe the impact of location inaccuracy on the service before deciding the geo coordinates to use in a query. They construct a search application based on user-centric location-based service architecture where a user can observe the impact of location inaccuracy on the service accuracy.

Jing Liu, Zechao Li, Jinhui Tang [3] authors focus on the personalized tag recommendation task and try to identify geo-location-specific, user-prefered, with semantically relevant tags for a images by leveraging rich contexts of the freely available community-contributed photos. For users and geo-locations, they have different favored tags assigned to a images, and propose a subspace learning method to individually uncover the both types of preferences. LinkeGuo, Chi Zhang [4] proposes a privacy-preserving revocable content sharing scheme in geosocialnetworks. Proposed scheme allows mobile users to share their encrypted location-based contents on an untrusted server without revealing genuine information of location, and further enables other users of mobile device who physically check in at the particular location to search and decrypt the content if they have the equivalent attributes.

Muhammad Ridhwan Ahmad Fuad and MichealDrieberg [5] present the development of the remote For MobileCommunications (GSM) Modem and Google Map vehicle tracking system

which integrates the Global system.Wei Xin, Cong Tang, TaoYang [6] uses LocSafe method, a "missed-connections" service is used which grantees based on Radio Frequency Identification technology, in order to prove an sharing among users in the past. LocSafe is combination of three parts: RFID Tags, social service provider LE Collectors. They use RFID technology to detect entities and use attribute-based encryption and broadcast encryption to create trust and protect users, privacy. We evaluate LocSafe by a study of "missed-connections "troubles and study of system implementation.Wei Li, Wei Jiao, Guangye Li [7] Location-Based Service(LBS) combined with mobile devices and internet become more and more trendy, and are widely used in traffic navigation, intelligent logistics and query of the point of interest. However, most users worry about their privacy when using the LBS because they should provide their precise location and query content to the undependable server. This paper analyses the query association attack model for the constant query in mobile LBS.

JianliangXu, Xueyan Tang [8] identifies and addresses three new issues concerning location cloaking approach. First, study the representation of cloaking regions and show that a circular region generally leads to a small result size for region-based queries. Second, develop a mobility-aware location cloaking technique to resist trace analysis attacks. Two clocking algorithms, namely first one isMaxAccu_Clock and second one is MinComm_Clock, are designed based on different performance objectives. Finally, develop an efficient polynomial algorithm for evaluating circular-region-based kNN queries.

Hanunah Othman, HabibahHashim, Jamalul-lailAbManan [9] studies recent schemes designed to present location privacy and anonymity to LBS users. The main idea is to solve recent practical problem by proposing a new framework of LBS Middleware called Trusted Anonymizer (TA) secured by Trusted Computing (TC) technologies.

Leone C. Monticone, Richard E. Snow [10] provides an analysis of the case where the MRs operate in or above circular service areas on the surface of a spherical Earth. The analysis provides an accurate and competent way, to compute true minimum distance ratios which is less complex than performing the calculations on the sphere, The method uses to convert the original minimization problem into a simpler problem of minimizing a ratio of Euclidean distances is a stereographic projection, which is expressed as a function of a single real variable, over the boundaries of discs (i.e., circles) in the complex plane.

3. PROPOSE WORK

This proposed system will hide the location of user from other users. Haversine algorithm will be use for calculating the distance between multiple geo-locations then central point will be determined. This system will provide themeedpoint location which will be approximately same for all users by considering user preferences; it will also provide privacy about userslocation and user authentication.

This process includes multiple stages of execution. As per consider a condition there are ten users in group planning to meet in centrally preferred location then one user from all will become master user and after which all user will share their location with master user and master

user will execute the process. After execution system will calculate the meedpoint location created by the user's connection. Once system get the central location it will ask user about his preferred location and after this using Google mapping API system will find out the nearest location selected by the user and once it found system will inform all user about final meeting location and if user wants he can view the travelling path to the location

4. CONCLUSION

The proposed system will provide a location based service. This system will provide the central location or thelocation which is nearer to all users by using various algorithm and users location will be determined by using Google map API and GSM. Location privacy is the ability to prevent other parties from learning one's current or past location. Generally, Location Based Service (LBS) gives an information service about the physical location of a user. Proposed system will also provide privacy about user's location and user's authentication.

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