Retrieval And Study Of Geotagged Objects Using GPS Parameters To Improve The Performance Of The System

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Abstract - Now a days the digital technology is encompassed with all works of daily life and has emerged rapidly in all types of real time systems. In a real time system different attacks will provoke the external users to exhibit their skills, in such a way that they may go for hacking, threatening of data and establish a platform from where they can initiate cyber crimes. Cyber Casing is a phenomenon where users will study the location details dealing with geotagged information which can handle cybercrimes very effectively. Now a days geotagging has been playing a vital role in controlling the cyber crimes in every field of society. There is a great need to provide the privacy to all the geotagged objects which are under cyber threats. In general, using the geotagged information will mount the real world attacks and this will really happen while transferring and retrieving the data. The issues like "availability" and "reliability" of geotagged objects is a major concern in cloud computing. In this paper the issues of availability and reliability of geotagged objects have been addressed by focusing on availability of geotagged objects in social networking groups. The privacy threat with regard to abnormal ending of data retrieval will decide the object's behavior. In this regard the parameters like latitude and longitude of geotagged images have been addressed meticulously to improve the performance of the system.

Keywords: *Digital Technology, cyber crime, cyber casing, Cloud Computing, availability, reliability.*

1. Introduction

Geotagging has become very much predominant in social networking and real time systems. It has got a wide variety of social and legal problems in the world we live in. There is a positive association when objects are geotagged and they are very much minimal. While implementing or using social groups, handling geotagged objects have become very tough. In this context cyber security for geotagged objects has become very much important to resolve certain security issues. While providing cyber security there are lots of issues and challenges, encounter within the networking groups and sometimes cyber crimes may happen across the networks. In many ways geotagged objects may not be available in time for retrieval and processing due to their temporal data. In this regard it has become mandatory for those geotagged objects being under maximum privacy. When an object is geotagged the geographical identification with respect to Meta data, such as geotagged photographs or videos or websites or posts will become cumbersome job to handle for the users in the network. This data is usually may consist of latitude and longitude parameters. Sometimes geotagging can help the user in identifying the specific location with particular information for geotagged objects. For instance a user can find images taken from a given location by giving latitude and longitude as parameters. A number of suitable image search engines are implemented such that the search engines will follow through and provide the user a location from where a geotagged object can be retrieved. But this entire process happens above the system and is very much difficult for social networking groups for handling the geotagged objects at this level. During the cybercrimes, when objects are geotagged, they have been handled effectively through routing mechanisms. This has been effectively implemented by introducing time frames in the networking domain. Resolving the cybercrime challenges will resolve the issues of geotagged objects in terms of latitude and longitude parameter perspective. This will improve the performance of the system where geotagged objects are implemented with public key cryptic mechanisms. This will really minimize the challenges faced by geotagged objects within the distributed environment. A literature survey has been made where the geotagged objects have been overcome the issues related to privacy, data threats, semantic threats related to data and aerial differences as far as geotagged objects are concerned.

2. Geotagging and its Challenges

Social networking groups have become very popular to exchange and locate the information about a particular object. This has become more vulnerable during data exchange. As far as social networking groups like YouTube, Facebook, Instagram and twitter, etc. are concerned the vulnerability in terms of identifying and locating the objects considered to be high. In such scenarios the social networking groups have become major victims and this has lead to face some challenges while handling and sharing the information with at-most common interest. These challenges have become more severe when objects are geotagged. This has led to different cyber crimes in the networking which threatened the users in the networking groups. The geotagged objects may destroy the overall outcome of the networking groups in terms of privacy and vulnerability. There are certain challenges which are to be addressed by the user to avoid the problems faced by geotagged objects are listed below.

(1) Lack of awareness about cyber cased objects at organization level.

(2) Unable to train the manpower about the cyber cased objects.

(3) There were no communication policies are maintained as far as geotagging of objects are concerned.

(4) Cyber-attacks may encounter not only at the system level, but at the granular level of the node in the network.

(5) Failure in forecasting the changes as far as dynamic objects are concerned.

(6) There are no standard protocols existing to handle the cyber cased objects.

The users have faced a lot of problems in handling the challenges mentioned above. Every geotagged object will be addressed through the “Global Positioning System “(GPS). This GPS data may consist of different parameters like location, radius, distance, time frame and all these parameters of geotagged objects will enable the user to assess on the issues like availability and reliability of those objects. The geotagged objects must have information regarding latitude, longitude positional parameters as far as spatial data is concerned. The users under the social networking groups will try to implement spatial semantics to categorize the positional parameters of geotagged objects. The availability of geotagged objects has become a prominent issue to handle them. As the objects are located sparsely over the network, it is very much difficult to handle such objects to incorporate desired results. The user must take care of the parameter “DOS” (Denial of Service) to overcome the issue of the availability of the geotagged object across the network. At this point geotagged object with information about longitude and latitude in terms of its positional parameters will enable the user to utilize them effectively. In the recent past if any geotagged object persists over a period of time which is beyond the capacity of the system, it will be exposed to lots of security issues. The geotagged object will be tracked and traced with a certain routing mechanism where certain cryptic analysis is maintained to address the issues like the availability and reliability of the object. At this point the geotagged objects will behave randomly and rapidly, which may be beyond the capacity of the system. In a current study certain standards have been maintained to overcome the challenges in handling the geotagged objects. These challenges have overcome by focusing and addressing of the issues of availability and reliability to improve the percentage of the system performance.

3. Retrieving Of Geotagged Objects In Social Networking Groups

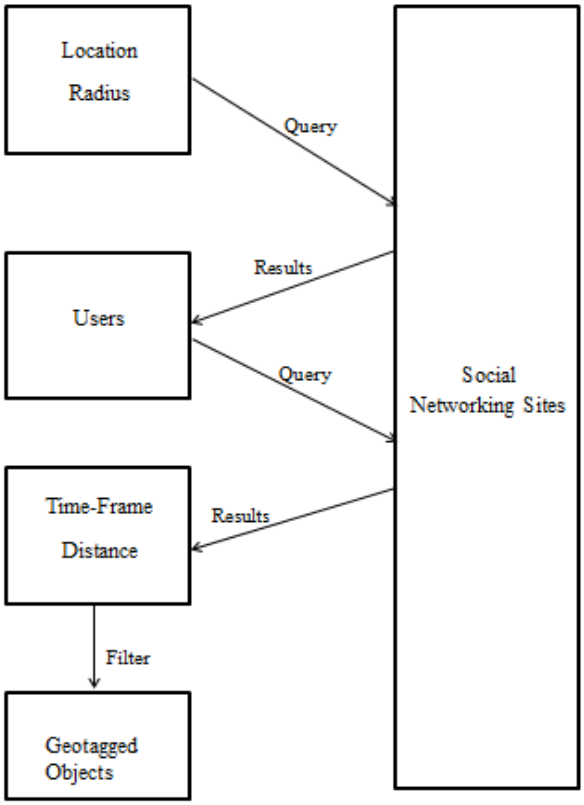

Fig 1. Architecture of Geotagged objects in Social Networking Groups.

In any distributed system, there is no guarantee that the objects are local to the existing environment. The objects may be sparsely populated across the distributed network and sometimes users may have to put a lot of effort in retrieving them. The retrieval of such objects can be done through a set of database queries. But in this context, the database queries could able to retrieve the data from data sources and they may not be able to handle the special parameters or environmental parameters effectively. This may be because of certain parameters like positional and spatial parameters and they are very much difficult to handle during the retrieval of information. In this regard the GPS (Geo positional systems) would be able to help the users in social networking groups to provide the positional parameters based location of objects. In order to provide such information to the users, every object which is present remotely should be linked with its information (Positional and spatial) to help the user to retrieve and process them. To this extent, GPS will be much useful for users where the objects are linked with positional parameters and they are called as geotagged objects. The geotagged objects will always be vulnerable to the privacy issues like data security, data integrity and threats like stealing of data. These privacy issues sometimes may lead to cybercrimes. This will really affect the reliability of the geotagged objects based on the time frame between the user and the object. The networking group will adjust the networking domain where the users will process certain self-contained queries to retrieve the geotagged objects.

4. Geotagged Object Features And Privacy Issues In Social Networking

The retrieval of geotagged objects in the distributed network will depend on the content and features of those objects. The frequency with which objects can be geotagged will depend on the feature set of those objects which are geotagged. These geotagged objects have purpose to resolve the issues with regard to the content on social media like photo, video, status update, tweets to explore the information presented across the social networking. The features like the coordinates of the object locality like latitude, longitude and even with the name of the object location are considered to be vital in handling the privacy issues across social networking. The issues with geotagged objects like the privacy of location, handling the positional parameters with respect GPS, duplication of data within the database are considered to be major factors affecting the performance of the system. The location of privacy of geotagged object will always determine the nature and the characteristic of an object. The privacy of the location of geotagged object will depend on its positional parameters defined by GPS the longitude and latitude of geotagged objects in the cloud will always determine the scalability of the retrieval the scalability can be in terms of the time of retrieval, the amount of time that object got established the

connection with the network and its networking capacity. The location privacy through GPS can be handled very carefully by determining the features of the geotagged objects with respect to its availability and reliability. In this regard the privacy issues like duplication of data, maintaining the data dictionaries of geotagged object can be handled by processing through certain self-contained queries to avoid the duplication of data. Because of this the privacy issue of geotagged objects can be avoided and thereby the performance of the networking groups may be enhanced. In a distributed networking environment like social networking the issue of availability and reliability of geotagged objects is a major concern. The geotagged objects are tagged with different positional parameters (latitude, longitude) these parameters will continually be changing and sometimes they may be away from the system domain. In such systems, handling such objects require more predefined set of procedures to locate and identify the objects which are away from the existing user. In this regard resolving the issue of availability and reliability has become more important in order to make the data related to such objects. The geotagged objects will be containing certain data which may be contagious or duplicated across the network. The duplicated data may lead to slow retrieval of data from various data sources. The contagious data will help the user to retrieve the data within specific time through indexing mechanisms. The geotagged objects will be exposed to different SQL queries with time frames intact to the transactions. The time frame will always provide the amount of sessions that are maintained during object communication. Every node in the networking group will be maintained IP Sec internally in order to overcome the delays in the transactions. The reduction of transaction relay will always lead to high performance of the system. This will lead to the reduction in the congestion of the data across the networks. The geotagged objects will entertain in facilitating the user to know about the tracking of the dissimilar data across the nodes. Different queries are written in order to retrieve and store the unstructured data while processing audio, video files and images.

5. Sample Geotagged Objects

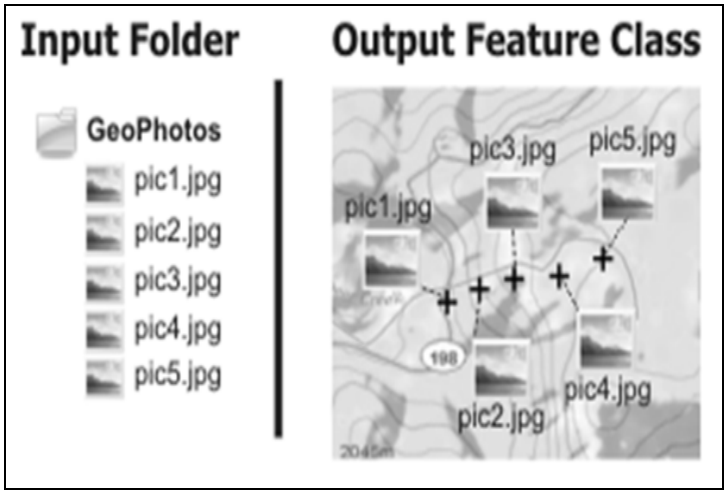

Fig 2. Sample geotagged objects for identifying and locating.

Fig.2. describes the geotagged objects extracted from GPS into local systems where they are maintained through different folders. These objects are sparsely distributed across the network where these are retrieved and processed through IPSec configuration.

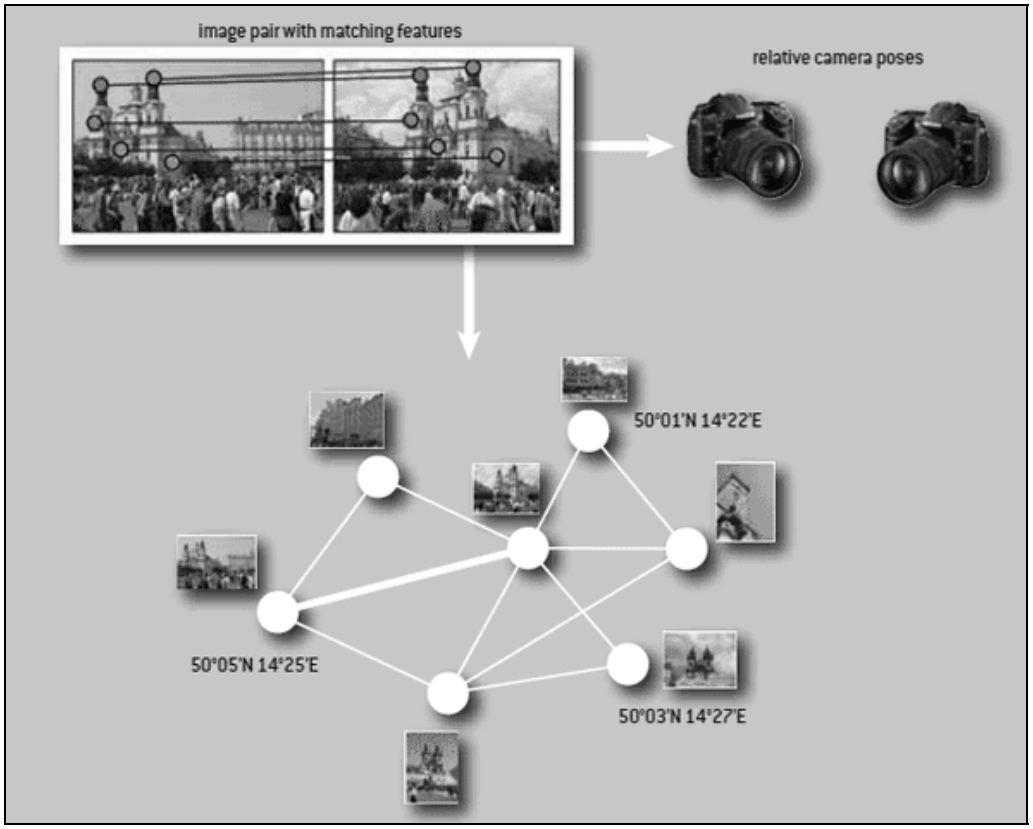

Fig 3. Sample Geotagged objects under social networking group.

In Fig.3. The geotagged objects across the network are identified and retrieved based on the feature set defined from the user's perspective.

6. Conclusion

Geotagged objects have become very much predominant in social networking and real time systems. In a distributed networking environment like social networking, Cloud networks the issue of "availability" and "reliability" of geotagged objects has become a major concern. In such systems, handling geotagged objects require more predefined set of procedures to locate, identify and process them. In this regard resolving the issue of "availability" will facilitate the user to analyze the object's behavior based on the statistics of the objects. The statistics of the object can be in terms of GPS parameters through which the behavior can be known to the user in advance. The parameters will be realized from GPS system and thereby the availability of cyber cased object can be visualized effectively. The object will meet the expectations of the user in the network. This can be realized through downtime of the objects maintained through time frames of these objects with respect to the specific user in the networking group. This will improve the degree of traceability of the geotagged objects and the system's performance.

References

[1] Ammar Yassir and Smitha Nayak, " Cybercrime: A threat to Network Security". IJCSNS International Journal of Computer Science and Network Security, Vol. 12 No.2, February 2012.
[2] Atul M. Tonge, Suraj S. Kasture, Surbhi R. Chaudhari (2013), " Cyber security : challenges for society- literature review", IOSR Journal of Computer Engineering (IOSR-JCE), Volume 12, Issue 2, PP 67-75.
[3] Cong Wang, Ning Cao, Kui Ren, Wenjing, Lou, "Enabling Secure and Efficient Ranked Keyword Search over Outsourced Cloud Data", IEEE transactions on parallel and distributed systems, IEEE, Digital Object Identifier 10.1109/TPDS.2011.282, 2011, pp: 1 – 14.
[4] enitez-Paez, F., Degbelo, A., Trilles, S., & Huerta, J. (2018). Roadblocks hindering the reuse of open geodata in Colombia and spain: A data user's perspective. ISPRS International Journal of Geo-Information, 7(1),6.
[5] en.wikipedia.org/wiki/Cyber_security_standards.
[6] en.wikipedia.org/wiki/Cyber_security_crime.
[7] F. Sabahi, "Cloud computing security threats and responses," in Communication Software and Networks (ICCSN), 2011 IEEE 3rd International Conference on. IEEE, 2011, pp. 245–249.
[8] H. Takabi, J.B.D. Joshi, and G.-J. Ahn, "Secure Cloud: Towards a Comprehensive Security Framework for CloudComputingEnvironments,"Proc.1stIEEE Int'l Workshop Emerging Applications for Cloud Computing (CloudApp 2010), IEEE CS Press, 2010, pp. 393– 398.
[9] M. AlZain, E. Pardede, B. Soh, and J. Thom, "Cloud computing security: From single to multi-clouds," in System Science (HICSS), 2012 45th Hawaii International Conference on, Jan 2012, pp. 5490–5499.
[10] M. Sookhak, H. Talebian, E. Ahmed, A. Gani, and M. K. Khan (2014), "A review on remote data auditing in single cloud server: Taxonomy and open issues," Journal of Network and Computer Applications, vol. 43, pp. 121–141.

[11] M. T. Khorshed, A. S. Ali, and S. A. Wasimi (2012), "A survey on gaps, threat remediation challenges and some thoughts for proactive attack detection in cloud computing," Future Generation Computer Systems, vol. 28, no. 6, pp. 833 – 851.
[12] Rosa Sánchez, Florina Almenares, Patricia Arias, Daniel Díaz-Sánchez and Andrés Marín, "Enhancing Privacy and Dynamic Federation Ibm for Consumer Cloud Computing", IEEE Transactions on Consumer Electronics, Vol. 58, No. 1, February 2012, pp: 95 – 103.
[13] X. Wang, B. Wang, and J. Huang, "Cloud computing and its key techniques," in Computer Science and Automation Engineering (CSAE), 2011 IEEE International Conference on, vol. 2. IEEE, 2011, pp. 404– 410.
[14] Z. Zhou and D. Huang, "Efficient and secure data storage operations for mobile cloud computing," in Proceedings of the 8th International Con- ference on Network and Service Management. International Federation for Information Processing, 2012, pp. 37– 45.