Peer To Peer Communication Using Heterogeneous Networks

Khandave Pooja, Karande Ashwini, Kharmale Swati,Vanve Subeda.
Dr.D.Y.Patil School Of Engineering and Technology,Lohegaon,Pune
Computer Engineering Department

Abstract- With the passing time the influence of technology in Social Network Sites(SNSs) has given a tremendous opportunity for researchers to make and create various database to make the social life easier. It creates a huge opportunities for the development of IT sector in the country. The software program we are developing takes it to the further level, we are aiming to build such a software which would allow a user at any SNSs to connect with other user from heterogeneous SNS's where they would not need any altering the main SNS platform. It would not require a need to log out of one to check the other SNSs. The P2P-iSN uses Global Relationship Model(GRM) which would strengthen the relation and create a i-search mechanism to connect heterogeneous SNSs. This would enable a user to see their online friends at different SNSs at a single place, hence making life easier.

Search Terms:- Social Network sites(SNSs),Global Relationship Model(GRM),Peer-to-Peer i-search mechanism , Heterogeneous SNSs.

I. INTRODUCTION

There are many SNSs like Snapchat and Instagram and everyone using this SNSs to establish friendship, create relationships, exchange work etc. for example Now a days everyone use Instagram to follow a person by which they will get to know the day to day updates in their friends life but a person who is not a Instagram will not know any details unless they share the details on other common social network sites. Then there is required a person to register on multiple SNSs to connect with the same people every SNSs have different services and unique future but the contain of same person may be unnecessary repeated on different platform with the same group of friends it become very difficult to manage so many different account.

Many researchers are working to reduce this problem and trying to create a heterogeneous SNSs which would investigate and integrate a unique social connection with in various heterogeneous SNSs.in this program we are trying to create a path which would connect multiple SNSs to create a global relationship among different homogeneous SNSs to create a new larger community of the user in are platform with a database which would connect them without changing the platform of there SNSs to connect with other SNSs.

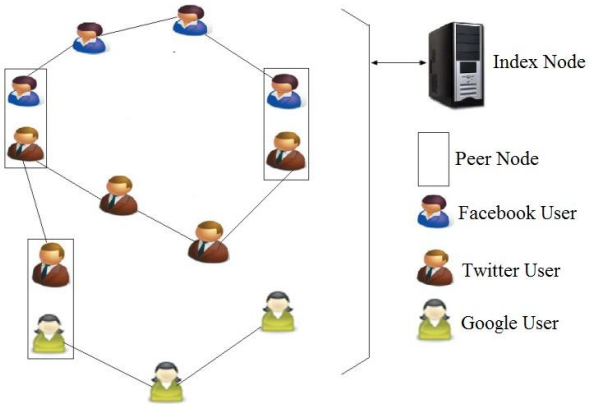

Figure 1 : System Architecture Integrate Hetergeneous SNSs

P2P-iSN would consist two nodes index peer and peer node a heterogeneous SNSs would be integrated by a peer node which would be installed on an end device. A user log in on peer node can use more than one SNSs at some time a unique user ID would be required to create a database of different SNSs.IP address would establish a connection of peer nodes to make a social path for users form different SNSs to develop a global relationship.

To connect the user from different SNSs for example, Snapchat and Instagram user we will be developing a peer node using a database created by the index peer. Peer node function would be create heterogeneous social network sits database which would enable login or connect from numerous SNSs or different account at the same time. The function of index peer would develop a database which would detect the online/offline status of the person.

Therefore the person's status would change or become online when the report of peer node turning on reaches to index.

I. P2P-ISN:

In this, we propose a Peer-to-Peer Architecture, Namely P2P-iSN to integrate Heterogeneous SNSs. There are two Nodes are consist: Peer Node and Index Peer Node. The main function of a Peer Node is to integrate the Heterogeneous SNSs. This Nodes Communicate With each directly and in this form of Peer-to-Peer Network. The Index Node maintains

ISSN: 2278 – 1323

Status and IP address of the Peer Node.2

2.1 Peer Nodes

A peer node is installed on an end devices for a user to access SNSs .The Main Function of peer Nodes is to integrate Heterogeneous SNSs. The user of Peer Node may register to one or more SNSs on his end devices and possibly Login too many social networking sites at the same time. Because a user may use different IDs in different social networks sites, to combine these different accounts of a user, a unique user ID is required. The unique user ID can be a user's mobile phone number or email ID, which can be used to uniquely identify this user. In this we use the cell phone number as an example for the unique ID. Take Fig. 2(i) as an example .John has a friend Jenny with phone number "0940253."A database, friend list, is meant to keep the user friends information stored .is maintained. The Figure b shows the format of a friend list. The friend list would show paradigm's of information's: SNSs information, personal information and address information.

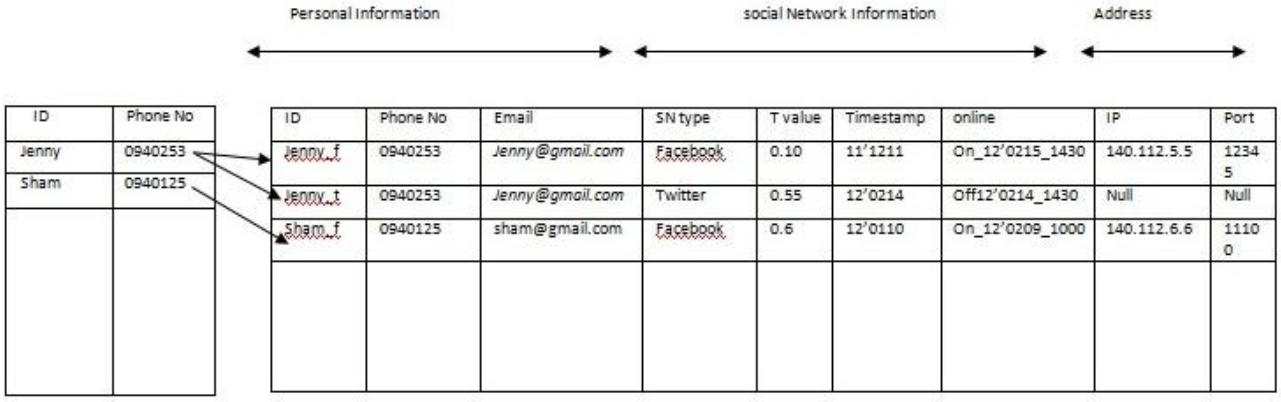

Fig. 2(i) : An example of friend list: a) John's phone book; b) John's friend list.

Personal information in this field consist of the IDs of the users, including the ID in SNSs used by the user to Login an SNS Phone no, Email Address. Users use the Different IDs for Different SNSs.When User Log in into one or more SNSs user may turn on a Peer Node. There are one or more SNS IDs for same user.

Social Network Information In this field consist of four subfields, including SN Type, T Value, Timestamp, and Online. The SNS Type indicates which SNS the friend has registered.

Address Information In this field it stores the IP address and the port number of the friend's end-device. This is the valid only when the Peer Node of the friend is turned on.

Index Peer Nodes This Node include the GlobalID . The figure above shows the performance and the GlobalID List. For online node the corresponding entry is created in the GlobalID list.

Personal information in this field consist of the IDs of the users, including the ID in SNSs used by the user to Login an SNS Phone no, Email Address. Users use the Different IDs
For Different SNSs.When User Log in into one or more SNSs user may turn on a Peer Node. There are one or more SNS IDs for same user.

Social Network Information In this field consist of four sub fields, including Social network Type, T Value, Timestamp, and Online . The SN Type indicates which Social network sites the friend has registered.

Address Information In this field it stores the IP address and the port number of the friend's end-device. This is the valid only when the Peer Node of the friend is turned on.

2.2 Turning on a Peer Node

In this it describes the execution of a peer node. When abuser turns on the peer node on his end device, the Login procedures executed. Figure 4 illustrates the message flow for the Login procedure with the following steps:
1. Create SampleAuth.-Listener () Class and check the user is authenticate or not.
2. AddAuth-Listener()
3. Create Background Service class.
4. The peer node creates a CreateFriendListener class.
5. Peer Node use the Background Service Class.
6. Peer node create a Feed Request Listener

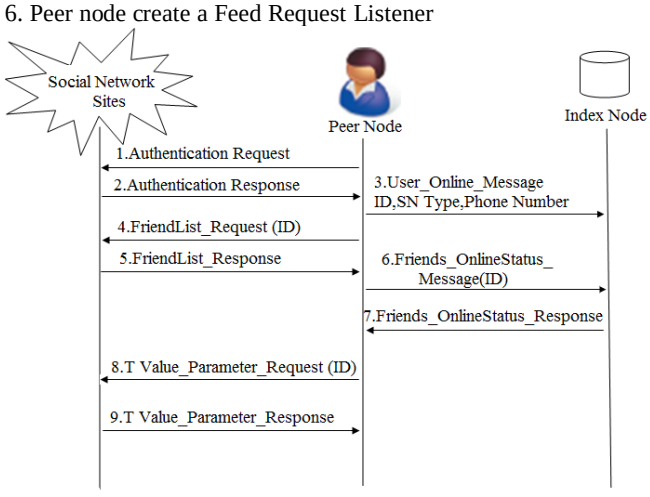

Figure 3 : Peer-to-Peer Node Process

II. Literature survey

[1] Phone lin and Pia chun chang,"P2P: A peer to peer Architecture for heterogeneous social networks," IEEE Network, January/February 2014

A peer-to-peer network architecture to integrate multiple SNSs without incurring excessive overhead to the SNSs. With integrated model, we could develop an effective approach, a Global Relationship Model, to evaluate the global relationship strength between two users with more precision.the i-Search mechanism to find the social path with certain level of social relationship strength in a P2P social network.

[2] C. Zhang etal., "Privacy and Security for Online Social Networks: Challenges and Opportunities," IEEE Network, vol. 24, no. 4, July/Aug. 2010, pp. 13–18.

The security and privacy design issues on online social networks and pointed out a few research directions for mitigating the design conflicts between the various design design goals of OSNs. However, an ultimate solution will require experts from the social science and network security communities, industry, regulatory bodies, and all other relevant communities to collaboratively make decisions on both secure mechanisms and policies. This article is intended to provide a starting point for developing effective secure and privacy-preserving OSNs. We hope that this work will motivate OSN researchers and developers to move forward with more creative design of OSNs without compromising users' data security and privacy..

[3]A. Mislove etal., "Measurement and Analysis of Online Social Networks," Proc. 7th ACM SIGCOMM Conf. Internet Measurement, 2007, pp. 29–42.

An analysis of the structural properties of online social networks using data sets collected from four popular sites. Our data shows that social networks are structurally different from previously studied networks, in particular the Web. Social networks have a much higher fraction of symmetric links and also exhibit much higher levels of local clustering. We have outlined how these properties may affect algorithms and applications designed for social networks. Establishing the structure and dynamics of the content graph is an open problem, the solution to which will enable us to understand how content is
introduced in these systems, how data gains popularity, how users interact with popular versus personal data, and so on.

[4]M.N.Koetal.,"Social-Networks Connect Services," Computer, vol. 43, no. 8, Aug. 2010, pp. 37–43.

Many third-party sites have adopted social-networks connect services to extend their presence in the Social Web. Integrating these third-party sites with SNCSs creates a more feature-rich online social community and promises to break down the garden walls of social-networking sites. However, many challenges come with this growth, and the social-networking community must

ISSN: 2278 – 1323

collaborate to design and deploy secure services that both protect privacy and deliver a satisfactory user experience.

[5] N.Ellison and D.Boyd, "Social Network Sites: Definition, History,andScholarship,"J.Computer-Mediated Communication, vol. 13, no.1, Oct 2007, pp. 210–30.

We are grateful to the external reviewers who volunteered their time and expertise to review papers and contribute valuable feedback and to those practitioners and analysts who provided information to help shape the history section. Thank you also to Susan Herring, whose patience and support appeared infinite.

[6]N.B. Chang and M. Liu, "Controlled Flooding Search in a Large Network,"IEEE/ACM Trans. Net., vol. 15, no. 2, Apr. 2007, pp. 436–49

we studied the class of TTL-based controlled flooding search methods used to locate an object/node in a large network. When the object location distribution is not known and adopting a worst-case performance measure, we showed that *randomized* search strategies outperform fixed strategies. We derived an asymptotically optimal strategy whose search cost is always within a factor of e of the cost of an omniscient observer. We also studied the optimal strategy under alternative performance measures. We further provided a mapping between TTL sequences under different cost functions, and investigated the class of uniformly randomized strategies. These results are directly applicable to the design of practical algorithms.

III.RELATED WORK

We build up a global relationship model to use the strength of the global relationship between two users from mixed public network sides. Based on this model, we suggest an I-search method. These methods are used to find social path betssween two users from mixed social network side. We also build up a logical scheme to estimate the performance of the I-search. General replication studies would be conducted in term of the "path found" possibility when the I-search method is applied to confirm our logical results.

Previously we actually look for users global relationship, we need a instrument to calculate the relationship power among any two users across mixed social network side, we adjust the decompose function defined in classical sociology on the network relations to come up with more exact capacity on global relationship power in mixed social network side.

Namely i-Search, to find the best social path between any two users who are expressively connected in mixed SNSs. This model is used to classify global relationship between two users across mixed SNSs. It is tool to measure the Global relationship strength between two users. With Peer to peer there is index peer node and the Global Relationship Model the basis, we offer the i-Search mechanism to find the social path with sure level of social relationship strength in a P2P social network. Our proposed approach can find the wanted social path with high probability comparing to old-style approach and can effectively establish global social relationship for users from heterogeneous SNSs.

If the global relationship strength for the new path is under a threshold, the social path search stops. Note that is used for guarantee that the global relationship strength for the built path is strong enough so that users are interested to use the global social relationship for further social network site applications.

I-Search Mechanism

In this part, we suggest an i-search device to find a directional social path between two nodes in peer to peer Index social network. Although searching in a social graph has been calculated in the previous works, most of these studies are national in the sense that a social graph is well maintained at a central node. Less study have address distributed search over a peer to peer social network, which is the main focus of this item.

I-Search Mechanism steps:

```
Input :s,r,P,Z(P)
Output:Pnew,Z(Pnew)
1 foreach v :v (EG –P) do
2 if v = r then
3 pnew ← P ∪ {s → v};
4 Z(Pnew) ←Z(P)F(s;v);
5return;
6 else if v is online, and Z(P)F(s,v) > D then
7 v.i Search (v,r,P ∪ {s →v},Z(P)F(s,v));
8else if v is off-line, or Z(P)F(s,v) ≤ D then
9quit;
10 end
11 end
```

Working of I-Search Mechanism

The i- search method is same like to the flooding search that has been extensively adopted in communication networks. The i-search system establishes social paths link by link. Details of the i-Search method are given below: The index peer node keeps the online status (containing the peer ID and IP address of the each peer node) for the each online peer nodes. A friend list is continued in the peer node, which stores the online data for all friends of the peer node. To simplify our explanation, we use the friend q of a peer node p to imply that the social link p q exists.

IV.*CONCLUSION AND FUTURE SCOPE*

In this paper we propagate about peer-to-peer network There are different peer-to-peer network to integrate multiple SNSs sites and connecting a different user to each other there are we can connecting a different social site to single system with the help of p2p network or system.

There are in this research paper we can use ai-search mechanism algorithm to find of which type of user status, it can be help to find the social path with certain level of social relationship strength in p2p social network find global relationship between to different user. There integrated or establish a global relationship between different user form heterogeneous SNS .the proposed of that system integrated the user can different social and creating a more social.

In this technique not more hardware required and not hardware capability .there are different types of algorithm can be used to providing a different security to the system and used our future task.

V. REFERENCES

[1] Phone lin and Pia chun chang,"P2P: A peer to peer Architecture for heterogeneous social networks," IEEE Network, January/February 2014

[2] C. Zhang etal., "Privacy and Security for Online Social Networks: Challenges and Opportunities," IEEE Network, vol. 24, no. 4, July/Aug. 2010, pp. 13–18.

[3]A. Mislove etal., "Measurement and Analysis of Online Social Networks," Proc. 7th ACM SIGCOMM Conf. Internet Measurement, 2007, pp. 29–42.

[4] M.N.Koetal.,"Social-Networks Connect Services," Computer, vol. 43, no. 8, Aug. 2010, pp. 37–43.

[5] N.Ellison and D.Boyd, "Social Network Sites: Definition, History,andScholarship,"J.Computer-Mediated Communication, vol. 13, no.1, Oct 2007, pp. 210–30.
[6]N.B. Chang and M. Liu, "Controlled Flooding Search in a Large Network,"IEEE/ACM Trans. Net., vol. 15, no. 2, Apr. 2007, pp. 436–49

[7] S. Jiang et al., "LightFlood: Minimizing Redundant Messages and Maximizing Scope of Peer-to-Peer Search," IEEE Trans. Parallel and Distributed Systems, vol. 19, no. 5, May 2008, pp. 601–14.
[8] R. Nelson, Probability, Stochastic Processes, and Queueung Theory, Springer Verlag, 1995.

[9] D. J. Watts and S. H. Strogatz, "Collective Dynamics of "Small-World" Networks," Nature, vol. 393, no. 6684, 1998, pp. 440–42.
[10]H.-L. Fu et al., "Energy-Efficient Reporting Mechanisms for Multi-Type Real-time Monitoring in Machine-to-Machine Communications Networks," Proc. IEEE INFOCOM 2012 Conf., Mar. 2012, pp. 136–44.

ISSN: 2278 – 1323