International Journal of Research Instinct
(Peer-reviewed Journal)

ISSN ONLINE 2348-2095
Research Article

Evaluation of Trust-Aware and Privacy based Personalized User Recommendations

[1].Mrs.S.Padmapriya ,[2].Ms.S..Shakila Banu.,

[1]. Asst.Professor, Department of Computer, [2].M.Phil. Research Scholar

Srimad Andavan Arts Science College(Autonomous), Trichy-620005.

shaki.735@gmail.com

ABSTRACT

Trust is fetching a very significant part of social network from the safe keeping opinion of understanding. In this article we bring together a framework for usage trust in social networks, which is based on reputation appliance. The reputation technologies handle the contained and categorical relations between the network supporters, analyses the semantics and dynamic of these connections, and make available to personalized user recommendations to the network members. Based on the trust semantics, the system will provide the optimistic (trustworthy) recommendations and the pessimistic (untrustworthy) recommendations. Along with this, our system delivers one more interesting mode i.e. public profile matching that preserves privacy on social network. This profile matching contributes reputation ratings that are essential for recommendations of friend list. In order to compute the reputation of every acquaintance, we receive several other properties such as, transitivity, personalization, context, and draw concepts from sociology axioms. Trust is not perfectly transitive in social networks, in that trust decays beside the transition path, but it is usually agreed that it can be communicated between people. Along with trust generation, the percentile of profile matching is also measured for personal recommendation.

Keywords: Social Networks, Reputation, Personalization, Trust, Recommendation, Profile Matching.

1. INTRODUCTION

The Recommender Systems are software tool and technique providing for interest items to a user. The suggestions provided are aimed at supporting their users in numerous decision-making processes, such as what items to buy, what music to listen, or what news to read.The Recommender systems have proven to be valuable means for online users to deal with the information excess and have developed one of the most powerful and popular tools in electronic commerce. Correspondingly, numerous techniques for recommendation generation have been proposed and during the last period many of them have been successfully deployed in commercial environments.

Social network analysis has been a main area of research for sociologists for many years. Recently, it increased lots of interest with the advent of Web 2.0 and the enormous increase in the use of social networking applications, consumer analysis sites, blogs and other websites, etc. Such media present features unique to the Web, in terms of shared authorship, multitude of user provided tags, characteristic connectivity between users and their posted items, and high update rate. All these features might be exploited in direction to mine interesting information about the dynamics of user's interactions. Recommender Systems permit people to find the resources they need by making use of the experience and opinions of their nearest neighbors. It has been shown that incorporating social network relationships (e.g., friendship) and individual opinion/rating improves the prediction, and consequently the recommendation process. Conflicting to the early works on customer recommender systems for social communication networks that do not incorporate trust and following the paradigm of more recent research works, our paper capitalizes on trust (and distrust) between people in order to assist members of a community to make decisions about other members of the similar community.

2. LITERATURE SURVEY

The study of content and links in social networks has increased a lot of motion, resulting in an increase of research in the related fields. The main body of work involving positive trust and/or trust propagation in the perspective of recommender systems has concentrated on item recommendations. Time dynamics have been introduced by Walter et al. The notion of trust circulation concluded transitivity is employed, and, correspondingly to our paper, discounting takes place by multiplying trust values along paths.

2.1. PREVIOUS WORK

Author Name	Related Work
Ming Li, Shucheng Yu, Ning Cao and Wenjing Lou [2]	This paper, proposes FindU, a set of privacy-preserving profile matching schemes for proximity based mobile social networks. In FindU, an initiating user can find from a group of users the one whose profile best matches with his/her; to limit the risk of privacy exposure, only necessary and minimal information about the private attributes of the participating users is exchanged.
I. Guy, N. Zwerdling, D. Carmel, I. Ronen, E. Uziel, S. Yogev, and S. Ofek-Koifman [3]	Study of personalized recommendation of social software items, including bookmarked web-pages, blog entries, and communities. The focus is on recommendations that are derived from the user's social network. Social network information is collected and aggregated across different data sources within our organization. User recommendation was not taken into consideration.
J. Chen, W. Geyer, C. Dugan, M. J. Muller, and I. Guy [5]	Focuses on content ranking, which is consequently employed to recommend the top-ranked items (reviews, blogs, comments, tweets, etc.) to users. The main objective was on item recommendation.
I. Konstas, V. Stathopoulos, and J. M. Jose [6]	People recommendations designed to help users find known, offline contacts and discover new friends on social networking sites. This considers user recommendation, but the trust between them was not focused.
I. Guy, I. Ronen, and E. Wilcox [8]	This paper describes a novel UI and system for providing users with recommendations of people to invite into their explicit enterprise social network. The recommendations are based on aggregated information collected from various sources across the organization and are displayed in a widget, which is part of a popular enhanced employee directory.

3. MOTIVATION

Early study on such recommendation systems in social networks like online social network, the blog sphere, social bookmarking requests do not incorporate the "trust" in the

recommendations. Scheming of such kind of dependence worthy recommendation is somewhat problematic because trust is also personalized in that it is subjective and precious by every user's personal opinions, as well as those of members whom the user respects and trust, and this is the bottle neck problem. The main objective and challenge of the system is recommending adapted users to another user by matching their profiles as well as considering trust between them.

4 PROPOSED SYSTEM

The proposal of recommender system is based on the reputation mechanism that rates contributors using comments, previous involvements, and other user's view / opinion. In order to calculate the reputation of each member, the numerous belongings of trust such as transitivity, personalization and appropriate context and ideas from sociology sayings are drawn. Additionally, in order to address the social network dynamics, the group of time has been combined in the proposed system. To this direction, proposal is given that reputation fades by time; thus, the optimistic (pessimistic) reputation values of a user tends to zero unless new explicit or implicit trust (distrust) and liking (disliking) statements are further normally. Finally, we accept that the framework of trust is same among the community members. We exploit positive and negative, time-dependent of trust-related information, expressed either explicitly or implicitly. We propose a collaborative reputation appliance that captures and measures the user's connection and capitalize on trust propagation and on the changing aspects of the social network. Using this mechanism, the system proposes a new trust/distrust connection to the network's associates. We should opinion out that the system can be applied to any type of social network, even in the absence of explicit reliance connections, since in such cases only the implicit expressions of trust will be considered for the ranking and recommendations of users. Robust reputation management is key feature of the proposed system based on trust awareness. Specifically, after processing information of published network, connections (both explicit and implicit) that bear hope semantics between members are designed, reputation ratings are estimated, and personalized recommendations (both positive and negative) are generated.

4.1: User Connection Formation

Our system differentiates between explicit trust/distrust bonds amongst users that carry strong trust semantics and implicit trust statements that form the more transient user connections in that network. These user connection formation or trust bonds can be categorized as follows –

A] Explicit User to User Connection: A user may explicitly relate to alternative user by forming trust or suspicion connections. Such connections signify more permanent bonds between users (e.g., a friendship or association in the physical world).

B] Explicit User to Item Connection: In this type of connection, the users provide like or dislike type of comment to a specific item published by another user. The semantics of opinion expressions differ among applications.

C] Implicit User to Item Connection: In this each content item published by a consumer has a single identifier and a timestamp, and may contain one or more hyperlinks that point to other content items confidential the social network or items (URLs) on the web. Preference to an item is shown implicitly, for example, by sharing an article in Reddit or Social Networks by rewetting a post in Twitter, by positively or negatively commenting on a user's post.

D] Implicit User to User Connection: In this connection the user-to-item information is mapped to the user-to-user near and is combined in order to deliver a single implicit user-to -user connection. The main thing in our project is we consider the distrust associates though that is not supported in all social networks.

4.2: Reputation Rating Estimation

The suggested reputation rating appliance captures the effect of time (e.g., freshness of links) by modeling the fact that more modern procedures [i.e., newly added explicit or implicit trust (distrust) and like (dislike) statements] should weigh extra in the estimation of the target user's overall reputation rating by the evaluator. The use of time information allows us to differentiate between users who attain a high reputation for a short time period and users who manage to maintain their reputation at a continuously high level. Thus, the social network's dynamic aspect is occupied into account and is efficiently addressed.

Followings are the reputation rating systems A] Local Rating B] Collaborative Rating C] Transitivity of Trust D] Trust aware personalized recommendations: This is the last step in which personalized collaborative reputation ratings for all manipulators who are associated directly / indirectly with the evaluator up to specific transitivity horizon considered.

4.3 Contribution

The proposed system considers the negative trust between users to help them getting connected to another trustworthy user. Before providing the list apart from these filters we can

contribute one more step or we can say mode of filter i.e. profile matching. In this mode the proposed system can provide list of friends or enemies using set of privacy - preserving profile matching schemes. In this system the initiating user can find from group of users the one, whose profile best matches with his/her.

4.4: Recommendations Generations

Based on the entire reputation ratings of the social communication network members as assessed by the evaluator user, the proposed system generates a personalized positive and/or negative user recommendation, which can be used to form new trust and/or distrust connections. Positive recommendation can be used from the members in order to connect to new people (in social communication sites), contribute to new blogs (in the blogosphere), and share resources (in social bookmarking applications). On the other hand, in the case of negative recommendation, the model in essence makes a list of untrustworthy users. This personalized exclude can be oppressed by the recommender system in order to alert users when content substances are available from such untrustworthy users and discourage them from linking or browsing such content, or filter it out from their content feed. Both types of recommendation could be exploited in classify for a user to update his/her trust and distrust connection in the social networks.

5. CONCLUSION

The earlier work done mostly absorbed on the item and user recommendation without allowing for the expectation association between them. Because of this, the safety of user connection might be concerned. Thus, we propose a trust aware user recommender system to create associates of social network trustworthy by giving positive and negative recommendations to the users while matching their profiles for strong connection. So that, positive recommendations will help in connecting responsible users while negative recommendations will alert users not to connect to the untrustworthy users and also making aware of the substances published by such user.

6. REFERENCES

[1] MagdaliniEirinaki, Malamati D. Louta,Member, IEEE,andIraklisVarlamis,Member, IEEE. “A TrustAware System for Personalized User Recommendations in Social Networks" IEEE Trans. Systems, Man, And Cybernetics: Systems, Vol. 44, No. 4, pp. 409 – 421 APRIL 2014

[2] Ming Li, Member, IEEE, Shucheng Yu, Member, IEEE, Ning Cao, Student Member, IEEE, and Wenjing Lou, Senior Member, IEEE. "Privacy-Preserving Distributed Profile Matching in Proximity-based Mobile Social Networks" IEEE Trans. Wireless Communications Vol.: 12 No.: 5 pp. 2024 - 2033 Year 2013

[3] I. Guy, N. Zwerdling, D. Carmel, I. Ronen, E. Uziel, S. Yogev, and S. Ofek-Koifman, "Personalized recommendation of social software items based on social relations," in Proc. 3rd ACM Conf. Recommender Syst., 2009, pp. 53-60.

[4] J. Leskovec, D. P. Huttenlocher, and J. M. Kleinberg, "Predicting positive and negative links in online social networks," inProc. 19th Int. Conf. World Wide Web, 2010, pp. 641-650.

[5] J. Chen, W. Geyer, C. Dugan, M. J. Muller, and I. Guy, "Make new friends, but keep the old: Recommending people on social networking sites," in Proc. SIGCHI Conf. Human Factors Comput. Syst., 2009, pp. 201-210.

[6] I. Konstas, V. Stathopoulos, and J. M. Jose, "On social networks and collaborative recommendation," in Proc. 32nd Int. ACM SIGIR Conf. Res. Develop. Inf. Retrieval, 2009, pp. 195-202.

[7] I. Varlamis, M. Eirinaki, and M. D. Louta, "Application of social network metrics to a trust-aware collaborative model for generating personalized user recommendations," in The Influence of Technology on Social Network Analysis and Mining(Lecture Notes in Social Networks Series), vol. 6, T. Ozyer, J. G. Rokne, G. Wagner, and A. H. P. Reuser, Eds. Berlin, Germany: Springer, 2013, pp. 49-74.

[8] I. Guy, I. Ronen, and E. Wilcox, "Do you know? : Recommending people to invite into your social network," in Proc. 14th Int. Conf. Intell. User Interfaces, 2009, pp. 77-86.

[9] J. Golbeck, "Trust and nuanced profile similarity in online social networks,"J. ACM Trans. Web, vol. 3, no. 4, pp. 1–33, 2009.

[10] T. Grandison and M. Sloman, "A survey of trust in internet applications," IEEE Commun. Surveys Tuts., vol. 3, no. 4, pp. 2–16, Oct. 2000.