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Friend Me! : User Profile Based Friend Recommendation System for Social Network

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ABSTRACT:- *Nowadays social networking has become a part of life style and also unlimited source of information. For that several applications have been proposed to gain information from social network like recommendation system. In this paper we present automatic friend recommendation based on human nature and interests. It discovers friend recommendation based on comparison between lifestyle of users. We further propose a system to measure similarity between lifestyle of users and calculate user's impact associated to their lifestyle and their field of interest with a friend matching graph. After receiving a request, Friend Me return a list of individuals with highest recommendation score to user query. This paper emphasizes on providing a categorization of recommendation till now. We have implemented Friend Me webpage and evaluated its performance on small scale experiments and also large scale transcript. The result shows recommendations which exactly reflect the preferences of user in choosing friends.*

Keywords:- *Recommendation system, social networks, friend, item, field of interest, user profile, lifestyle.*

I. INTRODUCTION

Many years ago, people made friends who lived or worked to close to them, such as neighbors or colleagues. Issue which arises with present social networking services is how to recommend a good friend to a user. Most of them depend on already existing user relationships to select friend candidates. For example, Face book depends on a social link analysis among those who already share common friends and recommends symmetrical users which are likely to be friends. But this method may not be the most appropriate based on finding recent sociology. According to these studies, the rules for people to come together in a group that includes: 1) Habits or Life Style; 2) Attitudes; 3) Tastes; 4) Moral standards; 5) Economic Level; and 6) people they already know. Life styles of user are usually closely related with daily routines and activities. Hence, we could collect information on user's daily routines and activities. This recommendation mechanism can be implemented as a webpage as an add-on to existing social network frameworks. In both cases , Friend Me can help social networking site users to find friends either among strangers or within a particular group as long as they share similar life styles.

The development of social networks generated a major improvement in information spread. Users around the world are now more involved with the Internet. Through adoption of social networks, user generated content is much more accessible than before. Recommendation systems play a large role in providing customized user experiences. The main challenge in developing relevant friend recommendations is because dynamic nature of humans' perception of friendship. It is natural and common for humans to change their view of friendship, this view varies from person to person in which a social network can undergo continuous and abrupt change again and again without the introduction of new nodes. Recommendation helps users to identify their interests, sets of choices, and preferences by predicting the usefulness degree of an item or group of Items to these users.

II. LITERATURE SURVEY

Recommendation systems which try to suggest items (e.g., music, movie, and books) to users have become more popular in recent years. For example, Amazon.com website recommends items to a user based on items. The user previously visited, and items that are related to previously visited or purchase items. Recently, lots of attention is gained by recommendation system in social networking sites. On General basis, pre-existing friend recommendation in social networking systems, e.g., Face book, LinkedIn and Twitter, recommend friends to users according to their social relations and also if they share common friends. Whereas, other recommendation mechanisms have also been proposed by researchers. For example, Bian and Holtzman [1]

presented Match Maker, a collaborative filtering friend recommendation system based on personality matching. Kwon and Kim [4] proposed a friend recommendation method using physical and social context. However, authors did not give an explanation about what the physical and social context is and also how to obtain the information. Yu et al. [5] recommended geographically related friends in social network by combination of GPS. GPS gives information and social network structure. Hsu et al. [3] studied the problem of link recommendation in the weblogs and similar social networks and proposed an approach based on collaborative recommendation by using the link structure of a social network and also content-based recommendation using mutual declared interests. Gou et al. [2] proposed a visual system, SFViz, for supporting users to explore and find friends interactively belonging to the context of interest, and reported a case study using the system to search the recommendation of friends based on people's tagging behaviors in a music community. These existing friend recommendation systems are totally different from our work, as we are exploiting recent sociology findings to recommend friends based on their similar life styles and field of interest instead of social relations. In our everyday lives, we may have thousands of activities, which form meaningful sequence that shape our live.

In this paper, we use the phrase field of interest to specifically refer to the actions taken in fraction of seconds, such as "writing", "reading", or "walking", while we use the phrase life style to refer to higher-level abstractions of daily lives, such as "collage work" or "shopping". For instance, the "shopping" life style mostly consists of the "walking" activity, but may also contain the "standing" or the "sitting" activities. To the best of our knowledge, Friend Me is the first friend recommendation system exploring a user's life style information discovered from webpage which is inspired by achievements in the field of data mining, we have model the daily lives of users as life documents and use the probabilistic topic model for obtaining life style information of users. We propose a unique similarity metric for characterizing the similarity of users in case of life styles and then construct a friend-matching graph to recommend friends to users based on their life style and field of interest. We integrate a linear feedback mechanism that explores the user's feedback for improving recommendation accuracy system. We perform both small-scale experiments and also large-scale experiment to Transcript to evaluate the performance of our system. Experimental results give the effectiveness of our system.

III. PROPOSED SYSTEM

The design represents Friend Seeker, a new recommendation system for social networks, which suggests the friends to users based on their life styles and interest instead of social graphs. Friend Seeker discovers life styles of users from user's data, personal interest and measures the relationship of life styles between users, and recommends friends to users if their life styles have high similarity. The proposed design will develop a general friend recommendation system by using Latent Dirichlet Allocation (LDA) algorithm and it will be given to the user. Then propose a similarity metric to determine the similarity of life styles between couple of users, and compute users' impact in terms of life styles with a friend-matching graph. After receiving a request, Friend Seeker will returns a list of people with maximum recommendation scores to the query user. The results will show that the recommendations are according to the preferences of users in choosing friends. We take the base architecture from the paper [15] as the System Architecture is shown in fig.1 for the proposed Work.

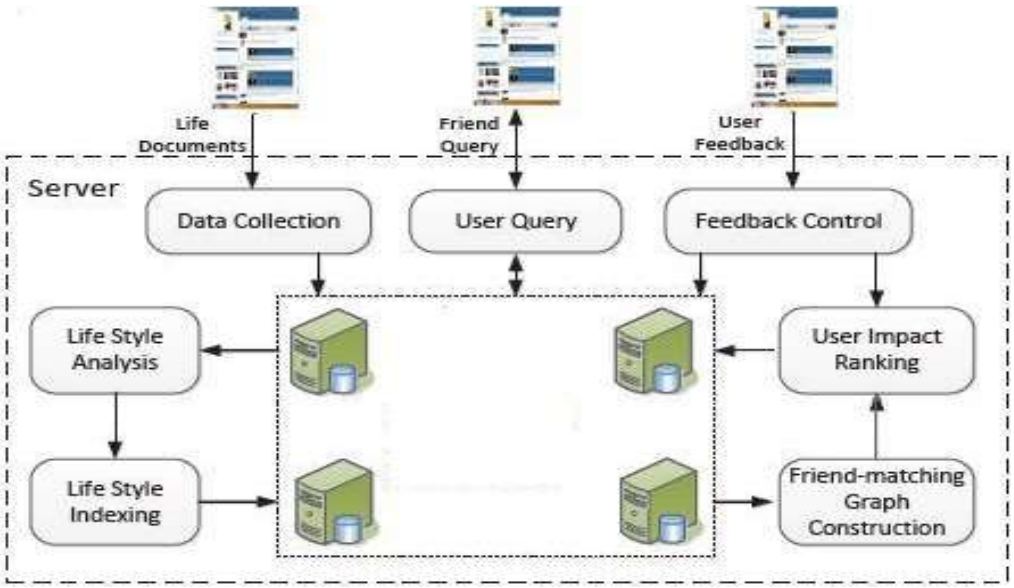

Fig -1: System Architecture

Figure shows the system architecture of Friend Me which adopts a client-server model where each client is webpage user and the servers are data centers or database. On the client side, each webpage can record data of its user and perform real-time activity recognition, and also report the generated life documents to the servers. It is important to note that an offline data collection and also training phase is needed for building an appropriate activity classifier for real-time activity recognition on WebPages. We spent sometime time for collecting raw data of some volunteers for building the training set. As each user typically generates around 50MB of raw data each day. We have chosen MySQL as our low level data storage platform and XML database as our computation infrastructure. After the classification of activity is obtained, it will be distributed to each user's WebPages and then activity recognition process can be performed in real-time manner. As a user frequently uses Friend Me, he/she will collect more and more activities in his/her life documents, based on which, we can produce his/her life styles using probabilistic topic model .On the server side, seven modules are designed to accomplish the task of friend recommendation. The data collection module collects life documents from users' WebPages. Then the life style indexing module place the life styles of users into the data centers in the format of (life-style, user) instead of (user, life-style). A friend-matching graph can be constructed accordingly to represent the similarity relationship of users' life styles. The impacts of users are then computed based on the friend-matching graph . The user query module takes a user's query and sends a ranked list of good friends to the user as response.

The results will show that the recommendation is according to the preferences of users in choosing friends. The system also allows users to give feedback of the recommendation results which can be processed by the feedback control module. With this module, the accuracy of friend recommendation can be improved.

IV. CONCLUSION

In this review paper, we represented the design of the Friend recommendation through similarities between lifestyles of user in social networks. Which is different from the friend recommendation mechanisms depends on social graphs in existing social networking services. This recommendation system takes the user related data collected from user and by using that data we constructed the friend match graph. By using that graph we recommended good friends to users if they have similar life styles. We also gain the feedback from user and regarding certain issues so that we can solve the problem. We also obtained the feedback from the user about the recommendation system. We implemented our recommended system on webpage based, and measure its performance on both small-scale experiments. The results show that the recommendations perfectly reflect in the preferences of users in choosing friends.

REFERENCES

[1]. L. Bian and H. Holtzman. Online friend recommendation through personality matching and collaborative filtering. Proc. of UBI-COMM, pages 230-235, 2011.

[2]. P. Desikan, N. Pathak, J. Srivastava, and V. Kumar. Incremental page rank computation on evolving graphs. Proc. of WWW, pages 1094-1095, 2005.

[3]. Aaron Beach, Mike Gartrell, Xinyu Xing, Richard Han, Qin Lv, Shivakant Mishra and Karim Seada, "SocialFusion: Context-Aware Inference and Recommendation By Fusing Mobile, Sensor, and Social Data", Technical Report CU-CS 1059-09. University of Colorado at Boulder.Dec. 2009.

[4]. G. Adomavicius, and A. Tuzhilin, "Toward the Next Generation of Recommender Systems: A Survey of the State-of-the-Art and Possible Extensions", IEEE Transactions on Knowledge and Data Engineering,Vol.17, No. 6, pp. 734-749, 2005.

[5]. S.S. Anand, and B. Mobasher, "Intelligent Techniques for Web Personalization", Lecture Notes in Artificial Intelligence (LNAI) 3169, Springer, pp. 1-36, 2005.

[6]. X. Yu, A. Pan, L.-A. Tang, Z. Li, and J. Han. Geo-friends recommendation in gps-based cyberphysical social network. Proc. Of ASONAM, pages 361-368, 2011.

[7]. G. R. Arce. Nonlinear Signal Processing: A Statistical Approach. John Wiley & Sons, 2005.

[8]. B. Bahmani, A. Chowdhury, and A. Goel. Fast incremental and Personalized pagerank. Proc. of VLDB Endowment, volume 4, pages 173-184, 2010.

[9]. D. M. Blei, A. Y. Ng, and M. I. Jordan. Latent Dirichlet Allocation. Journal of Machine Learning Research, 3:993-1022, 2003.

[10]. N. Eagle and A. S. Pentland. Reality Mining: Sensing Complex Cocial Systems. Personal Ubiquitous Computing, 10(4):255-268, March 2006.

[11]. K. Farrahi and D. Gatica-Perez. Probabilistic mining of sociogeographic routines from mobile phone data. Selected Topics in Signal Processing, IEEE Journal of, 4(4):746-755, 2010.

[12]. K. Farrahi and D. Gatica-Perez. Discovering Routines from Largescale Human Locations using Probabilistic Topic Models. ACM Transactions on Intelligent Systems and Technology (TIST), 2(1), 2011.