A FRIEND RECOMMENDATION SYSTEM FOR SOCIAL NETWORKS

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Abstract: Nowadays, Social network Services Recommend friends to users on available information provided by them. The available information may not be appropriate or sufficient for friend selection to users in real life. In this paper, a friend recommendation for users in social network is provided on semantic basis. In the existing system friends are recommended to users in social network is provided on semantic basis. In the existing System friends are recommended to users based on their lifestyle, instead of social graph or information provided on social network by using the smart technology like sensor rich smart phone, friends are recommended based on life style of users from user friendy centric sensor data, which measures the similarity of life style between users. In this text mining concept is used in which the users daily life as life documents, discovers the lifestyles and information is obtained by latent Dirichlet Allocation algorithm. A similarity metric is used to measure the similarity of lifestyle of different users, and to find users impact in terms of life styles with a friend match graph. When a request is received friend’s recommends will return a list of people with highest possible accuracy. We implement our friend recommendation system on android smart phones. The performance of the system is examined on small scale and high scale experiments.

Index Terms: Social bookmarking, Social Graph, Tagging System.

I. INTRODUCTION

In past few years, users made friends with each others who live or work close to them, such as neighbor or work place etc. This type of friendship is called as traditional way of making friends or G. Friend called as geographical based friends. They are made by geographical distance among themselves. With the modern technology & increasing demand of advancement in social networking sites such as FB, twitter & G+ they have increased the advancement of making friends. According to the information states on FB. The challenge faced with current social network services are that how to recommend a friend to user. Previously, friends are made on earlier relation among themselves. For example, FB is based on social limits among them, who friends & recommendation is done to user for friends. But the above method may be appropriate on recent search [10], [13], [14], [15]. Based on recommendation system it can be implemented on smart phones or on the existing system of social network. In the above cases, friend recommendation system helps the users to find friends among unknown or similar life style is found. In existing life style, we might have hundreds of activity, which gives the information of our life style. In this paper, the word activities is used to provide the action taken by the users such as "eating","sleeping," or "typing", the phrase are used to define the life style or everyday life of user. We can create our daily life style with live document, where semantic words are used is observed.

The current solution is observed based on recent techniques found in smart phones, which are popular in user’s life style. The smart phones are filled with a rich set of sensors available, such as GPS, camera, gyroscope, etc. Smart phones are no longer used for simple communication but are used to provide rich content & data. This concludes that smart phones are used for sensing daily routines of people's life styles. From all above observation, there are still many challenges for smart phones based on extracting the user data and friend recommendation based on similarity in life style. To overcome all challenges in this paper, we propose a friend recommendation system based on sensor rich smart phones.

II. LITERATURE SURVEY

Kwon and Kim [11] proposed a friend recommendation system which uses physical and social context. Yu et al. [16] recommends geographical friends in social networks, which combines GPS information and social network. Netflix [3] and Rotten Tomatoes [4] recommend movies to users based on previous rating of user. Recently, due to advancement of social networking systems, lot of attention is received to friend recommendation systems. These Existing systems of recommendation a friend are different from our work, as our work is based on recent sociology for finding friends on similar life style instead of social related work. The MIT reality Mining project [7] and Farrahi and Gatica-Perez [9] has worked on daily location driven routines from large scale location information. Social-tagging community’s over great potential for smart recommendation and “socially enhanced” search result ranking.

The settings resemble the paradigm of collaborative recommendation [17, 18, 19, 20], which applies data mining on customer-product and similar usage data to predict items that users are interested in.

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To identify the most central (influential) users or items and some of the empirical studies have actually raised doubts about the benefit of social tags and friendship relations for improving search [21, 22].

Topology based approaches for recommendation systems have already been suggested by other researchers [23],[24],[25]. A proposed system is been used like different clustering indexes and a novel user calibration procedure using Genetic Algorithm (GA).

The work in this paper is different from the previous work of Friend book [10] that recommends friends to users based on similarity of pictures of users.

III. SYSTEM OVERVIEW

The friend recommendation system provides a client server model, where client side is a smart phone carried by a user and server side is data cloud. The client side performs real time activity and the generated life document on the server side. Every user generates around 50mb data every day, so we will choose My SQL as our low level data storage and hadoop Map reduce as the computing environment. The user will use our friend recommendation system, so user will use more and more action of the documents based on life styles.

Figure 1: System Architecture of Friends Recommendation

The server side provides seven modules to make use of friend recommendation system.

The collection of information provides the users information. The life styles of users are to be extracted from the life style module.

We further proposed a similarity of the life styles between the people, and calculate their impact of life styles with a friend matching graph.

When receiving a request, friend recommendation system will give a list of people with higher recommendation scores to the query user. Then it will make use of feedback mechanism to improve the recommender accuracy. The friend-matching graph calculates the impact of user by the user impact ranking. Page Rank [12] uses a web page ranking, then users ranking is reflected by his neighbours in friend matching graph.

The user query module then asks for user query and sends response to potential users. The feedback allows the users to recommendation system which can given and processed by the feedback control module with the proposed system, the accuracy can be improvised. According to incremental computation of Page Rank [5],[6], the distributed computation of Page Rank matrix vector multiplication can be implemented for large scale evolving graph.

IV. CONCLUSION AND FUTURE WORK

In the paper, we present the implementation and design of friend recommendation to the social network based upon semantic method. In is varying from other friend recommendation systems and it is based on social graph in existing social network service.

Friend recommendation system has the information collected from life styles from user specific sensor data on smart phones and recommendation is done to other users on basis of it, if they share similar life style. We implemented our system on android based smart phones, and the performance is evaluated on small scale and larger scale simulation. The experiments results show the recommendation accurately of user’s preferences in finding the friends.

Beyond the existing system, the future work can be further extended;

- **First:** We would and evaluate the system on large scale field.
- **Second:** We would implement the life style extraction using LDA and the iterative matrix vector method in user impact ranking, so friend recommendation would be enlarge on larger basis systems.
- **Third:** The similarity used for finding the friend recommendation. It would be interesting to further expand the adaptation for each edge and check for better representation on the relationship on friend matching graph.
· Fourth: At last we incorporate many more sensors on mobile phones into the system and also further implement the information from wearable equipment (Ex: Watch, Google glass, Galaxy Gear).

We further incorporate friend recommendation system into existing social services (eg: FB, Twitter, LinkedIn) so friend recommendation system can be utilized for life discovery, which should be further improved for recommending experience in future.

REFERENCES