

## A Survey of friend Recommender system

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**Abstract :** OSN such as (Facebook, google+, linkedin etc) are becoming more famous day by day .To find the appropriate friend in social networking site is the challenge to individual so many methods has been proposed to recommend friends in social networking site. One basic way for friend recommendation is recommend friends with existing social links but as this may not be the appropriate way to find friends a new system based on user's daily life is proposed to find friends.

Life style of user is extracted using user centric sensor data, this data is been captured using wearable devices such as (fitbit,iwatch,Google glass) and the iterative matrix vector multiplication is used in user impact ranking incrementally. To explore the more accurate results adaptive threshold for each edge will be used and result need to be capture This experimentation will be done at large scale to record the result.

**Keywords:**Friend Recommendation,Hadoop,LDA

### Introduction

Social network plays an important role in each and every individual's life. The use of social networking site has been increased in past twenty years. The current statistics of facebook user is almost 1.19 billion monthly active users

including, 874 million mobile users, and 728 million daily users. Social networking site has made access of information very fast and easy. Social networking plays an important role for the customization of particular user's experience. Recommender system is being used to improve the quality of customized user's experience. A particular user is able to identify their interest with the help of recommender system. There are many recommender system which recommends items to user based on their social networking profile. One of the important recommender systems amongst all is "Friend Recommender" system.

Traditional approach of making friends was to make friends those who live or work close to themselves. Recommending a good friend to the user has become challenge to the existing social networking site. Most of the methods depends on the pre-existing relations of user to recommend friends, such as facebook depends on social link analysis of user among mutual friends and recommends possible candidate for friendship. Sadly this may not be the appropriate approach for recommendation of friends. Recent sociology study have emerged with the new method of grouping people together [1] [2]. According to this findings people can be grouped together based on:

- 1)Attitudes
- 2)habits or lifestyles
- 3)Tastes
- 4)moral standards
- 5)economic level and
- 6)people they already know

Current social networking sites recommends friends based on rule #3 and #6 among the rules stated above. Among all the rules, rule #2 is quite hard to exploit but very visceral way to recommend friends. Daily routines and activities contributes the lifestyle of user. Therefore, if we manage to gather information of user's daily life then we can exploit rule #2 and recommend friends who share similar life styles.

## Literature Survey

Social networking sites are getting more benefits from recommender system that's why in these days recommender system is the more popular tool among online user. There are two categories of recommender system in which, it can be divided i.e. object recommendation and link recommendation. For example, Netflix[3] and Rotten Tomatoes[4] are very popular tool for recommending movies based on user's opinion towards particular movie i.e. the previous ratings and the habits developed in user. Different to this social networking sites such as facebook, google+, linkedin, twitter etc focuses on link recommendation where possible candidates for friendship is recommended to user.

Researchers are continuously proposing new algorithms for recommendation system. For instance, Matchmaker presented by Bian and Holtzman[5], It is collaborative filtering technique focuses more on information gathered from user's social profile and the physical world interaction of user. The system proposed by Kwon and Kim[6] considers the physical and social context however there is lacking about the concept of physical and social context and how to obtain information regarding it. Hsu et al.[7] analyzed the problem of link recommendation weblogs and social networking sites and after studying this problem he proposed an approach which is based on collaborative recommendation using the link structure of existing social networks. He presented the recommender system based on links. Links are used to recognize potential candidates for recommendation. As link in weblog is the basis for recommendation trust build in the system is of high scale. But these links sometimes leads to false links resulting invalid recommendation. Jeff Naruchitparames[8] proposed system base on genetic algorithms and network topology. The system used complex network theory, cognitive theory and a Pareto optimal genetic algorithm to determine possible recommendation and to evaluate individual's perception of friendship. The system very well explains the how the links are being formed in social network. Kuan et al.[9] proposed a technique to locate groups using a transitive extension based approach. This technique stated the use of a 1.5Clique extension method to derive sub structures, or communities, within social networks. Results of this technique

showed that this method wasn't that much effective in finding community of friends. However, this technique does not conclude any details regarding formation of communities. That is, it is significant to understand primary factor i.e. common interests cause a formation in these communities. These Friend recommendation technique are momentarily different from our approach. Rather than concentrating on the pre-existing relationship of user, the social graphs or the already existing links in the social network we try to develop a new method which is based on the recent sociological findings.

## Proposed Work

The proposed design will present "Associate Buddy" an add on existing social networking sites. This method will consider lifestyle of a user rather than the social graphs. Associate buddy will have the client-server architecture in which client is a user carrying Smartphone and server is a datacenter. Lifestyle of a user will be calculated from the wearable sensors devices. Lester et al.[10] proposed a system based on the Hidden Markov Model(HMM) which used data from wearable sensor devices to recognize activities. Upon receiving the request from user Associate buddy will return the possible candidates for friendship. Associate Buddy discovers the user's lifestyle from user centric data captured by the sensors on Smartphone, then it calculates the similarities between the lifestyle of a user using LDA(Latent Dirichlet Allocation) algorithm and computes the user impact using friend matching graph. Iterative matrix vector multiplication method will be used for user impact ranking so

that experiment can be carried out on a large scale. Finally Associate Buddy will be added to the existing application on Android. We take the base architecture of the system from the [11] as shown in the figure below.

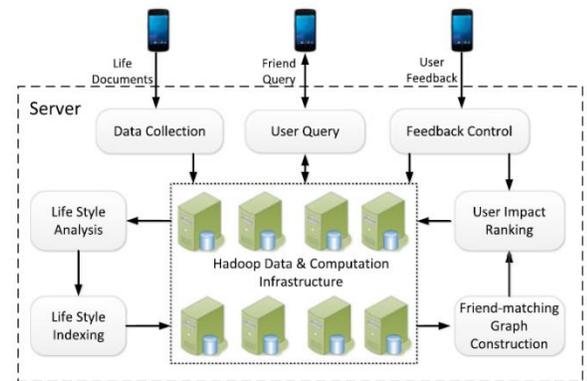


Fig 1. System Architecture

## Conclusion

In this survey paper, we have tried to explore maximum friend recommendation technique proposed till now. We have discussed above various categories in which algorithm is classified.

We have also stated the advantages and disadvantages of these technique. We have also proposed the work towards the life style based recommendation system.

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