Friend Recommendation Android Application Using Behaviour and GPS Technology

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Abstract: Every day we are overwhelmed with many choices and options, simultaneously recommendation systems have gained popularity in providing suggestions. Today every web application has its own recommendation system. Whereas, Recommendation systems for social networks are different from other kinds of system. In this system, we present Friend book, a novel semantic-based friend recommendation system for social networks, which recommends friends to users based on their life styles instead of social graphs. By taking advantage of sensor-rich smartphones and we providing two more additional features of recommendations such as recommendation of several locations where user may visit like malls, hotels, stores or some places etc and another recommendation is to provide some information about recent technologies, job links, or some academic details on the basis particular users profiles. Friend book discovers life styles of users from usercentric sensor data, measures the similarity of life styles between users, and recommends friends to users if their life styles have high similarity. Upon receiving a request, Friend book returns a list of people with highest recommendation scores to the query user.

Keywords: Friend recommendation, mobile sensing, social networks, life style.

1. INTRODUCTION

Nowadays, social networking sites are drastically growing area which attracts user’s attention towards itself. Years ago, people typically made friends with others who live or work close to themselves, such as neighbours or colleagues, but nowadays because of social networking sites like Facebook, Twitter, Google+ people can make friends who are millions of distance far away. This system proposed friend recommendation method using Behaviour and location of person. The scheme considers friendship from similar life style and same behaviour, attitudes. we providing two more additional features of recommendations such as recommendation of several locations where user may visit like malls, hotels, stores or some places etc and another recommendation is to provide some information about recent technologies, job links, or some academic details on the basis particular users profiles.

In our everyday lives, we may have hundreds of activities, which form meaningful sequences that shape our lives. In this paper, we use the word activity to specifically refer to the actions taken in the order of seconds, such as “sitting”, “walking”, or “typing”, while we use the phrase life style to refer to higher-level abstractions of daily lives, such as “office 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.

2. RELATED WORK

Recommendation systems that try to suggest items (e.g., music, movie, and books) to users have become more and more popular in recent years. For instance, Amazon recommends items to a user based on items the user previously visited, and items that other users are looking at. R.Zhang [3] and Zhibo wang [4] recommend movies to a user based on the user’s previous ratings and watching habits. Recently, with the advance of social networking systems, friend recommendation has received a lot of attention. Generally speaking, existing friend recommendation in social networking systems, e.g., Facebook, LinkedIn and Twitter, recommend friends to users if, according to their social relations, they share common friends.

Although a lot of work has been done for activity recognition using smartphones, there is relatively little work on discovery of daily routines using smartphones. The MIT Reality L.Bian [5] and X.Yu [7] tried to discover daily location-driven routines from large-scale location data. They could infer daily routines such as leaving from home to office and eating at a restaurant. However, they could not discover the daily routines of people who are staying at the same location. For instance, when one stays at home, his/her daily routines like
“eating lunch” and “watching movie” could not be discovered if only using the location information. In our work, we attempt to use the probabilistic topic model to discover life styles using the smartphone. We further utilize patterns discovered from activities as a basis for friend recommendation that helps users find friends who have similar life styles.

Note that the work in this paper is significantly different from our preliminary demo work of Friendbook that recommended friends to users based on the similarity of pictures taken by users. Activity recognition serves as the basis for extracting high-level daily routines (in close correlation with life styles) from low-level sensor data, which has been widely studied using various types of wearable sensors. R.Zhang[3] used GPS data to understand the transportation mode of users. S.M.Rokade [2] recognized static postures and dynamic transitions by using accelerometers and gyroscopes. The advance of smartphones enables activity recognition using the rich set of sensors on the smartphones. L.Bian [5] used the built-in GPS and the accelerometer on the smartphones to detect the transportation mode of an individual. Zhibo Wang [4] used multiple sensors on the smartphone to capture user’s activities, state, habits and surroundings. SoundSense S.M.Rokade [2] used the microphone on the smartphone to recognize general sound types (e.g., music, voice) and discover user specific sound events. EasyTracker J.Han [6] used GPS traces collected from smartphones that are installed on transit vehicles to determine routes served, locate stops, and infer schedules.

3. PROPOSED SYSTEM 3.1 Description

![Proposed System Diagram]

Fig 3.1.1 Proposed System
The System consists of Login user, which is help to Register User with all his info like school, college, personal information. In the system, location of user should be continuously sent to server using GPS with the help of Triliteration Algorithm. It determines the position of person on earth and uses timing signals from three satellites in GPS. This network of satellite orbit the earth and sends signal to GPS. Activity recognition serves as the basis for extracting high-level daily routines (in close correlation with life styles) from sensor data, like GPS. System recommends users for friends who have high impact and also similar life styles and user data. System able to send friend requests with similar life style and with similar or nearer locations.

3.2 METHODOLOGY

GPS stands for Global Positioning System. It is a satellite-based navigation system that was developed by the United States Department of Defence also known as Navstar, is a global navigation satellite system (GNSS) that provides location and time information anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites. The GPS concept is based on time and the known position of specialized satellites continuously transmit their current time and position. Four satellites must be in view of the receiver for it to compute four unknown quantities. The satellites used for the navigation continuously send signals. A GPS receiver is used to pick up the signal from the satellite, and with the help of this receiver the position of the user on the ground can be calculated with a high accuracy. It is very important to consider that a GPS receiver compares the time of signal transmission with the time it was received. Thus, it provides co-ordinates for any position on earth via satellite. GCM is a mobile notification service developed by Google that enables third-party application developers to send notification data or information from developer run servers to applications that target the google android operating System, as well as applications or extensions developed for the Google Chrome internet browser. Google Cloud Messaging (GCM) is a free service that enables developers to send messages between servers and client apps.

![GCM Architecture](image-url)
5. CONCLUSION

In this paper, we presented the design and implementation of Friendbook, a semantic-based friend recommendation system for social networks. Different from the friend recommendation mechanisms relying on social graphs in existing social networking services, Friendbook extracted life styles from user-centric data collected from sensors on the smartphone and recommended potential friends to users if they share similar life styles. We implemented Friendbook on the Android-based smartphones. The results showed that the recommendations accurately reflect the preferences of users in choosing friends.

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7. REFERENCES

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