

METHOD AND SYSTEM FOR RECOMMENDING FRIENDS IN SOCIAL NETWORKING SERVICE COMMUNITY

Field of the invention

5 The present invention relates to internet techniques, and more particularly, to a method and system for recommending friends in social networking service community.

Background art

10 Social networking service (referred to as "SNS") is technical application architecture in web2.0 system. By establishment of direct social friend relationship and sharing human resources among friends, SNS completes or solves specific application problems in the process of establishment of social relations. SNS is operated based on the theory of six degrees of separation, i.e., in a network of contacts, if one wants to know any one strange friend, the goal can be achieved through at most only six intermediate friends. According to the theory of six degrees of separation, each individual's social circle continues to enlarge and eventually becomes a large network.

15 With the growing number of users of the SNS community on the network, it is more difficult for the users to find known people around themselves in a vast sea of people. The traditional way is that the users use keywords to search; for example, entering the name of a person whom you want to know, and searching for and recommending users who match the keywords according to personal data filled by the users in SNS community. This method relies on the personal data filled by the users, however, the personal data filled by the users often does not reflect the real situation, and thus the accuracy is not high. Further, when a user does not know some information of the people whom the user wants to know, then, it is unable to search.

25 Summary

 In view of this, it is necessary to provide a method for recommending friends in social networking service community, which can improve recommendation accuracy.

 A method for recommending friends in social networking service community

includes following steps: obtaining a user's behavior information; generating a friend recommendation list according to the behavior information in combination with community information; and recommending the friend recommendation list to the user.

5 The user's behavior information can be the user's instant messaging buddy list, the community information is registration information of users of the community, and the step of generating a friend recommendation list can specifically be: reading the user's instant messaging buddy list; and obtaining users who have registered in the community from the instant messaging buddy list to generate the friend recommendation list.

10 The user's behavior information can be the user's buddy list in the community, the community information is a community relationship chain list of users of the community, the step of generating a friend recommendation list specifically is: reading the user's buddy list in the community; and obtaining the user's community relationship chain list from the buddy list to get the friend recommendation list.

15 The user's behavior information can be a list of IP Address of the user logging into the community, the community information is registration information of users of the community, the step of generating a friend recommendation list specifically is: reading the list of IP Address of the user logging into the community; obtaining an IP address with the highest weight in the list of IP Address; and obtaining a list of registered users of which an IP address in the last login in the community is the IP address with the highest weight as the friend recommendation list.

20 The user's behavior information is a list of the user's instant messaging groups, the community information is registration information of users of the community, and the step of generating a friend recommendation list specifically is: reading the list of the user's instant messaging groups; obtaining a group user list from the list of groups; and
25 obtaining a list of community users who have registered in the community from the group user list as the friend recommendation list.

 The step of recommending the friend recommendation list to the user can specifically be: recommending the friend recommendation list from which the user's community friends are removed to the user.

30 The step of recommending the friend recommendation list to the user further includes: ranking the friend recommendation list according to friend weights.

The step of recommending the friend recommendation list to the user further includes: removing the user's community friends from the friend recommendation list; ranking the friend recommendation list from which the user's community friends are removed according to friend weights; and recommending the ranked friend
5 recommendation list to the user.

The friend weight is number of occurrences in the friend recommendation list, integrity of community information, or relevance between the community information and the user.

Moreover, it is also needed to provide a system for recommending friends in social
10 networking service community, which can improve the recommendation accuracy.

A system for recommending friends in social networking service community, includes: a user's behavior information obtaining module configured to obtain a user's behavior information; a community information obtaining module configured to obtain community information; a friend recommendation list generation module configured to
15 generate a friend recommendation list according to the user's behavior information in combination with the community information; a recommendation module configured to recommend the generated friend recommendation list to the user.

The user's behavior information is the user's instant messaging buddy list, the community information is registration information of users of the community, the friend
20 recommendation list generation module is further configured to read the user's instant messaging buddy list and obtain users who have registered in the community from the instant messaging buddy list to generate the friend recommendation list.

The user's behavior information is the user's buddy list in the community, the community information is a community relationship chain list of users of the community,
25 the friend recommendation list generation module is further configured to read the user's buddy list in the community and obtain the user's community relationship chain list from the buddy list as the friend recommendation list.

The user's behavior information is a list of IP Address of the user logging into the community, the community information is registration information of users of the
30 community, the friend recommendation list generation module is further configured to read a list of IP Address of the user logging into the community, obtain an IP address with

the highest weight in the list of IP Address, and obtain a list of registered users of which an IP address in the last login in the community is the IP address with the highest weight as the friend recommendation list.

5 The user's behavior information is a list of the user's instant messaging groups, the community information is registration information of users of the community, the friend recommendation list generation module is further configured to read the list of user's instant messaging groups, obtain a group user list from the list of groups and obtain a list of community users who have registered in the community from the group user list as the friend recommendation list.

10 The friend recommendation list generation module is further configured to remove the user's community friends from the friend recommendation list, and the friend recommendation list generation module is further configured to recommend the friend recommendation list from which the user's community friends are removed to the user.

15 In addition, the system further includes a ranking module configured to rank the friend recommendation list according to friend weights.

The friend recommendation list generation module is further configured to remove the user's community friends from the friend recommendation list, the ranking module is further configured to rank according to the friend weights the friend recommendation list from which the user's community friends are removed, and the recommendation module
20 is further configured to recommend the friend recommendation list, from which the user's community friends are removed and which is ranked according to the friend weights, to the user.

The friend weight is number of occurrences in the friend recommendation list, integrity of the community information, or relevance between the community information
25 and the user.

The aforementioned method and system for recommending friends in social networking service community generate the friend recommendation list via obtaining user's behavior information and combining with the community information; users in the friend recommendation list may be people who are related to the user or whom the user
30 may know, establishing relationship among them can improve the accuracy of friend recommendation and greatly enhance the probability of finding friends for the users;

meanwhile, the method and system can be provided to the user in unsolicited manner when the users login in the community, and make the users conveniently select the persons they probably know or they hope to know, thereby the dependency of the community is enhanced, and the activity of the friend's relationship of the community is inspired.

Brief description of the drawings

Fig. 1 is a flow chart of a method for recommending friends in social networking service community of the present invention;

Fig. 2 is a flow chart of a method for recommending friends in social networking service community of an implementation mode;

Fig. 3 is a flow chart of a method for recommending friends in social networking service community of a first embodiment;

Fig. 4 is a flow chart of a method for recommending friends in social networking service community of a second embodiment;

Fig. 5 is a flow chart of a method for recommending friends in social networking service community of a third embodiment;

Fig. 6 is a flow chart of a method for recommending friends in social networking service community of a fourth embodiment;

Fig. 7 is a schematic diagram of a system for recommending friends in social networking service community of the present invention; and

Fig. 8 is a schematic diagram of a system for recommending friends in social networking service community of an implementation mode.

Detailed description of examples

Fig. 1 shows a flow of a method for recommending friends in social networking service community of the present invention, the specific process of the flow of the method is as follows:

In step S101: obtaining user's behavior information. In one implementation mode, the user's behavior information includes one or more of the following: the user's instant

messaging buddy list, the user's buddy list in the community, a list of IP Address of the user logging into the community, a list of the user's instant messaging group, and so on.

In step S102: according to the behavior information and combining with community information, generating a friend recommendation list. In one implementation mode, the combined community information includes registered users of the community, the user's community relationship chain list and so on.

In step S103: recommending the friend recommendation list to the user. The friend recommendation list can be recommended to the user when the user logs in the community, so that the user can see people who are related to the user or whom the user may want to know when the user logs in the community. All friends in the generated friend recommendation list are related to the user, thus, the accuracy of friend recommendation is high.

Optionally, in step S103, the step of recommending the friend recommendation list to the user can specifically be: recommending the friend recommendation list from which the user's community friends are removed to the user. Since the generated friend recommendation list may contain the user's community friends, in order to avoid this part of the user's community friends being repeated to recommend to the user, thus it is needed to remove the user's community friends from the friend recommendation list.

Optionally, in step S103, the step of recommending the friend recommendation list to the user further includes: ranking the friend recommendation list according to friend weights. Here, the friend weight can be number of occurrences in the friend recommendation list, integrity of the community information, or relevance between the community information and the user, and so on. Since the friend recommendation list is ranked according to the friend weights, this can make one having higher weight rank forward, so that the user can most conveniently and quickly get the most relevant friends. Fig. 2 shows a flow of a method for recommending friends in social networking service community of an implementation mode, the specific process of the flow of the method is as follows:

In step S201: obtaining user's behavior information.

In step S202: according to the behavior information and combining with community information, generating a friend recommendation list.

In step S203: removing the user's community friends from the friend recommendation list. Since the generated friend recommendation list may contain the user's community friends, in order to avoid this part of the user's community friends being repeated to recommend to the user, thus it is needed to remove the user's community friends from the friend recommendation list.

In step S204: ranking according to friend weights the friend recommendation list from which the user's community friends are removed. Here, the friend weight can be number of occurrences in the friend recommendation list, integrity of registration information in the community, and so on.

In step S205: recommending the ranked friend recommendation list to the user. Since the friend recommendation list is ranked according to the friend weights, this can make one having higher weight rank forward, so that the user can most conveniently and quickly get the most relevant friends.

Fig. 3 shows a flow of a method for recommending friends in social networking service community of a first embodiment, the specific process of the flow of the method is as follows:

In step S301: reading user's instant messaging buddy list. In this embodiment, the user's instant messaging tool and the SNS community are combined, the user's instant messaging buddy list can be obtained when the user logs in the community.

In step S302: obtaining users who have registered in the community from the instant messaging buddy list to generate a friend recommendation list.

In step S303: removing the user's community friends from the friend recommendation list. For the user's friends in the instant messaging tool, one of them who has registered in the community may already be the user's community friend, thus, it is needed to remove this part of the user's community friends in order to avoid repeating to recommend these friends to the user.

In step S304: ranking the friend recommendation list from which the user's community friends are removed according to friend weights. The friend weight can be frequency of chatting with the user in the instant messaging tool, integrity of registration information in the community, or relevance between personal information in the community and the user, and so on. For example, for a user A, his instant messaging

friends include a user B, a user C and a user D. The user B and the user C have registered in the community, and both of the user B and the user C are not the user A's community friends. It is detected that a frequency of chatting between the user B and the user A is higher than a frequency of chatting between the user C and the user A, thus the user B is ranked in front of the user C in the friend recommendation list.

In step S305: recommending the ranked friend recommendation list to the user.

Fig. 4 shows a flow of a method for recommending friends in social networking service community of a second embodiment, the specific process of the flow of the method is as follows:

10 In step S401: reading user's buddy list in the community;

In step S402: obtaining the user's community relationship chain list from the buddy list as a friend recommendation list. The community relationship chain list records friends of the user's friends in the community.

15 In step S403: removing the user's community friends from the community relationship chain list.

In step S404: ranking the community relationship chain list from which the user's community friends are removed according to friend weights. The friend weight can be number of occurrences in the community relationship chain list, integrity of information filled in the community, and relevance between community information and the user, and so on.

In step S405: recommending the ranked community relationship chain list to the user.

25 Fig. 5 shows a flow of a method for recommending friends in social networking service community of a third embodiment, the specific process of the flow of the method is as follows:

In step S501: reading a list of IP Address of the user logging into the community. In this embodiment, a list of IP address of the user in the last logging into the community can be read, for example, taking a list of IP address of the user in the last 10 times logging into the community.

30 In step S502: obtaining an IP address with the highest weight in the list of IP

Address. Here, the so-called IP address with the highest weight refers to an IP address which appears the most times in the obtained list of IP Address, when the numbers of occurrences are the same, then it is an IP address of the last login.

5 In step S503: obtaining a list of registered users of which an IP address in the last login in the community is the IP address with the highest weight as the friend recommendation list. In the registered users of the community, the IP address of the last login is the IP address with the highest weight; it shows that the registered user may be a person who is closer to the user in distance and thus is likely to be a person whom the user would like to know.

10 In step S504: removing the user's community friends from the registered user list to avoid repeating to recommend.

In step S505: ranking the registered user list from which the user's community friends are removed according to friend weights. The weight can be integrity of personal information filled by registered users in the community, or relevance between personal
15 information and the user, and so on.

In step S506: recommending the ranked registered user list to the user.

Fig. 6 shows a flow of a method for recommending friends in social networking service community of a fourth embodiment, the specific process of the flow of the method is as follows:

20 In step S601: reading a list of user's instant messaging groups. In this embodiment, the instant messaging tool and the SNS community are combined, and a list of groups which the user joins in the instant messaging tool can be read.

In step S602: obtaining a group user list from the list of groups. The group user list records all users of groups which the user joins in; each other is related due to in the same
25 group.

In step S603: obtaining a list of community users who have registered in the community from the group user list, i.e., friend recommendation list.

In step S604: removing the user's community friends from the list of community users.

30 In step S605: ranking the list of community users from which the user's community

friends are removed according to friend weights. The weight can be number of occurrences in the list of community users, integrity of personal information filled in the community, and relevance between personal information in the community and the user, and so on.

5 In step S606: recommending the ranked list of community users to the user.

Fig.7 shows a system for recommending friends in social networking service community of the present invention. The system includes a user's behavior information obtaining module 10, a community information obtaining module 20, a friend recommendation list generation module 30 and a recommendation module 40.

10 The behavior information obtaining module 10 is configured to obtain user's behavior information. As mentioned above, the user's behavior information includes one or more of the following: the user's instant messaging buddy list, the user's buddy list in the community, a list of IP Address of the user logging into the community, a list of the user's instant messaging group, and so on.

15 The community information obtaining module 20 is configured to obtain community information. The community information includes registered users of the community, the user's community relationship chain list and so on.

 The friend recommendation list generation module 30 is configured to generate a friend recommendation list according to the user's behavior information and combining
20 with community information.

 The recommendation module 40 is configured to recommend the generated friend recommendation list to the user. The friend recommendation list can be recommended to the user when the user logs in the community, so that the user can see people who are related to the user or whom the user may want to know when the user logs in the
25 community. All friends in the generated friend recommendation list are related to the user, thus, the accuracy of friend recommendation is high. In one embodiment, the friend recommendation list generation module 30 is also configured to remove the user's community friends from the friend recommendation list. The recommendation module 40 is also configured to recommend the friend recommendation list from which the user's
30 community friends are removed to the user. Since the generated friend recommendation list may contain the user's community friends, in order to avoid this part of the user's

community friends being repeated to recommend to the user, thus it is needed to remove the user's community friends from the friend recommendation list.

Fig. 8 shows a system for recommending friends in social networking service community of an implementation mode. The system further includes a ranking module 50 besides the above behavior information obtaining module 10, the community information obtaining module 20, the friend recommendation list generation module 30 and the recommendation module 40. The ranking module 50 is configured to rank the generated friend recommendation list according to friend weights. Here, the friend weight can be number of occurrences in the friend recommendation list, integrity of the community information, or relevance between the community information and the user, and so on. Since the friend recommendation list is ranked according to the friend weights, this can make one having higher weight rank forward, so that the user can most conveniently and quickly get the most relevant friends. In one embodiment, the ranking module 50 is also configured to rank according to the friend weights the friend recommendation list from which the user's community friends are removed. The recommendation module 40 is also configured to recommend the friend recommendation list, from which the user's community friends are removed and which is ranked according to the friend weights, to the user to avoid repeating to recommend.

In one embodiment, the friend recommendation list generation module 30 is further configured to obtain user's instant messaging buddy list, and obtain users who have registered in the community from the instant messaging buddy list to generate a friend recommendation list. Before recommendation, the ranking module 50 ranks the friend recommendation list according to the weights such as frequency of chatting with the user in the instant messaging tool, integrity of information filled by the instant messaging friends in the community, or relevance between personal information and the user, and so on.

In one embodiment, the friend recommendation list generation module 30 is further configured to obtain user's buddy list in the community and obtain user's community relationship chain list from the buddy list, and the community relationship chain list is a friend recommendation list. The friend recommendation list records friends of the user's friends in the community. The ranking module 50 can rank the friend recommendation list according to the weights such as number of occurrences of friends in the friend

recommendation list, integrity of information filled by the friends in the community, and relevance between personal information and the user, and so on.

In one embodiment, the friend recommendation list generation module 30 is further configured to obtain a list of IP Address of the user logging into the community, obtain an IP address with the highest weight in the list of IP Address, obtain a list of registered users of which an IP address in the last login in the community is the IP address with the highest weight as the friend recommendation list. The IP address with the highest weight can be an IP address which appears the most times in the list of IP Address, when the numbers of occurrences are the same, then it can be an IP address of the last login. In this embodiment, a list of IP address of the user in the last logging into the community can be read, for example, a list of IP address of the user in the last 10 times logging into the community. The ranking module 50 can rank the friend recommendation list according to the weights such as integrity of information filled by the friends in the community and relevance between personal information and the user, and so on.

In one embodiment, the friend recommendation list generation module 30 is further configured to obtain a list of the user's instant messaging groups, obtain a group user list from the list of groups and obtain a list of community users who have registered in the community from the group user list as a friend recommendation list. In this embodiment, the instant messaging tool and the SNS community are combined, and a list of groups which the user joins in the instant messaging tool can be read, all the users of groups which the user joins in are obtained; of these users, users who have registered in the community are recommended to the user as friends. The ranking module 50 ranks the friend recommendation list according to the weights such as number of occurrences in the friend recommendation list, integrity of personal information filled in the community, and relevance between personal information in the community and the user, and so on.

The foregoing embodiments are only several implementation methods of the present invention, and their descriptions are more specific and detailed, but cannot be understood as the limit of the scope of the invention. It should be noted, for those skilled in the art, some modifications and improvements can be made without departing from the concept of the present invention, and these should be covered within the protection scope of the invention. Thus, the scope of protection of the present invention should be based on the claims as appended.

Claims

1. A method for recommending friends in social networking service community comprising following steps:

5 obtaining a user's behavior information;

generating a friend recommendation list according to the behavior information in combination with community information; and

recommending the friend recommendation list to the user;

10 wherein the user's behavior information includes at least one of the user's instant messaging buddy list, the user's buddy list in the community, a list of IP Address of the user logging into the community and a list of the user's instant messaging groups.

2. The method for recommending friends in social networking service community according to claim 1, wherein the user's behavior information is the user's instant messaging buddy list, the community information is registration information of users of the community,
15 the step of generating a friend recommendation list specifically is:

reading the user's instant messaging buddy list; and

obtaining users who have registered in the community from the instant messaging buddy list to generate the friend recommendation list.

3. The method for recommending friends in social networking service community according to claim 1, wherein the user's behavior information is the user's buddy list in the
20 community, the community information is a community relationship chain list of users of the community, the step of generating a friend recommendation list specifically is:

reading the user's buddy list in the community; and

25 obtaining the user's community relationship chain list from the buddy list to get the friend recommendation list.

4. The method for recommending friends in social networking service community according to claim 1, wherein the user's behavior information is the list of IP Address of the user logging into the community, the community information is registration information of users of the community, the step of generating a friend recommendation list specifically is:

30 reading the list of IP Address of the user logging into the community;

obtaining an IP address with the highest weight in the list of IP Address; and

obtaining a list of registered users of which an IP address in the last login in the community is the IP address with the highest weight as the friend recommendation list.

5 5. The method for recommending friends in social networking service community according to claim 1, wherein the user's behavior information is the list of the user's instant messaging groups, the community information is registration information of users of the community, the step of generating a friend recommendation list specifically is:

reading the list of the user's instant messaging groups;

10 obtaining a group user list from the list of groups; and

obtaining a list of community users who have registered in the community from the group user list as the friend recommendation list.

6. The method for recommending friends in social networking service community according to any one of claims from 1 to 5, wherein the step of recommending the friend
15 recommendation list to the user specifically is:

recommending the friend recommendation list from which the user's community friends are removed to the user.

7. The method for recommending friends in social networking service community according to any one of claims from 1 to 5, wherein the step of recommending the friend
20 recommendation list to the user further includes:

ranking the friend recommendation list according to friend weights.

8. The method for recommending friends in social networking service community according to any one of claims from 1 to 5, wherein the step of recommending the friend recommendation list to the user further includes:

25 removing the user's community friends from the friend recommendation list;

ranking the friend recommendation list from which the user's community friends are removed according to friend weights; and

recommending the ranked friend recommendation list to the user.

9. The method for recommending friends in social networking service community
30 according to claim 8, wherein the friend weight is number of occurrences in the friend

recommendation list, integrity of the community information, or relevance between the community information and the user.

10. A system for recommending friends in social networking service community, the system comprising:

5 a user's behavior information obtaining module configured to obtain a user's behavior information;

 a community information obtaining module configured to obtain community information;

 a friend recommendation list generation module configured to generate a friend
10 recommendation list according to the user's behavior information in combination with the community information;

 a recommendation module configured to recommend the generated friend recommendation list to the user;

 wherein the user's behavior information includes at least one of the user's instant
15 messaging buddy list, the user's buddy list in the community, a list of IP Address of the user logging into the community and a list of the user's instant messaging groups.

11. The system for recommending friends in social networking service community according to claim 10, wherein the user's behavior information is the user's instant messaging buddy list, the community information is registration information of users of
20 the community, the friend recommendation list generation module is further configured to read the user's instant messaging buddy list and obtain users who have registered in the community from the instant messaging buddy list to generate the friend recommendation list.

12. The system for recommending friends in social networking service community
25 according to claim 10, wherein the user's behavior information is the user's buddy list in the community, the community information is a community relationship chain list of users of the community, the friend recommendation list generation module is further configured to read the user's buddy list in the community and obtain the user's community relationship chain list from the buddy list as the friend recommendation list.

30 13. The system for recommending friends in social networking service community according to claim 10, wherein the user's behavior information is the list of IP Address of the user logging into the community, the community information is registration information of users of the community, the friend recommendation list generation module

is further configured to read a list of IP Address of the user logging into the community, obtain an IP address with the highest weight in the list of IP Address, and obtain a list of registered users of which an IP address in the last login in the community is the IP address with the highest weight as the friend recommendation list.

14. The system for recommending friends in social networking service community according to claim 10, wherein the user's behavior information is the list of the user's instant messaging groups, the community information is registration information of users of the community, the friend recommendation list generation module is further configured to read the list of user's instant messaging groups, obtain a group user list from the list of groups and obtain a list of community users who have registered in the community from the group user list as the friend recommendation list.

15. The system for recommending friends in social networking service community according to any one of claims from 10 to 14, wherein the friend recommendation list generation module is further configured to remove the user's community friends from the friend recommendation list, and the friend recommendation list generation module is further configured to recommend the friend recommendation list from which the user's community friends are removed to the user.

16. The system for recommending friends in social networking service community according to any one of claims from 10 to 14, further comprising a ranking module configured to rank the friend recommendation list according to friend weights.

17. The system for recommending friends in social networking service community according to any one of claims from 10 to 14, wherein the friend recommendation list generation module is further configured to remove the user's community friends from the friend recommendation list, the ranking module is further configured to rank according to the friend weights the friend recommendation list from which the user's community friends are removed, and the recommendation module is further configured to recommend the friend recommendation list, from which the user's community friends are removed and which is ranked according to the friend weights, to the user.

18. The system for recommending friends in social networking service community according to claim 17, wherein the friend weight is number of occurrences in the friend recommendation list, integrity of the community information, or relevance between the

community information and the user.