CLAIMS

1. A position information providing method, comprising:

receiving, by a server, a keyword input by a first user;

determining a target user characteristic according to the keyword;

determining a first region, the first region comprising multiple second regions;

determining, according to position information of users in the first region, the quantities of second users having the target user characteristic in respective second regions;

determining candidate regions from the multiple second regions according to the quantities of the second users comprising:

(a) determining index values of the target user characteristic in respective second regions according to the quantities of the second users comprising:

(i) sorting the second regions according to an ascending order of the quantities of the second users, and sequentially assigning sequence numbers from 1 to N, wherein N is a positive integer greater than 1;

(ii) determining sequence number values corresponding to respective second regions according to the following formula: the sequence number value=(the sequence number of each second region/the total number of second regions-0.5)*2; and

(iii) determining index values corresponding to respective second regions according to the following formula: the index value=round((ASIN(sequence number value)/π+0.5)*1000);

(b) sorting the multiple second regions according to the index values; and

(c) using the top M second regions as the candidate regions, M being a predetermined numerical value; and

providing the candidate regions for the first user.

2. The method of claim 1, before the step of determining, according to position information of users in the first region, the quantities of second users having the target user characteristic in respective second regions, further comprising:

dividing the first region into multiple second regions according to a predetermined rule;

acquiring positions of all third users in the first region within a predetermined period of time; and

acquiring user characteristics of all the third users in the first region within the predetermined period of time.

3. The method of claim 2, wherein the step of acquiring positions of all third users in the first region within a predetermined period of time specifically comprises:

acquiring multiple second regions where the third users in the first region are located when logging onto a predetermined application within the predetermined period of time, and the numbers of times each of the third users logs onto the application in respective second regions; and

using a second region in which one third user logs onto the application for the largest number of times as the position of the third user.

4. The method of claim 2, wherein the step of acquiring user characteristics of all the third users in the first region within the predetermined period of time specifically comprises:

acquiring network information of the third users in the first region; and

determining the user characteristics of the third users according to the network information.

5. The method of claim 4, wherein the step of determining the quantities of second users having the target user characteristic in respective second regions specifically comprises:

determining the third users whose positions are in respective second regions; and

screening out second users having the target user characteristic from the third users, and counting the quantities of the second users.

~~6. The method of claim 1, wherein the step of determining candidate regions from the multiple second regions according to the quantities of the second users specifically comprises:~~

~~determining index values of the target user characteristic in respective second regions according to the quantities of the second users;~~

~~sorting the multiple second regions according to the index values; and~~

~~using the top M second regions as the candidate regions, M being a predetermined numerical value.~~

~~7. The method of claim 6, wherein the step of determining index values of the target user characteristic in respective second regions according to the quantities of the second users specifically comprises:~~

~~sorting the second regions according to an ascending order of the quantities of the second users, and sequentially assigning sequence numbers from 1 to N, wherein N is a positive integer greater than 1;~~

~~determining sequence number values corresponding to respective second regions according to the following formula: the sequence number value=(the sequence number of each second region/the total number of second regions-0.5)*2; and~~

~~determining index values corresponding to respective second regions according to the following formula: the index value=round((ASIN(sequence number value)/π+0.5)*1000).~~

~~8~~6. The method of claim 1, wherein there are multiple target user characteristics,

the step of determining the quantities of second users having the target user characteristic in respective second regions specifically comprises: determining the quantities of multiple second users having the target user characteristics in respective second regions; and

the step of sorting the multiple second regions according to the quantities of the second users specifically comprises: separately determining an index value of each target user characteristic in respective second regions according to the quantities of the multiple second users;

determining comprehensive index values of respective second regions according to the index values of the target user characteristics and weights preset for the respective target user characteristics: the comprehensive index value=a*X1+b*X2+c*X3..., wherein X1, X2, X3… are index values of respective target user characteristics; and a, b, c… are weights of respective target user characteristics; and

sorting the multiple second regions according to the comprehensive index values.

~~9~~7. A position information providing device, which is applied to a server and comprises:

a receiving module configured to receive a keyword input by a first user;

a characteristic determination module configured to determine a target user characteristic according to the keyword;

a first region determination module configured to determine a first region, the first region comprising multiple second regions;

a user quantity determination module configured to determine, according to position information of users in the first region, the quantities of second users having the target user characteristic in respective second regions;

a candidate region determination module configured to determine candidate regions from the multiple second regions according to the quantities of the second users, wherein the candidate region determination module comprises:

(a) a first index value determination sub-module configured to determine index values of the target user characteristic in respective second regions according to the quantities of the second users, wherein the first index value determination sub-module specifically comprises:

(i) a sorting unit configured to sort the second regions according to an ascending order of the quantities of the second users, and sequentially assign sequence numbers from 1 to N, wherein N is a positive integer greater than 1;

(ii) a sequence number value determination unit configured to determine sequence number values corresponding to respective second regions according to the following formula:

the sequence number value=(the sequence number of each second region/the total number of second regions-0.5)*2; and

(iii) an index value determination unit configured to determine index values corresponding to respective second regions according to the following formula: the index value=round((ASIN(sequence number value)/π+0.5)*1000);

(b) an index value sorting sub-module configured to sort the multiple second regions according to the index values; and

(c) a candidate region determination sub-module configured to use the top M second regions as the candidate regions, M being a predetermined numerical value; and

a result feedback module configured to provide the candidate regions for the first user.

~~10~~8. The device of claim ~~9~~7, further comprising:

a region division module configured to divide the first region into multiple second regions according to a predetermined rule;

a position acquisition module configured to acquire positions of all third users in the first region within a predetermined period of time; and

a user characteristic acquisition module configured to acquire user characteristics of all the third users in the first region within the predetermined period of time.

~~11~~9. The device of claim ~~10~~8, wherein the position acquisition module specifically comprises:

a number-of-times acquisition sub-module configured to acquire multiple second regions where the third users in the first region are located when logging onto a predetermined application within the predetermined period of time, and the numbers of times each of the third users logs onto the application in respective second regions; and

a position acquisition sub-module configured to use a second region in which one third user logs onto the application for the largest number of times as the position of the third user.

~~12~~10. The device of claim ~~10~~8, wherein the user characteristic acquisition module specifically comprises:

a network information acquisition sub-module configured to acquire network information of the third users in the first region; and

a user characteristic determination sub-module configured to determine the user characteristics of the third users according to the network information.

~~13~~11. The device of claim ~~12~~10, wherein the user quantity determination module specifically comprises:

a user determination sub-module configured to determine the third users whose positions are in respective second regions; and

a user quantity determination sub-module configured to screen out second users having the target user characteristic from the third users, and count the quantities of the second users.

~~14. The device of claim 9, wherein the candidate region determination module specifically comprises:~~

~~a first index value determination sub-module configured to determine index values of the target user characteristic in respective second regions according to the quantities of the second users;~~

~~an index value sorting sub-module configured to sort the multiple second regions according to the index values; and~~

~~a candidate region determination sub-module configured to use the top M second regions as the candidate regions, M being a predetermined numerical value.~~

~~15. The device of claim 14, wherein the first index value determination sub-module specifically comprises:~~

~~a sorting unit configured to sort the second regions according to an ascending order of the quantities of the second users, and sequentially assign sequence numbers from 1 to N, wherein N is a positive integer greater than 1;~~

~~a sequence number value determination unit configured to determine sequence number values corresponding to respective second regions according to the following formula: the sequence number value=(the sequence number of each second region/the total number of second regions-0.5)*2; and~~

~~an index value determination unit configured to determine index values corresponding to respective second regions according to the following formula: the index value=round((ASIN(sequence number value)/π+0.5)*1000).~~

~~16~~12. The device of claim ~~9~~7, wherein there are multiple target user characteristics; the user quantity determination module is configured to determine the quantities of multiple second users having the target user characteristics in respective second regions; and

the sorting module specifically comprises:

a second index determination sub-module configured to separately determine an index value of each target user characteristic in respective second regions according to the quantities of the multiple second users;

a comprehensive index value determination sub-module configured to determine comprehensive index values of respective second regions according to the index values of the target user characteristics and weights preset for the respective target user characteristics: the comprehensive index value=a*X1+b*X2+c*X3..., wherein X1, X2, X3… are index values of respective target user characteristics; and a, b, c… are weights of respective target user characteristics; and

a comprehensive index value sorting sub-module configured to sort the multiple second regions according to the comprehensive index values.