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(71) Applicant *(for all designated States except US)*: **NHN Corporation** [KR/KR]; 34th Fl., STAR TOWER, 737 Yoksam-dong, Kangnam-gu, Seoul 135-080 (KR).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **CHUNG, Hyun Joo** [KR/KR]; 401-19, Seogyo-dong, Mapo-gu, Seoul 121-840 (KR).

(74) Agent: **YOU ME PATENT & LAW FIRM**; Seolim Bldg., 649-10 Yoksam-dong, Kangnam-ku, Seoul 135-080 (KR).

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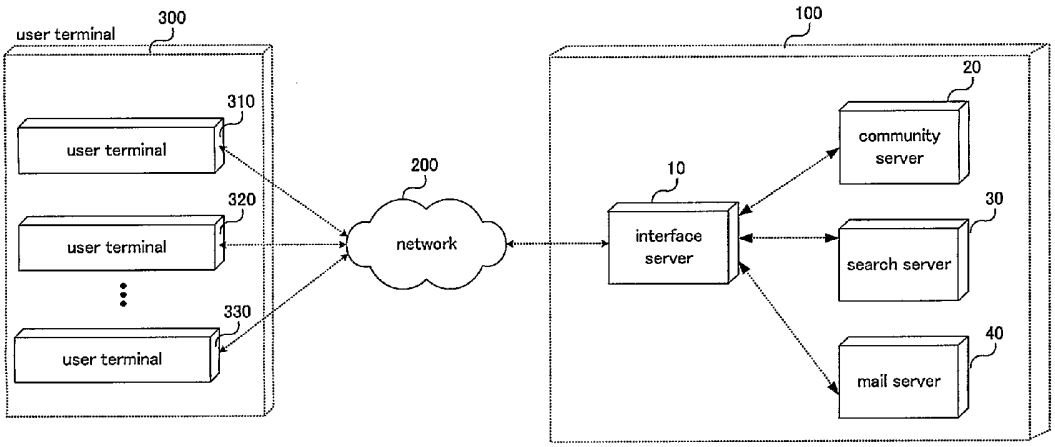
(54) Title: CONTENTS SEARCH SYSTEM FOR PROVIDING RELIABLE CONTENTS THROUGH NETWORK AND METHOD THEREOF



(57) Abstract: Disclosed is a contents search system and method for providing reliable contents. In the method, contents containing information that accords with a query word inputted from a user via the network are searched. Then, a degree of reliability of the searched contents is determined in consideration of at least one evaluation variable, and the searched contents are provided to the user according to the determined degree of reliability. With this configuration, reliable contents can be searched among contents posted on a network.

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[DESCRIPTION]

[Invention Title]

CONTENTS SEARCH SYSTEM FOR PROVIDING RELIABLE CONTENTS THROUGH NETWORK AND METHOD THEREOF

[Technical Field]

The present invention relates to a contents search system and method, and more particularly, to a system and method for searching contents provided through a network.

[Background Art]

Recently, with the rapid spread of the Internet all over the world, various types of electronic commerce intended for people throughout the world have been conducted through a homogeneous medium called the Internet. Also, with the gradual development of communication functions between users, communications in various forms have been conducted through the Internet.

In addition to electronic mail and file transmission, which are the most basic communication forms using the Internet, Internet telephony has been used as a substitution for wired telephony. Also, with the use of the Internet, a short message can be transmitted to a mobile telephone, and a variety of chatting types including character chatting, voice chatting, and video chatting, which are multilateral communications, have been conducted. Moreover, communities in which a plurality of users can exchange data, opinions, and the like have been activated.

Various forms of communities such as cafés, blogs, homepages, clubs, and mini-homepages exist, each of which includes various contents. Generally, users who have subscribed as members in a café or club communicate with each other by putting contents such as data or information about a certain subject on a bulletin board of the café or club. In the case of a blog, mini-homepage, and the like, a user who has established it posts his/her opinions or data.

Conventionally, in order for a user to see or access desired contents contained in such communities, it has been troublesome in that the user must access the communities directly and search for the contents. However, by virtue of recent developments of search technology, if only a query word contained in contents desired by a user is inputted on a web browser, the contents containing the query word is searched for each category such as web documents, news, images, and dictionaries in a web site. In addition, with such an input on the web browser, a search for communities having subjects involving the query word among communities such as cafés, blogs, and the like and a search for contents containing the query word among contents (for example, entries) contained in the communities are also performed. Thus, the user can easily search for the contents contained in the communities without making a separate access to the communities and can easily find communities containing subjects related to the query word.

However, there are a great number of contents not containing information worthy of reference among searched contents. Particularity, communities have a lot of undesired contents. In consideration of

characteristics of communities, users can post contents such as statements reflecting their thinking, feeling, or the like, in the form of a "reply" to the posted contents. Even when such posted contents do not contain information worthy of reference they may be searched and provided. In a case where contents in categories such as web documents, news, and the like, in addition to a community category, are searched, there are many cases where unnecessary information is contained in the contents.

Further, in a conventional case where a community search having a subject including a query word is performed, search results are arranged based only on scales such as the number of members and the number of posts of the searched community.

In this way, conventionally, if the query word is contained in the contents irrespective of a degree of reliability of information included in the contents, the contents are searched and provided to users. Therefore, the conventional contents search method has a disadvantage in that there is a high possibility that unnecessary contents are searched and provided to users. Accordingly, it is very difficult for a user to find reliable contents including desired information in a search result page in which numerous unnecessary contents are provided.

[Disclosure]

[Technical Problem]

In order to solve the above-mentioned problems, it is an object of the present invention to search reliable contents among contents provided on a

network and provide users with the reliable contents.

In addition, it is another object of the present invention to determine a degree of reliability of contents indicating how much information contained in the searched contents is reliable and to provide users with contents searched based on the determined degree of reliability of the contents.

[Technical Solution]

To achieve the above objects, an aspect of the present invention provides a method for searching contents provided on a network, the method including the steps of a) searching contents containing information that accords with a query word inputted from a user via the network; b) determining a degree of reliability of the searched contents in consideration of at least one evaluation variable; and c) providing the user with the searched contents according to the determined degree of reliability.

According to another aspect, the present invention provides a system for searching contents provided on a network, the system being connected to a plurality of user terminals via the network and including a search unit for searching contents containing information that accords with a query word inputted from a user via the network; a reliability measurement unit for determining a degree of reliability of the searched contents; and a search result provision unit for providing a user terminal of the user with the searched contents according to the determined degree of reliability.

According to yet another aspect, the present invention provides a method for searching contents provided on a network, the method including the

steps of a) searching first contents containing information that accords with a query word inputted from a user via the network; b) determining evaluation variables to be considered for the contents search; c) extracting second contents from the first contents, the second contents satisfying a condition set for at least one of the determined evaluation variables; d) determining a degree of reliability of the extracted second contents; and e) arranging the second contents according to the determined degree of reliability and providing the user with the arranged second contents.

[Description of Drawings]

Fig. 1 is a diagram illustrating a configuration of a networked contents search system according to an embodiment of the present invention;

Figs. 2 and 3 are diagrams illustrating a detailed configuration of each server in the contents search system of Fig. 1;

Fig. 4 is a general flowchart illustrating a contents search method according to an embodiment of the present invention; and

Fig. 5 is a detailed flowchart illustrating a search step shown in Fig. 4.

[Mode for Invention]

Hereinafter, the most preferable embodiments of the present invention that a person having ordinary skill in the art to which the present invention pertains can easily operate will be illustrated in detail with reference to the accompanying drawings. However, it should be understood that the present invention is not restricted in the embodiments and may be modified or changed in various forms without departing from the spirit and scope of the invention as

set forth in the annexed claims.

In embodiments of the present invention, if a query word is submitted, reliable contents containing the query word are searched for each category and are provided to a user who inputs the query word.

In a method for providing users with reliable contents, contents containing the query word are first searched, and a degree of reliability is given to the searched contents according to a degree of satisfaction of conditions set for evaluation variables of the searched contents, and then the searched contents selected or arranged according to the degree of reliability can be provided to the users. For example, a search result page including the searched contents arranged sequentially according to the degree of reliability or a search result page including only contents with more than a predetermined degree of reliability is generated, and the generated search result page is provided to the users.

In the present invention, the evaluation variables to be used to determine the degree of reliability of the contents include the following variables.

1. Characteristics of users who post contents

User's characteristics indicate factors such as age, occupation, residential area, and reliance index. This is for determining a degree of reliability of contents on the basis of a statistical result that users over a certain age or users engaged in specific occupations, such as professionals, post more reliable information. Accordingly, processes of classifying contents according to users' age, occupation, or residential area, evaluating a degree of

reliability of information contained in the classified contents, and, according to a result of the evaluation, determining ages or occupations of users who provide more reliable contents should be performed in advance.

User's reliance index is a value given by determining a degree of reliability of information that is posted in a system for each user. Such user's reliance index may be a value determined according to a frequency of use of contents by other contents users. For example, a reliance index of a first user can be determined on the basis of a value indicating how much second users scrap contents posted by the first user (for example, the number of scrapped contents) or a value indicating the number of second users who form a relationship with the first user's community (for example, the number of neighbored users).

Also, the user's reliance index may be a value determined according to a user's network activity. For example, a network activity may include a response to a query made by a certain user through the Internet in a knowledge sharing service and the like. In this case, the user's reliance index can be calculated according to the number of replies to a query and the number of adoptions of provided replies (reply adoption rate), for example.

2. Degree of use of contents

A degree of use of contents indicates how many users inquire and use contents. As variables used to determine how much contents are queried and used, there are the number of times by which contents are recommended to users (the number of recommendations), the number of times by which users post replies to contents (the number of replies), the number of times by which

users post talkbacks to contents (the number of talkbacks), the number of times by which contents are sent via email (the number of emails), the number of times contents are output (for example, printed) (the number of contents outputs), and the like. Here, a talkback refers to annexing a reply to a posted sentence at the sight of a post and it can be called by various names (for example, footer, comments, and reply in one line) according to service providers. In addition, the variables used may include the number of times all actions occur, which can be counted when users click contents.

3. Annexation of additional information to contents

Annexation of additional information to contents indicates whether or not separate additional information such as an image, moving picture, audio, and the like in addition to text information are annexed to contents.

4. Size of contents

A size of contents indicates an amount of information that contents have, such as the number of bytes of contents. This is based on an empirical fact that the larger the contents is, the more information it contains.

As described above, in the present invention, contents for an inputted query word are searched for in consideration of at least one of evaluation variables such as user's characteristics, a degree of use of contents, annexation of additional information to contents, a size of contents, and the like. However, it should be understood that the evaluation variables used to determine a degree of reliability of contents in the present invention are not restricted to those mentioned above.

Communities in which contents searched by such evaluation variables

are posted may include all forms of communities that can occur on a network. For example, the communities may include a common community (for example, a café or a club) in which a plurality of users subscribe as members and exchanges data or opinions about the same subject, and an individual community (for example, a blog, individual homepage, mini-homepage, or profile) managed by an individual, in which contents such as data and opinions are posted.

In addition, contents according to the present invention also include contents belonging to all categories (for example, web documents, news, dictionaries, and images) provided in a network, in addition to postings contained in the common and individual communities. In the following embodiments, a system and method for searching contents will be described on the basis of contents posted in a community for the convenience of explanation. However, it should be understood that the present invention is not restricted in searching contents contained in the community.

Now, a detailed configuration and operation of a contents search system over a network according to the present invention having the above-mentioned characteristics will be described.

Fig. 1 illustrates a configuration of a contents search system over a network (hereinafter, abbreviated as "contents search system") according to an embodiment of the present invention. Figs. 2 and 3 illustrate detailed configurations of each server.

A contents search system 100 according to an embodiment of the present invention provides users with search services through the Internet,

wireless communication networks, and the like. As shown in Fig. 1, this system 100 is connected to a plurality of user terminals 310, 320, 330,..., (hereinafter, generally referred to as "300" for the sake of convenience) via a network 200 (including various forms of networks such as telephone networks, Internet, wireless communication networks, and the like).

The user terminals 300 are communication devices that can access the contents search system 100 through the network 200, including, for example, various communication devices such as wired telephones, mobile communication terminals, computers, and Internet-accessible televisions. Accordingly, users can conveniently and speedily access the contents search system 100 by using personal computer communications, Internet, wireless Internet, and telephone networks.

The contents search system 100 connected to the user terminals 300 for providing a plurality of users with contents retrieval services includes an interface server 10, a community server 20, a search server 30, and a mail server 40.

The interface server 10 allows the plurality of user terminals 300 to access the system 100 via the network 200, particularly, the Internet or the wireless Internet. In addition, the interface server 10 serves as a kind of WEB server or WAP (wireless application protocol) server to perform a function of converting various information received from each server 20 to 40 in compliance with a communication standard and providing the converted information to the plurality of user terminals 300, or a function of receiving information from the user terminals 300 via the network 200 and providing the

received information to each server 20 to 40.

The community server 20 provides services related to communities, and includes a first community server 21 for providing and managing common communities and a second community server 22 for providing and managing individual communities, as shown in Fig. 2.

Each community server 21 and 22 includes databases in which information related to the communities is stored, and a processing unit for creating and managing communities between users based on the information stored in the databases.

More specifically, the first community server 21 includes a first processing unit 211 for creating common communities and managing contents, a registration database 212 in which general information related to characteristics of common communities is stored, a membership database 213 in which information related to users subscribed as members to common communities is stored, and a contents database 214 in which contents of common communities are stored.

The registration database 212 stores the information on the common communities registered for each category. For example, the registration database 212 stores identification codes of common communities correspondingly, which are registered for each category code given for each category such as broadcasting, entertainment, economy, and politics. In addition, in the registration database 212, community information such as names of common communities, descriptions of characteristics of common communities, information related to common community operators (IDs,

nicknames, and the like), the number of members, and registration data is stored for each of identification codes of common communities.

The member database 213 stores information related to users composing registered common communities (aliases, member information). For example, the member database 213 stores membership information such as ID, nickname, password, age, sex, occupation, and email address of users subscribed as members corresponding to identification codes of common communities.

The contents database 214 stores information related to contents provided for each common community. For example, the contents database 214 stores information such as number of posted contents, contents poster's IDs, date contents posted, title of contents, and substance of contents corresponding to identification codes of common communities. In addition, the contents database 214 stores the number of replies to contents, the number of talkbacks, the number of emails sent, the number of recommendations, and the like for each of the contents.

The first processing unit 211 creates and manages the common communities on the basis of the databases 212 to 214 in which the above-mentioned information is stored. Specifically, the first processing unit 211 creates and registers the common communities, performs user's authentication, and performs contents posting and management for each common community.

On the other hand, the second community server 22 provides and manages individual communities for each user and can be named a 'blog server', for example. As shown in Fig. 2, the second community server 22

includes a second processing unit 221 for creating individual communities and managing contents, a registration database 222 in which information related to registered individual communities is stored, and a contents database 223 in which contents posted by users for each individual community are stored.

The registration database 222 stores general information related to individual communities registered for each category. For example, the registration database 222 stores identification codes of individual communities registered for each category, user information such as names of individual communities, IDs, nicknames, age, sex, and occupation of users who have established individual communities, and community information such as registration date for each individual community.

The contents database 223 stores information related to contents provided for each individual community. For example, the contents database 223 stores information such as number of posted contents, posting date of contents, title of contents, and substance of contents, corresponding to identification codes of individual communities. In addition, the contents database 223 stores the number of replies, the number of talkbacks, the number of emails sent, the number of recommendations, and the like for each of the contents.

The second processing unit 221 creates and registers individual communities and performs contents posting and management for each individual community.

In the community servers 21 and 22 with the above-described configuration, when users other than a user who posted the contents annex

replies or talkbacks to the contents, each of the processing units 211 and 221 increase the number of replies or talkbacks of contents. In addition, when a user recommends the contents to other users, each of the processing units 211 and 221 increases the number of recommendations of contents.

In addition, the first community server 21 can be associated with the second community server 22 to share the contents. For example, a user can request that contents posted in a common community be posted in his/her individual community through a menu such as "putting contents into basket". In this case, the first processing unit 211 of the first community server 21 copies the contents and transmits the copied contents to the second community server 22. Then, the second processing unit 221 of the second community server 22 posts the contents in the user's individual community. At this time, information related to sources of the contents may be exposed when the contents are posted in the individual community.

On the other hand, the mail server 40 performs a function of sending the contents of the community to a specific user's email address in conjunction with the first or second community server 21 or 22 at a request of the user. The first or second community server 21 or 22 provides a function of allowing the mail server 40 to send the contents to the specific user's email address (for example, email sending). When the user selects the function, the first or second community server 21 or 22 calls the mail server 40 and requests the mail server 40 to send an email of contents to the user. Then, the mail server 40 receives an email address of the user from the user, sends the contents to the email address, and informs the community server 21 or 22 in which the

contents are posted of the fact of sending the contents. Upon completing the email sending, the community server 21 or 22 increases the number of the contents email sent.

The search server 30 for searching the contents posted in the community according to a query word provided from the user terminals 300 includes a search unit 31 for searching contents containing the query word, a reliability measurement unit 32 for determining a degree of reliability of searched contents, a search controller 33 for controlling the search of the search unit 31 and the reliability determination of the reliability measurement unit 32, and a search result provision unit 34 for providing a user with contents searched by the search unit 31, as shown in Fig. 3.

The reliability measurement unit 32 determines a degree of reliability of contents searched by the search unit. To this end, the reliability measurement unit 32 includes a characteristics measurement module 321 for determining characteristics of a user who posted the contents, an availability measurement module 322 for determining availability of contents, an additional information measurement module 323 for determining whether or not additional information of the contents is annexed, a size measurement module 324 for determining a size of the contents, and a reliability calculation module 325 for determining a degree of reliability of the contents based on determination results of the measurement modules 321 to 324, as shown in Fig. 3. Here, the measurement modules 321 to 324 can be used selectively according to evaluation variables used. In addition, if different evaluation variables in addition to the above-mentioned evaluation variables are also used, additional

measurement modules for determining the different evaluation variables may be added.

The search controller 33 controls the search unit 31 and the reliability measurement unit 32 to search the contents. Particularly, the search controller 33 drives the measurement modules 321 to 324 selectively according to set evaluation variables. For example, when all of the above-mentioned four variables (user's characteristics, availability of contents, annexation of additional information to contents, size of contents) are set as evaluation variables to be considered for the search of the contents, the search controller 33 drives all of the measurement modules 321 to 324 within the reliability measurement unit 32 to determine a degree of reliability of the contents. If only one of the four variables is set as an evaluation variable, the search controller 33 drives only a corresponding measurement module to determine a degree of reliability of the contents. Then, the search controller 33 sends the searched contents to the search result provision unit 34.

The search result provision unit 34 creates a search result page based on the contents provided from the search controller 33 and provides a user with the created search result page. The search result provision unit 34 includes a first provision module 341 for arranging the contents at random and providing the user with the arranged contents, and a second provision module 342 for arranging the contents according to a degree of reliability of the contents and providing the user with the arranged contents. The second provision module 342 can also select only contents of which the degree of reliability is greater than a prescribed degree of reliability and provide the user with the selected

contents, which may also be arranged according to their degree of reliability.

In the embodiments of the present invention, the first and second community servers 21 and 22 are incorporated in a single system. However, it should be understood that the servers may be also incorporated in different systems separately. For example, they may be implemented in such a manner that the first system includes only the first community server to provide a common community service and the second system includes only the second community server to provide an individual community service. In addition, in the embodiments, the databases and the processing units 211 and 221 in the servers 21 and 22 may be implemented as separate servers to process corresponding functions, and each database can be integrated into a single server. In the present invention, the databases were classified as described above for convenience of explanation. However, it should be understood that the databases are not restricted to such a classification.

Next, a method for searching contents over a network according to an embodiment of the present invention will be described on the basis of the above-described configuration.

Fig. 4 is a general flowchart illustrating a contents search method according to an embodiment of the present invention.

As shown in Fig. 4, in order for a user to search desired contents using his/her terminal 300, the user accesses the search server 30 directly by executing a user program provided by the interface server 10, or accesses the interface server 10 directly through a web browser and then inputs a query word corresponding to the desired contents. In this case, the user may

access an initial webpage of the system through the interface server 10, access a certain web page providing a community service, and input the query word in the community service web page (S100 and S110).

The query word inputted by the user is transmitted to the search server 30, and then the search server 30 searches contents based on the inputted query word.

First, the search server 30 finds contents containing the inputted query word. That is, the search server 30 finds contents containing information that accords with the inputted query word among contents stored in the contents databases 214 and 223 of the first and second servers 21 and 22 (S120). Generally, contents posted in communities consist of title and substance. Here, the search server 30 searches the contents by determining whether or not information that accords with the query word is contained in the contents by referring to titles and substance of the contents respectively.

Next, a degree of reliability of the searched contents is determined. In this embodiment of the present invention, the search server 30 obtains values of the evaluation variables set for the search of the contents and calculates a degree of reliability of contents based on the obtained values of the evaluation variables. That is, with one or more evaluation variables of user's characteristics, availability of contents, annexation of additional information to contents, and size of contents set as evaluation variables to be considered for the search of the contents, the search server 30 obtains values of the set evaluation variables and calculates a degree of reliability of the contents based on the obtained values (S130 to S150).

Here, considering the values determined for each evaluation variable, in a case where age in a user's characteristics is set as an evaluation variable, a determination value is age of the user who posted the contents. In a case where availability of contents is set as an evaluation variable, a determination value may be the number of replies, the number of talkbacks, the number of emails sent, user's reliance index, or the like. In addition, in a case where annexation of additional information to contents is set as an evaluation variable, a determination value may be a kind of information additionally annexed to the contents (for example, image, moving picture, or audio file), and in a case where a size of contents is set as an evaluation variable, a determination value may be a size of searched contents (the number of bytes, and the like).

As described above, when a degree of reliability of contents is calculated based on the determination values for the evaluation variables, the contents searched according to the calculated degree of reliability are provided to the user (S160 and S170).

Next, search steps (S120 to S160) in the search process will be described in more detail.

Fig. 5 is a detailed flowchart illustrating a search process of the search server.

As shown in Fig. 5, when a query word is provided, the search controller 33 of the search server 30 drives the search unit 31 to search contents containing information corresponding to the query word. The search unit 31 finds contents containing the query word by searching the contents databases 214 and 223 of the community servers 21 and 22 and transmits the

found contents to the reliability measurement unit 32 (S200 and S210). In this case, the search unit 31 can search contents selectively according to frequency of the queried word and indicate how many words that accord with the query word are contained in the contents, or a degree of accordance with the query word.

Next, the search controller 33 drives the measurement modules 321 to 324 of the reliability measurement unit 32 selectively according to the set evaluation variables (S220). For example, in a case where only the user's characteristics is set as an evaluation variable to be considered for the search, the search controller 33 drives the characteristics measurement module 321 only. In a case where only availability of contents is set as an evaluation variable, it drives the availability measurement module 322 only. Also, in a case where only annexation of additional information to contents is set as an evaluation variable, it drives the additional information measurement module 323 only, and, in a case where only a size of contents is set as an evaluation variable, it drives the size measurement module 324 only. In addition, in a case where two or more evaluation variables are set, it drives two or more corresponding modules. In the case where two or more evaluation variables are set, the search controller may drive the corresponding modules simultaneously or sequentially to search the contents.

Each of the measurement modules 321 to 324 of the reliability measurement unit 32 determines a value corresponding to a corresponding evaluation variable.

More specifically, in a case where age among the user's characteristics

is set as an evaluation variable, the characteristics measurement module 321 determines the users' age by searching the membership database 213 and/or the registration database 222 based on IDs of the users who posted the contents searched by the search unit 31. In addition, in a case where occupation among the user's characteristics is set as an evaluation variable, the characteristics measurement module 321 determines the user's occupation by searching the membership database 213 and/or the registration database 222 as described above.

In addition, in a case where a user's reliability index among the user's characteristics is set as an evaluation variable, the characteristics measurement module 321 finds contents posted by the user from the contents databases 214 and 223 of the community servers 21 and 22 and determines the user's reliability index based on the number of scrapped contents. Alternatively, the characteristics measurement module 321 may determine the number of other users, that is, the number of neighbored users forming a relationship with communities that the users subscribed to or established, by searching the registration databases 212 and 222 of the community servers, and may determine the users' reliance index based on the determined number of other users. In addition, the characteristics measurement module can determine the users' reliance index in various ways (S230 to S250).

On the other hand, in a case where availability of contents is set as an evaluation variable, the availability measurement module 323 determines availability of the contents based on the number of replies and/or the number of talkbacks and/or the number of emails sent that are stored correspondingly

for each of the contents searched by referring to the contents databases 214 and 223 (S260 to S280).

In addition, in a case where annexation of additional information to contents is set as an evaluation variable, the additional information measurement module 323 finds contents containing the query word by searching the contents databases 214 and 223 of the community servers 21 and 22, confirms whether or not additional information such as an image, moving picture, or audio in addition to text is contained in the found contents, and discriminates the kind of annexed additional information (S290 to S310).

Further, in a case that a size of contents is set as an evaluation variable, a size measurement module 324 finds contents containing the query word by searching the contents databases 214 and 223 of the community servers 21 and 22 and determines the size of the found contents (the number of bytes and the like) (S320 to S330).

As described above, the values determined in the measurement modules 321 to 324 of the reliability measurement unit 32 are provided to the reliability calculation module 325, and then the reliability calculation module 325 calculates a degree of reliability of contents searched based on the determined values corresponding to the set evaluation variables, respectively. That is, the degree of reliability of contents is calculated based on the determined values corresponding to at least one of evaluation variables of user's characteristics, availability of contents, annexation of additional information to contents, size of contents, and the like.

Various methods can be used to calculate a degree of reliability of the

contents. In this embodiment, a reliability generating function is set. The reliability generating function calculates a degree of reliability of contents based on weights according to an input value set based on the determined values for each evaluation variable. Here, input values inputted to the reliability creation function may be determined values for each evaluation variable or may be different values.

Particularly, in the embodiment of the present invention, a plurality of setting ranges having representative values for evaluation variables are given, and a representative value of a setting range to which the determined values for each evaluation value belong is set as an input value of the reliability generating function. For example, in a case where an age from the user's characteristics is set as an evaluation variable, a representative value may be given as "10" if a user is a teenager, a representative value may be given as "50" if the user is in their twenties, and a representative value may be given as "100" if the user is in their thirties. In this case, if a determined age of the user is the twenties, an input value is set as "50".

On the other hand, in a case where a size of contents is set as an evaluation variable, representative values may be proportionally given for contents in which sizes are more than a set value within a maximal limit. For example, in a case that 500 bytes are set as a maximal limit of a size of contents, if a size of given contents is 500 bytes, the highest representative value is given to the contents, and if a size of given contents exceeds 500 bytes, a lower representative value is given to the contents. This is to consider the fact that an excessive amount of contents may contain more

undesired information (S340 and S350). However, it should be understood that the method of calculating a degree of reliability of the contents is not limited to the above-described method.

In this way, after representative values are set according to ranges in which the determined values for the evaluation variables are contained and the set representative values are set as input values of the reliability generating function, weights provided based on the input values are applied to the reliability generating function to calculate a degree of reliability of the contents. However, it should be understood that the reliability calculation method according to the present invention is not limited to the above-described method. For example, another method of calculating a degree of reliability of the contents by summing all determined values for the evaluation variables may be used.

Next, the degree of reliability of the contents determined by the reliability measurement unit 32, along with the contents searched by the search unit 31, are transmitted to the search result provision unit 34.

The search result provision unit 34 selects only contents having more than a prescribed degree of reliability based on the degree of reliability of the searched contents, and then, based on the selected contents, generates a search result page to be provided to a user. Alternatively, the search result provision unit 34 generates a search result page in which the searched contents are arranged in an order of a higher degree of reliability and provides the generated search result page to the user. Alternatively, the search result provision unit 34 may generate a search result page in which the searched

contents are arranged at random.

The search result page may contain titles, parts of the substance, creators, creation dates, sources, and the like of the contents, and in addition, if image files or the like are annexed to the contents, a separate icon may be used to indicate the file annexation. Further, the degree of reliability of the contents calculated as described above may be indicated.

Therefore, the user can easily select and use the most reliable contents containing the query word.

Although it has been illustrated that the reliability calculation process is performed for all of the searched contents in the search process, a degree of reliability may be only given to contents satisfying a prescribed condition among the searched contents.

Even though the contents search is performed for the contents posted in the communities in the embodiment of the present invention, the present invention is not limited to this. For example, reliable contents may be searched by applying the search method according to the embodiment of the present invention to contents posted for each of different classifiable categories on a network. Such a contents search method can be easily implemented by those skilled in the art based on the above-described embodiment, and therefore a detailed explanation thereof will be omitted.

In addition, the contents search method according to the embodiment of the present invention can be applied to a community search. For example, communities having subjects for an inputted query word are searched, communities retaining contents having a greater number of recommendations,

a greater number of replies to contents, a greater number of talkbacks, and a greater number of emails sent are found, and then a search result can be provided to users in an order of higher degree of reliability of the found communities.

On the other hand, the above-described search methods can be implemented in the form of a program stored in a computer-readable recording medium. The computer-readable recording medium may include all kinds of recording media in which data that can be read by a computer are stored, for example, CD-ROMs, magnetic tapes, floppy disks, and carrier waves (such as transmission via the Internet).

Although the embodiments of the present invention have been described in detail, it is obvious to those skilled in the art that the present invention is not restricted in the embodiments and may be modified or changed in various forms without deviating from the spirit and scope of the invention as set forth in the annexed claims and equivalents thereof.

[Industrial Applicability]

As apparent from the above description, according to the embodiments of the present invention, reliable contents can be searched among contents posted on a network.

Particularly, by selecting and providing contents based on characteristics of users such as age and occupation, and especially based on reliance indexes of users who post the contents, contents provided by reliable users can be provided to other users.

In addition, according to the present invention, by searching contents based on a degree of use of contents, contents that are used more can be provided to users.

Also according to the present invention, by searching contents based on annexation of additional information to contents and/or a size of contents, contents providing more information can be provided to users.

Furthermore, according to the present invention, by providing searched contents arranged in an order of higher degree of reliability, users can easily select and use reliable contents.

[CLAIMS]

1. A method for searching contents provided on a network, the method comprising the steps of:

a) searching contents containing information that accords with a query word inputted from a user via the network;

b) determining a degree of reliability of the searched contents in consideration of at least one evaluation variable; and

c) providing the user with the searched contents according to the determined degree of reliability.

2. The method of claim 1, wherein the at least one evaluation variable is at least one of user's characteristics, degree of use of contents, annexation of additional information to contents, and size of contents.

3. The method of claim 2, wherein the user's characteristics are at least one of age, occupation, sex, residential area, and reliance index of the user.

4. The method of claim 2, wherein the degree of use of contents is at least one of the number of replies corresponding to the contents, the number of talkbacks, and the number of emails sent.

5. The method of claim 2, wherein the annexation of additional information to contents indicates annexation of at least one of an image, a

moving picture, and audio to the contents.

6. The method of claim 2 or 5, wherein, if the evaluation variable is the annexation of additional information to contents, a degree of reliability is given to the contents based on annexation of separate information to the searched contents and the kind of annexed information.

7. The method of claim 1, wherein the step b) includes:

setting a representative value for each of a plurality of setting ranges given for each evaluation variable;

determining values for each evaluation variable of the searched contents;

determining a setting range to which a determined value of the evaluation variable belongs and setting a representative value of the determined setting range as an input value; and

calculating a degree of reliability of the contents by applying the set input value to a reliability generating function.

8. The method of claim 1, wherein the contents to be searched are provided in communities provided on the network.

9. A system for searching contents provided on a network, the system being connected to a plurality of user terminals via the network, comprising:

a search unit for searching contents containing information that

accords with a query word inputted by a user via the network;

a reliability measurement unit for determining a degree of reliability of the searched contents; and

a search result provision unit for providing a user terminal with the searched contents according to the determined degree of reliability.

10. The system of claim 9, wherein the reliability measurement unit includes:

a characteristics measurement module for determining characteristics of a user who posted the contents;

an availability measurement module for determining a degree of use of the contents indicating an amount of use of the contents by other users;

an additional information measurement module for determining whether or not additional information is annexed to the contents and determining the kind of additional information;

a size measurement module for determining the size of the contents; and

a reliability calculation module for calculating a degree of reliability of the contents based on at least one of values outputted from the measurement modules.

11. The system of claim 10, wherein at least one of user's characteristics, degree of use of contents, annexation of additional information to contents, and size of contents is set as an evaluation variable used to

determine the degree of reliability of the contents, and

the system further comprises:

a search controller for selectively driving the measurement modules based on set evaluation variables.

12. The system of claim 11, wherein the search result provision unit includes

at least one of:

a first provision module for arranging the contents provided from the search unit at random and providing the arranged contents to the user; and

a second provision module for arranging the contents provided from the search unit based on a degree of reliability of the contents and providing the arranged contents to the user.

13. The system of claim 11, further comprising:

a first community server for providing and managing common communities, the first community server including a first database in which the contents posted in the common communities and information on users who posted the contents are stored; and

a second community server for providing and managing individual communities, the second community server including a second database in which the contents posted in the individual communities and information on users who operate the individual communities are stored, and

wherein the reliability measurement unit searches the first and second

databases and determines values for each evaluation variable based on a result of the search.

14. The system of claim 13, further comprising:

a mail server for sending the contents to a prescribed email address according to a request from the first or second community server, and

wherein the first and second community server records the number of contents emails sent by the mail server, and the number of contents emails sent is a value used to determine a degree of use of the contents.

15. A method for searching contents provided on a network, the method comprising the steps of:

a) searching first contents containing information that accords with a query word inputted from a user via the network;

b) determining evaluation variables to be considered for the contents search;

c) extracting second contents from the first contents, the second contents satisfying a condition set for at least one of the determined evaluation variables;

d) determining a degree of reliability of the extracted second contents; and

e) arranging the second contents according to the determined degree of reliability and providing the user with the arranged second contents.

FIG. 1

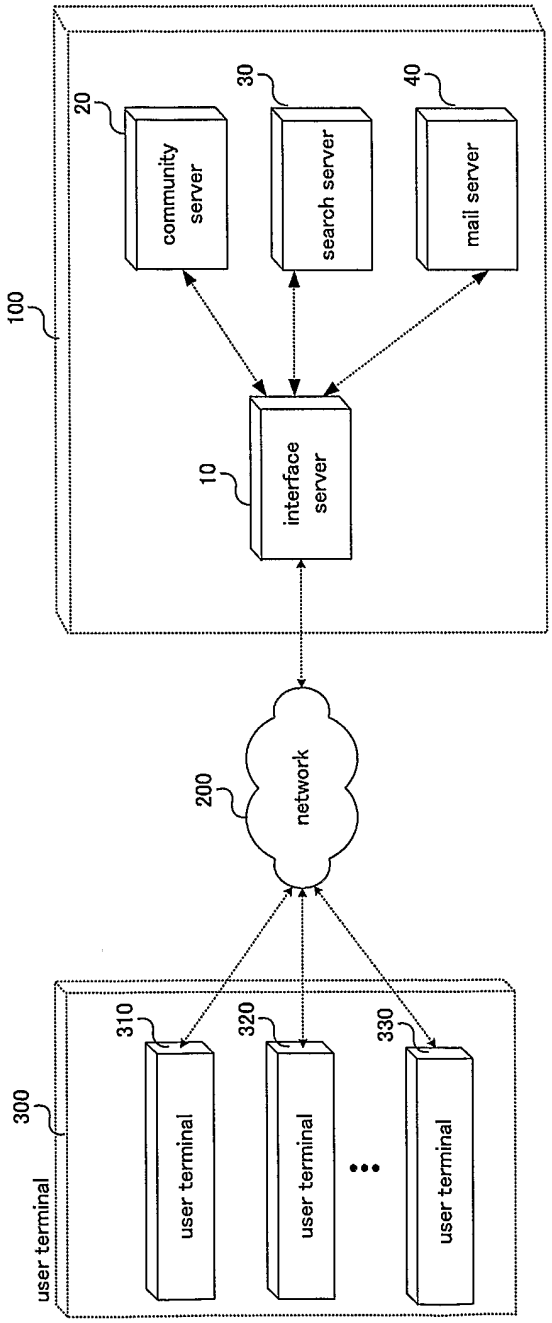

100
20
community server
30
search server
40
mail server
10
interface server
200
network
300
user terminal
310
user terminal
320
user terminal
330
user terminal

FIG. 2

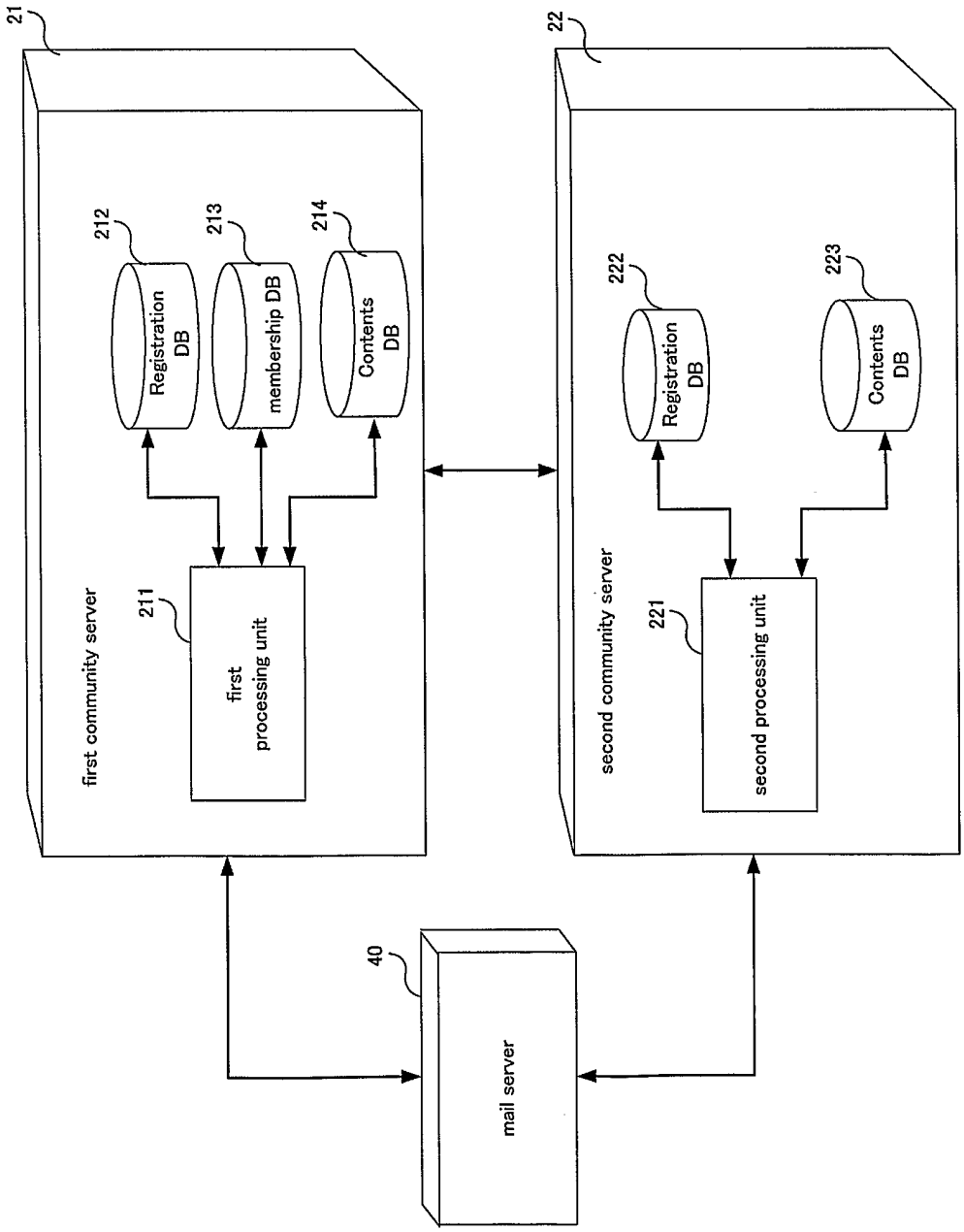

21
22
212
213
214
Registration DB
membership DB
Contents DB
222
223
Registration DB
Contents DB
211
first processing unit
first community server
221
second processing unit
second community server
40
mail server

FIG. 3

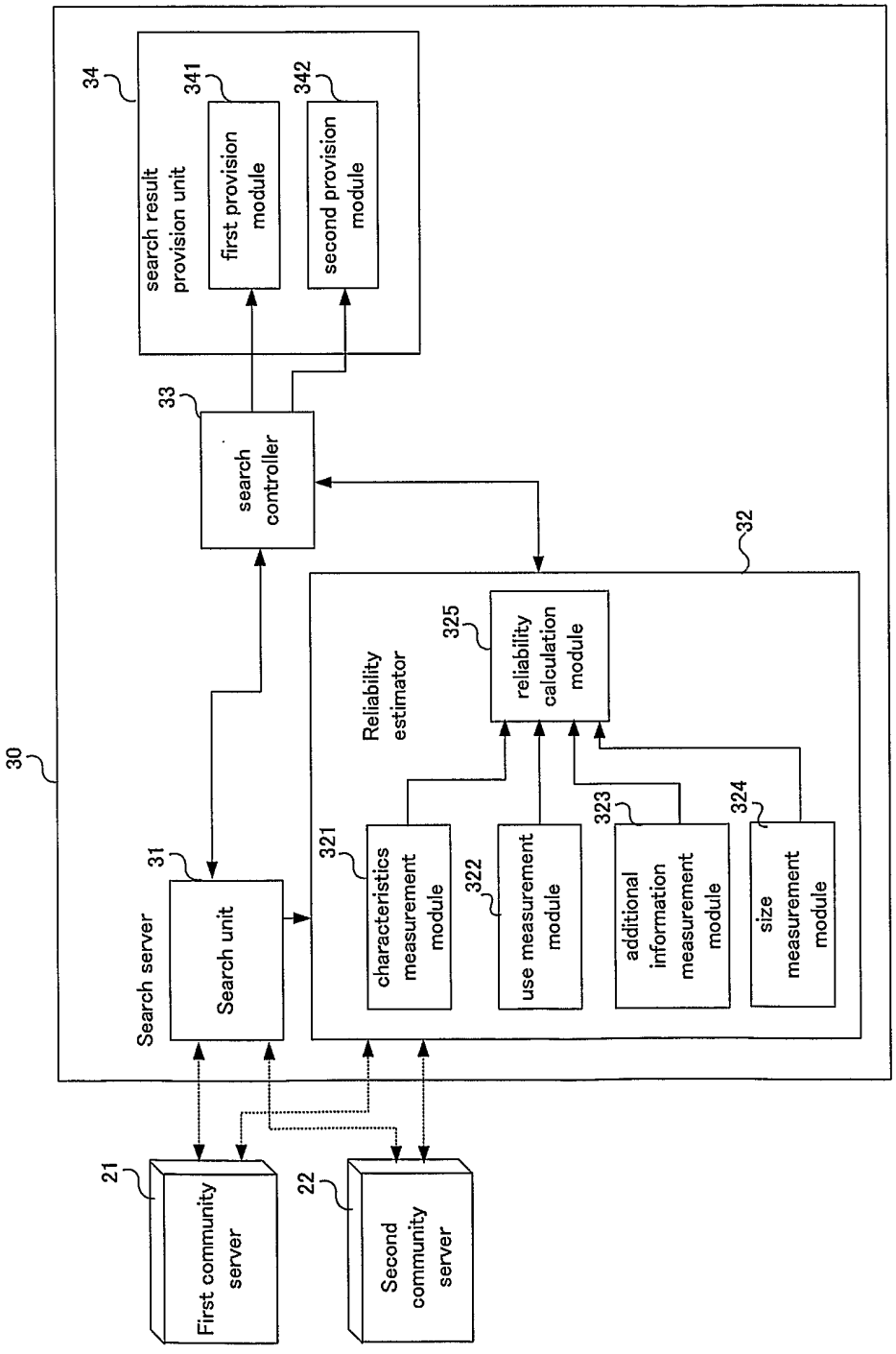

30
Search server
31
Search unit
32
Reliability estimator
321
characteristics measurement module
322
use measurement module
323
additional information measurement module
324
size measurement module
325
reliability calculation module
33
search controller
34
search result provision unit
341
first provision module
342
second provision module
21
First community server
22
Second community server

FIG. 4

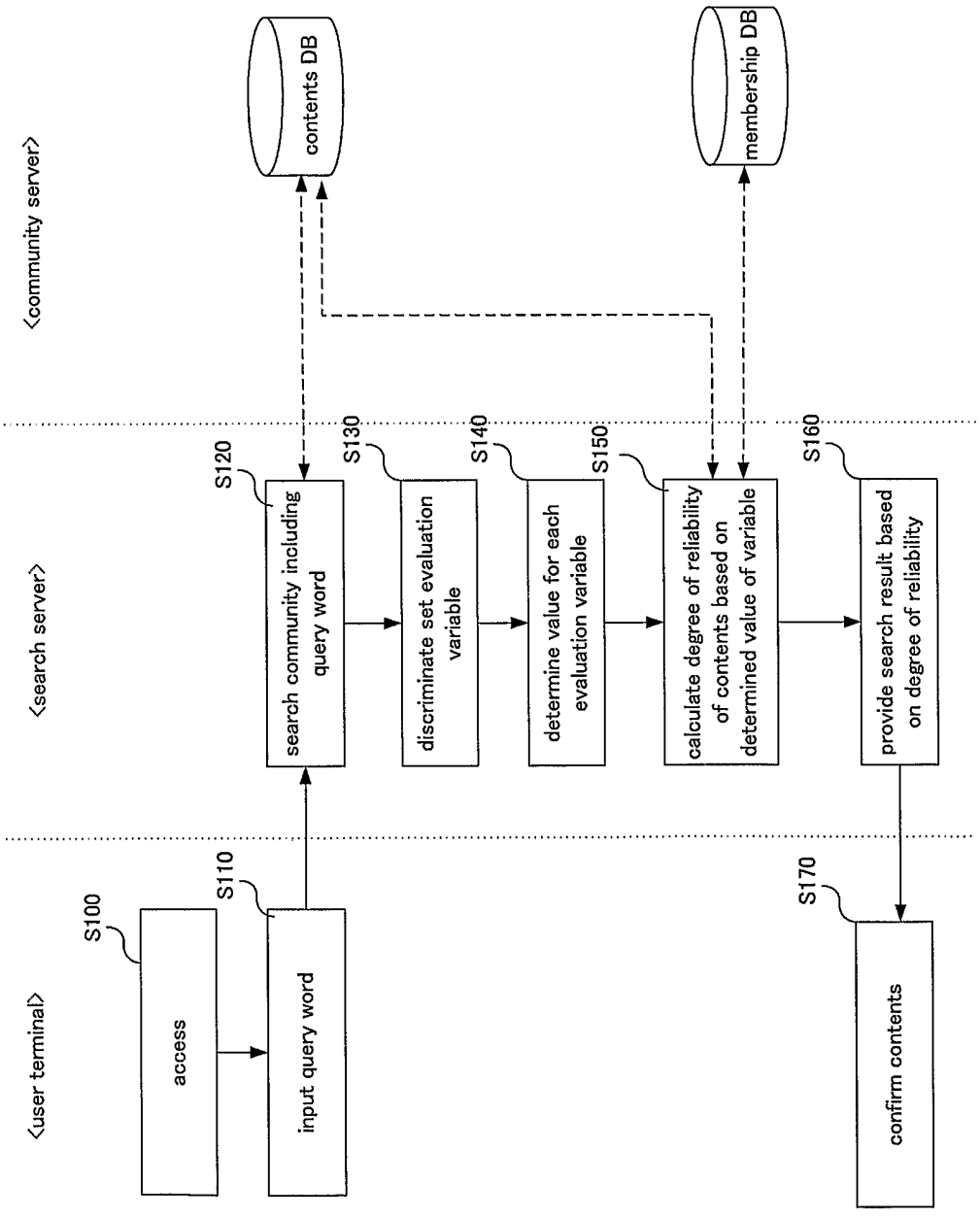
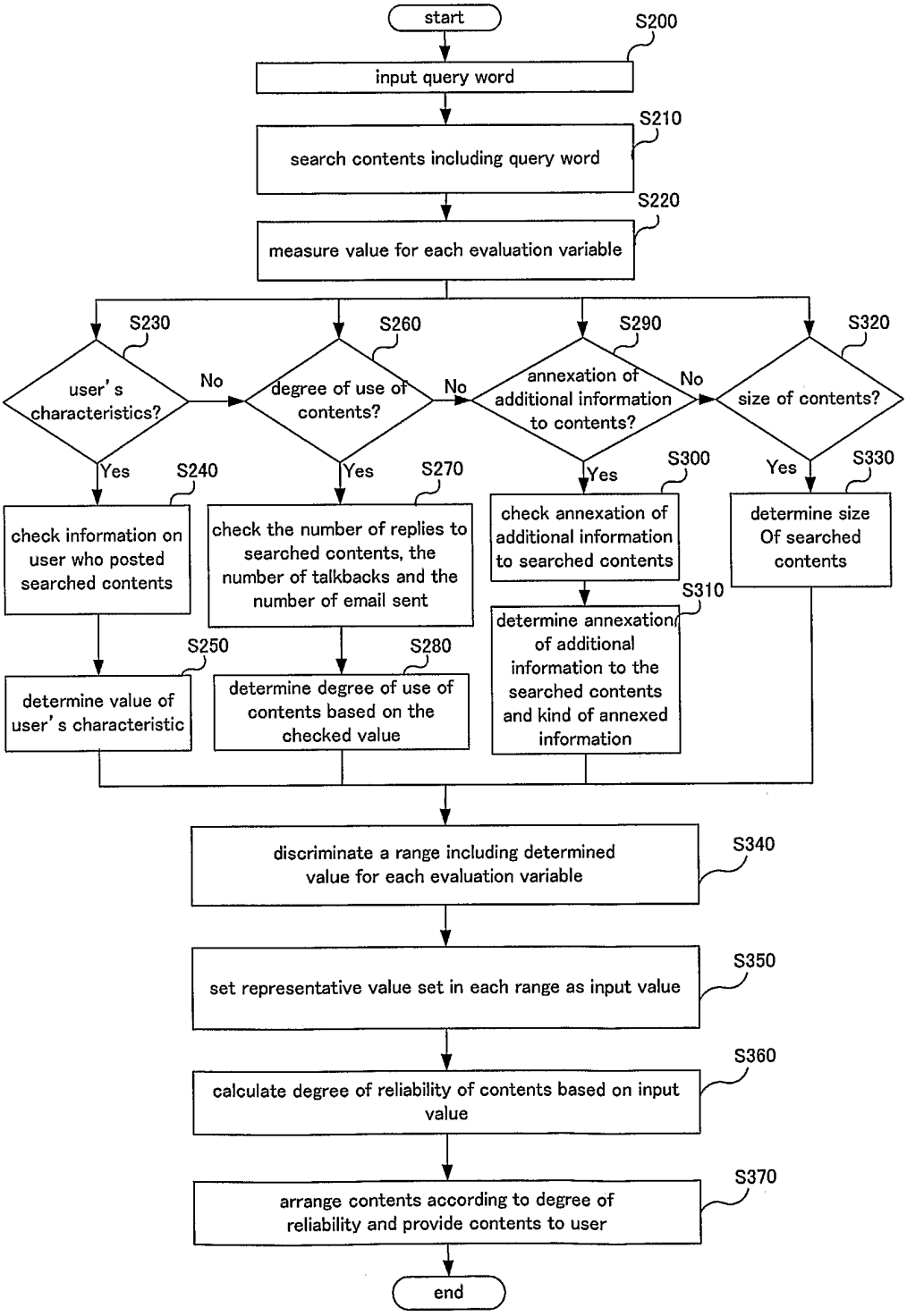

<community server>
<search server>
<user terminal>
contents DB
membership DB
S100
access
S110
input query word
S120
search community including query word
S130
discriminate set evaluation variable
S140
determine value for each evaluation variable
S150
calculate degree of reliability of contents based on determined value of variable
S160
provide search result based on degree of reliability
S170
confirm contents

FIG. 5


start
S200
input query word
S210
search contents including query word
S220
measure value for each evaluation variable
S230
user's characteristics?
No
S260
degree of use of contents?
No
S290
annexation of additional information to contents?
No
S320
size of contents?
Yes
S240
check information on user who posted searched contents
Yes
S270
check the number of replies to searched contents, the number of talkbacks and the number of email sent
Yes
S300
check annexation of additional information to searched contents
Yes
S330
determine size Of searched contents
S250
determine value of user's characteristic
S280
determine degree of use of contents based on the checked value
S310
determine annexation of additional information to the searched contents and kind of annexed information
S340
discriminate a range including determined value for each evaluation variable
S350
set representative value set in each range as input value
S360
calculate degree of reliability of contents based on input value
S370
arrange contents according to degree of reliability and provide contents to user
end

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
OPP051107KR		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/KR2005/001513	**24 MAY 2005 (24.05.2005)**	27 MAY 2004 (27.05.2004)

Applicant

NHN Corporation et al

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**
   a. With regard to the **language,** the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
      ☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
   b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.
2. ☐ **Certain claims were found unsearchable** (See Box No. II)
3. ☐ **Unity of invention is lacking** (See Box No. III)
4. With regard to the **title,**
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract,**
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,
   a. the figure of the **drawings** to be published with the abstract is Figure No. 1
      ☒ as suggested by the applicant.
      ☐ because the applicant failed to suggest a figure.
      ☐ because this figure better characterizes the invention.
   b. ☐ none of the figure is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2005/001513

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 G06F 17/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC7 G06F17/00, G06F17/30

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean Patents and applications for inventions since 1975
Korean Utility models and applications for Utility models since 1975
Japanese Utility models and applications for models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKIPASS , PAJ, USPAT :"contents", "confidence", "level", "retrieval", etc.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KR2004-8065 A (MOBILNIC INC.) 28.JAN.2004 See the whole document	1,9,15
Y	KR2002-7742 A (OZTECHNOLOGY INC.) 29.JAN.2002 See the whole document	1,9,15
A	JP2003-6221 A (MORII MASAKATSU et.al) 10.JAN.2003 See the whole document	1-15
A	JP2001-357035 A (OPENDOOR INC. et.al) 26.DEC.2001 See the whole document	1-15
A	US6115709 A (TACIT KNOWLEDGE SYSTEMS INC.) 5.SEP.2000 See the whole document	1-15
A	US6377949 B (TACIT KNOWLEDGE SYSTEMS INC.) 23.APR.2002 See the whole document	1-15

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
17 AUGUST 2005 (17.08.2005)	**17 AUGUST 2005 (17.08.2005)**

Name and mailing address of the ISA/KR	Authorized officer
Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea	SONG, Dae Jong
Facsimile No. 82-42-472-7140	Telephone No. 82-42-481-5992

Form PCT/ISA/210 (second sheet) (April 2005)