(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
14 August 2008 (14.08.2008)

PCT

(10) International Publication Number
WO 2008/096992 A1

(51) International Patent Classification:
G06F 17/30 (2006.01)

(21) International Application Number:
PCT/KR2008/000656

(22) International Filing Date: 4 February 2008 (04.02.2008)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
10-2007-0013971 9 February 2007 (09.02.2007) KR

(71) Applicant *(for all designated States except US)*: **NETPIA.COM, INC.** [KR/KR]; 11F, Shinkwan, KOAMI Bldg., 13-6, Youido-Dong, Youngdeunpo-Gu, Seoul 150-729 (KR).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **KIM, Tae Soo** [KR/KR]; 101-1109, Woosung APT., Bongcheon, 6-Dong, Gwanak-Gu, Seoul 151-775 (KR). **WON, Jong Ho** [KR/KR]; 109-1701, Youngnamtopbil, 639, Majeon-Dong, Seo-Gu, Incheon 404-260 (KR). **BANG, Hyeon Geun** [KR/KR]; 1307, Samho APT., Namchon-Dong, Nam-dong-Gu, Incheon 405-100 (KR).

(74) Agents: **CHOI, Tae Chang** et al.; 3rd Floor, Euntap Tower Building, 735-10, Yeoksam-Dong, Gangnam-Gu, Seoul 135-923 (KR).

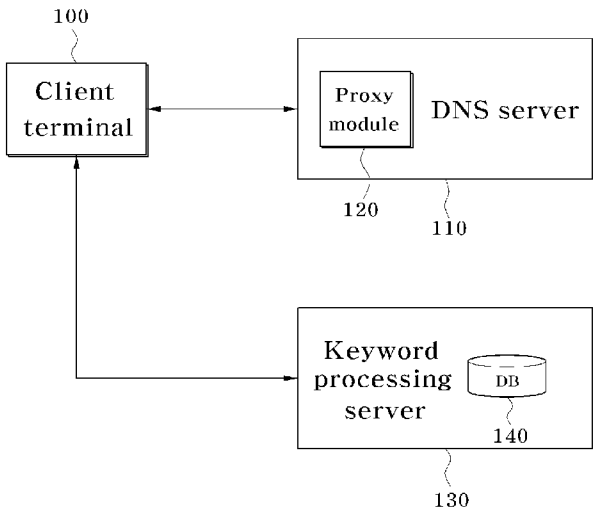
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

(54) **Title:** SYSTEM AND METHOD FOR PROVIDING SEARCH SERVICE BY KEYWORDS

[Fig. 1]



(57) **Abstract:** Provided are a system and method for providing search service by keywords. The system includes: a proxy module for determining whether a character string from a client terminal is a keyword, and if the character string is a keyword, sending an Internet address of a keyword processing server to the client terminal; and a keyword processing server for performing search on a database to determine whether the keyword from the client terminal is a specified keyword, wherein if the keyword is a specified keyword, the keyword processing server extracts a search query expression matching a group identifier of a group to which the specified keyword belongs to create a search query for the specified keyword, and sends the search query to the client terminal, and the client terminal accesses a specific search server based on the search query to receive a specialized search result.

WO 2008/096992 A1

Description

SYSTEM AND METHOD FOR PROVIDING SEARCH SERVICE BY KEYWORDS

Technical Field

[1] The present invention relates to a system for providing search service by keywords that are input to an address input box of a web browser of a client terminal, and more particularly, to a system and method for grouping keywords and providing specialized search service for groups.

Background Art

[2] In general, a client terminal, when desiring to access a specific computer on the Internet, requests a domain name server to provide an IP address of a domain name, e.g., "kipo.go.kr" of the computer, and the domain name server requests a registrar server which manages IP addresses to provide the IP address of the domain name, receives the IP address from the registrar server, and returns the IP address to the client, which then accesses the computer corresponding to the IP address.

[3] Thus, it is necessary to know a domain name of a specific computer on the Internet in order to access the computer. Recently, a system has been developed that connects a client to a web page using a native language domain name (i.e., a native language Internet address). This service is being provided by the present applicant in Korea.

[4] A method for providing a search result is disclosed in Korean Patent No. 10-0487007 to the present applicant, in which if a character string input to an address input box of a web browser of a client terminal is not a native language Internet address, it is sent to a search server designated along an access path.

[5] The patent is entitled "System For Accessing Web Page Using Real Names and Method Thereof", in which a determination is made as to whether a keyword input from a client accessing via a name server management system is a real name, and if the keyword is a real name, a further determination is made as to whether the keyword is a specified keyword to be provided to a search server. If the keyword is a specified keyword, the keyword is provided to a search server designated along an access path, so that the search server provides a search result for the keyword to the client. However, if the keyword is not a specified keyword, a network address corresponding to the keyword is provided to the client so that the client accesses a web page corresponding to the network address.

[6] However, in the above patent, since the specified keyword is sent to a search server designated along the access path and specified keywords are not grouped depending on their subject, specialized search service is not provided and only a result from the

search server designated along the access path is provided.

Disclosure of Invention

Technical Problem

[7] An object of the present invention is to provide a system and method for providing specialized search service to a client terminal by grouping specified keywords and sending the same to specialized search servers corresponding to respective groups.

Technical Solution

[8] According to a first aspect of the present invention, there is provided a system for providing search service by keywords, including: a proxy module for determining whether a character string from a client terminal is a keyword, and if the character string is a keyword, sending an Internet address of a keyword processing server to the client terminal; and a keyword processing server for performing search on a database to determine whether the keyword from the client terminal is a specified keyword, wherein if the keyword is a specified keyword, the keyword processing server extracts a search query expression matching a group identifier of a group to which the specified keyword belongs to create a search query for the specified keyword, and sends the search query to the client terminal, and the client terminal accesses a specific search server based on the search query to receive a specialized search result.

[9] According to a second aspect of the present invention, there is provided a system for providing search service by keywords, including: a keyword identifying module for hooking a character string input to a client terminal to determine whether the character string is a keyword, and if the character string is a keyword, sending the keyword to a keyword processing server; and the keyword processing server for performing search on a database to determine whether the keyword from the client terminal is a specified keyword, wherein if the keyword is a specified keyword, the keyword processing server extracts a search query expression matching a group identifier of a group to which the specified keyword belongs to create a search query for the specified keyword, and sends the search query to the client terminal, and the client terminal accesses a specific search server based on the search query to receive a specialized search result.

[10] Here, the database may include: a first database for storing a plurality of specified-keyword groups each including at least one specified keyword, and a plurality of group identifiers matching the plurality of specified-keyword groups; and a second database for storing a plurality of search query expressions matching the plurality of group identifiers, and the keyword processing server may extract a group identifier of a specified-keyword group including the specified keyword corresponding to the keyword from the client terminal from the first database through search, and extract the

search query expression matching the group identifier from the second database through search. Alternatively, the database may include: a first database for storing, as fields, a plurality of specified keywords and group identifiers matching the specified keywords in one-to-one correspondence; and a second database for storing a plurality of search query expressions matching the plurality of group identifiers, and the keyword processing server may extract a group identifier matching a specified keyword corresponding to the keyword from the client terminal, from the first database through search, and extract a search query expression matching the group identifier from the second database through search. Alternatively, the database may include: a plurality of specified-keyword databases each for storing at least one specified keyword; and a matching information database for storing position information on the plurality of specified-keyword databases and search query expressions matching the respective specified-keyword databases, and the keyword processing server may ask if the keyword from the client terminal exists in the respective specified-keyword databases, based on the position information of the specified-keyword databases stored in the matching information database, and extract a search query expression matching the specific specified-keyword database from the matching information database through search upon receipt of a response indicating existence of the keyword in the specific specified-keyword database.

[11] According to a third aspect of the present invention, there is provided a method for providing search service by keywords, including: (a) determining, by a proxy module, whether a character string from a client terminal is a keyword; (b) if the character string is a keyword, sending an Internet address of a keyword processing server to the client terminal; (c) sending, by the client terminal, the keyword to the keyword processing server; (d) determining, by the keyword processing server, whether the received keyword is a specified keyword; (e) if the keyword is a specified keyword, extracting a search query expression matching a group identifier of a group to which the specified keyword belongs; (f) creating a search query for the specified keyword using the search query expression; (g) sending, by the keyword processing server, the search query to the client terminal; and (h) accessing, by the client terminal, a specific search server based on the search query to receive a specialized search result.

[12] According to a fourth aspect of the present invention, there is provided a method for providing search service by keywords, including: (a) hooking, by a keyword identifying module, a character string input to a client terminal; (b) determining, by the keyword identifying module, whether the hooked character string is a keyword; (c) if the character string is a keyword, sending the keyword to a keyword processing server; (d) determining, by the keyword processing server, whether the received keyword is a specified keyword; (e) if the keyword is a specified keyword, extracting a search query

expression matching a group identifier of a group to which the specified keyword belongs; (f) creating a search query for the specified keyword using the search query expression; (g) sending, by the keyword processing server, the search query to the client terminal; and (h) accessing, by the client terminal, a specific search server based on the search query to receive a specialized search result.

[13] Here, step (d) may include performing, by the keyword processing server, search on the first database and determining that the keyword from the client terminal is a specified keyword when a keyword matching the keyword from the client terminal exists in the first database, and step (e) may include extracting, by the keyword processing server, a group identifier matching a specified-keyword group including the specified keyword from the first database, and extracting a search query expression matching the group identifier from the second database through search. Alternatively, step (d) may include performing, by the keyword processing server, search on the first database and determining that the keyword from the client terminal is a specified keyword when a keyword matching the keyword from the client terminal exists in the first database, and step (e) may include extracting, by the keyword processing server, a group identifier matching the specified keyword in one-to-one correspondence from the first database, and extracting a search query expression matching the group identifier from the second database through search. Alternatively, step (d) may include asking, by the keyword processing server, if the keyword from the client terminal exists in the respective specified-keyword databases, based on the position information of the specified-keyword databases stored in the matching information database, and determining that the keyword is a specified keyword upon a response indicating existence of the keyword in the specific specified-keyword database, and step (e) may include extracting, by the keyword processing server, a search query expression matching the specific specified-keyword database from the matching information database through search.

[14] According to a fifth aspect of the present invention, there is provided a system for providing search service by keywords, including a proxy module for determining whether a character string from a client terminal is a keyword, performing search on a database to determine whether the keyword is a specified keyword if the character string is the keyword, extracting a search query expression matching a group identifier of a group to which the specified keyword belongs to create a search query for the specified keyword if the keyword is a specified keyword, and sending the search query to the client terminal, wherein the client terminal accesses a specific search server based on the search query to receive a specialized search result.

[15] Here, the database may include: a first database for storing a plurality of specified-keyword groups each including at least one specified keyword, and a plurality of group

identifiers matching the plurality of specified-keyword groups; and a second database for storing a plurality of search query expressions matching the plurality of group identifiers, and the proxy module may extract a group identifier of a specified-keyword group including a specified keyword corresponding to the keyword from the client terminal, from the first database through search, and extract a search query expression matching the group identifier from the second database through search. Alternatively, the database may include: a first database for storing, as fields, a plurality of specified keywords and group identifiers matching the specified keywords in one-to-one correspondence; and a second database for storing a plurality of search query expressions matching the plurality of group identifiers, and the proxy module may extract a group identifier matching a specified keyword corresponding to the keyword from the client terminal, from the first database through search, and extract a search query expression matching the group identifier from the second database through search. Alternatively, the database may include: a plurality of specified-keyword databases each for storing at least one specified keyword; and a matching information database for storing position information on the plurality of specified-keyword databases and search query expressions matching the respective specified-keyword databases, and the proxy module may ask if the keyword from the client terminal exists in the respective specified-keyword databases, based on the position information of the specified-keyword databases stored in the matching information database, and extract a search query expression matching the specific specified-keyword database from the matching information database through search upon receipt of a response indicating existence of the keyword in the specific specified-keyword database.

[16] According to a sixth aspect of the present invention, there is provided a method for providing search service by keywords, including: (a) determining, by a proxy module, whether a character string from a client terminal is a keyword; (b) if the character string is a keyword, determining whether the keyword is a specified keyword; (c) if the keyword is a specified keyword, extracting a search query expression matching a group identifier of a group to which the specified keyword belongs; (d) creating a search query for the specified keyword using the search query expression; (e) sending, by the proxy module, the search query to the client terminal; and (f) accessing, by the client terminal, a specific search server based on the search query to receive a specialized search result.

[17] Here, step (b) may include performing, by the proxy module, search on the first database and determining that the keyword from the client terminal is a specified keyword when a keyword matching the keyword from the client terminal exists in the first database, and step (c) may include extracting, by the proxy module, a group identifier matching a specified-keyword group including the specified keyword, from

the first database, and extracting a search query expression matching the group identifier from the second database through search. Alternatively, step (b) may include performing, by the proxy module, search on the first database and determining that the keyword from the client terminal is a specified keyword when a keyword matching the keyword from the client terminal exists in the first database, and step (c) may include extracting, by the proxy module, a group identifier matching the specified keyword in one-to-one correspondence, from the first database, and extracting a search query expression matching the group identifier from the second database through search. Alternatively, step (b) may include asking, by the proxy module, if the keyword from the client terminal exists in the respective specified-keyword databases, based on the position information of the specified-keyword databases stored in the matching information database, and determining that the keyword is a specified keyword upon a response indicating existence of the keyword in the specific specified-keyword database, and step (c) may include extracting, by the proxy module, a search query expression matching the specific specified-keyword database from the matching information database through search.

[18] According to a seventh aspect of the present invention, there is provided a system for providing search service by keywords, including a keyword processing module for hooking a character string input to a client terminal to determine whether the character string is a keyword, performing search on a database to determine whether the keyword is a specified keyword if the character string is the keyword, and extracting a search query expression matching a group identifier of a group to which the specified keyword belongs to create a search query for the specified keyword if the keyword is a specified keyword, wherein the client terminal accesses a specific search server based on the search query to receive a specialized search result.

[19] Here, the database may include: a first database for storing a plurality of specified-keyword groups each including at least one specified keyword, and a plurality of group identifiers matching the plurality of specified-keyword groups; and a second database for storing a plurality of search query expressions matching the plurality of group identifiers, and the keyword processing module may extract a group identifier of a specified-keyword group including the specified keyword corresponding to the keyword, from the first database through search, and extract a search query expression matching the group identifier from the second database through search. Alternatively, the database may include: a first database for storing, as fields, a plurality of specified keywords and group identifiers matching the specified keywords in one-to-one correspondence; and a second database for storing a plurality of search query expressions matching the plurality of group identifiers, and the keyword processing module may extract a group identifier matching a specified keyword corresponding to the keyword,

from the first database through search, and extracts a search query expression matching the group identifier from the second database through search. Alternatively, the database may include: a plurality of specified-keyword databases each for storing at least one specified keyword; and a matching information database for storing position information on the plurality of specified-keyword databases and search query expressions matching the respective specified-keyword databases, and the keyword processing module may ask if the keyword exists in the respective specified-keyword databases, based on the position information of the specified-keyword databases stored in the matching information database, and extract a search query expression matching the specific specified-keyword database from the matching information database through search upon receipt of a response indicating existence of the keyword in the specific specified-keyword database.

[20] According to an eighth aspect of the present invention, there is provided a method for providing search service by keywords, including: (a) hooking, by a keyword processing module, a character string input to a client terminal; (b) determining, by the keyword processing module, whether the hooked character string is a keyword; (c) if the character string is a keyword, determining whether the keyword is a specified keyword; (d) if the keyword is a specified keyword, extracting a search query expression matching a group identifier of a group to which the specified keyword belongs; (e) creating a search query for the specified keyword using the search query expression; and (f) accessing, by the client terminal, a specific search server based on the search query to receive a specialized search result.

[21] Here, step (c) may include performing, by the keyword processing module, search on the first database and determining that the hooked keyword is a specified keyword when a keyword matching the hooked keyword exists in the first database, and step (d) may include extracting, by the keyword processing module, a group identifier matching a specified-keyword group including the specified keyword, from the first database, and extracting a search query expression matching the group identifier from the second database through search. Alternatively, step (c) may include performing, by the keyword processing module, search on the first database and determining that the hooked keyword is a specified keyword when a keyword matching the hooked keyword exists in the first database, and step (d) may include extracting, by the keyword processing module, a group identifier matching the specified keyword in one-to-one correspondence, from the first database, and extracting a search query expression matching the group identifier from the second database through search. Alternatively, step (c) may include asking, by the keyword processing module, if the hooked keyword exists in the respective specified-keyword databases, based on the position information of the specified-keyword databases stored in the matching in-

formation database, and determining that the keyword is a specified keyword upon a response indicating existence of the keyword in the specific specified-keyword database, and step (d) may include extracting, by the keyword processing module, a search query expression matching the specific specified-keyword database from the matching information database through search.

[22] According to a ninth aspect of the present invention, there is provided a recording medium having a program recorded thereon for performing a method for providing search service by keywords. A computer-readable recording medium includes all types of recording devices for storing data that can be read by a computer system. Examples of the computer-readable recording medium include a Read Only Memory (ROM), a Random Access Memory (RAM), a Compact Disc-Read Only Memory (CD-ROM), a magnetic tape, a hard disk, a floppy disk, a mobile storage device, a nonvolatile memory (e.g., a flash memory), and an optical data storage device. The computer-readable recording medium may be implemented by a carrier wave (e.g., Internet-based transmission).

[23] For convenience of description, a term "Uniform Resource Locator (URL)" is used that includes, for example, a directory and a file, as well as a domain name, such as "http//www.kipo.go.kr/index.html", that indicates an address of information provided to a computer on the Internet.

[24] An "Internet protocol (IP) address" refers to a physical address for identifying a computer from other computers on the Internet, for example, according to Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6).

[25] A "character string" refers to all types of input information that can be input to an address input box or a search box of a web browser, including a typical URL and a keyword (e.g., Hangul, numeric, and Alphabet). Here, the specified keyword is a keyword registered in a database for search service by a search server. Examples of the specified keyword include common nouns, such as "car" and "camera", and terms related to daily life, such as "flower delivery".

[26]

Advantageous Effects

[27] According to the present invention described above, keywords for search service, such as common nouns, are classified and grouped into specified keywords, and are sent to corresponding search servers. Thus, it is possible to provide specialized search service to clients.

Brief Description of the Drawings

[28] FIG. 1 is a block diagram illustrating a system for providing search service by keywords according to first, second and third exemplary embodiments of the present

invention;

[29] FIG. 2 is a schematic diagram illustrating a first database according to the first exemplary embodiment of the present invention;

[30] FIG. 3 is a schematic diagram illustrating a second database according to the first exemplary embodiment of the present invention;

[31] FIG. 4 is a flowchart illustrating a method for providing search service by keywords according to the first exemplary embodiment of the present invention;

[32] FIG. 5 is a schematic diagram illustrating a first database according to the second exemplary embodiment of the present invention;

[33] FIG. 6 is a schematic diagram illustrating the plurality of specified-keyword databases according to the third exemplary embodiment of the present invention;

[34] FIG. 7 is a flowchart illustrating a method for providing search service by keywords according to the third exemplary embodiment of the present invention;

[35] FIG. 8 is a block diagram illustrating a system for providing search service by keywords according to fourth, fifth, and sixth exemplary embodiments of the present invention;

[36] FIG. 9 is a flowchart illustrating a method for providing search service by keywords according to the fourth exemplary embodiment of the present invention;

[37] FIG. 10 is a flowchart illustrating a method for providing search service by keywords according to the sixth exemplary embodiment of the present invention;

[38] FIG. 11 is a block diagram illustrating a system for providing search service by keywords according to seventh, eighth, and ninth exemplary embodiments of the present invention;

[39] FIG. 12 is a flowchart illustrating a method for providing search service by keywords according to the seventh exemplary embodiment of the present invention;

[40] FIG. 13 is a flowchart illustrating a method for providing search service by keywords according to the ninth exemplary embodiment of the present invention;

[41] FIG. 14 is a block diagram illustrating a system for providing search service by keywords according to tenth, eleventh, and twelfth exemplary embodiments of the present invention;

[42] FIG. 15 is a flowchart illustrating a method for providing search service by keywords according to the tenth exemplary embodiment of the present invention; and

[43] FIG. 16 is a flowchart illustrating a method for providing search service by keywords according to the twelfth exemplary embodiment of the present invention.

Mode for the Invention

[44] Hereinafter, exemplary embodiments of the present invention will be described in detail. However, the present invention is not limited to the exemplary embodiments

disclosed below, but can be implemented in various types. Therefore, the present exemplary embodiments are provided for complete disclosure of the present invention and to fully inform the scope of the present invention to those ordinarily skilled in the art.

[45] Hereinafter, exemplary embodiments of the present invention will be described in detail. However, the present invention is not limited to the exemplary embodiments disclosed below, but can be implemented in various types. Therefore, the present exemplary embodiments are provided for complete disclosure of the present invention and to fully inform the scope of the present invention to those ordinarily skilled in the art.

[46]

[47] (Exemplary Embodiment)

[48] Hereinafter, exemplary embodiments of the present invention will be described in detail with reference to the attaching drawings.

[49] First Exemplary Embodiment

[50] A system and method for providing search service by keywords according to a first exemplary embodiment of the present invention will be described with reference to FIGS. 1 to 3. FIG. 1 is a block diagram illustrating a system for providing search service by keywords according to the first exemplary embodiment of the present invention.

[51] Referring to FIG. 1, a client terminal 100 is connected to a domain name service (DNS) server 110 and a keyword processing server 130. The keyword processing server 130 includes a database 140, and the DNS server 110 includes a proxy module 120.

[52] The proxy module 120 determines whether a character string transferred from the client terminal 100 to the DNS server 110 is a keyword. If the character string transferred from the client terminal 100 to the DNS server 110 is not a keyword but a domain name such as a URL, the DNS server 110 connects the client terminal 100 to a web page corresponding to the URL.

[53] If the character string includes ".", for example, as in "www.netpia.net", the proxy module 120 may determine that the character string is the URL, and otherwise, the proxy module 120 may determine that the character string is a keyword. Alternatively, the proxy module may determine whether the character string is a keyword in other methods, including making the determination based on whether the character string includes a suffix, such as "com", “net”, or “gov".

[54] For convenience of description, the proxy module 120 is shown in FIG. 1 as being included in the DNS server 110. However, the proxy module 120 may be included anywhere on a network path from the client terminal 100 to the domain name service

server 110 only if the proxy module 120 is in the form of a server or a module and has the above-described function.

[55] If the character string sent from the client terminal is a keyword, the keyword processing server 130 receives the keyword from the client terminal to provide a search result for the keyword. That is, the keyword processing server 130 determines whether the received keyword is a specified keyword, based on the database 140, and when the received keyword is a specified keyword, determines a group to which the specified keyword belongs to send the keyword to a search site associated with the group.

[56] Specifically, the database 140 is a first database and a second database. FIG. 2 is a schematic diagram illustrating the first database according to the first exemplary embodiment of the present invention, and FIG. 3 is a schematic diagram illustrating the second database according to the first exemplary embodiment of the present invention. As shown in FIG. 2, the first database stores a plurality of specified-keyword groups including at least one specified keyword (e.g., "car", "flower delivery", "camera", "lens", and "mobile phone"), and group identifiers A, B, C,... matching the respective specified-keyword groups. The second database stores search query expressions associated with the group identifiers A, B, C, and D, as shown in FIG. 3.

[57] A method for providing search service by keywords in the system according to the first exemplary embodiment of the present invention will now be described in detail. FIG. 4 is a flowchart illustrating a method for providing search service by keywords according to the first exemplary embodiment of the present invention.

[58] Referring to FIG. 4, a character string, when input to an address input box of a web browser of the client terminal 100, is sent from the client terminal 100 to the DNS server 110 (S100).

[59] The proxy module 120 of the DNS server 110 then receives the character string and determines whether the character string is a keyword (S101).

[60] If it is determined that the character string is a keyword, the proxy module 120 sends an Internet address, i.e., a URL or an IP address of the keyword processing server 130 to the client terminal 100 (S103). The client terminal 100 accesses the keyword processing server 130 using the received URL or IP address (S104). If the character string is not a keyword but a URL, the DNS server 110 performs domain name processing (S102).

[61] The keyword processing server 130 then receives the keyword (S105) and determines whether the keyword is a specified keyword. Specifically, the keyword processing server 130 determines whether a specified keyword matching the received keyword exists in the first database, through search (S106).

[62] If the keyword exists in the first database, the keyword processing server 130

recognizes the received keyword as the specified keyword and determines a group to which the specified keyword belongs. That is, the keyword processing server 130 extracts a group identifier of the group to which the searched specified keyword belongs, from the first database (S108). For example, the group identifier for a specified keyword, 'car' is 'A' and the group identifier for "camera" is "B", as shown in FIG. 2.

[63] If the keyword does not exist in the first database, the keyword processing server 130 recognizes that the received keyword is not the specified keyword (S107). If the received keyword is not the specified keyword, the keyword processing server 130 may display a page including an error indication or connect the client terminal 100 to a specific search server or a specific website.

[64] A search result is provided by a search server corresponding to the group to which the specified keyword belongs. That is, the keyword processing server 130 extracts a search query expression matching the group identifier from the second database through search (S109). For example, the search query expression matching the group identifier "A" is 'http://search.naver.com/search.naver?where=nexearch& query=keyword &frm=t1&sm=top_hty', as shown in FIG. 3. The search query expression includes a 'keyword' portion as a variable, to which a user-input value is applied.

[65] The keyword processing server 130 then creates a keyword search query using the search query expression (S110), and sends the created search query to the client 100 (S111). The search query is obtained by applying the user-input value to the 'keyword' portion of the search query expression shown in FIG. 3 (e.g., http://search.naver.com/search. naver?where=nexearch&query=car&frm=t1& sm=top_hty).

[66] Using the search query from the keyword processing server 130, the client 100 accesses a specific search server to receive the search result (S112). If the search query is 'http://search.naver.com/search.naver?where=nexearch&query=car&frm=t1& sm=top_hty', the client terminal accesses a search server of a search site, "Naver" to receive a search result for "car". If the search query is 'http://search.daum.net/cgi-bin/nsp/search.cgi? nil_profile=g&nil_Search=btn&sw=tot &q= camera', the client terminal accesses a search server of another search site, "Daum" to receive a search result for "camera". In this manner, the client terminal can access the different search servers depending on the specified-keyword groups to receive a specialized search result.

[67]

[68] Second Exemplary Embodiment

[69] A system and method for providing search service by keywords according to a

second exemplary embodiment of the present invention will be described with reference to FIG. 5.

[70] The system for providing search service by keywords according to the second exemplary embodiment of the present invention is the same as the system according to the first exemplary embodiment of FIG. 1 except for a structure of the database 140 of the keyword processing server 130.

[71] The keyword processing server 130 determines whether an input keyword is a specified keyword, based on the database 140. If the input keyword is a specified keyword, the keyword processing server 130 sends the keyword to a search server determined by a search query expression matching the group identifier. The database according to the second exemplary embodiment includes a first database and a second database.

[72] FIG. 5 is a schematic diagram illustrating the first database according to the second exemplary embodiment of the present invention. As shown in FIG. 5, the first database stores a plurality of specified keywords that are not grouped, with the specified keywords matching group identifiers. That is, a specified keyword, "car" matches a group identifier "A" in one-to-one correspondence, and a specified keyword, "loan" matches a group identifier "C". In this manner, information on a group to which the specified keyword belongs is determined for each specified keyword. The second database according to the second exemplary embodiment of the present invention stores search query expressions matching the respective group identifiers A, B, C, and D, as in the first exemplary embodiment shown in FIG. 3.

[73] Accordingly, the method for providing search service by keywords according to the second exemplary embodiment is the same as the method according to the first exemplary embodiment described with reference to FIG. 4 except for step S108. That is, if it is determined that the keyword exists in the first database through search, the keyword processing server extracts the group identifier matching the searched keyword. The keyword processing server then extracts a search query expression matching the group identifier from the second database through search.

[74]

[75] Third exemplary embodiment

[76] A system and method for providing search service by keywords according to a third exemplary embodiment of the present invention will now be described with reference to FIG. 6.

[77] The system for providing search service by keywords according to the third exemplary embodiment of the present invention is the same as the system according to the first exemplary embodiment shown in FIG. 1 except for a structure of the database 140 of the keyword processing server 130.

[78] The keyword processing server determines whether the input keyword is a specified keyword, based on a database. If the keyword is a specified keyword, the keyword processing server sends the keyword to a search site determined by a search query expression matching a group identifier. The database according to the third exemplary embodiment includes a plurality of specified-keyword databases and a matching information database.

[79] FIG. 6 is a schematic diagram illustrating the plurality of specified-keyword databases according to the third exemplary embodiment of the present invention. Referring to FIG. 6, each of the specified-keyword databases 141 to 144 includes at least one specified keyword. For example, the specified-keyword database A 141 stores "car", "flower delivery", "loan",... as specified keywords, and the specified-keyword database B 142 stores "camera", "lens", "photograph",... as specified keywords.

[80] The matching information database (not shown) stores position information of the plurality of specified-keyword databases and search query expressions matching the specified-keyword databases.

[81] The method for providing search service by keywords in the system according to the third exemplary embodiment is shown in FIG. 7. Referring to FIG. 7, steps S300 to S305 are the same as steps S100 to S105 shown in FIG. 4.

[82] After receiving the keyword (S305), the keyword processing server asks if the received keyword exists in the respective specified-keyword databases 141 to 144, based on position information of the specified-keyword databases stored in the matching information database (S306). The keyword processing server may ask the respective specified-keyword databases 141 to 144 by sequentially sending an ask message to the specified-keyword database A, the specified-keyword database B,... until it receives a response indicating the existence of the keyword. Alternatively, the keyword processing server may simultaneously send the ask message to the respective specified-keyword databases.

[83] If it is determined that the received keyword does not exist in any of the specified-keyword databases, the keyword processing server may determine that the received keyword is not a specified keyword and display a page including an error indication or connect the client terminal to a specific search server or a specific website (S308).

[84] Upon receipt of a response indicating existence of the received keyword in a specific one of the specified-keyword databases, the keyword processing server recognizes the received keyword as a specified keyword, and extracts a search query expression matching the specific specified-keyword database from the matching information database through search (S309).

[85] The keyword processing server 130 then creates a keyword search query using the

search query expression (S310), and sends the same to the client terminal (S311), as in the method of FIG. 4. Using the received search query, the client terminal accesses the search engine to receive the search result (S312).

[86]

[87] Fourth to Sixth Exemplary Embodiments

[88] Fourth, fifth, and sixth exemplary embodiments of the present invention will be described with reference to FIGS. 8 to 10.

[89] FIG. 8 is a block diagram illustrating a system for providing search service by keywords according to the fourth, fifth, and sixth exemplary embodiments of the present invention.

[90] Referring to FIG. 8, a client terminal 400 is connected to a domain name service (DNS) server 410 and a keyword processing server 430. The keyword processing server 430 includes a database 440, like the system of FIG. 1, while the domain name service server 410 includes no proxy module. Instead, the client terminal 400 does not include a keyword identifying module 420.

[91] The keyword identifying module 420 of the client terminal 400 hooks a character string input to an address input box of the client terminal 400 to determine whether the character string is a keyword. The keyword identifying module 420 determines whether the character string is a keyword, like the proxy module 120 of the first exemplary embodiment.

[92] If the character string is not a keyword but a domain name such as a URL, the keyword identifying module 420 sends the character string to the DNS server 410. If the character string is a keyword, the keyword identifying module 420 sends the keyword to the keyword processing server 430.

[93] If the character string input to the client terminal is a keyword, the keyword processing server 430 may receive the keyword and provide a search result for the keyword. That is, the keyword processing server 430 determines whether the received keyword is a specified keyword based on the database 440. If the received keyword is a specified keyword, the keyword processing server 430 determines a group to which the specified keyword belongs and sends the keyword to a search server corresponding to the group.

[94] The database 440 of the keyword processing server 430 according to the fourth exemplary embodiment of the present invention is the same as the database 140 of the keyword processing server 130 according to the first exemplary embodiment of the present invention. Accordingly, the database 440 according to the fourth exemplary embodiment of the present invention includes a first database and a second database as shown in FIGS. 2 and 3. That is, the first database according to the fourth exemplary embodiment of the present invention stores a plurality of specified-keyword groups

including at least one specified keyword (e.g., "car", "flower delivery", "camera", "lens", and "mobile phone"), and group identifiers A,B,C,... matching the respective specified-keyword groups. The second database according to the fourth exemplary embodiment of the present invention stores search query expressions matching the group identifiers A, B, C, and D.

[95] The database according to the fifth exemplary embodiment of the present invention is the same as the database according to the second exemplary embodiment of the present invention, and the database according to the sixth exemplary embodiment of the present invention is the same as the database according to the third exemplary embodiment of the present invention. That is, the database according to the fifth exemplary embodiment of the present invention includes a first database and a second database. As shown FIG. 5, the first database stores, as fields, specified keywords and group identifiers matching the specified keywords, and the second database stores search query expressions matching the group identifiers. The database according to the sixth exemplary embodiment of the present invention includes a plurality of specified-keyword databases and a matching information database.

[96] A method for providing search service by keywords in the system according to the fourth exemplary embodiment is shown in FIG. 9.

[97] Referring to FIG. 9, first, if a character string is input to an address input box of the client terminal (S400), the keyword identifying module of the client terminal hooks the character string to determine whether the input character string is a keyword (S401). If the input character string is a keyword, the keyword identifying module sends a URL to the DNS server to perform domain name processing (S402). If the input character string is a keyword, the keyword identifying module sends the keyword to the keyword processing server (S403).

[98] Upon receipt of the keyword (S404), the keyword processing server provides search service by keywords using the database in steps S405 to S411. Steps S405 to S411 in the fourth exemplary embodiment are the same as steps S106 to S112 according to the first exemplary embodiment.

[99] A method for providing search service by keywords according to the fifth exemplary embodiment of the present invention is the same as the method according to the fourth exemplary embodiment described with reference to FIG. 9 except for step S407. That is, if it is determined that the keyword exists in the first database, the keyword processing server extracts a group identifier matching the searched keyword from the first database. The keyword processing server then extracts a search query expression matching the extracted group identifier from the second database through search.

[100] A method for providing search service by keywords in the system according to the

sixth exemplary embodiment of the present invention is shown in FIG. 10.

[101] Referring to FIG. 10, steps S600 to S604 are the same as steps S400 to S404 shown in FIG. 9.

[102] After receiving a keyword (S604), the keyword processing server 430 asks if the received keyword exists in the respective specified-keyword databases, based on the position information of the specified-keyword databases stored in the matching information database (S605). The keyword processing server 430 may ask the respective specified-keyword databases by sequentially sending an ask message to the specified-keyword database A, the specified-keyword database B,... until it receives a response indicating the existence of the keyword. Alternatively, the keyword processing server may simultaneously send the ask message to the respective specified-keyword databases.

[103] If it is determined that the received keyword does not exist in any of the specified-keyword databases, the keyword processing server may determine that the received keyword is not a specified keyword and display a page including an error indication or connect the client terminal to a specific search server or a specific website (S607).

[104] Upon receipt of a response indicating existence of the received keyword in a specific one of the specified-keyword databases, the keyword processing server recognizes the received keyword as a specified keyword, and extracts a search query expression matching the specific specified-keyword database from the matching information database through search (S608).

[105] Steps S609 to S611 are the same as S409 to S411 of FIG. 9.

[106]

[107] Seventh to Ninth Exemplary Embodiments

[108] Seventh, eighth, and ninth exemplary embodiments of the present invention will be described with reference to FIGS. 11 to 13.

[109] FIG. 11 is a block diagram illustrating a system for providing search service by keywords according to the seventh, eighth, and ninth exemplary embodiments of the present invention. Referring to FIG. 11, a client terminal 700 is connected to a domain name service (DNS) server 710. In this case, the DNS server 710 includes a proxy module 720 that in turn includes a database 740.

[110] The proxy module 720 determines whether a character string sent from the client terminal 700 to the DNS server 710 is a keyword. If the character string is a keyword, a search result for the keyword is provided. That is, the proxy module 720 determines whether the keyword is a specified keyword, based on the database 740. If the keyword is a specified keyword, the proxy module 720 determines a group to which the specified keyword belongs so that the keyword is sent to a search site corresponding to the group.

[111] If the character string sent from the client terminal 700 to the DNS server 710 is not a keyword but a domain name such as a URL, the DNS server 710 connects the client terminal 700 to a corresponding web page.

[112] The proxy module 720 determines whether the character string is a keyword, like the proxy module according to the first exemplary embodiment described with reference to FIG. 1. For convenience of description, the proxy module 720 is shown in FIG. 11 as being included in the DNS server 710. However, the proxy module 720 may be included anywhere on a network path from the client terminal 700 to the domain name service server 710 only if the proxy module 720 is in the form of a server or a module and has the above-described function.

[113] The database 740 of the proxy module 720 according to the seventh exemplary embodiment of the present invention is the same as the database 140 of the keyword processing server 130 according to the first exemplary embodiment of the present invention. Accordingly, the database according to the seventh exemplary embodiment of the present invention includes a first database and a second database as shown in FIGS. 2 and 3.

[114] The database according to the eighth exemplary embodiment of the present invention is the same as the database according to the second exemplary embodiment of the present invention, and the database according to the ninth exemplary embodiment of the present invention is the same as the database according to the third exemplary embodiment of the present invention. That is, the database according to the eighth exemplary embodiment of the present invention includes a first database and a second database, and the database according to the ninth exemplary embodiment of the present invention includes a plurality of specified-keyword databases and a matching information database.

[115] A method for providing search service by keywords in the system according to the seventh exemplary embodiment is shown in FIG. 12.

[116] Referring to FIG. 12, if a character string is sent from the client terminal 700 to the domain name service server 710 (S700), the proxy module 720 of the domain name service server determines whether the character string is a keyword (S701). If the character string is not the keyword but a URL, the domain name service server performs domain name processing (S702).

[117] If the character string is a keyword, the proxy module determines whether the keyword exists in the first database (S703). If the keyword does not exist in the first database, the proxy module determines that the keyword is not a specified keyword (S704). If the keyword exists in the first database, the proxy module determines that the keyword is a specified keyword in steps S705 to S709. That is, the proxy module extracts a group identifier of the keyword from the first database, and extracts a search

query expression matching the group identifier from the second database through search. The proxy module then creates a keyword search query using the search query expression and sends the search query to the client terminal. The client terminal accesses a search engine based on the search query and receives the search result.

[118] A method for providing search service by keywords according to the eighth exemplary embodiment of the present invention is the same as the method according to the seventh exemplary embodiment as shown in FIG. 12 except for step S705. That is, if it is determined that the keyword exists in the first database, the keyword processing server extracts a group identifier matching the searched keyword. The keyword processing server then extracts a search query expression matching the group identifier from the second database through search.

[119] A method for providing search service by keywords in the system according to the ninth exemplary embodiment of the present invention is shown in FIG. 13.

[120] Referring to FIG. 13, steps S900 to S902 are the same as steps S700 to S702 shown in FIG. 11.

[121] However, if the character string is a keyword, the proxy module asks if the keyword exists in the respective specified-keyword databases, based on position information of the specified-keyword databases stored in the matching information database (S903).

[122] If the received keyword does not exist in all the specified-keyword databases, the proxy module determines that the received keyword is not a specified keyword (S905). Upon receipt of a response indicating existence of the keyword in the specific specified-keyword database, the proxy module recognizes the keyword as a specified keyword and extracts a search query expression matching the specific specified-keyword database from the matching information database through search (S906).

[123] Steps S907 to S909 are the same as steps S707 to S709 shown in FIG. 12.

[124]

[125] Tenth to twelfth Exemplary Embodiments

[126] Tenth, eleventh, and twelfth exemplary embodiments of the present invention will be described with reference to FIGS. 14 to 16.

[127] FIG. 14 is a block diagram illustrating a system for providing search service by keywords according to tenth to twelfth exemplary embodiments of the present invention. Referring to FIG. 14, a client terminal 1000 is connected to a domain name service (DNS) server 1010. In this case, the client terminal 1010 includes a keyword processing module 1030 that in turn includes a database 1040.

[128] The keyword processing module 1030 in the tenth to twelfth exemplary embodiments of the present invention has a similar function to the proxy module 720 in the seventh to ninth exemplary embodiments. That is, the keyword processing module 1030 hooks a character string input to an address input box of the client terminal 1000

to determine whether the character string is a keyword. If the character string is a keyword, a search result for the keyword is provided. Specifically, the keyword processing module 1030 determines whether the keyword is a specified keyword, based on the database 1040. If the keyword is a specified keyword, the keyword processing module 1030 identifies a group to which the specified keyword belongs so that the keyword is sent to a search site corresponding to the group. The keyword processing module 1030 determines whether the character string is a keyword, like the proxy module of the first exemplary embodiment described with reference to FIG. 1.

[129] The database 1040 of the keyword processing module 1030 according to the tenth exemplary embodiment of the present invention is the same as the database 140 of the keyword processing server 130 according to the first exemplary embodiment of the present invention. Accordingly, the database according to the tenth exemplary embodiment of the present invention includes a first database and a second database as shown in FIGS. 2 and 3.

[130] The database according to the eleventh exemplary embodiment of the present invention is the same as the database according to the second exemplary embodiment of the present invention, and the database according to the twelfth exemplary embodiment of the present invention is the same as the database according to the third exemplary embodiment of the present invention. That is, the database according to the eleventh exemplary embodiment of the present invention includes a first database and a second database, and the database according to the twelfth exemplary embodiment of the present invention includes a plurality of specified-keyword databases and a matching information database.

[131] A method for providing search service by keywords in the system according to the tenth exemplary embodiment is shown in FIG. 15.

[132] Referring to FIG. 15, if a character string is input to an address input box of the client terminal (S1000), the keyword processing module of the client terminal hooks the character string to determine whether the input character string is a keyword (S1001). If the input character string is not a keyword, the keyword processing module sends a URL to the domain name service server to perform domain name processing (S1002).

[133] If the input character string is a keyword, the keyword processing module determines whether the keyword exists in the first database through search (S1003). If the keyword exists in the first database, the keyword processing module recognizes the keyword as a specified keyword and extracts a group identifier of the searched keyword group (S1005). The keyword processing module extracts a search query expression matching the group identifier from the second database through search (S1006), and creates a keyword search query using the search query expression

(S1007).

[134] When the search query is created, the client terminal accesses the search server based on the search query and receives the search result (S1008).

[135] A method for providing search service by keywords according to the eleventh exemplary embodiment of the present invention is the same as the method according to the tenth exemplary embodiment described with reference to FIG. 15 except for step S1005. That is, if it is determined that a corresponding keyword exists in the first database through search, the keyword processing module extracts a group identifier matching the searched keyword. The keyword processing module then extracts a search query expression matching the group identifier from the second database through search.

[136] A method for providing search service by keywords in the system according to the twelfth exemplary embodiment of the present invention is shown in FIG. 16.

[137] Referring to FIG. 16, steps S1200 to S1202 are the same as steps S1000 to S1002 of FIG. 15.

[138] However, if the character string is a keyword, the keyword processing module asks if the received keyword exists in the respective specified-keyword databases, based on position information of the specified-keyword databases stored in the matching information database (S1203).

[139] If it is determined that the keyword does not exist in any of the specified-keyword databases, the keyword processing module determines that the keyword is not a specified keyword (S1205). If it is determined that the keyword exists in the specific specified-keyword database, the keyword processing module recognizes the keyword as a specified keyword and extracts a search query expression matching the specific specified-keyword database from the matching information database (S1206).

[140] Steps S1207 to S1208 are the same as S1007 to S1008 of FIG. 15.

[141] While the invention has been shown and described with reference to certain exemplary embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the invention as defined by the appended claims.

[142]

Claims

[1] A system for providing search service by keywords, comprising:
a proxy module for determining whether a character string from a client terminal is a keyword, and if the character string is a keyword, sending an Internet address of a keyword processing server to the client terminal; and
a keyword processing server for performing search on a database to determine whether the keyword from the client terminal is a specified keyword, wherein if the keyword is a specified keyword, the keyword processing server extracts a search query expression matching a group identifier of a group to which the specified keyword belongs to create a search query for the specified keyword, and sends the search query to the client terminal,
wherein the client terminal accesses a specific search server based on the search query to receive a specialized search result.

[2] A system for providing search service by keywords, comprising:
a keyword identifying module for hooking a character string input to a client terminal to determine whether the character string is a keyword, and if the character string is a keyword, sending the keyword to a keyword processing server; and
the keyword processing server for performing search on a database to determine whether the keyword from the client terminal is a specified keyword, wherein if the keyword is a specified keyword, the keyword processing server extracts a search query expression matching a group identifier of a group to which the specified keyword belongs to create a search query for the specified keyword, and sends the search query to the client terminal,
wherein the client terminal accesses a specific search server based on the search query to receive a specialized search result.

[3] The system of claim 1 or 2, wherein the database comprises a first database for storing a plurality of specified-keyword groups each including at least one specified keyword, and a plurality of group identifiers matching the plurality of specified-keyword groups; and a second database for storing a plurality of search query expressions matching the plurality of group identifiers, and
the keyword processing server extracts a group identifier of a specified-keyword group including the specified keyword corresponding to the keyword from the client terminal, from the first database through search, and extracts the search query expression matching the group identifier from the second database through search.

[4] The system of claim 1 or 2, wherein the database comprises a first database for

storing, as fields, a plurality of specified keywords and group identifiers matching the specified keywords in one-to-one correspondence; and a second database for storing a plurality of search query expressions matching the plurality of group identifiers, and

the keyword processing server extracts a group identifier matching a specified keyword corresponding to the keyword from the client terminal, from the first database through search, and extracts a search query expression matching the group identifier from the second database through search.

[5] The system of claim 1 or 2, wherein the database comprises a plurality of specified-keyword databases each for storing at least one specified keyword; and a matching information database for storing position information on the plurality of specified-keyword databases and search query expressions matching the respective specified-keyword databases, and

the keyword processing server asks if the keyword from the client terminal exists in the respective specified-keyword databases, based on the position information of the specified-keyword databases stored in the matching information database, and extracts a search query expression matching the specific specified-keyword database from the matching information database through search upon receipt of a response indicating existence of the keyword in the specific specified-keyword database.

[6] A method for providing search service by keywords, comprising:

(a) determining, by a proxy module, whether a character string from a client terminal is a keyword;

(b) if the character string is a keyword, sending an Internet address of a keyword processing server to the client terminal;

(c) sending, by the client terminal, the keyword to the keyword processing server;

(d) determining, by the keyword processing server, whether the received keyword is a specified keyword;

(e) if the keyword is a specified keyword, extracting a search query expression matching a group identifier of a group to which the specified keyword belongs;

(f) creating a search query for the specified keyword using the search query expression;

(g) sending, by the keyword processing server, the search query to the client terminal; and

(h) accessing, by the client terminal, a specific search server based on the search query to receive a specialized search result.

[7] A method for providing search service by keywords, comprising:

(a) hooking, by a keyword identifying module, a character string input to a client terminal;

(b) determining, by the keyword identifying module, whether the hooked character string is a keyword;

(c) if the character string is a keyword, sending the keyword to a keyword processing server;

(d) determining, by the keyword processing server, whether the received keyword is a specified keyword;

(e) if the keyword is a specified keyword, extracting a search query expression matching a group identifier of a group to which the specified keyword belongs;

(f) creating a search query for the specified keyword using the search query expression;

(g) sending, by the keyword processing server, the search query to the client terminal; and

(h) accessing, by the client terminal, a specific search server based on the search query to receive a specialized search result.

[8] The method of claim 6 or 7, wherein step (d) comprises performing, by the keyword processing server, search on the first database and determining that the keyword from the client terminal is a specified keyword when a keyword matching the keyword from the client terminal exists in the first database, and step (e) comprises extracting, by the keyword processing server, a group identifier matching a specified-keyword group including the specified keyword from the first database, and extracting a search query expression matching the group identifier from the second database through search.

[9] The method of claim 6 or 7, wherein step (d) comprises performing, by the keyword processing server, search on the first database and determining that the keyword from the client terminal is a specified keyword when a keyword matching the keyword from the client terminal exists in the first database, and step (e) comprises extracting, by the keyword processing server, a group identifier matching the specified keyword in one-to-one correspondence from the first database, and extracting a search query expression matching the group identifier from the second database through search.

[10] The method of claim 6 or 7, wherein step (d) comprises asking, by the keyword processing server, if the keyword from the client terminal exists in the respective specified-keyword databases, based on the position information of the specified-keyword databases stored in the matching information database, and determining that the keyword is a specified keyword upon a response indicating existence of the keyword in the specific specified-keyword database, and

step (e) comprises extracting, by the keyword processing server, a search query expression matching the specific specified-keyword database from the matching information database through search.

[11] A system for providing search service by keywords, comprising a proxy module for determining whether a character string from a client terminal is a keyword, performing search on a database to determine whether the keyword is a specified keyword if the character string is the keyword, extracting a search query expression matching a group identifier of a group to which the specified keyword belongs to create a search query for the specified keyword if the keyword is a specified keyword, and sending the search query to the client terminal, wherein the client terminal accesses a specific search server based on the search query to receive a specialized search result.

[12] The system of claim 11, wherein the database comprises a first database for storing a plurality of specified-keyword groups each including at least one specified keyword, and a plurality of group identifiers matching the plurality of specified-keyword groups; and a second database for storing a plurality of search query expressions matching the plurality of group identifiers, and
the proxy module extracts a group identifier of a specified-keyword group including a specified keyword corresponding to the keyword from the client terminal, from the first database through search, and extracts a search query expression matching the group identifier from the second database through search.

[13] The system of claim 11, wherein the database comprises a first database for storing, as fields, a plurality of specified keywords and group identifiers matching the specified keywords in one-to-one correspondence; and a second database for storing a plurality of search query expressions matching the plurality of group identifiers, and
the proxy module extracts a group identifier matching a specified keyword corresponding to the keyword from the client terminal, from the first database through search, and extracts a search query expression matching the group identifier from the second database through search.

[14] The system of claim 11, wherein the database comprises a plurality of specified-keyword databases each for storing at least one specified keyword; and a matching information database for storing position information on the plurality of specified-keyword databases and search query expressions matching the respective specified-keyword databases, and
the proxy module asks if the keyword from the client terminal exists in the respective specified-keyword databases, based on the position information of the

specified-keyword databases stored in the matching information database, and extracts a search query expression matching the specific specified-keyword database from the matching information database through search upon receipt of a response indicating existence of the keyword in the specific specified-keyword database.

[15] A method for providing search service by keywords, comprising:
(a) determining, by a proxy module, whether a character string from a client terminal is a keyword;
(b) if the character string is a keyword, determining whether the keyword is a specified keyword;
(c) if the keyword is a specified keyword, extracting a search query expression matching a group identifier of a group to which the specified keyword belongs;
(d) creating a search query for the specified keyword using the search query expression;
(e) sending, by the proxy module, the search query to the client terminal; and
(f) accessing, by the client terminal, a specific search server based on the search query to receive a specialized search result.

[16] The method of claim 15, wherein step (b) comprises performing, by the proxy module, search on the first database and determining that the keyword from the client terminal is a specified keyword when a keyword matching the keyword from the client terminal exists in the first database, and
step (c) comprises extracting, by the proxy module, a group identifier matching a specified-keyword group including the specified keyword, from the first database, and extracting a search query expression matching the group identifier from the second database through search.

[17] The method of claim 15, wherein step (b) comprises performing, by the proxy module, search on the first database and determining that the keyword from the client terminal is a specified keyword when a keyword matching the keyword from the client terminal exists in the first database, and
step (c) comprises extracting, by the proxy module, a group identifier matching the specified keyword in one-to-one correspondence, from the first database, and extracting a search query expression matching the group identifier from the second database through search.

[18] The method of claim 15, wherein step (b) comprises asking, by the proxy module, if the keyword from the client terminal exists in the respective specified-keyword databases, based on the position information of the specified-keyword databases stored in the matching information database, and determining that the keyword is a specified keyword upon a response indicating existence of the

keyword in the specific specified-keyword database, and
step (c) comprises extracting, by the proxy module, a search query expression matching the specific specified-keyword database from the matching information database through search.

[19] A system for providing search service by keywords, comprising a keyword processing module for hooking a character string input to a client terminal to determine whether the character string is a keyword, performing search on a database to determine whether the keyword is a specified keyword if the character string is the keyword, and extracting a search query expression matching a group identifier of a group to which the specified keyword belongs to create a search query for the specified keyword if the keyword is a specified keyword, wherein:
the client terminal accesses a specific search server based on the search query to receive a specialized search result.

[20] The system of claim 19, wherein the database comprises a first database for storing a plurality of specified-keyword groups each including at least one specified keyword, and a plurality of group identifiers matching the plurality of specified-keyword groups; and a second database for storing a plurality of search query expressions matching the plurality of group identifiers, and
the keyword processing module extracts a group identifier of a specified-keyword group including the specified keyword corresponding to the keyword, from the first database through search, and extracts a search query expression matching the group identifier from the second database through search.

[21] The system of claim 19, wherein the database comprises a first database for storing, as fields, a plurality of specified keywords and group identifiers matching the specified keywords in one-to-one correspondence; and a second database for storing a plurality of search query expressions matching the plurality of group identifiers, and
the keyword processing module extracts a group identifier matching a specified keyword corresponding to the keyword, from the first database through search, and extracts a search query expression matching the group identifier from the second database through search.

[22] The system of claim 19, wherein the database comprises a plurality of specified-keyword databases each for storing at least one specified keyword; and a matching information database for storing position information on the plurality of specified-keyword databases and search query expressions matching the respective specified-keyword databases, and
the keyword processing module asks if the keyword exists in the respective

specified-keyword databases, based on the position information of the specified-keyword databases stored in the matching information database, and extracts a search query expression matching the specific specified-keyword database from the matching information database through search upon receipt of a response indicating existence of the keyword in the specific specified-keyword database.

[23] A method for providing search service by keywords, comprising:

(a) hooking, by a keyword processing module, a character string input to a client terminal;

(b) determining, by the keyword processing module, whether the hooked character string is a keyword;

(c) if the character string is a keyword, determining whether the keyword is a specified keyword;

(d) if the keyword is a specified keyword, extracting a search query expression matching a group identifier of a group to which the specified keyword belongs;

(e) creating a search query for the specified keyword using the search query expression; and

(f) accessing, by the client terminal, a specific search server based on the search query to receive a specialized search result.

[24] The method of claim 23, wherein step (c) comprises performing, by the keyword processing module, search on the first database and determining that the hooked keyword is a specified keyword when a keyword matching the hooked keyword exists in the first database, and

step (d) comprises extracting, by the keyword processing module, a group identifier matching a specified-keyword group including the specified keyword, from the first database, and extracting a search query expression matching the group identifier from the second database through search.

[25] The method of claim 23, wherein step (c) comprises performing, by the keyword processing module, search on the first database and determining that the hooked keyword is a specified keyword when a keyword matching the hooked keyword exists in the first database, and

step (d) comprises extracting, by the keyword processing module, a group identifier matching the specified keyword in one-to-one correspondence, from the first database, and extracting a search query expression matching the group identifier from the second database through search.

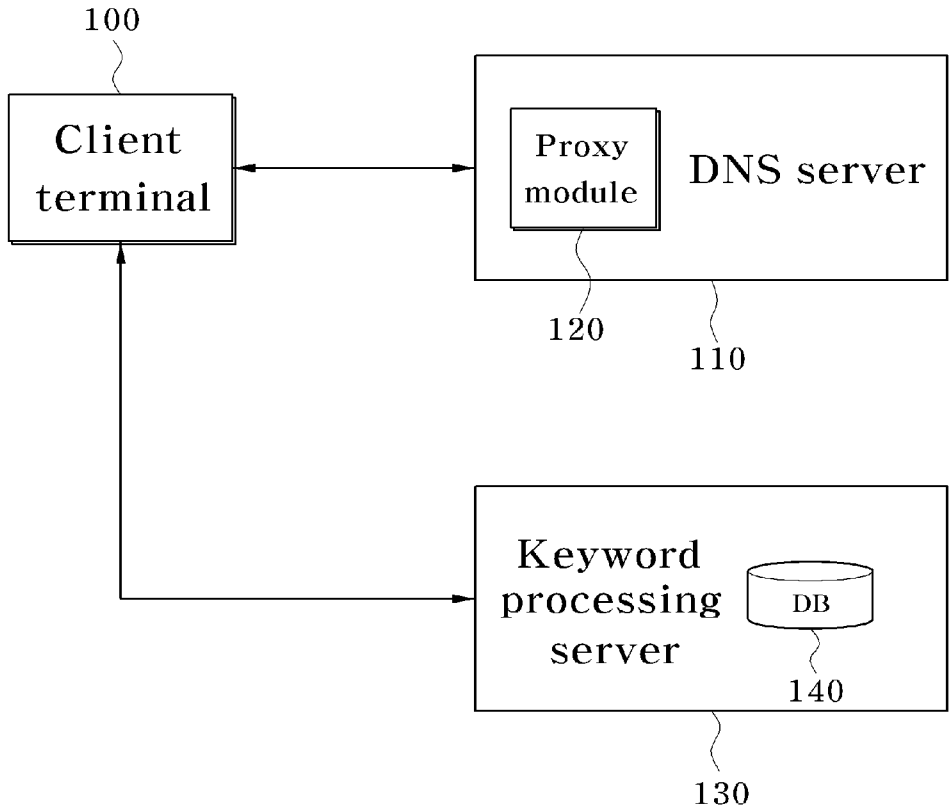
[26] The method of claim 23, wherein step (c) comprises asking, by the keyword processing module, if the hooked keyword exists in the respective specified-keyword databases, based on the position information of the specified-keyword databases stored in the matching information database, and determining that the

keyword is a specified keyword upon a response indicating existence of the keyword in the specific specified-keyword database, and

step (d) comprises extracting, by the keyword processing module, a search query expression matching the specific specified-keyword database from the matching information database through search.

[27] A recording medium having a program recorded thereon for performing a method for providing search service by keywords according to any of claims 6, 7, 15, and 23.

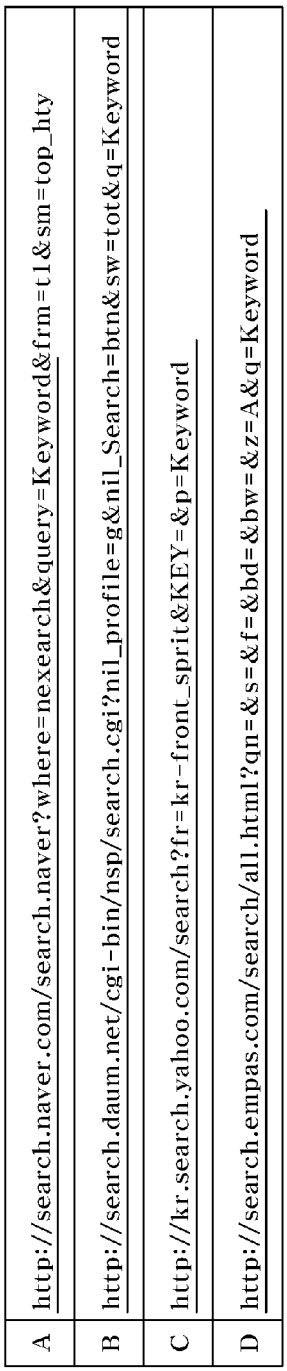
[Fig. 1]



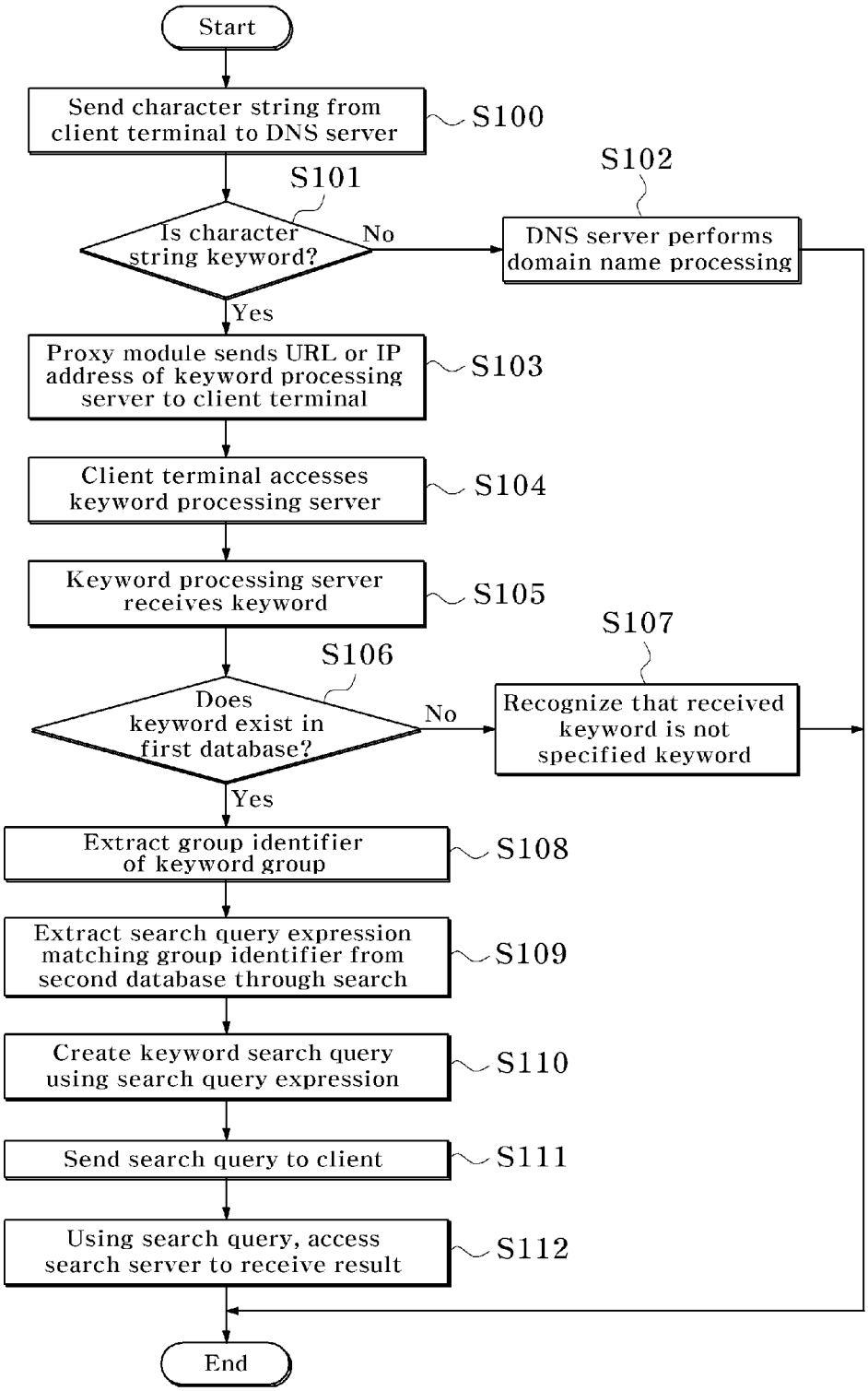
[Fig. 2]

Specified keyword group	Car	A
	Flower delivery	
	Loan	
	Insurance	
	•••	
Specified keyword group	Camera	B
	Lens	
	SLR	
	•••	
Specified keyword group	Mobile phone	C
	Number movement	
	•••	
	•••	•••

[Fig. 3]


A http://search.naver.com/search.naver?where=nexearch&query=Keyword&frm=t1&sm=top_hty
B http://search.daum.net/cgi-bin/nsp/search.cgi?nil_profile=g&nil_Search=btn&sw=tot&q=Keyword
C http://kr.search.yahoo.com/search?fr=kr-front_sprit&KEY=&p=Keyword
D http://search.empas.com/search/all.html?qn=&s=&f=&bd=&bw=&z=A&q=Keyword

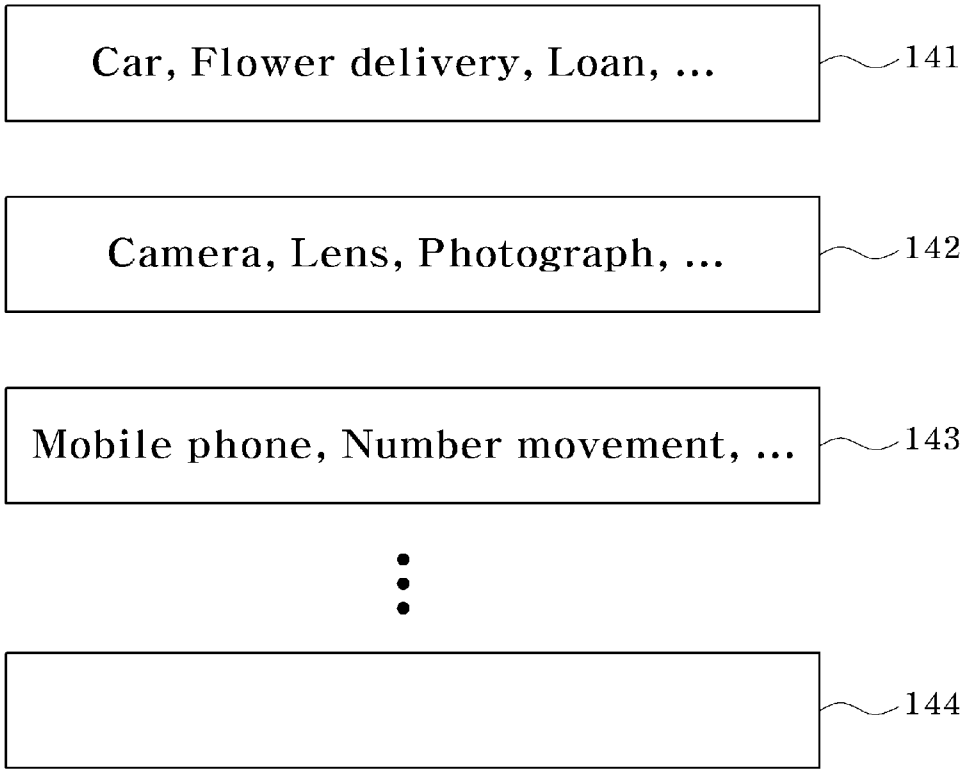
[Fig. 4]


Start
Send character string from client terminal to DNS server
S100
S101
Is character string keyword?
No
S102
DNS server performs domain name processing
Yes
Proxy module sends URL or IP address of keyword processing server to client terminal
S103
Client terminal accesses keyword processing server
S104
Keyword processing server receives keyword
S105
S106
Does keyword exist in first database?
No
S107
Recognize that received keyword is not specified keyword
Yes
Extract group identifier of keyword group
S108
Extract search query expression matching group identifier from second database through search
S109
Create keyword search query using search query expression
S110
Send search query to client
S111
Using search query, access search server to receive result
S112
End

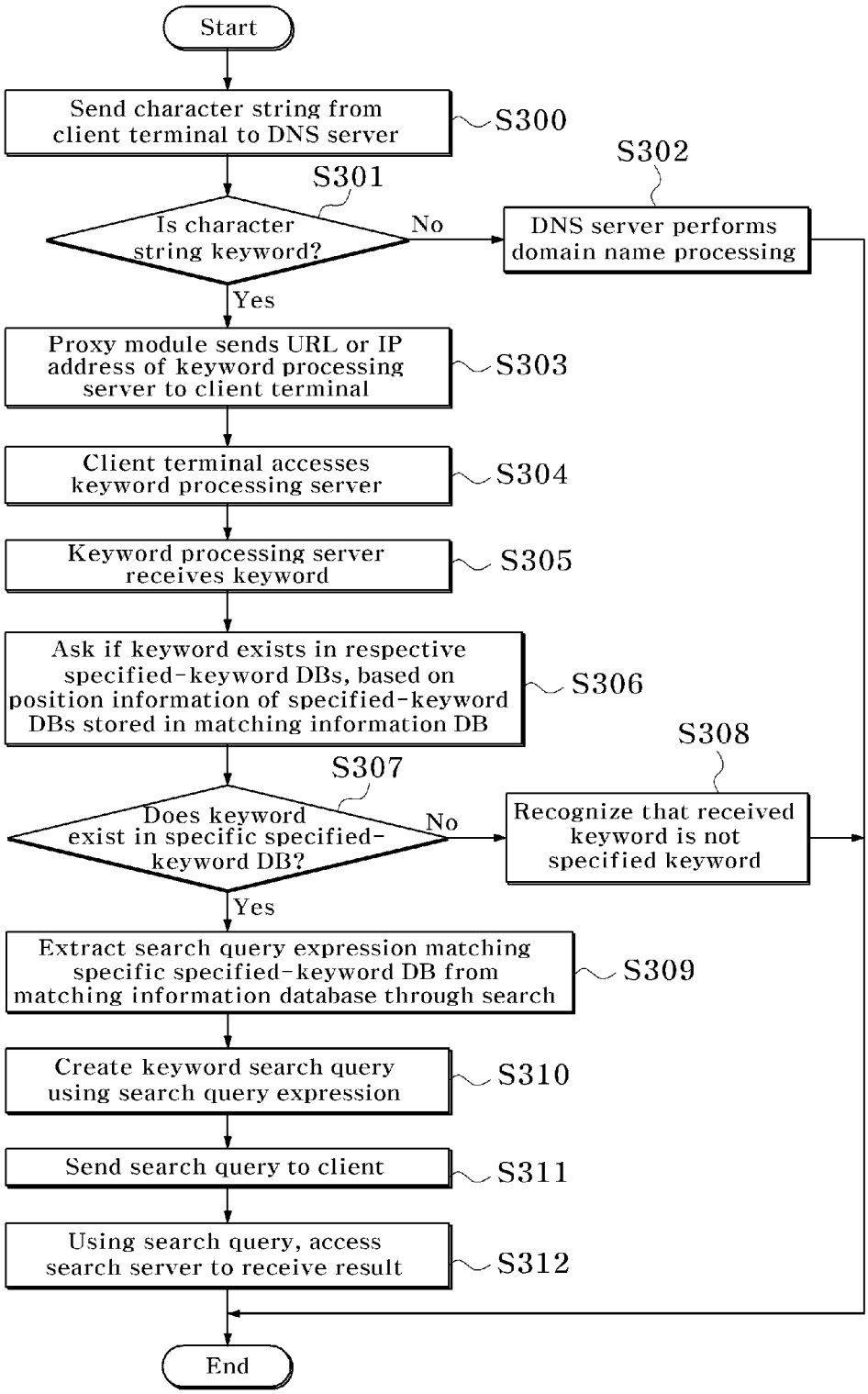
[Fig. 5]

Car	A
Flower delivery	B
Loan	C
Insurance	C
Academy	B
Camera	A
Mobile phone	C
Lens	A
•••	•••

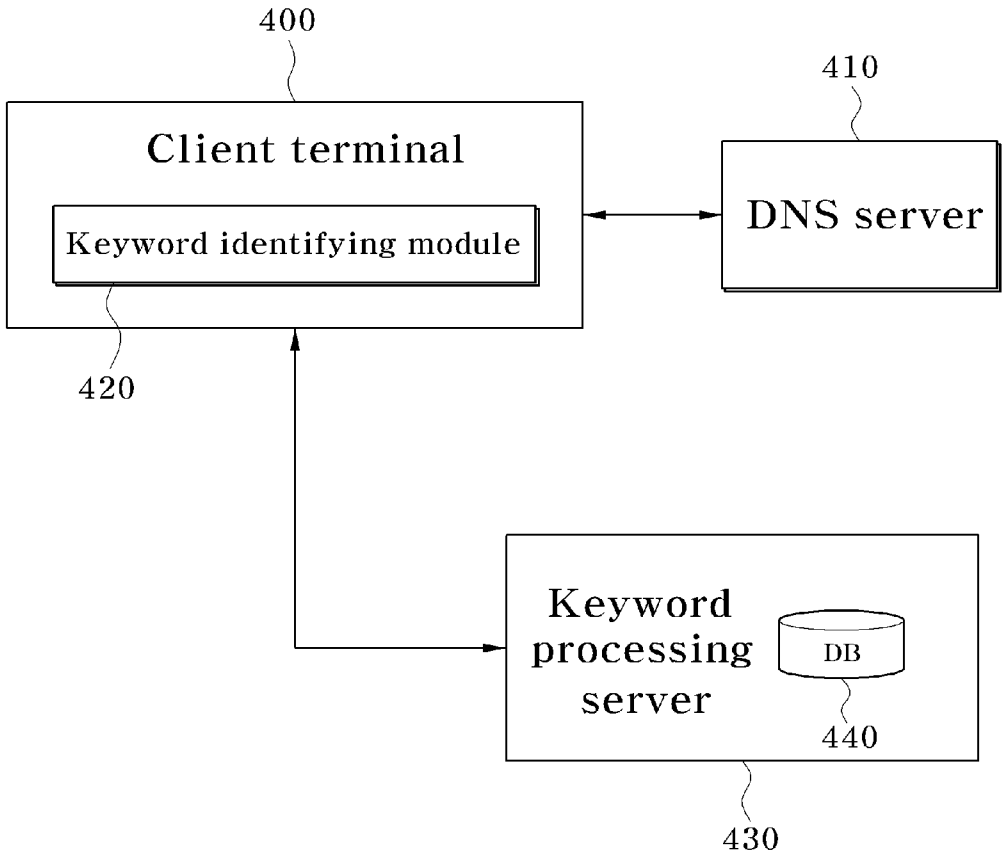
[Fig. 6]



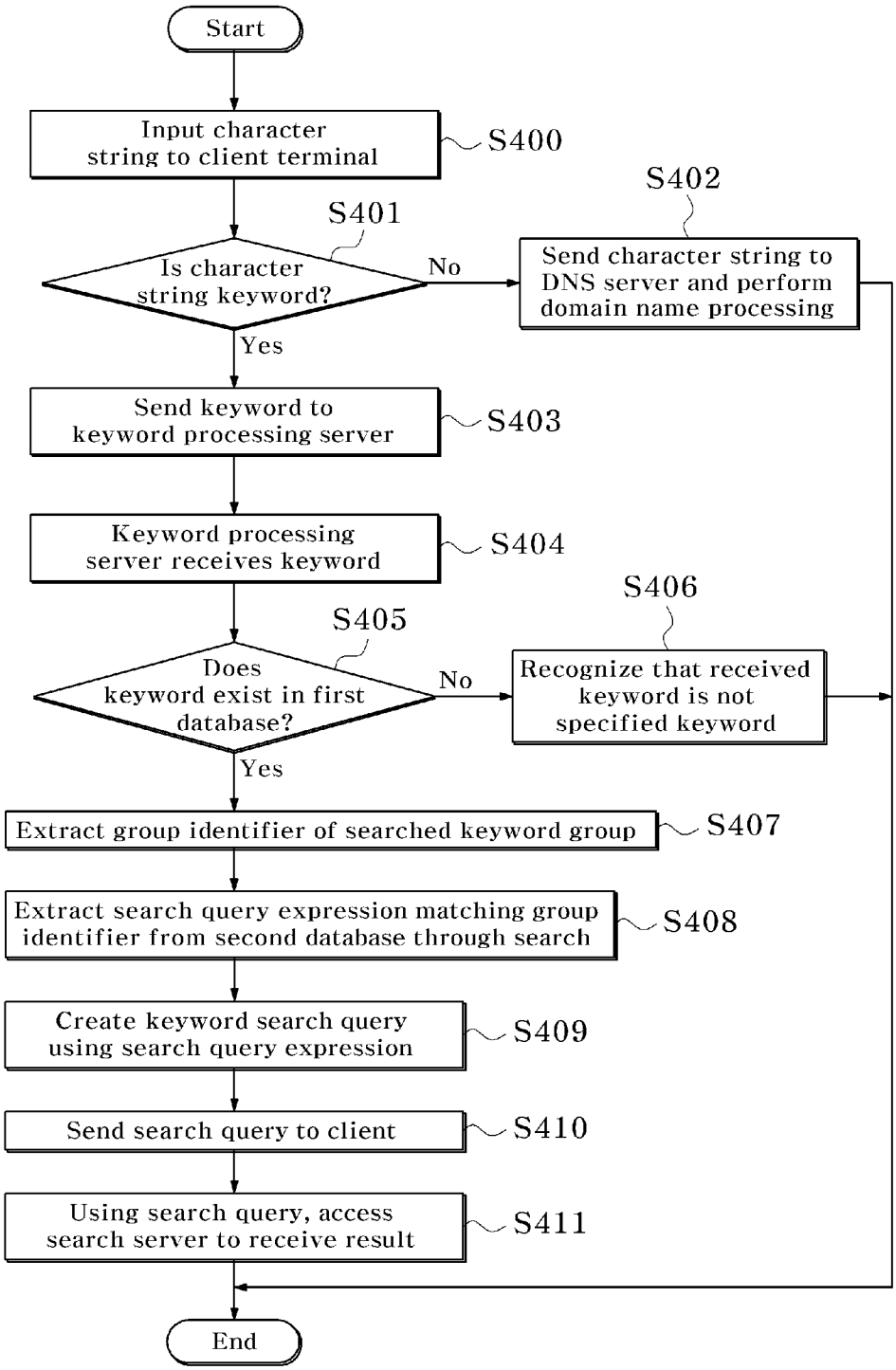
[Fig. 7]


Start
Send character string from client terminal to DNS server
S300
S301
Is character string keyword?
No
S302
DNS server performs domain name processing
Yes
Proxy module sends URL or IP address of keyword processing server to client terminal
S303
Client terminal accesses keyword processing server
S304
Keyword processing server receives keyword
S305
Ask if keyword exists in respective specified-keyword DBs, based on position information of specified-keyword DBs stored in matching information DB
S306
S307
Does keyword exist in specific specified-keyword DB?
No
S308
Recognize that received keyword is not specified keyword
Yes
Extract search query expression matching specific specified-keyword DB from matching information database through search
S309
Create keyword search query using search query expression
S310
Send search query to client
S311
Using search query, access search server to receive result
S312
End

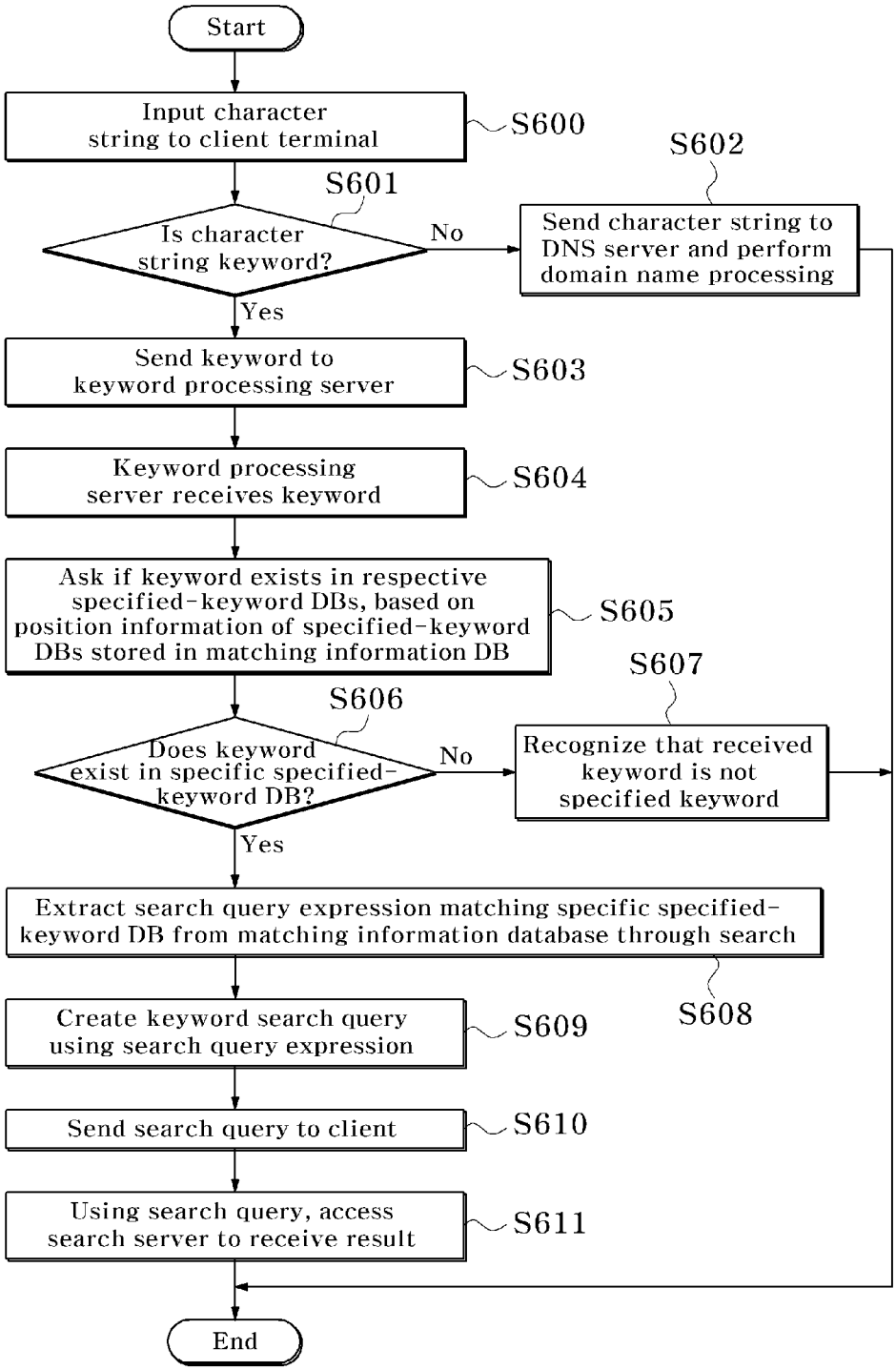
[Fig. 8]


400
Client terminal
Keyword identifying module
420
410
DNS server
Keyword processing server
DB
440
430

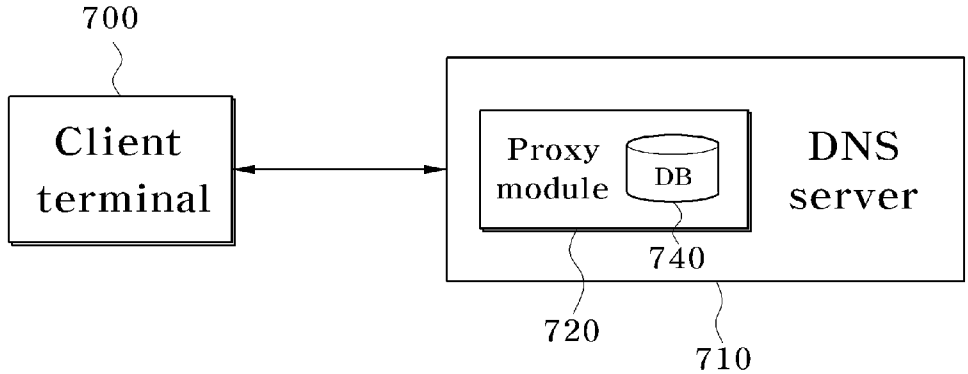
[Fig. 9]


Start
Input character string to client terminal
S400
S401
Is character string keyword?
No
S402
Send character string to DNS server and perform domain name processing
Yes
Send keyword to keyword processing server
S403
Keyword processing server receives keyword
S404
S405
Does keyword exist in first database?
No
S406
Recognize that received keyword is not specified keyword
Yes
Extract group identifier of searched keyword group
S407
Extract search query expression matching group identifier from second database through search
S408
Create keyword search query using search query expression
S409
Send search query to client
S410
Using search query, access search server to receive result
S411
End

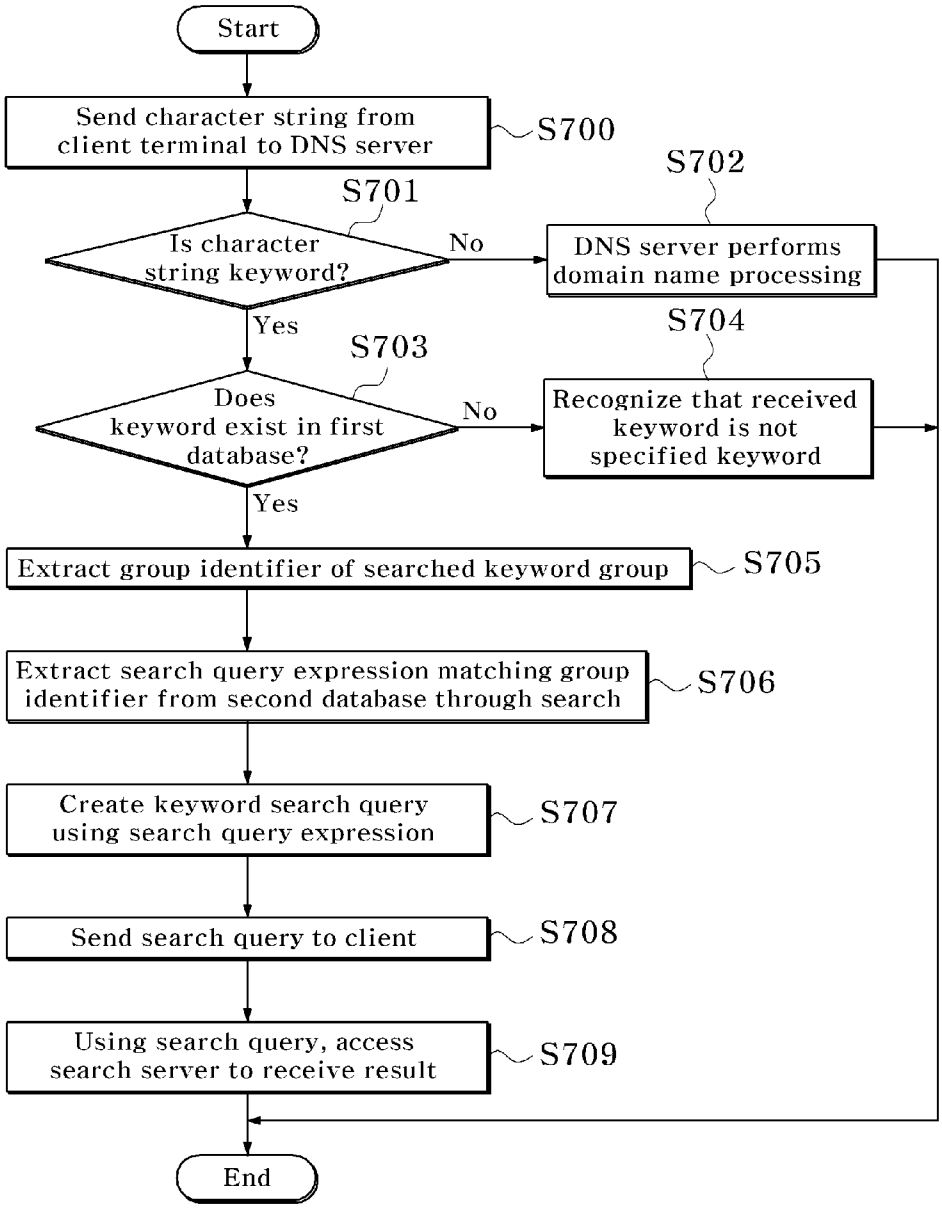
[Fig. 10]


Start
Input character string to client terminal
S600
S601
Is character string keyword?
No
S602
Send character string to DNS server and perform domain name processing
Yes
Send keyword to keyword processing server
S603
Keyword processing server receives keyword
S604
Ask if keyword exists in respective specified-keyword DBs, based on position information of specified-keyword DBs stored in matching information DB
S605
S606
Does keyword exist in specific specified-keyword DB?
No
S607
Recognize that received keyword is not specified keyword
Yes
Extract search query expression matching specific specified-keyword DB from matching information database through search
S608
Create keyword search query using search query expression
S609
Send search query to client
S610
Using search query, access search server to receive result
S611
End

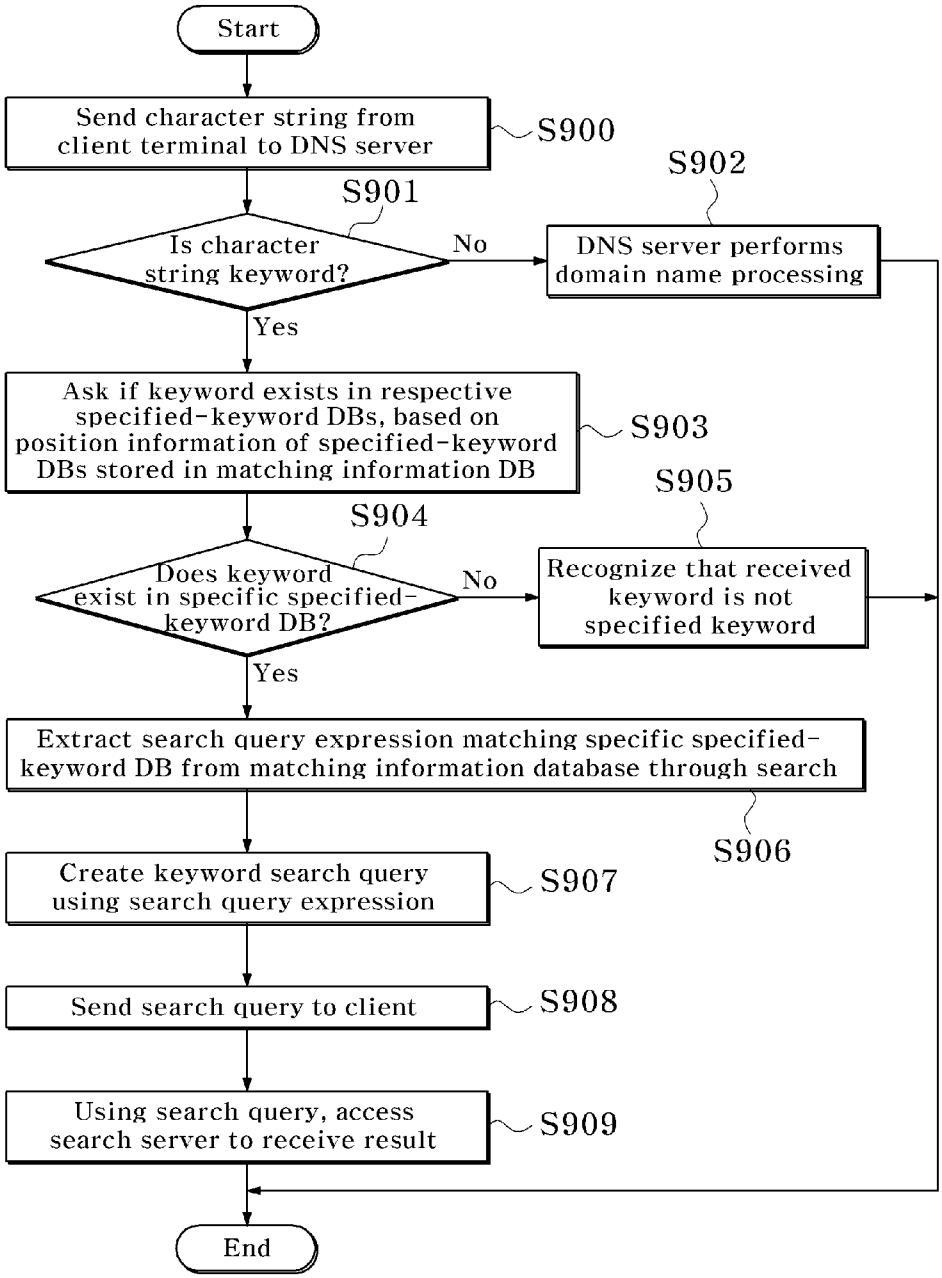
[Fig. 11]


700
Client terminal
Proxy module
DB
DNS server
740
720
710

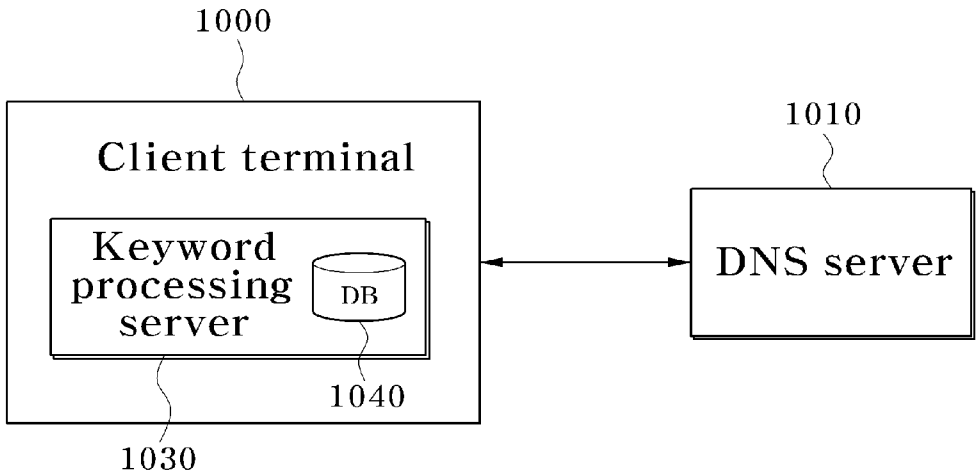
[Fig. 12]


Start
Send character string from client terminal to DNS server
S700
S701
Is character string keyword?
No
S702
DNS server performs domain name processing
Yes
S703
Does keyword exist in first database?
No
S704
Recognize that received keyword is not specified keyword
Yes
Extract group identifier of searched keyword group
S705
Extract search query expression matching group identifier from second database through search
S706
Create keyword search query using search query expression
S707
Send search query to client
S708
Using search query, access search server to receive result
S709
End

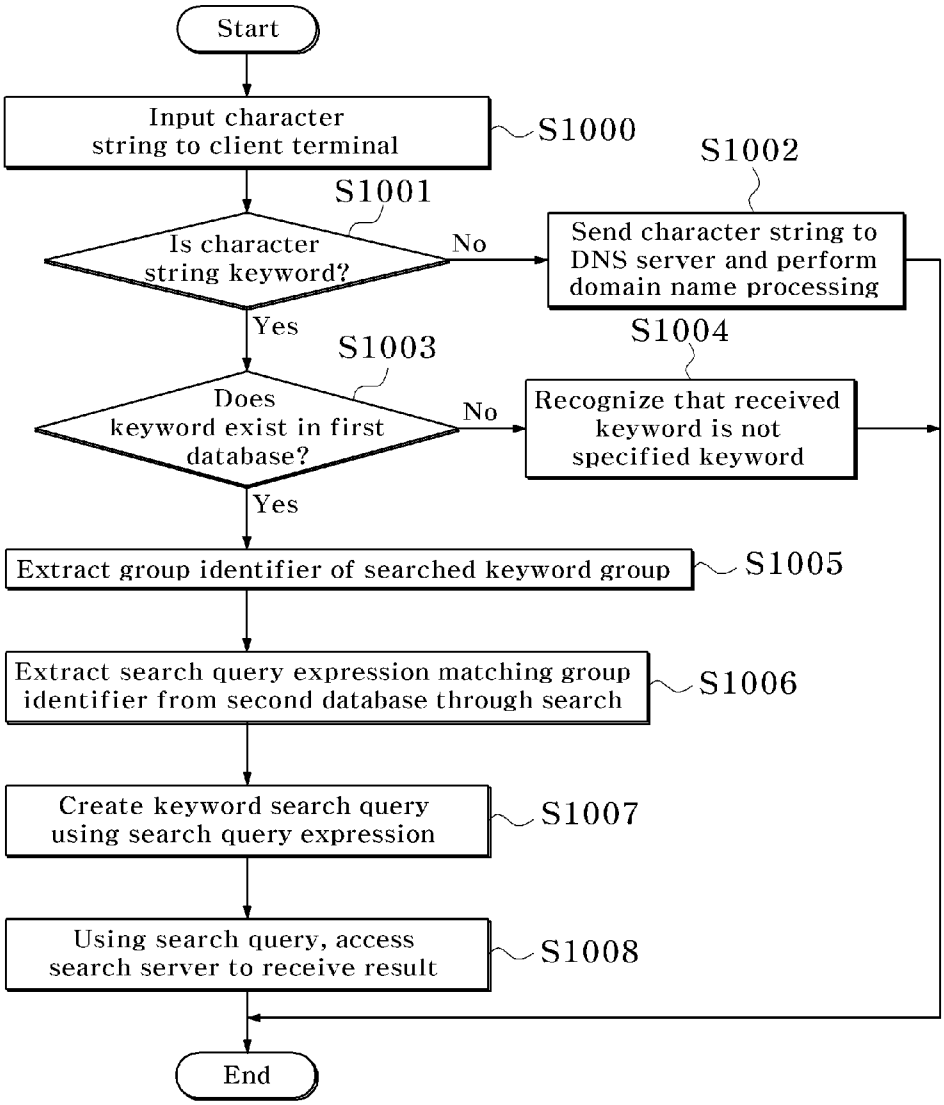
[Fig. 13]


Start
Send character string from client terminal to DNS server
S900
S901
Is character string keyword?
No
S902
DNS server performs domain name processing
Yes
Ask if keyword exists in respective specified-keyword DBs, based on position information of specified-keyword DBs stored in matching information DB
S903
S904
Does keyword exist in specific specified-keyword DB?
No
S905
Recognize that received keyword is not specified keyword
Yes
Extract search query expression matching specific specified-keyword DB from matching information database through search
S906
Create keyword search query using search query expression
S907
Send search query to client
S908
Using search query, access search server to receive result
S909
End

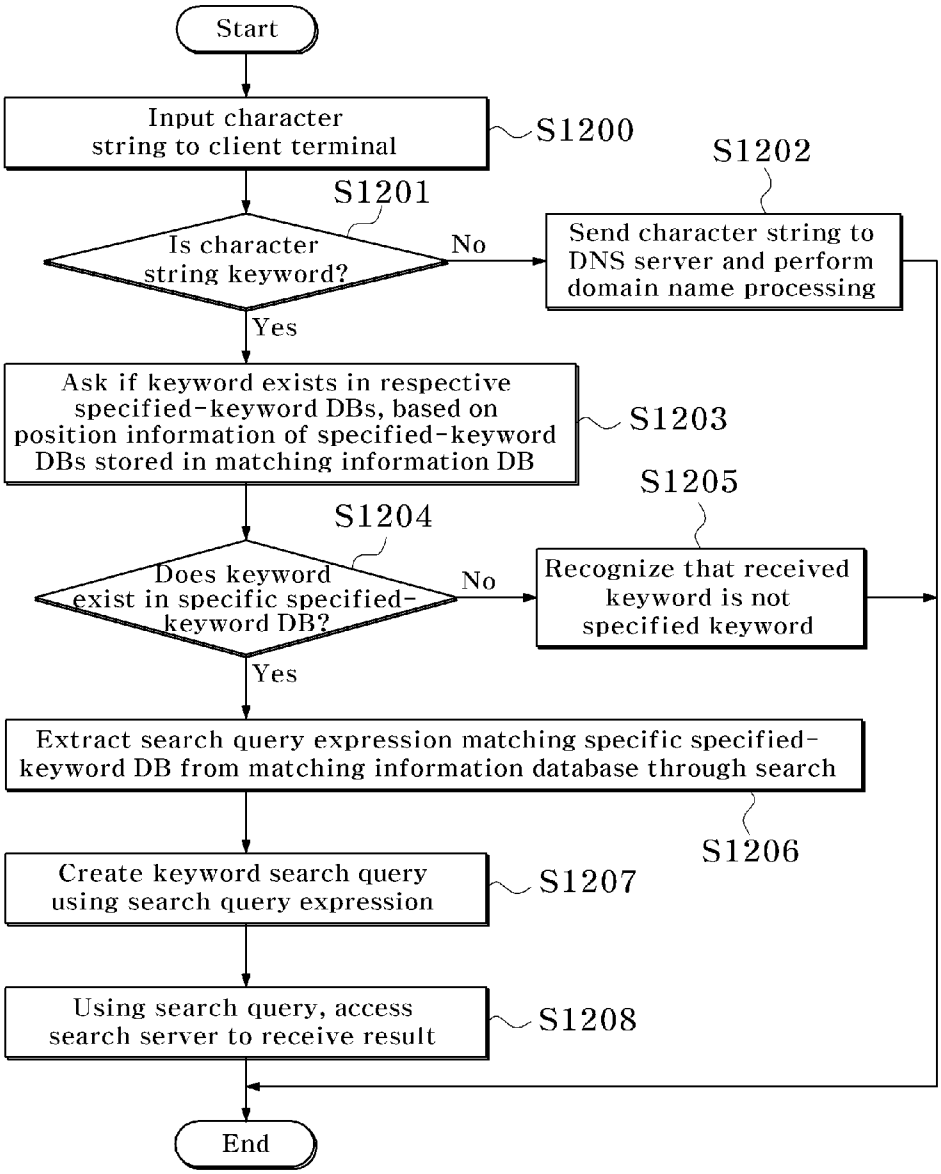
[Fig. 14]


1000
Client terminal
Keyword processing server
DB
1040
1030
1010
DNS server

[Fig. 15]


Start
Input character string to client terminal
S1000
S1001
Is character string keyword?
No
S1002
Send character string to DNS server and perform domain name processing
Yes
S1003
Does keyword exist in first database?
No
S1004
Recognize that received keyword is not specified keyword
Yes
Extract group identifier of searched keyword group
S1005
Extract search query expression matching group identifier from second database through search
S1006
Create keyword search query using search query expression
S1007
Using search query, access search server to receive result
S1008
End

[Fig. 16]


Start
Input character string to client terminal
S1200
S1201
Is character string keyword?
No
S1202
Send character string to DNS server and perform domain name processing
Yes
Ask if keyword exists in respective specified-keyword DBs, based on position information of specified-keyword DBs stored in matching information DB
S1203
S1204
Does keyword exist in specific specified-keyword DB?
No
S1205
Recognize that received keyword is not specified keyword
Yes
Extract search query expression matching specific specified-keyword DB from matching information database through search
S1206
Create keyword search query using search query expression
S1207
Using search query, access search server to receive result
S1208
End

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2008/000656

A. CLASSIFICATION OF SUBJECT MATTER

G06F 17/30(2006.01)i

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)

IPC8: G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility models and applications for Utility models since 1975

Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS(KIPO internal) "keyword, query, group identifier, database, client"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2007-0027856 A1 (LEE) 1 February 2007 see abstract, paragraph 25-45, and fig.2	1-27
Y	US 7,058,626 B1 (PAN et al.) 6 June 2006 see abstract, column 8 line 41 ~ column 11 line 45, and fig.4	1-27
A	KR 10-2003-0066064 A (YAHOO KOREA CORP.) 9 August 2003 see abstract, page 2-4, and fig.9	1-27

☐ 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
21 MAY 2008 (21.05.2008)	**21 MAY 2008 (21.05.2008)**
Name and mailing address of the ISA/KR Korean Intellectual Property Office Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer Kim, Sae Byul Telephone No. 82-42-481-8521

Form PCT/ISA/210 (second sheet) (April 2007)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2008/000656

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US20070027856A1	01.02.2007	KR1020070013867A	31.01.2007
US7058626B1	06.06.2006	CN1282928A	07.02.2001
		EP01072984A2	31.01.2001
		JP2001092854A	06.04.2001
		KR1020010085185A	07.09.2001
		TW429354A	11.04.2001
KR1020030066064A	09.08.2003	None	