GROWING PLANT TYPE KEYWORD SYSTEM

CROSS REFERENCE TO RELATED APPLICATION

[0001] The present application claims the benefit of Korean Patent Application No. 10-2012-0038097 filed in the Korean Intellectual Property Office on April 12, 2012, the entire contents of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

1. Technical Field

[0002] The present invention relates to a growing plant type keyword system in which input search words inputted to the search window of a client having an Internet function, such as a PC, a PDA, a mobile phone or a smart phone, search word cookies stored in cookie files, and keywords used by a user for web surfing in web pages are aggregated into interested keywords, the interested keywords are displayed in the wallpaper of the client in the form of an image having a plant shape (hereinafter called a 'plant image'), such as a tree or a bine, and the plant image and the interested keywords are made grow up in real time over time so that a user can promptly check his interests.

2. Description of the Related Art

[0003] As the Internet is widely used today, content providing sites for providing a variety of pieces of content over the Internet are increasing every day. In the case of news, there are websites for providing news and portal sites for receiving the news from the websites and providing the news again. In particular, a portal site provides a variety of pieces of content according to categories, such as news and knowledge.

[0004] A portal site analyzes search words inputted to a search window by an Internet user and provides the inputted search words according to items, such as a ‘real-time issue search word' and a 'popular search word', so that the Internet user can check the items. When the Internet user clicks on one of the search words, the results of the search corresponding to the clicked search word are listed and the Internet user can check the final contents by clicking on the results of the search.

[0005] A client user does web surfing by inputting a search word to a search window each time, but cannot check that he had an interest in what content in the past and also cannot check information about continuously interested content.

SUMMARY OF THE INVENTION

[0006] An object of the present invention is to provide a growing plant type keyword system in which input search words inputted to the search window of a client having an Internet function, such as a PC, a PDA, a mobile phone, or a smart phone, search word cookies stored in cookie files, and keywords used by users for web surfing in web pages are aggregated into interested keywords, the aggregated interested keywords are displayed in the wallpaper of the client in the form of a plant image, such as a tree or a bine, and the plant image and the interested keywords are made grow up in real time over time so that a user can promptly check his interests.

[0007] Another object of the present invention is to provide a growing plant type keyword system in which, when a user selects an interested keyword displayed in a client in the form of a plant image, the results of a search for a search site are displayed and the user can check information related to the search word conveniently.

[0008] A growing plant type keyword system in accordance with the present invention includes an input search word determination unit configured to determine a search word, inputted to the search window of a client, as an input search word when the results of a search are displayed in

response to the inputted search word and store the input search word; a cookie information generation unit configured to write the input search word in the form of a search word cookie that is the contents of a cookie when a user clicks on the results of the search and store the written search word cookie in the cookie folder of the client; a web page keyword analysis unit configured to analyze the contents of web pages, displayed in the web browser of a client as the results of the search, based on morphemes and select a word or sentence having the highest degree of overlapping based on a result of the analysis, as a web page keyword; an interested keyword determination unit configured to aggregate the stored input search word, the stored search word cookie, and the selected web page keyword into an interested keyword, stores the interested keyword in an interested keyword DB, and record the number of overlapping for the interested keyword if the interested keyword overlaps with an existing interested keyword; an interested keyword display unit configured to include a plant image management unit for managing an image of a plant image displayed in the client and a keyword display unit for displaying a plurality of the interested keywords in the plant image and configured to classify the plurality of interested keywords based on the degree of overlapping, display the classified interested keywords in the plant

image, and sequentially increase the size of the plant image and the interested keywords according to the degree of overlapping; an interested keyword selection recognition unit configured to recognize a specific interested keyword displayed in the client when the user selects the specific interested keyword; and a search result display unit configured to display the results of a search, obtained using the selected interested keyword as a search word in a corresponding search site, in the web browser of the client if it is determined that the user has selected the interested keyword through the interested keyword selection recognition unit.

[0009] Preferably, the client includes a device having an Internet function, such as a PC, a PDA, a mobile phone, and a smart phone.

[0010] Preferably, the cookie information generation unit disposes the stored search word cookie at the first place if the stored search word cookie is identical with an existing search word cookie already stored in the cookie folder of the client.

[0011] Preferably, the interested keyword determination unit records the number of overlapping for the stored interested keyword if the stored interested keyword is identical with an existing interested keyword already stored in the interested keyword DB.

[0012] Preferably, the plant image displaying the plurality of interested keywords is displayed in the wallpaper of the client or on one side of the web browser or a web page.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] FIG. 1 is an exemplary diagram in which a growing plant type keyword system in accordance with the present invention displays a keyword interested by a client in the form of a tree;

[0014] FIG. 2 is a block diagram of a growing plant type keyword system in accordance with a first embodiment of the present invention;

[0015] FIG. 3 is a flowchart illustrating the operation of the growing plant type keyword system in accordance with a first embodiment of the present invention; and

[0016] FIG. 4 is a block diagram of a growing plant type keyword system in accordance with a second embodiment of the present invention.

[0017] <Description of reference numerals of principal elements in the drawings>

[0018] 20: growing plant type keyword system

[0019] 21: input search word determination unit

[0020] 22: cookie information generation unit

[0021] 23: web page keyword analysis unit

[0022] 24: interested keyword determination unit

[0023] 25: interested keyword display unit

[0024] 26: plant image management unit

[0025] 27: keyword display unit

[0026] 28: interested keyword selection recognition unit

[0027] 29: search result display unit

[0028] 30: sponsor management unit

[0029] 31: sponsor web page display unit

DETAILED DESCRIPTION

[0030] Hereinafter, growing plant type keyword systems in accordance with exemplary embodiments of the present invention are described in detail with reference to the accompanying drawings.

[0031] As shown in FIG. 1, a growing plant type keyword system of the present invention aggregates input search words inputted to the search window of a client, search word cookies stored in cookie files, and keywords used by a user for web surfing in web pages are aggregated into interested keywords, the interested keywords are displayed in the wallpaper of the client terminal in the form of a plant image, such as a tree or a bine, and the plant image and the interested keywords are made grow up in real time

over time so that a user can promptly check his interests. The client can include any device, such as a PC, a PDA, or a mobile phone, which has an Internet function, a function capable of accessing a web site and obtaining a variety of pieces of information from the web site, and an ability to generate and store cookies in which information about a web site is automatically stored when the client access the web site.

[0032] A growing plant type keyword system in accordance with a first embodiment of the present invention is described below with reference to FIG. 2. The growing plant type keyword system includes an input search word determination unit 21, a cookie information generation unit 22, a web page keyword analysis unit 23, an interested keyword determination unit 24, an interested keyword display unit 25, an interested keyword selection recognition unit 28, and a search result display unit 29.

[0033] When the results of a search are displayed in response to a search word inputted to the search window of a client, the input search word determination unit 21 determines that the search word inputted to the search window is an input search word and stores the inputted search word in an input search word DB 41. Here, the client includes all types of devices having an Internet function, such as a PC, a PDA, a mobile phone, and a smart

phone, and the search window includes all types of search windows, such as a search window displayed in a screen of a browser, a search window displayed in a toolbar, and a search window provided in the form of a widget. If the inputted search word is the same as a search word already stored in the input search word DB 41, the input search word determination unit 21 counts the number of overlapping for the inputted search word and stores the inputted search word in the input search word DB 41 along with the counted number of overlapping.

[0034] When a user clicks on the displayed results of the search, the cookie information generation unit 22 writes the search word stored in the input search word DB 41 in the form of a search word cookie, that is, the contents of a cookie, and stores the search word cookie in the cookie folder of the client. Here, if the stored search word cookie is the same as a search word cookie already written and stored in the cookie folder of the client, the added search word cookie is stored at the first place of the cookie folder.

[0035] The web page keyword analysis unit 23 analyzes the contents of web pages, displayed in the web browser as the results of the search, based on morphemes, selects a word or sentence, having the highest degree of overlapping as a result of the analysis, as a web page keyword, and

stores the selected word or sentence in a web page keyword DB 42.

[0036] The interested keyword determination unit 24 analyzes the input search word determined by the input search word determination unit 21, the search word cookie stored in the cookie folder of the client, and the web page keyword selected by the web page keyword analysis unit 23, aggregates the analyzed search word, search word cookie, and web page keyword, into an interested keyword 52 and stored the interested keyword 52 in an interested keyword DB 43. Here, the interested keyword determination unit 24 stores the number of overlapping for the stored keyword. Here, the interested keyword determination unit 24 is illustrated as classifying each of the input search word, the search word cookie, and the web page keyword based on the degree of overlapping, but may classify the input search word, the search word cookie, and the web page keyword in combination based on the degree of overlapping. Accordingly, the user’s interests can be easily checked by way of the interested keyword determination unit 24.

[0037] The interested keyword display unit 25 classifies a plurality of the interested keywords 52, stored in the client through the interested keyword determination unit 24, based on the degree of overlapping and displays the classified interested keywords 52 in the form of a plant

image, such as a tree or a bine. Here, the plant image 51 displaying the interested keywords 52 can be displayed in the wallpaper of the client or on one side of a browser or a web page. Furthermore, the interested keywords 52 displayed in the plant image preferably are distinguished by bold type and/or a size according to the degree of overlapping.

[0038] The interested keyword display unit 25 includes a plant image management unit 26 for managing the plant image 51 displayed in the client, such as a tree or a bine, and a keyword display unit 27 for displaying the interested keywords 52 aggregated by the interested keyword determination unit 24. Here, the plant image managed by the plant image management unit 26 and the interested keywords 52 displayed in the plant image 51 displayed in the keyword display unit 27 preferably are sequentially increased in size according to the degree of overlapping of a keyword.

[0039] When the user selects one of the interested keywords 52 displayed in the client, the interested keyword selection recognition unit 28 recognizes the selected interested keyword. Accordingly, the user can check the selected interested keyword by clicking on the selected interested keyword using a mouse.

[0040] If it is determined that the user has selected the interested keyword through the interested keyword selection recognition unit 28, the search result display unit 29 displays the results of a search, obtained using the selected interested keyword as a search word in the past in a search site, in the web browser of the client.

[0041] As described above, in accordance with the growing plant type keyword system of the present invention, a search word used by a user with interest and a keyword for web surfing by the user in a web page are comprehensively displayed in the form of the plant image 51, such as a tree or a bine, and displayed in the client in the form of fruits and/or leaves. Furthermore, the interested keywords 52 are grown according to their higher frequency. Accordingly, there is an advantage in that a user's interests can be directly checked. Furthermore, when a user clicks on a specific interested keyword 52 displayed in the state in which an additional search site has not been opened, the results of a search obtained using the specific interested keyword as a search word in the past in a search site are displayed. Accordingly, there is an advantage in that information relation to the search word can be easily checked.

[0042] The display process of the growing plant type keyword system in accordance with the present invention is

described in detail below with reference to a flowchart of FIG. 3.

[0043] First, when the results of a search are displayed in response to a search word inputted to the search window of a client, the input search word determination unit 21 of the growing plant type keyword system 20 determines that the search word inputted to the search window is an input search word and stores the input search word in the input search word DB 41 at step S101. Here, the search window includes all types of search windows, such as a search window displayed in a screen of a browser, a search window displayed in a toolbar, and a search window provided in the form of a widget. Furthermore, the input search word is stored in the input search word DB 41 along with a date. If the same input search word as the stored search word is already stored in the input search word DB 41, only the number of overlapping and a date for the input search word preferably are stored in the input search word DB 41.

[0044] When a user clicks on the results of the search after the results of the search are displayed, the cookie information generation unit 22 writes the stored search word in the form of a search word cookie, that is, the contents of a cookie, and stores the search word cookie in the cookie folder of the client at step S102. Here, if the stored search word cookie is the same as a search word

cookie already written and stored in the cookie folder of the client, the added search word cookie is stored at the first place of the cookie folder.

[0045] Furthermore, when web pages are displayed in the web browser of the client as the results of the search, the web page keyword analysis unit 23 analyzes the contents of the displayed web pages based on morphemes, selects a word or sentence, having the highest degree of overlapping as a result of the analysis, as a web page keyword, and stores the selected word or sentence in a web page keyword DB 42 at step S103.

[0046] When the input search word used in the search window of the client, the search word cookie stored in the cookie folder, and the web page keyword are stored as described above, the interested keyword determination unit 24 classifies the input search word, the search word cookie, and the web page keyword solely or in combination based on the degree of overlapping and stores the classified input search word, search word cookie, and web page keyword in the interested keyword DB 43 as an interested keyword at step S104. Here, if the stored interested keywords overlap with each other, the number of overlapping and a date for a corresponding interested keyword are also stored in the interested keyword DB 43.

[0047] Meanwhile, the interested keyword display unit 25 displays a plurality of the interested keywords 52, stored in the interested keyword DB 43, in the form of the plant image 51, such as a tree laden with fruits or a bine laden with fruits on the ground or in the underground, based on the degree of overlapping at step S105. Here, the plant image 51 displaying the interested keywords 52 can be displayed in the wallpaper of the client or on one side of a browser or a web page.

[0048] If a user uses the client and the number of input search words used in the search window, search word cookies stored in the cookie folder, and web page keywords is increased at step S106, the plant image displayed in the client and the size of the interested keywords 52 displayed in the plant image are sequentially increased as if the interested keywords 52 grow up according to the degree of overlapping at step S107.

[0049] As described above, the size of the plant image 51, such as a tree or a bine, displayed in the wallpaper of the client is increased over time, and the size of the interested keywords 52 is also increased. Accordingly, the user of the client can easily check a change in his interests.

[0050] Meanwhile, when the user selects a specific interested keyword 52 displayed in the client at step S108,

the interested keyword selection recognition unit 28 recognizes the selected interested keyword and displays the results of a search, obtained using the selected interested keyword as a search word in a corresponding search site, in the web browser of the client at step S109. Accordingly, the user can select the web browser while checking the search word displayed in the client. Accordingly, a procedure for displaying the search site and inputting the search word again can be omitted.

[0051] A growing plant type keyword system in accordance with a second embodiment of the present invention is described below in detail with reference to FIG. 4. The growing plant type keyword system in accordance with the second embodiment of the present invention includes an input search word determination unit 21, a cookie information generation unit 22, a web page keyword analysis unit 23, an interested keyword determination unit 24, an interested keyword display unit 25, an interested keyword selection recognition unit 28, a sponsor management unit 30, a sponsor web page display unit 31, an input search word DB 41, a web page keyword DB 42, and an interested keyword DB 43.

[0052] Meanwhile, the input search word determination unit 21, the cookie information generation unit 22, the web page keyword analysis unit 23, the interested keyword

determination unit 24, the interested keyword display unit 25, the interested keyword selection recognition unit 28, the input search word DB 41, the web page keyword DB 42, and the interested keyword DB 43 in accordance with the second embodiment of the present invention, and functions thereof and organic relations therebetween are the same as those of the growing plant type keyword system in accordance with the first embodiment of the present invention, and thus a description thereof is omitted.

[0053] Meanwhile, the sponsor management unit 30 stores pieces of information about web pages registered by sponsors, classifies the pieces of information according to respective interested keywords, and stores the classified interested keywords in a sponsor DB 44.

[0054] If it is determined that a user has selected an interested keyword through the interested keyword selection recognition unit 28, the sponsor web page display unit 31 compares the selected interested keyword with each of the interested keywords stored in the sponsor DB 44 and displays the web site of a sponsor, matched as a result of the comparison, in the client.

[0055] In accordance with the growing plant type keyword system according to the second embodiment, when a user clicks on an interested keyword in the state in which an interested keyword interested by the user in the past has

been checked, corresponding contents are displayed in a web page. Accordingly, the user can have an interest in the contents of a web page and the advertising effect of a sponsor can also be increased.

[0056] In accordance with the growing plant type keyword system of the present invention, an input search word inputted to the search window of a client having an Internet function, such as a PC, a PDA, a mobile phone, or a smart phone, a search word cookie stored in a cookie file, and a keyword for web surfing by a user in a web page are aggregated into an interested keyword, a plurality of the interested keywords are displayed at leaves and/or fruits of a plant image, such as a tree or a bine, in the wallpaper of the client, etc., and the plant image and the interested keywords grow up in real time over time. Accordingly, there is an advantage in that a user can instantly check his interests.

[0057] Furthermore, when a user clicks on a specific interested keyword displayed in the state in which an additional search site has not been opened, the results of a search obtained using the specific interested keyword as a search word in the past in a search site are displayed. Accordingly, there is an advantage in that information relation to the search word can be easily checked.

[0058] Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

WHAT IS CLAIMED IS:

1. A growing plant type keyword system, comprising:

an input search word determination unit configured to determine a search word, inputted to a search window of a client, as an input search word when results of a search are displayed in response to the inputted search word and store the input search word;

a cookie information generation unit configured to write the input search word in a form of a search word cookie that is contents of a cookie when a user clicks on the results of the search and store the written search word cookie in a cookie folder of the client;

a web page keyword analysis unit configured to analyze contents of web pages, displayed in a web browser of a client as the results of the search, based on morphemes and select a word or sentence having a highest degree of overlapping based on a result of the analysis, as a web page keyword;

an interested keyword determination unit configured to aggregate the stored input search word, the stored search word cookie, and the selected web page keyword into an interested keyword, stores the interested keyword in an interested keyword DB, and record a number of overlapping for the interested keyword if the interested keyword

overlaps with an existing interested keyword;

an interested keyword display unit configured to comprises a plant image management unit for managing an image of a plant shape displayed in the client and a keyword display unit for displaying a plurality of the interested keywords in the plant image and configured to classify the plurality of interested keywords based on the degree of overlapping, display the classified interested keywords in the plant image, and sequentially increase a size of the plant image and the interested keywords according to the degree of overlapping;

an interested keyword selection recognition unit configured to recognize a specific interested keyword displayed in the client when the user selects the specific interested keyword; and

a search result display unit configured to display results of a search, obtained using the selected interested keyword as a search word in a corresponding search site, in the web browser of the client if it is determined that the user has selected the interested keyword through the interested keyword selection recognition unit.

2. The growing plant type keyword system of claim 1, further comprising:

an interested keyword selection recognition unit

configured to recognize a specific interested keyword displayed in the client when the user selects the specific interested keyword;

a sponsor management unit configured to store pieces of information about web pages registered by sponsors, classify the pieces of information according to respective interested keywords, and store the classified interested keywords in a sponsor DB; and

a sponsor web page display unit configured to compare the specific interested keyword with each of the interested keywords stored in the sponsor DB and display a web site of a sponsor, matched as a result of the comparison, in the client.

3. The growing plant type keyword system of claim 1, wherein the client comprises a PC, a PDA, a mobile phone, and a smart phone having an Internet function.

4. The growing plant type keyword system of claim 1, wherein the cookie information generation unit disposes the stored search word cookie at a first place if the stored search word cookie is identical with an existing search word cookie already stored in the cookie folder of the client.

5. The growing plant type keyword system of claim 1, wherein the interested keyword determination unit records a number of overlapping for the stored interested keyword if the stored interested keyword is identical with an existing interested keyword already stored in the interested keyword DB.

6. The growing plant type keyword system of claim 1, wherein the plant image displaying the plurality of interested keywords is displayed in a wallpaper of the client or on one side of the web browser or a web page.