

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
29 January 2009 (29.01.2009)

PCT

(10) International Publication Number
WO 2009/014311 A2

(51) International Patent Classification:
G06F 15/16 (2006.01)

(74) Agents: **YOON, Jae seok** et al.; #703, Namchang B/D,
748-16, Yeoksam-dong, Gangnam-gu, Seoul 135-925
(KR).

(21) International Application Number:
PCT/KR2008/002816

(22) International Filing Date: 21 May 2008 (21.05.2008)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
10-2007-0073646 23 July 2007 (23.07.2007) KR

(71) Applicant (for all designated States except US):
MIENGINE CO., LTD. [KR/KR]; Floor 3, 277-29,
3-dong, Seongsu-dong 2 ga, Seongdong-gu, Seoul
133-120 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **LEE, Hyun bong**
[KR/KR]; 505-1403, Hyojachon, 301, Seohyeon-dong,
Bundang-gu, Seongnam-si, Gyeonggi-do 463-818 (KR).
OH, Sang hyun [KR/KR]; 102-202, Namdong Apt.,
Mansu 6-dong, Namdong-gu, Incheon 405-246 (KR).
BANG, Seung hwan [KR/KR]; 101-101, Youenmi Apt.,
1277, Guro-dong, Guro-gu, Seoul 152-050 (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.

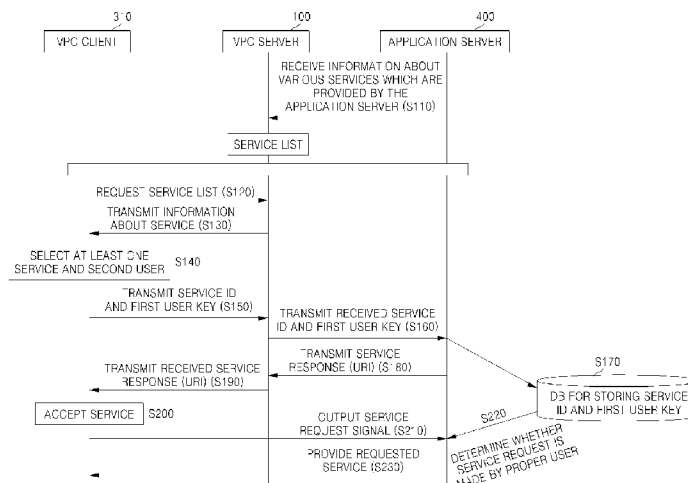
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HR, HU, IE, IS, IT, 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:

— without international search report and to be republished
upon receipt of that report

(54) Title: METHOD FOR PROVIDING RELATION SERVICE USING CLIENT PROGRAM AND SYSTEM THEREOF

[Fig. 3]



(57) Abstract: A method and system for providing a relation service through a client is provided. In the method, a VPC server transmits a service list to a virtual presence community (VPC) client installed in a terminal of a first user in response to a service list transmission request output from the VPC client. The VPC server receives an identifier of a service selected from the service list by the first user and a first user key unique to the first user. The VPC server receives a service response from an application server in response to the identifier of the selected service and the first user key, using the VPC server. The VPC server transmits the service response to the VPC client. The VPC client requests the application server for the selected service on the basis of the service response. The application server provides the requested service to the terminal of the first user.

Description

METHOD FOR PROVIDING RELATION SERVICE USING CLIENT PROGRAM AND SYSTEM THEREOF

Technical Field

- [1] The present invention relates to a method of providing services through a web, and more particularly, to a method and system by which a user connected to a virtual space is able to see other users connected to the same virtual space through a client program that can be installed in a predetermined form in a user terminal or in a web client installed in the user terminal, by which the user connected to the virtual space can use not only services provided in the current virtual space but also services provided in other virtual spaces or by other service providers while existing in the current virtual space, by which the user can receive, even in the current virtual space, services that are currently being used or have been used before by other users, and by which the user can use the services provided in the other virtual spaces together with the other users in the current virtual space. The present invention also relates to a method and system by which a user connected to a virtual space can be aware of, in the current virtual space, information about other users existing in the same space and information about services currently received by the other users, and use the services together with the other users in the current virtual space.

Background Art

- [2] With a rapid development in computer, communications, and network technologies, the Internet, which is a virtual space, becomes more closely connected with the real life, and is changing to be similar to the real world. The Internet in its youth was recognized as a storehouse of information, whereas the Internet in these days becomes a virtual world that can reproduce the events occurring in the off-line real life, such as shopping, medical treatments, counseling, reading in the library, etc. Thus, how much such a virtual world can be the same as or similar to the real world becomes a trend toward which the Internet is to advance.
- [3] Web pages or web sites in the online virtual world may be considered as virtual spaces. Users who have connected to/visited a web site may be considered as people who go to a virtual space. Accordingly, when a user accesses a website (or goes to a virtual space), the user needs to see other users who have been connected to the website (or who exist in the virtual space). In other words, when going to the virtual space, the user naturally should be able to see the people existing in the virtual space. Among the people existing in the virtual space, some of them may be people who the user knows and the others may be people who the user does not know. The user may

talk with somebody among the people existing in the virtual space. The applicant of the present invention has filed a patent application for a technique of implementing this concept on the Internet, as Korean Patent Registration No. 10-0603551, entitled "Method and System for Providing Roaming Community Services" (hereinafter, referred to as a registered patent application). The contents mentioned in the specification of Korean Patent Registration No. 10-0603551 are used as a description and reference of the present specification.

- [4] A virtual community in the present specification may denote a roaming community disclosed in the previous application. As disclosed in the previous application, people previously subscribed to the roaming community may be people who a user visiting the virtual space (i.e., the roaming community) knows well or only knows their names. In addition, people not subscribed to the roaming community may be seen to the user as long as the people are present in the virtual space, although not knowing their identities. Being seen to user's eyes in the virtual space may denote that people existing in the virtual space (i.e., people connected to a web page or a web site) together with a user are seen through their individual distinguishing marks, such as icons (for example, avatars) or temporary identifiers (IDs), to the user's eyes no matter whether the people existing in the virtual space are subscribers for the roaming community. Of course, subscribers not logged in the roaming community may be seen through default IDs (for example, visitor1, visitor2, anonymous1, anonymous2, etc.).
- [5] As disclosed in the previous application, users who visit a virtual space can talk with people that the users see, or send notes to them. In addition, according to a technical spirit of the present invention, users can do specific things in the virtual space. For example, users can play game in the virtual space. When a game service that a user wants to receive is provided in the virtual space, it is natural that the user can play game within the virtual space. However, even when the virtual space is not provided with a game service that a user wants to receive, the user can still play game without needing to move to a place that provides the game service or a place that has equipment required for the game. For the user to play the game in the virtual space, all is needed is that somebody provides the game service to the virtual space where the user exists. Of course, the user can play game with other users who are present in the virtual space.
- [6] The above-described technical spirit of the present specification is disclosed in Korean Patent Application No. 10-2007-0048067, entitled "Virtual Community and Method and System for Providing Relation Services in the Virtual Community" (hereinafter, referred to as a previous application). The contents mentioned in the specification of Korean Patent Application No. 10-2007-0048067 are used as a description and reference of the present specification.

- [7] The relation service in a virtual community disclosed in the previous application can play a role of bringing services not provided by a virtual space where a current user is located to the current user so that the current user can immediately use the services in the current virtual space. In other words, it is difficult for some virtual spaces to be ready for various demands of users. However, in the relation service according to the invention of the previous application, a service capable of performing a user's demand in specific virtual spaces can be provided. When the identity of a user is revealed, the user can receive a service that the user has used for a long time but a current virtual space does not provide, in the current virtual space. In other words, from the viewpoints of users, users carry with them services that the users have used for a long time, no matter what virtual community spaces the users move to. In addition, as disclosed in the registered patent application and the previous application, a user in a virtual community can do desired specific things together with other users (i.e., acquaintances and/or strangers) who exist in the virtual community and are seen to the eyes of the user.
- [8] In a method and system for providing relation services through clients according to an embodiment of the present invention, a predetermined client program is installed in a user's terminal in contrast with a method disclosed in the previous application, so that relation services disclosed in the registered patent application and the previous application can be performed.

Disclosure of Invention

Technical Problem

- [9] The present invention provides a method and system by which a predetermined client installed in a user's terminal enables a user currently connected to a web space to use even services not prepared in the web space, namely, services provided by other web spaces or web service providers, while being in the web space.
- [10] The present invention also provides a method and system that allows the current user to use the services together with other users who currently access the same web space. The present invention also provides a method and system by which a user currently connected to a web space can see, at his or her current location, information about users who currently access not only the same web space but also other web spaces, can obtain information about services and contents currently used by the other users, and can use, at his or her current location, the services currently used by the other users on the basis of the information about the services currently used by the other users.

Technical Solution

- [11] According to an aspect of the present invention, there is provided a method of providing a relation service through a client, the method including transmitting a

service list to a virtual presence community (VPC) client installed in a terminal of a first user in response to a service list transmission request output from the VPC client, using a VPC server; receiving an identifier of a service selected from the service list by the first user and a first user key unique to the first user, using the VPC server; receiving a service response from an application server in response to the identifier of the selected service and the first user key, using the VPC server; and transmitting the service response to the VPC client, using the VPC server, wherein the VPC client requests the application server for the selected service on the basis of the service response, and the application server provides the requested service to the terminal of the first user.

- [12] The service list may include at least one of information about at least one service designated by the first user and information about a service that the first user has used before.
- [13] The service list may include at least one of a game application, a web application, advertisement, and contents. The service response may include information corresponding to data used to provide the requested service stored in the application server. The VPC client may be implemented as at least one interface from among a toolbar, a window/frame, an avatar, and an icon of a web client installed in the terminal of the first user.
- [14] According to another aspect of the present invention, there is provided a method of providing a relation service through a client, the method including transmitting a service list to a first VPC client installed in a terminal of a first user in response to a service list transmission request output from the first VPC client, using a VPC server; when one service is selected from the service list by the first user and, if a second user who is to use the selected service together with the first user is selected based on information about at least one user other than the first user which is displayed on the terminal of the first user, transmitting information about the selected service and information about the first and second users to an application server, using the VPC server; receiving a service response from the application server in response to the information about the selected service and the information about the first and second users, using the VPC server; and transmitting the service response to the first VPC client and a second VPC client installed in a terminal of the second user, using the VPC server, wherein the first and second VPC clients request the application server for the selected service on the basis of the service response, and the application server provides the requested service to the terminals of the first and second users.
- [15] According to another aspect of the present invention, there is provided a method of providing a relation service through a client, the method including receiving a state transmission request representing a request for a state of a first user from a second

VPC client installed in a terminal of a second user, using a VPC server; and transmitting, to the second VPC client in response to the state transmission request, at least one of an disclose service list for the first user including information about services disclosed by the first user from among a service list of the first user, currently-used service information including information about services currently used by the first user, information about a web page currently accessed by the terminal of the first user, and information about predetermined data preset by the first user, using the VPC server.

- [16] When the second VPC client receives at least one of the disclose service list for the first user and the currently-used service information, the method may further include receiving, from the second VPC client, a request signal that represents a request for a service selected based on the at least one of the disclose service list for the first user and the currently-used service information, using the VPC server; receiving a service response corresponding to the requested service from an application server, using the VPC server; and transmitting the service response to the second VPC client, using the VPC server, wherein the second VPC client requests the application server for the selected service on the basis of the service response, and the application server provides the requested service to the terminal of the second user.
- [17] When the second VPC client receives the information about the predetermined data preset by the first user, the method may further include playing the information about the predetermined data through the terminal of the second user. The method may be stored in a computer-readable recording medium having recorded thereon a program.
- [18] According to another aspect of the present invention, there is provided a system for providing a relation service through a client, the system including a VPC module; and a service management unit receiving, from an application server, information about services capable of being provided by the application server, and managing a service list based on the information about the services. The service management unit transmits the service list to a terminal of a first user in response to a service list transmission request output from a first VPC client installed in the terminal of the first user. The VPC module receives an identifier of a service selected from the service list by the first user and a first user key unique to the first user, outputs the identifier of the selected service and the first user key to the application server, receives a service response from the application server, and transmits the service response to the first VPC client.
- [19] The VPC module may further transmit information about a second user connected to the system to the first VPC client via a second VPC client installed in a terminal of the second user, further receive a second user key of the second user, who is selected by the terminal of the first user based on information about the second user and uses the

selected service together with the first user, from the second VPC client, and further transmit the service response received from the application server to the second VPC client.

- [20] The VPC module may further receive a state transmission request representing a request for a state of the first user from the second VPC client and further transmit, to the second VPC client in response to the state transmission request, at least one of an disclose service list for the first user including information about services disclosed by the first user from among the service list of the first user, currently-used service information including information about services currently used by the first user, information about a web page currently accessed by the terminal of the first user, and information about predetermined data preset by the first user.

Advantageous Effects

- [21] In a method and system for providing relation services through a client, according to an embodiment of the present invention, when a user who is a subscriber for a predetermined service (for example, a virtual community disclosed in the previous application) accesses a web page, the user can see information about all subscribers who currently access the web page. Accordingly, an effect where the user carries the virtual community with him or her even when moving to another web page is generated.
- [22] In addition, as described above, a user currently connected to a specific web page can use even services not prepared in the specific web page, namely, services provided by other web pages or web service providers, while being in the specific web page.
- [23] Furthermore, the user can use the services together with other users that currently access the same specific web page, at his or her current web location. Moreover, since the user can receive all personal services and contents that the user has used for a long time, in all web spaces that the user visits, an effect where the user carries his or her personal services or contents when moving between web spaces is generated.
- [24] Furthermore, since the user can provide or share all personal services and contents that the current user has used for a long time, to or with the other users in all web pages that the user visits, an effect where the user can express himself or herself in a desired manner to other people who the user meets when moving between web spaces is generated.

Brief Description of the Drawings

- [25] The above and other features and advantages of the present invention will become more apparent by describing in detail exemplary embodiments thereof with reference to the attached drawings in which:
- [26] FIG. 1 is a schematic block diagram of a system for providing relation services through a client, according to an embodiment of the present invention;

- [27] FIG. 2 illustrates examples of a user interface for a method of providing relation services through a client, according to an embodiment of the present invention;
- [28] FIG. 3 is a schematic data flowchart for describing a method of providing relation services through a client, according to an embodiment of the present invention;
- [29] FIG. 4 is a schematic flowchart illustrating a data flow required to receive a service by using a relation service through a client, according to an embodiment of the present invention;
- [30] FIGS. 5 and 6 are schematic flowcharts illustrating data flows required to receive a game service by using a relation service through a client, according to an embodiment of the present invention;
- [31] FIG. 7 is a schematic flowchart illustrating a data flow generated while a user is playing a game based on a relation service through a client, according to an embodiment of the present invention; and
- [32] FIG. 8 is a schematic data flowchart for describing a method of providing relation services through a client, according to another embodiment of the present invention.

Best Mode for Carrying Out the Invention

- [33] The attached drawings for illustrating preferred embodiments of the present invention are referred to in order to gain a sufficient understanding of the present invention, the merits thereof, and the objectives accomplished by the implementation of the present invention.
- [34] It will be understood that when a component is referred to as "transmitting" data to another component, the component may transmit the data to the other component directly or via at least one component.
- [35] In contrast, when a component is referred to as "directly transmitting" data to another component, there are no intervening components via which the data is transmitted from the former component to the latter component.

Mode for the Invention

- [36] Hereinafter, the present invention will be described in detail by explaining preferred embodiments of the invention with reference to the attached drawings. Like reference numerals in the drawings denote like elements.
- [37] FIG. 1 is a schematic block diagram of a system for providing relation services through a client, according to an embodiment of the present invention.
- [38] Referring to FIG. 1, a plurality of users may install virtual presence community (VPC) clients according to an embodiment of the present invention in their user terminals 10-1 through 10-N, respectively. The users may be connected to the Internet via web clients (for example, Internet browsers) installed in the user terminals 10-1 through 10-N, respectively. The VPC clients may communicate with a VPC server 100

through the Internet, and the VPC server 100 may communicate with the user terminals 10-1 through 10-N and an application server 400 through the Internet. Of course, the VPC server 100 and the application server 400 are functionally distinguished from each other, but may be physically formed in one body.

- [39] The VPC server 100 is used as a component corresponding to a relation server disclosed in the previous application, and thus may perform a function similar to or same as the function of the relation server. The VPC clients may be a component corresponding to "a predetermined code (for example, an object, a script, or a uniform resource locator (URL) address at which the object or the script is located)" disclosed in the previous application. In other words, the VPC clients may perform a function similar to or same as the function of the predetermined code disclosed in the previous application. In contrast with the previous application, the VPC clients may be installed as client programs in user terminals as illustrated in FIG. 1, instead of being included in a web page.
- [40] The VPC clients may perform a function similar to the function of the predetermined code disclosed in the previous application. In other words, a user may receive a relation service as disclosed in the previous application, by using the VPC clients. Of course, users who use the VPC clients may undergo a predetermined authentication procedure (for example, a log-in procedure), and the VPC server 100 may manage the identities of the users through the authentication procedure. Of course, even if undergoing no authentication procedures, the VPC client users can still be distinguished from one another by using default identifiers such as anonymous1, anonymous2, etc.
- [41] The VPC clients may perform both a roaming community service as disclosed in the registered patent application and the relation service through a client according to one embodiment of the present invention. In the roaming community service, a user may be provided with information about other users that have subscribed the roaming community service, and talk with or send a message to at least one of the other users. In other words, in contrast with an existing community service in which, after logging in a specific web page, a user can see only information about people who the user designates as predetermined relations (for example, friends, first degrees of kinship, etc.), in the roaming community service, when a user accesses a roaming community (for example, when the VPC clients are installed) and visits a web page, either information about only people existing in the same web page or all users who currently access the roaming community according to settings can be displayed on the web page, and the user can perform community activities, such as messenger communications or note exchanges, together with the displayed people, at his or her current location.
- [42] The operations of the VPC clients may be similar to those disclosed in the previous application. In other words, the VPC clients may automatically generate a unique key

for each web client. The unique keys may be unique information that may be generated based on session information which is created when the VPC server 100 and the web clients establish sessions. Since the session information is different in each established session, such unique information as identification of on-going services may be created based on the session information. In addition, according to different embodiments, the unique keys may be created by the VPC server 100 and transmitted to the web clients, or may be created by the web clients under the control of the VPC clients.

[43] The generated unique keys or predetermined state messages generated based on the unique keys may be used as information that can represent connection states of the web clients. The web clients may transmit the state messages to the VPC server 100 under the control of the VPC clients. In response to the state messages, the VPC server 100 may recognize places (for example, a URL of a web page, a virtual presence disclosed in the registered patent application, etc.) to which the web clients are currently connected on a web (or the Internet), or may display information about services that the web clients receive, as described later. The VPC server 100 may transmit a response message to the web clients. The response message may be simply a message (for example, an 'acknowledgment' message) informing the web clients that the VPC server 100 has received the state messages. The VPC clients periodically transmit the state messages to the VPC server 100 and thus the VPC server 100 can be aware of connection states of the web clients or the VPC clients.

[44] In particular, the VPC clients may be installed in add-on forms in the web clients. In this case, the VPC clients may be activated only when the web clients are connected to the Internet. The form of the VPC clients may be any form as illustrated in FIG. 2.

[45] FIG. 2 illustrates examples of a user interface for a method of providing relation services through a client, according to an embodiment of the present invention. Referring to FIG. 2, a VPC client according to an embodiment of the present invention is a client program that can be installed in an add-on form within a web client, and may be implemented as a tool bar 20, a special window/frame 30, or an avatar/icon 40 of the web client as illustrated in FIG. 2. The interfaces, namely, the tool bar 20, the special window/frame 30, and the avatar/icon 40, may be activated (or displayed) within the web client (for example, an Internet browser).

[46] Referring back to FIG. 1, as disclosed in the registered patent application, the VPC server 100 may include a predetermined database (DB) for storing state messages transmitted by the web clients and other web clients connected to the roaming community (or a virtual community disclosed in the previous application). In addition, the VPC server 100 may send predetermined information for a roaming community according to an embodiment of the present invention to the web clients on the basis of the state messages stored in the DB or the unique keys. As disclosed in the registered

patent application, the predetermined information for the roaming community may be information about users or web clients connected to the web page.

- [47] The VPC clients may basically perform the following functions. First, the VPC clients transmit information (for example, unique keys) about their corresponding web clients or users to the VPC server 100. In other words, the VPC clients may transmit the state messages to the VPC server 100. Accordingly, each of the VPC clients may provide information about other users (namely, users corresponding to the other VPC clients connected to the VPC server 100) connected to the roaming community, to a corresponding user.
- [48] For example, when a first VPC client is connected to the VPC server 100 and a second VPC client is also connected to the VPC server 100, unique keys transmitted to the VPC server 100 by the second VPC client may be stored in the predetermined DB, and the unique keys may be represented as corresponding avatars, icons, or text information and transmitted to the first VPC client. Consequently, a first user who uses the first VPC client may see information about a second user connected to the roaming community (for example, an avatar, a user ID, a virtual presence of the second user, or the like), through the first VPC client. Even when a web page to which the second user is connected or a virtual presence of the second user is a web page different from that to which the first user is connected, the first user can still see the information about the second user. This is because a predetermined code which performs the role or function of each VPC client is installed in a user terminal instead of being included in a web page as in the previous application.
- [49] As a result, VPC clients are installed in the terminals of users and communicate with a VPC server so as to transmit information about the web spaces that the users having the VPC clients installed therein visit and information about the services that the users receive. Thus, roaming-community users having VPC clients installed in their terminals can see other roaming-community users and perform community activities with them as long as they are within the same web space. The same web space may be the same web page or a separate web page included in a separate domain, depending on the setting of a web space relation.
- [50] In addition, the VPC clients can provide relation services as disclosed in the previous application. The relation services can be provided based on such a roaming community service and enables a user to use services not provided by a current web page on demand within the current web page without moving to another web page that provides the services. This relation service will be described below.
- [51] Moreover, a user can see, at his or her current location, information about services/ contents disclosed by the VPC clients of other users through the relation service according to an embodiment of the present invention, or information about services/

contents currently being used by the other users. Thus, the user can use the services that the other services use. For example, the first user can refer to the state of the second user. If the second user sees movie A through the relation service, the first user can be aware of the fact. Then, the first user may be tempted to see the movie A and be able to see the movie A through the relation service.

- [52] FIG. 3 is a schematic data flowchart for describing a method of providing relation services through a client, according to an embodiment of the present invention. Referring to FIG. 3, a first user may be connected to the VPC server 100 through a VPC client 310 installed in a web client. In operation S110, the VPC server 100 may receive from the application server 400 information about various services which are provided by the application server 400. The VPC server 100 may maintain a basic service list of the first user on the basis of the received information.
- [53] The VPC server 100 may check the identity of the first user according to a method of identifying, for example, login information or cookie information output from the terminal of the first user, and add a predetermined service to the basic service list at the request of the first user to provide the predetermined service.
- [54] The service included in the basic service list may be any of various services such as a game application, a web application, advertisement, and contents. For example, companies that currently provide various game services on the Internet register their services in the VPC server 100, and thus even when users do not access web pages that are provided by the companies, the users can use the game services in web pages that the users currently access,.
- [55] In addition, service providers that provide application solutions through the Internet may provide their own web applications by using the relation service through a client according to an embodiment of the present invention. For example, a service provider that provides a word processor program through the Internet may provide a word processor service to users through the relation service even when the users do not install the word processor program in their terminals (e.g., PCs) and do not move to a web page of the service provider.
- [56] Service providers may provide not only such applications but also various contents services by using the relation service through a client according to an embodiment of the present invention. For example, users can enjoy contents (for example, movies, VODs, music files, advertisement, etc.) selected through an interface provided by the relation service, while staying in web pages that the users currently access. Of course, the contents may be contents that a service provider that operates the application server 400 has registered in the VPC server 100. The present invention is not limited to these exemplified services, and various other types of services may be provided. In other words, various application services, contents services, advertisement, services for

companies, etc., which users individually use or use altogether, may be provided.

[57] When the VPC client 310 requests the VPC server 100 for the service list in operation S120, the VPC server 100 may transmit information about the service list to the VPC client 310, in operation S130. In operation S140, the first user may select at least one of the services included in the service list on the basis of the received information about the service list. If a service that can be shared by two or more users (e.g., a game, etc.) is selected, the first user may select a second user, who is to use the selected service together, based on information about other users which is displayed through the roaming community service according to an embodiment of the present invention. Of course, a predetermined consent procedure may be performed through a web client of the second user.

[58] Then, in operation S150, the VPC client 310 may transmit a service ID identifying the service selected by the first user and a first user key corresponding to the first user to the VPC server 100. When the first user selects the second user, the VPC server 100 may further receive information representing the second user from the VPC client 310. The information representing the second user may be a second user key corresponding to the second user or information that identifies the second user key stored in the VPC server 100. In an embodiment, when the second user accepts the predetermined consent procedure, the VPC client of the second user may transmit the second user key to the VPC server 100 in order to use the selected service.

[59] In operation S160, the VPC server 100 may transmit the received service ID and the first user key to the application server 400. Of course, if the selected service is used by the first and second users, the second user key may be further transmitted.

[60] Then, in operation S170, the application server 400 may store the received service ID and the received first user key (or the first user key and the second user key when the selected service is used by the first and second users) in a predetermined storage. In operation S180, the application server 400 may transmit to the VPC server 100 a service response including information required to provide a space/frame in which the service can be used. In operation S190, the VPC server 100 may transmit the received service response to the VPC client 310. If the selected service is used by the first and second users, the VPC server 100 may also transmit the received service response to a terminal (or a web client) of the second user.

[61] The service response may be a uniform resource identifier (URI) which the VPC client 310 should access in order to use the service. When the VPC client 310 automatically accepts (for example, clicks) the service response or there is another accept from the first user in operation S200, the VPC client 310 outputs a service request signal to the application server 400, in operation S210. The service request signal may include the first user key (or the first user key and the second user key when the

selected service is used by the first and second users). Accordingly, in operation S220, the application server 400 may determine whether a service request through the service request signal is a service request made by a proper user, by comparing the first user key (or the first user key and the second user key when the selected service is used by the first and second users) stored in the predetermined storage in operation S170 with the first user key (or the first user key and the second user key when the service is used by the first and second users) included in the service request signal.

- [62] After the determination is concluded, the application server 400 may provide the requested service to the web client (or the terminal) in which the VPC client 310 has been installed, in operation S230. The provision of the requested service may denote transmission of a predetermined program (or contents), which is a type of service, to the web client or the terminal in which the web client has been installed. Of course, when the service is used by the first and second users, the service is provided to both the web clients of the first and second users. When the VPC client 310 receives the predetermined program (or contents) from the application server 400 to perform the requested service, the VPC client 310 can perform the predetermined program in a predetermined area (e.g., a predetermined frame activated or a separate window activated within the web client) of a currently accessed web page without moving from the current web page.
- [63] Consequently, users can use even services not supported by a currently accessed web page, in the currently accessed web page without moving to web pages that provide the services, by using the relation service through a client according to an embodiment of the present invention. Thus, the relation service according to an embodiment of the present invention can play a role of a tool required to bring a service selected by a user to a virtual space where the user is currently located.
- [64] FIG. 4 is a schematic flowchart illustrating a data flow required to receive a service by using a relation service through a client, according to an embodiment of the present invention.
- [65] In FIG. 4, a data flow between the VPC client 310 and a web client 320, which is not illustrated in detail in FIG. 3, is illustrated in greater detail. The web client 320 may denote not only a predetermined program (for example, an Internet browser) used by a user A to access the Internet but also an input device, a widget, an operating system (OS), or the like which is required to output predetermined information to the VPC client 310 or receive predetermined information from the VPC client 310 and output the same to the terminal of the terminal of the user A. The data flowchart of FIG. 4 is similar to that of FIG. 3, so a brief description thereof will be made herein.
- [66] In operation S300, the web client 320 of user A may refer to services that user A can use, through a predetermined menu or interface provided by the VPC client 310.

- [67] Then, in operation S310, the VPC client 310 may output a request of user A for a service list to the VPC server 100. In operation S320, the VPC server 100 may output a service list response to the VPC client 310 in response to the request of user A for the service list.
- [68] Next, in operation S330, the VPC client 310 may display the service list to the web client 320 based on the service list response. In operation S340, user A may select a service from the displayed service list. Then, in operation S350, the VPC client 310 may transmit the type (for example, a service ID) of the selected service and a user key to the VPC server 100. In operation S360, the VPC server 100 may output the received information, namely, the service type and the user key, to the application server 400. In operation S370, the VPC server 100 may receive a service response, which is information required to provide the service requested by user A, from the application server 400. In operation S380, the VPC server 100 may further undergo a pre-determined procedure (for example, levying) accompanied by service provision according to a service policy, or output a service response received from the application server 400 to the VPC client 310. Thereafter, user A may use a service provided by the application server 400, through a relay of the VPC client 310.
- [69] FIGS. 5 and 6 are schematic flowcharts illustrating data flows required for a plurality of users to receive a game service by using a relation service through a client, according to an embodiment of the present invention.
- [70] A VPC client according to an embodiment of the present invention may show information about all users connected to a roaming community or show only some of the users connected to the roaming community through a predetermined filtering procedure. For example, only users who are connected to a web space (or a web site or the like) to which user A is currently connected and have acquaintances with user A may be set to be displayed through the VPC client. FIGS. 5 and 6 illustrate this case in the form of a data flowchart.
- [71] Referring to FIGS. 5 and 6, when user A contacts the VPC server 100 via a first VPC client 310, which is the VPC client of user A, and in this state user B contacts the VPC server 100 via a second VPC client 510, which is the VPC client of user B, a second web client 520 of user B may transmit, to the second VPC client 510, information including a location (for example, a URI or the like) to which user B is currently connected.
- [72] Then, the second VPC client 510 may output, to the VPC server 100, virtual presence information (for example, a connected location or service usage information) of user B which includes the information about the currently-connected location. Then, the VPC server 100 checks a relationship between users A and B. When the relationship between users A and B has been set as an acquaintance, the VPC server 100 may

output the virtual presence information of user B to the first VPC client 310 and virtual presence information of user A to the second VPC client 510.

- [73] The first and second VPC clients 310 and 510 may output the virtual presence information of user B and the virtual presence information of user A to a first web client 320 and the second web client 520, respectively. Accordingly, information (for example, an avatar, an ID, or a text) about user B may be displayed on the first web client 320, and information (for example, an avatar, an ID, or a text) about user A may be displayed on the second web client 520. The display of the information about user A or B on a web client may imply display of predetermined information on a window/interface of a VPC client installed in an add-on form in the web client.
- [74] Thereafter, when user A selects a predetermined service (for example, a game) from a list of his or her services through the first web client 320 and also selects user B as a second user, the first VPC client 310 may transmit the type (for example, a service ID) of the selected service and the IDs (for example, the aforementioned unique keys) of users A and B to the VPC server 100.
- [75] The VPC server 100 may transmit a request of user A to use the selected service together with user B to the second VPC client 510. When an approval of user B (that is, a consent to the use of the selected service together with user A) is made through the second web client 520, the second VPC client 510 may transmit information about the approval of user B for the request of user A to the VPC server 100.
- [76] Then, the VPC server 100 may transmit the type of the service selected by user A and the IDs of users A and B to the application server 400. Based on the received information, the application server 400 may determine whether the selected service (for example, a game) can be provided, according to a predetermined standard (for example, whether the service was selected by a proper user). When it is determined that the selected service can be provided, the application server 400 may output a service response necessary for the selected service to the VPC server 100.
- [77] The VPC server 100 may determine whether to provide the selected service, according to a predetermined standard (for example, levying information through metadata collection accompanied by service provision). When it is determined that the selected service is to be provided, the VPC server 100 may output a service response necessary for provision of the selected service to the first and second VPC clients 310 and 510.
- [78] When the first and second VPC clients 310 and 510 request the application server 400 to provide the selected service on the basis of the service response, the application server 400 may provide a program, contents, output information, a user interaction, etc. necessary for the selected service while communicating with the first and second VPC clients 310 and 510.

- [79] Necessary information is displayed on the first and second web clients 320 and 520 through the program, the contents, the output information, the user interaction, etc. received by the first and second VPC clients 310 and 510, and necessary inputs are received by the first and second web clients 320 and 520. In this way, users A and B can use the selected service.
- [80] FIG. 7 is a schematic flowchart illustrating a data flow generated while a user is playing a game based on a relation service through a client according to an embodiment of the present invention.
- [81] Referring to FIG. 7, a terminal 300 of user A and a terminal 500 of user B may transmit service request signals based on a service response provided by the application server 400. The user terminal 300 or 500 may be used as a term implying both a web client and a VPC client according to an embodiment of the present invention. The service request signals may include a unique key of user A, key-a, and a unique key of user B, key-b, respectively. Then, the application server 400 may undergo a checking procedure as needed and then transmit a predetermined program or contents required to use a service to the terminals 300 and 500 of users A and B. A subsequent data flow may be the same as a data flow required when a user generally accesses a web page providing a game and plays the game.
- [82] Taking a go-stop game as an example as illustrated in FIG. 7, when user A plays a game with user B, user A requests the application server 400 to generate a game service for the game via a VPC server (not shown). When the application server 400 generates a room/frame (i.e., an activated frame or a separate activated window), where the game can be performed, in response to the request of user A, the application server 400 may transmit information about the generated room to the terminal 300 or 500 of user A or B. Then, users A and B can enter the room and play the game. In an embodiment, as illustrated in FIG. 6, the application server 400 may transmit information about the generated room to user A, and may transmit information about the generated room to user B after receiving a connection-request signal from user B. Various embodiments for this operation may be possible. Eventually, users A and B can enter the common room/frame generated in their respective web spaces and then play the game together.
- [83] FIG. 8 is a schematic data flowchart for describing a method of providing relation services through a client, according to another embodiment of the present invention.
- [84] The data flowchart of FIG. 8 may illustrate a case where user B (i.e., a second user) refers to and uses services used before or currently used by user A from a service list of user A (i.e., a first user). The user terminal 300 or 500 may imply both a web client and a VPC client according to an embodiment of the present invention.
- [85] Referring to FIG. 8, user A may request the VPC server 100 for a service through the

terminal 300 of user A. Then, the VPC server 100 may transmit the service request of user A to the application server 400 and receive a service response from the application server 400 in response to the service request. The VPC server 100 stores the service list of user A and may further store the current service state of user A (for example, the types of currently used services).

[86] Thereafter, user A can use his or her requested service. At this time, user B may request the VPC server 100 to refer to a service/contents state of user A, through the terminal 500 of user B. The request to refer to the service/contents state of user A may denote an action of requesting a service list maintained by user A (or a list of only services/contents set to be disclosed to the public) or information about the states of currently used services.

[87] Then, in response to the request of user B for transmission of the state of user A, the VPC server 100 may transmit, to the terminal 500 of user B, an open-service list of user A including information about disclose services of user A from among the service list of user A. The VPC server 100 may further transmit, to the terminal 500 of user B, currently-used service information including information about services currently used by user A. Of course, this additional transmission may occur when user A opens at least a part of his or her service list or service state to the public.

[88] Then, the VPC server 100 may transmit at least one of the disclose service list and the currently-used service information to the terminal 500 of user B.

[89] Then, user B may select at least one service based on the received information and request the VPC server 100 for the selected service of user A through the terminal 500 of user B. The VPC server 100 may transmit a request for the selected service to the application server 400. When it is determined according to a predetermined standard (for example, whether the service selection was made by a proper user or whether the service request is proper) that the selected service can be provided, the application server 400 may output a service response corresponding to the selected service to the VPC server 100. Then, the VPC server 100 may output the received service response to the terminal 500 of user B. The terminal 500 of user B can use the selected service through communication with the application server 400. Consequently, user B is able to search services used before or currently used by user A and select and use a desired service.

[90] The request of user B (i.e., the second user) for transmission (or referring) of the state of user A (i.e., the first user) may denote further transmission of at least one of information about a web page to which the terminal of the first user is connected, information representing an approval of the first user for the request of the second user to disclose services, and information about the preset disclose services to the second VPC client of the second user. In other words, user B may request not only a service list

maintained by user A (or a list of services set to be disclose from the service list) or information about the states of currently used services but also virtual presence information of user A.

- [91] When other users requests user A to transmit his or her state, user A may transmit predetermined information (for example, contents) to the other users. For example, when user A registers predetermined advertisement contents and user B refers to the state of user A (that is, requests a transmission of the state of user A), user A may transmit the predetermined advertisement contents to user B. Then, the VPC server 100 may transmit the predetermined advertisement contents to the terminal 500 of user B, and the predetermined advertisement contents may be played back (that is, displayed) on the terminal 500 of user B. Accordingly, user A is able to express himself or herself in a desired direction even to user B who user A accidentally meets while moving between virtual spaces.
- [92] As a result, in the method and system for providing relation services through a client, according to the embodiments of the present invention, a concept in which a user brings his or her services or contents with him or her even when moving to any virtual space can be realized through a VPC client installed in an add-on form in a web client. To achieve this, a VPC server may serve as an anchor or home that incorporates and manages the serves or contents of the user.
- [93] Moreover, people who exist in an identical web space (or different web spaces or an identical virtual presence space) may have impromptu meetings with one another. A user may see other users existing in the same virtual space (through a predetermined ID, an avatar, an icon, or the like) and be aware of contents disclosed by the other users and actions (that is, services) performed by the other users. Accordingly, the user can talk with the other users within the same space, follow the actions (that is, services) performed by the other users, and perform the actions altogether.
- [94] A method of providing relation services through a client according to the invention can also be embodied as computer readable codes on a computer readable recording medium. The computer readable recording medium is any data storage device that can store data which can be thereafter read by a computer system. Examples of the computer readable recording medium include read-only memory (ROM), random-access memory (RAM), CD-ROMs, magnetic tapes, floppy disks, optical data storage devices, and carrier waves (such as data transmission through the Internet). The computer readable recording medium can also be distributed over network coupled computer systems so that the computer readable code is stored and executed in a distributed fashion. Also, functional programs, codes, and code segments for accomplishing the present invention can be easily construed by programmers of ordinary skill in the art to which the present invention pertains.

- [95] While the present invention has been particularly shown and described with reference to exemplary embodiments thereof, it will be understood by those of ordinary skill in the art that various changes in form and details may be made therein without departing from the spirit and scope of the present invention as defined by the following claims.

Industrial Applicability

- [96] The present invention is applicable to various services which are provided through a network, particularly, the Internet.

Claims

- [1] A method of providing a relation service through a client, the method comprising:
transmitting a service list to a virtual presence community (VPC) client installed in a terminal of a first user in response to a service list transmission request output from the VPC client, using a VPC server;
receiving an identifier of a service selected from the service list by the first user and a first user key unique to the first user, using the VPC server;
receiving a service response from an application server in response to the identifier of the selected service and the first user key, using the VPC server; and
transmitting the service response to the VPC client, using the VPC server, wherein the VPC client requests the application server for the selected service on the basis of the service response, and the application server provides the requested service to the terminal of the first user.
- [2] The method of claim 1, wherein the service list comprises at least one of information about at least one service designated by the first user and information about a service that the first user has used before.
- [3] The method of claim 1, wherein the service list comprises at least one of a game application, a web application, advertisement, and contents.
- [4] The method of claim 1, wherein the service response comprises information corresponding to data used to provide the requested service stored in the application server.
- [5] The method of claim 1, wherein the VPC client is implemented as at least one interface from among a toolbar, a window/frame, an avatar, and an icon of a web client installed in the terminal of the first user.
- [6] A method of providing a relation service through a client, the method comprising:
transmitting a service list to a first VPC client installed in a terminal of a first user in response to a service list transmission request output from the first VPC client, using a VPC server;
when one service is selected from the service list by the first user and, if a second user who is to use the selected service together with the first user is selected based on information about at least one user other than the first user which is displayed on the terminal of the first user, transmitting information about the selected service and information about the first and second users to an application server, using the VPC server;
receiving a service response from the application server in response to the in-

- formation about the selected service and the information about the first and second users, using the VPC server; and
transmitting the service response to the first VPC client and a second VPC client installed in a terminal of the second user, using the VPC server,
wherein the first and second VPC clients request the application server for the selected service on the basis of the service response, and the application server provides the requested service to the terminals of the first and second users.
- [7] A method of providing a relation service through a client, the method comprising:
receiving a state transmission request representing a request for a state of a first user from a second VPC client installed in a terminal of a second user, using a VPC server; and
transmitting, to the second VPC client in response to the state transmission request, at least one of an disclose service list for the first user including information about services disclosed by the first user from among a service list of the first user, currently-used service information including information about services currently used by the first user, information about a web page currently accessed by the terminal of the first user, and information about predetermined data preset by the first user, using the VPC server.
- [8] The method of claim 7, when the second VPC client receives at least one of the disclose service list for the first user and the currently-used service information, further comprising:
receiving, from the second VPC client, a request signal that represents a request for a service selected based on the at least one of the discloseservice list for the first user and the currently-used service information, using the VPC server;
receiving a service response corresponding to the requested service from an application server, using the VPC server; and
transmitting the service response to the second VPC client, using the VPC server, wherein the second VPC client requests the application server for the selected service on the basis of the service response, and the application server provides the requested service to the terminal of the second user.
- [9] The method of claim 7, when the second VPC client receives the information about the predetermined data preset by the first user, further comprising playing the information about the predetermined data through the terminal of the second user.
- [10] A recording medium having recorded thereon a program for the method of one of claims 1 through 9.
- [11] A system for providing a relation service through a client, the system

comprising:

a VPC module; and

a service management unit receiving, from an application server, information about services capable of being provided by the application server, and managing a service list based on the information about the services,

wherein:

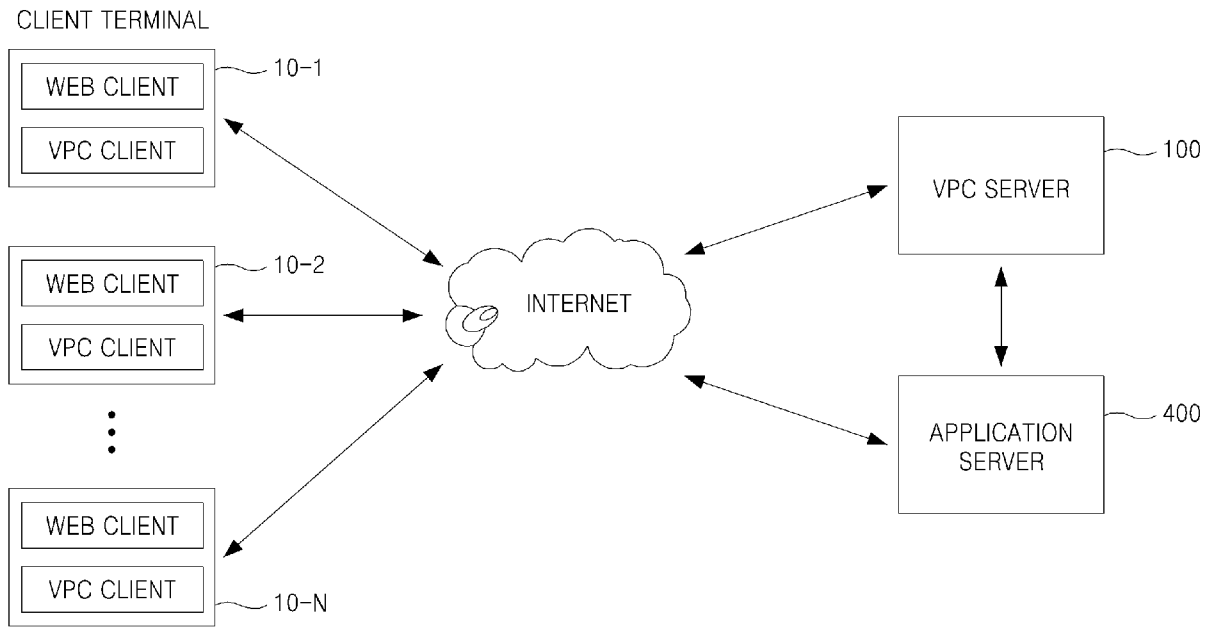
the service management unit transmits the service list to a terminal of a first user in response to a service list transmission request output from a first VPC client installed in the terminal of the first user; and

the VPC module receives an identifier of a service selected from the service list by the first user and a first user key unique to the first user, outputs the identifier of the selected service and the first user key to the application server, receives a service response from the application server, and transmits the service response to the first VPC client.

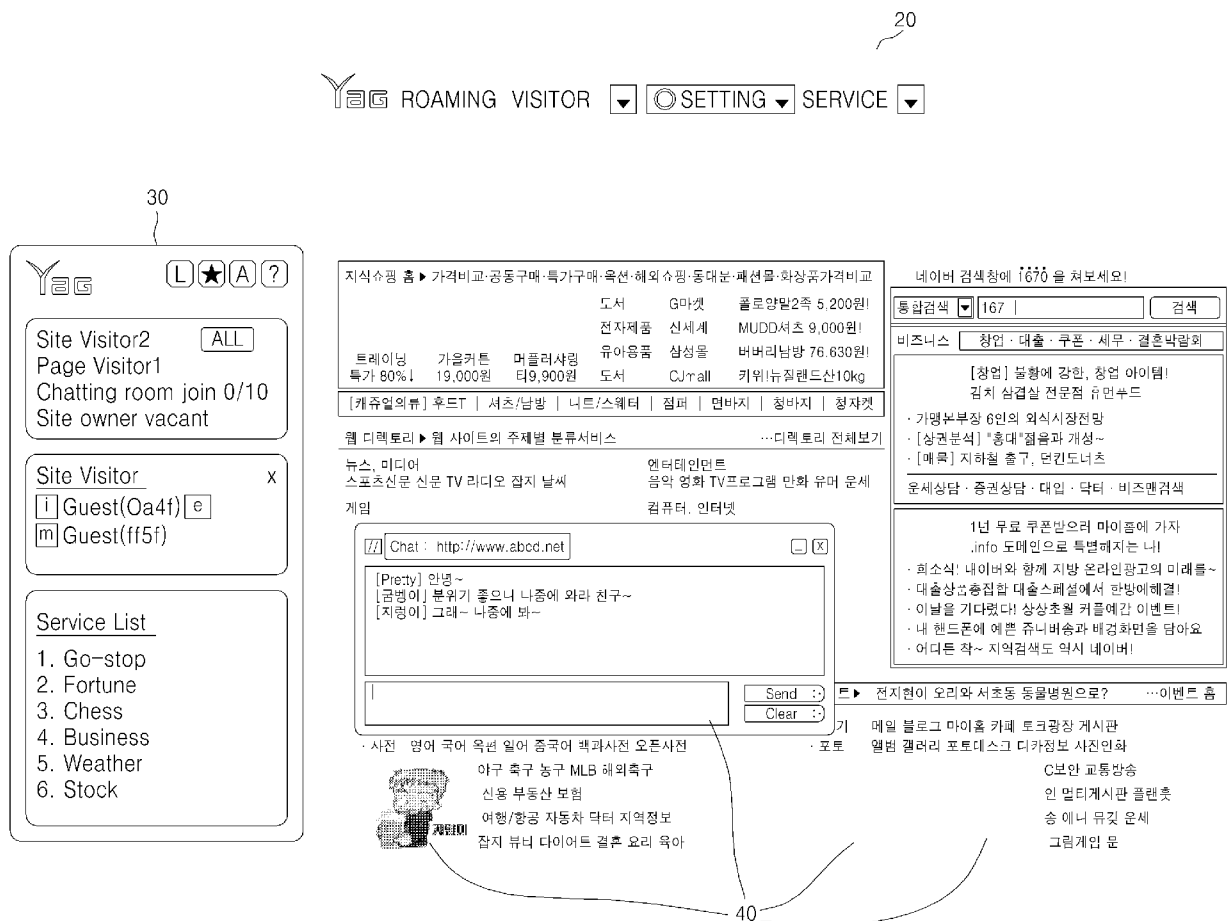
[12] The system of claim 11, wherein the VPC module further transmits information about a second user connected to the system to the first VPC client via a second VPC client installed in a terminal of the second user, further receives a second user key of the second user, who is selected by the terminal of the first user based on information about the second user and uses the selected service together with the first user, from the second VPC client, and further transmits the service response received from the application server to the second VPC client.

[13] The system of claim 11, wherein the VPC module further receives a state transmission request representing a request for a state of the first user from the second VPC client and further transmits, to the second VPC client in response to the state transmission request, at least one of an disclose service list for the first user including information about services disclosed by the first user from among the service list of the first user, currently-used service information including information about services currently used by the first user, information about a web page currently accessed by the terminal of the first user, and information about predetermined data preset by the first user.

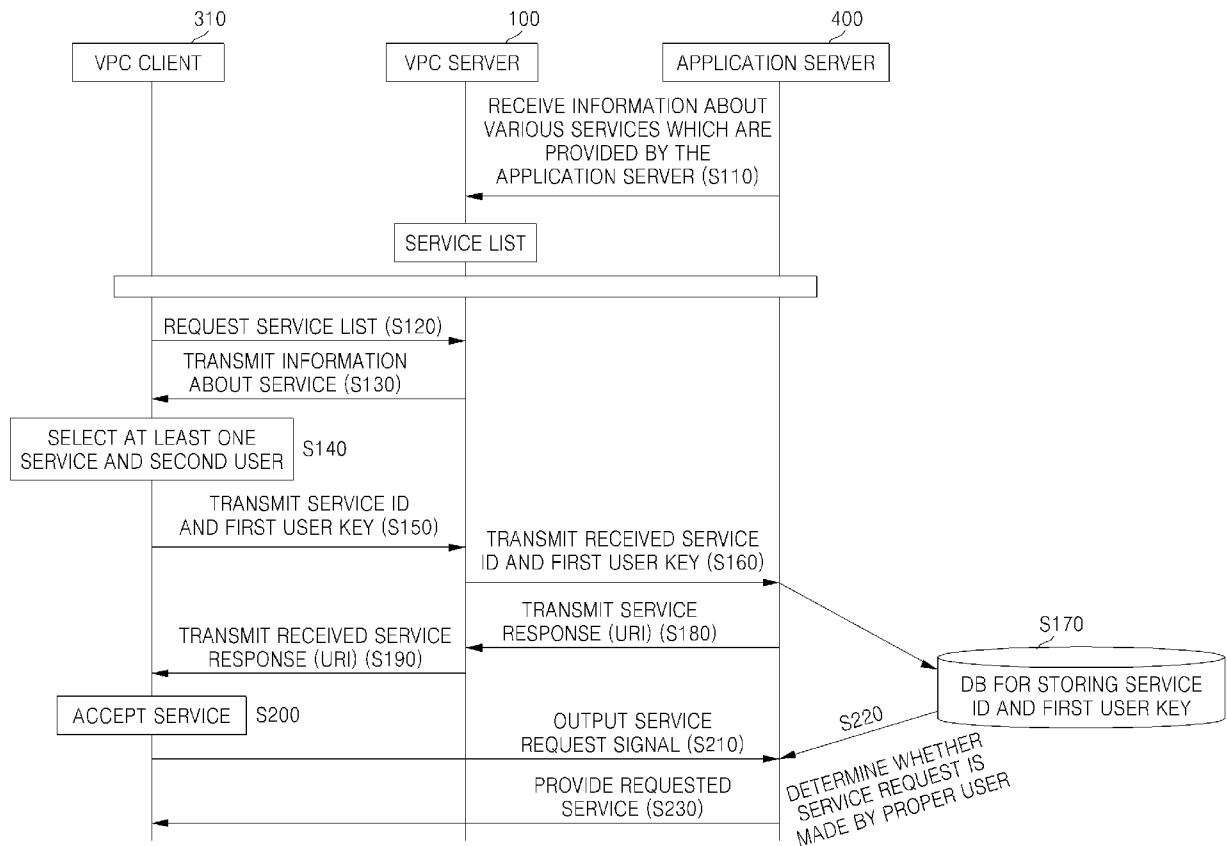
[Fig. 1]



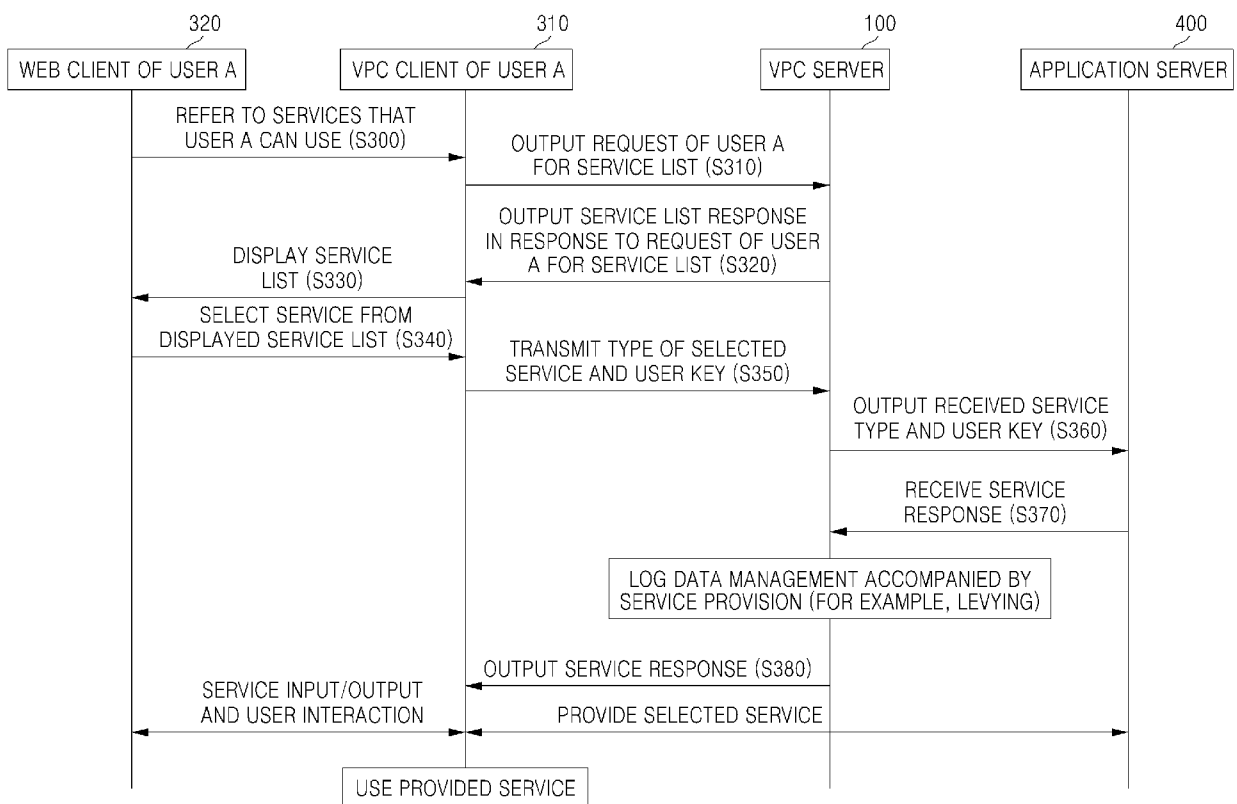
[Fig. 2]



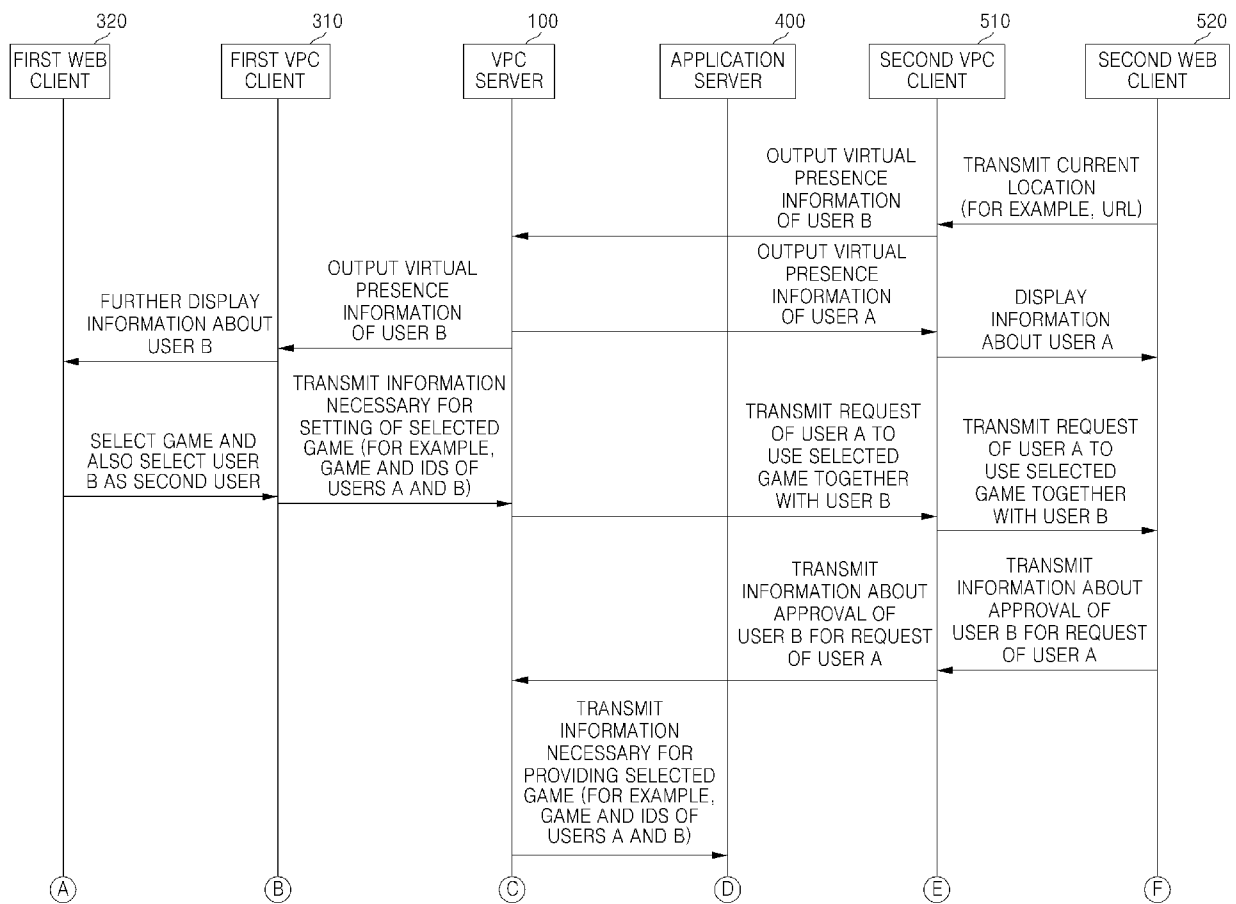
[Fig. 3]



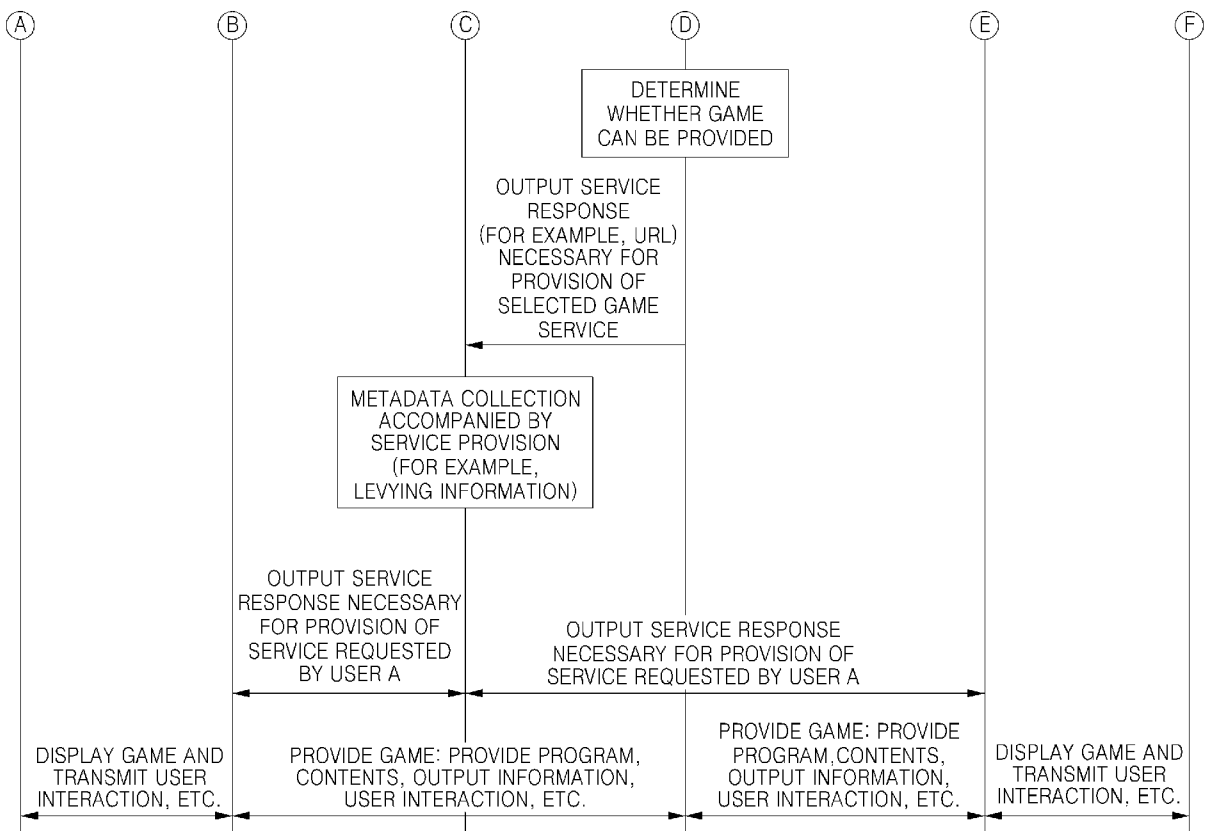
[Fig. 4]



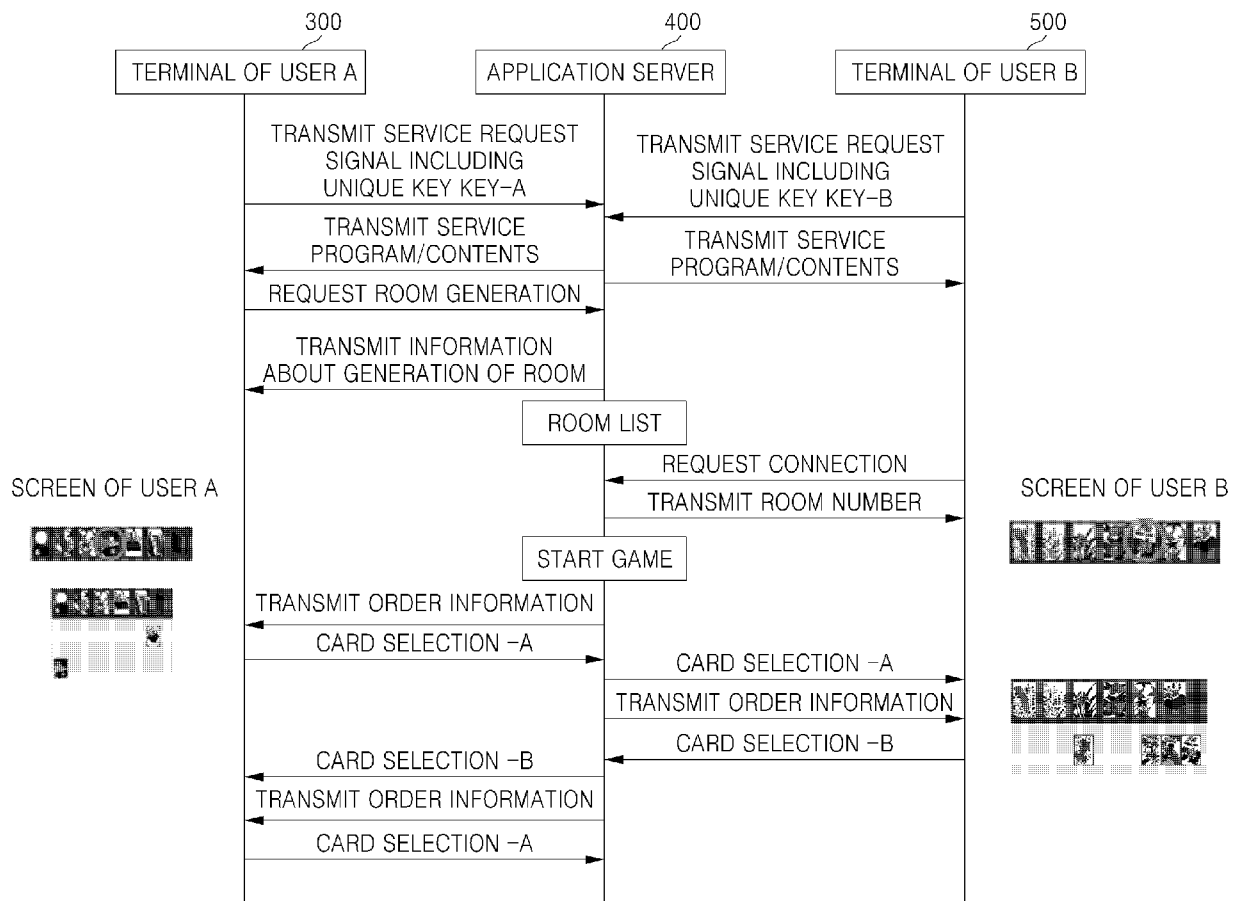
[Fig. 5]



[Fig. 6]



[Fig. 7]



[Fig. 8]

