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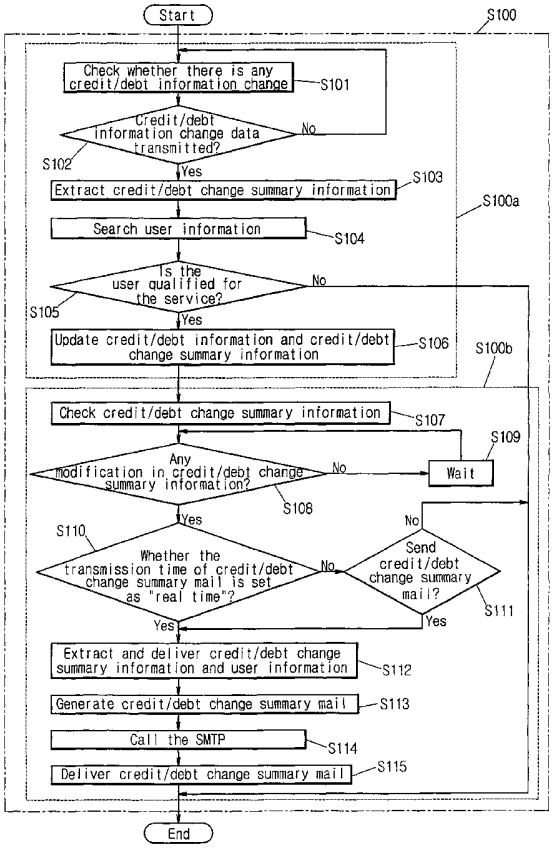
(54) Title: METHOD FOR MANAGING A PRIVATE CREDIT/LOAN INFORMATION BASED ON THE INTERNET



(57) Abstract: The present invention relates to the Internet based user credit/debt information management method. In the event that any user's credit or debt information is changed, the present invention provides a process that transmits, at real-time or in a lump, such changed information to the relevant user's mail account or mobile telecommunication device through the e-mail, SMS gateway or WAP gateway, etc. Thus, the users may manage their credit/loan information efficiently without going through complicated procedures. Moreover, through the said notification system of the present invention, which enables the user to confirm and manage any change in the user's credit/loan status immediately upon the occurrence of such change, the users may ordinarily receive the desired financial services.

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METHOD FOR MANAGING A PRIVATE CREDIT/LOAN INFORMATION BASED ON THE INTERNET

TECHNICAL FIELD

The present invention relates to the user credit/debt information management method based upon the Internet. More specifically, in the event that any user's credit or debt information is changed, the present invention provides processes that transmit, real time or collectively at certain times, the changed information to the relevant user. Thus, the users may manage their credit/debt information efficiently without going through complicated procedures.

BACKGROUND ART

Recently as financial services such as the debt provision are frequently used by people through banks, credit card companies or other financial institutions, the issue of individuals' credit status management is being recognized as important.

Ordinarily, financial institutions check the credit status of individuals who wish to receive the financial services prior to providing any financial services in order to minimize unexpected damage arising from the provision of services. Such credit status information is a crucial criterion in the financial service provision.

Accordingly, if an individual who wishes to receive financial services fails to appropriately manage his or her credit status and applies for certain financial services in such state, such individual may be subject to serious disadvantage and may not be able to receive the desired financial services.

Conventionally, in order to prevent such problems, users have confirmed and managed their own credit status through credit information management institutions prior to applying for financial services, reducing the risks of incurring

unexpected damage.

However, in order to confirm and manage individuals' credit status through the conventional method of using credit information management institutions, the steps such as "visiting the relevant credit information management institution" or "utilizing the mail, ARS, or PC telecommunication, etc." must precede. Thus, users have had to go through unnecessarily complex procedures for the credit status confirmation and management according to the convention management system.

Moreover, the conventional credit information management system has generally not been equipped with any device to notify "changes in the user's credit status" real time even though the user's credit status must, by definition, reflect the user's financial activities and be modified accordingly. Therefore, users have had to experience the inconvenience of not being able to have "changes in their credit status" confirmed and reflected immediately upon the occurrence of the relevant events.

If any user is made incapable of realizing his or her negative credit record and thus may not take any action due to the aforementioned defects in the conventional system, the user will be forced to incur the serious damage of not being able to receive the desired financial services even while he or she is using the credit information management institution.

DISCLOSURE OF INVENTION

Therefore, the present invention has its purpose in providing, in the event that any user's credit or debt information is changed, processes that transmit, real time or collectively at certain times, the changed information to the relevant user's mail account or mobile telecommunication device through the e-mail, SMS gateway

or WAP gateway, etc. Thus, the users may manage their credit/debt information efficiently without going through complicated procedures.

Another purpose of the present invention is to enable the user to confirm and manage any change in the user's credit/debt status immediately upon the occurrence of such change through the said notification system. Consequently, the users may ordinarily receive their desired financial services.

Other purposes of the present invention will be obvious from the following detailed description of the present invention and attached drawings.

In order to achieve the above-mentioned purposes, the present invention implements the Internet-based user credit/debt information management method comprising the related processes of the credit/debt information update and the credit/debt information notification.

Here, the said credit/debt information update process comprises the steps of: checking with a credit/debt information provision system whether there is any change in the credit/debt information and determining whether any credit/debt information change data has been transmitted from the said credit/debt information provision system; in the event that certain credit/debt information has been transmitted from the said credit/debt information provision system, determining whether the user related to the said credit/debt information change data is a user who may receive the service using the previously stored user information; and in the event that the user related to the said credit/debt information change data is a user who may receive the service, updating the relevant user's credit/debt information and the credit/debt change summary information according to the said credit/debt information change data.

The said credit/debt information notification process comprises the steps of:

determining whether there is any modification in the credit/debt change summary information of the relevant user; in the event that there is any modification in the user's credit/debt change summary information, determining whether the transmission time of the credit/debt change summary message is set as "real time"; in the event that the credit/debt change summary message transmission time is set as "real time," generating the credit/debt change summary message by using the modified credit/debt change summary information and sending the generated credit/debt change summary message to the telecommunication device of the relevant user such as the e-mail address or the mobile telephone, etc.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a diagram illustrating the concept of the user credit/debt information management system of the present invention.

Fig. 2 is a flow chart showing the sequence of the Internet-based user credit/debt information management method according to a preferred implementation of the present invention.

Fig. 3 is a diagram illustrating the mail displayed at the user-side client according to a preferred implementation of the present invention.

Fig. 4 is a flow chart showing the sequence of the Internet-based user credit/debt information management method according to another preferred implementation of the present invention.

Fig. 5 to Fig. 9 are diagrams illustrating the web pages displayed at the user-side client according to another preferred implementation of the present invention.

BEST MODE FOR CARRYING OUT THE INBENTION

Reference will now be made in detail to the preferred implementation of the present invention's Internet-based user credit/debt information management method.

As illustrated in Fig. 1, the present invention's credit/debt information management system (100) largely comprises the D/B block (70), the D/B management server (30), the credit/debt information management server (10), the mail management server (40), the credit/debt change storage module (20). The said D/B block (70) includes the user information D/B (71), the credit/debt change summary D/B (72), the credit/debt information D/B (73), the operation information D/B (74).

Here, in the user information D/B (71), the information related to users, such as "user's resident registration number, user's name, mail account, service selection, etc." is stored. The credit/debt information D/B (73) stores the credit/debt information such as the "negative credit transaction information, credit transaction information, enquiry record information, etc." The credit/debt change summary D/B (72) stores the information summarizing the changes in the credit/debt information as stored in the credit/debt information D/B (73). For example, the credit/debt change summary information such as "user's resident registration number, change date, type of information, number of incidents, etc." is stored in the credit/debt change summary D/B (72). The operation information D/B (74) stores the operation information such as "web page graphic information, web page setting information, etc.," required to operate the web pages.

The said D/B management server (30) stores the above-described user information, credit/debt change summary information, credit/debt information, or operation information selectively in the relevant area of the D/B block (70) or

retrieves the relevant data selectively from the user information D/B (71), the credit/debt change summary D/B (72), the credit/debt information D/B (73), the operation D/B (74).

Here, the D/B management server (30) not only conducts the operations of storing or retrieving various data but also conducts the intelligent operations of efficiently and expeditiously managing the data without redundancy.

As shown in the drawing, the said credit/debt change storage module (20) is connected with the D/B management server (30) for telecommunication and also is connected to the credit/debt information provision system (200) through the second interface module (62).

In this state, the credit/debt change storage module (20) continuously checks the second interface module (62) to determine whether any credit/debt information change data has been transmitted from the credit/debt information provision system (200). If any credit/debt information change data related to a certain user is transmitted from the credit/debt information provision system (200), the credit/debt change storage module (20) updates the relevant user's credit/debt information and credit/debt change summary information according to the "user's specifications" stored in the said user information D/B (71).

Here, the second interface module (62) processes various information transmitted from the credit/debt information provision system (200) and transmits such information to the credit/debt change storage module (20). The second interface module (62) also processes various information transmitted from the credit/debt change storage module (20) and transmits such information to the credit/debt information provision system (200).

The said D/B management server (30) is connected for telecommunication

not only to the said credit/debt change storage module (20) but also to the credit/debt change summary relay module (51), the credit/debt information management module (52), the credit rating management module (53), and the operation information management module (54).

The credit/debt change summary relay module (51), via the D/B management server (30), continuously checks the credit/debt change summary information stored in the credit/debt change summary D/B (72). In this manner, the credit/debt change summary relay module (51) determines whether there is any modification in the credit/debt change summary information related to a certain user. If it is determined that a user's credit/debt change summary information has been modified, the credit/debt change summary relay module (51), depending on the predetermined settings regarding the credit/debt change summary message, transmits real time the relevant credit/debt change summary information to the said credit/debt information management server (10), or transmits the relevant credit/debt change summary information to the credit/debt information management server at certain time ("after-time delivery") in compliance with the credit/debt information management server (10)'s request.

Additionally, if any credit information enquiry event or debt information enquiry event occurs from any user-side client (1), the credit/debt information management module (52), via the D/B management server (30), retrieves the relevant user's credit/debt information stored in the credit/debt information D/B (73) and delivers the retrieved credit/debt information to the credit/debt management server (10).

If any credit rating enquiry event occurs from the user-side client (1), the credit rating management module (53), via the D/B management server (30),

retrieves the relevant user's credit/debt information stored in the credit/debt information D/B (73), calculates the credit rating based upon the retrieved credit/debt information, and delivers the calculated credit rating result to the credit/debt management server (10).

The operation information management module (54), through the coordination with the D/B management server (30), systematically controls the user information D/B (71) and the operation information D/B (74) in the D/B block (7) and thus generally manages the detailed operations of the credit/debt information management server (10).

On the other hand, as shown in the drawing, the said credit/debt information management server (10) systematically manages the D/B management server (30) using the said credit/debt change summary relay module (51), the credit/debt information management module (52), the credit rating management module (53) and the operation information management module (54), etc. Thus, the credit/debt information management server (10) conducts the general control so that the relevant user information, credit/debt change summary information, credit/debt information or operation information may selectively be retrieved.

In the event that certain user's credit/debt change summary information is transmitted from the credit/debt change summary relay module (51), the credit/debt information management server (10) uses such transmitted information to generate the credit/debt change summary message, e.g., a credit/debt change summary mail of the MIME (Multi-Purpose Internet Mail Extensions) protocol. Then, the credit/debt information management server (10) delivers the generated credit/debt change summary mail to the mail management server (40), so that the said credit/debt change summary mail may be securely transmitted to the mail account

(2) of the relevant user.

Of course, the credit/debt information management server (10) may deliver the credit/debt change message to the mobile telecommunication device of the relevant user through other means such as the SMS gateway, WAP gateway, etc., rather than through the mail management server (40).

Here, in addition to the connection to the said D/B management server, the credit/debt information management server (10) is closely connected to the user-side client (1) through the first interface module (61). In other words, the user-side client (1) is connected to the credit/debt information management server for the signal communication through, for example, wired/wireless Internet.

In this state, if any credit information enquiry event, debt information enquiry event or credit rating enquiry event occurs from the user-side client (1), the credit/debt information management server (10) systematically controls the said credit/debt information management module (52), the credit rating management module (53), and the operation information management module (54) to retrieve the relevant credit/debt information, credit rating enquiry result information or the operation information. Then, using the retrieved credit/debt information, credit rating enquiry result information or the operation information, the credit/debt information management server (10) generates the appropriate web page. Thus, the user managing the user-side client (1) may conveniently confirms and manages his or her own credit/debt status on-line.

At this time, the said first interface module (61) processes various event data transmitted from the user-side client (1) through the wired/wireless Internet and delivers such event data to the said credit/debt information management server (10). Additionally, the first interface module (61) processes various information

transmitted from the credit/debt information management server (10) and expeditiously delivers such information to the user-side client (1).

Now, the Internet-based user credit/debt information management method according to the present invention using the above-described credit/debt information management system (100) will be explained in detail.

As illustrated in Fig. 2, the Internet-based user credit/debt information management method according to a preferred implement of the present invention (Step S100) is composed of the mutually related credit/debt information update process (Step S100a) and the credit/debt information notification process (Step S100b).

First, the credit/debt information update process (Step S100a) is explained in detail.

As shown in the drawing, the credit/debt change storage module (20) continuously checks the credit/debt information provision system (200) via the second interface module (62). Based upon the result of such checking, the credit/debt change storage module (20) determines whether any credit/debt information change data has been transmitted from the credit/debt information provision system (200) (Steps S101 and S102).

Here, if it is determined that the credit/debt information provision system (200) has not transmitted any credit/debt information change date, the credit/debt change storage module (20) moves the flow to the above-described Step S101 and maintains the "credit/debt information change checking state."

In contrast, if it is determined that the credit/debt information provision system (200) has transmitted certain credit/debt information change data, the credit/debt change storage module (20) requests that the D/B management server

(30) retrieve the relevant credit/debt change summary information. Thus, the relevant credit/debt change summary information is delivered from the credit/debt change summary D/B (72). Then, the credit/debt change storage module (20) obtains the user information included in the credit/debt information change data, such as the resident registration number of "User A," by using the delivered credit/debt change summary information (Step S103).

Thereafter, the credit/debt change storage module (20), via D/B management server (30), searches the user information D/B (71) to find the user information corresponding to the resident registration number of "User A." Then, using such user information, the credit/debt change storage module (20) reviews the specifications set by "User A" (Step S104).

In this state, the credit/debt change storage module (20) determines whether the user included in the credit/debt information change data, i.e., "User A", is a user who may receive the service (Step S105).

Here, if there is no information concerning "User A" in the user information D/B (71) or if the specifications set by "User A" is such that "the credit/debt change summary mail rejected" is selected where "User A" information is included in the user information D/B (71), it is determined that "User A" is not to receive the ordinary service. Thus, the credit/debt change storage module (20) terminates the flow of the processes.

In contrast, if the user information D/B (71) contains the user information concerning "User A" and if, in the specifications of "User A," "the credit/debt change summary information requested" is selected, "User A" is determined to be able to receive the ordinary service. Then, the credit/debt change storage module (20) conducts the process of updating the credit/debt change summary information

and credit/debt information which has been stored in the credit/debt change summary D/B (72) and the credit/debt information D/B (73) in accordance with the said credit/debt information change data (Step S106).

In this case, the credit/debt change storage module (20) delivers to the D/B management server (30) the credit/debt information change data transmitted from the credit/debt information provision system (200) and the D/B management server (30) reflects the delivered credit/debt information change data to the credit/debt change summary D/B (72) and the credit/debt information D/B (73), etc., immediately upon receiving such data. Accordingly, the credit/debt change summary information and the credit/debt information of "User A" which has previously been stored is expeditiously updated in accordance with the credit/debt information change data.

Next, the credit/debt information notification process (Step S100b) is explained in detail.

For the convenience of explanation in the following, it is assumed that the deliver of the credit/debt change message is conducted through the use of the mail management server (40). Of course, the credit/debt change message may alternatively be conducted through the SMS gateway or WAP gateway.

As illustrated in the drawing, the credit/debt change summary relay module (51), via the D/B management server (30), continuously checks the credit/debt change summary D/B (72) and determines whether the credit/debt change summary information concerning certain user, for example, "User A," has been modified or not (Step S108).

If it is determined that the User A's credit/debt change summary information has not been modified, the credit/debt change summary relay module

(51) moves the flow to Step S109 and maintains the waiting state.

In contrast, if any record is added in the credit/debt change summary D/B (72) and thus if it is determined that the credit/debt change summary information concerning User A has been modified, the credit/debt change summary relay module (51) reviews its settings to determine whether the transmission time of the credit/debt change summary mail is set as "real time" (Step S110).

Here, if the transmission time of the credit/debt change summary mail is set as "transmission after the receipt of instruction" instead of "real time," the credit/debt change summary relay module (51) waits for certain period of time and determines whether the message instructing to "send the credit/debt change summary mail" has been transmitted from the credit/debt information management server (10) (Step S111).

At this state, if it is determined that the message instructing to "send the credit/debt change summary mail" has been transmitted from the credit/debt information management server (10), the credit/debt change summary relay module (51) retrieves "User A (relevant user)'s main account information" and "User A's credit/debt change summary information," etc. from the user information D/B (71), the credit/debt change summary D/B (72), etc. and delivers such retrieved information to the credit/debt information management server (10) (Step S112).

When "User A's mail account information" and "User A's credit/debt change summary information" are transmitted from the credit/debt change summary relay module (51), the credit/debt information management server (10) immediately utilizes such information to generate a credit/debt change summary mail of the MIME protocol (Step S113). The said credit/debt change summary mail, of course, contains the summary of "User A's credit/debt changes."

Once the said credit/debt change summary mail is generated, the credit/debt information management server (10) immediately calls the SMTP (Simple Mail Transfer Protocol) service of the mail management server (40) and delivers the generated credit/debt change summary mail to the mail management server (40). The mail management server (40), immediately upon receiving the credit/debt change summary mail from the credit/debt information management server (10), delivers the received credit/debt change summary mail to the relevant user, i.e., to the mail account (2) of User A (Steps S114 and S115).

Thereafter, when User A chooses to view the delivered credit/debt change summary mail, the user-side client (1) receives the credit/debt change summary mail which has been at the user's mail account (2) and displays the mail in the mail view screen (301) as shown in Fig. 3. Thus, User A may conveniently view and confirm his or her own credit/debt change specifics without going through other complicated processes.

On the other hand, in the said Step S110, if the transmission time of the credit/debt change summary mail is set as "real time," the credit/debt change summary relay module (51) immediately retrieves "User A's mail account information" and "User A's credit/debt change summary information" from the user information D/B (71) and the credit/debt change summary D/B (72)" directly without going through the above-described Step S111. Then, the credit/debt change summary relay module (51) delivers the retrieved information to the credit/debt information management server (10), causing the above Steps S112 to S115 to be conducted expeditiously. Resultantly, User A may confirm his or her credit/debt change specifics real time without any waiting period.

On the other hand, the user who has confirmed his or her credit/debt change

specifics through the said Step S100 may access the credit/debt information management system (100) through the user-side client (1) and thus confirm and manage his or her credit/debt changes more specifically.

At this state, the said credit/debt information management server (10) conducts the Internet-based user credit/debt information management method (Step S200) step by step according to another preferred implementation of the present invention as illustrated in Fig. 4.

First, the credit/debt information management server (10) continuously checks the first interface module (61) to determine whether there has been any system access event from the user-side client (1) (Step S201).

If it is determined that there has been no system access event from the user-side client (1), the credit/debt information management server (10) moves the flow to Step S202 and maintains the waiting state.

In contrast, if the user clicks the hyperlink area (302) of the mail view screen (301), "www.xx...," and thus if it is determined that there has been a system access event from the user-side client (1), the credit/debt information management server (10), using the operation information management module (54), retrieves the relevant operation information from the operation information D/B (74) and, using such operation information, generates the main page. Then, the credit/debt information management server (10) transmits the generated main page to the user-side client (1) through the first interface module (61) (Step S203).

In such event, the user-side client (1) rapidly interprets the main page (303) transmitted from the system (100) and displays the page as shown in Fig. 5, thus providing the environment in which User A may conveniently have a series of credit/debt information management processes conducted.

In this state, the credit/debt information management server (10) continuously checks the first interface module (61) to determine whether any login information has been transmitted from the user-side client (1) (Step S204).

If it is determined that there has been no login information transmitted from the user-side client (1), the credit/debt information management server (10) moves the flow to Step S205 and maintains the waiting state.

In contrast, if the user fills out the resident registration number and secret code, etc. of the main page (303) and clicks the login item (306), and thus if it is determined that certain login information has been transmitted from the user-side client (1), the credit/debt information management server (10), utilizing the operation information management module (54), retrieves the user information from the user information D/B (71). Then, the credit/debt information management server (10) determines whether the user who has logged in the system (100) is a registered user or not, by using the said retrieved user information (Step S206).

Here, if it is determined that the user who has logged in the system (100) is not a registered user, the credit/debt information management server (10) generates a registration request message such as a message reading, "You are not a registered user. Please register first." Then, the credit/debt information management server (10) transmits the generated registration request message to the user-side client (1) (Step S207).

In contrast, if it is determined that the user who has logged in the system (100) is a registered user, the credit/debt information management server (10) retrieves the user information and operation information from the user information D/B (71) and the operation information D/B (74) by using the operation information management module (54). Thereafter, using such user information and the

operation information, the credit/debt information management server (10) generates a credit/debt information basic management page containing the relevant user's registration number and then transmits the generated credit/debt information basic management page to the user-side client (1) (Step S208).

The user-side client (1) rapidly interprets the credit/debt information basic management page (307) transmitted from the system (100) and displays the page as shown in Fig. 6, providing the environment in which the user may conveniently conduct the credit/debt information management processes in full-scale.

Here, as shown in the drawing, the credit/debt information basic management page (307) contains the credit information enquiry item (308), the debt information enquiry item (309) and the credit rating enquiry item (310), etc. The user may conduct the credit/debt information management processes that he or she desires, by selectively clicking each of such items. Of course, the said items may be modified in various manners depending on the circumstances.

At this state, the credit/debt information management server (10) continuously checks the first interface module (61) to determine whether there has been any credit information enquiry event from the user-side client (1) (Step S209). The credit information enquiry event means an event that the user User A conducts in order to review his or her own credit status in detail.

Here, if it is determined that there has been no credit information enquiry event from the user-side client (1), the credit/debt information management server (10) immediately moves the flow to Step S212 to be explained in the following.

In contrast, if the user clicks the credit information enquiry item (308) of the credit/debt information basic management page (307) and thus if it is determined that there has been a credit information enquiry event from the user-side client, the

credit/debt information management server (10), utilizing the credit/debt information management module (52), retrieves the credit information from the credit/debt information D/B (73). Then, the credit/debt information management server (10) generates a credit information enquiry result page using the retrieved credit information and then transmits the generated credit information enquiry result page to the user-side client (1) (Steps S210 and S211). Of course, during these processes, the credit information stored in the credit/debt information D/B (73) is as upgraded with the latest information by the above-described actions of the credit/debt change storage module (20).

When the credit information enquiry result page is transmitted from the system (100) through the above-described processes, the user-side client (1) rapidly interprets the page and displays it as shown in Fig. 7a and Fig. 7b, providing the environment in which the user User A may review and manage his or her credit status exactly and specifically.

Here, according to the information delivery order of the credit/debt information management server (10), the user-side client (1) displays the credit information enquiry result page of Fig. 7a first. Thus, User A may briefly review and manage his or her own credit information changes from the displayed page.

At this state, if User A clicks the "review the credit information" item (311b) from the page, the user-side client (1) displays the credit information enquiry result page as shown in Fig. 7b. Thus, User A may be able to review and manage his or her own credit information in more detail from the page. For example, information on the negative credit transactions or positive credit transactions may be specifically reviewed.

When the credit information enquiry event has been dealt with through the

above-described steps, the credit/debt information management server (10) continuously checks the first interface module (61) and determines whether there has been any debt information enquiry event from the user-side client (1) (Step S212). The debt information enquiry event means the event that the user conducts in order to review his or her own debt status in detail.

Here, if it is determined that there has been no debt information enquiry event from the user-side client (1), the credit/debt information management server (10) immediately moves the flow to Step S215 to be explained in the following.

In contrast, if the user clicks the debt information enquiry item (309) of the credit/debt information basic management page (307) and thus if it is determined that there has been a debt information enquiry event from the user-side client, the credit/debt information management server (10), utilizing the credit/debt information management module (52), retrieves the debt information from the credit/debt information D/B (73). Then, the credit/debt information management server (10) generates a debt information enquiry result page using the retrieved debt information and then transmits the generated debt information enquiry result page to the user-side client (1) (Steps S213 and S214). Of course, during these processes, the debt information stored in the credit/debt information D/B (73) is as upgraded with the latest information by the above-described actions of the credit/debt change storage module (20).

When the debt information enquiry result page (312) is transmitted from the system (100) through the above-described processes, the user-side client (1) rapidly interprets the page and displays it as shown in Fig. 8, providing the environment in which the user User A may review and manage his or her debt status exactly and specifically.

On the other hand, when the debt information enquiry event has been dealt with through the above-described steps, the credit/debt information management server (10) continuously checks the first interface module (61) and determines whether there has been any credit rating enquiry event from the user-side client (1) (Step S215). The credit rating enquiry event means the event that the user conducts in order to review his or her own credit rating reflecting his or her credit/debt status in detail.

Here, if it is determined that there has been no credit rating enquiry event from the user-side client (1), the credit/debt information management server (10) immediately terminates the flow and the processes according to the present invention are completed.

In contrast, if the user clicks the credit rating enquiry item (310) of the credit/debt information basic management page (307) and thus if it is determined that a credit rating enquiry event has occurred from the user-side client (1), the credit/debt information management server (10), using the credit rating management module (53), retrieves the credit/debt information from the credit/debt information D/B (73) and then calculates the credit rating of User A using the retrieved credit/debt information. Immediately upon the calculation, the credit/debt information management server (10) generates the credit rating result page showing the credit rating and transmits the page to the user-side client (1) (Steps S216, S217 and S218). Of course, during these processes, the credit/debt information stored in the credit/debt information D/B (73) is as upgraded with the latest information by the above-described actions of the credit/debt change storage module (20).

When the credit rating result page (313) is transmitted from the system (100) through the above-described steps, the user-side client (1) rapidly interprets

the page and displays it as shown in Fig. 9, providing the environment in which the user User A may review and manage his or her credit rating exactly and specifically.

At this state, the credit/debt information management server (10) continuously checks the first interface module (61) to determine whether there has been any log-out event from the user-side client (1) (Step S219).

Here, if it is determined that there has been no log-out event from the user-side client, the credit/debt information management server (10) moves the flow to the above-described Step 209 and repeats the user credit/debt information management processes.

In contrast, if it is determined that there has been a log-out event from the user-side client (1), the credit/debt information management server (10) immediately generates a termination message and transmits it to the user-side client, thereby securely terminating the processes of the present invention.

Thereafter, whenever any credit/debt information management event occurs from the user-side client (1), the credit/debt information management server (1) intimately coordinates the said credit/debt information management module (52), the credit rating management module (53) and the operation information management module (54) to systematically conduct the credit/debt information enquiry processes. Consequently, through the present invention, users may conveniently conduct the credit management on the on-line network.

INDUSTRIAL APPLICABILITY

As explained in detail in the foregoing, the present invention provides, in the event that any user's credit or debt information is changed, the processes that transmit, real time or collectively at certain times, the changed information to the relevant user's mail account or mobile telecommunication device through the e-mail, SMS gateway or WAP gateway, etc. Thus, the users may manage their credit/debt information efficiently without going through complicated procedures.

Furthermore, the present invention enables the user to confirm and manage any change in the user's credit/debt status immediately upon the occurrence of such change through the said notification system. Consequently, the users may ordinarily receive their desired financial services.

Preferred embodiments of the present invention have been explained above and illustrated through the drawings. However, it is apparent to persons skilled in the relevant art that the present invention may be modified in various manners and implemented accordingly.

Such modified implementations must not be understood separately from the technology involved in the present invention and must be deemed included in the extent of claims of the present invention attached hereto.

WHAT IS CLAIMED IS:

1. The Internet-based user credit/debt information management method comprising the credit/debt information update process and the credit/debt information notification process, wherein:

the said credit/debt information update process comprises the steps of:

checking with a credit/debt information provision system whether there is any change in the credit/debt information and determining whether any credit/debt information change data has been transmitted from the said credit/debt information provision system;

in the event that certain credit/debt information has been transmitted from the said credit/debt information provision system, determining whether the user related to the said credit/debt information change data is a user who may receive the service using the previously stored user information; and

in the event that the user related to the said credit/debt information change data is a user who may receive the service, updating the relevant user's credit/debt information and the credit/debt change summary information according to the said credit/debt information change data; and

the said credit/debt information notification process comprises the steps of:

determining whether there is any modification in the credit/debt change summary information of the relevant user;

in the event that there is any modification in the user's credit/debt change summary information, determining whether the transmission time of the credit/debt change summary message is set as real time; and

in the event that the transmission time of the credit/debt change summary message is set as real time, generating the credit/debt change summary message by

using the modified credit/debt change summary information and sending the generated credit/debt change summary message to the telecommunication device of the relevant user.

2. The Internet-based user credit/debt information management method according to claim 1, further comprising the steps of:

in the event that the said transmission time of the credit/debt change summary message is not set as real time, maintaining the waiting state for a certain period of time and determining whether there has been any instruction to transmit the said credit/debt summary message; and

in the event that there has been an instruction to transmit the said credit/debt summary message, generating the credit/debt change summary message by using the changed credit/debt change summary information and transmitting the generated credit/debt change summary message to the telecommunication device of the relevant user.

3. The Internet-based user credit/debt information management method comprising the steps of:

determining whether there has been any credit information enquiry event for the review of the relevant user's credit information from the user-side client operated by a registered user;

in the event that a credit information enquiry event has occurred from the said user-side client, retrieving the relevant user's credit information that has been updated with the latest information through the communication with a credit/debt information provision system, generating a credit information enquiry result page

and transmitting the generated credit information enquiry result page to the said user-side client;

determining whether there has been any debt information enquiry event for the review of the relevant user's debt information from the said user-side client; and

in the event that a debt information enquiry event has occurred from the said user-side client, retrieving the relevant user's debt information that has been updated with the latest information, generating a debt information enquiry result page and transmitting the generated debt information enquiry result page to the said user-side client.

4. The Internet-based user credit/debt information management method according to claim 3, further comprising the steps of:

determining whether there has been any credit rating enquiry event for the review of the relevant user's credit rating from the said user-side client; and

in the event that a credit rating enquiry event has occurred from the said user-side client, retrieving the relevant user's credit/debt information that has been updated with the latest information, calculating the credit rating, generating a credit rating result page based upon the calculated credit rating and transmitting the generated credit rating result page to the said user-side client.

Fig.1

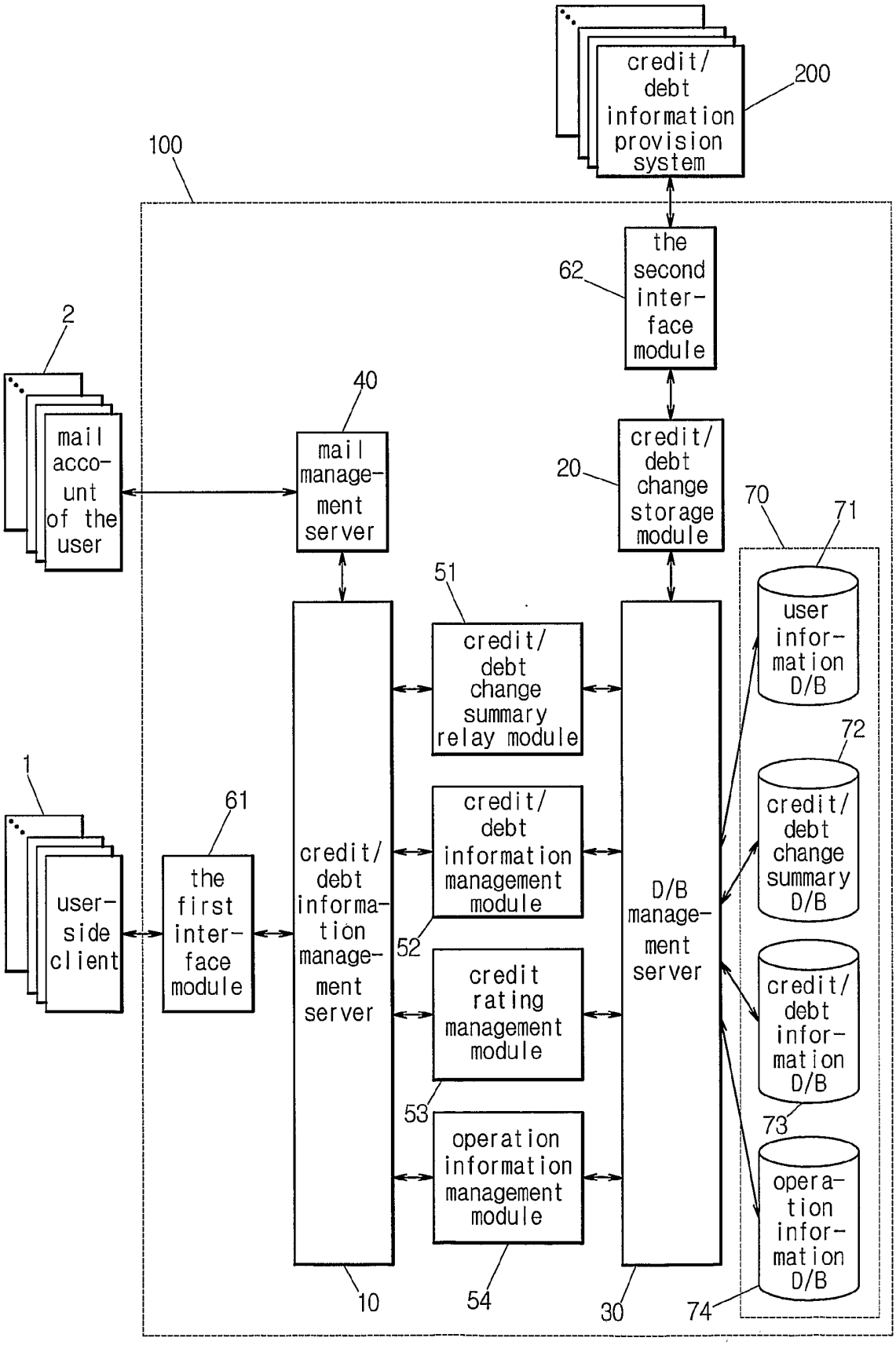

credit/ debt information provision system
200
100
the second inter-face module
62
2
mail acco-unt of the user
40
mail manage-ment server
credit/ debt change storage module
20
70
71
51
user infor-mation D/B
credit/ debt change summary relay module
72
1
61
credit/ debt information management module
credit/ debt change summary D/B
user-side client
the first inter-face module
credit/ debt informa-tion manage-ment server
52
D/B manage-ment server
credit rating management module
credit/ debt infor-mation D/B
53
73
operation information management module
opera-tion infor-mation D/B
10
54
30
74

Fig.2

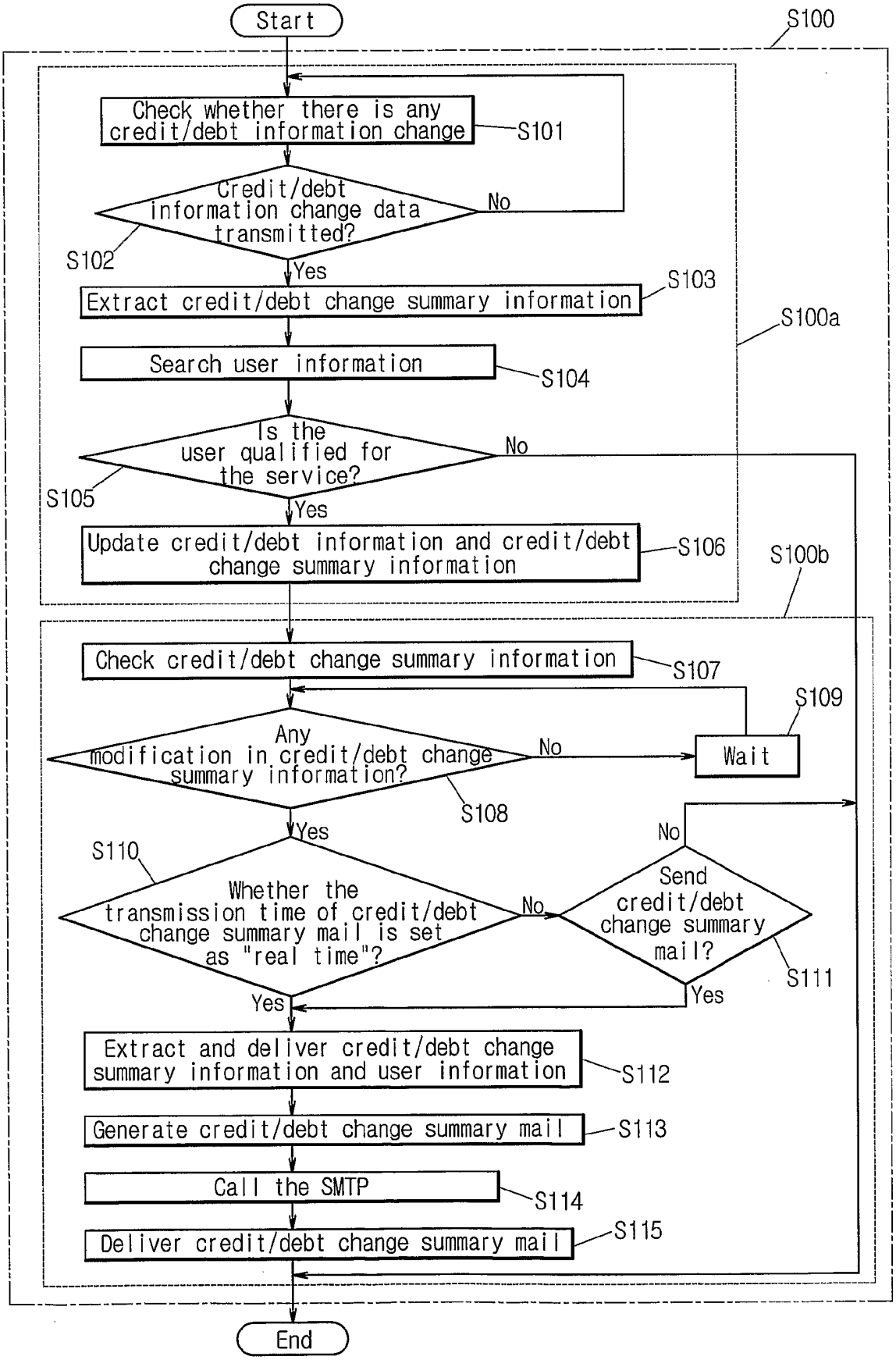

Start
S100
Check whether there is any credit/debt information change
S101
Credit/debt information change data transmitted?
No
S102
Yes
Extract credit/debt change summary information
S103
S100a
Search user information
S104
Is the user qualified for the service?
No
S105
Yes
Update credit/debt information and credit/debt change summary information
S106
S100b
Check credit/debt change summary information
S107
S109
Any modification in credit/debt change summary information?
No
Wait
S108
Yes
S110
Whether the transmission time of credit/debt change summary mail is set as "real time"?
No
Send credit/debt change summary mail?
No
S111
Yes
Yes
Extract and deliver credit/debt change summary information and user information
S112
Generate credit/debt change summary mail
S113
Call the SMTP
S114
Deliver credit/debt change summary mail
S115
End

Fig.3

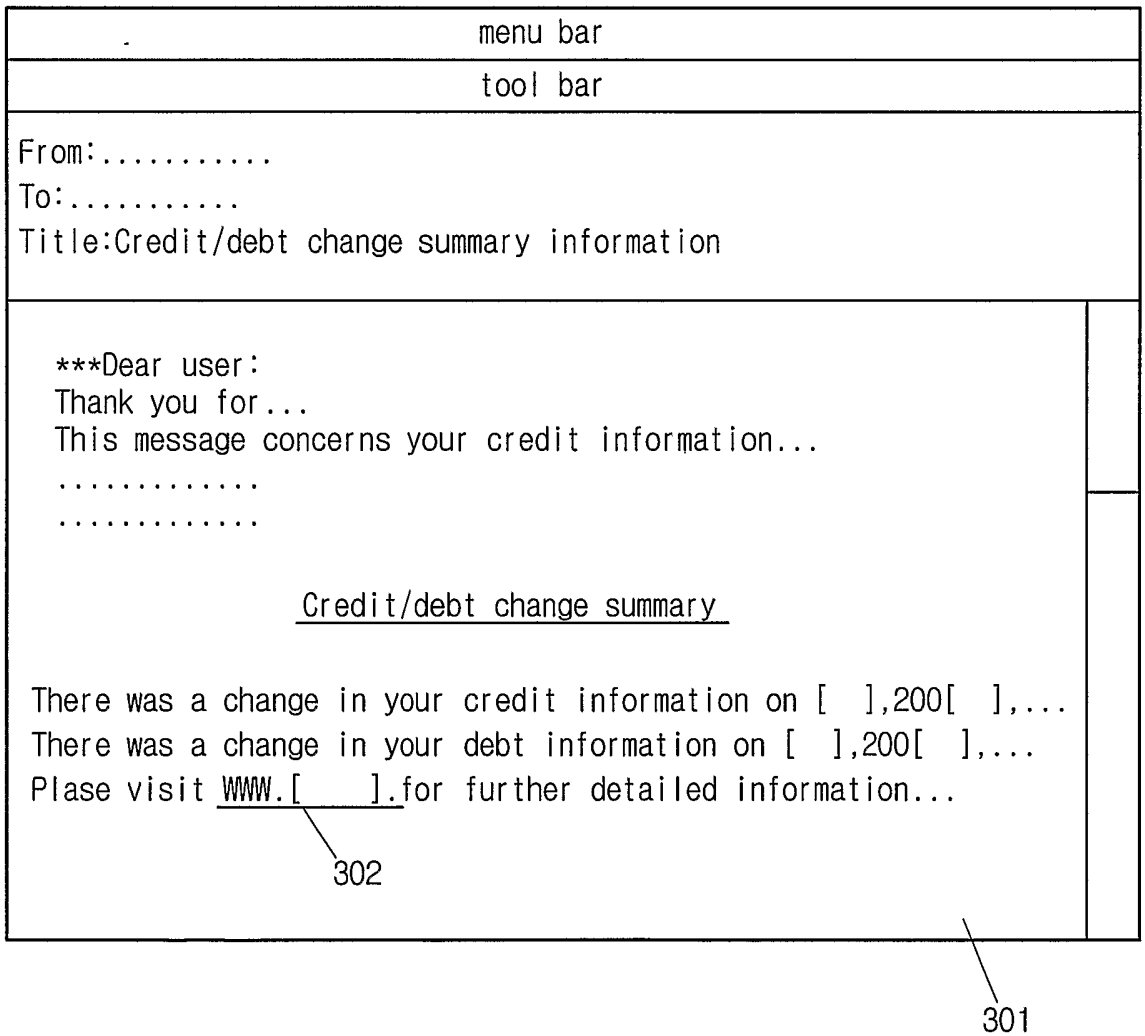

menu bar
tool bar
From:.....
To:.....
Title:Credit/debt change summary information
***Dear user:
Thank you for...
This message concerns your credit information...
.....
.....
Credit/debt change summary
There was a change in your credit information on [ ],200[ ],...
There was a change in your debt information on [ ],200[ ],...
Plase visit WWW.[ ].for further detailed information...
302
301

Fig.4

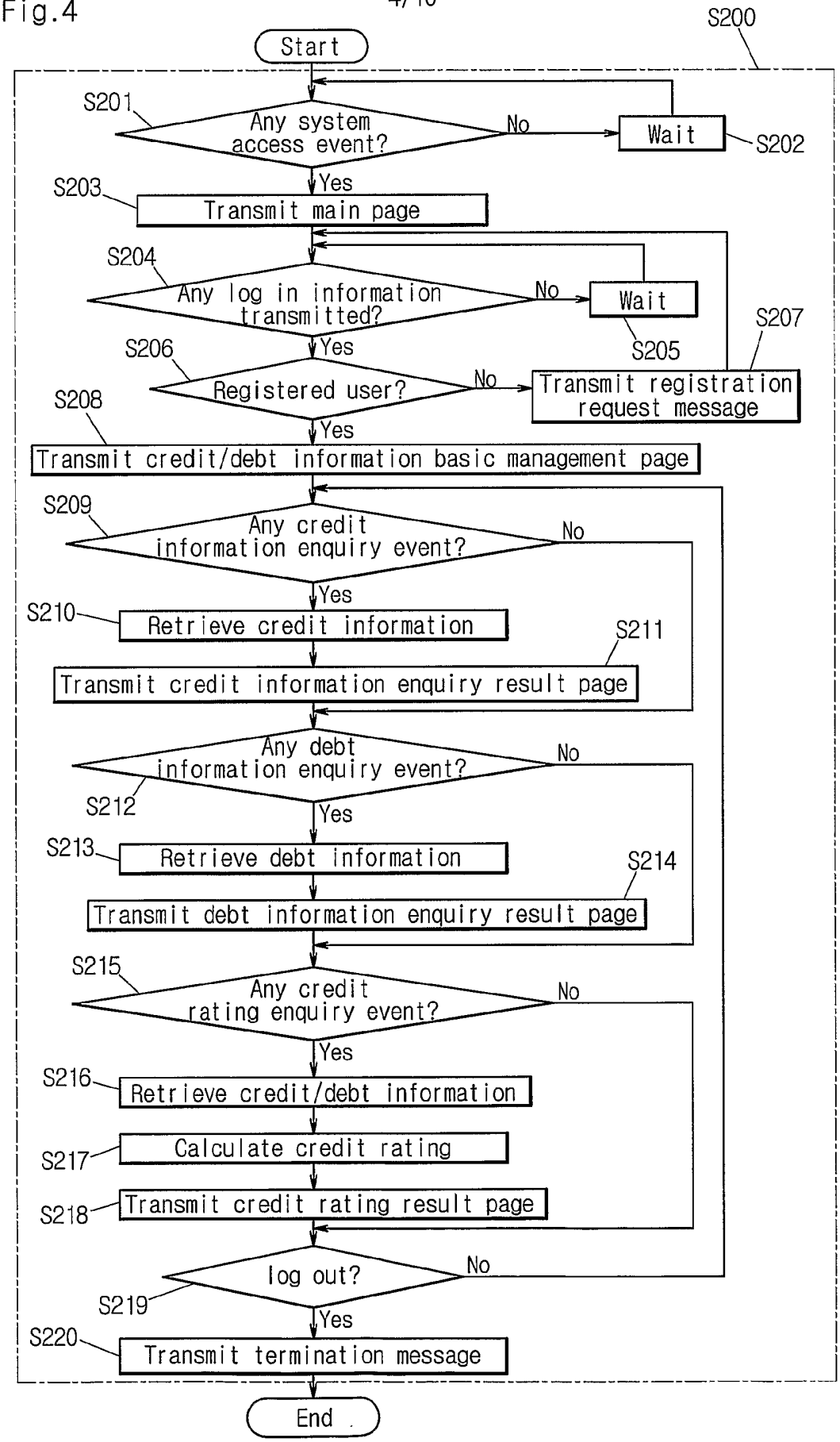

S200
Start
S201
Any system access event?
No
Wait
S202
Yes
S203
Transmit main page
S204
Any log in information transmitted?
No
Wait
S205
S207
Yes
S206
Registered user?
No
Transmit registration request message
S208
Yes
Transmit credit/debt information basic management page
S209
Any credit information enquiry event?
No
Yes
S210
Retrieve credit information
S211
Transmit credit information enquiry result page
Any debt information enquiry event?
No
S212
Yes
S213
Retrieve debt information
S214
Transmit debt information enquiry result page
S215
Any credit rating enquiry event?
No
Yes
S216
Retrieve credit/debt information
S217
Calculate credit rating
S218
Transmit credit rating result page
log out?
No
S219
Yes
S220
Transmit termination message
End

Fig.5

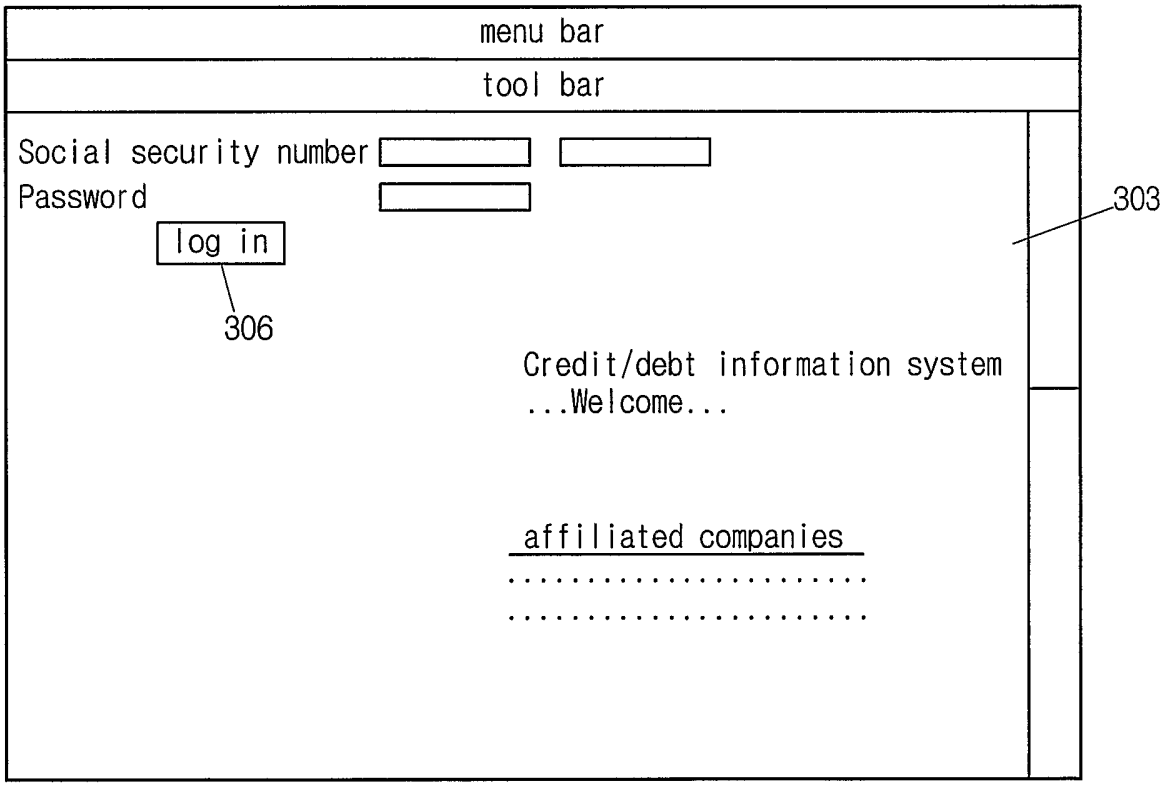

menu bar
tool bar
Social security number
Password
log in
306
303
Credit/debt information system
...Welcome...
affiliated companies
.....
.....

Fig.6

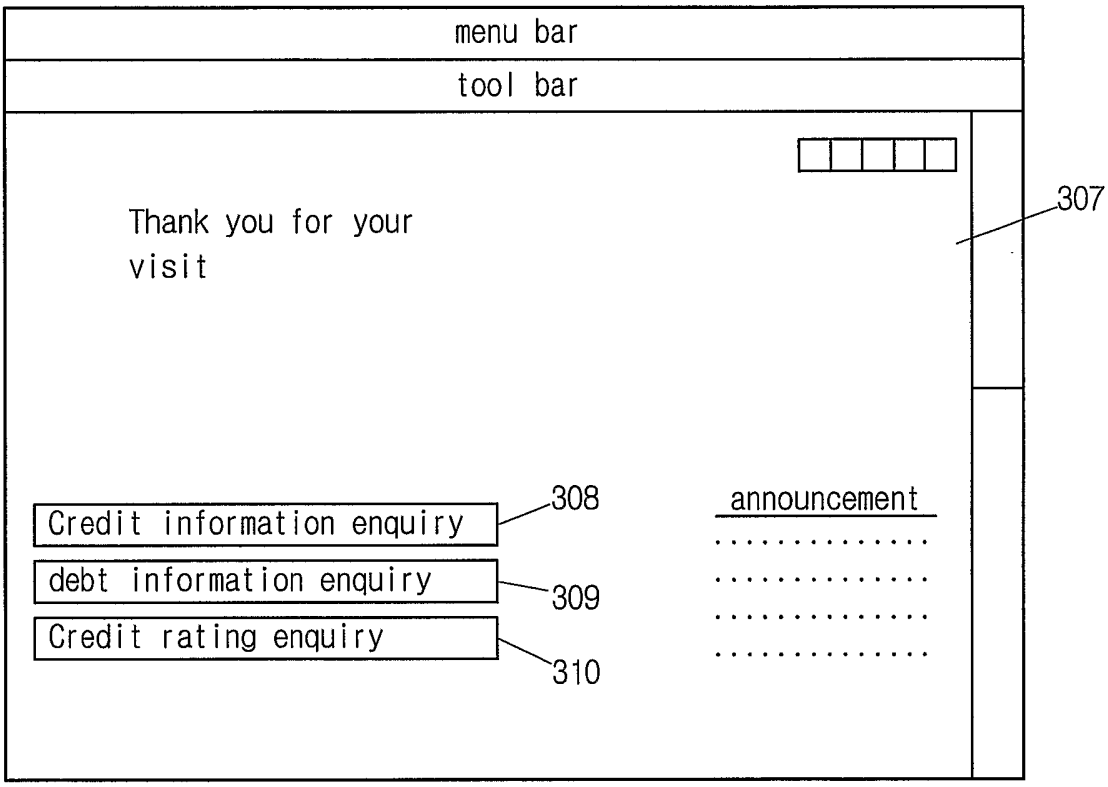

menu bar
tool bar
Thank you for your visit
307
Credit information enquiry
308
debt information enquiry
309
Credit rating enquiry
310
announcement

Fig.7a

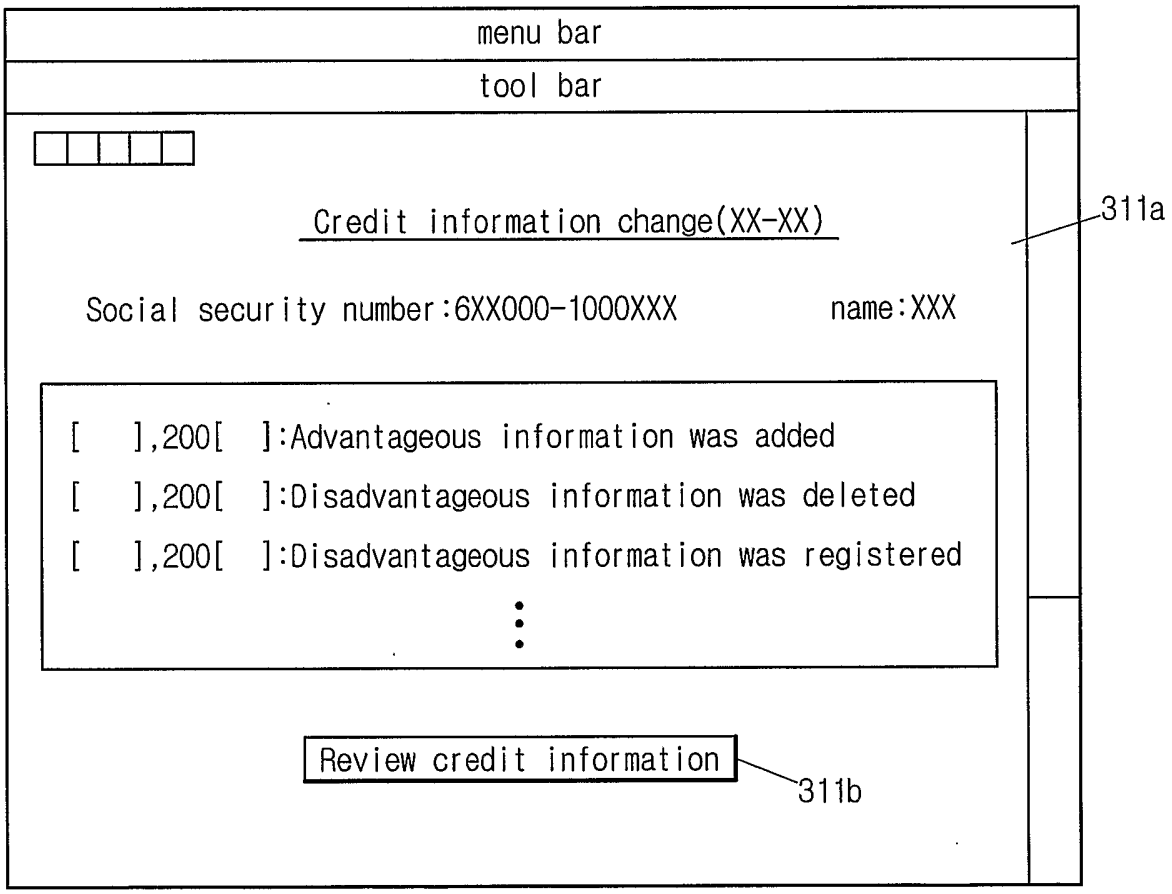

menu bar
tool bar
Credit information change(XX-XX)
311a
Social security number:6XX000-1000XXX
name:XXX
[ ],200[ ]:Advantageous information was added
[ ],200[ ]:Disadvantageous information was deleted
[ ],200[ ]:Disadvantageous information was registered
Review credit information
311b

Fig.7b

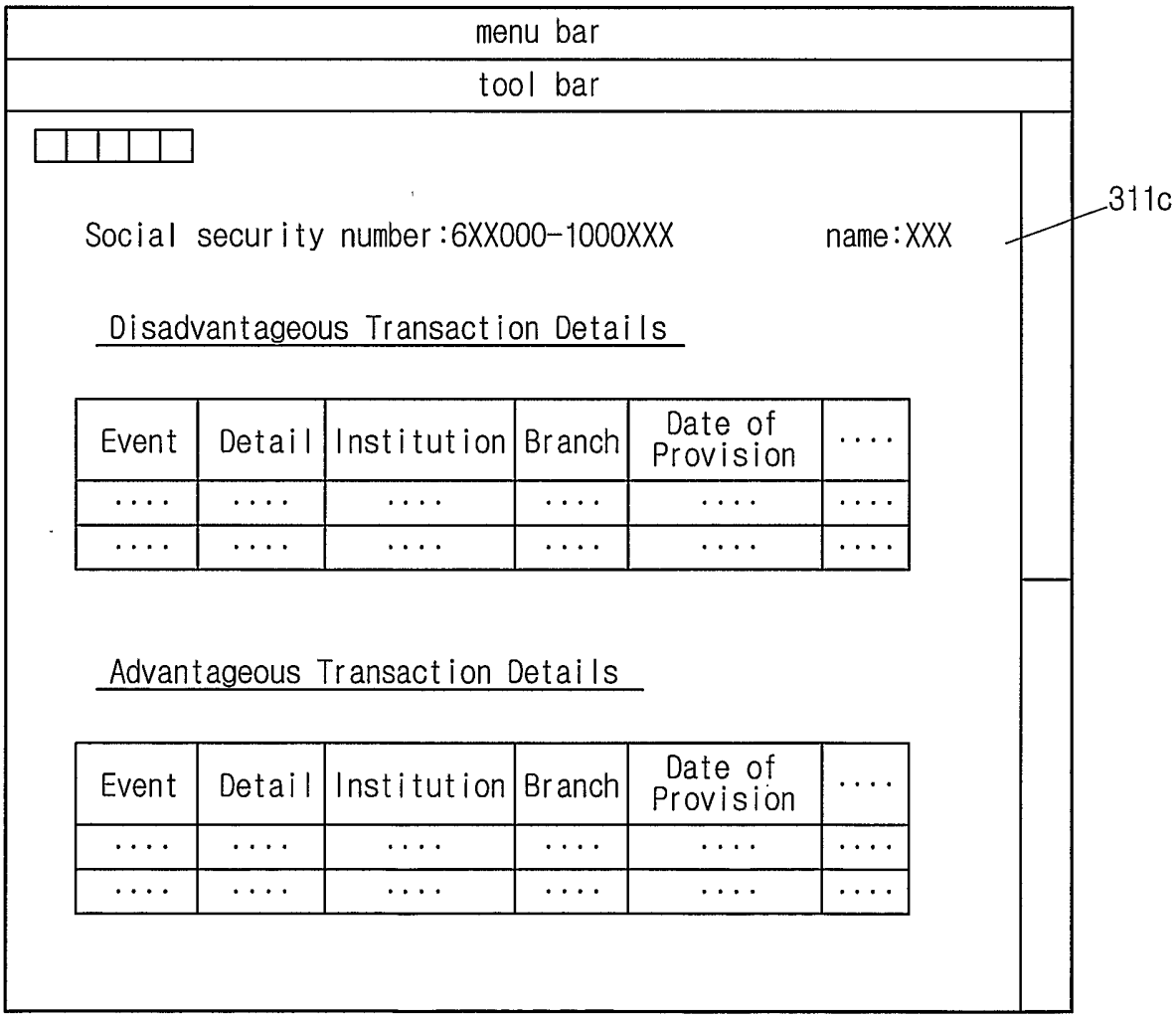

menu bar
tool bar
311c
Social security number:6XX000-1000XXX
name:XXX
Disadvantageous Transaction Details
Event
Detail
Institution
Branch
Date of Provision
....
Advantageous Transaction Details
Event
Detail
Institution
Branch
Date of Provision
....

Fig.8

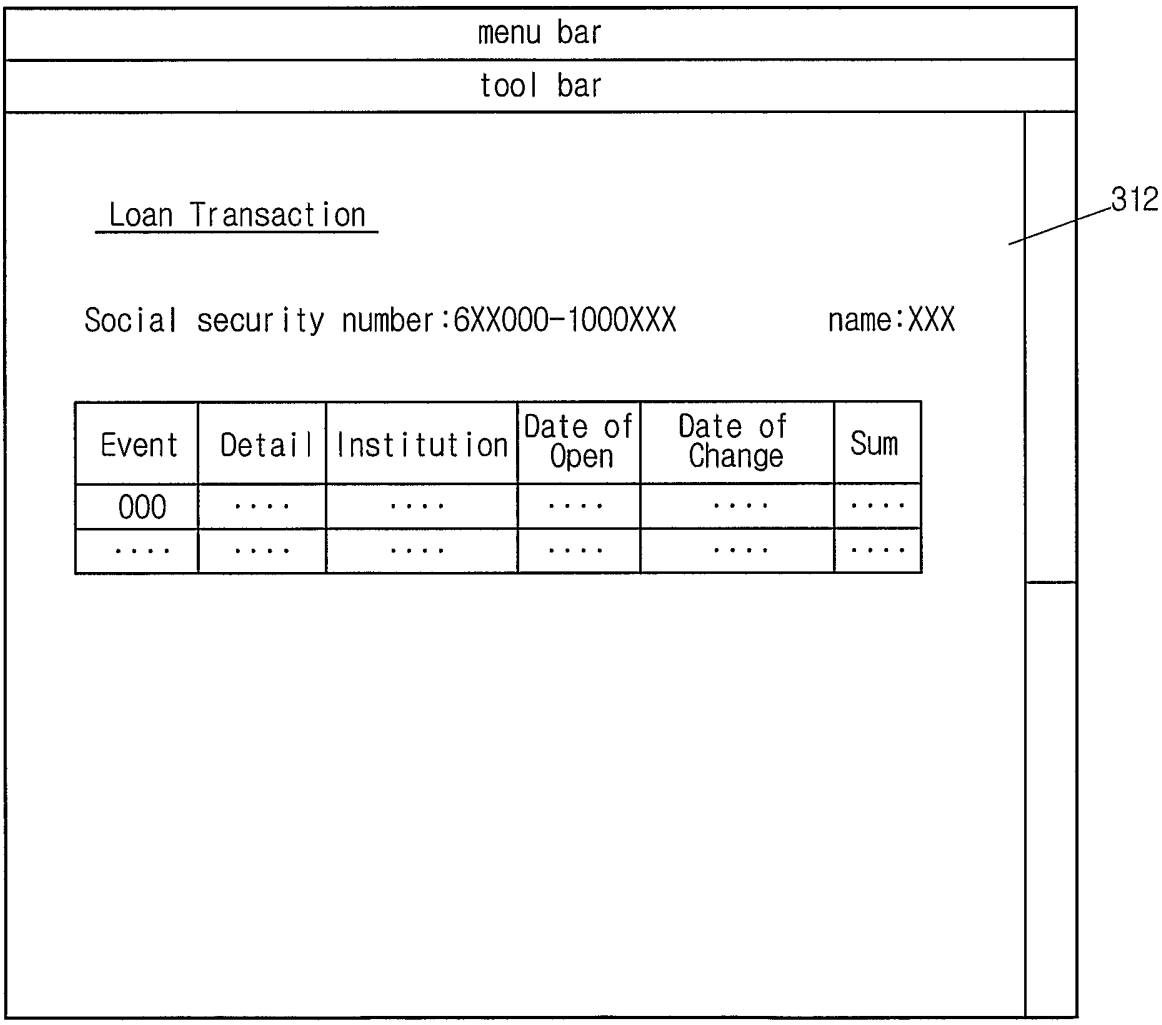
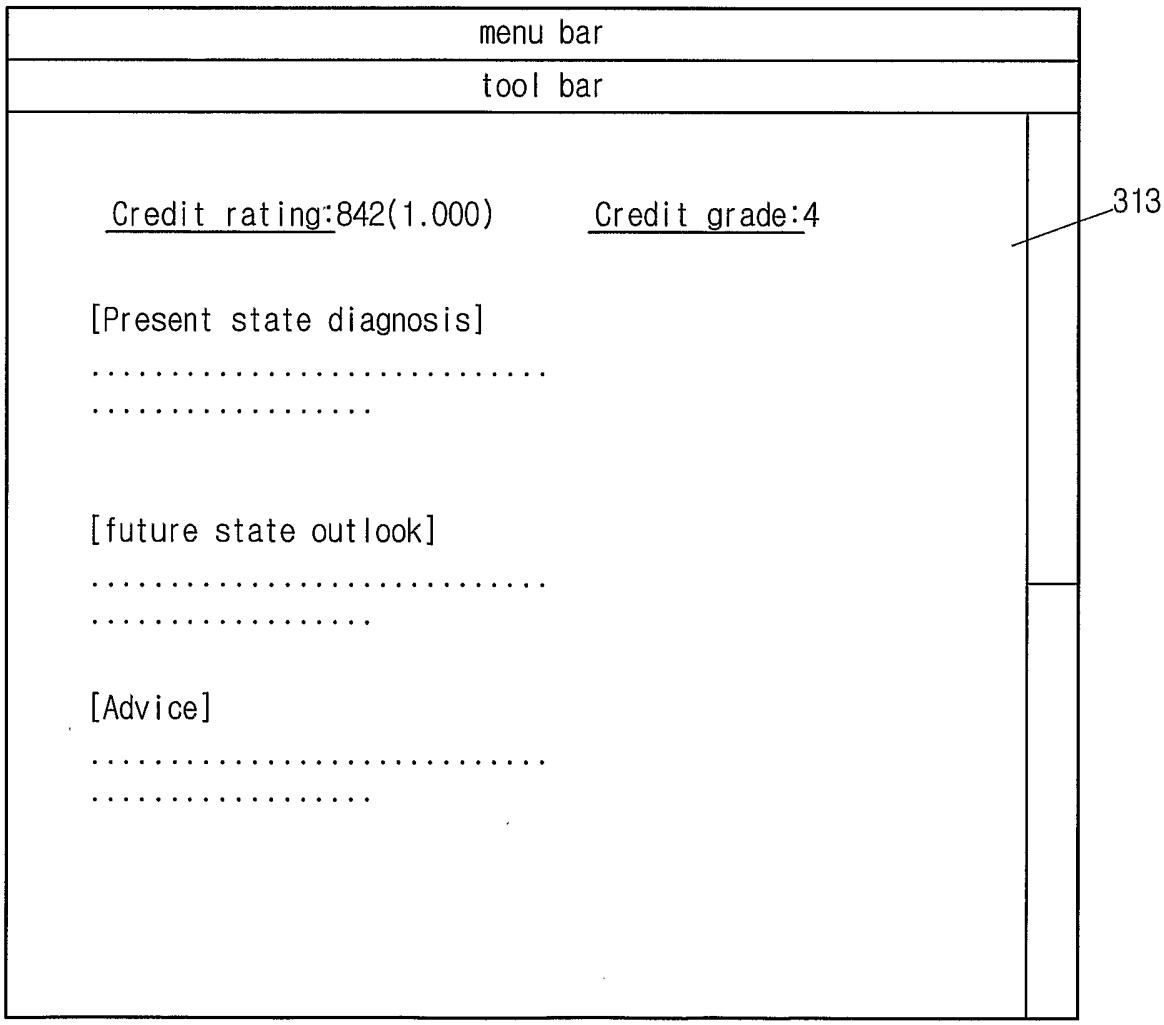

menu bar
tool bar
Loan Transaction
312
Social security number:6XX000-1000XXX
name:XXX
Event
Detail
Institution
Date of Open
Date of Change
Sum
000
....

Fig.9


menu bar
tool bar
Credit rating:842(1.000)
Credit grade:4
313
[Present state diagnosis]
.....
.....
[future state outlook]
.....
.....
[Advice]
.....
.....

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR01/01438

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 G06F 17/60

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G06F 17/00, G06F 19/00, G06F 17/60

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

Electronic data base consulted during the internatnional search (name of data base and, where practicable, search terms used)
WPI, PAJ, IEEE/IEE Electronic Library(Since 1988) "CREDIT INFORMATION MANAGEMENT"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 2001-44814 A (JANG HONG YUL) 5 JUNE 2001 see the whole document	1-4
A	KR 2001-69969 A (CHOI KYU DON) 25 JULY 2001 see the whole document	1-4
A	JP7-311804 A (OGIWARATAMAZO) 28 NOV 1995 see the whole document	1-4

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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

Date of the actual completion of the international search	Date of mailing of the international search report
07 MAY 2002 (07.05.2002)	08 MAY 2002 (08.05.2002)

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