

INTELLIGENT MARKETING ADVERTISING CLASSIFICATION SYSTEM

BACKGROUND

1. Technical Field

[0001] The present disclosure relates to an intelligent marketing advertising classification system, in particular, to an intelligent marketing advertising classification system capable of precisely delivering advertisements.

2. Description of Related Art

[0002] In the prior art, when collecting the information about the target to which advertisements are delivered, data related to personal materials are often collected together. However, the collection of personal data is often improperly exposed to third parties, and the collection of personal data is strictly protected by laws such as Personal Information Protection Act. Therefore, in order to achieve effective advertising goals without involving the advertisers improperly collecting the receiver's personal privacy information, or having concerns about violation of the law, how to precisely delivery advertisements becomes a subject that needs to be improved.

SUMMARY

[0003] The objective of the present disclosure is to provide an intelligent marketing advertising classification system. By collecting usage habits and personal preferences on a mobile device used by a user and them analyzing them, the personal privacy and preferences can be stored only on the user's

own device. In addition, by means of the local mobile device's computing performance analysis and providing accurate advertising in line with the user's preferences, advertisement contents matching the user preference can be precisely delivered to the user through the collection and delivery of the target personal information and the user preference, so that the precise advertisement contents appeal to the user to make the user purchase services or products advertised by the precise advertisement contents, thereby achieving the purpose of intellectual marketing and accurate advertising. Furthermore, by virtue of the de-identified analysis data of the local mobile device, the server will not store user data; and in order to optimize the advertisement content, the user data is removed from the sensitive personal data and personal identification information and then transmitted to the server to assist the producer of the advertisement content to optimize the content of the marketing advertisement.

[0004] According to one exemplary embodiment of the present disclosure, an intelligent marketing advertisement classification system is provided, including a server and at least a local mobile device. The server is configured to transmit a plurality of advertisement contents. The least a local mobile device is configured to receive the plurality of advertisement contents, and includes an advertisement content receiving unit configured to receive the plurality of advertisement contents; an advertisement presenting unit engaged with the advertisement content receiving unit and configured to present classified and matched advertisements; a user preference collecting unit configured to collect usage habits or setting which the user prefers to use on the local mobile device; a user preference analyzing unit engaged with the user

preference collecting unit, and configured to analyze the usage habits or setting and output a user state sorting, a user preference sorting set, and an analysis data; and an analysis data de-identification unit engaged with the user preference analyzing unit, and configured to delete personal data related to the user in the analysis data and transmit the analysis data in which the personal data is deleted to the server. The plurality of advertisement contents are not classified when being transmitted to the local mobile device through the server, and after being received by the local mobile device, the plurality of advertisement contents are precisely classified, and then advertisements corresponding to the classified advertisement contents are presented to the user through the local mobile device.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] FIG. 1 is a schematic diagram illustrating the system connection according to an exemplary embodiment of the present disclosure.

[0006] FIG. 2 is a block diagram illustrating the circuit connection according to an exemplary embodiment of the present disclosure.

[0007] FIG. 3 is a block diagram illustrating the circuit connection of the user habit collecting unit and the user preference analyzing unit according to an exemplary embodiment of the present disclosure.

[0008] FIG. 4 is a block diagram illustrating the circuit connection of the advertisement presenting unit according to an exemplary embodiment of the present disclosure.

[0009] FIG. 5 is a block diagram illustrating the circuit connection of the analysis data de-identification unit according to an exemplary embodiment of the present disclosure.

DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

[0010] Reference will now be made in detail to the exemplary embodiments of the present disclosure, examples of which are illustrated in the accompanying drawings. Wherever possible, the same reference numbers are used in the drawings and the description to refer to the same or like parts.

[0011] The advantages, features and aspects of the present invention will become apparent from the following description of the embodiments with reference to the accompanying drawings, which is set forth hereinafter. The present invention may, however, be embodied in different forms and should not be construed as limited to the embodiments set forth herein. Rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the present invention to those skilled in the art. The terminology used herein is for the purpose of describing particular embodiments only and is not intended to be limiting of example embodiments. As used herein, the singular forms "a," "an," "the" and "at least one" are intended to include the plural forms as well, unless the context clearly indicates otherwise. It will be further understood that the terms "comprises" and/or "comprising," when used in this specification, specify the presence of stated features, integers, steps, operations, elements, and/or components, but do not preclude the presence or addition of one or more other features, integers, steps, operations, elements, components, and/or groups thereof.

[0012] The present disclosure is related to an intelligent marketing advertisement classification system. By installing the intelligent marketing advertisement classification system into a user's local mobile device, personal privacy and preference can be only stored in the user's local mobile device. In addition, by means of the computing performance analysis of the local mobile device, advertisement contents matching the user preference can be precisely delivered to the user, so that the precise advertisement contents appeal to the user to make the user purchase services or products advertised by the precise advertisement contents through the personal information about the collection and delivery target and the user preference without causing unnecessary waste of advertisement resources.

[0013] FIG. 1 is a schematic diagram illustrating the system connection according to an exemplary embodiment of the present disclosure. The intelligent marketing advertisement classification system provided by the present disclosure includes a server 10 and at least one local mobile device 20. The server 10 is configured to transmit a plurality of advertisement contents, and can be a cloud server in practice. The local mobile device 20 is configured to receive the plurality of advertisement contents. In an exemplary embodiment of the present disclosure, the plurality of advertisement contents include a first advertisement content 11, a second advertisement contents 12 and a third advertisement contents 13, but the present disclosure is not limited thereto. Various advertisement contents can be added by the system designer according to practical requirements. In addition, the local mobile device 20 can further include a first local mobile device 20a and a second local mobile device 20b. In

practice, the local mobile device 20 can be smart hand-held devices such as a smart phone or a tablet, and so on.

[0014] In an exemplary embodiment, the first advertisement content 11 can be related to diabetes supplies or diabetes nutritional supplements, the second advertisement content 12 can be related to high blood pressure supplies or high blood pressure nutritional supplements, and the third advertisement content 13 can be related to cardiovascular diseases supplies or nutritional supplements for cardiovascular health. The advertisement contents can be set according to practical requirements. In another exemplary embodiment, the first advertisement content 11, the second advertisement content 12 and the third advertisement content 13 may be related to advertisement contents concerning financial products such as life insurance, medical insurance, domestic and foreign debts or domestic and foreign funds...etc., and any aspect of advertisement content can be covered by the exemplary embodiment disclosed in the present disclosure.

[0015] The advertisement contents are transmitted to the local mobile device 20, a first local mobile device 20a and a second local mobile device 20b through a far-end transmission path a as shown in FIG. 1. Then, the first advertisement content 11, the second advertisement content 12 and the third advertisement content 13, are all received by the local mobile device 20, the first mobile device 20a and the second local mobile device 20b without being classified. The aforementioned three advertisement contents 11, 12, 13 are classified based on the user habit and personal preference of the local mobile device 20 of the user after the local mobile device 20 receives the three

advertisement contents 11, 12, 13. Alternatively, advertisements contents related to the setting state are directly delivered according to the user state, and then the advertisements contents which have been classified are presented by the local mobile device 20.

[0016] For example, if the user of the local mobile device 20 is a user having the problem of cardiovascular diseases and diabetes after the habit collection and preference analysis, only the advertisement contents 11, 12 of the three advertisement contents 11, 12, 13 sent by the server 10 are displayed. Similarly, the first local mobile device 20a shown in FIG. 1 only displays the advertisement contents concerning high blood pressure, and the second local mobile device 20b only displays the advertisement contents concerning high blood pressure and diabetes. Consequently, it can effectively avoid violating the rules of Personal Information Protection and data security due to the personal data collection, in particular, the violation of collecting and storing sensitive information such as personal medical or financial data through a third server. By means of the present disclosure, the aforementioned drawbacks can be improved so as to precisely delivery advertisements.

[0017] Reference is made to FIG. 2, illustrating a block diagram illustrating the circuit connection of the server 10 and the local mobile device 20 according to an exemplary embodiment of the present disclosure. The server 10 includes an advertisement content server 10a and a content optimization management unit 10b which are engaged with each other. The advertisement content server 10a is configured to pre-store, store or to temporarily store the plurality of advertisement contents. The content optimization management unit

10b is configured to receive a de-identified analysis data 76 (shown in FIG. 5) transmitted to the server 10 through a far-end receiving path b by the local mobile device 20, and then to execute optimization management to the de-identified analysis data 76 for the follow-up application of data analysis. The local mobile device 20 includes an advertisement content receiving unit 22, an advertisement presenting unit 30, a user habit collecting unit 40, a user preference analyzing unit 50 and an analysis data de-identification unit 70. The advertisement content receiving unit 22 is configured to receive the plurality of advertisement contents. The advertisement presenting unit 30 is engaged with the advertisement content receiving unit 22 and configured to present classified and matched advertisement contents. The user habit collecting unit 40 is configured to collect the usage habit of the user using the local mobile device 20 in daily life or the self-use setting of the user. The user preference analyzing unit 50 is engaged with the user habit collecting unit 40 and the advertisement presenting unit 30, and is configured to analyze the usage habit or setting and output a user state sorting 55, a user preference sorting set 56 and an analysis data 57. The aforementioned disclosure will be detailed in FIG. 3. The analysis data de-identification unit 70 is engaged with the user preference analyzing unit 50, and is configured to delete personal data related to the user in the analysis data and transmit the analysis data in which the personal data is deleted to the server 10 through the far-end receiving path b by the local mobile device 20.

[0018] The plurality of advertisement contents are not classified when being transmitted to the local mobile device 20 through the server 10; that is, the server 10 transmits the first advertisement content 11, the second

advertisement content 12 and the third advertisement content 13 to the local mobile device 20 without classifying the advertisement contents 11, 12, 13. After the plurality of advertisement contents are received by the local mobile device 20, the plurality of advertisement contents are precisely classified, and then advertisements corresponding to the classified advertisement contents are presented to the user through the local mobile device 20.

[0019] In an exemplary embodiment, the advertisement content receiving unit 22 of the present disclosure includes a communication module 24 which is used to establish a wireless communication transmission between the local mobile 20 and the server 10. The communication module 24 may be a 4G, a 5G, a WiFi or a Bluetooth 4.0 wireless communication module, but the present disclosure is not limited thereto. A display module 31 is disposed in the advertisement presenting unit 30 and configured to drive the local mobile device 20 to display the advertisements corresponding to the classified advertisement contents through a screen.

[0020] FIG. 3 is a block diagram illustrating the circuit connection of the user habit collecting unit 40 and the user preference analyzing unit 50 of the local mobile device 20 according to an exemplary embodiment of the present disclosure. The user habit collecting unit 40 includes a self-setting module 40a, a diurnal average click rate module 41, a weekly average click rate module 43 and a monthly average click rate module 45. The self-setting module 40a is configured to enable the user to set him/her as one of classifications. For example, the self-setting module 40a can be set as the user having the problem of diabetes or of diabetes and high blood pressure according to practical

requirements. The diurnal average click rate module 41, the weekly average click rate module 43 and the monthly average click rate module 45 are configured to collect an average click rate with respect to an item in the local mobile device which is clicked by the user per day, per week and per month, respectively. Namely, the diurnal average click rate module 41 is configured to collect an average click rate with respect to an item in the local mobile device 20 which is clicked by the user per day, the weekly average click rate module 43 is configured to collect an average click rate with respect to an item in the local mobile device 20 which is clicked by the user per week, and the monthly average click rate module 45 is configured to collect an average click rate with respect to an item in the local mobile device 20 which is clicked by the user per month.

[0021] In an exemplary embodiment, the user habit collecting unit 40 further includes a diurnal visiting duration sorting module 42, a weekly visiting duration sorting module 44 and a monthly visiting duration sorting module 46. The diurnal visiting duration sorting module 42, the weekly visiting duration sorting module 44 and the monthly visiting duration sorting module 46 are configured to collect a visiting duration with respect to a website, a webpage, or an APP in the local mobile device which is browsed by the user per day, per week and per month, respectively. That is, the diurnal visiting duration sorting module 42 is configured to collect a visiting duration with respect to an item in the local mobile device 20 which is browsed by the user per day, the weekly visiting duration sorting module 44 is configured to collect a visiting duration with respect to an item in the local mobile device 20 which is browsed by the

user per week, and the monthly visiting duration sorting module 43 is configured to collect a visiting duration with respect to an item in the local mobile device 20 which is browsed by the user per month.

[0022] In addition, in an exemplary embodiment, the user habit collecting unit 40 includes a first logical gate 47, a second logical gate 48 and a third logical gate 49. An input of the first logical gate 47 is engaged with the diurnal average click rate module 41 and the diurnal visiting duration sorting module 42, and is configured to output a first signal 47a. In practice, the first logical gate 47 may be a logical AND Gate or a logical OR Gate, or even a logical Exclusive OR Gate, but the present disclosure is not limited thereto, and the type of the local gate can be designed to flexibly select the logical relationship between the diurnal average click rate module 41 and the diurnal visiting duration sorting module 42 according to practical requirements. An input of the second logical gate 48 is engaged with the weekly average click rate module 43 and the weekly visiting duration sorting module 44, and is configured to output a second signal 48a. Similarly, the second logical gate 48 may be a logical AND Gate or a logical OR Gate, or even a logical Exclusive OR Gate according to system designer needs. An input of the third logical gate 49 is engaged with the monthly average click rate module 45 and the monthly visiting duration sorting module 46, and is configured to output a third signal 49a. Similarly, the third logical gate 49 may be a logical AND Gate or a logical OR Gate, or even a logical Exclusive OR Gate according to system designer needs.

[0023] In FIG. 3, the user preference analyzing unit 50 includes a state setting module 50a, at least one weighted index sorting module (51, 52, 53) and a micro operating unit 54. In an exemplary embodiment, the at least one weighted index sorting module (51, 52, 53) includes a diurnal weighted index sorting module 51, a weekly weighted index sorting module 52 and a monthly weighted index sorting module 53. The diurnal weighted index sorting module 51 is engaged with the first signal 47a of the user habit collecting module 40, for sorting and weighting the collection of the diurnal usage habit, in which the weighting can be adjusted and set according to system designer needs and based on diurnal, weekly or monthly usage habit. The weekly weighted index sorting module 52 is engaged with the second signal 48a of the user habit collecting module 40, for sorting and weighting the collection of the weekly usage habit, in which the weighting can be adjusted and set according to system designer needs. The monthly weighted index sorting module 53 is engaged with the third signal 49a of the user habit collecting module 40, for sorting and weighting the collection of the monthly usage habit, in which the weighting can be adjusted and set according to system designer needs.

[0024] In FIG. 3, the state setting module 50a is engaged with the self-setting module 40a of the user habit collecting module 40, for enabling the user to set him/her as one of classifications, only one type of marketing advertisement, or other special advertisements based on practical requirements. The micro operating unit 54 is engaged with the state setting module 50a, the diurnal weighted index sorting module 51, the weekly weighted index sorting module 52 and the monthly weighted index sorting module 53, and is

configured to execute the user state setting or preference analyzing. After that, the micro operating unit 54 outputs the user preference sorting and the analysis data with respect to the user state sorting 55, the user preference sorting set 56 and the analysis data 57, and then transmits them to the advertisement presenting unit 30 and the analysis data de-identification unit 70 for follow-up process.

[0025] FIG. 4 is a block diagram illustrating the circuit connection of the advertisement presenting unit 30 of the local mobile device 20 according to an exemplary embodiment of the present disclosure. The advertisement presenting unit 30 includes an advertisement content classifying module 32, a first matching unit 33, a second matching unit 34, an adjusting unit 35 and a multiplex adjuster 36. The advertisement content classifying module 32 is configured to receive and then classify the plurality of advertisement contents output by the advertisement content receiving unit 32. The first matching unit 33 is engaged with the advertisement content classifying module 32 and the user state sorting 55 of the user preference analyzing unit 50, and is configured to make the classified marketing advertisement match the user state sorting 55, thereby selecting the marketing advertisement which matches the user state sorting 55. The second matching unit 34 is engaged with the advertisement content classifying module 32 and the user preference sorting 56 of the user preference analyzing unit 50, and is configured to make the classified advertisement match the user preference sorting 56, thereby selecting the marketing advertisement which matches the user preference sorting 56, so as to avoid excessive marketing advertisements or unprecise target. The multiplex

adjuster 36 is engaged with the first matching unit 33, the second matching unit 34 and the adjusting unit 35, and is configured to simultaneously receive the marketing advertisements respectively classified and selected by the first matching unit 33 and the second matching unit 34, and then the marketing advertisements which are more in line with the user habit or requirements are selected through condition adjustment or condition setting of the adjusting unit 35. That is, the adjusting unit 35 of the advertisement presenting unit 30 is provided to enable the system designer or the user of the local mobile device 20 to have a fine turning for the marketing advertisements. Consequently, the function of the internal circuit connection of the advertisement presenting unit 30 of the present disclosure is completed.

[0026] FIG. 5 is a block diagram illustrating the circuit connection of the analysis data de-identification unit 70 of the local mobile device 20 according to an exemplary embodiment of the present disclosure. The analysis data de-identification unit 70 includes a user name module 71, a user account module 72, a user address module 73, a user ID module 74 and a selecting and deleting unit 75, and is configured to output the de-identified analysis data 76, and the de-identified analysis data 76 is transmitted to the server 10 through a far-end receiving path b. The user name module 71 is engaged with the analysis data 57 of the user preference analyzing unit 50, and is configured to collect data with respect to the user name. The user account module 72 is engaged with the analysis data 57 of the user preference analyzing unit 50, and is configured to collect data with respect to the user account. The user address module 73 is engaged with the analysis data 57 of the user preference analyzing unit 50, and

is configured to collect data with respect to the user address. The user ID module 74 is engaged with the analysis data 57 of the user preference analyzing unit 50, and is configured to collect data with respect to the user ID of the user of the local mobile device 20; that is, collection of data associated with user ID. After that, the selecting and deleting unit 75 is simultaneously engaged with the user name module 71, the user account module 72, the user address module 73 and the user ID module 74, and is configured to delete contents of the user name, the user account, the user address and the user ID in the analysis data, and output a de-identified analysis data and transmit the de-identified analysis data to the server 10.

[0027] By virtue of the analysis data de-identification unit 70 of the local mobile device 20, the advertisement content server 10a does not store the user data. However, for optimizing the advertisement contents, the user data is removed from the sensitive personal data and personal identification information and then transmitted to the server 10 to assist the producer of the advertisement content to optimize the content of the marketing advertisement.

[0028] In summary, the intelligent marketing advertisement classification system provided by the present disclosure is applicable to precise marketing advertisement. By means of the collection and delivery of the target personal information through the local mobile device 20 and the user preference, the precise advertisement contents appeal to the user to make the user purchase services or products advertised by the precise advertisement contents. Concerning that certain sensitive information about personal medical or financial data is inappropriate to be collected and stored through a third

server, the present disclosure is provided to enable the user to store personal privacy and preference into the user's mobile device, and by means of the computing performance analysis of the local mobile device 20, advertisement contents matching the user preference can be precisely delivered to the user.

[0029] The above-mentioned descriptions represent merely an exemplary embodiment of the present disclosure, without any intention to limit the scope of the present disclosure thereto. Various equivalent changes, alterations or modifications based on the claims of the present disclosure are all consequently viewed as being embraced by the scope of the present disclosure.

WHAT IS CLAIMED IS:

1. An intelligent marketing advertisement classification system, comprising:

a server configured to transmit a plurality of advertisement contents;

at least a local mobile device configured to receive the plurality of advertisement contents, and comprising:

an advertisement content receiving unit configured to receive the plurality of advertisement contents;

an advertisement presenting unit engaged with the advertisement content receiving unit and configured to present classified and matched advertisements;

a user preference collecting unit configured to collect usage habits or setting which the user prefers to use on the local mobile device;

a user preference analyzing unit engaged with the user preference collecting unit, and configured to analyze the usage habits or setting and output a user state sorting, a user preference sorting set, and an analysis data; and

an analysis data de-identification unit engaged with the user preference analyzing unit, and configured to delete personal data related to the user in the analysis data and transmit the analysis data in which the personal data is deleted to the server;

wherein, the plurality of advertisement contents are not classified when being transmitted to the local mobile device through the server, and after being received by the local mobile device, the plurality of advertisement contents are precisely classified, and then advertisements corresponding to the classified advertisement contents are presented to the user through the local mobile

device.

2. The intelligent marketing advertisement classification system according to claim 1, wherein the plurality of advertisement contents comprise:

a first advertisement content concerning diabetes supplies or diabetes nutritional supplements;

a second advertisement content concerning high blood pressure supplies or high blood pressure nutritional supplements; and

a third advertisement content concerning cardiovascular diseases supplies or nutritional supplements for cardiovascular health.

3. The intelligent marketing advertisement classification system according to claim 1, wherein a communication module is disposed in the advertisement presenting unit and configured to enable the local mobile device to establish a wireless communication transmission with the server; wherein a display module is disposed in the advertisement presenting unit and configured to drive the local mobile device to display the advertisements corresponding to the classified advertisement contents through a screen.

4. The intelligent marketing advertisement classification system according to claim 1, wherein the advertisement presenting unit comprises:

an advertisement content classifying module configured to receive and then classify the plurality of advertisement contents output by the advertisement content receiving unit;

a first matching unit engaged with the advertisement content classifying module and the user state sorting, and configured to make the classified advertisement match the user state sorting, thereby selecting advertisements

which match the user state sorting;

a second matching unit engaged with the advertisement content classifying module and the user preference sorting, and configured to make the classified advertisement match the user preference sorting, thereby selecting advertisements which match the user preference sorting; and

a multiplex adjuster engaged with the first matching unit, the second matching unit and an adjusting unit, and configured to simultaneously receive advertisement contents respectively classified and selected by the first matching unit and the second matching unit, and then advertisement contents which are more in line with the user habit or requirements are selected through condition adjustment or condition setting of the adjusting unit.

5. The intelligent marketing advertisement classification system according to claim 1, wherein the user habit collecting unit comprises:

a self-setting module configured to enable the user to set him/her as one of classifications;

a diurnal average click rate module configured to collect an average click rate with respect to an item in the local mobile device which is clicked by the user per day;

a weekly average click rate module configured to collect an average click rate with respect to an item in the local mobile device which is clicked by the user per week; and

a monthly average click rate module configured to collect an average click rate with respect to an item in the local mobile device which is clicked by the user per month.

6. The intelligent marketing advertisement classification system according to claim 5, wherein the user habit collecting unit further comprises:

a diurnal visiting duration sorting module configured to collect a visiting duration with respect to an item in the local mobile device which is browsed by the user per day;

a weekly visiting duration sorting module configured to collect a visiting duration with respect to an item in the local mobile device which is browsed by the user per week; and

a monthly visiting duration sorting module configured to collect a visiting duration with respect to an item in the local mobile device which is browsed by the user per month.

7. The intelligent marketing advertisement classification system according to claim 6, wherein the user habit collecting unit further comprises:

a first logical gate, wherein an input of the first logical gate is engaged with the diurnal average click rate module and the diurnal visiting duration sorting module, and configured to output a first signal;

a second logical gate, wherein an input of the second logical gate is engaged with the weekly average click rate module and the weekly visiting duration sorting module, and configured to output a second signal; and

a third logical gate, wherein an input of the third logical gate is engaged with the monthly average click rate module and the monthly visiting duration sorting module, and configured to output a third signal.

8. The intelligent marketing advertisement classification system according to claim 1, wherein the user preference analyzing unit comprises:

a state setting module engaged with the user habit collecting module and configured to enable the user to set a self-classification or a special state;

at least one weighted index sorting module engaged with the user habit collecting unit and configured to collect, classify and weight user habits; and

a micro operating unit engaged with the state setting module and the at least one weighted index sorting module, and configured to execute the user state setting or preference analyzing, and output the user state sorting, the user preference sorting and the analysis data.

9. The intelligent marketing advertisement classification system according to claim 8, wherein the at least one weighted index module in the user preference analyzing unit further comprises:

a diurnal weighted index sorting module engaged with the user habit collecting unit and configured to weight a habit of the user using the local mobile device per day;

a weekly weighted index sorting module engaged with the user habit collecting unit and configured to weight a habit of the user using the local mobile device per week; and

a monthly weighted index sorting module engaged with the user habit collecting unit and configured to weight a habit of the user using the local mobile device per month.

10. The intelligent marketing advertisement classification system according to claim 1, wherein the analysis data de-identification unit comprises:

a user name module engaged with the analysis data and configured to

collect data with respect to the user name;

a user account module engaged with the analysis data and configured to collect data with respect to the user account;

a user address module engaged with the analysis data and configured to collect data with respect to the user address;

a user ID module engaged with the analysis data and configured to collect data with respect to the user ID; and

a selecting and deleting unit engaged with the user name module, the user account module, the user address module and the user ID module, and configured to delete contents of the user name, the user account, the user address and the user ID in the analysis data, and output a de-identified analysis data and transmit the de-identified analysis data to the server.