

CLAIMS

1. An authentication and settlement system using mobile terminal, comprising:
 - an application downloaded from a server (5) of a management company including at least a program for executing authentication and producing credit information for settlement, an ID map address and a user number;
 - a first input device (40-50, 73, 74) for inputting the ID information;
 - a conversion device (51, 52) for converting the ID information into authentication ID by the application;
 - an authentication device (52, 53, 61-63, 65, 66) for authenticating the authentication ID by the application;
 - a first transmission device (70) for transmitting a user number and credit information indicated on a net card to the server;
 - a second input device (75) for inputting the user number;
 - a second transmission device (76) for transmitting the user number and a dealer number registered in the management company to the server;
 - a third transmission device (77, 78, 80) for transmitting the credit information to a dealer terminal when the user numbers received from the first and second transmission devices are checked and accord with each other; and
 - a settlement unit for executing processing for settlement of the amount to be paid by the user on the basis of the credit information; and further comprising:
 - wherein, further comprising:
 - a user mobile terminal (3) including the first input device, conversion device, the authentication device and the first transmission device;

the server (5) including the third transmission device; and
the dealer terminal (6) including the second input device, the second transmission device and the settlement device.

2. A system according to Claim 1, wherein the first input device is a camera equipped for the user mobile terminal to take a picture of an ID pattern printed on the net card issued by the management company to the user.

3. A system according to Claim 1, wherein the first input device is a sign input device (74) in the user mobile terminal for inputting a predetermined password.

4. A system according to Claim 2, wherein the first input device further including a sign input device in the user mobile terminal for inputting a predetermined password to select one of the camera and the sign input device.

5. A system according to Claim 1, wherein the conversion device reads an ID bit data and the ID map address in response to the input of the ID information to convert the ID bit data to the authentication ID on the basis of the ID map address.

6. A system according to Claim 1, wherein
the application downloaded includes the authentication ID of the user previously registered in the server, and
the authentication device compares the authentication ID converted by the conversion device with the authentication ID included in the application to conduct the authentication.

7. A system according to claim 1, wherein the authentication device transmits the converted authentication ID and the user number to the server, receives result obtained by comparing the received authentication ID and user number with the authentication ID and user number registered in the server, and judges success of the authentication based on the result.

8. A system according to Claim 1, wherein the credit information transmitted from the third transmission device is credit information of a credit card which the user selects one of credit information of a plurality of credit cards previously set and indicated on the net card.

9. A system according to Claim 1, wherein
the settlement unit has a transaction completion notice unit (86) for transmitting to the server a transaction completion notice that the settlement execution is finished, and
the server has a transaction history data portion (8, 9) for recording and accumulating the transaction completion notice received from the transaction completion notice unit as settlement history information.

10. A system according to Claim 9, wherein the transaction history data portion has a recording unit for recording the settlement history information to a user transaction history data portion (8) and a dealer transaction history data portion (9), respectively.

11. A system according to Claim 10, wherein the settlement history information is made accessible by accessing the user transaction history data portion from the user mobile terminal.

12. A system according to Claim 10, wherein the settlement history information is made accessible by accessing the dealer transaction history data portion from the dealer terminal.

13. A system according to Claim 9, wherein the server has a notice unit (87) for informing the transaction completion notice to the user mobile terminal when the server receives the transaction completion notice from the dealer terminal, and the user mobile terminal has a settlement display device (88) for displaying the settlement completion notice when the user mobile terminal receives the settlement completion notice.

14. A system according to Claim 1, wherein the user mobile terminal is a smartphone.

15. A system according to Claim 1, wherein the dealer terminal is a smartphone or a personal computer.

16. A system according to Claim 1, wherein the settlement unit can function only after the authentication succeeds in the authentication device.

17. An authentication device in a mobile terminal of a user comprising:

an application, downloaded from a management company, including a program for executing an authentication, an ID bit data, and ID map addresses for addressing a plurality of positions in the ID bit data; and

a first input device for inputting a password;

wherein the application converts the ID bit data to an authentication ID on the basis of the ID map addresses in response to input of the password from the first input device.

18. An authentication device according to Claim 17, further comprising:
a second input device including a camera (4) for taking a picture of an ID pattern shown on a net card issued by the management company to the user; and
a memory (48, 49) for storing an ID bit data extracted from the ID pattern,
wherein the application converts the ID bit data read from the memory to the authentication ID on the basis of the ID map addresses, in order to select and use one of the first and second input devices.

19. An authentication and settlement method by using mobile terminal, after a user and a dealer agree on goods and price, comprising steps of that:
a user mobile terminal of the user converts ID information to an authentication ID and transmits a user number and credit information to a server, when the authentication based on the authentication ID succeeds
the server stores the user number and the credit information in a memory in the server and be in standby state;
after a user number of the user is inputted to a dealer terminal of the dealer, the dealer terminal transmits the inputted user number and a dealer number of the dealer registered in the server to the server;
the server compares the user number and the dealer number transmitted from the dealer terminal with the user number stored in the memory and the dealer number registered in the server, respectively, and transmits the credit information to the dealer terminal, if they accord each other;
the dealer terminal executes settlement processing on the basis of the credit information from the server and informs to the server of a notice of settlement completion;
and

the server registers a settlement processing data in a transaction history data portion as transaction history data on the basis of the settlement completion notice from the dealer terminal.

20. A user mobile terminal to which an application including a program for authentication and ID map address is downloaded from a server of a management company, the user mobile terminal comprising:

- an input device for inputting ID information;

- a conversion device for producing an authentication ID on the basis of the ID information and the ID map address;

- an authentication device for executing operation for authentication on the basis of the authentication ID and the program; and

- a transmission device for transmitting a user number registered in a server of the management company and credit information for using for settlement to the server to execute credit card transaction.

21. A server of a management company, comprising:

- a database for registering user information including an ID bit data using for authentication, an authentication ID, a user number and credit information of a user, and dealer information including a dealer number of a dealer;

- an authentication device for executing a personal authentication of the user when the authentication device receives the user number and the authentication ID from a user mobile terminal;

- a first transmission device for transmitting a result of the personal authentication to the user mobile terminal;

a memory for temporarily storing therein the user number and the credit information received from the user mobile terminal authenticated by the authentication device to be a standby state;

a second transmission device for transmitting the credit information to a dealer terminal when the user number received from the user mobile terminal are checked and coincides; and

a transaction history data portion for registering a history data of transaction completion at a time of receiving a transaction completion notice from the dealer terminal.

CLAIMS

1. A user mobile terminal having wireless communication means and display means, the user terminal comprising:
 - a memory for storing an application including a program for authentication, ID bit data and ID map address, the application being downloaded for only the user mobile terminal from a server of a management company;
 - an input device for inputting a password;
 - a conversion device, in response to input of the password, for converting the ID bit data to an authentication ID different from the password by addressing a plurality of bits in the ID bit data by the ID map address according to the program;
 - an authentication device for executing authentication on the basis of the authentication ID and the program; and
 - a transmission device in the wireless communication means for transmitting, after the authentication device judges success of the authentication, a user number previously registered in a server of the management company and credit information for using for settlement to the server to execute credit transaction at a dealer terminal by using the credit information received from the server.
2. The user mobile terminal according to Claim 1, wherein
 - the application downloaded includes a user authentication ID of the user previously registered in the server, and
 - the authentication device compares the authentication ID converted by the conversion device with the user authentication ID included in the application to conduct the authentication.
3. The user mobile terminal according to claim 1 or 2, wherein the authentication device transmits the converted authentication ID and the user number to the server, receives result obtained by comparing, in the server, the received authentication ID and the user number received from the authentication device with the authentication ID and the user number registered in the server,

and judges success of the authentication based on the result.

4. The user mobile terminal according to any one of the preceding Claims, wherein the credit information transmitted from the transmission device is credit information of a credit card which the user selects one of credit information of a plurality of credit cards previously registered in the server.

5. The user mobile terminal according to any one of the preceding Claims, wherein the user mobile terminal is a smartphone.

6. An authentication and settlement system using the user mobile terminal according to any one of the preceding Claims, wherein

the dealer terminal has a transaction completion notice unit for transmitting to the server a transaction completion notice that the settlement execution is finished,

the server has a transaction history data portion for recording and accumulating the transaction completion notice received from the dealer terminal as settlement history information, and the transaction history data portion has a recording unit for recording the settlement history information to a user transaction history data portion and a dealer transaction history data portion, respectively, and the user mobile terminal is able to access the user transaction history data portion.

7. The authentication and settlement system according to Claim 6, wherein the server has a notice unit for informing the transaction completion notice to the user mobile terminal when the server receives the transaction completion notice from the dealer terminal, and the user mobile terminal has a settlement display device for displaying the settlement completion notice when the user mobile terminal receives the settlement completion notice.

8. The authentication and settlement system according to Claim 6 or 7, wherein the dealer terminal can execute the settlement only after the authentication succeeds in the authentication device.

9. An authentication and settlement system using the user mobile terminal according to any one of claims 1 to 5, the server comprising:

- a database for registering user information including the authentication ID, the user number and the credit information of the user, and dealer information including a dealer number of a dealer;

- an authentication unit for executing a personal authentication of the user when the authentication unit receives the user number and the authentication ID from a user mobile terminal;

- a first transmission device for transmitting a result of the personal authentication to the user mobile terminal;

- a memory for temporarily storing therein the user number and the credit information received from the user mobile terminal authenticated by the authentication device to be in a standby state;

- a second transmission device for transmitting the credit information stored in the memory to a dealer terminal when the dealer number and the user number are received from the dealer terminal and when the user number received from the dealer terminal is compared and coincides with the user number stored in the memory; and

- a transaction history data portion for registering a history data of transaction completion at a time of receiving a transaction completion notice from the dealer terminal.

10. The authentication and settlement system according to claim 6, wherein the dealer terminal to which a program for executing settlement and a dealer number registered in a server

are downloaded from the server of the management company, the dealer terminal comprising:

- an input device for inputting a user number of a user registered in the server, after a dealer and the user agree on a business transaction;

- a first transmission device for transmitting the user number of the user and the dealer number to the server;

- a settlement processing unit for executing a credit card transaction with a credit company in accordance with the program when the dealer terminal receives the credit information of the user relating to the credit company transmitted from the server in response to the transmission of the user number and the dealer number from the first transmission device; and

- a second transmission device for transmitting a settlement completion notice to the server when settlement processing is completed.

11. An authentication and settlement method by using a mobile terminal, after a user and a dealer agree on goods and price, the method comprising the steps of:

- converting, by a user mobile terminal of the user, ID bit data to an authentication ID addressing a plurality of bits in the ID bit data by an ID map address, and transmitting a user number stored in a server and credit information to the server, when the authentication based on the authentication ID succeeds at the mobile terminal or at the server;

- storing, by the server, the user number and the credit information in a memory in the server and being in standby state;

- after the user number of the user is inputted to a dealer terminal of the dealer, transmitting, by the dealer terminal, the inputted user number and a dealer number of the dealer registered in the server to the server;

- comparing, by the server, the user number and the dealer number transmitted from the dealer terminal with the user number stored in the memory and the dealer number registered in the server, respectively, and transmitting the credit

information to the dealer terminal, if they accord each other;

executing, by the dealer terminal, settlement processing on the basis of the credit information from the server and informing the server of a notice of settlement completion; and

registering, by the server, a settlement processing data in a transaction history data portion as transaction history data on the basis of the settlement completion notice from the dealer terminal.