【CLAIMS】

【Claim 1】

A mobile authentication and registration method performed in a portable user device, the method comprising:

receiving member information on a member's personal information other than the mobile phone number from a user;

extracting a phone number of the portable user device without user input;

transmitting membership information and the phone number to an authentication server;

receiving a self-verification number, which is a result of performing self-verification with the membership information, from the authentication server;

extracting unique user identifiers (UUID) of an application (app) installed on the portable user device;

transmitting the extracted UUID of the app, the extracted phone number, and the received self-verification number to a service server; and

receiving a self-verification number checking result, which is obtained by transmitting the self-verification number and the phone number received by the service server to the authentication server, from the service server.

【Claim 2】

The mobile authentication and registration method of claim 1, wherein the extracting of the phone number comprises:

transmitting a short message service (SMS) message including a server authentication number, which is generated by the app to authenticate the portable device, to an SMS server;

requesting the phone number of the portable user device by transmitting the server authentication number stored in the portable user device to the service server (which receives the phone number of the portable user device and the server authentication number from the SMS server and stores the received phone number and server authentication number); and

receiving the phone number from the service server.

【Claim 3】

A transaction authentication method performed by a service server after mobile authentication and registration of claim 1, the method comprising:

receiving a transaction approval request including membership information from a franchise device;

comparing the received membership information with stored membership information and transmitting an application (app) execution request to a portable user device corresponding to the membership information;

receiving unique user identifiers (UUID) of the app from the portable user device receiving the app execution request; and

comparing the received UUID with an app UUID included in the stored membership information and performing a payment when the received UUID coincides with the app UUID.

【Claim 4】

A mobile authentication system comprising:

a service server configured for the portable authentication, possession authentication, user authentication to receive automatically extracted phone numbers without user input and membership information about a member's personal information entered by the user directly into an app installed on the user's mobile device(excluding the mobile phone number) from a portable user device, request self-verification from an authentication server using a phone

number included in the membership information, receive a self-verification number as a result of the self-verification request, and transfer the self-verification number to the portable user device, and

configured for application (app) authentication of the app that can prevent illegal copying and forgery of the app to receive app unique user identifiers (UUID), a phone number, and the self-verification number from the portable user device, transfer the app UUID, the phone number, and the self-verification number to the authentication server together with the phone number, and, when authentication succeeds, performs membership registration and transfer a notification that self-verification has been finished to the portable user device; and

the authentication server configured for self-verification to perform subscriber checking by requesting subscription verification from a communication service provider according to the self-verification request of the service server, generate a self-verification number according to a result of the subscriber checking, store the self-verification number together with the phone number, and transmit the self-verification number to the service server, and configured for app authentication to compare the self-verification number and the phone number received from the service server with the stored self-verification number and phone number and transfer a result of checking app authentication to the service server.

【Claim 5】

The mobile authentication system of claim 4, further comprising a short message service (SMS) server configured to receive an SMS message including a server authentication number from the portable user device and transfer the server authentication number to the service server together with the phone number of the portable user device.

【Claim 6】

The mobile authentication system of claim 4, wherein the service server receives a payment request including the phone number of the portable user device from a franchise device, transmits an app execution request to the portable user device corresponding to the phone number, compares, when the app UUID is received from the portable device, the received app UUID with an app UUID corresponding to the stored membership information, and makes a payment when the received app UUID coincides with the app UUID.

【Claim 7】

A method of performing user authentication in a service server using a portable device of a user and an authentication server, the method comprising:

receiving membership information including a phone number from the portable device for the portable authentication, possession authentication, user authentication to receive automatically extracted phone numbers without user input and membership information about a member's personal information entered by the user directly into an app installed on the user's mobile device(excluding the mobile phone number) from a portable user device, request self-verification from an authentication server using a phone number included in the membership information, receive a self-verification number as a result of the self-verification request, and transfer the self-verification number to the portable user device,) transmitting a subscriber checking request to the authentication server together with the phone number;

receiving a self-verification number from the authentication server and transmitting the self-verification number to the portable device;

receiving unique user identifiers (UUID) of an app installed on the portable device, a phone number of the portable device, and the self-verification number from the portable device and transferring the UUID, the phone number, and the self-verification number to the

authentication server together with a self-verification checking request; and

transmitting an authentication check result received from the authentication server to the portable device.

【Claim 8】

An authentication service server comprising:

an authentication information transceiver unit configured to receive for the portable authentication, possession authentication, user authentication to receive automatically extracted phone numbers without user input and membership information about a member's personal information entered by the user directly into an app installed on the user's mobile device(excluding the mobile phone number) from a portable user device, receive a self-verification number as an authentication result based on the membership information from an authentication server by transmitting the membership information to the authentication server, transmit the received self-verification number to the portable device, and receive unique user identifiers (UUID) of an application (app) installed on the portable device, a phone number of the portable device, and a self-verification number stored in the portable device from the portable device;

a membership information storage unit configured to store the membership information including the phone number and received by the authentication information transceiver unit, the self-verification number, and the UUID; and

an authentication unit configured to perform authentication in a payment step by comparing an app UUID received together with a payment approval request from the portable device with the UUID stored in the membership information storage unit.

【Claim 9】

The authentication service server of claim 8, wherein the authentication unit performs app authentication by comparing the self-verification number received from the

portable user device with the self-verification number received and stored from the authentication server.