[26] And, even if the smart mobile is lost or a stranger acquiring this are misappropriating, cryptography such as patterns cannot be solved thereby it is not available.

[27] Further, carrying is easy to use anywhere regardless of the place because the transaction is available using a flash equipped to the smart mobile.

[28] Other effects of the present invention are understood through features of the present invention, are known from examples of the present invention, and are demonstrated by means shown in claims and combination thereof.

Brief Description of Drawings

[29] FIG. 1 is a perspective view of an embodiment of the authentication system using a flash of a smart mobile according to the present invention.

[30] FIG. 2 is a block diagram illustrating a state of adding a recognition module and a selection module.

[31] FIG. 3 is a flow chart of an embodiment of the authentication method using a flash of a smart mobile according to the present invention.

[32] 100: Authentication system using flash of smart mobile

[33] 110: Smart mobile

[34] 120: Light receiver

[35] 130: Authentication server

[36] 140: Recognition module

[37] 150: selection module

[38] S100: Method of authentication using flash of smart mobile

[39] S110: Step of emitting

[40] S120: Step of light receiving

[41] 5130: Step of authenticating

[42] S140: Step of recognizing

[43] S150: Step of selecting

Mode for the Invention

[44] The following specifications of the present invention are referring to accompanying drawings which illustrate a specific example implementing the present invention. These embodiments are described in more detail enough to let those skilled in the art implement the present invention. The various embodiments of the present invention are different to each other, however, it is understood that those are not exclusive each other. For example, specific forms, structures and features described herein may be achieved in other embodiments without departing from the spirits and the scopes of the technology concept of the present invention. Further, the location and arrangement of each element in each embodiment described herein may be modified without departing from the concepts and the scopes of the present invention. Therefore, the following

Claims

[Claim 1] An authentication system comprising:
a smart mobile terminal having a flash which emits light;
a light receiver receiving the light emitted from the smart mobile terminal and to data; and
an authentication server generating authentication information from the data received from the light receiver and transmitting the authentication information to the smart mobile terminal,
wherein the light emitted from the smart mobile terminal is for one-time use such that the light is used as a one-time password that is discarded after the light is used to generate the authentication information, and
wherein a speed and a number of light emission from the flash of the smart mobile terminal are controlled such that light is emitted differently each time when the light is emitted from the flash of the smart mobile terminal for authentication.

[Claim 2] The authentication system of claim 1, further comprising:
a recognition module recognizing the light convertible to the data among a plurality of lights emitted from the smart mobile terminal such that the recognized light is received by the light receiver,
wherein the plurality of lights comprise light used for capturing a picture or a moving picture or light used for lighting up a dark place.

[Claim 3] The authentication system of claim 1, further comprising:
a selection module selecting the light emitted from the smart mobile terminal among a plurality of lights comprising lights emitted from sources other than the smart mobile terminal.

[Claim 4] The authentication system of claim 1, wherein an emission range of the light emitted from the smart mobile terminal is controllable.

[Claim 5] The authentication system of claim 1, wherein an emission distance of the light emitted from the smart mobile terminal is controllable.

[Claim 6] The authentication system of claim 1, wherein the light receiver is associated with one of a credit card, a bank or a member store.

[Claim 7] The authentication system of claim 1, wherein the authentication server is applicable to an authentication for a transaction or an authentication for a person.

[Claim 8] A method of authentication using a flash of a smart mobile terminal, the method comprising:

emitting light, by the flash;

receiving, by a light receiver, the light emitted from the smart mobile terminal and converting the received light to data; and

receiving, by an authentication server the data from the light receiver; and

generating, by the authentication server, authentication information from the received data and transmitting the authentication information to the smart mobile terminal,

wherein the light emitted from the smart mobile terminal is for one-time use such that the light is used as a one-time password that is discarded after the light is used to generate the authentication information, and

wherein a speed and a number of light emission from the flash of the smart mobile terminal are controlled such that light is emitted differently each time when the light is emitted from the flash of the smart mobile terminal for authentication.

[Claim 9] The method of claim 8, further comprising:

recognizing the light convertible to the data among a plurality of lights emitted from the smart mobile terminal such that the recognized light is received by the light receiver,

wherein the plurality of lights comprise light used for capturing a picture or moving picture or light used for lighting up a dark place.

[Claim 10] The method of claim 8, further comprising:

selecting the light emitted from the smart mobile terminal among a plurality of lights emitted from sources other than the smart mobile.

[Claim 11] An authentication system comprising:

a smart mobile terminal having a flash which emits light;

a light receiver receiving the light emitted from the smart mobile terminal and converting the received light to data;

an authentication server generating authentication information from the data received from the light receiver and transmitting the authentication information to the smart mobile terminal;

a recognition module recognizing the light convertible to the data among a plurality of lights emitted from the smart mobile terminal such that the recognized light is received by the light receiver; and

a selection module selecting the light emitted from the smart mobile terminal among a plurality of lights comprising lights emitted from sources other than the smart mobile terminal.