

and one reference image region corresponding to the image region as the authentication target in a plurality of previously stored reference image regions read from respective surfaces of a plurality of target objects, and authenticating means that executes authentication in response to the authentication request based on the identified position.

[0006]

Further, an invention described in Claim 2 is the authenticating apparatus described in Claim 1, wherein the identifying means identifies a position in the one reference image region corresponding to the image region as the authentication target in the plurality of reference image regions.

[0007]

Further, an invention described in Claim 3 is the authenticating apparatus described in Claim 2, further including authentication request determining means that determines whether or not the authentication request is valid based on whether or not the identified position in the reference image region is included in a used image region including a position identified in past for the reference image region by the identifying means, wherein, if the authentication determining means has determined that the authentication request is not valid, the authenticating means determines authentication failure in response to the authentication request.

[0008]

Further, an invention described in Claim 4 is the authenticating apparatus described in Claim 3, wherein, if the authentication request determining means has determined a predetermined number of times that authentication request received from the same user by the receiving means is valid, the authenticating means determines authentication success in response to the authentication request received from the user.

[0009]

Further, an invention described in Claim 5 is the authenticating apparatus described in Claim 3 or 4, further including registering means that registers identification information to be linked to each of at least parts of the plurality of reference image regions, wherein the receiving means receives identification information together with the authentication request, and wherein the authentication request determining means determines whether or not the

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[Claim 1]

An authenticating apparatus comprising:

receiving means that receives an image region as an authentication target read from a surface of a target object possessed by a user together with an authentication request from the user;

identifying means that identifies a position corresponding to the image region as the authentication target and one reference image region corresponding to the image region as the authentication target in a plurality of previously stored reference image regions read from respective surfaces of a plurality of target objects; and

authenticating means that executes authentication in response to the authentication request based on the identified position.

[Claim 2]

The authenticating apparatus described in Claim 1, wherein the identifying means identifies a position in the one reference image region corresponding to the image region as the authentication target in the plurality of reference image regions.

[Claim 3]

The authenticating apparatus described in Claim 2, further comprising authentication request determining means that determines whether or not the authentication request is valid based on whether or not the identified position in the reference image region is included in a used image region including a position identified in past for the reference image region by the identifying means,

wherein, if the authentication determining means has determined that the authentication request is not valid, the authenticating means determines authentication failure in response to the authentication request.

[Claim 4]

The authenticating apparatus described in Claim 3, wherein, if the authentication request determining means has determined a predetermined number of times that the authentication request received from the same user by the receiving means is valid, the authenticating means determines authentication success in response to the authentication

authentication request transmitted,

identifying means that identifies a position corresponding to the image region as the authentication target and one reference image region corresponding to the image region as the authentication target in a plurality of previously stored reference image regions read from respective surfaces of a plurality of target objects, and

authenticating means that executes authentication in response to the authentication request based on the identified position.

[Claim 14]

A program for causing a computer to function as:

receiving means that receives an image region as an authentication target read from a surface of a target object possessed by a user together with an authentication request from the user;

identifying means that identifies a position corresponding to the image region as the authentication target and one reference image region corresponding to the image region as the authentication target in a plurality of previously stored reference image regions read from respective surfaces of a plurality of target objects; and

authenticating means that executes authentication in response to the authentication request based on the identified position.

[Claim 15]

A storage medium storing a program for causing a computer to function as:

receiving means that receives an image region as an authentication target read from a surface of a target object possessed by a user together with an authentication request from the user;

identifying means that identifies a position corresponding to the image region as the authentication target and one reference image region corresponding to the image region as the authentication target in a plurality of previously stored reference image regions read from respective surfaces of a plurality of target objects; and

authenticating means that executes authentication in response to the authentication request based on the identified position.

[Claim 16]

An authenticating method comprising:

a step of receiving an image region as an authentication target read from a surface of a target object possessed by a user together with an authentication request from the user;

a step of identifying a position corresponding to the image region as the authentication target and one reference image region corresponding to the image region as the authentication target in a plurality of previously stored reference image regions read from respective surfaces of a plurality of target objects; and

a step of executing authentication in response to the authentication request based on the identified position.

and one reference image region corresponding to the image region as the authentication target in a plurality of previously stored reference image regions read from respective surfaces of a plurality of target objects, and authenticating means that executes authentication in response to the authentication request based on the identified position.

[0006]

Further, an invention described in Claim 2 is the authenticating apparatus described in Claim 1, wherein the identifying means identifies a position in the one reference image region corresponding to the image region as the authentication target in the plurality of reference image regions.

[0007]

Further, an invention described in Claim 3 is the authenticating apparatus described in Claim 2, further including authentication request determining means that determines whether or not the authentication request is valid based on whether or not the identified position in the reference image region is included in a used image region including a position identified in past for the reference image region by the identifying means, wherein, if the authentication request determining means has determined that the authentication request is not valid, the authenticating means determines authentication failure in response to the authentication request.

[0008]

Further, an invention described in Claim 4 is the authenticating apparatus described in Claim 3, wherein, if the authentication request determining means has determined a predetermined number of times that authentication request received from the same user by the receiving means is valid, the authenticating means determines authentication success in response to the authentication request received from the user.

[0009]

Further, an invention described in Claim 5 is the authenticating apparatus described in Claim 3 or 4, further including registering means that registers identification information to be linked to each of at least parts of the plurality of reference image regions, wherein the receiving means receives identification information together with the authentication request, and wherein the authentication request determining means determines whether or not the

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[Claim 1]

An authenticating apparatus comprising:

receiving means that receives an image region as an authentication target read from a surface of a target object possessed by a user together with an authentication request from the user;

identifying means that identifies a position corresponding to the image region as the authentication target and one reference image region corresponding to the image region as the authentication target in a plurality of previously stored reference image regions read from respective surfaces of a plurality of target objects; and

authenticating means that executes authentication in response to the authentication request based on the identified position.

[Claim 2]

The authenticating apparatus described in Claim 1, wherein the identifying means identifies a position in the one reference image region corresponding to the image region as the authentication target in the plurality of reference image regions.

[Claim 3]

The authenticating apparatus described in Claim 2, further comprising authentication request determining means that determines whether or not the authentication request is valid based on whether or not the identified position in the reference image region is included in a used image region including a position identified in past for the reference image region by the identifying means,

wherein, if the authentication request determining means has determined that the authentication request is not valid, the authenticating means determines authentication failure in response to the authentication request.

[Claim 4]

The authenticating apparatus described in Claim 3, wherein, if the authentication request determining means has determined a predetermined number of times that the authentication request received from the same user by the receiving means is valid, the authenticating means determines authentication success in response to the authentication

authentication request transmitted,

identifying means that identifies a position corresponding to the image region as the authentication target and one reference image region corresponding to the image region as the authentication target in a plurality of previously stored reference image regions read from respective surfaces of a plurality of target objects, and

authenticating means that executes authentication in response to the authentication request based on the identified position.

[Claim 14]

A program for causing a computer to function as:

receiving means that receives an image region as an authentication target read from a surface of a target object possessed by a user together with an authentication request from the user;

identifying means that identifies a position corresponding to the image region as the authentication target and one reference image region corresponding to the image region as the authentication target in a plurality of previously stored reference image regions read from respective surfaces of a plurality of target objects; and

authenticating means that executes authentication in response to the authentication request based on the identified position.

[Claim 15]

An authenticating method comprising:

a step of receiving an image region as an authentication target read from a surface of a target object possessed by a user together with an authentication request from the user;

a step of identifying a position corresponding to the image region as the authentication target and one reference image region corresponding to the image region as the authentication target in a plurality of previously stored reference image regions read from respective surfaces of a plurality of target objects; and

a step of executing authentication in response to the authentication request based on the identified position.