~~CLAIMS~~

~~1. A determination system comprising:~~

~~a projection control unit that controls a projection unit to project a random marker within an angle of view of an imaging unit;~~

~~an acquisition unit that obtains an image of a target person including the marker from the imaging unit; and~~

~~a determination unit that determines whether or not the target person imaged by the imaging unit is a living body on the basis of a state of the marker included in the image.~~

~~2. The determination system according to claim 1, wherein the determination unit determines whether or not the target person imaged by the imaging unit is a living body on the basis of at least one of a position, an angle, and a size of the marker in the image.~~

~~3. The determination system according to claim 1 or 2, wherein the determination unit gives a notice indicating that spoofing is performed when it is determined that the target person imaged by the imaging unit is not a living body.~~

~~4. The determination system according to any one of claims 1 to 3, wherein the projection control unit allows the marker to be projected in a background part of the target person.~~

~~5. The determination system according to any one of claims 1 to 3, wherein the projection control unit allows the marker to be projected so as to at least partially overlap the target person.~~

~~6. The determination system according to any one of claims 1 to 5, wherein the projection control unit allows the marker to be projected with invisible light.~~

~~7. The determination system according to any one of claims 1 to 6, wherein~~

~~the acquisition unit obtains a plurality of temporally continuous images from the imaging unit, and~~

~~the determination unit determines whether or not the target person imaged by the imaging unit is a living body on the basis of a state of the marker included in the plurality of images.~~

~~8. A determination method comprising:~~

~~controlling a projection unit to project a random marker within an angle of view of an imaging unit;~~

~~obtaining an image of a target person including the marker from the imaging unit; and~~

~~determining whether or not the target person imaged by the imaging unit is a living body on the basis of a state of the marker included in the image.~~

~~9. A computer program that operates a computer:~~

~~to control a projection unit to project a random marker within an angle of view of an imaging unit;~~

~~to obtain an image of a target person including the marker from the imaging unit; and~~

~~to determine whether or not the target person imaged by the imaging unit is a living body on the basis of a state of the marker included in the image.~~

~~10. An authentication system comprising:~~

~~a projection control unit that controls a projection unit to project a random marker within an angle of view of an imaging unit;~~

~~an acquisition unit that obtains an image of a target person including the marker from the imaging unit;~~

~~a determination unit that determines whether or not the target person imaged by the imaging unit is a living body on the basis of a state of the marker included in the image; and~~

~~an execution unit that performs an authentication process on the target person when it is determined that the target person is a living body.~~

CLAIMS

1. A determination system comprising:

a projection control unit that controls a projection unit to project a random marker within an angle of view of an imaging unit;

an acquisition unit that obtains an image of a target person including the marker from the imaging unit; and

a determination unit that determines whether or not the target person imaged by the imaging unit is a living body on the basis of a state of the marker included in the image.

2. The determination system according to claim 1, wherein the determination unit determines whether or not the target person imaged by the imaging unit is a living body on the basis of at least one of a position, an angle, and a size of the marker in the image.

3. The determination system according to claim 1 or 2, wherein the determination unit gives a notice indicating that spoofing is performed when it is determined that the target person imaged by the imaging unit is not a living body.

4. The determination system according to any one of claims 1 to 3, wherein the projection control unit allows the marker to be projected in a background part of the target person.

5. The determination system according to any one of claims 1 to 3, wherein the projection control unit allows the marker to be projected so as to at least partially overlap the target person.

6. The determination system according to any one of claims 1 to 5, wherein the projection control unit allows the marker to be projected with invisible light.

7. The determination system according to any one of claims 1 to 6, wherein

the acquisition unit obtains a plurality of temporally continuous images from the imaging unit, and

the determination unit determines whether or not the target person imaged by the imaging unit is a living body on the basis of a state of the marker included in the plurality of images.

8. A determination method comprising:

controlling a projection unit to project a random marker within an angle of view of an

imaging unit;

obtaining an image of a target person including the marker from the imaging unit; and

determining whether or not the target person imaged by the imaging unit is a living body on the basis of a state of the marker included in the image.

9. A recording medium on which a computer program that allows a computer to execute a determination method is recorded, the determination method comprising:

controlling a projection unit to project a random marker within an angle of view of an imaging unit;

obtaining an image of a target person including the marker from the imaging unit; and

determining whether or not the target person imaged by the imaging unit is a living body on the basis of a state of the marker included in the image.

10. An authentication system comprising:

a projection control unit that controls a projection unit to project a random marker within an angle of view of an imaging unit;

an acquisition unit that obtains an image of a target person including the marker from the imaging unit;

a determination unit that determines whether or not the target person imaged by the imaging unit is a living body on the basis of a state of the marker included in the image; and

an execution unit that performs an authentication process on the target person when it is determined that the target person is a living body.