

CLAIMS

[Claim 1] An article management device that manages a position of an article, comprising:

one or two or more of image acquisition units each of which acquires a captured image of a region including display information displayed on the article;

an identification information acquisition unit that acquires identification information of the article;

a position derivation unit that derives, based on the captured image acquired by the image acquisition unit, an information display position being a three-dimensional position at which the display information is displayed; and

a storage unit that stores the information display position in the article derived by the position derivation unit, in a storage medium in association with the identification information of the article acquired by the identification information acquisition unit, and information regarding a position in article of the article, wherein

the information regarding the position in article of the article is information indicating a position of a region including the display information in a case where a predetermined position in the article is set to a reference.

[Claim 2] The article management device according to

claim 1, wherein:

the display information displayed on the article includes the identification information of the article; and

the identification information acquisition unit includes at least one of:

a recognition unit that recognizes the identification information of the article based on the captured image acquired by the image acquisition unit; and

an obtainment unit that obtains the identification information of the article stored in the storage unit.

[Claim 3] The article management device according to claim 2, wherein:

the information display position stored in the storage medium in association with the identification information of the article includes, as information regarding the three-dimensional position at which the display information is displayed, information regarding a three-dimensional position in a case where a predetermined position of the article is set to a reference; and

the captured image acquired by the image acquisition unit includes a region including the predetermined position of the article.

[Claim 4] The article management device according to claim 2 or 3, wherein

the identification information acquisition unit

includes:

the recognition unit;

the obtainment unit;

a collation unit that collates the identification information of the article recognized by the recognition unit with the identification information of the article obtained by the obtainment unit; and

a specification unit that specifies, based on a result of collation by the collation unit, the identification information of the article included in the captured image acquired by the image acquisition unit.

[Claim 5] The article management device according to any one of claims 1 to 4, wherein

the position derivation unit derives a position in a height direction of a surface of the article on which the display information is displayed, based on two or more of captured images acquired by two or more of the image acquisition units.

[Claim 6] The article management device according to any one of claims 1 to 5, wherein

the storage unit stores the information display position in the article derived by the position derivation unit in the storage medium as a current position of the article, and stores date and time at which the article was placed at the current position in the storage medium in association with the information display position in the article.

[Claim 7] The article management device according to

any one of claims 1 to 6, wherein:

the article management device manages a position of an article whose existing position changes; and

when, in a case where the information display position in the article and the identification information of the article are already stored in the storage medium in a mutually associated manner, the information display position in the article is newly derived by the position derivation unit, the storage unit updates the information display position that is already stored in the storage medium to the information display position newly derived by the position derivation unit.

[Claim 8] The article management device according to any one of claims 1 to 6, wherein

the article management device manages a position of an article installed in an installation target region.

[Claim 9] An article management method of managing a position of an article, comprising:

one or two or more of image acquisition steps of acquiring a captured image of a region including display information displayed on the article;

an identification information acquisition step of acquiring identification information of the article;

a position derivation step of deriving, based on the captured image acquired by the image acquisition step, an information display position being a three-dimensional position at which the display information

is displayed; and

a storage step of storing the information display position in the article derived by the position derivation step, in a storage medium in association with the identification information of the article acquired by the identification information acquisition step, and information regarding a position in article of the article, wherein

the information regarding the position in article of the article is information indicating a position of a region including the display information in a case where a predetermined position in the article is set to a reference.

[Claim 10] A program for making a computer execute processing of managing a position of an article, the program making the computer execute:

one or two or more of image acquisition steps of acquiring a captured image of a region including display information displayed on the article;

an identification information acquisition step of acquiring identification information of the article;

a position derivation step of deriving, based on the captured image acquired by the image acquisition step, an information display position being a three-dimensional position at which the display information is displayed; and

a storage step of storing the information display position in the article derived by the position derivation step, in a storage medium in association

with the identification information of the article acquired by the identification information acquisition step, and information regarding a position in article of the article, wherein

the information regarding the position in article of the article is information indicating a position of a region including the display information in a case where a predetermined position in the article is set to a reference.