Claims

[Claim 1]

A control method of a moving body that automatically moves, the control method comprising:

a step of moving the moving body along a reference path on a floor surface of a facility managed for logistics;

a step of causing a sensor provided on the moving body to detect an obstacle located on a side toward a first direction that is a traveling direction of the moving body when the moving body is moving along the reference path;

a step of setting an avoidance path that extends toward the first direction while avoiding the obstacle in a case where the obstacle is present on the side toward the first direction;

a step of moving the moving body along the avoidance path; and

a step of updating the avoidance path based on a detection result for the obstacle from the sensor when the moving body is moving along the avoidance path,

wherein, in the step of updating the avoidance path,

in a case where the detection result for the obstacle from the sensor does not satisfy a predetermined condition, the updated avoidance path is set by designating, as a target position, a subgoal located at a position different from a position of the obstacle and different from a position on the reference path, and

in a case where the detection result for the obstacle from the sensor satisfies the predetermined condition, the updated avoidance path is set by designating the position on the reference path as the target position.

[Claim 2]

The control method according to claim 1,

wherein, in the step of updating the avoidance path, a non-interference region that does not interfere with the obstacle is set based on the detection result for the obstacle from the sensor, the subgoal is designated as the target position in a case where the non-interference region does not satisfy a predetermined condition, and the position on the reference path is designated as the target position in a case where the non-interference region satisfies the predetermined condition.

[Claim 3]

The control method according to claim 2,

wherein, in the step of updating the avoidance path, the subgoal is designated as the target position in a case where a distance in a second direction orthogonal to the first direction between an end point of the non-interference region in the second direction and the reference path is less than a threshold value, and the position on the reference path is designated as the target position in a case where the distance is equal to or greater than the threshold value.

[Claim 4]

The control method according to claim 2 or 3,

wherein, in the step of updating the avoidance path, the subgoal is designated as the target position in a case where a length of the non-interference region in the first direction is less than a threshold value, and the position on the reference path is designated as the target position in a case where the length is equal to or greater than the threshold value.

[Claim 5]

The control method according to any one of claims 1 to 3, further comprising:

a step of stopping the moving body in a case where the obstacle is present on the side toward the first direction;

a step of setting a reverse path that returns to a reverse position located on a side opposite to the first direction based on the reference path; and

a step of moving the stopped moving body to the reverse position along the reverse path,

wherein, in the step of moving the moving body along the avoidance path, the moving body that has moved to the reverse position is moved along the avoidance path.

[Claim 6]

A computer-readable recording medium having stored thereon a program for causing a computer to execute a control method of a moving body that automatically moves, the program causing the computer to execute:

a step of moving the moving body along a reference path on a floor surface of a facility managed for logistics;

a step of causing a sensor provided on the moving body to detect an obstacle located on a side toward a first direction that is a traveling direction of the moving body when the moving body is moving along the reference path;

a step of setting an avoidance path that extends toward the first direction while avoiding the obstacle in a case where the obstacle is present on the side toward the first direction;

a step of moving the moving body along the avoidance path; and

a step of updating the avoidance path based on a detection result for the obstacle from the sensor when the moving body is moving along the avoidance path,

wherein, in the step of updating the avoidance path,

in a case where the detection result for the obstacle from the sensor does not satisfy a predetermined condition, the updated avoidance path is set by designating, as a target position, a subgoal located at a position different from a position of the obstacle and different from a position on the reference path, and

in a case where the detection result for the obstacle from the sensor satisfies the predetermined condition, the updated avoidance path is set by designating the position on the reference path as the target position.

[Claim 7]

A moving body that automatically moves, comprising:

a movement control unit that moves the moving body along a reference path on a floor surface of a facility managed for logistics;

a detection control unit that causes a sensor provided on the moving body to detect an obstacle located on a side toward a first direction that is a traveling direction of the moving body when the moving body is moving along the reference path; and

an avoidance path acquisition unit that acquires an avoidance path that extends toward the first direction while avoiding the obstacle in a case where the obstacle is present on the side toward the first direction,

wherein the movement control unit moves the moving body along the avoidance path, and

the avoidance path acquisition unit

acquires the avoidance path updated based on a detection result for the

obstacle from the sensor when the moving body is moving along the avoidance path,

acquires, in a case where the detection result for the obstacle from the sensor does not satisfy a predetermined condition, the updated avoidance path set by designating, as a target position, a subgoal located at a position different from a position of the obstacle and different from a position on the reference path, and

acquires, in a case where the detection result for the obstacle from the sensor satisfies the predetermined condition, the updated avoidance path set by designating the position on the reference path as the target position.