are provided for the cars, respectively, the standalone control devices controlling the operations of their corresponding cars in accordance with an instruction from the group management controller. The destination floor registration apparatus registers a hall call including the destination floor of the passenger. The car assignment controller selects the suitable car, on the basis of the hall call registered by the destination floor registration apparatus, and instructs the group management controller to make the selected car respond. The car assignment controller is configured to regularly acquire response possibility information indicating whether the cars are able to respond to the registered hall call from the corresponding standalone control devices, determine whether the selected car is able to respond to the registered hall call, on the basis of the acquired response possibility information, and transmit car information indicating that the selected car is an assigned car to the destination floor registration apparatus, when it is determined that the selected car is able to respond. The destination floor registration apparatus notifies the passenger of the assigned car indicated by the car information transmitted from the car assignment controller.

According to an aspect, there is provided an elevator system which selects a suitable car for a passenger from among a plurality of cars on the basis of a destination floor of the passenger, and causes the selected car to respond, the elevator system comprising: a group management controller which performs group management control of operations of the respective cars; standalone control devices provided for the cars, respectively, the standalone control devices controlling the operations of their

corresponding cars in accordance with an instruction from the group management controller; a destination floor registration apparatus which registers a hall call including the destination floor of the passenger; and an assigned car controller which selects the suitable car, on the basis of the hall call registered by the destination floor registration apparatus, and instructs the group management controller to make the selected car respond, the assigned car controller being configured to regularly acquire response possibility information indicating whether the corresponding car is able to respond to the registered hall call from each of the standalone control devices under the present circumstances, determine whether the selected car is able to respond to the registered hall call, on the basis of the acquired response possibility information, and transmit car information indicating that the selected car is an assigned car to the destination floor registration apparatus, when it is determined that the selected car is able to respond, the destination floor registration apparatus notifying the passenger of the assigned car indicated by the car information transmitted from the assigned car controller.

According to another aspect, there is provided a display device included in an elevator system, the elevator system comprising a group management controller which performs group management control of operations of a plurality of cars; standalone control devices provided for the plurality of cars, respectively, the standalone control devices controlling the operations of their corresponding cars in accordance with an instruction from the group management controller; and an assigned car controller which selects a suitable car, on the basis of a hall

call including a destination floor which is registered in accordance with a passenger's operation, and instructs the group management controller to make the selected car respond, the assigned car controller being configured to regularly acquire response possibility information indicating whether the corresponding car is able to respond to the registered hall call from each of the standalone control devices under the present circumstances, determine whether the selected car is able to respond to the registered hall call, on the basis of the acquired response possibility information, and transmit car information indicating that the selected car is an assigned car, when it is determined that the selected car is able to respond, the display device comprising: a registration means for registering the hall call in accordance with the passenger's operation; and a display means for displaying the assigned car indicated by the car information transmitted from the assigned car controller.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic diagram showing the structure of an elevator system according to one embodiment.

FIG. 2 illustrates one example of data structure of passenger information according to the embodiment.

FIG. 3 illustrates a display example of a display unit according to the embodiment.

FIG. 4 is a flowchart showing an example of operation of the elevator system according to the

CLAIMS

1. An elevator system which selects a suitable car for a passenger from among a plurality of cars on the basis of a destination floor of the passenger, and causes the selected car to respond, the elevator system comprising:

a group management controller which performs group management control of operations of the respective cars;

standalone control devices provided for the cars, respectively, the standalone control devices controlling the operations of their corresponding cars in accordance with an instruction from the group management controller;

a destination floor registration apparatus which registers a hall call including the destination floor of the passenger; and

an assigned car controller which selects the suitable car, on the basis of the hall call registered by the destination floor registration apparatus, and instructs the group management controller to make the selected car respond,

the assigned car controller being configured to regularly acquire response possibility information indicating whether the corresponding car is able to respond to the registered hall call from each of the standalone control devices under the present circumstances, determine whether the selected car is able to respond to the registered hall call, on the basis of the acquired response possibility information, and transmit car information indicating that the selected car is an assigned car to the destination floor registration apparatus, when it is determined that the selected car is able to respond,

the destination floor registration apparatus notifying the passenger of the assigned car indicated by the car information transmitted from the assigned car controller.

2. The elevator system of Claim 1, wherein the assigned car controller transmits the car information indicating that the selected car is the assigned car to the destination floor registration apparatus without confirming the standalone control device corresponding to the selected car whether or not the selected car is able to respond to the registered hall call.

3. The elevator system of Claim 1, wherein the assigned car controller regularly acquires state information indicating operation states of the corresponding cars from the respective standalone control devices, together with the response possibility information, and selects the suitable car on the basis of the destination floor of the passenger included in the hall call registered by the destination floor registration apparatus, and the acquired state information.

4. The elevator system of Claim 1, wherein the destination floor registration apparatus and a hall at which each of the cars makes a stop are separated by a predetermined distance or more.

5. The elevator system of Claim 1, wherein the destination floor registration apparatus is a security gate.

6. The elevator system of Claim 5, wherein the destination floor registration apparatus is configured to:

read, from a security card possessed by the passenger, a user ID and destination floor information recorded in the security card;

determine whether a possessor of the security card is an authorized passenger, on the basis of the read user ID; and

register the hall call including the destination floor

indicated by the read destination floor information, when the possessor of the security card is determined as being the authorized passenger.

7. The elevator system of Claim 1, wherein:

the assigned car controller transmits, to the destination floor registration apparatus, message information indicating that the car call should be registered again, when the response possibility information regularly acquired from each of the standalone control devices shows that the car indicated by the transmitted car information is unable to respond to the hall call, immediately after the car information has been transmitted to the destination floor registration apparatus; and

the destination floor registration apparatus notifies the passenger of the message information transmitted from the assigned car controller, instead of the car information.

8. A display device included in an elevator system, the elevator system comprising a group management controller which performs group management control of operations of a plurality of cars; standalone control devices provided for the plurality of cars, respectively, the standalone control devices controlling the operations of their corresponding cars in accordance with an instruction from the group management controller; and an assigned car controller which selects a suitable car, on the basis of a hall call including a destination floor which is registered in accordance with a passenger's operation, and instructs the group management controller to make the selected car respond, the assigned car controller being configured to regularly acquire response possibility information indicating whether the corresponding car is able to respond to the registered hall call from each of the

standalone control devices under the present circumstances, determine whether the selected car is able to respond to the registered hall call, on the basis of the acquired response possibility information, and transmit car information indicating that the selected car is an assigned car, when it is determined that the selected car is able to respond, the display device comprising:

a registration means for registering the hall call in accordance with the passenger's operation; and

a display means for displaying the assigned car indicated by the car information transmitted from the assigned car controller.