in a vehicle or the like is used to detect movement of a passenger with a high accuracy. However, in general, such a monitoring camera is large. In addition, in the case where a monitoring camera is applied, it needs to have a function of detecting movement of a passenger. For such a reason, the monitoring camera is restricted by its location when it is attached to a car.

SUMMARY

According to an aspect, there is provided a door system of an elevator, comprising: a camera installed at a modesty panel which covers an upper portion of a car, which is located above a doorway of the car, the camera being installed to perform an imaging operation at least in a predetermined range of a hall; and a control board installed at the modesty panel which covers the upper portion of the car, and having a movement detection function of performing analysis processing on each of images obtained by the imaging operation of the camera to detect movement of a passenger in the hall who will get into the car, wherein: the camera and the control board are located in respective positions; and opening/closing of a door of the car is controlled based on a result of detection of the movement detection function.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a view illustrating a configuration of a riding detection system of an elevator according to an embodiment.

FIG. 2 is a view illustrating an example of an image obtained by imaging of a camera in the embodiment.

FIG. 3 is a view for explaining a coordinate system in a real space in the embodiment.

FIG. 4 is a view schematically illustrating a relationship between a modesty panel of a car and a door thereof in the embodiment.

FIG. 5 is a view illustrating an example of setting of the camera in the embodiment.

FIG. 6 is a block diagram illustrating units

CLAIMS

1. A door system of an elevator, comprising:

a camera installed at a modesty panel which covers an upper portion of a car, which is located above a doorway of the car, the camera being installed to perform an imaging operation at least in a predetermined range of a hall; and

a control board installed at the modesty panel which covers the upper portion of the car, and having a movement detection function of performing analysis processing on each of images obtained by the imaging operation of the camera to detect movement of a passenger in the hall who will get into the car,

wherein: the camera and the control board are located in respective positions; and opening/closing of a door of the car is controlled based on a result of detection of the movement detection function.

2. The door system of Claim 1, wherein the camera is installed at a center portion of the modesty panel in a longitudinal direction thereof, which is located on a center line of the doorway, and

the control board is installed in vacant space in the modesty panel so as not to interfere with a plurality devices installed originally in the modesty panel, and is also located in the closest possible position with respect to the camera.

3. The door system of Claim 1, wherein transmission of a signal between the camera and the control board is carried out with a cable.

4. The door system of Claim 1, wherein transmission of a signal between the camera and the control board is wirelessly carried out.