CLAIMS

1. A display system comprising:

an acquirer configured to acquire a first detection value and a second detection value from a temperature sensor and a humidity sensor, respectively, the temperature sensor and the humidity sensor being both included in a ventilator configured to ventilate a room;

an estimator configured to estimate, based on the first detection value and the second detection value that are acquired by the acquirer, an apparent temperature distribution representing a distribution of apparent temperatures in a height direction in the room; and

a controller configured to make a display device present the apparent temperature distribution estimated by the estimator;

the estimator being configured to estimate, based on the first detection value and the second detection value, a spatial temperature on a ceiling surface of the room and a spatial humidity on the ceiling surface of the room, respectively, and thereby estimate, based on the spatial temperature and spatial humidity thus estimated, the apparent temperature distribution in the height direction in the room.

2. A display system comprising:

an acquirer configured to acquire a first detection value and a second detection value from a temperature sensor and a humidity sensor, respectively, the temperature sensor and the humidity sensor being both included in a ventilator configured to ventilate a room;

an estimator configured to estimate, based on the first detection value and the second detection value that are acquired by the acquirer, an apparent temperature distribution representing a distribution of apparent temperatures in a height direction in the room; and

a controller configured to make a display device present the apparent temperature distribution estimated by the estimator,

the estimator being configured to estimate the apparent temperature distribution by the following Equations (1) to (5):

$$Tr = \alpha 1 \times Ts + c1 \quad (1)$$

$$Hr = \alpha 2 \times Hs + c2 \quad (2)$$

$$STr = 37 - \frac{37 - Tr}{0.68 - 0.0014Hr + \frac{1}{1.76 + 1.4V^{0.75}} - 0.29Tr(1 - 0.01Hr)} \quad (3)$$

$$T(h) = \alpha 3 \times h + c3 \quad (4)$$

$$c3 = STr - Lrf \times \alpha 3 \quad (5)$$

where α1, α2, α3, c1, c2, and c3 are respective coefficients;

h is a height [m] above a floor;

Lrf is a height [m] of a ceiling;

V is an air speed [m/s];

Ts is the first detection value [ºC] provided by the temperature sensor;

Tr is an estimated spatial temperature [ºC] on a ceiling surface;

STr is an apparent temperature [ºC] in the room;

T(h) is an apparent temperature [ºC] at the height h above the floor;

Hs is the second detection value [%] provided by the humidity sensor; and

Hr is an estimated humidity [%] on the ceiling surface.

3. The display system of claim 1 or 2, wherein

at least one of an air inlet or an air outlet of the ventilator is provided through the ceiling surface,

the spatial temperature and the spatial humidity are estimated by the estimator at an identical position, and

the identical position is a position where a straight-line distance measured from either the air inlet or the air outlet provided through the ceiling surface is equal to or shorter than a predetermined distance.

4. The display system of any one of claims 1 to 3, further comprising a determiner configured to determine whether a representative value derived from the apparent temperature distribution falls outside of a preset range, wherein

the controller is configured to, when the determiner decides that the representative value fall outside of the preset range, make the display device display a notification image

notifying a user that the representative value falls outside of the preset range.

5. The display system of claim 4, wherein

the representative value is any one of a maximum value, a minimum value, or an average value of the apparent temperature distribution.

6. The display system of any one of claims 1 to 3, further comprising a determiner configured to determine whether an apparent temperature at an arbitrary point in the height direction in the room in the apparent temperature distribution falls outside of a preset range, wherein

the controller is configured to, when the determiner decides that the apparent temperature at the arbitrary point fall outside of the preset range, make the display device display a notification image notifying a user that the apparent temperature at the arbitrary point falls outside of the preset range.

7. The display system of any one of claims 1 to 6, further comprising a calculator configured to calculate a proportion of a period in which the representative value derived from the apparent temperature distribution falls within a preset range to an arbitrarily set period, wherein

the controller is configured to make the display device present the proportion.

8. The display system of any one of claims 1 to 6, further comprising a calculator configured to calculate a proportion of a period in which an apparent temperature at an arbitrary point in the height direction in the room in the apparent temperature distribution falls within a preset range to an arbitrarily set period, wherein

the controller is configured to make the display device present the proportion.

9. A display method comprising:

an acquisition step including acquiring a first detection value and a second detection value from a temperature sensor and a humidity sensor, respectively, the temperature sensor and the humidity sensor being both included in a ventilator configured to ventilate a room;

an estimation step including estimating, based on the first detection value and the second detection value that are acquired in the acquisition step, an apparent temperature distribution representing a distribution of apparent temperatures in a height direction in the

room; and

a presentation step including making a display device present the apparent temperature distribution estimated in the estimation step,

the estimation step including estimating, based on the first detection value and the second detection value, a spatial temperature on a ceiling surface of the room and a spatial humidity on the ceiling surface of the room, respectively, and thereby estimate, based on the spatial temperature and spatial humidity thus estimated, the apparent temperature distribution in the height direction in the room.

10. A display method comprising:

an acquisition step including acquiring a first detection value and a second detection value from a temperature sensor and a humidity sensor, respectively, the temperature sensor and the humidity sensor being both included in a ventilator configured to ventilate a room;

an estimation step including estimating, based on the first detection value and the second detection value that are acquired in the acquisition step, an apparent temperature distribution representing a distribution of apparent temperatures in a height direction in the room; and

a presentation step including making a display device (81) present the apparent temperature distribution estimated in the estimation step,

the estimation step including estimating the apparent temperature distribution by the following Equations (1) to (5):

$$Tr = \alpha 1 \times Ts + c1 \quad (1)$$

$$Hr = \alpha 2 \times Hs + c2 \quad (2)$$

$$STr = 37 - \frac{37 - Tr}{0.68 - 0.0014Hr + \frac{1}{1.76 + 1.4V^{0.75}}} - 0.29Tr(1 - 0.01Hr) \quad (3)$$

$$T(h) = \alpha 3 \times h + c3 \quad (4)$$

$$c3 = STr - Lrf \times \alpha 3 \quad (5)$$

where α1, α2, α3, c1, c2, and c3 are respective coefficients;

h is a height [m] above a floor;

Lrf is a height [m] of a ceiling;

V is an air speed [m/s];

Ts is the first detection value [°C] provided by the temperature sensor;

Tr is an estimated spatial temperature [°C] on a ceiling surface;

STr is an apparent temperature [°C] in the room;

T(h) is an apparent temperature [°C] at the height h above the floor;

Hs is the second detection value [%] provided by the humidity sensor; and

Hr is an estimated humidity [%] on the ceiling surface.

11. A program designed to cause one or more processors to perform the display method of claim 9 or 10.