CLAIMS

Claim 1:

An information processing device, comprising:

an acquisition module configured to acquire sensor data and thermal sensation-related information;

a calculation module configured to calculate a setting value candidate for indoor temperature based on the thermal sensation-related information acquired by the acquisition module;

an estimation module, for each of the setting value candidate to be calculated by the calculation module, configured to estimate, using the sensor data acquired by the acquisition module, an indoor environment and energy consumption in a case where air conditioning is to be controlled using the setting value candidate calculated by the calculation module as an indoor temperature setting value; and

a selection module configured to select the setting value candidate for indoor temperature based on the indoor environment and the energy consumption estimated by the estimation module as well as an allowable range of thermal sensation comprised in the thermal sensation-related information acquired by the acquisition module,

wherein if the thermal sensation corresponding to the indoor environment estimated by the estimation module is not within the allowable range of thermal sensation comprised in the thermal sensation-related information acquired by the acquisition module, the selection module is configured to select the setting value candidate that is closest to an optimal value of indoor temperature, and

the estimation module is further configured to perform a simulation for the setting value candidate and exclude the setting value candidate being infeasible based on the simulation.

Claim 2:

The information processing device according to claim 1, wherein

the calculation module is further configured to calculate, as the setting value candidate for indoor temperature, a temperature corresponding to the allowable range of thermal sensation comprised in the thermal sensation-related information acquired by the acquisition module.

Claim 3:

The information processing device according to claim 1, further comprising:

a computation module is further configured to compute the optimal value of indoor temperature from an optimal value of thermal sensation comprised in the thermal sensation-related information acquired by the acquisition module, wherein

the calculation module is further configured to add or subtract a predetermined value to or from the optimal value of indoor temperature computed by the computation module, and calculate the setting value candidate for indoor temperature.

Claim 4:

The information processing device according to claim 1, wherein

the estimation module is configured to perform an estimation using, as a target, the setting value candidate closest to a median among the setting value candidates calculated by the calculation module, and exclude, from estimation targets, setting value candidates whose value is larger or smaller than the setting value candidate on which the estimation has been performed.

Claim 5:

The information processing device according to claim 1, wherein,

if the thermal sensation corresponding to the indoor environment estimated by the estimation module is within the allowable range of thermal sensation comprised in the thermal sensation-related information acquired by the acquisition module, the selection module is configured to select the setting value candidate having the smallest energy consumption from among the setting value candidates corresponding to the allowable range of thermal sensation.

Claim 6:

The information processing device according to claim 4, further comprising:

a determination module is configured to determine whether the setting value candidate calculated by the calculation module and the indoor environment estimated by the estimation module match each other, wherein

the estimation module is configured to exclude, from estimation targets, setting value candidates whose value is larger or smaller than the setting value candidate determined as a mismatch by the determination module.

Claim 7:

An information processing method being a method performed by an information processing device, comprising:

an acquisition process, in which sensor data and thermal sensation-related information are acquired;

a calculation process, in which a setting value candidate for indoor temperature is calculated based on the thermal sensation-related information acquired by the acquisition process;

an estimation process in which, for each of the setting value candidate calculated by the calculation process, an indoor environment and energy consumption in a case where air conditioning is controlled using the setting value candidate calculated by the calculation process as an indoor temperature setting value are estimated using the sensor data acquired by the acquisition process; and

a selection process, in which the setting value candidate for indoor temperature is selected based on the indoor environment and the energy consumption estimated by the estimation process as well as an allowable range of thermal sensation comprised in the thermal sensation-related information acquired by the acquisition process,

wherein if the thermal sensation corresponding to the indoor environment estimated by the estimation process is not within the allowable range of thermal sensation comprised in the thermal sensation-related information acquired by the acquisition process, the selection process selects the setting value candidate that is closest to an optimal value of indoor temperature, and

the estimation process performs a simulation for the setting value candidate and excludes the setting value candidate being infeasible based on the simulation.

Claim 8:

An information processing program, causing a computer to execute:

an acquisition step of acquiring sensor data and thermal sensation-related information;

a calculation step of calculating a setting value candidate for indoor temperature based on the thermal sensation-related information acquired by the acquisition step;

an estimation step of estimating, for each of the setting value candidate calculated by the calculation step, using the sensor data acquired by the acquisition step, an indoor environment and energy consumption in a case where air conditioning is controlled using the setting value candidate calculated by the calculation step as an indoor temperature setting value; and

a selection step of selecting the setting value candidate for indoor temperature based on the indoor environment and the energy consumption estimated by the estimation step as well as an allowable range of thermal sensation comprised in the thermal sensation-related information acquired by the acquisition step,

wherein if the thermal sensation corresponding to the indoor environment estimated by the estimation step is not within the allowable range of thermal sensation comprised in the thermal sensation-related information acquired by the acquisition step, the selection step selects the setting value candidate that is closest to an optimal value of indoor temperature, and

the estimation step performs a simulation for the setting value candidate and excludes the setting value candidate being infeasible based on the simulation.