CLAIMS

~~What is claimed is:~~

1. A predicted mean vote (PMV) estimating device that calculates a PMV value from an average room radiation temperature, a room temperature, a room humidity, a room air velocity, an amount of cloth worn by a person in the room, and an amount of activity of the person in the room, the PMV estimating device comprising:

an indoor solar radiation calculator that calculates an amount of solar radiation entered into the room;

a solar radiated article temperature estimator that estimates a temperature of a solar radiated article receiving the solar radiation entered into the room, by using the amount of solar radiation entered into the room calculated by the indoor solar radiation calculator; and

an average radiation temperature estimator that estimates the average room radiation temperature by using the temperature of the solar radiated article estimated by the solar radiated article temperature estimator, wherein

the solar radiated article temperature estimator calculates an amount of heat dissipation, and estimates the temperature of the solar radiated article based on the amount of heat dissipation, the amount of solar radiation in the room estimated by the indoor solar radiation calculator, and an absorption ratio of the solar radiation by the solar radiated article, and

the average radiation temperature estimator estimates the average room radiation temperature at an arbitrary point in the room where the PMV is to be estimated by using the temperature of the solar radiated article estimated by the solar radiated article temperature estimator, a room temperature, a solid angle of the solar radiated article as viewed from the point in the room where the PMV is to be estimated, a solid angle of a face in the room other than the solar radiated article as viewed from the point in the room where the PMV is to be estimated.

2. The predicted mean vote estimating device of Claim 1~~2~~, wherein

the indoor solar radiation calculator estimates the amount of the solar radiation entered into the room from time, date, and month of a calculation target, from an angle of inclination of a plane of a window near a position where the solar radiated article receives the solar radiation, from an azimuth angle, and from a transmittance of the window with respect to the solar radiation,

the solar radiated article temperature estimator calculates the~~an~~ amount of heat dissipation by convection and radiation with respect to a surrounding environment, and ~~estimates the temperature of the solar radiated article based on the amount of heat dissipation, the amount of solar radiation in the room estimated by the indoor solar radiation calculator, and an absorption ratio of the solar radiation by the solar radiated article, and~~

the average radiation temperature estimator estimates the average room radiation temperature at the~~an arbitrary~~ point in the room where the PMV is to be estimated by using the temperature of the solar radiated article~~estimated by the solar radiated article temperature estimator~~, a temperature of a wall, sealing and floor in the room other than the solar radiated article, the~~a~~ solid angle of the solar radiated article as viewed from the point in the room where the PMV is to be estimated, a solid angle of the wall, the sealing and the floor in the room other than the solar radiated article as viewed from the point in the room where the PMV is to be estimated.

3. A computer program product having a non-transitory computer readable medium including programmed instructions for calculating a predicted mean vote (PMV) value based on an average room radiation temperature, a room temperature, a room humidity, a room air velocity, an amount of cloth worn by a person in the room, and an amount of activity of the person in the room, wherein the instructions, when executed by a computer, cause the computer to perform:

calculating an amount of solar radiation entered into the room;

estimating a temperature of a solar radiated article receiving the solar radiation entered into the room, by using the calculated amount of solar radiation entered into the room; and

estimating the average room radiation temperature by using the estimated temperature of the solar radiated article, wherein

estimating the temperature of the solar radiated article includes calculating an amount of heat dissipation and estimating the temperature of the solar radiated article based on the amount of heat dissipation, the estimated amount of solar radiation in the room, and an absorption ratio of the solar radiation by the solar article, and

estimating the average room radiation temperature includes estimating the average room radiation temperature at an arbitrary point in the room where the PMV is to be estimated by using the estimated temperature of the solar radiated article, a room temperature, a solid angle of the solar radiated article as viewed from the point in the room when the PMV is to be estimated, a solid angle of a face in the room other than estimated.

4. The computer program product of Claim 3, wherein

the calculating includes estimating the amount of the solar radiation entered into the room from time, date, and month of a calculation target, from an angle of inclination of a plane of a window near a position where the solar radiated article receives the solar radiation, from an azimuth angle, and from a transmittance of the window with respect to the solar radiation,

the estimating the temperature of the solar radiated article includes:

calculating the~~an~~ amount of heat dissipation by convection and radiation with respect to a surrounding environment; and

~~estimating the temperature of the solar radiated article based on the amount of heat dissipation, the estimated amount of solar radiation in the room, and an absorption ratio of the solar radiation by the solar radiated article, and~~

the estimating the average room radiation temperature includes estimating the average room radiation temperature at the~~an arbitrary~~ point in the room where the PMV is to be estimated by using the estimated temperature of the solar radiated article, a temperature of a wall, sealing and floor in the room other than the solar radiated article, the~~a~~ solid angle of the solar radiated article as viewed from the point in the room where the PMV is to be estimated, a solid angle of the wall, the sealing and the floor in the room other than the solar radiated article as viewed from the point in the room where the PMV is to be estimated.