requested. In addition, it is preferable that the notification apparatus respond also to a case where the information to be notified is diversified (for example, in a case where the number of types and categories of the information to be notified increases).

[0007]

The present invention is made in consideration of the above-described problems, and an object thereof is to provide an information notification system that notifies a user of information using a simplified manner and can respond also to a case where there are a plurality of types of information to be notified.

MEANS FOR SOLVING THE PROBLEM

[0008]

According to the present invention, there is provided an information notification system including~~:~~, a communication apparatus that communicates with at least one apparatus of a measurement apparatus measuring an energy consumption amount of the inside of a building and transmitting measurement result data representing information according to a measurement result and an information delivery apparatus being installed outside the building and transmitting provision information data representing information provided for a user inside the building~~ and~~, ~~an ornament-type~~ notification apparatus that performs a notification operation according to reception data based on the reception data received by the communication apparatus at time of communicating with the at least one apparatus out of the measurement result data and the provision information data, and an information processing terminal which forms a body that is separate from the notification apparatus and which is

communicable with the communication apparatus, wherein the communication apparatus transmits a performance request for

performing the notification operation to the notification apparatus based on the reception data, the notification apparatus includes: a light emitting mechanism that performs a light emitting operation for emitting light in a light emission form according to the reception data; a sound generating mechanism that performs a sound generating operation for giving off a sound according to the reception data; a vibration mechanism that performs a vibration operation for generating vibration in accordance with the reception data; and a control unit that controls the light emitting mechanism, the sound generating mechanism, and the vibration mechanism, and, when the performance request is received, the control unit performs at least one or more operations that are determined in accordance with the performance request out of the light emitting operation, the sound generating operation, and the vibration operation as the notification operation, wherein the information processing terminal includes a display, and displays information represented by the display data acquired by communicating with the communication apparatus on the display, wherein the information represented by the display data is same as the information represented by the reception data, and wherein the notification apparatus is an ornament-type apparatus having a form imitating an animal, a person or a mascot, emits the light in the light emission form when the light emitting mechanism performs the light emitting operation, gives off the sound from a speaker when the sound generating mechanism performs the sound generating operation, and generates the vibration when the vibration mechanism performs the vibration operation, whereby the above-described problem is solved.

[0009]

In the above-described information notification system, by performing the

light emitting operation, the sound generating operation, or the vibration operation using the ornament-type notification apparatus, the user is notified of information. In other words, according to an information providing system of the present invention, in notifying the user of information, the user can be notified of the information in a simple manner without particularly requesting an operation from the user.

In addition, according to the present invention, the light emission form of the light emitting operation, a sound given off by the sound generating operation, and presence/no presence of the vibration operation

can be changed in accordance with the reception data. In other words, according to the present invention, a plurality of performance patterns of the notification operation are prepared, and, by appropriately using the performance pattern of the notification operation in accordance with the kind of information to be notified, a case where there are a plurality of kinds of information to be notified can be sufficiently responded.

Furthermore, in a case where the information processing terminal that is configured by a notebook PC, a wall-type terminal, a PDA, or the like is disposed to be separate from the notification apparatus, since a starting operation is necessary for a user to check the information using the information processing terminal, the notification apparatus that notifies the user of information in a simple manner without requiring such a starting operation is more useful.

[0010]

In addition, in the above-described information notification system, it is preferable that the communication apparatus be a home server that is installed to the inside of a house as the building, the information delivery apparatus be an external server that is connected to the home server through the Internet in a communicable manner, in the provision information data transmitted by the external server, target value data representing a target value of a power consumption amount consumed for a predetermined period inside the house be included, when the target value data are received, the communication apparatus calculate a ratio of an accumulated value of a power consumption amount that is actually consumed inside the house for the predetermined period to the target value and transmit the performance request according to the calculated ratio to the notification apparatus, and, when the performance request is received, the

control unit perform at least one or more operations out of the light emitting operation for emitting light in a light emission form according to the ratio that is performed by the light emitting mechanism, the sound generating operation for giving off a sound according to the ratio that is performed by the sound generating mechanism, and the vibration operation that is

is still more preferable that ~~an information processing terminal that forms a body that is separate from the notification apparatus and is communicable with the home server be further included, the information processing terminal include a display and acquire display data representing information to be displayed on the display by communicating with the home server, the information represented by the display data be same as information represented by the reception data,~~ the notification apparatus is in a conductive state at time of performing the notification operation, the information processing terminal is in a conductive state at time of displaying the information represented by the display data on the display, and power consumed by the notification apparatus that is in the conductive state is smaller than power consumed by the information processing terminal that is in the conductive state. According to such a configuration, ~~the effect of the present invention becomes more effective.~~

~~More specifically, in a case where the information processing terminal that is configured by a notebook PC, a wall-type terminal, a PDA, or the like is disposed to be separate from the notification apparatus, since a starting operation is necessary for a user to check the information using the information processing terminal, the notification apparatus that notifies the user of information in a simple manner without requiring such a starting operation is more useful. In addition, in a case where~~ the notification of information is performed by the notification apparatus, whereby the power consumption amount can be smaller than that of a case where the information is checked using the information processing terminal.

[0014]

EFFECTS OF THE INVENTION

[0016]

According to an information notification system of the present invention, since information is notified using an ornament-type notification apparatus through light, a sound, and vibration, in the notification of the information, the user can be notified of the information in a simple manner without particularly requiring an operation from the user. In addition, since a plurality of the performance patterns of the notification operation are prepared, by appropriately using the performance pattern of the notification operation in accordance with the kind of information to be notified, even a case where there are a plurality of kinds of information to be notified can be sufficiently responded. Furthermore, in a case where the information processing terminal that is configured by a notebook PC, a wall-type terminal, a PDA, or the like is disposed to be separate from the notification apparatus, since a starting operation is necessary for a user to check the information using the information processing terminal, the notification apparatus that notifies the user of information in a simple manner without requiring such a starting operation is more useful.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017]

[Fig. 1] Fig. 1 is an explanatory diagram that illustrates a building to which an information notification system according to the present invention is installed.

[Fig. 2] Fig. 2 is an outline view of a notification apparatus according to the present invention.

[Fig. 3] Fig. 3 is a diagram that illustrates an example of relation between a home server according to the present invention and an external server.

[Fig. 4A] Fig. 4A is a block diagram that illustrates the

CLAIMS

[Claim 1]

An information notification system comprising:

a communication apparatus that communicates with at least one apparatus out of a measurement apparatus measuring an energy consumption amount of the inside of a building and transmitting measurement result data representing information according to a measurement result and an information delivery apparatus being installed outside the building and transmitting provision information data representing information provided for a user inside the building; ~~and~~

a~~n ornament-type~~ notification apparatus that performs a notification operation according to reception data based on the reception data received by the communication apparatus at time of communicating with the at least one apparatus out of the measurement result data and the provision information data~~,~~; and

an information processing terminal which forms a body that is separate from the notification apparatus and which is communicable with the communication apparatus,

wherein the communication apparatus transmits a performance request for performing the notification operation to the notification apparatus based on the reception data,

wherein the notification apparatus includes:

a light emitting mechanism that performs a light emitting operation for emitting light in a light emission form according to the reception data;

a sound generating mechanism that performs a sound generating

operation for giving off a sound according to the reception data;

a vibration mechanism that performs a vibration operation for generating vibration in accordance with the reception data; and

a control unit that controls the light emitting mechanism, the sound generating mechanism, and the vibration mechanism, and

wherein, when the performance request is received, the control unit performs at least one or more operations that are determined in accordance with the performance request out of the light emitting operation, the sound generating operation, and the vibration operation as the notification operation~~.~~

wherein the information processing terminal includes a display, and displays information represented by the display data acquired by communicating with the communication apparatus on the display, wherein the information represented by the display data is same as the information represented by the reception data, and

wherein the notification apparatus is an ornament-type apparatus having a form imitating an animal, a person or a mascot, emits the light in the light emission form when the light emitting mechanism performs the light emitting operation, gives off the sound from a speaker when the sound generating mechanism performs the sound generating operation, and generates the vibration when the vibration mechanism performs the vibration operation.

[Claim 2]

The information notification system according to claim 1,

wherein the communication apparatus is a home server that is installed to the inside of a house as the building,

wherein the information delivery apparatus is an external server that is connected to the home server through the Internet in a communicable manner,

wherein, in the provision information data transmitted by the external server, target value data representing a target value of a power consumption

amount consumed for a predetermined period inside the house is included,

wherein, when the measurement result data and the target value data are received, the communication apparatus calculates a ratio of an accumulated value of a power consumption amount that is actually consumed inside the house for the predetermined period to the target value and transmits the performance request according to the calculated ratio to the notification apparatus, and

wherein, when the performance request is received, the control unit

performs at least one or more operations out of the light emitting operation for emitting light in a light emission form according to the ratio that is performed by the light emitting mechanism, the sound generating operation for giving off a sound according to the ratio that is performed by the sound generating mechanism, and the vibration operation that is performed by the vibration mechanism as the notification operation.

[Claim 3]

The information notification system according to claim 2,

wherein, in the provision information data transmitted by the external server, unit rate data representing a current value of a unit rate of power supplied from the commercial power supply to the house is included,

wherein, when the unit rate data is received, the communication apparatus specifies the current value and transmits the performance request according to the specified current value to the notification apparatus, and

wherein, when the performance request is received, the control unit performs at least one or more operations out of the light emitting operation for emitting light in a light emission form according to the current value that is performed by the light emitting mechanism, the sound generating operation for giving off a sound according to the current value that is performed by the sound generating mechanism, and the vibration operation that is performed by the vibration mechanism as the notification operation.

[Claim 4]

The information notification system according to claim 2 or 3, ~~further comprising an information processing terminal that forms a body that is separate from the notification apparatus and is communicable with the home~~

~~server,~~

~~wherein the information processing terminal includes a display and acquires display data representing information to be displayed on the display by communicating with the home server,~~

~~wherein the information represented by the display data is same as information represented by the reception data,~~

wherein the notification apparatus is in a conductive state at time of performing the notification operation,

wherein the information processing terminal is in a conductive state at time of displaying the information represented by the display data on the display, and

wherein power consumed by the notification apparatus that is in the conductive state is smaller than power consumed by the information processing terminal that is in the conductive state.

[Claim 5]

The information notification system according to any one of claims 1 to 4,

wherein the communication apparatus implements a function for controlling operating states of energy consumption apparatuses used inside the building through a network disposed inside the building,

wherein the notification apparatus includes an operation receiving mechanism that receives an operation performed when the user controls the operating states of the energy consumption apparatuses, and

wherein the control unit transmits a performance request of a control process for controlling the operating states of the energy consumption