However, in the technology of Patent Document 1 described above, each assembly block is singly controlled by the existing program, and there is a limit to a degree of freedom of movement or control of the toy assembly. That is, for example, only with the technology of Patent Document 1 described above, a process of producing a program by combining respective functions of the assembly blocks is unable to be executed. In other words, with the technology of Patent Document 1 described above, it is necessary to separately produce complicated program in order to execute, for example, an advanced process of combining the respective functions of the assembly blocks.

[0005]

The present invention was made in light of the foregoing and provides a technology that enables the user to more easily produce a complex program by means of visual operations.

Means for Solving the Problems

[0006]

According to an aspect of the present disclosure, there is provided an information processing system including a control device, a plurality of first hardware devices having a function of pairing with the control device through near field communication and a function of communicating with another hardware device, and a plurality of second hardware devices having a function of communicating with the first

hardware devices and a function of fulfilling a predetermined

function, the control device including:

a storage means in which a program related to realizing the predetermined function is stored;

a control execution means that executes control of combining the first hardware devices and the second hardware devices and causing a predetermined series of processes to be executed;

a pairing execution means that executes pairing between one of the first hardware devices serving as a control target of the control execution means and the control device in accordance with a first near field communication of a predetermined scheme; and

a presentation means that presents a state of the pairing between one of the first hardware devices serving as the control target of the control execution means and the control device, or that presents a type and connection status of one or more of the second hardware devices connected to one of the first hardware devices together with the state of the pairing,

the control device further comprises:

a communication means for transmitting an execution result of a program to one of the first hardware devices by a second near field communication of a predetermined scheme, the program is created to control one of the first hardware devices and one or more second hardware devices connected to the first hardware device, which are the control target for

executing the predetermined series of processes; and
a confirmation means that confirms the contents of the created program based on the execution result of the program and stores the program in the storage means.
[0007]

According to an aspect of the present disclosure, there is provided a control method executed by a control device in an information processing system including the control device, a plurality of first hardware devices having a function of pairing with the control device through near field communication and a function of communicating with another hardware device, and a plurality of second hardware devices having a function of communicating with the first hardware devices and a function of fulfilling a predetermined function, the control device has a storage means in which a program related to realizing the predetermined function is stored, the control method comprising:
a control execution step of executing control of combining the first hardware devices and the second hardware devices and causing a predetermined series of processes to be executed;
a pairing execution step of executing pairing between one of the first hardware devices serving as a control target in the control execution step and the control device in accordance with a first near field communication of a predetermined scheme; and
a presentation step of presenting a state of the pairing

between one of the first hardware devices serving as the control target in the control execution step and the control device, or presenting a type and connection status of one or more of the second hardware devices connected to one of the first hardware devices together with the state of the pairing, the control method further comprises:

a communication step of transmitting an execution result of a program to one of the first hardware devices by a second near field communication of a predetermined scheme, the program is created to control one of the first hardware devices and one or more second hardware devices connected to the first hardware device, which are the control target for executing the predetermined series of processes; and

a confirmation step of confirming the contents of the created program based on the execution result of the program and stores the program in the storage means.

[0007a]

According to an aspect of the present disclosure, there is provided a program causing a computer to execute a control process, the computer controlling a control device in an information processing system including the control device, a plurality of first hardware devices having a function of pairing with the control device through near field communication and a function of communicating with another hardware device, and a plurality of second hardware devices having a function of communicating with the first hardware devices and a function of fulfilling a predetermined function,

the control device has a storage means in which a program related to realizing the predetermined function is stored, the control process comprising:

a control execution step of executing control of combining the first hardware devices and the second hardware devices and causing a predetermined series of processes to be executed;

a pairing execution step of executing pairing between one of the first hardware devices serving as a control target in the control execution step and the control device in accordance with a first near field communication of a predetermined scheme; and

a presentation step of presenting a state of the pairing between one of the first hardware devices serving as the control target in the control execution step and the control device, or presenting a type and connection status of one or more of the second hardware devices connected to one of the first hardware devices together with the state of the pairing,

the control process further comprises:

a communication step of transmitting an execution result of a program to one of the first hardware devices by a second near field communication of a predetermined scheme, the program is created to control one of the first hardware devices and one or more second hardware devices connected to the first hardware device, which are the control target for executing the predetermined series of processes; and

a confirmation step of confirming the contents of the created program based on the execution result of the program and

stores the program in the storage means.

[0007b]

According to an example of the present disclosure, there is provided an information processing device functioning as a first hardware device in an information processing system including a control device, one or more first hardware devices having a function of pairing with the control device through near field communication and a function of communicating with another hardware device, and one or more second hardware devices having a function of communicating with the first hardware devices and a function of fulfilling a predetermined function, the information processing device comprising:
a communication control means that controls communication with the second hardware device that forms a set among the one or more second hardware devices; and
a pairing execution means that executes paring between the information processing device and the control device in accordance with near field communication of a predetermined scheme when the information processing device becomes a control target in a case in which control of combining a plurality of sets of the first hardware device and the second hardware device and causing a predetermined series of processes to be executed is executed in the control device.

[0007c]

According to an example of the present disclosure, there is provided an information processing method executed by a first hardware device in an information processing system

including a control device, one or more first hardware devices having a function of pairing with the control device through near field communication and a function of communicating with another hardware device, and one or more second hardware devices having a function of communicating with the first hardware devices and a function of fulfilling a predetermined function, the information processing method comprising:
a communication control step of controlling communication with the second hardware device that forms a set among the one or more second hardware devices; and
a pairing execution step of executing paring between the information processing device and the control device in accordance with near field communication of a predetermined scheme when the information processing device becomes a control target in a case in which control of combining a plurality of sets of the first hardware device and the second hardware device and causing a predetermined series of processes to be executed is executed in the control device.
[0007d]

According to an example of the present disclosure, there is provided a program causing a computer to execute a control process, the computer controlling a first hardware device in an information processing system including a control device, one or more first hardware devices having a function of pairing with the control device through near field communication and a function of communicating with another hardware device, and one or more second hardware devices

having a function of communicating with the first hardware devices and a function of fulfilling a predetermined function, the control process comprising:

a communication control step of controlling communication with the second hardware device that forms a set among the one or more second hardware devices; and

a pairing execution step of executing paring between the information processing device and the control device in accordance with near field communication of a predetermined scheme when the information processing device becomes a control target in a case in which control of combining a plurality of sets of the first hardware device and the second hardware device and causing a predetermined series of processes to be executed is executed in the control device.

[0008]

According to the present disclosure, it is possible to provide a technology that enables the user to produce a complicated program more easily by means of visual operations.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009]

CLAIMS

1. An information processing system including a control device, a plurality of first hardware devices having a function of pairing with the control device through near field communication and a function of communicating with another hardware device, and a plurality of second hardware devices having a function of communicating with the first hardware devices and a function of fulfilling a predetermined function, the control device comprising:

a storage means in which a program related to realizing the predetermined function is stored;

a control execution means that executes control of combining the first hardware devices and the second hardware devices and causing a predetermined series of processes to be executed;

a pairing execution means that executes pairing between one of the first hardware devices serving as a control target of the control execution means and the control device in accordance with a first near field communication of a predetermined scheme; and

a presentation means that presents a state of the pairing between one of the first hardware devices serving as the control target of the control execution means and the control device, or that presents a type and connection status of one or more of the second hardware devices connected to one of the first hardware devices together with the state of the pairing,

the control device further comprises:

a communication means for transmitting an execution result of a program to one of the first hardware devices by a second near field communication of a predetermined scheme, the program is created to control one of the first hardware devices and one or more second hardware devices connected to the first hardware device, which are the control target for executing the predetermined series of processes; and

a confirmation means that confirms the contents of the created program based on the execution result of the program and stores the program in the storage means.

2. The information processing system according to claim 1, wherein the control execution means includes

a simulation means that virtually executes the predetermined series of processes in the control device and

an execution means that actually executes the predetermined series of processes while communicating with the first hardware device serving as the control target.

3. The information processing system according to claim 2, wherein each first hardware device includes a close-range communication unit for performing the near field communication with the control device, a battery unit and a serial port connected with a serial port of one second hardware device in a respective set, wherein the battery unit supplies electric power to the first hardware device and to the second hardware

device.

4. The information processing system according to any one of claims 1 to 3, further comprising:

an operation receiving unit that receives an operation to combine two or more parts from among a plurality of parts including a hardware part indicating a set of the first hardware device and the second hardware device and a software part causing a predetermined function to be fulfilled in the control device in order to cause the predetermined series of processes to be executed; and

a confirmation unit that confirms a combination of the two or more parts,

wherein the control execution means executes control of causing the predetermined series of processes to be executed on the basis of the combination of the two or more parts confirmed by the confirmation unit.

5. The information processing system according to claim 4, wherein the plurality of parts include one or more parts that input or output an analog signal.

6. A control method executed by a control device in an information processing system including the control device, a plurality of first hardware devices having a function of pairing with the control device through near field communication and a function of communicating with another

hardware device, and a plurality of second hardware devices having a function of communicating with the first hardware devices and a function of fulfilling a predetermined function, the control device has a storage means in which a program related to realizing the predetermined function is stored, the control method comprising:

a control execution step of executing control of combining the first hardware devices and the second hardware devices and causing a predetermined series of processes to be executed;

a pairing execution step of executing pairing between one of the first hardware devices serving as a control target in the control execution step and the control device in accordance with a first near field communication of a predetermined scheme; and

a presentation step of presenting a state of the pairing between one of the first hardware devices serving as the control target in the control execution step and the control device, or presenting a type and connection status of one or more of the second hardware devices connected to one of the first hardware devices together with the state of the pairing,

the control method further comprises:

a communication step of transmitting an execution result of a program to one of the first hardware devices by a second near field communication of a predetermined scheme, the program is created to control one of the first hardware devices and one or more second hardware devices connected to

the first hardware device, which are the control target for executing the predetermined series of processes; and

a confirmation step of confirming the contents of the created program based on the execution result of the program and stores the program in the storage means.

7. A program causing a computer to execute a control process, the computer controlling a control device in an information processing system including the control device, a plurality of first hardware devices having a function of pairing with the control device through near field communication and a function of communicating with another hardware device, and a plurality of second hardware devices having a function of communicating with the first hardware devices and a function of fulfilling a predetermined function, the control device has a storage means in which a program related to realizing the predetermined function is stored, the control process comprising:

a control execution step of executing control of combining the first hardware devices and the second hardware devices and causing a predetermined series of processes to be executed;

a pairing execution step of executing pairing between one of the first hardware devices serving as a control target in the control execution step and the control device in accordance with a first near field communication of a predetermined scheme; and

a presentation step of presenting a state of the pairing between one of the first hardware devices serving as the control target in the control execution step and the control device, or presenting a type and connection status of one or more of the second hardware devices connected to one of the first hardware devices together with the state of the pairing,

the control process further comprises:

a communication step of transmitting an execution result of a program to one of the first hardware devices by a second near field communication of a predetermined scheme, the program is created to control one of the first hardware devices and one or more second hardware devices connected to the first hardware device, which are the control target for executing the predetermined series of processes; and

a confirmation step of confirming the contents of the created program based on the execution result of the program and stores the program in the storage means.

8. An information processing device functioning as a first hardware device in an information processing system according to claim 1, the information processing device comprising:

a communication control means that controls communication with one of the second hardware devices;

a pairing execution means that executes pairing between the information processing device and the control device in accordance with a first near field communication of a predetermined scheme when the information processing device

becomes a control target in a case in which control of combining a plurality of pairs of the first hardware devices and the second hardware devices and causing a predetermined series of processes to be executed in the control device; and

a communication means that receives an execution result of a program from the control device by a second near field communication of a predetermined scheme, the program is created to control the first hardware devices and one or more second hardware devices connected to the first hardware device, which are the control target.