CLAIMS

[Claim 1]

A data integration ~~device~~ apparatus comprising a platform configured to automatically perform a type conversion of objects, wherein

the platform is provided in a controller of the data integration apparatus~~device~~, and includes an interpreter and an integrator, and

the controller is operated so that

the interpreter generates information of a language format in which objects are associated with words, from a graph representing a relationship of the objects of the platform; and

the integrator holds the information, and performs creation and conversion of the graph so as to reflect the information on the graph.

[Claim 2]

The data integration apparatus~~device~~ as claimed in claim 1, wherein the integrator

reflects on the graph, in addition to the information generated by the interpreter, information of the language format input by a user, so as to integrate the information generated by the interpreter and the information of the language format input by the user.

[Claim 3]

The data integration apparatus~~device~~ as claimed in claim 1 or 2, wherein the interpreter

converts a structure of the graph representing the relationship of the objects of the platform, based on a hypernymy-hyponymy relationship of the objects, so that constituent elements of the graph are converted into a type more on the hyponymy-side.

[Claim 4]

The data integration apparatus~~device~~ as claimed in any one of claims 1 to 3, wherein the integrator

performs an inference process with respect to the information of the language format held by the integrator, by taking into consideration a hypernymy-hyponymy relationship of the objects, so as to convert the information held by the integrator.

[Claim 5]

The data integration apparatus~~device~~ as claimed in any one of claims 1 to 4, wherein the information of the language format is similar to a natural language, and the controller

generates an output to a user, according to the natural language or a word or sentence similar to the natural language input by the user.

[Claim 6]

A data integration method using a platform configured to automatically performing a type conversion of objects, wherein

the platform is provided in a controller of a computer, and includes an interpreter and an integrator, and

performs a process comprising steps of:

generating, by the interpreter, information of a language format in which objects are associated with words, from a graph representing a relationship of the objects of the platform; and

holding, by the integrator, the information, to perform creation and conversion of the graph so as to reflect the information on the graph.

[Claim 7]

A program to be executed by a computer, wherein

a platform is provided in a controller of the computer, and includes an interpreter and an integrator, and automatically performs a type conversion of objects, and

the program causes the controller of the computer to perform a process comprising steps of:

generating, by the interpreter, information of a language format in which objects are associated with words, from a graph representing a relationship of the objects of the platform; and

holding, by the integrator, the information, to perform creation and conversion of the graph so as to reflect the information on the graph.

[Claim 8]

A digital city building system comprising a platform for automatically performing a type conversion of objects, and element programs, wherein

the platform implements a loose coupling of the element programs by abstracting an input format of the element programs and extending an application range, by path search

and automatic execution of a type conversion based on a hypernymy-hyponymy relationship of the objects.

[Claim 9]

The digital city building system as claimed in claim 8, wherein

the platform is provided in a controller of the system, and includes an interpreter and an integrator, and

the controller is operated so that

the interpreter generates information of a language format in which objects are associated with words, from a graph representing a relationship of the objects of the platform; and

the integrator holds the information, and performs creation and conversion of the graph so as to reflect the information on the graph.

[Claim 10]

The digital city building system as claimed in claim 8 or 9, wherein an expression target of the data integrated by the interpreter and the integrator of the platform is a city or a structure.

[claim 11]

A communication interface configured to connect the data integration apparatus, according to any one of claims 1 to 4, to an external network.

[claim 12]

A communication interface configured to receive data to be input to the digital city building system according to any one of claims 8 to 10.