

Although various recognition engines have been developed as described above, the respective recognition engines are incorporated in specific systems depending on individual applications, and therefore, it is difficult to use these recognition engines for other purposes. Even if it is intended to reuse the recognition engines, development of a new system capable of using the recognition engines needs huge cost because output formats of the recognition engines are different from each other. Thus, there is a problem that it is impossible to flexibly respond to an application's request for use of output results acquired from a plurality of recognition engines and development of such a system needs huge cost.

SUMMARY

[0005]

Accordingly, ~~embodiments~~an object of the present invention ~~is to~~ solve the abovementioned problem; it is difficult to reuse output results acquired from a plurality of recognition engines at low cost.

[0006]

~~In order to achieve the abovementioned object, an information processing device of an exemplary embodiment of the present invention includes:~~

~~—— a recognition result acquiring means for acquiring respective recognition result information outputted by a plurality of recognition engines executing different recognition processes on recognition target data; and~~

~~—— an integration recognition result outputting means for outputting a new recognition result obtained by integrating the respective recognition result information acquired from the plurality of recognition engines, wherein:~~

~~the recognition result acquiring means is configured to acquire the respective recognition result information in a data format common to the plurality of recognition engines, from the plurality of recognition engines; and~~

~~the integration recognition result outputting means is configured to integrate the respective recognition result information based on the respective recognition result information and output as the new recognition result.~~In a first aspect, there is provided an information processing device comprising: a recognition result acquiring means for acquiring respective recognition result information outputted by a plurality of recognition engines executing different recognition processes on recognition target data; and an integration recognition result outputting means for outputting a new recognition result obtained by integrating the respective recognition result information acquired from the plurality of recognition engines, wherein: the recognition result acquiring means is configured to acquire the respective recognition result information in a graph-structured or tree-structured data format common to the plurality of recognition engines, from the plurality of recognition engines; and the integration recognition result outputting means is configured to, when the respective recognition result information include information corresponding to each other in accordance with a predetermined standard, integrate each part of the respective recognition result information so as to be related to each other, and output in the graph-structured or tree-structured data format as the new recognition result.

[0006a]

In a second aspect, there is provided an information processing device comprising: a recognition result acquiring means for acquiring respective recognition result information outputted by a plurality of recognition engines executing different recognition processes on recognition target data; and an integration recognition result outputting means for outputting a new recognition result obtained by integrating the respective recognition result information

acquired from the plurality of recognition engines, the recognition result acquiring means is configured to acquire the respective recognition result information in a data format common to the plurality of recognition engines, from the plurality of recognition engines; the integration recognition result outputting means is configured to, when the respective recognition result information include information that correspond to each other in accordance with a predetermined standard, integrate the respective recognition result information and output as the new recognition result; the recognition result acquiring means is configured to acquire the recognition result information from an object recognition engine that recognizes an object from the recognition target data and a flow recognition engine that recognizes a flow representing a trajectory of a predetermined object from the recognition target data, respectively; and the integration recognition result outputting means is configured to integrate by relating flow information of a predetermined object with object information and output as the new recognition result, the flow information being the recognition result information acquired from the flow recognition engine, and the object information being the recognition result information acquired from the object recognition engine.

[0007]

Further, a computer program of another exemplary embodiment of the present invention is a computer program including instructions for causing an information processing device to realize:

— a recognition result acquiring means for acquiring respective recognition result information outputted by a plurality of recognition engines executing different recognition processes on recognition target data; and

— an integration recognition result outputting means for outputting a new recognition result obtained by integrating the respective recognition result information acquired from the plurality of recognition engines,

the computer program also including instructions for:

~~causing the recognition result acquiring means to acquire the recognition result information in a data format common to the plurality of recognition engines, from each of the plurality of recognition engines; and~~

~~causing the integration recognition result outputting means to integrate the respective recognition result information based on the respective recognition result information and output~~

~~as the new recognition result.~~In a third aspect, there is provided a computer program comprising instructions for causing an information processing device to realize: a recognition result acquiring means for acquiring respective recognition result information outputted by a plurality of recognition engines executing different recognition processes on recognition target data; and an integration recognition result outputting means for outputting a new recognition result obtained by integrating the respective recognition result information acquired from the plurality of recognition engines, the computer program also comprising instructions for: causing the recognition result acquiring means to acquire the respective recognition result information in a graph-structured or tree-structured data format common to the plurality of recognition engines, from the plurality of recognition engines; and causing the integration recognition result outputting means to , when the respective recognition result information include information corresponding to each other in accordance with a predetermined standard, integrate each part of the respective recognition result information so as to be related to each other and output in the graph-structured or tree-structured data format as the new recognition result.

[0008]

Further, ~~an information processing method of another exemplary embodiment of the present invention includes:~~

~~—— acquiring respective recognition result information outputted by a plurality of recognition engines executing different recognition processes on recognition target data, the respective recognition result information being in a data format common to the plurality of recognition engines; and~~

~~—— integrating the respective recognition result information based on the respective recognition result information acquired from the plurality of recognition engines and outputting as a new recognition result.~~In a fourth aspect, there is provided an information

processing method comprising: acquiring respective recognition result information outputted by a plurality of recognition engines executing different recognition processes on recognition target data, the respective recognition result information being in a graph-structured or tree-structured data format common to the plurality of recognition engines; and integrating, when the respective recognition result information include information corresponding to each other in accordance with a predetermined standard, each part of the respective recognition result information so as to be related to each other acquired from the plurality of recognition engines, and outputting in the graph-structured or tree-structured as a new recognition result.

[0009]

~~With the configurations as~~ described above, embodiments of the present invention can provide an information processing device capable of reusing outputs results acquired from a plurality of recognition engines at low cost.

BRIEF DESCRIPTION OF DRAWINGS

[0010]

Fig. 1 is a block diagram showing the configuration of an intermediate-layer device in the present invention;

Fig. 2 is a diagram showing an example of the structure of a recognition result registered in an intermediate-layer device in a first exemplary embodiment of the present