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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MATTHIAS LENORD,
RAYMOND KOK,
and XIAOXIANG SHI

Appeal 2014-004914
Application 12/760,259
Technology Center 3600

Before ANTON W. FETTING, JOSEPH A. FISCHETTI, and BRUCE T. WIEDER, *Administrative Patent Judges.*

FETTING, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE[1]

Matthias Lenord, Raymond Kok, and Xiaoxiang Shi (Appellants) seek review under 35 U.S.C. § 134 of a final rejection of claims 1–21, the only claims pending in the application on appeal. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

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[1] Our decision will make reference to the Appellants' Appeal Brief ("App. Br.," filed September 9, 2013) and Reply Brief ("Reply Br.," filed February 24, 2014), and the Examiner's Answer ("Ans.," mailed January 2, 2014), and Final Action ("Final Act.," mailed March 11, 2013).

The Appellants invented a way of instantiating a function-based mechatronic object as a product-specific mechatronic object and evaluating a plurality of linked requirements and functional information for the product-specific mechatronic object. Specification para. 5.

An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below (bracketed matter and some paragraphing added).

> 1. A method for creation of a mechatronics object, comprising:
>
> [1] receiving a selection of a function-based mechatronic object in a data processing system,
>
> the function-based mechatronic object including
>
> a plurality of linked requirements
>
> and
>
> functional information;
>
> [2] instantiating the product-specific mechatronic object
>
> as a product specific mechatronic object
>
> by the data processing system;
>
> [3] evaluating a plurality of linked requirements and functional information
>
> for the product-specific mechatronic object
>
> by the data processing system;
>
> [4] assigning product-specific specifications
>
> to the functional information
>
> of the product-specific mechatronic object
>
> by the data processing system;
>
> and
>
> [5] storing the product-specific mechatronics object,
>
> including the linked requirements and functions,

in the data processing system.

The Examiner relies upon the following prior art:

Campestre	US 6,220,743 B1	Apr. 24, 2001
Craig	US 2002/0128810 A1	Sep. 12, 2002
Zulpa	US 6,650,954 B2	Nov. 18, 2003
Moeller '551	US 6,957,551 B2	Oct. 25, 2005
Moeller '328	US 2008/0010328 A1	Jan. 10, 2008
Colombo	US 7,363,204 B2	Apr. 22, 2008

Claims 1, 2, 6, 8–10, 13, 15–17, and 20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Campestre and Zulpa.

Claims 4, 11, and 18 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Campestre, Zulpa, and Moeller '551.

Claims 3, 12, and 19 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Campestre, Zulpa, and Colombo.

Claims 7, 14, and 21 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Campestre, Zulpa, and Moeller '328.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Campestre, Zulpa, Colombo, and Craig.

ISSUES

The issues of obviousness turn primarily on whether Campestre describes selecting an existing software object prior to instantiation.

FACTS PERTINENT TO THE ISSUES

The following enumerated Findings of Fact (FF) are believed to be supported by a preponderance of the evidence.

Facts Related to Claim Construction

01. In general, mechatronics refers the synergistic combination of mechanical engineering, electrical/electronic engineering, computer engineering, control engineering, systems design engineering, and other technical disciplines to create, design, and manufacture useful products. Spec. para. 14. Mechatronics as an adjective, then, is neither a structural or functional modifier, but describes the genus of disciplines one might use in designing how to make and use the noun "mechatronic" modifies.

02. The Specification does not lexicographically define "object."

03. The ordinary meaning of an object in a computer object oriented context is, in object-oriented programming, an instance of the data structure and behavior defined by the object's class. Each object has its own values for the instance variables of its class and can respond to the methods defined by its class.[2]

Facts Related to the Prior Art

Campestre

04. Campestre is directed to the design and economic analysis of new durable goods based on knowledge of the durable good of

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[2] Free Online Dictionary of Computing, Accessed November 7, 2016, http://foldoc.org//object

interest, the plastics materials and processes to be used, and cost, market, and market share information. Campestre 1:10–15.

05. Classes, objects, and methods implement the declarative and procedural knowledge, and rules capture the search strategies. The rules, correspond to "rules of thumb" elicited from experts during the knowledge acquisition process. Campestre 30:41–44.

06. Campestre describes selecting the most appropriate classes of materials and fabrication processes for a particular "durable goods" application. The selection process is based on material functional values and on process characteristics. Materials and fabrication processes can rapidly be selected or rejected for a particular "durable goods" application based on materials functional values and processes characteristics. The application must meet certain criteria and perform definite functions, and, therefore, materials and fabrication processes are selected that meet the criteria and functional limitations of the particular "durable goods" application of interest. Shape complexity, part toughness, and transparency are instances of such criteria. Such criteria and functions are used in the section process. Campestre 31:35–32:9.

07. The module contains two separate, similar, structures to implement these two modes of explanation. Each of these two structures features: (1) the encapsulation of meaning and context within rules; (2) the use of necessary containers (attributes,

objects, and classes); and (3) the tracking of the firing of rules. Campestre 34:56–61.

08. As with the Processes and Materials Selection Module, the Opportunity Identification knowledge base module includes a dynamic explanation of reasoning. The system explains how it reaches conclusions and provides information on the inference chains used to arrive at any particular conclusion. In order to supply the user with such explanatory information, the module has been designed so that: (1) relevant context and meaning have been encapsulated in rules; (2) the necessary containers (classes, objects, and attributes) have been defined; and (3) a record of rules firing has been kept. Campestre 41:66–42:9.

Zulpa

09. Zulpa is directed to parts review processes in a manufacturing environment, and more particularly, reviewing parts usage, assessing related risks, developing an action plan for non-preferred parts, and providing this information to developers and procurement parties over a communications network. Zulpa 1:7–13.

ANALYSIS

We are not persuaded by Appellants' argument that the Examiner has failed to show an object that is function-based in the field of mechatronics. App. Br. 20. Appellants generally describe what an object is from outside sources at Appeal Brief 19. This is consistent with the definition in the

Findings of Fact supra. In particular, an object is an instance of a collection of linked data for which software methods are defined in a class that is linked to the object instance. As a result, any software object is an instantiated specific object with linked data and linked functional method requirements and functional information defined by those methods stored in a data processing system. Modifying such an object with the adjective "mechatronic" does not narrow the scope of such objects as this adjective describes disciplines that might be used in design of making and using, but does not characterize structure or functionality of the objects. As to Appellants' argument that if Campestre used software objects, it would use that term, *id.*, Capestre describes using such objects by referring to objects as containers for the data and rules.

That said, we are persuaded by Appellants' argument that Campestre fails to show selecting such an existing object prior to instantiation. App. Br. 23–30. The Examiner cites several portions of Campestre describing the selection of physical objects to model in Campestre. Ans. 3–4. Campestre then describes effectively how to instantiate the data of such a physical object into a container object. FF 05–08. While this achieves the result of claim 1, it does not do so by the implementation recited in claim 1, which recites beginning with the selection of a pre-existing software object, contrasted with selection of a physical object to describe in Campestre, that describes a generic physical object prior to instantiation.

All independent claims have a similar limitation.

CONCLUSIONS OF LAW

The rejection of claims 1, 2, 6, 8–10, 13, 15–17, and 20 under 35 U.S.C. § 103(a) as unpatentable over Campestre and Zulpa is improper.

The rejection of claims 4, 11, and 18 under 35 U.S.C. § 103(a) as unpatentable over Campestre, Zulpa, and Moeller '551 is improper.

The rejection of claims 3, 12, and 19 under 35 U.S.C. § 103(a) as unpatentable over Campestre, Zulpa, and Colombo is improper.

The rejection of claims 7, 14, and 21 under 35 U.S.C. § 103(a) as unpatentable over Campestre, Zulpa, and Moeller '328 is improper.

The rejection of claim 5 under 35 U.S.C. § 103(a) as unpatentable over Campestre, Zulpa, Colombo, and Craig is improper.

DECISION

The rejection of claims 1–21 is reversed.

REVERSED