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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANNAP DEREBAIL, AMARESH RAJASEKHARAN,
and MAN MOHAN SINGH

Appeal 2017-001922¹
Application 14/230,564
Technology Center 3600

Before ANTON W. FETTING, CYNTHIA L. MURPHY, and
AMEE A. SHAH, *Administrative Patent Judges*.

SHAH, *Administrative Patent Judge*.

DECISION ON APPEAL²

The Appellants³ appeal under 35 U.S.C. § 134(a) from the Examiner's final decision rejecting claims 1–8, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We note related appeal 2017-001849, application 13/847,012.

² Throughout this Decision, we refer to the Appellants' Appeal Brief ("Appeal Br.," filed June 21, 2016), Reply Brief ("Reply Br.," filed Nov. 15, 2016), and Specification ("Spec.," filed Mar. 31, 2014), and to the Examiner's Answer ("Ans.," mailed Sept. 15, 2016), and Final Office Action ("Final Act.," mailed Mar. 21, 2016).

³ According to the Appellants, the real party in interest is "IBM Corporation." Appeal Br. 1.

STATEMENT OF THE CASE

The Appellants' invention "relates to cross-domain integration within a product lifecycle management (PLM) process." Spec. ¶ 20.

Claim 1 (Appeal Br. 27 (Claims App.)) is the only independent claim on appeal, is representative of the subject matter on appeal, and is reproduced below.

1. A method, comprising:

providing a plurality of finite state machines, wherein each finite state machine is associated with one business object of an integration flow between a first enterprise information system and a second enterprise information system, and wherein each finite state machine defines a plurality of lifecycle states of the associated business object;

associating, using a processor, a business rule with each lifecycle state of each finite state machine, wherein for each finite state machine, the associated business rules are independent of the finite state machine, and wherein for a selected lifecycle state of each finite state machine, the associated business rule defines a condition causing a transition from the selected lifecycle state to a next lifecycle state of the finite state machine; and

establishing, using the processor, a network of the plurality of finite state machines by providing communication links among individual ones of the plurality of finite state machines according to the business rules, wherein the communication links define the integration flow.

REJECTIONS

I. Claims 1–8 stand rejected under the doctrine of provisional nonstatutory double patenting over claims 9–20 of co-pending application 13/847,012. Final Act. 6.

II. Claims 1–8 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. *Id.* at 7.

III. Claims 1–8 stand rejected under AIA 35 U.S.C. § 102(a)(1) as being anticipated by Nguyen (US 2005/0043982 A1, pub. Feb. 24, 2005). *Id.* at 9.

ANALYSIS

Rejection I – Provisional Nonstatutory Double Patenting

The Examiner rejects claims 1–8 on the ground of nonstatutory double patenting as being unpatentable over claims 9–20 of copending application 13/847,012, related appeal 2017-001849, because the two sets of claims “differ only in the statutory category in which the same process is implemented as one application claims a system and computer program product and the other claims a method. However, the steps of the process are the same in both applications.” Final Act. 6. We note that apparatus claims 9–20 of application 13/847,012, perform the functions as claimed in method claims 1–8 here, with the exception that, in method claims 1–8, the step of providing a plurality of machines is not performed by a processor.

The Appellants do not argue against this rejection but state that “[t]his rejection is not the subject of the present appeal. Appellants will make a determination as to the filing of a Terminal Disclaimer upon indication of allowable subject matter.” Appeal Br. 3, n.1.

Because the Appellants provide no arguments against the double patenting rejection, we summarily affirm.

Rejection II—Patent-Ineligible Subject Matter—§ 101

Under 35 U.S.C. § 101, a patent may be obtained for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” The Supreme Court has “long held that this provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 588–89 (2013)).

The Supreme Court in *Alice* reiterated the two-step framework, set forth previously in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 78–79 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice*, 134 S. Ct. at 2355. The first step in that analysis is to “determine whether the claims at issue are *directed to* one of those patent-ineligible concepts.” *Id.* (emphasis added) (citing *Mayo*, 566 U.S. at 79). If so, the second step is to consider the elements of the claims “individually and ‘as an ordered combination’” to determine whether the additional elements “‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (quoting *Mayo*, 566 U.S. at 78–79).

Turning to the first step of the *Mayo/Alice* framework, we consider the claims “in their entirety to ascertain whether their character as a whole is

directed to excluded subject matter.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015). The question is whether the claims as a whole “focus on a specific means or method that improves the relevant technology” or are “directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016).

Here, the Examiner determines that the claims are directed to “providing logic associated with business objects in a flow, associating business rules with lifecycle states, and communicating links between logic flows, which is a practice similar to those found by the courts to be abstract.” Final Act. 7. The Appellants do not state to what they consider the claims directed, but contend the Examiner’s determination is in error because “the Examiner appears to be analyzing elements of the claimed invention separately. . . instead of analyzing the claimed invention, as a whole” (Appeal Br. 10), and “the Examiner’s reliance upon Cybersource is misplaced” (*id.* at 11 (citing *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1371 (Fed. Cir. 2011))).

The Title of the Specification provides for “CROSS DOMAIN INTEGRATION IN PRODUCT LIFECYCLE MANAGEMENT.” The Background section of the Specification discusses that enterprise information systems (“EIS”) typically handle each phase of the lifecycle of a product in the process of product lifecycle management. Spec. ¶ 1. To effectuate the process of product lifecycle management two or more EISs must communicate with one another. *Id.* Such communication “across EIS domains generally requires a significant amount of data processing.” *Id.* ¶ 2.

And, customizations of the EISs within each organization result in ever-changing EISs. *Id.* ¶ 3. “Adapting a monolithic system tasked with establishing cross domain communication between two EISs under these circumstances can be a time consuming and complex task . . . [and] typically requires redesign by skilled software developers that possess a high degree of familiarity with the system being modified.” *Id.* The invention implements a network of finite state machines to “facilitate cross-domain integration.” *Id.* ¶ 20. “Rather than utilize a monolithic system in which processing logic is comingled with control logic, each finite state machine of the network of finite state machines is correlated with a particular business object.” *Id.* By using business rules that exist external to, and independent of, the finite state machines, “cross-domain integration becomes a flexible process that is adaptable to changing environments through modification of the business rules. Moreover, the adaptability of the system is realized through user administration of the business rules.” *Id.* ¶ 21.

Claim 1 provides for a method comprising: “providing a plurality of finite state machines,” “associating, using a processor, a business rule with each lifecycle state of each finite state machine,” and “establishing, using the processor, a network of the plurality of finite state machines by providing communication links” according to the business rules. Appeal Br. 27 (Claims App.). The processor claimed is central processing unit/processor 205, part of system 200 that also includes memory elements and a system bus/circuitry, i.e., a generic processor. Spec. ¶ 28; *see also* Appeal Br. 2. The finite state machines are “implemented in the form of executable program code, [and are] executed by system 200.” Spec. ¶ 32; Appeal Br. 2. The operation of establishing a network is performed by providing

communication links according to business rules by using any of a variety of known communication protocols. *See* Spec. ¶¶ 33, 44, 55; Appeal Br. 3.

In light of Specification’s description of the problem and solution, the purported advance over the prior art by the claimed invention is a way to establish a network of a plurality of systems by providing communication links between implemented code data of each system based on rules defining the data flow. In that context, the claims are directed to integrating data flow by using rules to establish communication links between systems. Thus, we find error in the Examiner’s determination that, under the first step in the *Alice/Mayo* framework, the claims are directed to “providing logic associated with business objects in a flow, associating business rules with lifecycle states, and communicating links between logic flows.”

The claims here do not simply collect, organize, and analyze data as in *CyberSource*, 654 F.3d at 1370 (*see* Final Act. 7), where the claims were directed to verifying Internet credit card transactions by collecting, organizing, and comparing data pertinent to business risks. Although the step of providing the finite state machines can be performed mentally or manually, the claims are not similar to those of *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed. App’x 988, 992 (Fed. Cir. 2014) (*see* Ans. 3), where the claims organized, stored, and transmitted information. Rather, the claims here are more similar to *McRO*, 837 F.3d at 1314, in that it is the incorporation of the rules, not the use of a general purpose computer, that improves the technological process of integrating data flow between systems. Here, the claims “go[] beyond merely ‘organizing [existing] information into a new form’ or carrying out a fundamental economic practice.” *Id.* at 1315 (quoting *Digitech Image Techs., LLC v. Elecs. for*

Imaging, Inc., 758 F.3d 1344, 1351 (Fed. Cir. 2014)). The claims at issue here require specific features of the rules that limit the claims to a specific process for integrating data flow between systems by establishing communication links using particular information and, thus, techniques. *See id.* at 1316. When looked at as a whole, the claims are directed to a technological improvement over existing ways of data flow between enterprise information systems.

Because we determine that the claims are not directed to patent ineligible subject matter, we do not reach the second step of the *Alice/Mayo* framework.

Based on the foregoing, we do not sustain the Examiner’s rejection under 35 U.S.C. § 101 of claims 1–8.

Rejection III – Anticipation — § 102(a)(1)

We agree with the Appellants’ contention that the Examiner does not adequately show that Nguyen discloses establishing a network of a plurality of finite state machines by providing communication links according to the business rules, the links defining the integration flow, as recited in independent claim 1. *See* Appeal Br. 25; Reply Br. 10–12.

The Examiner finds that Nguyen discloses the limitations of independent claim 1 at paragraphs 21 and 22. Final Act. 9–10. These paragraphs of Nguyen disclose a “Contextual Workflow Modeling (CWM) [that] is centered on a modified finite state machine running strictly in the context of a data environment.” Nguyen ¶ 21. The isolation of the state machine by the data environment ensures that changes in the running status of the state machine are effected only through changes in the data

environment. *Id.* The CWM is primarily concerned with how the outcome of an action impacts the data environment (*id.*), and “is a rule-based system where all workflow events, ranging from task initiation to state activation to participant assignments, are governed by user-defined business rules” (*id.* ¶ 22). The rules “form the bridge connecting the data environment to the state machine.” *Id.* The information regarding who has the privilege and responsibility to modify the data environment in conjunction with the current workflow data contents are used to dynamically generate a task list, ensuring an up-to-date task list without manual intervention. *Id.*

The Examiner finds that Nguyen’s workflow events meet the claimed integration flow and Nguyen’s data environment and state machine meet the claimed two enterprise systems. Ans. 6. However, the Examiner does not adequately explain, such that one of ordinary skill in the art would understand, how Nguyen discloses establishing a network of its modified state machine and data environment by providing communications links that are based on the rules and that define the workflow events. Although Nguyen discloses the rules forming a “bridge” connecting a data environment with the state machine, the Examiner does not adequately explain how this discloses providing communication links between a plurality of state machines (each associated with an enterprise system), based on the rules, with the links defining the workflow events. Even if, arguably, Nguyen discloses providing a communication link in the form of a bridge between the machine and the data environment, Nguyen is clear that its data environment is not a state machine of a separate system from Nguyen’s modified state machine, but rather, is a separate structure that isolates the state machine within the same system. *See* Nguyen ¶ 21; *see*

also Appeal Br. 22. Further, even if the bridge is based on rules drawn from the data environment, we do not see, and the Examiner does not adequately explain, how Nguyen discloses that the bridge defines the workflow events. At best, the bridge allows for information to be shared and that is then used to generate a task list. *See* Nguyen ¶ 22. As such, we do not see how Nguyen discloses establishing a network of state machines by providing links that are among the machines, are according to rules, and that define the integration flow.

Based on the foregoing, we do not sustain the Examiner's rejection under 35 U.S.C. § 102(a)(1) of independent claim 1, and dependent claims 2–8.

DECISION

The Examiner's provisional rejection of claims 1–8 on the ground of non-statutory double-patenting is **AFFIRMED**.

The Examiner's rejection of claims 1–8 under 35 U.S.C. § 101 is **REVERSED**.

The Examiner's rejection of claims 1–8 under 35 U.S.C. § 102(a)(1) is **REVERSED**.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED