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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN M. MELA¹

Appeal 2017-009306
Application 11/177,483
Technology Center 3600

Before CARL W. WHITEHEAD JR., JEREMY J. CURCURI, and
JOHN R. KENNY, *Administrative Patent Judges*.

KENNY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134 from a non-final rejection of claims 56–64 and 66–69, which constitute all pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Appellant identifies Oracle International Corp. as the real party in interest. App. Br. 2.

SPECIFICATION

The claimed invention relates to a method for eliminating bounceback behavior while configuring online products. Spec. ¶ 1. The Specification explains that, when configuring a product online, a user is typically presented with a number of components or features that can be selected. *Id.* at ¶ 2. According to the Specification, however, some features that can be selected are not compatible with other features that can also be selected. For example, a 500 MHz processor may be compatible with a 10 and 20 GB (gigabyte) disk drive, but not with a 30 GB disk drive. *Id.* at ¶ 5. In contrast, a 700 MHz processor may be compatible with the 30 GB disk drive, but not with a 10 or 20 GB disk drive. *Id.* at ¶ 6.

The Specification explains that, in a typical online configuration system, incompatible selections may be eliminated or greyed out after a user has made a first selection. Spec. ¶ 4. For example, if a user selects a 500 MHz processor, the system may grey out or eliminate the option of a 30GB disk drive: an intended result. *Id.* In some systems, however, the elimination of the 30 GB disk drive will, in turn, eliminate the option of the 700 MHz processor because the 700 MHz processor requires the 30 GB disk drive. *Id.* at ¶¶ 5–6. At which point, the system will no longer display the 700 MHz processor as an option even though it is still an option. *Id.* The 700 MHz processor is greyed out by bounceback propagation of constraints caused by selecting the 500 MHz processor. *Id.* The Specification is directed to solving this problem. *Id.* at ¶ 9.

Claim 56, which is illustrative of the claimed invention, is reproduced below:

56. A method comprising:

receiving, at a computer system, a set of one or more constraints imposed upon a configuration problem having a plurality of variables and a plurality of domain members associated to the plurality of variables, the set of constraints defining a first condition between a first domain member of a first variable in the plurality of variables and a first domain member of a second variable in the plurality of variables, the set of conditions further defining a second condition between a second domain member of the first variable and a second domain member of the second variable;

setting a bounceback detection bit vector for each of the plurality of domain members, wherein the bounceback detection bit vector includes one bit assigned to each of the plurality of variables to indicate if the domain member is compatible with the assigned variable based on the set of constraints, wherein a first configuration page is configured to display the plurality of domain members as selectable options on a display;

(a) receiving, at the computer system from a remote computer via a network, a selection of the first domain member of the first variable in the plurality of variables made via the first configuration page displaying the plurality of domain members of the first variable;

(b) determining, with a processor of the computer system, a configuration state for the configuration problem based on propagating the set of constraints associated with the selection to the bounceback detection bit vectors of each non-selected domain member by setting bit values in the bounceback detection bit vectors to reflect the selection of the first domain member of the first variable, wherein the bit values from the bounceback detection bit vectors indicate which non-selected domain members are eliminated from the display of the first configuration page as being incompatible with the selection;

(c) determining, with the processor of the computer system, if a bounceback is detected for an eliminated domain member, by determining if the bounceback detection bit vector of the eliminated domain member has only one bit set and the one bit set is assigned to a variable that is associated with the

eliminated domain member, wherein if the bounceback is detected, then reinstating the eliminated domain member as being selectable on the display;

(d) modifying, with the processor of the computer system, the configuration state to include the eliminated domain member as being selectable on the display; and

(e) generating, with the processor of the computer system and transmitting to the remote computer, a second configuration page for displaying the plurality of domain members as selectable or eliminated based on the modified configuration state.

REJECTION

Claims 56–64 and 66–69 stand rejected under 35 U.S.C. § 101 as directed to patent ineligible subject matter.² Non-Final Act. 4–5.

ANALYSIS

In *Alice Corp. Pty. Ltd. v. CLS Bank International*, 573 U.S. 208 (2014), the Supreme Court reiterated an analytical two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 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*, 573 U.S. at 217. The first step in the analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts,” such as an abstract idea. *Id.* If the claims are directed to eligible subject matter, the inquiry ends. *Thales Visionix Inc. v. U.S.*, 850 F.3d 1343, 1346 (Fed. Cir. 2017); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016).

² In the Non-Final Action, the Examiner rejected claims 54–64 and 66–69 under 35 U.S.C. § 112, second paragraph. Non-Final Act. 6. In the Answer, however, the Examiner withdrew that rejection. Ans. 6.

If the claims are directed to a patent-ineligible concept, the second step in the analysis is to consider the elements of the claims “individually and ‘as an ordered combination’” to determine whether there are additional elements that “‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 78). In other words, the second step is to “search for an ‘inventive concept’—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Id.* (citing *Mayo*, 566 U.S. at 72–73).

In the Non-Final Action, the Examiner determines that claims 56–64 and 66–69 are directed to ideas that are analogous to those that have been found to be abstract in *Cyberfone Systems, LLC v. CNN Interactive Group, Inc.*, 558 Fed. Appx. 988 (Fed. Cir. 2014); *SmartGene Inc v Advanced Biological Laboratories SA*, 555 Fed. Appx. 950 (Fed. Cir. 2014); *Buysafe, Inc. v. Google, Inc.*, 765 F.3d 1350 (Fed. Cir. 2014), and *Planet Bingo LLC v. VKGS LLC*, 576 Fed. Appx. 1005 (Fed. Cir. 2014). Non-Final Act. 5. The Examiner further determines that the recitation of a bit vector does not transform the claims into patent eligible subject matter. *Id.*

Alice Step One

Appellant argues claims 56–64 and 66–69 are not directed to an abstract idea because they recite using a bounceback detection bit vector to detect bounceback and reinstating eliminated domain members based on that detection. App. Br. 10. Appellant further asserts that the recited use of a bit vector is a technical solution because a bit vector only exists in computer structures and its use by Appellant is also an improvement in the technological process of online product configuration. *Id.* at 12. Further, Appellant argues that claim 56 recites additional elements that reinstate and

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redisplay previously eliminated domain members using bounceback detection bit vectors, which improves online product configuration. *Id.* The Examiner responds that Appellant's claims are directed to a constraint reasoning problem, which is well known problem in academia, purely as field of study, not tied to any technological environment. Ans. 2. In reply, Appellant argues that whether claim 56 is directed to a well-known problem is irrelevant under 35 U.S.C. § 101. Reply 4.

We agree with the Examiner concerning step one. The Examiner has set forth a basis why the claims are directed to an idea that is abstract and unconnected to any particular technological solution: constraint reasoning. Ans. 2. We further agree that constraint reasoning is analogous to ideas that the Federal Circuit has determined to be abstract, including in *Cyberfone*, where the Federal Circuit determined that the "well-known concept of categorical storage, i.e., the idea of collecting information in classified form, then separating and transmitting that information according to its classification, is an abstract idea . . ." *Cyberfone*, 558 Fed. Appx. at 992. Constraint reasoning is similarly analogous to the transaction performance guaranty addressed in *BuySafe* because both constraint reasoning and a transaction performance guaranty are directed to business issues, unconnected to any particular technology (e.g., not database operations, engines). *BuySafe*, 765 F.3d at 1355. Although Appellant argues that online product configuration is a technical field, we do not agree. App. 12. By the time of Appellant's filing, online product configuration had become a fundamental economic practice and, thus, is not by itself patent eligible subject matter. Ans. 2; *Alice*, 134 S. Ct. at 2356.

We also do not agree with Appellant's argument that the recitation of a bit vector and the detection of bounceback is necessarily rooted in

computer technology because a bit vector only exists in a computer. App. Br. 14–15. The claims in *Alice* also recited elements that only existed in or utilized computers: “As stipulated, the claimed method requires the use of a computer to create electronic records, track multiple transactions, and issue simultaneous instructions; in other words, ‘[t]he computer is itself the intermediary.’” *Alice*, 573 U.S. at 224. Yet, even with those elements, the claims in *Alice* were not directed to a technological invention. *Id.* (rejecting the concept that “the determination of patent eligibility would ‘depend simply on the draftsman’s art,’” quoting *Parker v. Flook*, 437 U.S. 584, 593 (2014)). Here, the claims merely recite the use of bit vectors. They do not recite any mechanism by which bit vectors solve a particular technological problem (e.g., creating better computer efficiency), nor has Appellant presented any evidence that they do. Determining that the mere recitation of this aspect of computer technology, a bit vector, would be sufficient to render the claims patent eligible would rest the determination of patent eligibility on the draftsman’s art, which we cannot do.

Alice Step Two

Appellant argues that a bit vector is unique to computer technology and thus Appellant’s use of a bit vector is an inventive concept sufficient to transform the nature of the claims. App. Br. 15; Reply Br. 16. Appellant also argues that the claims do not preempt all methods of bounceback detection. App. Br. 16. We are not persuaded by either argument.

First, as discussed above, the mere recitation of a bit vector does not mean that recitation is technological and is, thus, not by itself sufficient to transform Appellant’s claims into eligible subject matter. Second, the allegedly narrow preemptive effects of the claims do not render them patent eligible because although “preemption may signal patent ineligible subject

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matter, the absence of complete preemption does not demonstrate patent eligibility.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015).

Accordingly, we sustain the rejection of claims 56–64 and 66–69 under 35 U.S.C. § 101.

CONCLUSION

We affirm the rejection of claims 56–64 and 66–69 under 35 U.S.C. § 101.

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

AFFIRMED