EXHIBIT G

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2009 WL 460662 (Bd.Pat.App. & Interf.)

Board of Patent Appeals and Interferences
Patent and Trademark Office (P.T.O.)

*1 Ex Parte Nick M. Mitchell and Gary S. Sevitsky

Appeal 2008-2012
Application 10/673,848 Technology Center 2100

Decided:
[FN1]

February 23, 2009

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MIAMI FL 33143

Before LANCE LEONARD BARRY, HOWARD B. BLANKENSHIP, and CAROLYN D. THOMAS
Administrative Patent Judges
BLANKENSHIP
Administrative Patent Judge

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1-11, which are all the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Invention

Appellants' invention relates to diagnosing memory leaks. A "memory leak" occurs when a program inadvertently maintains references to objects that are no longer needed, preventing memory space from being reclaimed for other uses. (Spec. ¶ [0002].) A "leak root" is the object at the head of a data structure which is leaking in one or more ways. (*Id*. ¶ [0029].) One leak root may encompass multiple regions evolving in different ways (co-evolving regions). (*Id*. ¶ [0035].) In Appellants' system, information is received for identifying a set of data structures that are evolving, and the constituents of the data structures are classified based on their likelihood to evolve in a single coherent manner. (*Abstract*.)

Representative Claims

1. A method for identifying co-evolving regions in the memory of a target application, comprising: receiving information identifying a set of data structures that are evolving; and classifying the constituents of the data structures based on their likelihood to evolve in a single coherent manner.

10. A computer readable medium for identifying co-evolving regions in the memory of a target application, comprising instructions for: receiving information identifying a set of data structures that are evolving; and classifying the constituents of the data structures based on their likelihood to evolve in a single coherent manner.

11. An information processing system comprising: a processor comprising logic for performing instructions of: identifying a set of data structures that are evolving; and classifying the constituents of the data structures based on their likelihood to evolve in a single coherent manner; and a memory for storing the instructions.

Examiner's Rejections

Claims 1-11 stand rejected under 35 U.S.C. § 112, first paragraph because "current case law (and accordingly, the MPEP [*Manual of Patent Examining Procedure*]) require such a rejection if a §101 rejection is given because when Applicant has not in fact disclosed the practical application for the invention, as a matter of law there is no way Applicant could have disclosed *how* to practice the *undisclosed* practical application." (Ans. 8.)

*2 Claims 1-11 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

ISSUES

Have claims 1-11 been shown to be unpatentable under 35 U.S.C. § 112, first paragraph?

Are claims 1-11 directed to patent eligible subject matter as required by 35 U.S.C. § 101?

ANALYSIS

Section 112, first paragraph
The Examiner's statement of the rejection of claims 1-11 under § 112, first paragraph appears to be couched in terms of the claims lacking enablement. However, the Examiner offers no analysis with respect to how the disclosure fails to enable the subject matter, other than reference to MPEP § 2107.01(IV) and *In re Kirk*, 376 F. 2d 936, 942 (CCPA 1967). (*See* Ans. 8.)

MPEP § 2107.01(IV) and *In re Kirk* relate the statutory grounds of § 101 and § 112, first paragraph to a rejection for lack of utility, as made clear in the latest edition of the MPEP (Eighth Ed., Rev. 7, July 2008). Although the Examiner rejects the claims under § 101 as being not directed to statutory subject matter, the Examiner does not show (or allege) that the claims are deficient under the utility prong of 35 U.S.C. § 101.

Accordingly, as the § 112 rejection appears to be based solely on a § 101 "lack of utility" rejection that has not been made, we do not sustain the rejection of claims 1-11 under 35 U.S.C. § 112, first paragraph.

Section 101 -- Non-statutory subject matter
"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101. "[N]o patent is available for a discovery, however useful, novel, and nonobvious, unless it

falls within one of the express categories of patentable subject matter of 35 U.S.C. § 101." *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 483 (1974).

We agree with Appellants to the extent that, if claim 1 is directed to statutory subject matter, the claim falls within the statutory class of "process." "A process is … an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing." *Cochrane v. Deener*, 94 U.S. 780, 788 (1877). "'Transformation and reduction of an article "to a different state or thing" is the clue to the patentability of a process claim that does not include particular machines."' *Diamond v. Diehr*, 450 U.S. 175, 184 (1981) (quoting *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972)).

*3 Our reviewing court recently held that the "useful, concrete and tangible result" inquiry, first set forth in *In re Alappat*, 33 F.3d 1526, 1544 (Fed. Cir. 1994) (en banc), is inadequate to determine whether a claim is patent-eligible under § 101. *See In re Bilski*, 545 F.3d 943, 959-60 (Fed. Cir. 2008) (en banc). The Supreme Court's "machine-or-transformation test, properly applied, is the governing test for determining patent eligibility of a process under § 101." *Id.* at 956. "A claimed process is surely patenteligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing." *Id.* at 954.

Claim 1 fails the first branch of the "machine-or-transformation test." The claim does not recite, or require, that the steps of "receiving information" and "classifying" constituents relating to data structures be performed on, or by, a particular machine or apparatus. The claim does not require that the steps be performed on *any* machine or apparatus. Receiving information and classifying "constituents" require no more than the human mind; i.e., the mental steps of receiving information and classifying constituents. The claim also covers human thought and paperwork (e.g., pencil and paper), which is also not tied to a particular machine or apparatus.

Appellants suggest in the Reply Brief that claim 1 is "clearly computer-implemented," based on the allegation that the preamble "recites a memory wherein the co-evolving regions are identified." (Reply Br. 2.) Actually, the preamble of claim 1 recites a "method for identifying coevolving regions in the memory of a target application …." The preamble thus recites the purpose of the steps recited in the body of the claim, rather than requiring that some "memory" apparatus be involved in the actual steps. "The preamble of a claim does not limit the scope of the claim when it merely states a purpose or intended use of the invention." *In re Paulsen*, 30 F.3d 1475, 1479 (Fed. Cir. 1994).

We find nothing in the steps of claim 1 that are specific to a computer. Nor do we find that the recitation of a "memory" in the preamble serves as antecedent for anything in the body of the claim, other than, inferentially, may evidence intent that the "memory" might contain the set of data structures that relate to "information" that is gathered and received in some unspecified manner.

We acknowledge that claim 1 is broad enough to cover machine implementation of the steps of "receiving" and "classifying." However, that the claim might read on statutory embodiments does not mean that the claim passes muster under § 101. "The four categories [of § 101] together describe the exclusive reach of patentable subject matter. If a claim covers material not found in any of the four statutory categories, that claim falls outside the plainly expressed scope of § 101 even if the subject matter is otherwise new and useful." *In re Nuijten,* 500 F.3d 1346, 1354 (Fed. Cir. 2007), *cert. denied*, __ U.S. __, 129 S. Ct. 70 (2008).[FN2]

*4 Claim 1 also fails the second branch of the "machine-or-transformation" test. The claim does not contain or require an article that is transformed and reduced "to a different state or thing." *See Diehr*, 450 U.S. at 184.

In *Bilski*, our reviewing court identified a circumstance in which *electronic* transformation of *data* into *a particular visual depiction of a physical object on a display* may be considered a transformation sufficient to render a claimed process patent-eligible. *See Bilski*, 545 F.3d at 962-63 (discussing *In re Abele*, 684 F.2d 902, 908-09 (CCPA 1982)).

However, as we have indicated, instant claim 1 does not require any kind of electronic transformation of data into a different state or thing. "Of course, a claimed process wherein all of the process steps may be performed entirely in the human mind is obviously not tied to any machine and does not transform any article into a different state or thing. As a result, it would not be patenteligible under § 101." *Bilski*, 545 F.3d at 961 n.26.

Instant claim 10 appears to recite the steps of claim 1, but purports a "computer readable medium," rather than a "method," that comprises "instructions" for the steps recited in claim 1.

Appellants submit that claim 10 is directed to a computer readable medium that is in the "manufacture" class of statutory subject matter as set forth in § 101. Appellants also submit that the Examiner has not shown any judicial exception for patentability, in particular that the "processing of data structures is a mathematical construct as in *Warmerdam*." (App. Br. 8.)

Appellants discuss *In re Warmerdam*, 33 F.3d 1354 (Fed. Cir. 1994) and *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994) in the briefs and seem to urge that the instant invention is statutory because of "data structures" discussed in *Warmerdam* and *Lowry*. We agree with Appellants to the extent that Appellants' invention "relates to processing of data structures." (App. Br. 5.) However, claim 10 does not contain any limitations that do anything to, or with, any data structures. Claim 10 recites receiving information that relates to data structures, and classifying constituents that relate to the data structures. Claim 10 does not require any kind of "processing" of data structures. Nor does claim 10 require the presence of "data structures" on the "computer readable medium."

*5 We see no reason why a "computer readable medium" containing "instructions" for the otherwise ineligible method should be treated any differently from the non-statutory method recited in instant claim 1. Although a "computer readable medium" may nominally fall within the statutory class of "manufacture,"[FN3] claim 10 would effectively pre-empt the abstract idea represented by instant claim 1.

> *Diehr* can be understood to suggest that whether a claim is drawn only to a fundamental principle is essentially an inquiry into the scope of that exclusion; i.e., whether the effect of allowing the claim would be to allow the patentee to pre-empt substantially all uses of that fundamental principle. If so, the claim is not drawn to patent-eligible subject matter.

Bilski, 545 F.3d at 953.

The inquiry into whether a given claim would pre-empt all uses of a fundamental principle (i.e., law of nature, natural phenomenon, or abstract idea) is "hardly straightforward." *Bilski*, 545 F.3d at 954; *see also id.* at 952 n.5. However, the Supreme Court's "machine-or-transformation" test determines "whether a process claim is tailored narrowly enough to encompass only a particular application of a fundamental principle rather than to pre-empt the principle itself." *Id.* at 954. Placing the method of claim 1, which pre-empts substantially all uses of the abstract idea of "receiving information" and "classifying" constituents as claimed, on a computer readable medium in the form of "instructions" does not render the claimed subject matter statutory. Moreover, claim 10 does not require that a "computer" do anything. Claim 10 is drawn to a "computer readable medium" that contains "instructions."

Claim 11, according to Appellants, "falls under the machine category of patentable subject matter of Section 101," (App. Br. 8), and again speak of "data structures" (*id.* at 8-9).

That a claim may appear on its face to be directed to § 101 subject matter (e.g., a "machine") does not end the analysis. The ultimate question is whether the claimed subject matter falls within a judicially created exception to § 101. *See In re Alappat*, 33 F.3d at 1542.

Claim 11 recites a system comprising "a processor comprising logic" for performing "instructions." The "instructions" are "identifying a set of data structures that are evolving," and "classifying" constituents of the data structures. The "system" includes a "memory for storing the instructions." The claim recites "identifying" a set of data

structures that are evolving, but does not require a processor that does anything to, or with, "data structures." Nor does the claim require a "memory" for storing any data structures. The claim requires only that the "memory" is "for storing the instructions."

*6 Appellants refer (App. Br. 8-9) to dicta in *In re Warmerdam*, 33 F.3d at 1360, indicating that Warmerdam's claim 5, drawn to a "machine having a memory," containing a particular data structure generated by claimed method steps, was patentable subject matter. As we have indicated, however, instant claim 11 does not require a memory containing a particular data structure. We do not read *Warmerdam* as standing for the proposition that drafting a claim as directed to a "machine" means that the subject matter automatically falls within the "machine," or any other, statutory class.

In *Gottschalk v. Benson*, 409 U.S. 63 (1972), the claims were directed to a method for converting binary-coded-decimal (BCD) numerals into pure binary numerals for use with a general-purpose digital computer of any type. *Id.* at 64. The method steps in the body of the claim incorporated portions of a computer (a reentrant shift register) into the steps. The question before the Court was "whether the method described and claimed is a 'process' within the meaning of the Patent Act." *Id.* The Court characterized the claimed invention as "a generalized formulation for programs to solve mathematical problems of converting one form of numerical representation to another." *Id.* at 65.

The Court held that the claimed method was directed to non-statutory subject matter because "[t]he mathematical formula involved here has no substantial practical application except in connection with a digital computer, which means that if the judgment below is affirmed, the patent would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself." *Id.* at 71-72.

"Benson … applies equally whether an invention is claimed as an apparatus or process, because the form of the claim is often an exercise in drafting." *In re Alappat*, 33 F.3d at 1542 (quoting *In re Johnson*, 589 F.2d 1070, 1077 (CCPA 1987)).

The use of a "processor" and "memory" for storing and performing the broadly recited "instructions" of claim 11 would be, in practical effect, a patent on the abstract idea of "identifying" and "classifying constituents" of data structures as recited. Limiting the claim to part of a system comprising a "processor" and "memory" does not add any practical limitation to the scope of the claim. Similar to a field-of-use limitation in a process claim, the use of a general "processor" and "memory" is insufficient to render an otherwise ineligible claim patent eligible. *See Bilski*, 545 F.3d at 957 ("ineligibility under § 101 cannot be circumvented by attempting to limit the use of the formula to a particular technological environment") (citing *Diehr*, 450 U.S. at 191-92); ("Pre-emption of all uses of a fundamental principle in all fields and pre-emption of all uses of the principle in only one field both indicate that the claim is not limited to a particular application of the principle.") (citing *Diehr*, 450 U.S. at 193 n.14)).

*7 We have considered the subject matter of independent claims 1, 10, and 11, but are not persuaded that the claims are directed to statutory subject matter as required by § 101. We sustain the rejection of the independent claims. Claims 2-9 fall with base claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii).

CONCLUSIONS OF LAW

Claims 1-11 have not been shown to be unpatentable under 35 U.S.C. § 112, first paragraph.

Claims 1-11 are unpatentable, being not directed to patent eligible subject matter as required by 35 U.S.C. § 101.

DECISION

The rejection of claims 1-11 under 35 U.S.C. § 101 as being directed to non-statutory subject matter is affirmed. The

rejection of claims 1-11 under 35 U.S.C. § 112, first paragraph, is reversed.

Because we have sustained at least one ground of rejection against each claim on appeal, the Examiner's decision to reject claims 1-11 is affirmed.

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

<div align="center">AFFIRMED</div>

FN1. The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

FN2. We need not, and do not, reach the question of whether limiting claim 1 to the steps being performed on a computer would be sufficient to meet either branch of the "machine-or-transformation" test.

FN3. A computer readable "medium" that comprises "instructions" as recited in claim 10 does not *necessarily* fall within any statutory class. A computer, properly equipped, can receive instructions via electronic data transmission over a wired network or over the air. However, a carrier wave or signal does not fall within any of the four categories of statutory subject matter, and is thus not statutory subject matter. *See In re Nuijten,* 500 F.3d at 1357.

 2009 WL 460662 (Bd.Pat.App. & Interf.)
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