UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/205,512	09/05/2008	Hassan Mostafavi	VM 08-030-US	7002

55499 7590 06/24/2016 Vista IP Law Group, LLP (Varian) 2160 Lundy Avenue Suite 230 San Jose, CA 95131	**EXAMINER** SALMON, KATHERINE D

ART UNIT	PAPER NUMBER
1634	

NOTIFICATION DATE	DELIVERY MODE
06/24/2016	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte HASSAN MOSTAFAVI and SERGEY POVZNER[1]

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Appeal 2013-010074
Application 12/205,512
Technology Center 1600

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Before ERIC B. GRIMES, JACQUELINE T. HARLOW, and RICHARD J. SMITH, *Administrative Patent Judges.*

GRIMES, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a method of monitoring a patient, which have been rejected as directed to patent-ineligible subject matter, anticipated, and obvious. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm the rejection under 35 U.S.C. § 101.

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[1] Appellants identify the Real Party in Interest as Varian Medical Systems, Inc. (Appeal Br. 2.)

STATEMENT OF THE CASE

The Specification states that "monitoring of an infant's breathing activity for breathing irregularities could help prevent or detect the possibility of SIDS." (Spec. ¶ 5.)

Claims 1–57 are on appeal. Claim 1 is illustrative and reads as follows:

1. A method of monitoring a patient, comprising:
    obtaining a first image of an object;
    obtaining a second image of the object;
    determining a level of similarity between the first and second images using a processor;
    obtaining a third image of the object;
    determining a level of similarity between the first and third images;
    analyzing a time series of values that includes the determined level of similarity between the first and second images and the determined level of similarity between the first and third images; and
    determining a state of the patient based at least on a result of the act of analyzing.

The claims stand rejected as follows:

Claims 1–15 and 17–28 under 35 U.S.C. § 101 as being directed to non-statutory subject matter (Ans. 2);

Claims 1–15, 17–21, 27–43, 45–49, and 55–57 under 35 U.S.C. § 102(b) as anticipated by Jeung[2] (Ans. 3);

Claims 16 and 44 under 35 U.S.C. § 103(a) as obvious based on Jeung and Cosman[3] (Ans. 9); and

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[2] Jeung et al., US 2004/0071337 A1, issued Apr. 15, 2004.
[3] Cosman, US 6,405,072 B1, issued June 11, 2002.

Claims 22–26 and 50–54 under 35 U.S.C. § 103(a) as obvious in view of Jeung and Jeung B[4] (Ans. 11).

I

The Examiner has rejected claims 1–15 and 17–28 as being directed to non-statutory subject matter. The Examiner finds that the claims "do not meet the machine or physical transformation required by the CAFC court in *In re Bilski.* . . . The claims as written encompass mere mental steps i.e. obtaining images and determining levels of similarity. The determining and obtaining steps could be directed merely to looking at a database file on a computer." (Ans. 2–3.)

Appellants contend that "the recitation of 'a processor' in fact does tie the subject matter of claim 1 to a statutory class. . . . [T]he processor of claim 1 in fact is a particular machine because it is specifically configured to determine a level of similarity between first and second images, and therefore it is not just any machine." (Appeal Br. 5.)

In response, the Examiner reasoned that "the recitation 'using a processor' fails to provide any meaningful limits on the claim's scope. The recitation is nothing more than a general purpose computer that has been programmed in an unspecified manner to implement the functional steps recited in the claims. As such, the recitation does not limit the process steps to any specific machine." (Ans. 13.)

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[4] Jeung et al., US 2004/0005088, published Jan. 8, 2004 (hereinafter "Jeung B").

We agree with the Examiner's reasoning. While the machine-or-transformation test is not the exclusive test for a patent-eligible process, it does provide "a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under § 101." *Bilski v. Kappos*, 130 S.Ct 3218, 3226 (2010). More recently, the Court held that "the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S.Ct 2347, 2358 (2014).

In this case, we agree with the Examiner that claim 1 is directed to non-statutory subject matter. Claim 1 recites the abstract idea of comparing images of a patient to determine their similarity and determining a state of the patient based on the similarity of images over time. While claim 1 requires "using a processor" to determine the similarity of first and second images, that generic limitation does not convert the otherwise unpatentable abstract idea into a patent-eligible method. *See id.*:

> Stating an abstract idea "while adding the words 'apply it'" is not enough for patent eligibility. Nor is limiting the use of an abstract idea "'to a particular technological environment.'" Stating an abstract idea while adding the words "apply it with a computer" simply combines those two steps, with the same deficient result. Thus, if a patent's recitation of a computer amounts to a mere instruction to "implemen[t]" an abstract idea "on ... a computer," that addition cannot impart patent eligibility.

(Citations omitted.)

Appellants argue, however, that "just because a claimed feature may be implemented by programming a general purpose computer, that does not necessarily mean that the claimed subject matter fails to satisfy § 101. In fact, it is well known that a general purpose computer may be converted to a

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specific machine by programming it to perform certain specific features."
(Reply Br. 2.)

This argument is unpersuasive because it is contrary to the holding of
Alice Corp., where the Court held that a step of implementing on a computer
does not make patent-eligible an otherwise ineligible abstract idea. We
therefore affirm the rejection of claims 1–15 and 17–28 under 35 U.S.C.
§ 101.

II

The Examiner has rejected claims 1–15, 17–21, 27–43, 45–49, and
55–57 as anticipated by Jeung. The Examiner finds that Jeung teaches a
method meeting all of the limitations of claim 1, including "obtaining a first
and second image, and multiple images (e.g. a third image) of an object and
pattern matching these images to the first image (e.g. the model image) to
determine similarity (paragraph 69 and 70)." (Ans. 3.)

Appellants argue that "paragraphs 69-70 of Jeung actually describes
determining similarity between motion data, and not between two images."
(Appeal Br. 6.) Appellants argue that in the claimed method, "each image
by itself does not have any 'motion data'. . . . Rather, as taught in Jeung, a
motion data can only be obtained by processing <u>at least two</u> images so that it
can be determined how much an object has moved between the two images."
(*Id.*)

We agree with Appellants that the Examiner has not pointed to
evidence that supports a finding that Jeung's method includes determining
the similarity between first and second images, or between first and third
images. Appellants' Specification describes an image frame that includes an

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image; an image template is defined in the image in an area that moves as a patient breathes. (Spec. 10:11–16.) The Specification states that "[v]arious techniques may be used to measure the level of similarity between the image template 308 and the portion of the input image 400." (*Id*. at 11:23 to 12:1.) The Specification states that "after the level of similarity is determined, the determined level of similarity is then used as a part of a time series (step 208). . . . In particular, the processor 14 obtains additional image frames (step 204), and measures levels of similarities for respective additional image frames (step 206)." (*Id*. at 12:18–22.)

Thus, the Specification describes a process that involves comparing images to each other and measuring the level of similarity of the images themselves. Jeung, by contrast, uses a camera to monitor passive markers on an infant to detect breathing movement. (Jeung ¶¶ 34, 36.) Jeung states that "[t]he images recorded by camera **108** are sent to computer **110** for processing." (*Id*. at ¶ 34.)

Jeung states that "[t]he video image signals sent from camera **108** to computer **110** are used to generate and track motion signals representative of the movement of marker **114** and/or landmark structures on the infant's body." (*Id*. at ¶ 40.) Jeung states that "another alternate embodiment performs a pattern matching based upon a model of the breathing activity being measured. . . . The latest set of data samples is matched against the model to estimate parameters of the repetitive process." (*Id*. at ¶ 69.) Jeung also states that "[p]attern matching using the measured breathing signal (**504**) provides information regarding the degree of match, as well as a location of best match for the repetitive process. . . . A threshold range value

is defined to provide indication of the degree of match between the two sets of data samples." (*Id.* at ¶ 70.)

Jeung's description of its process does not support the Examiner's finding that it discloses a comparison of images themselves. Rather, Jeung states that the image signals are used by a computer to "generate and track motion signals" (*id.* at ¶ 40) and that pattern matching can be carried out "between the two sets of data samples" (*id.* at ¶ 70). These descriptions indicate that the image signals are processed by the computer to generate motion data that indicates movement during breathing, but they do not describe directly comparing images to determine breathing movement. We therefore reverse the rejection of claims 1–15, 17–21, 27–43, 45–49, and 55–57 as anticipated by Jeung.

III

The Examiner has rejected claims 16, 22–26, 44, and 50–54 as obvious based on Jeung, combined with either Cosman or Jeung B. With respect to both rejections, however, the Examiner relied on her fact-finding that Jeung discloses a method that meets all of the limitations of claim 1. (Ans. 9–10, 11.) For the reasons discussed above, the evidence does not support that finding. We therefore reverse the rejections under 35 U.S.C. § 103(a).

SUMMARY

We affirm the rejection of claims 1–15 and 17–28 under 35 U.S.C. § 101.

We reverse the rejection of claims 1–15, 17–21, 27–43, 45–49, and 55–57 under 35 U.S.C. § 102(b).

We reverse the rejection of claims 16 and 44 under 35 U.S.C. § 103(a) based on Jeung and Cosman.

We reverse the rejection of claims 22–26 and 50–54 under 35 U.S.C. § 103(a) based on Jeung and Jeung B.

TIME PERIOD FOR RESPONSE

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

AFFIRMED-IN-PART