



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/421,873	02/16/2015	Cees Van Berkel	2012P00890WOUS	4881
24737	7590	08/23/2018	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS 465 Columbus Avenue Suite 340 Valhalla, NY 10595			DEJONG, ERIC S	
			ART UNIT	PAPER NUMBER
			1631	
			NOTIFICATION DATE	DELIVERY MODE
			08/23/2018	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patti.demichele@Philips.com
marianne.fox@philips.com
katelyn.mulroy@philips.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CEES VAN BERKEL¹

Appeal 2018-005215
Application 14/421,873
Technology Center 1600

Before JEFFREY N. FREDMAN, RYAN H. FLAX, and DAVID COTTA,
Administrative Patent Judges.

FLAX, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) involving claims to a method and apparatus for predicting a cell count of at least one white blood cell component. Claims 1–10 and 13–17 are on appeal as rejected under 35 U.S.C. § 101 and § 112, first and second paragraphs. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.²

¹ Appellant identifies the Real Party in Interest as “Koninklijke Philips N.V.” Appeal Br. 2.

² We have considered and herein refer to the Specification of Feb. 16, 2015 (“Spec.”); the Final Office Action of Apr. 20, 2017 (“Final Action”); Appeal

STATEMENT OF THE CASE

The Specification states, “[e]mbodiments of the present invention use biophysical models, e.g. hematopoietic models, to provide prediction of cell count of at least one white blood cell component, for example absolute neutrophil count (ANC).” Spec. 4. The Specification states, “data regarding the actual cell count of the subject within a treatment cycle is acquired. Preferably this data is acquired by the subject self-testing at home using suitable measuring apparatus.” *Id.* at 6. The Specification further states, a “reference set of trajectories is examined to determine any trajectories in which the initial part of the trajectory matches the acquired data, within a desired tolerance. Those trajectories which match the initial data are identified to form a selection set of trajectories,” and “[t]he selection set of trajectories can then be used to predict cell count values at a later point in time in the same treatment cycle.” *Id.* at 7. The Specification further describes using an “average value” of trajectories to predict a value of a nadir and “setting a threshold level” of trajectories to determine relative risk of the subject’s cell count dropping below that threshold. *Id.* at 7–8.

Claims 1 and 13 are the independent claims, are representative, and are reproduced below:

1. A method of predicting, for a subject, a cell count of at least one white blood cell component within a current cycle of chemotherapy treatment, the method comprising:

acquiring at least one measurement of a cell count of said white blood cell component of the subject during the current cycle;

Brief of Oct. 9, 2017 (“Appeal Br.”); Examiner’s Answer of Feb. 23, 2018 (“Answer”); and Reply Brief of Apr. 23, 2018 (“Reply Br.”).

identifying at least one modeled trajectory of a white blood cell count that matches said at least one measurement of the cell count for said subject, the at least one modeled trajectory indicating how the cell count will change over time; and

based on said at least one identified modeled trajectory, predicting a likely cell count at a later date in the current cycle and/or at a start of a subsequent cycle of the chemotherapy treatment.

13. An apparatus for predicting, for a subject, a cell count of at least one white blood cell component within a current cycle of chemotherapy treatment, the apparatus comprising:

a data input interface for receiving at least one measurement of an actual cell count of said white blood cell component of the subject during the current cycle; and

a processor configured to identify at least one modeled trajectory of a white blood cell count that matches said at least one measurement of the cell count for said subject, the at least one modeled trajectory indicating how the cell count will change over time, and to predict a likely cell count at a later date in the current cycle and/or at a start of a subsequent cycle of the chemotherapy treatment, based on the at least one identified modeled trajectory.

Appeal Br. 22, 23–24 (Claims App'x).

The following rejections are appealed:

Claims 1–10 and 13–17 stand rejected under 35 U.S.C. § 101 as directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without including additional elements that are sufficient to amount to significantly more. Final Action 3.

Claims 1–10 and 13–17 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. *Id.* at 4.

Claims 1–10 and 13–17 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite. *Id.* at 6.

DISCUSSION

Only those arguments made by Appellants in the Appeal Brief and properly presented in the Reply Brief have been considered in this Decision; arguments not so presented in the Briefs are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2015); *see also Ex parte Borden*, 93 USPQ2d 1473, 1474 (BPAI 2010) (informative) (“Any bases for asserting error, whether factual or legal, that are not raised in the principal brief are waived.”). “[T]he examiner bears the initial burden . . . of presenting a *prima facie* case of unpatentability. If that burden is met, the burden of coming forward with evidence or argument shifts to the applicant.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

PATENT ELIGIBILITY

“Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.” *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71 (2012) (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Claims directed to *nothing more* than abstract ideas (such as mathematical algorithms), natural phenomena, and laws of nature are not eligible for patent protection. *Diamond v. Diehr*, 450 U.S. 175, 185 (1981); *accord* MPEP § 2106 (II) (discussing *Diehr*).

In analyzing patent-eligibility questions under the judicial exception to 35 U.S.C. § 101, the Supreme Court instructs us to “first determine whether the claims at issue are directed to a patent-ineligible concept.” *Alice Corp. Pty. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014). If the claims are

determined to be directed to an ineligible concept we then move to a second step and “consider the elements of each claim both 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 97).

The Federal Circuit has “recognize[d] that defining the precise abstract idea of patent claims in many cases is far from a ‘straightforward’ exercise.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1150 (Fed. Cir. 2016) (quoting *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014)). However, “we continue to ‘treat[] analyzing information by steps people [could] go through in their minds, or by ***mathematical algorithms, without more, as essentially mental processes within the abstract-idea category.***”” *Synopsys*, 839 F.3d at 1146–47 (emphasis added) (quoting *Electric Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (citations omitted)); *see also Electric Power Grp.*, 830 F.3d at 1353 (“collecting information, analyzing it, and displaying certain results of the collection and analysis” “fall[s] into a familiar class of claims ‘directed to’ a patent-ineligible concept,” that of the abstract idea). The Federal Circuit has recognized that “a claim for a *new* abstract idea is still an abstract idea.” *Synopsys*, 839 F.3d at 1151.

There are an abundance of cases where the Federal Circuit has held that, for example, manipulating, organizing, analyzing, and displaying data using generic computer components is not patent-eligible under the common law application of 35 U.S.C. § 101. The Federal Circuit, in *Intellectual Ventures I LLC v. Capital One Financial Corp.*, 850 F.3d 1332 (Fed. Cir. 2017), where the claims were held to be directed to a computer programmed

to edit XML documents, “conclude[d] [the claims were,] . . . at their core, directed to the abstract idea of collecting, displaying, and manipulating data.” *Id.* at 1339–40. Even though the patent at issue in *Intellectual Ventures I* indicated its invention provided a concrete solution to a particular problem in computer programming, it “at best, . . . limit[ed] the invention to a technological environment for which to apply the underlying abstract concept,” which did “not render an otherwise abstract concept any less abstract.” *Id.* at 1340 (citing *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1259 (Fed. Cir. 2016)). Under step two of the *Alice* analysis, the court in *Intellectual Ventures I* held that claims reciting generic computer components or elements and their functions, e.g., organizing, mapping, identifying, defining, detecting, and modifying, “merely describe the functions of the abstract idea itself” and were not sufficient to supply significantly more than the abstract idea so as to confer patent-eligibility. *Id.* at 1341.

The Federal Circuit has established in several other cases that collecting, classifying, storing, and organizing data, regardless of whether such data manipulations are limited to a particular technological environment, is an abstract idea and, without more (which cannot be provided by generic components or steps used in their routine and customary ways), is not patent eligible. *See, e.g., Interval Licensing LLC v. AOL, Inc.*, --- F.3d ---, 2018 WL 3485608 (Fed. Cir. July 20, 2018) (claims directed to manipulating data for selective display using routine and conventional instructions/programming not patent-eligible); *SAP America, Inc. v. Investpic, LLC*, 890 F.3d 1016, 1018 (Fed. Cir. 2018) (claims directed to “nothing but a series of mathematical calculations based on selected

information and the presentation of the results of those calculations” is merely an advancement in an abstract idea and patent-ineligible, even though physical things like databases and processors are claimed); *Electric Power Grp.*, 830 F.3d 1350 (“claim[s] [to] systems and methods for performing real-time performance monitoring of an electric power grid by collecting data from multiple data sources, analyzing the data, and displaying the results” was not patent-eligible even though limited to a particular technological environment); *In re TLI Communications LLC Patent Litigation*, 823 F.3d 607 (Fed. Cir. 2016) (collecting and organizing data in the form of digital images is abstract and patent ineligible, and using computer systems in their generic ways do not add an inventive concept); *Content Extraction and Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343 (Fed. Cir. 2014) (extracting data from documents, recognizing information therefrom, and storing the information is abstract).

Further, in *In re BRCA1*, the Federal Circuit held that a claimed method for *screening* a germline of a human subject for an alteration of the BRCA1 gene by *comparing* a sample BRCA1 gene sequence with a reference, wild-type germline sequence of BRCA1 gene was directed to an abstract idea — a “mental process of ‘comparing’ and ‘analyzing’ two gene sequences.” *In re BRCA1– and BRCA2–Based Hereditary Cancer Test Patent Litigation*, 774 F.3d 755, 763–64 (Fed. Cir. 2014) (“allowing a patent on the comparison step could impede a great swath of research relating to the BRCA genes, and it is antithetical to the patent laws to allow these basic building blocks of scientific research to be monopolized.”).

Similar to its position on manipulating data being an abstract idea, our reviewing court has held that detecting, measuring, and/or comparing natural

phenomena using known and conventional techniques is not patent-eligible. For example, in *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371 (Fed. Cir. 2015), the Federal Circuit held claims directed to amplifying cffDNA from a plasma or serum sample and detecting paternally inherited cffDNA to make a diagnosis using well-understood, routine, and conventional methods, like PCR amplification, were directed to a patent-ineligible natural phenomenon, without more to supply an inventive concept. As another example, in *Cleveland Clinic Foundation v. True Health Diagnostics LLC*, 859 F.3d 1352 (Fed. Cir. 2017), the Federal Circuit held claims directed to comparing levels of MPO (an enzyme) in a subject's blood to reference samples to diagnose risk of cardiovascular disease, i.e., detecting and measuring and comparing a natural phenomenon, to be directed to a patent-ineligible observation of a law of nature using conventional detection and statistical methods, which did not confer patent-eligibility.

Turning to the claims on appeal, the Examiner determined, pursuant to *Alice* step one, that “[t]he instant claims only set forth a calculation and prediction to be achieved from a set of starting data points. While for a specific purpose, the claims only delineate a series of abstract data analysis steps that, when practiced, fail to produce anything but a purely abstract determination.” Final Action 3. Pursuant to *Alice* step two, the Examiner determined, that “the claims are directed to a non-statutory, abstract series of computational steps relying on a generic computer as the conventional and convenient computational vehicle.” *Id.*; see also *id.* at 8–9, Answer 7–8 (processor is generic computer used in routine and conventional ways). We discern no error in the Examiner’s determinations.

Appellants argue that the claims on appeal are analogous to those held to be patent-eligible in *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016), *Amdocs (Israel) Ltd v. Openet Telecom, Inc.*, 841 F.3d 1288 (Fed. Cir. 2016), and *Thales Visionix Inc. v. United States*, 850 F.3d 1343 (Fed. Cir. 2017).

Appellants' arguments are not persuasive and the facts on appeal are dissimilar to those of Appellants' cited precedent. Simply put, "[i]nformation as such is an intangible," collecting it and analyzing it by mathematical algorithms without more is abstract, and manipulating information with routine tools "is abstract as an ancillary part of such collection and analysis." *Electric Power Grp.*, 830 F.3d at 1353–54. Here, similar to *Electric Power Group*, the claims merely require collecting data in a conventional way, and manipulating that data for analytical purposes using a conventional computer component programmed to do so; these steps do not transform the abstract ideas of the claims into a patent-eligible invention. Also, similar to *Cleveland Clinic*, 859 F.3d at 1352, the claims are directed to measuring a natural biological phenomenon (collecting data on cell count) and comparing that data to similar reference data. Detecting, measuring, and/or comparing natural phenomena using known and conventional techniques is not patent-eligible.

In *McRO*, the Federal Circuit held claims that "set out meaningful requirement for [a] first set of rules" by which a computer could synchronize animated lip movements to spoken sounds, as a whole, were directed to "a process specifically designed to achieve an improved technological result" and were not directed to an abstract idea. *McRO*, 837 F.3d at 1316. Here,

we have none of the claimed specificity of technological improvement the Federal Circuit found present in the invention of *McRO*.

In *Amdocs*, the Federal Circuit found the claims included a sufficient inventive concept in the form of “an unconventional technological solution (enhancing data in a distributed fashion) to a technological problem (massive record flows which previously required massive databases).” *Amdocs*, 841 F.3d at 1300. The invention was narrowly drawn and tied to a specific structure, and did not merely combine components and a generic manner. *Id.* at 1301. Here, we have none of these facts. The claimed invention is not described in the Specification as solving any specific technological problem, e.g., in blood cell counting or predicting. The claims are not narrowly drawn and are not tied to any specific structures. And, only generic components are used to practice the invention.

In *Thales*, the Federal Circuit analogized claims, which it found not to be directed to an abstract idea, to those found patent-eligible in *Diehr*. The Federal Circuit reasoned that the claims in *Thales* were directed to using sensors and algorithms (the application of physics to create an improved technique) “in a non-conventional manner” to improve measuring and orienting moving objects, as in *Diehr*, where an algorithm and sensor were used to improve a rubber-making process. *Thales*, 850 F.3d at 1348–49. Here, claims 1 and 13 are directed to biological data collection, manipulation, and analysis to create more data. Claim 13 additionally recites the use of a processor, but it is used in conventional ways. In *Thales*, the improvement was in a physical tracking system, which, in *SAP America*, 890 F.3d at 1022, the Federal Circuit explained was wholly in the “physical-realm,” as contrasted with the selection and mathematical analysis of

information followed by reporting or display of the results, which the Federal Circuit held to be “not a physical-realm improvement but an improvement in wholly abstract ideas.” Here, the claims are like those of *SAP America* and, more so, those of *Electric Power Grp.* and *Cleveland Clinic*, rather than *Thales*, because the improvement achieved is in the abstract idea or natural phenomenon observation itself.

For the reasons set forth above, pursuant to the precedent of our reviewing court, we affirm the § 101 rejection.

WRITTEN DESCRIPTION

“[A] vague functional description and an invitation for further research does not constitute written disclosure . . . to satisfy the written description requirement.” *Ariad Pharmaceuticals, Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1356 (Fed. Cir. 2010).

The appealed claims, like many such computer-implemented inventions, present their limitations and are described in the Specification only in terms of functionality, without a meaningful explanation as to how the functionality is achieved. Writing computer programming code for software to perform specific functions is normally within the skill of the art once those functions have been adequately disclosed. *See Fonar Corp. v. General Elec. Co.*, 107 F.3d 1543, 1549 (Fed. Cir. 1997). Nevertheless, for computer-implemented inventions, the determination of the sufficiency of disclosure requires an inquiry into both the sufficiency of the disclosed hardware as well as the disclosed software, due to the interrelationship and interdependence of computer hardware and software. *See, e.g.*, MPEP § 2161.01.

The Federal Circuit has held that the written description requirement may be satisfied when the particular steps, i.e., an algorithm, necessary to perform the claimed function, are “described in the specification.” *See, e.g., In re Hayes Microcomputer Prods., Inc. Patent Litigation*, 982 F.2d 1527, 1533–34 (Fed. Cir. 1992). Moreover, the *Hayes* Court acknowledged that the level of detail required for the written description requirement to be met is case-specific. *Id.* Such an algorithm may be in the form of a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure. *See Finisar Corp. v. DirectTV Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008).

Here, the Examiner determined, “[u]pon review, the instant specification only reiterates the functional language that is correlated to a generic means as is recited in the instant claims. However, the instant disclosure is inadequate as it fails specify any structure corresponding to the means as instantly claimed.” Final Action 5. The generic means to which the Examiner refers is a computer processor, which must be programmed to perform the claimed functions. We conclude the Examiner’s determination is well founded.

Claim 1 recites, “based on said at least one identified modeled trajectory, predicting a likely cell count at a later date in the current cycle and/or at a start of a subsequent cycle of the chemotherapy treatment.” Appeal Br. 22. Because the claims do not provide it, we look to the Specification for some description of how this predicting is performed. Appellants indicate that it would be performed by a computer programmed to do so, argue that there is no requirement that any specific math or

computer code be disclosed, and point us to the flow chart illustrated at Figure 1 and to pages 6–10, 13–14 of the Specification. *Id.* at 16–17.

Figure 1 does arguably show an “algorithm,” however it is at an exceedingly general descriptive level and does not specify how one of ordinary skill in the art could apply the claimed reference set of data (which includes “trajectories”), average values of reference data, thresholds relating to reference data, and “clinical rules” to measured cell count data to accomplish the claimed predicting. Pages 6–10 of the Specification describe how to collect actual cell data, and indicate that reference data “trajectories can then be used to predict cell count values at a later point in time,” but the Specification does not provide any details as to how this is done. One might presume that the measured data somehow fits into averaged reference data as a “match,” but the Specification does not explain why or how.

Having considered Appellants’ arguments, we conclude the disclosure in the Specification amounts to little more than simply disclosing that software is used to accomplish the functionality claimed at independent claims 1 and 13; this is not enough. *Finisar*, 523 F.3d at 1340–41. Because we find that Appellants’ Specification, including Figure 1, is vague and provides insufficient explanation as to how the claimed functions are to be implemented, on a computer or otherwise, we agree with the Examiner’s determination that the claims are unpatentable under 35 U.S.C. § 112, first paragraph, for lack of a written description.

INDEFINITENESS

For claims under examination, “a claim is indefinite when it contains words or phrases whose meaning is unclear,” i.e., “ambiguous, vague, incoherent, opaque, or otherwise unclear in describing and defining the

claimed invention.” *In re Packard*, 751 F.3d 1307, 1310–13, 1322 (Fed. Cir. 2014); *see also* MPEP § 2173.02(I) (Rev. 07.2015, Nov. 2015) (advising examiners that a rejection for indefiniteness is appropriate “after applying the broadest reasonable interpretation to the claim, if the metes and bounds of the claimed invention are not clear”).

The Examiner determined that,

the claims only encompasses generic computer implementation and data collection restrictions. Since the instant claims only delineate a functional description of the results to be achieved by computer, as opposed to the actual solution activities carried out inside said computer, the claims necessarily invoke a means plus function interpretation under 35 USC 112.

Final Action 6. The Examiner further determined that, “[u]pon review, the instant specification only reiterates the functional language that is correlated to a generic means as is recited in the instant claims. However, the instant disclosure is inadequate as it fails [to] specify any structure corresponding to the means as instantly claimed.” *Id.* at 7.

A claim element that is treated as a “means-plus-function” element subject to the requirements of 35 U.S.C. § 112, sixth paragraph, is indefinite under 35 U.S.C. § 112, second paragraph, if the specification does not sufficiently identify adequate structure for performing the recited function. *Aristocrat Techs. Austl. Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1336–37 (Fed. Cir. 2008). “For means-plus-function limitations where the disclosed structure is a computer programmed to implement an algorithm, the patent must disclose enough of an algorithm to provide the necessary structure under 35 U.S.C. § 112, sixth paragraph. . . . The patentee may express this algorithm in any understandable manner, including as a flowchart, so long as sufficient structure is disclosed. . . . Sufficient

structure must simply ‘permit one of ordinary skill in the art to know and understand what structure corresponds to the means limitation’ so that he may ‘perceive the bounds of the invention.’” *In re Aoyama*, 656 F.3d 1293, 1297–98 (Fed. Cir. 2011) (quoting *Finisar*, 523 F.3d at 1340–41).

The absence of the word “means” in association with an element of a claim “does not automatically prevent that element from being constructed as a means-plus-function element.” *Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 531 (Fed. Cir. 1996); *see also Greenberg v. Ethicon Endo–Surgery, Inc.*, 91 F.3d 1580, 1584 (Fed. Cir. 1996) (“We do not mean to suggest that section 112(6) is triggered only if the claim uses the word ‘means’”). “The essential inquiry is not merely the presence or absence of the word ‘means’ but whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015); *see also Greenberg*, 91 F.3d at 1583 (“What is important is . . . that the term, as the name for structure, has a reasonably well understood meaning in the art”). Thus, our reviewing court has “traditionally held that when a claim term lacks the word ‘means,’ . . . § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to ‘recite[] sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Williamson*, 792 F.3d at 1348 (citing *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)).

Regarding claim 13, directed to an apparatus for predicting a cell count, we agree with the Examiner’s determination that the claim limitations (e.g., a data input interface for receiving at least one measurement, a processor configured to identify at least one modeled trajectory and to

predict a likely cell count at a later date) are means-plus-function limitations because they fail to recite any meaningful structure to perform the claimed functions.

Regarding claim 1, directed to a method of predicting a cell count, we do not agree with the Examiner's determination that the claim limitations, which recite steps of a process, are means(or step)-plus-function limitations. There is sufficient action specified in the recited steps, which do not merely recite, e.g., a step for performing some function or equivalent language, but identify the required actions of, generally, acquiring a measurement of cell count, identifying a modeled trajectory of a cell count, and predicting a cell count, that such an interpretation under § 112, paragraph six, is not invoked. These are claimed actions, not just generic "steps," to be performed to achieve related functional results. Furthermore, the language of claim 1, absent a determination that it invokes step-plus-function interpretation, is not ambiguous or unclear. Therefore, we focus on independent claim 13 in analyzing the indefiniteness rejection.

Appellants argue, similar to the arguments made in relation to the written description rejection, "that the claim language to which the Examiner objects comes directly from the Specification in *ipsis verbis*, and thus clearly encompasses that which Applicant regards as the invention." Appeal Br. 19. Further, Appellants "submit[] that the processor (505) and the algorithm(s) performed by the processor (505) are adequately disclosed and thereby provide structure (also as discussed above [regarding the written description rejection])." *Id.*

Appellants' arguments are not persuasive. We agree with the Examiner's determination that, for independent claim 13 and its dependent

claims, the claim language invokes a means-plus-function interpretation. We also agree with the Examiner's determination that the Specification provides only the most generalized disclosure of the claimed data input interface and, more importantly, of the claimed processor programmed to identify at least one modeled trajectory and predict a likely cell count based thereon. As for the claimed processor, the Specification merely discusses generalized desired results without explaining how data, such as reference trajectories, their average values, or thresholds are applied to measured cell counts so that the algorithm illustrated at Figure 1 has any real meaning. *See* Spec. 6–10. As for the claimed data input interface, the Specification merely discloses that it exists as feature “502,” shown in Figure 5 as a rectangle, without identifying any corresponding structure. *Id.* at 13.

For the reasons above, we affirm the indefiniteness rejection as to claims 13–17 and reverse the indefiniteness rejection as to claims 1–10.

SUMMARY

The rejection of the claims as directed to patent-ineligible subject matter is affirmed.

The rejection of the claims as not satisfying the written description requirement is affirmed.

The rejection of claims 13–17 as indefinite is affirmed; the rejection of claims 1–10 as indefinite is reversed.

Appeal 2018-005215
Application 14/421,873

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)(1)(iv).

AFFIRMED