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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KIRK J. KRAUSS

Appeal 2019-000280
Application 13/798,314
Technology Center 2800

BEFORE LINDA M. GAUDETTE, DONNA M. PRAISS, and
DEBRA L. DENNETT, *Administrative Patent Judges*.

GAUDETTE, *Administrative Patent Judge*.

DECISION ON APPEAL^{1, 2}

¹ This Decision includes citations to the following documents: Specification filed March 13, 2013, as amended (“Spec.”); Final Office Action dated September 21, 2017 (“Final Act.”); Appeal Brief filed April 18, 2018 (“Appeal Br.”); Examiner’s Answer dated August 9, 2018 (“Ans.”); and Reply Brief filed October 9, 2018 (“Reply Br.”).

² The present application is the parent of Application 14/491,426, currently on appeal. *See* Appeal 2019-000271.

The Appellant³ appeals under 35 U.S.C. § 134(a) from the Examiner’s decision finally rejecting claims 12–18 and 20–25.⁴

We AFFIRM.

CLAIMED SUBJECT MATTER

The invention relates to “techniques for motion processing, which can compare sets of spatial regions (e.g., STBs [(SpaceTimeBoxes)]) accumulated over time, to identify life arcs (i.e., paths through space traversed by entities) and outliers to the life arcs (i.e., entities that follow alternate paths).” Spec. ¶ 13. Claim 12, reproduced below, is illustrative of the claimed subject matter:

12. A computer program product for processing motion paths for physical entities, the computer program product comprising a non-transitory computer readable storage medium having program code embodied therewith, the program code executable by a processor to perform a method comprising:

connecting a plurality of physical computing nodes to each other and to a database management system through a computer network, and configuring the computing nodes to process data received in inbound messages from one or more data sources, the inbound messages containing a plurality of representations of positions of the physical entity;

for each physical entity among a plurality of physical entities, receiving at the plurality of computing nodes inbound messages from a data source among the one or more data sources;

processing by the plurality of computing nodes the inbound messages to determine a motion path for one or more

³ We use the word “Appellant” to refer to the “Applicant” as defined in 37 C.F.R. § 1.42(a). The Appellant, International Business Machines Corporation Inc., is also the real party in interest. Appeal Br. 1.

⁴ We have jurisdiction under 35 U.S.C. § 6(b).

of the physical entities, wherein inbound messages pertaining to a same physical entity among the plurality of physical entities are processed by a same computing node among the plurality of computing nodes, and wherein processing further includes:

providing data to and receiving data from the database management system, and providing data to and receiving data from other computing nodes among the plurality of computing nodes; and

in response to detecting by one or more of the computing nodes that a number of physical entities among the plurality of physical entities traverse a similar motion path, generating by one or more of the computing nodes a path record representing the motion path traversed by the number of physical entities.

Appeal Br. 25–26 (Claims Appendix) (emphasis added).

REFERENCES

The Examiner relied on the following prior art as evidence of unpatentability:

Flickner et al.	US 2003/0107649 A1	June 12, 2003
Altman et al.	US 2008/0070593 A1	Mar. 20, 2008
Newcombe et al.	US 2012/0195471 A1	Aug. 2, 2012

REJECTIONS

1. Claims 12–18 and 20–25 are rejected under 35 U.S.C. § 101.
2. Claims 12, 20, and 21 are rejected under 35 U.S.C. § 112 (pre-AIA), second paragraph, or 35 U.S.C. § 112(b).
3. Claims 12, 14, 15, 17, 21, 23, and 24 are rejected under 35 U.S.C. § 102(b) as anticipated by Altman.
4. Claims 13, 16, 18, 22, and 25, are rejected under 35 U.S.C. § 103(a) as unpatentable over Altman in view of Flickner.

5. Claim 20 is rejected under 35 U.S.C. § 103(a) as unpatentable over Altman in view of Newcombe and Flickner.

OPINION

1. Rejection under 35 U.S.C. § 101

The Examiner rejected claims 12–18 and 20–25 under 35 U.S.C. § 101 as directed to patent ineligible subject matter. *See* Final Act. 3–6. An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. The Supreme Court, however, has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014). In determining whether a claim falls within an excepted category, we are guided by the Supreme Court’s two-step framework, described in *Alice* (*see id.* at 217–18), and *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 75–77 (2012). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219.

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*id.* at 219–20; *Bilski v. Kappos*, 561 U.S. 593, 611 (2010)); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 183 n.7 (quoting *Corning v.*

Burden, 56 U.S. 252, 267–68 (1853)); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

If a claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221. “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (quoting *Mayo*, 566 U.S. at 77).

In January of this year, the PTO published revised guidance on the application of Section 101. USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Guidance”). Under the Guidance, we first look to whether a claim recites (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes) (“Guidance Step 2A, Prong One”), and (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h)) (“Guidance Step 2A, Prong Two”). Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim (3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)), or (4) simply appends well-understood, routine, conventional activities previously known

to the industry, specified at a high level of generality, to the judicial exception (“Guidance Step 2B”).

Judicial Exception – Guidance Step 2A, Prong One

The Appellant argues the claims as a group. *See generally* Appeal Br. 10–11. Accordingly, we focus our discussion on claim 12,

As indicated above, under Guidance Step 2A, Prong One, we consider whether claim 12 recites a judicial exception to the statutory categories of patent-eligible subject matter, including one of the following groupings of abstract ideas: (1) mathematical concepts, e.g., mathematical relationships, mathematical formulas or equations, and mathematical calculations; (2) mental processes, e.g., concepts performed in the human mind, including observations, evaluations, judgments, and opinions; and (3) certain methods of organizing human activity. *See* Guidance, 84 Fed. Reg. at 52.

The Examiner determined that the limitations recited in the second, fourth, and sixth paragraphs of claim 12 (*see* bolded and italicized language *supra* pp. 2–3) are directed to an abstract idea of implementing a set of instructions in a generic computer. *See* Final Act. 3–4. As to these limitations, the Specification discloses that “the system includes one or more computing nodes (10), which collaborate . . . to process data received in inbound messages from one or more data sources (102),” e.g., “the Automatic Identification System (AIS), which is an automatic tracking system used on oceangoing vessels, and by vessel traffic services (VTS) for identifying and locating vessels by electronically exchanging data amongst vessels, AIS base stations, and satellites.” Spec. ¶ 28. “Each node (10) can be an independent computer or processor.” *Id.* Each computing node (10) includes computing device (12) that “may be described in the general

context of computer system executable instructions, such as program modules, being executed by a computer system.” *Id.* ¶ 32. “[P]rogram modules may include routines, programs, objects, components, logic, data structures, and so on that perform particular tasks or implement particular abstract data types.” *Id.* The Specification discloses a motion processing application, or “path detector,” that works as follows: “When a qualifying number of qualifying entities is found to traverse a similar path for the first time, the path detector produces a path record for those entities.” *Id.* ¶ 19. For example, “the qualifying number might be determined based on a percentage, . . . [e.g.], at least 20% of these entities must traverse a similar path in order for the path detector to produce a path record.” *Id.* The Specification discloses that “STBs [(SpaceTimeBoxes)] can be created by routines implemented, for example, as a plugin module in the Sensemaking [(entity analytics)] product, based on an input geospatial region and time interval, by using a geohash public domain geospatial-quantizing algorithm, along with a simple time-quantizing algorithm.” *Id.* ¶ 15.

Based on the above and other description in the Specification, we determine that claim 12 necessarily involves the use of mathematical relationships, formulas, or equations. In accordance with the Guidance, we conclude that claim 12 recites mathematical concepts and, thus, recites an abstract idea.

Integration into a Practical Application – Guidance Step 2A, Prong Two

According to the Guidance, even if a claim recites any one of the three groupings of abstract ideas, the claim is still not “directed to” a judicial exception (abstract idea), and thus is patent eligible, if “the claim as a whole integrates the recited judicial exception into a practical application of that

exception.” Guidance, 84 Fed. Reg. at 53. Limitations that are indicative of “integration into a practical application” include: (1) improvements to the functioning of a computer, or to any other technology or technical field (*see* MPEP § 2106.05(a)); (2) applying the judicial exception with, or by use of, a particular machine (*see id.* § 2106.05(b)); (3) effecting a transformation or reduction of a particular article to a different state or thing (*see id.* § 2106.05(c)); and (4) applying or using the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim as a whole is more than a drafting effort designed to monopolize the exception (*see id.* § 2106.05(e)). *See* Guidance, 84 Fed. Reg. at 54–55 (“Prong Two”). In contrast, limitations that are not indicative of “integration into a practical application” include: (1) adding the words “apply it” (or an equivalent) with the judicial exception, merely including instructions to implement an abstract idea on a computer, or merely using a computer as a tool to perform an abstract idea (*see* MPEP § 2106.05(f)); (2) adding insignificant extra-solution activity to the judicial exception (*see id.* § 2106.05(g)); and (3) generally linking the use of the judicial exception to a particular technological environment or field of use (*see id.* § 2106.05(h)). *See* Guidance, 84 Fed. Reg. at 54–55 (“Prong Two”).

The Appellant argues the claims include limitations that “constitute[] an improvement in the functioning of [a] computer.” Appeal Br. 11. The Appellant explains that

[h]aving dedicated physical nodes that each processes data for a particular physical entity, in combination with allowing the nodes to communicate over the computer network not only with each other, but also with the database management system,

results in improved path detection for the physical entities, as well as improved detection of outliers to any identified paths, compared to conventional techniques.

Id.

The Examiner contends the additional limitations recited in the claims are nothing more than instructions to implement the abstract idea on a computer or insignificant extra-solution activity (e.g., “providing data to and receiving data from” and “generating by one or more of the computing nodes a path record” involve data collection and data gathering which are extra solution activities necessitated by the process). Final 4–5. In support of the rejection under Section 101, the Examiner cites *MacroPoint, LLC v. FourKites, Inc.*, 2015 WL 6870118 (N.D. Ohio 2015), *aff’d mem.*, 671 F. App’x 780 (Fed. Cir. 2016), and *Wireless Media Innovations, LLC v. Maher Terminals, LLC*, 100 F. Supp. 3d 405 (D.N.J. 2015), *aff’d mem.*, 636 F. App’x 1014 (Fed. Cir. 2016). Ans. 5.

In *MacroPoint*, the court determined that claims reciting “a process for tracking freight, including monitoring, locating, and communicating regarding the location of the freight” were directed to an abstract idea. 2015 WL 6870118, at *3. In *Wireless Media*, the court determined that claims reciting a “process of monitoring and moving shipping containers and collecting the relevant data as to the location of the shipping containers” were directed to an abstract idea. 100 F. Supp. 3d at 415 (“It is apparent to the Court that this claim is limited to general steps and means for monitoring, recording, sorting, communicating and generating location and load status information, which could be carried out by human memory, by hand, or by conventional equipment and general purpose computer and printer resources.”). By contrast, in *SZ DJI Technology Company v. Yuneec*

International Company, 2016 WL 8931302 (C.D. Cal. 2016), the court determined that claims directed to tracking a target were patentable. The court explained that “[u]nlike *MacroPoint*, the claims in this case do not simply use a computer to accomplish automatic tracking, but instead provide specific parameters for how to adjust the UAV [(unmanned aerial vehicle)] and imaging device.” *Id.*, at * 4. Likewise, the court distinguished the claims at issue from those in *Wireless Media* by explaining that the claims at issue “do[] not merely employ a computer for the purpose of collecting location data, but instead use[] it to adjust the physical components within the system.” *Id.*

We agree with the Examiner that the present claims recite nothing more than software instructions implemented in a generic computer system, *see* Final Act. 4, and, like the claims in *MacroPoint* and *Wireless*, do not recite additional limitations that are indicative of “integration into a practical application.” The Appellant argues that the “claims are not directed to an abstract idea” and that “[n]ot only do the claims include physical components, but . . . also describe a specific process that results in an improvement in the functioning of a computer.” Appeal Br. 11. The Appellant, however, has not identified claim language that recites the use of the collected or generated data to adjust any physical components. As explained by our reviewing court,

claims focused on “collecting information, analyzing it, and displaying certain results of the collection and analysis” are directed to an abstract idea. *Electric Power [Group, LLC v. Alstom S.A.]*, 830 F.3d [1350,] 1353 [(Fed. Cir. 2016)]. “Information as such is an intangible,” hence abstract, and “collecting information, including when limited to particular content (which does not change its character as information),

[i]s within the realm of abstract ideas.” *Id.* (citing cases). So, too, is “analyzing information . . . by mathematical algorithms, without more.” *Id.* at 1354 (citing cases, including *Parker* . . . and . . . *Benson* . . .). And “merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis.” *Id.* (citing cases). The claims here are directed [to] abstract ideas under those principles.

SAP Am., Inc. v. InvestPic, LLC, 898 F.3d 1161, 1167 (Fed. Cir. 2018).

Accordingly, we determine claim 12 as a whole does not integrate the judicial exception—mathematical concepts— into a practical application of that exception.

Inventive Concept – Guidance Step 2B

Under Guidance Step 2B, we determine whether the claim provides an “inventive concept,” i.e., whether the additional elements beyond the judicial exception, individually and in combination, amount to “significantly more” than the judicial exception itself. Guidance, 84 Fed. Reg. at 56. According to the Guidance, “simply append[ing] well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality,” is indicative that an inventive concept is absent. *Id.*

The Examiner contends “the essential principle of network communication[] is to connect/link multiple devices with each other and servers,” Ans. 4, and “[t]he data being collected from [a] physical node/server[] is a mere routine data collection implemented by . . . routine devices,” Final Act. 5. The Examiner contends “the limitations of ‘physical computing nodes’, ‘database management system’, ‘computing network’, and ‘processor’ are no more than general purpose machine/tools or device cited at [a] high level of generality.” *Id.* at 4; *see also* Ans. 4 (“[S]uch

limitations are indeed not only . . . routine and conventional, rather these devices are essential.”).

The Appellant argues that

the physical computing nodes interact with each other, the database management system, and one or more data sources, and they distribute and process messages regarding physical entities between themselves in a very specific way. While the physical nodes conceivably could be implemented using generic computing components, the way in which the nodes interact is highly specific to the particular application at hand and is not merely “routine and generic devices cited at [a] high level of generality.”

Appeal Br. 11; *see also* Reply Br. 1 (“[H]aving dedicated physical nodes that each processes data for a particular physical entity, in combination with allowing the nodes to communicate over the computer network not only with each other, but also with the database management system, results in improved path detection for the physical entities, as well as improved detection of outliers to any identified paths, compared to conventional techniques. Having better detection abilities also constitutes an improvement in the functioning of the computer.”)

The Appellant’s argument is not persuasive. We agree with the Examiner’s analysis of the claim language and determination that the claims fail to recite additional elements that amount to “significantly more” than the judicial exception itself. Moreover, the Appellant admits that the nodes could be implemented using well-understood, routine, conventional devices. *See* Appeal Br. 11 *supra*; cited and quoted Specification disclosure *supra* pp. 6–7.

In conclusion, we agree with the Examiner that claims 12–18 and 20–25 are unpatentable under 35 U.S.C. § 101.

2. Rejection under 35 U.S.C. § 112, indefiniteness

The Examiner determined claims 12⁵, 20, and 21 are indefinite due to insufficient antecedent basis for the phrase “the plurality of computing nodes” (claims 12, 20, 21). Final Act. 6–7. The Appellant contends that one of ordinary skill in the art would understand that “the plurality of computing nodes” refers to the prior recitation of “a plurality of physical computing nodes” in each of claims 12, 20, and 21. *See* Appeal Br. 12.

A claim is indefinite under 35 U.S.C. § 112 when it contains words or phrases whose meaning is unclear. *In re Packard*, 751 F.3d 1307, 1309 (Fed. Cir. 2014) (“Indefiniteness, as a subset of claim construction, is a question of law . . .”). “[T]he lack of an antecedent basis does not render a claim indefinite as long as the claim ‘apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by [§ 112 ¶ 2].’” *In re Downing*, 754 F. App’x 988, 996 (Fed. Cir. 2018) (alteration in original) (citing MPEP § 2173.05(e)).

The second paragraph of each of claims 12 and 20 recites “connecting *a plurality of physical computing nodes* to each other . . . , and configuring *the computing nodes* to process data received in inbound messages from one or more data sources.” Appeal Br. 25, 28 (Claims Appendix) (emphasis added). The third paragraph of each of claims 12 and 20 recites “receiving at *the plurality of computing nodes* inbound messages from a data source among the one or more data sources.” *Id.* (emphasis added). Similarly, the third paragraph of claim 21 recites “*a plurality of physical computing nodes*,

⁵ The Final Office Action inadvertantly identifies claim 1, rather than claim 12, as subject to this ground of rejection. *See* Final Act. 6; Ans. 5 (correctly listing claims 12, 20, and 21 as subject to this ground of rejection).

the computing nodes being connected to each other . . . , and being configured to process data received in inbound messages from one or more data sources,” and the fourth paragraph of claim 21 recites “receiving at *the plurality of computing nodes* inbound messages from a data source among the one or more data sources.” *Id.* at 29. In our view, one of ordinary skill in the art would understand from the recitation of “the computing nodes” following the recitation of the “plurality of physical computing nodes” in the same paragraph in each of claims 12, 20, and 21 that “computing nodes” and “physical computing nodes” are one and the same. This interpretation is consistent with the original Specification, which does not use the term “physical computing nodes,” but uses the terms “computing nodes” and “nodes” interchangeably in referring to reference numeral (10). *See, e.g.*, Spec. ¶ 28, Fig. 1.

Accordingly, we do not sustain the rejection claims 12, 20, and 21 under 35 U.S.C. § 112 (pre-AIA), second paragraph, or 35 U.S.C. § 112(b).

3. Rejection under 35 U.S.C. § 102(b)

The Examiner rejected claims 12, 14, 15, 17, 21, 23, and 24 under 35 U.S.C. § 102(b) as anticipated by Altman. *See* Final Act. 7–17. The Appellant argues in support of patentability of claim 12. *See* Appeal Br. 12–16. In addition, the Appellant presents separate arguments in support of patentability of the following claims or claim groupings: (1) claims 14 and 23, and (2) claim 17. *See id.* at 18–19. Although the Appellant includes a separate heading for dependent claims 15 and 24, *see id.* at 18, as noted by the Examiner, *see* Ans. 18–19, the Appellant’s arguments are directed to limitations in claim 12.

We have considered the arguments advanced by the Appellant in the Appeal and Reply Briefs, but are not persuaded of reversible error in the Examiner's finding of anticipation, *see* Final Act. 7–17, for the reasons explained in the Answer, *see* Ans. 5–21. We add the following for emphasis and to address the arguments made in the Appellant's Reply Brief.

Claim 12 recites “in response to detecting by one or more of the computing nodes that a number of physical entities among the plurality of physical entities traverse a similar motion path, generating by one or more of the computing nodes a path record representing the motion path traversed by the number of physical entities.” Appeal Br. 26 (Claims Appendix). Claim 21 includes a similar recitation. *See id.* at 29. The Examiner found that this limitation is described in Altman paragraphs 48, 102, and 103. Final Act. 11. The Appellant agrees that Altman paragraph 103 describes an embodiment in which a server computer can be configured to store all previous locations of the user in a location log, but argues that Altman fails to disclose “using such a log to create or process motion paths or a path record representing a common motion path for multiple physical entities and/or to detect outliers to such a motion path, as is described in the Appellant[’s] claims.” Reply Br. 2.

The Appellant's argument is not persuasive because it is not commensurate in scope with claims 12, 14, 15, 17, 21, 23, and 24. As to the Appellant's contention that Altman fails to disclose using the location log to detect outliers, Reply Br. 2, we note that limitations relating to detection of outliers are not recited in the claims subject to this ground of rejection. The Specification defines an “outlier” as “an entity that traverses a path that is *different* from most other similar entities (e.g., entities that are all of a given

type and/or observed from a given data source, and so on).” Spec. ¶ 38 (emphasis added). The claims rejected as anticipated by Altman require detection of physical entities that traverse a *similar* motion path. *See, e.g.*, Appeal Br. 26 (Claims Appendix – claims 12 and 21).

As to the Appellant’s argument that Altman fails to disclose using the location log to create “a path record representing a common motion path for multiple physical entities,” Reply Br. 2, we note that none of the claims subject to the rejection under Section 102(b) recite *multiple* physical entities. Rather, the last paragraphs of claims 12 and 21 recite “in response to detecting that *a number of* physical entities among the plurality of physical entities traverse a similar motion path, generating a path record.” Appeal Br. 29 (Claims Appendix) (emphasis added); *see id.* at 26. The broadest reasonable construction of “a number of physical entities” includes *one* physical entity. Thus, in addition to the facts and reasons relied on by the Examiner in finding Altman discloses the argued limitation, Ans. 14–16, we find the last paragraphs of claims 12 and 21 read on Altman’s disclosure of tailoring the polling of an individual user’s location based on general travel or commute patterns—i.e., a similar motion path travelled by a physical entity—and storing current and previous locations of that user in a location log, *see Altman* ¶¶ 102–103. *See Spec.* ¶ 38 (“[A] path exists when motion data associated with a set of entities matches, or more particularly when a series of positional data observations associated with a set of entities is observed to encompass correlating sets of spatial regions.”).

The Appellant argues that the Examiner erred in finding that Altman describes a communication network of the type recited in the claims. Reply Br. 2. The Appellant contends Altman’s nodes are configured to process

inbound messages from the physical entities (users) rather than inbound messages from data sources as required by the claims. *Id.*

The Appellant's arguments are not persuasive because they fail to identify error in the Examiner's findings. The Examiner found that the claimed "physical computing nodes" read on Altman's mobile communication devices, such as cell phones, and the claimed "computer network" through which the nodes (cell phones) are connected reads on Altman's wireless communication network, such as mobile network 111. Final Act. 8 (citing Altman, at [57], ¶¶ 36–37, Figs. 1A–B); *see* Altman ¶ 36 ("The mobile network 111 supporting the mobile devices 102 are coupled to the server computer through an intermediate server computer, such as cell server 116."), ¶ 37 ("[E]ach user of a mobile device may also operate or access the location-based social network manager process 112 through a client computer 106, or any device that can access the Internet."). These findings are consistent with the Specification's disclosure that (1) a computing node comprises a computing device, which may be a handheld device, Spec. ¶ 31, (2) program code on the computer readable medium may be transmitted using any appropriate medium, including wireless, *id.* ¶ 24, and (3) "the remote computer may be connected to the user's computer through any type of network, . . . or the connection may be made to an external computer (for example, through the Internet using an Internet Service Provider)," *id.*

As to the limitation "processing by the plurality of computing nodes the inbound messages [from a data source] to determine a motion path for one or more of the physical entities," Appeal Br. 25 (Claims Appendix), *see also id.* at 29, the Specification discloses that "a data source is usually a

database table, query or extract from a system of record,” Spec. ¶ 29, and “a computing node” comprises “a computing device,” which may be a handheld device, *id.* ¶ 31. The Appellant has not explained sufficiently why the disclosure in Altman relied upon by the Examiner fails to meet the argued limitation.

For example, Altman discloses that “[t]he location-based social network manager process 112 includes components that display the location information for device 160 to other user devices 102 based on lists of friends whom user [of device] 160 has specified as authorized to view such location information.” Altman ¶ 44. “[L]ocation-aware device 160 represents a mobile phone or similar mobile device that incorporates the location sharing feature provided by the location-based social network manager process 112. This allows the location of device 160 to be displayed on its own display 170 as well as on the display of other user devices 102, and/or server computers 104.” *Id.* ¶ 43. “Location information for the device is determined by position determination unit 166, such as a Global Positioning System (GPS) method, or similar location determination process implemented within the device 160.” *Id.* “[E]ach mobile communication device runs local client versions of the map generator and database manager components. . . . As the user [of device 160] moves, the position of his location on the displayed map is updated in real-time or near real-time.” *Id.* ¶ 48 (emphasis added). “Not only can location information be displayed on a map, but specific information can be displayed in a list format on the . . . mobile device of the user.” *Id.* ¶ 55. “For each listed friend, various items of associated information can be displayed, such as the name, location . . . , and any associated message or status information. *The status information is*

programmed into the profile portion of the user database 124 for each friend and is pulled from that database.” Id. (emphasis added). In other words, Altman discloses that the users (physical entities) receive at their respective mobile devices 160, 102 (nodes) location information (an inbound message) for the user of device 160 (one of the physical entities) from a position-determination unit (data source) within device 160, and each mobile device 160, 102 (node) processes the information to determine movement of the user of device 160 (one of the physical entities) and generate a map showing the path (motion path) of user of device 160.

In conclusion, for the reasons stated above and in the Final Office Action and the Answer, we sustain the rejection of claims 12, 14, 15, 17, 21, 23, and 24 under 35 U.S.C. § 102(b) as anticipated by Altman.

4. & 5. Rejections under 35 U.S.C. § 103(a)

The Examiner rejected claims 13, 16, 18, 22, and 25 under 35 U.S.C. § 103(a) as unpatentable over Altman in view of Flickner, and claim 20 under 35 U.S.C. § 103(a) as unpatentable over Altman in view of Newcombe and Flickner. *See* Final Act. 17–29. We have considered the arguments advanced by the Appellant in the Appeal and Reply Briefs, but are not persuaded of reversible error in the Examiner’s conclusion of obviousness for the reasons explained in the Answer. *See* Ans. 21–29.

Accordingly, for the reasons stated above as to the anticipation rejection of independent claims 12 and 21, in the Final Office Action, and in the Answer, we sustain the rejections of claims 13, 16, 18, 20, 22, and 25 under 35 U.S.C. § 103(a).

ORDER

Claims Rejected	Basis	Affirmed	Reversed
12–18, 20–25	§ 101	12–18, 20–25	
12, 20, and 21	§ 112, indefiniteness		12, 20, and 21
12, 14, 15, 17, 21, 23, and 24	§ 102(b) - Altman	12, 14, 15, 17, 21, 23, and 24	
13, 16, 18, 22, and 25	§ 103(a) – Altman and Flickner	13, 16, 18, 22, and 25	
20	§ 103(a) – Altman, Newcombe, and Flickner	20	
Outcome		12–18, 20–25	

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