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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/556,753	12/01/2014	Michael Fein	150761US01	4996
133839	7590	09/01/2020	EXAMINER	
Zebra Technologies Corporation (Legacy) 3 Overlook Point Lincolnshire, IL 60069			WILDER, ANDREW H	
			ART UNIT	PAPER NUMBER
			3627	
			NOTIFICATION DATE	DELIVERY MODE
			09/01/2020	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MICHAEL FEIN, ANTHONY R. BROWN,
JOHN HUFFMAN, ROBERT GROM,
KARL TORCHALSKI, and JAMES J. O’HAGAN

Appeal 2020-002784
Application 14/556,753
Technology Center 3600

Before JAMES P. CALVE, KENNETH G. SCHOPFER, and
TARA L. HUTCHINGS, *Administrative Patent Judges*.

CALVE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the decision of the Examiner to reject claims 1, 2, 4, 7, 10, 14, 52, 53, 55, 58, 61, 65, 103, 104, 106, 109, 112, 116, and 154, which are all the pending claims.² Appeal Br. 2. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ “Appellant” refers to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies Zebra Technologies Corporation as the real party in interest. *See* Appeal Brief, filed December 10, 2019, at 2 (hereinafter “Appeal Br.”).

² Claims 3, 5, 6, 8, 9, 11–13, 15–51, 54, 56, 57, 59, 60, 62–64, 66–102, 105, 107, 108, 110, 111, 113–115, and 117–153 have been cancelled. *See* Appeal Br. 21–26 (Claims App.).

CLAIMED SUBJECT MATTER

Claims 1, 52, and 103 are independent. Claim 1 is reproduced below.

1. A method for a location system of allocating providers of a service to an area of a venue, the method comprising:

receiving, by the location system, blink data comprising at least a tag unique identifier from a tag, the tag being associated with a monitored individual, the blink data including characteristics of a signal that allow a location of the tag to be determined;

calculating, using a processor of the location system, tag location data based on the blink data;

correlating the tag location data to provider data corresponding to a first type of provider, the first type of provider to provide a product to an area of a venue;

calculating, using the processor and based on the provider data, demand for the product in the area;

generating, using the processor and based on the demand for the product in the area, predictive analytic data indicative of a need for a second type of provider in the area, the second type of provider being different than the first type of provider, the second type of provider to provide a service different than the product;

allocating, based on the predictive analytic data, a number of the second type of provider to the area; and

communicating a message to the allocated number of second type of provider, the message indicative of the allocation to the area.

Appeal Br. 21 (Claims App.).

REJECTION

Claims 1, 2, 4, 7, 10, 14, 52, 53, 55, 58, 61, 65, 103, 104, 106, 109, 112, 116, and 154 are rejected under 35 U.S.C. § 101 as being directed to a judicial exception without significantly more.

ANALYSIS

Patent Eligibility of the Claims

Appellant argues the claims as a group. Appeal Br. 6–20. We select claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Examiner’s Determination

The Examiner analyzes the limitations of claim 1 and determines that the “calculating” steps recite mathematical calculations, the “correlating,” “generating,” and “allocating” steps recite mental processes, and the steps of “receiving” and “communicating” recite certain methods of organizing human activity (e.g., fundamental economic practice, commercial or legal interactions, and managing personal behavior and relationships or interactions between people). Ans. 4–7; *see* Final Act. 7–11. The Examiner cites recent court decisions holding claims to customizing information for a user, collecting and analyzing information, generating rule-based tasks, and advertising, marketing, and sales activities are certain methods of organizing human activity, and decisions holding comparing data is a mental process. Final Act. 2–4, 9–10. The Examiner also determines that dependent claims recite “correlating,” “generating,” and “calculating” steps that recite the same abstract idea under this analysis. Ans. 6; Final Act. 4.

The Examiner determines the additional elements of a tag, a processor of a location system, and a memory are generic computer elements that perform generic functions to apply the judicial exception as tools and do not impose a meaningful limitation on practicing the abstract idea or reflect an inventive solution. Ans. 7; Final Act. 15–16. The Examiner determines that the devices and their functions are well-known and conventional as indicated by court decisions and patent publications. Final Act. 5–6, 14–16; Ans. 7–9.

Appellant's Contentions

Appellant argues that the Examiner has not given a reasoned analysis why claim limitations correspond to concepts that courts have identified as an abstract idea. Appeal Br. 9–13; Reply Br. 2–3. Appellant argues that the claims do not recite the judicial exceptions identified by the Examiner, and the Examiner has not addressed the dependent claims. Appeal Br. 13–14; Reply Br. 10–11. Appellant argues that the Examiner has not explained why “calculating a tag location based on the blink data” or “calculating a demand for a product” is a mathematical concept. Reply Br. 3. Appellant contends that the Examiner has not explained why “correlating,” “generating,” and “allocating” steps are mental processes. *Id.* at 3–4. Appellant argues that the Examiner has not explained why other limitations recite certain methods of organizing human activity. *Id.* at 4–5. Appellant argues that a human mind cannot calculate a tag location based on blink data. *Id.* at 7.

Appellant contends that the claims recite an improvement in location systems tasked with determining locations based on blink data and improve allocation of resources in specific areas of a venue such as a sporting event venue using real-time location blink data. Appeal Br. 6–7, 16; Reply Br. 9. Appellant asserts that the location system and tag are particular machines that are integral to the claim and its determination of tag location based on blink data. Appeal Br. 17. In addition, Appellant argues that the claims recite different service providers, a particular area in a venue, allocating a number of service providers to an area, and communicating a message to allocated service providers. *Id.* Appellant also argues that the limitations amount to significantly more when not limited to a tag, a processor, and a memory as the Examiner has done. *Id.* at 19.

Principles of Law

Section 101 of the Patent Act states:

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. This provision contains an implicit exception: “Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

To distinguish patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications, we first determine whether the claims are directed to a patent-ineligible concept. *Id.* at 217. If they are, we consider the elements of each claim, individually and “as an ordered combination,” to determine if additional elements “‘transform the nature of the claim’ into a patent-eligible application” as an “inventive concept” sufficient to ensure the claims in practice amount to significantly more than a patent on the ineligible concept itself. *See id.* at 217–18.

The USPTO has issued guidance about this framework. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Revised Guidance”). To determine if a claim is “directed to” an abstract idea, we consider whether the claim recites: (1) any judicial exceptions, including certain groupings of abstract ideas listed in the Revised Guidance (i.e., mathematical concepts, certain methods of organizing human activities such as a fundamental economic practice, or mental processes); and (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h) (9th ed. rev. 08.2017 Jan. 2018) (“MPEP”)). Revised Guidance, 84 Fed. Reg. at 52–55.

Only if a claim (1) recites a judicial exception and also (2) does not integrate that exception into a practical application, do we then consider 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. *Id.* at 56.

Step 1: Is Claim 1 Within a Statutory Category?

Claim 1 recites a “method” which is a statutory category of 35 U.S.C. § 101, namely, a process. *See* Ans. 3. Thus, we consider whether claim 1 as a whole recites a judicial exception.

Step 2A, Prong One: Does Claim 1 Recite a Judicial Exception?

We agree with the Examiner that claim 1 recites an abstract idea. The Revised Guidance enumerates the abstract idea as (1) certain methods of organizing human activity—fundamental economic principles or practices, commercial interactions and sales activities, managing personal behavior and interactions between people, (2) mathematical concepts, and (3) mental processes. *See* Revised Guidance, 84 Fed. Reg. at 52.

The Specification describes the claims as relating to the use of radio frequency locating as a means for providing supply and demand analytics and management. Spec. ¶¶ 2, 3. The claimed method analyzes and matches supply and demand using a location system. *Id.* ¶ 180. Such matching may improve opportunities for sales at venues such as concerts, sporting events, entertainment events, and competitive events. *Id.* ¶¶ 68, 79. The preamble recites this intended use as “a location system of allocating providers of a service to an area of a venue.” Appeal Br. 21 (Claims App.).

First, the location system receives “blink data comprising at least a tag unique identifier from a tag [that is] associated with a monitored individual . . . [to] allow a location of the tag to be determined.” Appeal Br. 21 (Claims App.). This step collects location data of individuals to match to providers who offer products in the same area. It is a precursor to the next steps that organize this human activity to correlate individual demand in an area of a venue to providers who supply that area. Spec. ¶¶ 73–80, 180–188. The Specification describes “blink data” as “characteristics of the tag signal that allow a tag signal to be recognized by a receiver” so the location of the radio frequency (RF) location tag may be determined by a location system. Spec. ¶¶ 5, 73. It also may include a tag unique identifier (tag UID) to identify a particular tag that is unique to a particular individual to be monitored. *Id.*

The next steps analyze this collected data to match providers (supply) to monitored individuals (demand). The steps include “calculating, using a processor of the location system, tag location data based on the blink data,” “correlating the tag location data to provider data corresponding to a first type of provider, the first type of provider to provide a product to an area of a venue,” and “calculating, using the processor and based on the provider data, demand for the product in the area.” Appeal Br. 21 (Claims App.).

These steps are recited at a high level of generality. The Specification describes blink data as including a tag unique identifier that a processor may use to calculate tag location data. Spec. ¶¶ 73–75, 180. A central processor correlates a tag’s location to provider location data to ascertain supply and demand in an area. *Id.* ¶¶ 75, 93, 143–46, 180. Demand may be aggregated, but no details are claimed for this step or for the calculating and correlating steps. *Id.* ¶¶ 145, 181, Fig. 4A; *see* Appeal Br. 3 (claimed subject matter).

When recited at such a high level of generality, steps of collecting and analyzing data by mathematical algorithms or other processes recite mental processes and mathematical concepts. *See* Revised Guidance, 84 Fed. Reg. at 52; October 2019 Update: Subject Matter Eligibility, § II.A.iii; *see also Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (“In a similar vein, we have treated analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category.”); *id.* at 1355 (“But merely selecting information, by content or source, for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes, whose implicit exclusion from § 101 undergirds the information-based category of abstract ideas.”); *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1146 (Fed. Cir. 2016) (same); Ans. 5.

As the Federal Circuit also held in *TLI*:

[T]he claims, as noted, are simply directed to the abstract idea of *classifying* and storing digital images in an *organized manner*. Consistent with the Supreme Court’s rejection of “categorical rules” to decide subject matter eligibility, . . . we have applied the “abstract idea” exception to encompass inventions pertaining to *methods of organizing human activity*. . . . Here, we find that, like the claims at issue in *Content Extraction* which were directed to “collecting data,” “recognizing certain data within the collected data set,” and “storing the recognized data in memory,” 776 F.3d at 1347, *attaching classification data*, such as dates and times, to images for the purpose of storing those images in an *organized manner* is a well-established “basic concept” sufficient to fall under *Alice* step 1.

In re TLI Commc’ns LLC Patent Litig., 823 F.3d 607, 613 (Fed. Cir. 2016). (emphasis added). Here, tag location data of individual activity is collected and organized in an area of a venue to match to providers supplying the area.

Appellant argues that the claims improve real-time location systems for sporting venues. Appeal Br. 6. However, the steps are recited at a high level of generality similar to steps of detecting and analyzing events in a particular area of an electric power grid in real time in *Electric Power*. See *Elec. Power*, 830 F.3d at 1351–52. The court determined that collecting and analyzing power grid information at a high level of generality was a mental process. *Id.* at 1354, 1355. Similarly, in *TLI*, the court held that collecting and classifying digital data in an organized manner involved a method of organizing human activity. *TLI*, 823 F.3d at 613. Here, the claimed steps classify tag location data by location and monitored individual and correlate that data to providers in an area of a venue, thus organizing the relationships and activities of parties for sales activities. See *Automated Tracking Sols., LLC v. Coca-Cola Co.*, 732 F. App'x 989, 991–93 (Fed. Cir. 2018) (holding claims to a system for locating, identifying and tracking an object in a first coverage area by collecting and analyzing RF signals from sensors recited an abstract idea). No particular arrangement of receivers and tags is claimed. Indeed, receivers are not even recited as being used to receive the blink data.

The Specification indicates demand may be aggregated with a defined hierarchy or taxonomy that relates providers, monitored areas, products, and services into a category or sub-category, but no details are claimed. Spec. ¶¶ 180–82. As claimed, calculating demand is a mental process counting tag location data in areas. See *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372–73 (Fed. Cir. 2011) (persons can make a map of credit card numbers and transactions from IP addresses); *Coffelt v. NVIDIA Corp.*, 680 F. App'x 1010, 1011 (Fed. Cir. 2017) (calculating steradian region of space is a mathematical algorithm that can be implemented using a pen and paper).

Furthermore, “[d]emand response is itself an abstract concept—a familiar business choice to alter terms of dealing to help match supply and demand.” *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 771 (Fed. Cir. 2019). Simply aggregating demand in “an area of a venue” in order to match a provider (a supply) recites the abstract idea of organizing human activity—fundamental economic principles or practices identified above.

The Specification describes demand aggregation as correlating the tag location data of individuals to provider location data to optimize sales based on the location of providers. Spec. ¶ 182. It creates real time opportunities to enhance sales. *Id.* ¶¶ 146, 68. Optimizing sales is similar to concepts that the Federal Circuit has found to be an abstract idea. *See OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362 (Fed. Cir. 2015) (holding claims to the concept of offer-based price optimization is similar to other fundamental economic concepts found to be abstract by the Supreme Court and this court); MPEP § 2106.04(a)(2) II.

The next two steps recite similar concepts as “generating, using the processor and based on the demand for the product in the area, predictive analytic data indicative of a need for a second type of provider in the area” and “allocating, based on the predictive analytic data, a number of the second type of provider to the area.” Appeal Br. 21 (Claims App.). These steps match supply of a second type of provider that “provide[s] a service different than the product” of the first provider. *Id.* Thus, it recites the same mental processes and fundamental economic principles and practices.

The Specification describes how matching demand for alcohol from a first provider to an area may indicate a need for additional security personnel (second provider of different service) in that same area. Spec. ¶¶ 93, 157.

The last step of “communicating a message to the allocated number of second type of provider, the message indicative of the allocation to the area” recites extra-solution activity of the data collection and analysis steps recited in the claim. *See Elec. Power*, 830 F.3d at 1354 (“And we have recognized that 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.”).

Furthermore, the process of targeting particular products or services to an individual based on information known about the individual including a location or profile also recites an abstract idea. The Specification describes “predictive analytic data” as including demographic data, provider data, and monitored area data. Spec. ¶¶ 13, 89, 153. In *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363 (Fed. Cir. 2015), the court held that tailoring information provided to a customer based on a customer’s location and navigation data and time of day is a fundamental practice long prevalent in our system. *Intellectual Ventures*, 792 F.3d at 1369–70. Here, claim 1 correlates location data of monitored individuals in an area to providers in the area in real time so providers are tailored to individuals at that location. *See id.* at 1370 (the dynamic presentation of data in “real time” to a user based on information known about a viewer is not patent eligible); *Bridge & Post, Inc. v. Verizon Commc’ns, Inc.*, 778 F. App’x 882, 886–87 (Fed. Cir. 2019) (retrieving historic and location-centric information about user locations and generating a user profile to deliver customized content using a persistent identifier is a fundamental practice); *see* Final Act. 9 and cases cited therein; MPEP § 2106.04(a)(2) II.

Similar claims to resource planning and forecasting by collecting and analyzing information at a high level of generality were not patent eligible in *In re Downing*, 754 F. App'x 988, 993 (Fed. Cir. 2018). Here, the claimed steps of collecting and analyzing location data of monitored individuals and correlating that data to providers to calculate (forecast) demand in the area also recite an abstract idea with no improvement to technology. *See id.*

Steps of “calculating” when recited at such a high level of generality as in claim 1 recite mathematical concepts as the Examiner has determined. *See* October 2019 Update: Subject Matter Eligibility, § II.A.iii.; Ans. 5.

Court decisions cited by the Examiner (Final Act. 8–10) support that claim 1 recites the abstract idea identified above, as do the dependent claims. Ans. 6. Correlating demand to tag and provider location data and generating experience enhancement data based on the demand in claim 2 is a method of organizing human activity for supply and demand and is a mental process. “Experience enhancement data” is associated with analyzing quality, value, or extent, of an experience, or routes, traffic patterns, movements, trends, or demand associated with tag and provider location data. Spec. ¶ 81. Thus, it relates to providing customized, targeted information to individuals, which is a fundamental practice as discussed above when recited at a high level of generality. So too, are claims to generating analytic and historical analytic data to transmit alerts when recited at such a high level of generality. *See Elec. Power*, 830 F.3d at 1353 (“Information as such is an intangible.”).

Appellant also argues that a human mind cannot receive blink data or calculate location data. Appeal Br. 14. However, the Examiner determines that these steps recite mathematical calculations and certain methods of organizing human activity as discussed above. *See* Ans. 5–6.

In *Content Extraction*, the Federal Circuit addressed a similar issue. *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343 (Fed. Cir. 2014). The claimed method extracted data from hard copy documents using an automated digitizing unit such as a scanner, recognized specific information in the extracted data, and stored that data in a memory locations for that data field. *Id.* at 1345. The court held that humans always performed these functions of collecting data, recognizing certain data in a collected set, and storing data in memory as fundamental economic practices. *See id.* at 1347 and cases cited therein.

Here, claim 1 recites collecting (receiving) digital data (blink data) and essentially extracting “characteristics of a signal that allow a location of the tag to be determined.” Appeal Br. 21 (Claims App.). Receiving and analyzing blink data of a tag at such a high level of generality is within the abstract realm. In *British Telecommunications*, the court held a method of using a telecommunications system to track locations of users in the system by receiving tracking information for a user and then generating a shortlist of information sources matched to the user based on the tracking information and location data of the information providers was an abstract idea. *British Telecommc'ns PLC v. IAC/InterActiveCorp, LLC*, 813 F. App'x 584, 586–87 (Fed. Cir. 2020) (“We have previously held that tailoring the provision of information to a user’s characteristics, such as location, is an abstract idea.”). The Examiner’s analysis has been as detailed as the claimed steps require.

Accordingly, we determine that claim 1 and the dependent claims recite the abstract idea of certain methods of organizing human activity of a fundamental economic practice involving commercial sales activities, mathematical concepts, and mental processes identified above.

Step 2A, Prong Two: Integration into a Practical Application

We next consider whether claim 1 recites any additional elements that integrate the abstract idea into a practical application. Revised Guidance, 84 Fed. Reg. at 54 (Revised Step 2A, Prong Two). We determine claim 1 lacks additional elements that improve a computer or other technology. The additional elements do not implement the abstract idea in conjunction with a particular machine or manufacture that is integral to the claim. They do not transform or reduce a particular article to a different state or thing. They do not apply the abstract idea in a meaningful way beyond merely linking it to a particular technological environment. *See* Revised Guidance, 84 Fed. Reg. at 55 and MPEP sections cited therein.

Appellant contends that claim 1 recites an improvement to location systems that determine locations using blink data and allocate resources with real time location information. Appeal Br. 16. Appellant argues that the claims recite multiple particular machines that are integral to the claims such as the location system, blink data, tag, and processor and perform specific operations. *Id.* at 17–18; *see* Reply Br. 9.

The Specification describes a locating system 100 comprising tags 102 and receivers 106 configured to provide two and/or three dimensional precision localization. Spec. ¶¶ 107, 108, Fig. 1A. It describes other aspects of the tags and their transmission of information packets and other data to the receivers. *Id.* ¶¶ 109–140. However, none of these features is claimed. Indeed, claim 1 does not even require a receiver or particular configuration of receivers, modules, and engines for real time location and aggregation of individuals and providers. *Id.* ¶¶ 141–159, Fig. 1B; *cf. Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1348–49 (Fed. Cir. 2017).

It is well-settled that unclaimed features cannot provide additional elements that integrate an abstract idea into a practical application. See *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 769–70 (Fed. Cir. 2019) (“Even if ChargePoint’s specification had provided, for example, a technical explanation of how to enable communication over a network for device interaction (which, as discussed above, it did not), the claim language here would not require those details. Instead, the broad claim language would cover any mechanism for implementing network communication on a charging station.”); *Ericsson Inc. v. TCL Commc’n Tech. Holdings Ltd.*, 955 F.3d 1317, 1325 (Fed. Cir. 2020) (“[T]he specification may be ‘helpful in illuminating what a claim is directed to [but it] must always yield to the claim language’ when identifying the ‘true focus of a claim.’”); *Synopsys*, 839 F.3d at 1149 (“The § 101 inquiry must focus on the language of the Asserted Claims themselves.”); *Accenture Glob. Servs., GmbH v. Guidewire Software*, 728 F.3d 1336, 1345 (Fed. Cir. 2013) (“[T]he important inquiry for a § 101 analysis is to look to the claim.”).

As the court held in *Accenture*, “the complexity of the implementing software or the level of detail in the specification does not transform a claim reciting only an abstract concept into a patent-eligible system or method.” *Accenture*, 728 F.3d at 1345. The specification in *Accenture* contained detailed software implementation guidelines, but the claims recited only general software components arranged to implement the abstract idea on a computer. *Id.* Here, claim 1 recites no details of software modules or other technological innovations to integrate the abstract idea. Claim 1 does not even recite receivers configured in a particular arrangement to receive blink data and provide real time locations of tags.

“[N]ot every claim that recites concrete, tangible components escapes the reach of the abstract-idea inquiry.” *TLI Commc ’ns*, 823 F.3d at 611; *see also Alice*, 573 U.S. at 225–26 (an instruction to apply an abstract idea using an unspecified generic computer is not enough to transform an abstract idea into a patent-eligible invention); *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1318, 1324–25 (Fed. Cir. 2016) (holding claims reciting an “interface,” “network,” and a “database” are nonetheless directed to an abstract idea).

We recognize that “[s]oftware can make non-abstract improvements to computer technology just as hardware improvements can, and sometimes the improvements can be accomplished through either route.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). However, “to be directed to a patent-eligible improvement to computer functionality, the claims must be directed to an improvement to the functionality of the computer or network platform itself.” *Customedia Techs., LLC v. Dish Network Corp.*, 951 F.3d 1359, 1365 (Fed. Cir. 2020) (citing *Enfish*, 822 F.3d at 1336–39).

Here, claim 1 recites no improvement to RFID technology or location systems. There is no indication that the location system identifies locations of monitored individuals or providers more accurately or efficiently or that it correlates demand of individuals to providers better in an area of a venue by using improved technology or improved computers. Instead, claim 1 recites a location system, tag, processor, and blink data as generic components that perform generic steps of the abstract idea. These generic components are recited as mere tools that implement the abstract idea without providing any technological improvement.

Nor does claim 1 recite a particular configuration or a specialized operation of tags. *See Automated Tracking Sols.*, 723 F. App'x at 994. Claim 1 does not recite any particular improvement to location systems by using a generic processor, tag, and blink data. The asserted “specific operations applied to specific aspects of a system” (Appeal Br. 18) merely involve limitations that recite the abstract idea identified above.

“It has been clear since *Alice* that a claimed invention’s use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention ‘significantly more’ than that ineligible concept.” *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018); *id.* at 1291 (“As a matter of law, narrowing or reformulating an abstract idea does not add ‘significantly more’ to it.”); *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) (“Adding one abstract idea (math) to another abstract idea (encoding and decoding) does not render the claim non-abstract.”); *Synopsys*, 839 F.3d at 1151 (“But, a claim for a *new* abstract idea is still an abstract idea.”); *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015) (holding claims that improved an abstract idea but did not recite the supposed computer improvements were not patent eligible); Revised Guidance, 84 Fed. Reg. at 55 n.24 (additional elements refer to claim features, limitations, and/or steps that are recited in a claim beyond the identified judicial exception).

Accordingly, we determine that claim 1 lacks any additional elements that are sufficient to integrate the abstract idea into a practical application.

Step 2B: Does Claim 1 Include an Inventive Concept?

We next consider if claim 1 recites additional elements, individually, or as an ordered combination, that provide an inventive concept. *Alice*, 573 U.S. at 217–18. The second step of the *Alice* test is satisfied when the claim limitations involve more than the performance of well-understood, routine, and conventional activities previously known to the industry.

Berkheimer v. HP Inc., 881 F.3d 1360, 1367 (Fed. Cir. 2018); see Revised Guidance, 84 Fed. Reg. at 56 (explaining that the second step of the *Alice* analysis considers whether a claim adds a limitation beyond a judicial exception that is not “well-understood, routine, conventional” in the field).

Individually, the additional elements recited in claim 1, namely, the location system, processor, tag, and blink data, are generic components that perform generic functions of receiving and analyzing data at a high level of generality. See *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (“That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive.”).

As an ordered combination, these elements provide no more than when they are considered individually. *Alice*, 573 U.S. at 225. They are used as tools to implement the judicial exception. See *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1169–70 (Fed. Cir. 2018) (claimed databases and processors did not improve computers but used available computers and functions as tools to execute the claimed process); *Inventor Holdings, LLC v. Bed Bath & Beyond, Inc.*, 876 F.3d 1372, 1378 (Fed. Cir. 2017) (considering the steps of representative claims as an “ordered combination” reveals they “amount to ‘nothing significantly more’ than an instruction to apply [an] abstract idea” using generic computer technology).

In *Automated Tracking Solutions* regarding similar claims to an RFID tracking and analysis system the court held:

Our analysis of the representative claims here uncovers no inventive concept in the individual claim limitations or their ordered combination. The representative claims are quite broad, reciting uses of RFID system components recognized in the specification to be routine and conventional. The claims do not use these conventional RFID components in a non-conventional combination or arrangement. Instead, the claims merely disclose collecting data from a particular source—RFID transponders—and analyzing that data. Whether we view the claim elements individually or as an ordered combination, the claims do not contain an inventive concept sufficient to confer patent eligibility.

Automated Tracking Sols., 723 F. App’x at 995. Similarly, here, our analysis of the claim elements both individually and in combination uncovers no inventive concept sufficient to confer patent eligibility.

A “tag” may include a UWB transmitter that transmits a signal burst with a tag unique identifier. Spec. ¶ 74. Tags are used with operational parameters that are not claimed. Spec. ¶¶ 107–140, 170–175. Tags may be arranged in a grid with receivers to obtain location data more accurately but such features are not claimed. *See id.*, Fig. 1A. Modules and engines of the system are described but are not claimed. *See id.* ¶¶ 141–169, Fig. 1B.

The claimed processor is described generically as a microprocessor configured to execute software instructions or other types of code to carry out defined steps and communicate over a data bus. Spec. ¶ 176, Fig. 3.

Thus, nothing in the claims, understood in light of the Specification, requires anything besides off-the-shelf, conventional computer, network, and tag technology for gathering, sending, and analyzing data. Such components do not provide an inventive concept. *Elec. Power*, 830 F.3d at 1355.

Appellant argues that the steps of claim 1 “fall beyond the identified judicial exception.” Appeal Br. 19. However, as discussed above, these limitations recite an abstract idea. “The ‘novelty’ of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981). Even groundbreaking, innovative, or brilliant steps that are abstract are insufficient for patent eligibility. *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013); accord *SAP Am.*, 898 F.3d at 1163 (“No matter how much of an advance in the finance field the claims recite, the advance lies entirely in the realm of abstract ideas, with no plausibly alleged innovation in the non-abstract application realm. An advance of that nature is ineligible for patenting.”). “An abstract idea can generally be described at different levels of abstraction.” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016).

The Examiner cites prior art describing RFID devices and processors used to communicate with tags and identify locations as known. Ans. 8–9 (citing US 2013/0257598 A1 to Kawaguchi); see also *British Telecomm’s*, 813 F. App’x at 587 (the claim recites only generic computer hardware of a “telecommunications system” and “terminal” that perform conventional functions); *Content Extraction*, 776 F.3d at 1348 (the claims recite existing scanning and processing technology that recognize and store data from specific data fields); *Affinity Labs of Texas LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1270 (Fed. Cir. 2016) (“Affinity makes no claim that it invented any of those components or their basic functions, nor does it suggest that those components, at that level of generality, were unknown in the art.”).

Accordingly, we determine that claim 1 lacks an inventive concept sufficient to transform the abstract idea into patent eligible subject matter. Thus, we sustain the rejection of claims 1, 2, 4, 7, 10, 14, 52, 53, 55, 58, 61, 65, 103, 104, 106, 109, 112, 116, and 154 as directed to a judicial exception under 35 U.S.C. § 101.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/ Basis	Affirmed	Reversed
1, 2, 4, 7, 10, 14, 52, 53, 55, 58, 61, 65, 103, 104, 106, 109, 112, 116, 154	101	Eligibility	1, 2, 4, 7, 10, 14, 52, 53, 55, 58, 61, 65, 103, 104, 106, 109, 112, 116, 154	

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

AFFIRMED