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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte WATARU KIMIZUKA and MASAHIDE ONUKI

Appeal 2018-001081
Application 13/871,055
Technology Center 3700

Before MICHAEL P. TIERNEY, *Vice Chief Administrative Patent Judge*,
JASON M. REPKO and MICHAEL T. CYGAN, *Administrative Patent
Judges*.

REPKO, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants¹ appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 7, 8, and 13. Br. 17.² Claims 1–6 are withdrawn. Claims 9–12 are canceled. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

THE INVENTION

Appellants' invention is a golf-club fitting method. Spec. 1:10–12. Fitting refers to selecting a club adapted to a player. *Id.* at 1:15–16. The invention is concerned with selecting a club with a suitable loft angle. *Id.* at 1:20–22. A club's loft angle relates to the orientation of its face and influences a hit ball's flight distance. *Id.* at 1:19–25. The invention recommends a suitable loft angle and corresponding golf club using data about hit balls. *See id.* at 3:1–8, 4:21–29.

Independent claim 7 is reproduced below with modified formatting:

7. A fitting method of a golf club, comprising the following steps of:

creating a hit ball result database based on ball initial velocity prediction data, launch angle prediction data, and back spin prediction data,

the ball initial velocity prediction data being data capable of predicting a ball initial velocity based on the dynamic loft and the blow angle,

¹ According to Appellants, the real party in interest is Dunlop Sports Co. Ltd. Br. 1.

² Throughout this opinion, we refer to the Final Office Action ("Final Act.") mailed February 9, 2016; the Advisory Action ("Adv. Act.") mailed August 30, 2016; the Appeal Brief ("Br.") filed October 7, 2016; and the Examiner's Answer ("Ans.") mailed November 17, 2016.

the launch angle prediction data being data capable of predicting a launch angle based on the dynamic loft and the blow angle, and

the backspin prediction data being data capable of predicting a backspin based on the dynamic loft and the blow angle,

wherein the hit ball result database is obtained by actual measurement and/or a simulation;

measuring a subject's head speed, dynamic loft, and blow angle using a reference club;

determining, by a processor, a suitable dynamic loft based on only the measured head speed, the measured dynamic loft, and the measured blow angle,

the suitable dynamic loft being defined as a dynamic loft achieving a predetermined hit ball result,

wherein the hit ball result database is used for determining the suitable dynamic loft,

the hit ball result database includes correlation data between the dynamic loft and the blow angle which are created for each head speed, and

the hit ball results in the dynamic lofts in the measured blow angle are compared using the hit ball result database;

determining a dynamic loft difference from the suitable dynamic loft and the measured dynamic loft; and

determining a recommended loft angle based on a loft angle of the reference club and the dynamic loft difference,

wherein the hit ball result includes a flight distance.

THE REJECTION

Claims 7, 8, and 13 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Adv. Act. 2;³ Ans. 2–4.

ANALYSIS

I. Principles of Law

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[I]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *See id.* at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

³ The Examiner entered an amendment filed after the Final Office Action and explained how the newly entered claims are rejected in the Advisory Action. *See* Adv. Act. 1–2.

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67–68 (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. (15 How.) 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the 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.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

The PTO recently published revised guidance on the application of § 101. *See* 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (USPTO Jan. 7, 2019) (“Guidance”). Under that guidance, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (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)).

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.

See Guidance, 84 Fed. Reg. at 56.

II. The Examiner's Rejection

The Examiner determines that, although representative⁴ claim 7 is a process, the claim is directed to a judicial exception: an abstract idea. Adv. Act. 2; Ans. 3. According to the Examiner, claim 7 is similar to a claim that the Federal Circuit has determined to be directed to a mental process. *See* Adv. Act. 2 (citing *SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 F. App'x. 950 (Fed. Cir. 2014) (non-precedential)); Ans. 3. In concluding that claim 7 is ineligible, the Examiner finds that the additional elements are well-understood, routine, and conventional in the field. Ans. 4, 7.

III. Does the claim recite a judicial exception?

Viewing the Examiner's rejection through the lens of the Guidance, we first consider whether the claim recites a judicial exception. Guidance, 84 Fed. Reg. at 51. The PTO has synthesized the key concepts identified by the courts as abstract ideas into three primary subject-matter groupings: mathematical concepts, certain methods of organizing human activities (e.g.,

⁴ Appellants argue claims 7 and 8 as a group. *See* Br. 17 (“In view of the above, it is submitted that claim 7 and its dependent claims are directed to patent-eligible subject matter . . .”). So we select independent claim 7 as representative of claims 7 and 8. *See* 37 C.F.R. § 41.37(c)(1)(iv).

a fundamental economic practice), and mental processes. *Id.* at 52. For the reasons discussed below, claim 7 recites an abstract idea that falls in the Guidance’s mental-processes grouping.⁵

A. Overview of Claim 7

Claim 7 recites a fitting method of a golf club. Under the broadest reasonable interpretation of claim 7, the recited determinations can be practically performed in the mind. *See* Ans. 3 (discussing *SmartGene*). In this way, claim 7 recites a judicial exception: an abstract idea within the Guidance’s mental-process grouping. Next, we explain how each recited determination is an evaluation or judgment that can practically be performed in the mind or with the assistance of pen and paper. *See* Guidance, 84 Fed. Reg. at 52 n. 14 (collecting cases).

B. “determining, by a processor, a suitable dynamic loft”

Claim 7 recites, in part, that the dynamic-loft determination requires “the measured head speed, the measured dynamic loft, and the measured blow angle, the suitable dynamic loft being defined as a dynamic loft achieving a predetermined hit ball result.” The claim further recites “the hit ball result database is used for determining the suitable dynamic loft.”

To perform the recited determination, only a small amount of data needs to be analyzed. In fact, “the hit ball result database may be a list (table).” *Spec.* 28:31. For example, Table 24, reproduced below, shows predetermined hit-ball results. *Id.* at 59.

⁵ The Examiner analogizes claim 7 to other types of abstract ideas. *See* Ans. 3. But this reasoning is cumulative and in the alternative. *See id.* Here, it is sufficient to say that claim 7 at least recites a mental process.

		Blow angle (degree)							
		-6	-4	-2	0	2	4	6	8
Dyna mic loft (deg ree)	7.0	263.6	266.1	265.7	263.1	258.9	253.6	247.5	241.3
	9.0	264.5	271	275	276.3	275.4	272.3	267.9	262.5
	11.0	259.2	268.3	276	281.1	283.8	284	282.3	278.6
	13.0	251.7	261.5	270.9	278.9	285.1	288.9	290.2	289.3
	15.0	243.8	253.5	263.1	272.4	280.7	287.6	292.3	294.6
	17.0	236.3	245.6	255	264.3	273.3	281.7	288.9	294.2
	19.0	210.3	238.3	247.2	256.1	265	273.8	281.9	289.2
	21.0	199.2	209.1	224.2	238.6	257.1	265.5	273.7	281.6

Table 24 shows a ball’s flight distance in yards—i.e., the hit-ball results—when head speed is 50 m/s for a blow angle and dynamic loft. *Id.* Like Table 24, claim 7 recites “the hit ball result database includes correlation data between the dynamic loft and the blow angle which are created for each head speed.” Thus, the dataset is small enough to be mentally analyzed by reading Table 24.

As for this analysis, claim 7 recites that, in the suitable dynamic-loft determination, “the hit ball results in the dynamic lofts in the measured blow angle are compared using the hit ball result database.” To perform the recited comparison, a human can compare the flight distances, dynamic lofts, and blow angles by looking up the values in Table 24. In this way, the suitable dynamic-loft determination is an evaluation that can practically be performed in the mind.

C. “determining a dynamic loft difference”

Claim 7 further recites that the dynamic-loft difference is determined “from the suitable dynamic loft and the measured dynamic loft.” This can be calculated by formula F1: $L_d = L_x - L_m$. *Id.* at 25:16–24. In F1, L_x is

the optimal dynamic loft, and L_m is the measured dynamic loft. *Id.* That is, the dynamic-loft difference only requires a subtraction, which is also an evaluation that can practically be performed in the mind. *See id.*

D. “determining a recommended loft angle”

Claim 7 further recites that the recommended loft angle is determined “based on a loft angle of the reference club and the dynamic loft difference.” The recommended loft angle L_r can be calculated using formula F2: $L_r = L_s + L_d$. *Id.* at 25:30–26:3. In F2, L_s is the reference club’s loft angle, and L_d is the dynamic-loft difference. *Id.* That is, the recommended loft-angle determination only requires an addition, which is also an evaluation that can practically be performed in the mind. *See id.*

Claim 7 recites an evaluation that, when considered in the context of the claim as a whole, can practically be performed in the mind. Thus, claim 7 recites a concept that falls within the Guidance’s mental-processes grouping. Guidance, 84 Fed. Reg. at 52 nn.14 & 15.

For all the above reasons, claim 7 recites an abstract idea.

IV. Is the claim “directed to” the recited judicial exception?

Because claim 7 recites an abstract idea, we now proceed to determine whether the recited judicial exception is integrated into a practical application. Guidance, 84 Fed. Reg. at 51. When a claim recites a judicial exception and fails to integrate the exception into a practical application, the claim is “directed to” the judicial exception. *Id.*

The claim may integrate the judicial exception when, for example, it reflects an improvement to technology or a technical field. *Id.* at 55. Here, the described improvement is to “club fitting accuracy via more accurate

determining of a recommended loft angle.” Br. 10. Essentially, the disclosed invention helps the user select a club that fits the player’s needs. Spec. 1:19–25. To solve this non-technical problem, claim 7 uses the collected data to recommend a golf club that has a desirable loft angle. Claim 7 does not, for example, improve how the measurements are taken or improve how the golf club is manufactured. In this way, claim 7 is unlike the technology-based integrations cited by Appellants. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016) (holding that the patent-eligible claim was directed to a self-referential table to improve computer databases), *cited in* Br. 6; *McRO, Inc. v. Bandai Namco Games Am.*, 837 F.3d 1299 (Fed. Cir. 2016) (explaining that the patent-eligible claim focused on a specific asserted improvement in computer animation), *cited in* Br. 10. Considering the claim as a whole, Appellants’ invention lacks a technical solution to a technical problem.

The mere presence of a database or a processor here does not necessarily indicate a technical solution. Essentially, Appellants argue that, because the claim uses a database and a processor, it is not directed to a mental process. *See* Br. 9–12. For example, Appellants argue that the processor and database provide a “specific and tangible implementation,” which indicates that the claimed subject matter is patent eligible. *See id.* at 9. But “[c]ourts have examined claims that required the use of a computer and still found that the underlying, patent-ineligible invention could be performed via pen and paper or in a person’s mind.” *Versata Dev. Grp. v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015), *quoted in* Guidance, 84 Fed. Reg. at 52 n.14. So although claim 7 recites a processor

and a database, this does not preclude the claim from being directed to the recited mental process.

Here, the processor and database are additional elements. We use the term “additional elements” for “claim features, limitations, and/or steps that are recited in the claim beyond the identified judicial exception.” *See* Guidance, 84 Fed. Reg. at 55 n.24. Claim 7’s additional elements also include the step of creating a hit-ball database, and the step of measuring a subject’s head speed, dynamic loft, and blow angle. *See* Ans. 4 (discussing the processor, reference club, and database); *see also* Final Act. 3. In the analysis below, we consider these additional elements—individually and in combination—and conclude that claim 7 as a whole does not integrate the recited judicial exception into a practical application. *See* Guidance, 84 Fed. Reg. at 55 nn.25 & 27–32 (citing MPEP §§ 2106.05(a)–(c), (e)–(h)).

A. “by a processor”

An additional element may integrate a judicial exception into a practical application when, for example, the “additional element implements a judicial exception with, or uses a judicial exception in conjunction with, a particular machine or manufacture that is integral to the claim.” *Id.* at 55. In this case, claim 7 lacks such a machine. At best, the processor simply executes the mental process described above. Notably, the recited processor can be a general-purpose computer. Spec. 8:2–3. But a general-purpose processor that merely executes the judicial exception is not a particular machine. *Ultramerical, Inc. v. Hulu, LLC*, 772 F.3d 709, 716–17 (Fed. Cir. 2014), *cited in* MPEP § 2106.05(b)(I).

Considering the processor in combination with the other recited limitations, the processor is merely a token addition. To be sure, the recited

processor may perform the calculations faster than a human could mentally. Yet using a computer to achieve a solution more quickly may not be sufficient to show an improvement to computer technology. *See Versata*, 793 F.3d at 1335; *see also* MPEP § 2106.05(a)(II) (instructing examiners that a “commonplace business method being applied on a general purpose computer” may not be sufficient to show an improvement). Here, claim 7 broadly recites determining the values without any particular technical improvement to how the processor carries out these operations. In this way, the recited processor is merely used to perform calculations that, for the reasons discussed above, can practically be performed in the mind.

For all these reasons, the claimed method does not use the processor in a way that indicates that the judicial exception has been integrated into a practical application.

B. “creating a hit ball result database”

Claim 7 recites “creating a hit ball result database based on ball initial velocity prediction data, launch angle prediction data, and back spin prediction data.” In Appellants’ view, “claim 7 integrates the particular defined hit ball result database into a specific practical application.” Br. 12. Appellants argue that claim 7 “clearly defined the particular hit ball result database” by reciting that the database is created with specific values. *Id.* at 13.

It is true that the recited steps define the database’s contents with some specificity. In the database-creation step, several fields are defined by what they are “capable of predicting.” Specifically, claim 7 recites

the ball initial velocity prediction data being data capable of predicting a ball initial velocity based on the dynamic loft and the blow angle, the launch angle prediction data being data

capable of predicting a launch angle based on the dynamic loft and the blow angle, and the backspin prediction data being data capable of predicting a backspin based on the dynamic loft and the blow angle.

This limitation defines the database's values—i.e., ball initial-velocity, launch-angle, and backspin-prediction data. Although the recited values are defined by what they are “capable of predicting,” the prediction is not part of this step.

The database's specificity does not remove claim 7 from the abstract realm. Rather, claim 7 recites “the hit ball result database is obtained by actual measurement and/or a *simulation*” (emphasis added). The “simulation” can use the trajectory equation. Spec. 30:12–13. The database merely stores the results. *Accord id.* at 28:31 (“[T]he hit ball result database may be a list (table).”). Appellants have not disclosed a technical improvement to a database—e.g., an improvement to the way that the database stores or retrieves information. Apart from data storage, claim 7 does not use any particular database feature. Using a database to store data in its ordinary capacity, without more, may not integrate the abstract idea. *See, e.g., Accenture Glob. Servs. GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1343–44 (Fed. Cir. 2013) (explaining that the generic database components did not make the claims patent eligible in that case).

For all these reasons, the recited database does not indicate that the judicial exception has been integrated into a practical application.

C. “measuring a subject's head speed, dynamic loft, and blow angle using a reference club”

Although claim 7 recites “measuring a subject's head speed, dynamic loft, and blow angle using a reference club,” we disagree with Appellants that claim 7 recites how to measure. Br. 16. At most, claim 7 recites what

values are measured. Apart from these values, claim 7 broadly recites “measuring” without any technical detail. The claim does not recite any technical improvement to how the measurements themselves are obtained.

Although the step recites “using a reference club,” the club can be the golfer’s. Spec. 12:4–5. The club itself imposes no meaningful limitations because measuring the recited values from a golfer’s swing would require a club. For all these reasons, the recited measuring step is nothing more than insignificant data collection.

Thus, the recited measurement does not indicate that claim 7 integrates the abstract idea into a practical application. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) (explaining that obtaining transaction data for later verification was insufficient to render the claim eligible in that case), *cited in* MPEP § 2106.05(g); *see also* Guidance, 84 Fed. Reg. at 55 (discussing insignificant extra-solution activity).

D. Other Indicia of Integration

The Guidance lists other indicia of integration. Guidance, 84 Fed. Reg. at 55. None are present in claim 7.

For example, “[t]ransformation and reduction of an *article* ‘to a different state or thing’ is the clue to patentability of a process claim that does not include particular machines.” *Bilski*, 561 U.S. at 604 (emphasis added), *quoted in* MPEP § 2106.05(c). Yet “not all transformations . . . infuse an otherwise ineligible claim with an ‘inventive concept.’” *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014).

Claim 7’s method does not transform a physical object or substance. In this way, the claim is unlike the transformations found in some eligible claims. *See, e.g., Diehr*, 450 U.S. at 184 (a process that transforms rubber).

On this record, claim 7 is directed to the identified abstract idea. *See* Ans. 4–5.

V. Does the claim provide an inventive concept?

To determine whether a claim provides an inventive concept, the additional elements are considered—individually and in combination—to determine whether they (1) add a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field or (2) simply append well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. Guidance, 84 Fed. Reg. at 56. Also, we reevaluate our conclusions about the additional elements discussed in the previous step. *Id.*

Appellants argue that, viewing the claim as a whole, the claim specifies how to create the hit-ball result, how to measure the data, how to use the data, how to use the results, and how to select the loft angle. Br. 16. In Appellants’ view, these limitations are more than well-understood, routine, and conventional activities. *Id.* at 15. We disagree.

A. “by a processor”

Using a computer “only for its most basic function, the performance of repetitive calculations,” may not impose meaningful limits on the claim’s scope. *Bancorp Servs. v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012). Similarly, the MPEP instructs examiners that

courts recognize that using a computer for performing repetitive calculations may be well-understood, routine, and conventional when claimed generically. MPEP § 2106.05(d)(II)(ii) (citing *Flook*, 437 U.S. at 594; *Bancorp*, 687 F.3d at 1278).

Claim 7's method uses the processor for calculating. The Examiner finds that the processor is well-understood, routine, and conventional in the field of club fitting. Ans. 4 (citing several patents and publications in support of this finding). We agree with the Examiner's findings, which are adequately supported by this record. Specifically, the recited calculations cover operations that can be performed mentally, which suggests that the method only requires a computer with basic functions. In fact, the processor itself may be a general-purpose computer. Spec. 8:3. Essentially, the claim uses a general-purpose processor to execute the abstract idea. For these reasons, the recited processor adds nothing more than well-understood, routine, conventional activities, specified at a high level of generality, to the abstract mental process. *See* MPEP § 2106.05(d)(II)(ii).

We also reevaluate our conclusions about whether the recited processor integrates the abstract idea into a practical application. *See supra* § IV.A. Because the recited processor adds nothing more than well-understood, routine, conventional activities, those conclusions stand. Considering both our previous conclusions and the findings about well-understood, routine, and conventional activity, we determine that the claimed method does not use the processor in a way that indicates that the claim provides an inventive concept. *See* Ans. 3–4; Final Act. 3.

B. “a hit ball result database”

The Federal Circuit has recognized that a generic database may not satisfy the inventive-concept requirement. *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324–25 (Fed. Cir. 2016). Also, the MPEP instructs examiners that courts recognize that storing and retrieving information in memory may be well-understood, routine, and conventional when claimed generically. MPEP § 2106.05(d)(II)(iv) (citing *Versata*, 793 F.3d at 1334; *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015)).

In claim 7, the recited database stores data and may be a list or table. Spec. 28:31. Although the stored values are defined with particularity, claim 7 merely recites creating a database with this data. Claim 7, for example, does not use any specific technical features of database technology in an unconventional way. In this regard, the claim uses the database generically for data storage and retrieval. Thus, the recited database is well-understood, routine, and conventional. *See* MPEP § 2106.05(d)(II)(iv).

We also reevaluate our conclusions about whether the recited database integrates the abstract idea into a practical application. *See supra* § IV.B. Because the recited database adds nothing more than well-understood, routine, conventional activities, those conclusions stand. Considering both our previous conclusions and the findings about well-understood, routine, and conventional activity, we determine that the claimed method does not use the database in a way that indicates that the claim provides an inventive concept. *See* Ans. 3–4; Final Act. 3.

C. “measuring a subject’s head speed, dynamic loft, and blow angle using a reference club”

Similarly, the measuring step is not claimed with any particularity to distinguish it from routine data collection. Rather, claim 7 simply recites “measuring” using the reference club. In fact, the Specification states that “the reference club is not particularly limited.” Spec. 12:3–4. “For example, a club usually used by the subject may be the reference club.” *Id.* at 12:4–5. Measuring the recited values from a golfer’s swing would require a club. Also, the Specification discloses that collecting data from a golfer’s swing is conventional. *See id.* at 1:27 (“Data is generally measured from a golf player’s swing.”).

We also reevaluate our conclusions about whether the recited measurements integrate the abstract idea into a practical application. *See supra* § IV.C. Because the recited measurements add nothing more than well-understood, routine, conventional activities, those conclusions stand. Considering both our previous conclusions and the findings about well-understood, routine, and conventional activity, we determine that the recited measurements do not indicate that the claim provides an inventive concept. *See* Ans. 3–4; Final Act. 3.

D. *The Combination*

“[A] new combination of steps in a process may be patentable even though all the constituents of the combination were well known and in common use before the combination was made.” *Diehr*, 450 U.S. at 188. For example, the claims in *BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC* involved an inventive distribution of function between a local computer and a server. *See* 827 F.3d 1341, 1350–51 (Fed. Cir. 2016). The Federal Circuit noted “[t]he inventive concept described and claimed in the

'606 patent is the installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user.” *Id.* at 1350. “Because the filtering tool on the ISP server contains each user’s customized filtering mechanism, the filtering tool working in combination with the ISP server can apply a specific user’s filtering mechanism to the websites requested by that user.” *Id.* at 1345.

Appellants do not identify any inventive concept in the recited combination of steps here or any specific arrangement of computing components. Indeed, the claim’s focus is club fitting, not a specific configuration of the processor and database. In the claimed arrangement, the processor simply reads values from a database and uses them in the recited calculations.

Appellants argue that the claim recites specific features to improve club fitting. Br. 11–12. In Appellants’ view, claim 7 recites a “rule” that “is not used conventionally by any people who select golf clubs for their customers.” *Id.* at 13 (emphasis omitted).

Yet the claimed “rule” is the abstract idea itself. “What is needed is an inventive concept in the non-abstract application realm.” *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1168 (Fed. Cir. 2018). “[A] claim for a new abstract idea is still an abstract idea.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016). Here, the limitations on the mental process itself—i.e., the “rules” governing the determinations (*see* Br. 12–13)—do not make claim 7 any less abstract. None of these limitations provide an inventive concept in the non-abstract application realm. Unlike *BASCOM*, claim 7 is simply an “abstract-idea-based solution

implemented with generic technical components in a conventional way.”
827 F.3d at 1351.

On this record, the limitations—considered individually and in combination—do not provide an inventive concept. Ans. 3–4; Final Act. 3.

VI. Other Arguments

Appellants argue that claim 7 does not preempt approaches that use “rules of a different structure or different techniques.” Br. 12. “While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015). “[Q]uestions on preemption are inherent in and resolved by the § 101 analysis,” which has been applied here. *Id.*

VII. Conclusion

We sustain the rejection of representative claim 7 under 35 U.S.C. § 101. We also sustain the rejection of claim 8, which is argued together with claim 7. *See supra* n.4.

VIII. Claim 13

Claim 13 depends from claim 7 and recites, in part, “the step of selecting a recommended golf club for the subject based on the recommended loft angle.”

Appellants argue that claim 13 is eligible because it recites a “tangible result”—i.e., a selected golf club. Br. 17.

The Specification states that “[t]he selection may be performed by a fitter” or the processor. Spec. 15:18–19. The recommended club can be selected from a list of clubs. *See, e.g., id.* at 12:5–6; 28:31. In fact, the golfer’s usual club—i.e., the reference club—may be one of the clubs in the list. *Id.* at 12:5–6. Because the recited selection covers activities performed by a processor or the fitter, we do not interpret claim to require a physical act, as Appellants’ argument suggests. *See* Br. 17. Rather, claim 13’s selection can practically be performed in the fitter’s mind. For example, the recited selection covers a fitter’s judgment or decision to recommend the club “usually used by” the golfer. *See* Spec. 12:3–6; 15:18–19; 28:31.

Apart from limiting the mental process recited in claim 7 to include this selection, claim 13 does not recite additional elements outside the abstract realm. So claim 13 does not integrate the abstract idea into a practical application or supply an inventive concept. *See SAP*, 898 F.3d at 1168.

Thus, we sustain the rejection of claim 13 under 35 U.S.C. § 101.

DECISION

We affirm the Examiner’s decision to reject claims 7, 8, and 13.

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