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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MASA AKI YABE, ICHIRO MARUYAMA, SATOSHI
MINEZAWA, TOSHI AKI YOSHIKAWA, HIROTOSHI YANO,
DAISUKE IIZAWA, KENICHIRO TANAKA, and TAKASHI OGINO

Appeal 2019-001962
Application 14/888,998
Technology Center 2800

Before BRADLEY R. GARRIS, MICHELLE N. ANKENBRAND, and
LILAN REN, *Administrative Patent Judges*.

REN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–10 and 12–16. Final Act. 4; Ans. 2.² We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

CLAIMED SUBJECT MATTER

The claims seek to resolve a problem that, when a user is given a blueprint of a floor plan, “the user is unable to freely edit the floor plan image, and as a result, device layout information cannot be generated easily” by “enabling the easy generation of layout information for electric devices connected to a network in a home.” Spec. ¶¶ 5, 6.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A layout generation system for generating layout information for an electric device connected to a network in a home, comprising:
 - a processor and a memory, wherein the processor is configured to execute a program stored in the memory to edit a floor plan of the home in accordance with a first user operation;
 - position, in accordance with a second user operation, an icon indicating the electric device in each room in the edited floor plan; and

¹ We use the word “Appellant” to refer to “Applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as “MITSUBISHI ELECTRIC CORPORATION.” Appeal Br. 5.

² The Examiner withdrew part of the analysis for the rejection under section 101 in the Answer, but maintained the rejection under section 101 for these claims. Ans. 2.

generate, based on the edited floor plan and the positioned icon, layout information in which the room and the electric device are associated with each other.

Appeal Br. 32 (Claims Appendix).

REJECTION

The Examiner rejects claims 1–10 and 12–16 under 35 U.S.C. § 101. Final Act. 4.

OPINION

Legal Framework

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: “[l]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, our inquiry focuses on 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 Alice*, 573 U.S. 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.”).

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, 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 182 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))).

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 176; *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 (citations omitted). “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 Office recently published revised guidance on the application of § 101. USPTO’s January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility Guidance* (“Memorandum”), 84 Fed. Reg. 50 updated by USPTO, *October 2019 Update: Subject Matter Eligibility* (available at <https://go.usa.gov/xp88j>); see also October 2019 Patent Eligibility Guidance Update, 84 Fed. Reg. 55942 (Oct. 18 2019) (notifying public that October update was available). 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 activity 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)).

Only if a claim recites a judicial exception and 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 generally Memorandum.

Analysis

Applying the guidance set forth in the Memorandum, we conclude that claims 1–10 and 12–16 are directed to a judicial exception and are ineligible under § 101.

Revised Step 2A, Prong One–Directed to a Judicial Exception

The Memorandum instructs us first to determine whether each claim recites any judicial exception to patent eligibility. 84 Fed. Reg. at 54. The Memorandum identifies three judicially-excepted groupings: (1) mathematical concepts, (2) certain methods of organizing human activity such as fundamental economic practices, and (3) mental processes. *Id.* at 52.

The Examiner finds that the claims are directed to the abstract idea of drawing a floor plan, which can be done mentally or manually with pen and paper. Ans. 3; Final Act. 5. Appellant, on the other hand, argues that “the claimed invention cannot be performed purely mentally due to the steps which require the processor, the memory, the program, the icon, the first user operation (which edits a floor plan), and the second user operation (which positions the icon).” Appeal Br. 24.

Based on the Specification, the terms “memory” and “processor” are recognized as representing known classes of structures that can perform the functions set forth in the claim, e.g., the “memory” is claimed as a generic “flash memory” that performs the generic function of storing data. Spec.

¶¶ 16, 33. The term “layout information” is understood to be “location information indicating the installation position” in a floor plan drawing. *Id.*

¶ 6. Based on the plain meaning of the words in the claim, the broadest reasonable interpretation of claim 1 is a system having a memory and a processor wherein the processor is coupled to the memory and programmed with executable instructions in the form of software modules that draw a floor plan. Despite the recitation of these generic components, the claims are nonetheless directed to an abstract idea that can be carried out mentally or manually by pen and paper.

More specifically, claim 1 recites the following limitations: (1) “edit a floor plan of the home in accordance with a first user operation;” (2) “position, in accordance with a second user operation, an icon indicating the electric device in each room in the edited floor plan;” and (3) “generate, based on the edited floor plan and the positioned icon, layout information in which the room and the electric device are associated with each other.” These limitations, under their broadest reasonable interpretation, involve no more than collecting, displaying, and manipulating a drawing of a floor plan. *See Spec.* ¶¶ 1, 5, 6 (the claims provide “a program enabling the easy generation of layout information” of “a floor plan image and an icon image”).

Limitation (1) “edit a floor plan . . .” manipulates an existing floor plan drawing to achieve a modified floor plan drawing. The Specification provides that when “floor plan editing has not been conducted, the floor plan information 242 is all blank data” and that “the floor plan information 242 is generated after floor plan editing by the control module 25 . . . finishes.”

Spec. ¶ 18; *see also id.* FIGs. 7A–11 and accompanying texts (describing various scenarios of editing floor plan images).

Limitation (2) “position . . . an icon . . . in the edited floor plan” manipulates a floor plan drawing and displays a modified floor plan drawing that includes an additional image (the icon). The Specification provides that the icon is displayed in “the floor plan image MD.” Spec. ¶ 30; *see also id.* Figs. 8A–11 and accompanying texts (describing various scenarios of displaying the image data on the floor plan data).

Limitation (3) “generate . . . layout information” provides a floor plan drawing comprising “location information indicating the installation position” in the floor plan drawing. Spec. ¶ 5. The Specification provides that floor plan editor 252 generates and displays “the floor plan image MD” after the floor plan information has been edited. *Id.* ¶¶ 20–30 (describing various displays of edited data); *see also id.* Figs. 7A–11 and accompanying texts (describing various scenarios of drawing and modifying a floor plan and illustrating a display of the edited drawing).

The dependent claims similarly recite drawing a floor plan, such as “move . . . the icon” (claims 2 and 3), “generate . . . icon” (claim 4), and “position . . . the icon” (claims 4 and 5), to name a few.

As the Specification explains, the claims seek to provide “the easy generation of layout information.” Spec. ¶ 1. These claims thus involve nothing more than modifying a drawing (i.e., editing an existing floor plan drawing and positioning an icon in the drawing) and providing the modified drawing (i.e., generating a new drawing).

Appellant’s argument that the claims are not abstract ideas because they include a memory and a processor (Appeal Br. 20–21, 25) is not

persuasive. The recitation of a memory and a processor in these claims does not negate the abstract nature of these limitations because the claim here merely uses the processor/memory as a tool to perform the otherwise abstract ideas. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1373 (Fed. Cir. 2011) (“[A] method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101.”). The Federal Circuit has repeatedly held that information collection and the display thereof, without more, including when limited to particular content, is within the realm of abstract ideas, and that merely presenting the results of the abstract process of collecting information is abstract as an ancillary part of the collection and analysis. *See, e.g., Elec. Power Grp. v. Alstom, S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (“[W]e have treated collecting information, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas.”); *SAP Am., Inc. v. Investpic, LLC*, 898 F.3d 1161, 1168 (Fed. Cir. 2018) (“As many cases make clear, even if a process of collecting and analyzing information is ‘limited to particular content’ or a particular ‘source,’ that limitation does not make the collection and analysis other than abstract.” (quoting *Elec. Power Grp.*, 830 F.3d at 1355 (citing cases))).

Similarly here, as described above, we find that the claims involve nothing more than drawing a floor plan – activities squarely within the realm of abstract ideas. *See Elec. Power Grp.*, 830 F.3d at 1353–54 (characterizing collecting information, analyzing information by steps people go through in their minds, or by mathematical algorithms, and presenting the results of collecting and analyzing information, without more, as matters within the realm of abstract ideas).

Based on the foregoing, the claims are directed to the judicial exception of an abstract idea in the first prong of the revised Step 2A of the 2019 Guidelines. *See* Memorandum, 84 Fed. Reg. 51–52.

Revised Step 2A, Prong Two – Practical Application

Having determined that claims 1–10 and 12–16 are directed to an abstract idea, we next look to determine whether the claims recite “additional elements that integrate the judicial exception into a practical application.” MPEP § 2106.05(a)–(c), (e)–(h); Memorandum, 84 F.3d at 53–54. Integration into a practical application requires an additional element or a combination of additional elements in the claim to “apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the exception.” Memorandum, 84 Fed. Reg. at 53–54; *see also id.* at 55 (setting forth exemplary considerations indicative that an additional element or combination of elements may have integrated the judicial exception into a practical application).

Here, the elements additional to the abstract idea are the memory and processor. The memory and processor, however, are recited so generically (the Specification provides no details whatsoever other than noting that they are a memory and a processor) that they represent no more than mere instructions to apply the judicial exception on a computer. These limitations also appear to be nothing more than an attempt to generally link the use of the judicial exception to the technological environment of a computer. Because the courts have made clear that mere physicality or tangibility of an additional element or elements is not a relevant consideration in the eligibility analysis, the physical nature of these computer components does

not affect this analysis. *See* MPEP 2106.05(I) (providing additional information on this point, including explanations from judicial decisions including *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 224–26 (2014)).

Appellant does not assert that the claims at issue involve a new technique for drawing a floor plan. Nor is there any indication in the Specification that the operations recited in claim 1 require any specialized computer hardware or other inventive computer components, invoke any assertedly inventive programming, or that the claimed invention is implemented using other than generic computer components to perform the claimed method steps. As noted *supra*, the Specification discloses just the opposite, i.e., that the claimed invention may be implemented using only generic computer components (*see, e.g.*, Spec. ¶¶ 15, 16, 20, 34, 69–70), which is not enough for patent-eligibility. *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) (“[A]fter *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible.”).

We also evaluate whether the overall use of the layout generation system is “insignificant extra-solution activity.” When so evaluated, the layout generation system drawing a floor plan represents a mere output of a floor plan that results from the use of the recited judicial exception (the output floor plan may be drawn mentally or manually by pen and paper) and is recited at a high level of generality. The overall use of the layout generation system is thus insignificant extra-solution activity. *See* MPEP 2106.05(g) (discussing limitations that the Federal Circuit has considered to be insignificant extra-solution activity, for instance the step of printing a

menu that was generated through an abstract process in *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1241–42 (Fed. Cir. 2016) and the mere generic presentation of collected and analyzed data in *Electric Power Group*, 830 F.3d at 1354 (Fed. Cir. 2016)).

Even when viewed in combination, the layout generation system recited in claim 1 does no more than automate the mental or manual act of drawing a floor plan, using the computer components as a tool. Appellant argues that the claims do not “merely automate conventional human tasks,” but instead “solve[] a problem that the known systems are overly complicated and have too much information,” such as dimensions and proportions of the rooms in the floor plan. Appeal Br. 21, 25. Appellant’s argument as well as the Specification, however, show that there is no change to the memory and processor that are recited in the claim as automating the abstract ideas. Appeal Br. 21, 22 (stating that the Specification “compares the improvement in the user friendliness with conventional techniques” and arguing that the improvement reduces “too much information” in an existing floor plan drawing and eases the difficulty in the editing of such a drawing); Reply Br. 6, 8 (stating that “the improvement results in greater user friendliness and a simplified layout” and that “is a big improvement in user friendliness”). Thus, the claims do not improve computer functionality or other technology. *See, e.g., Trading Technologies Int’l v. IBG, Inc.*, 921 F.3d 1084, 1093 (Fed. Cir. 2019) (using a computer to provide a trader with more information to facilitate market trades improved the business process of market trading, but not the computer); MPEP 2106.05(a)(I) (discussing, among other cases, *FairWarning IP, LLC v. Iatric Sys.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016) (accelerating a process of analyzing audit log data is not an

improvement when the increased speed comes solely from the capabilities of a general-purpose computer) and *Credit Acceptance Corp. v. Westlake Services*, 859 F.3d 1044, 1055 (Fed. Cir. 2017) (using a generic computer to automate a process of applying to finance a purchase is not an improvement to the computer’s functionality)). Accordingly, the claim as a whole does not integrate the recited judicial exception into a practical application and the claim is directed to the judicial exception.

Step 2 B–Inventive Concept

Because we determine that claims 1–10 and 12–16 are directed to an abstract idea and they do not include additional elements that integrate the abstract idea into a practical application, we look to whether each claim provides an inventive concept, i.e., adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field. Memorandum, 84 Fed. Reg. at 56. There is, however, none other than the abstract idea itself (i.e., collecting, manipulating, and displaying a floor plan drawing) and the generic components (the conventional processor and memory) in the claims. *See Aatrix Software, Inc. v. Green Shades Software, Inc.*, 890 F.3d 1354, 1359 (Fed. Cir. 2018) (holding that “the ‘inventive concept’ cannot be the abstract idea itself”). We agree with the Examiner that a generic computer that may be programmed to carry out tasks and abstract ideas is well known in the art. Final Act. 5; Ans. 3, 4.

Appellant’s statement that the claims identify “a technical problem for generating layout information” and “solve[] a problem that the known systems are overly complicated and have too much information” (Appeal Br. 21, 25) is consistent with our determination that the claims are directed to an abstract idea of drawing a floor plan that can be carried out mentally or

manually with pen and paper. Appellant also argues that when drawing a floor plan in accordance with the claims, “the user does not need to know room dimensions and does not need a blueprint.” *Id.* at 22. The claims, however, do not recite a user’s knowledge. The claims are open-ended and do not exclude room dimensions and other parameters a blueprint may have.

We emphasize that mental processes remain unpatentable even when automated to reduce the burden on the user of what once could have been done with pen and paper. *CyberSource*, 654 F.3d at 1375 (“That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*.”)

Accordingly, we conclude that method claims 1–10 and 12–16 are directed to patent ineligible subject matter under 35 U.S.C. § 101. Claims 1–10 and 12–16 are directed to an abstract idea and do not recite additional elements that integrate the abstract idea into a practical application. Further, the claims preempt the recited techniques to manipulate a floor plan drawing and are patent ineligible under section 101. *Alice*, 573 U.S. 208, 216 (“We have described the concern that drives this exclusionary principle as one of pre-emption.”) (citing *Bilski v. Kappos*, 561 U.S. 593, 612 (2010) (“[U]pholding the patent ‘would pre-empt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea.’”)).

CONCLUSION

The Examiner's rejection is affirmed.

In summary:

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/ Basis	Affirmed	Reversed
1-10, 12-16	101	Eligibility	1-10, 12-16	

FINALITY AND RESPONSE

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

AFFIRMED