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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/577,710	10/12/2009	Joseph F. Floyd	09-0772-US- NP (24691-569)	4855
60476	7590	09/26/2019	EXAMINER	
PATENT DOCKET DEPARTMENT ARMSTRONG TEASDALE LLP 7700 Forsyth Boulevard Suite 1800 St. Louis, MO 63105			MISIASZEK, AMBER ALTSCHUL	
			ART UNIT	PAPER NUMBER
			3624	
			NOTIFICATION DATE	DELIVERY MODE
			09/26/2019	ELECTRONIC

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOSEPH F. FLOYD, BRENT L. HADLEY, PATRICK J. EAMES,
PAUL A. SESNY, QUENTIN S. PATTERSON, STEPHEN P. MILLER,
BRIAN L. COKER, CHUL Y. PARK, and MICHAEL W. BOYD

Appeal 2018-008399
Application 12/577,710
Technology Center 3600

Before KARA L. SZPONDOWSKI, SCOTT B. HOWARD, and
STEVEN M. AMUNDSON, *Administrative Patent Judges*.

AMUNDSON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ seeks our review under 35 U.S.C. § 134(a) from a final rejection of claims 1, 3–9, and 12–23, i.e., all pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as The Boeing Company. Appeal Br. 1.

STATEMENT OF THE CASE

The Invention

According to the Specification, the invention relates to “programs relating to products, and especially to maintenance programs relating to aircraft.” Spec. 1:1–2.² More specifically, the Specification explains that the invention concerns “managing a program relating to a product” to provide “a global view of” (1) “the exact 3D physical locations on the airplane where all maintenance requirements or tasks apply” and (2) “the precise schedule for timely implementation of maintenance requirements or tasks.” *Id.* at 2:9–14.

Exemplary Claim

Independent claim 1 exemplifies the claims at issue and reads as follows (with formatting added for clarity):

1. A method for managing a maintenance program relating to an aircraft, said program including a plurality of maintenance tasks to be performed with respect to a physical location in at least one aircraft, said method performed by a compliance management computer comprising at least one processor in communication with at least one memory device,

said method comprising:

(a) establishing, by the compliance management computer, a three dimensional representation of physical locations in the at least one aircraft;

² This decision uses the following abbreviations: “Spec.” for the Specification, filed October 12, 2009; “Final Act.” for the Final Office Action, mailed August 11, 2017; “Appeal Br.” for the Appeal Brief, filed February 20, 2018; “Ans.” for the Examiner’s Answer, mailed June 29, 2018; and “Reply Br.” for the Reply Brief, filed August 24, 2018.

(b) identifying a plurality of maintenance task-loci associated with respective maintenance tasks in a three dimensional representation;

(c) displaying, by the compliance management computer, a time line selection tool;

(d) receiving, by the compliance management computer, a selection of a time interval from a plurality of time intervals displayed in a time line through the time line selection tool, wherein the selection is made using a time indicator;

(e) identifying, by the compliance management computer, from the plurality of tasks, a subset of tasks that must be performed within the selected time interval; and

(f) using a three dimensional display drive included in the compliance management computer, displaying, on a display screen associated with the compliance management computer, in the three dimensional representation of the at least one aircraft, by the compliance management computer, at least one visual indicator representing each of the subset of identified tasks, wherein each visual indicator is located within the three dimensional representation at a specific physical location where the respective task is to be performed.

Appeal Br. 13 (Claims App.).

The Rejection on Appeal

Claims 1, 3–9, and 12–23 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 3–7.

ANALYSIS

We have reviewed the rejection in light of Appellant’s arguments that the Examiner erred. For the reasons explained below, we agree with the Examiner’s conclusion concerning ineligibility under § 101. We adopt the Examiner’s findings and reasoning in the Final Office Action and Answer.

See Final Act. 3–14; Ans. 3–9. We provide the following to address and emphasize specific findings and arguments.

Introduction

The Patent Act defines patent-eligible subject matter broadly: “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. In *Mayo* and *Alice*, the Supreme Court explained that § 101 “contains an important implicit exception” for laws of nature, natural phenomena, and abstract ideas. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012); *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014); see *Diamond v. Diehr*, 450 U.S. 175, 185 (1981). In *Mayo* and *Alice*, the Court set forth a two-step analytical framework for evaluating patent-eligible subject matter. *Mayo*, 566 U.S. at 77–80; *Alice*, 573 U.S. at 217–18.

Under *Mayo/Alice* step one, we “determine whether the claims at issue are directed to” a judicial exception, i.e., an abstract idea, a law of nature, or a natural phenomenon. *Alice*, 573 U.S. at 217. Step one involves looking at the “focus” of the claims at issue and their “character as a whole.” *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018).

In January 2019, the PTO issued revised guidance for determining whether claims are directed to a judicial exception. See *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“2019 Guidance”). The 2019 Guidance applies to the Board. *Id.* at 50–51, 57 n.42; see 35 U.S.C. § 3(a)(2)(A) (investing the Director with responsibility “for providing policy direction” for the PTO). Neither the Examiner nor

Appellant had the benefit of the 2019 Guidance when presenting their respective positions concerning subject-matter eligibility.

The 2019 Guidance specifies two prongs for the analysis under *Mayo/Alice* step one (PTO step 2A). 84 Fed. Reg. at 54–55. Prong one requires evaluating “whether the claim recites a judicial exception, *i.e.*, an abstract idea, a law of nature, or a natural phenomenon.” *Id.* at 54. “If the claim does not recite a judicial exception, it is not directed to a judicial exception,” and it satisfies § 101. *Id.* “If the claim does recite a judicial exception, then it requires further analysis” under prong two. *Id.* Prong two requires evaluating “whether the claim as a whole integrates the recited judicial exception into a practical application of the exception.” *Id.* “When the exception is so integrated, then the claim is not directed to a judicial exception,” and it satisfies § 101. *Id.* “If the additional elements do not integrate the exception into a practical application, then the claim is directed to the judicial exception,” and it “requires further analysis” under *Mayo/Alice* step two (PTO step 2B). *Id.*

Under *Mayo/Alice* step two, we “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements” add enough to transform the “nature of the claim” into “significantly more” than the judicial exception. *Alice*, 573 U.S. at 217–18, 221–22 (quoting *Mayo*, 566 U.S. at 78–79). Step two involves the search for an “inventive concept.” *Alice*, 573 U.S. at 217–18, 221; *Univ. of Fla. Research Found., Inc. v. Gen. Elec. Co.*, 916 F.3d 1363, 1366 (Fed. Cir. 2019). “[A]n inventive concept must be evident in the claims.” *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017).

Mayo/Alice Step One: PTO Step 2A Prong One

For *Mayo/Alice* step one, the Federal Circuit has noted that “[a]n abstract idea can generally be described at different levels of abstraction.” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016). Here, the Examiner determines that the claims are directed to “managing a maintenance program relating to an aircraft, which is consider an idea ‘of itself’.” Final Act. 3, 8–9; *see* Ans. 3–4. The Examiner reasons that the claims resemble the patent-ineligible claims in *Electric Power* directed to “[c]ollecting information, analyzing it, and displaying certain results of the collection and analysis.” Final Act. 5–6 (citing *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016)). The Examiner further reasons that the claims resemble the patent-ineligible claims in *Classen* directed to “[c]ollecting and comparing known information.” *Id.* at 5–6 (citing *Classen Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057 (Fed. Cir. 2011)).

Appellant disputes that independent claims 1 and 19 are directed to an abstract idea. *See* Appeal Br. 4–7; Reply Br. 2–3. Specifically, Appellant asserts that the Examiner’s analysis is “an ‘oversimplification’ that is ‘untethered from the language of the claims.’” Appeal Br. 4–5 (quoting *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016)); *see* Reply Br. 2–4.

We disagree. In determining that the claims are directed to an abstract idea, the Examiner accurately assesses the “focus” of the claims and their “character as a whole.” *See* Final Act. 4–6; *see also* *SAP Am.*, 898 F.3d at 1167.

In addition, we determine that the claims recite abstract ideas falling within one of the three groupings of abstract ideas specified in the 2019

Guidance, i.e., “mental processes.” *See* 84 Fed. Reg. at 51–52. The 2019 Guidance describes “mental processes” as “concepts [practically] performed in the human mind,” such as “an observation, evaluation, judgment, [or] opinion.” *Id.* at 52 (footnote omitted). As explained below, each independent claim recites “mental processes” in various limitations.

For instance, claim 1 recites the following limitations:

- “(a) establishing . . . a three dimensional representation of physical locations in the at least one aircraft”;
- “(b) identifying a plurality of maintenance task-loci associated with respective maintenance tasks in a three dimensional representation”; and
- “(e) identifying . . . from the plurality of tasks, a subset of tasks that must be performed within the selected time interval.”

Appeal Br. 13. Claim 19 recites similar limitations. *Id.* at 16.

The above-identified limitations encompass evaluations practically performed by a human mentally or with pen and paper. The Specification explains that “tasks” include “repairs, alterations, inspections, cleaning, corrosion protection, removals or replacements and other tasks.”

Spec. 7:15–16. The Specification also explains that a “locus” indicates “a place, location, locality, locale, point, position, site, spot, volume, juncture, junction or other identifiable location-related zone in one or more dimensions.” *Id.* at 4:15–17.

Hence, someone could create a three-dimensional representation of an aircraft with pen and paper. After creating the three-dimensional representation, someone could mentally identify maintenance tasks and their associated locations within the three-dimensional representation, e.g., by using an index or table to ascertain the information. After identifying

maintenance tasks and their associated locations, someone could mentally select a time interval and then mentally determine the tasks that must be performed within the selected time interval.

For these reasons, the above-identified limitations encompass evaluations practically performed by a human mentally or with pen and paper. The 2019 Guidance identifies an evaluation practically performed by a human mentally or with pen and paper as a mental process, and thus an abstract idea. 84 Fed. Reg. at 52 & nn.14–15; *see also Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016) (“*Symantec*”) (“[W]ith the exception of generic computer-implemented steps, there is nothing in the claims themselves that foreclose them from being performed by a human, mentally or with pen and paper.”).

Mayo/Alice Step One: PTO Step 2A Prong Two

Because we determine that each independent claim recites abstract ideas, we consider whether each claim as a whole integrates the recited abstract ideas into a practical application. *See* 84 Fed. Reg. at 54–55. “Only when a claim recites a judicial exception and fails to integrate the exception into a practical application, is the claim ‘directed to’ a judicial exception” *Id.* at 51.

As additional elements, the independent claims recite computer-system components. Appeal Br. 13, 16. Specifically, the claims recite a “computer” with a “processor,” a “memory device,” a “display drive,” and a “display screen.” *Id.* at 13, 16.

The independent claims also recite data-collecting and data-presenting limitations. *Id.* at 13, 16. For instance, claim 1 recites the following data-collecting and data-presenting limitations:

- “(c) displaying . . . a time line selection tool”;
- “(d) receiving . . . a selection of a time interval from a plurality of time intervals displayed in a time line through the time line selection tool, wherein the selection is made using a time indicator”; and
- “(f) . . . displaying . . . in the three dimensional representation of the at least one aircraft . . . at least one visual indicator representing each of the subset of identified tasks, wherein each visual indicator is located within the three dimensional representation at a specific physical location where the respective task is to be performed.”

Id. at 13. Claim 19 recites similar data-collecting and data-presenting limitations. *Id.* at 16.

We determine that each independent claim as a whole does not integrate the recited abstract ideas into a practical application because the additional elements do not impose meaningful limits on the abstract ideas. *See* 84 Fed. Reg. at 53–54; *see also* Final Act. 6–7; Ans. 4–8. The Examiner correctly finds that the claimed computer-system components constitute generic computer-system components that perform generic computer functions. *See* Final Act. 3, 6–13; Ans. 4–8 (quoting Spec. 5:4–7, 6:10–12); *see also* Spec. 5:1–9, 6:1–17. Further, the data-collecting and data-presenting limitations constitute insignificant extra-solution activity. *See, e.g., Mayo*, 566 U.S. at 79; *Bilski v. Kappos*, 561 U.S. 593, 611–12 (2010); *Apple*, 842 F.3d at 1241–42; *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363–64 (Fed. Cir. 2015); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014); *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011); *In re Grams*, 888 F.2d 835, 839–40 (Fed. Cir. 1989).

As an example of insignificant extra-solution activity, in *Mayo* the Supreme Court decided that measuring metabolite levels for later analysis constituted purely “conventional or obvious” pre-solution activity. *Mayo*, 566 U.S. at 79. Similarly, the Federal Circuit has held that mere data-gathering steps “cannot make an otherwise nonstatutory claim statutory.” *CyberSource*, 654 F.3d at 1370 (quoting *Grams*, 888 F.2d at 840). The Federal Circuit has also held that (1) presenting offers to potential customers and (2) gathering statistics concerning customer responses were “conventional data-gathering activities that d[id] not make the claims patent eligible.” *OIP Techs.*, 788 F.3d at 1363–64. Consistent with those decisions, the Manual of Patent Examining Procedure (“MPEP”) identifies “gathering data” as an example of insignificant pre-solution activity. MPEP § 2106.05(g) (9th ed. rev. 08.2017 Jan. 2018).

Here, the data-collecting limitations amount to mere data-gathering steps and require nothing unconventional or significant. *See Classen*, 659 F.3d at 1067 (analogizing “data gathering” to “insignificant extra-solution activity”). For example, claim 1’s “receiving” limitation requires receiving a nonspecific “time interval” through a generic “time line selection tool.” Appeal Br. 13. Hence, the data-collecting limitations do not help integrate the recited abstract ideas into a practical application.

Further, in *Flook* the Supreme Court decided that adjusting an alarm limit according to a mathematical formula was a “post-solution activity” and insufficient to confer eligibility. *Parker v. Flook*, 437 U.S. 584, 590, 596–98 (1978). Similarly, the Federal Circuit has held that printing menu information constituted insignificant post-solution activity. *Apple*, 842 F.3d at 1241–42. Consistent with those decisions, the MPEP identifies printing

“to output a report” as an example of insignificant post-solution activity.
MPEP § 2106.05(g).

Here, the data-presenting limitations require no particular presentation tool and nothing unconventional or significant. For example, claim 1’s “displaying” limitations require nothing more than displaying (1) a generic “time line selection tool” for input information and (2) a generic “visual indicator” for output information. Appeal Br. 13. Consistent with this, the Specification explains that a “display unit” presents “information useful in effecting the program being implemented.” Spec. 6:10–12. Just as printing menu information in *Apple* constituted insignificant post-solution activity, displaying generic information here constitutes insignificant post-solution activity. Hence, the data-presenting limitations do not help integrate the recited abstract ideas into a practical application.

Appellant analogizes the claims here to the claims in the following cases: *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016); and *BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016). *See, e.g.*, Appeal Br. 5–11; Reply Br. 2–4. But the claims here do not resemble the claims in those cases.

In *McRO*, the claims recited a “specific . . . improvement in computer animation” using “unconventional rules” that related “sub-sequences of phonemes, timings, and morph weight sets” to automatically animate lip synchronization and facial expressions for three-dimensional characters that only human animators could previously produce. *McRO*, 837 F.3d at 1302–03, 1307–08, 1313–15. The Federal Circuit decided that the claims

satisfied § 101 under *Mayo/Alice* step one because “the incorporation of the claimed rules” improved an existing technological process. *Id.* at 1314–16.

Similarly, in *BASCOM*, the claims recited a “specific method of filtering Internet content” requiring “the installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user.” *BASCOM*, 827 F.3d at 1345–46, 1350. The Federal Circuit decided that the claims satisfied § 101 under *Mayo/Alice* step two. *Id.* at 1349–51. The court reasoned that the claims covered “a technology-based solution . . . to filter content on the Internet that overcomes existing problems with other Internet filtering systems” and “improve[s] an existing technological process.” *Id.* at 1351 (citing *Alice*, 573 U.S. at 223); *see Alice*, 573 U.S. at 223 (explaining that “the claims in *Diehr* were patent eligible because they improved an existing technological process”).

Unlike the claims in *McRO* and *BASCOM*, the claims here do not cover a technology-based solution that improves an existing technological process. *See* Final Act. 3, 11–13; Ans. 6–8. The Examiner correctly finds that “the claims do not amount to an improvement to” either “the functioning of a computer itself” or “another technology or technical field.” Final Act. 3, 12–13. Instead, as the Examiner explains, the claims “manag[e] a maintenance program relating to an aircraft” by “simply adding conventional computer components to well-known business practices.” Ans. 6; *see Apple*, 842 F.3d at 1242.

Appellant asserts that “previously tasks were displayed on paper or through spreadsheets.” Appeal Br. 6–7; *see id.* at 9. Appellant then contends that the claims (1) organize tasks “based on the location in the aircraft where and the time when the task will be performed” and (2) display

tasks “based on a selected point in time.” *Id.* at 7. But “present[ing] information in a new and more efficient way” does not suffice for patent eligibility. *See Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1084, 1089–90, 1092–94 (Fed. Cir. 2019) (“*Trading Techs. I*”). Here, “the purported advance ‘is a process of gathering and analyzing information of a specified content, then displaying the results, and not any particular assertedly inventive technology for performing those functions.’” *Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1378, 1385 (Fed. Cir. 2019) (“*Trading Techs. II*”) (quoting *Elec. Power*, 830 F.3d at 1354).

The 2019 Guidance identifies exemplary considerations indicating that additional elements in claims “may have integrated the [judicial] exception into a practical application.” 84 Fed. Reg. at 55 & nn.25–29 (citing MPEP §§ 2106.05(a)–(c), 2106.05(e)). As the above analysis indicates, we have evaluated Appellant’s arguments in light of those exemplary considerations. For the reasons discussed above, however, we determine that each independent claim as a whole does not integrate the recited abstract ideas into a practical application. Thus, each claim is directed to a judicial exception and does not satisfy § 101 under *Mayo/Alice* step one.

Mayo/Alice Step Two: PTO Step 2B

Because we determine that each independent claim is directed to a judicial exception, we “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements” add enough to transform the “nature of the claim” into “significantly more” than the judicial exception. *See Alice*, 573 U.S. at 217–18, 221–22 (quoting *Mayo*, 566 U.S. at 78–79). Under *Mayo/Alice*

step two, we “look with more specificity at what the claim elements add, in order to determine ‘whether they identify an “inventive concept” in the application of the ineligible subject matter’ to which the claim is directed.” *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258 (Fed. Cir. 2016) (quoting *Elec. Power*, 830 F.3d at 1353). An “inventive concept” requires more than “well-understood, routine, conventional activity already engaged in” by the relevant community. *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1047 (Fed. Cir. 2016) (quoting *Mayo*, 566 U.S. at 79–80). But a “non-conventional and non-generic arrangement of known, conventional pieces” may provide an “inventive concept” satisfying step two. *BASCOM*, 827 F.3d at 1350.

As discussed above, the independent claims recite computer-system components, i.e., a “computer” with a “processor,” a “memory device,” a “display drive,” and a “display screen.” Appeal Br. 13, 16. As also discussed above, the Examiner correctly finds that the claimed computer-system components constitute generic computer-system components that perform generic computer functions. See Final Act. 3, 6–13; Ans. 4–8 (quoting Spec. 5:4–7, 6:10–12). The Examiner explains that the generic computer functions involve “electronic recordkeeping, automating mental tasks, and receiving or transmitting data over a network, e.g., using the Internet to gather data.” Final Act. 10 (emphasis omitted); Ans. 5, 7–8 (emphasis omitted). The Examiner also explains that the generic computer functions “are well-understood, routine and conventional activities previously known to the industry.” Final Act. 3, 7, 10; Ans. 5–7. Consistent with the Examiner’s findings, the Specification describes the claimed

computer-system components generically and evidences their conventional nature. *See, e.g.*, Spec. 5:1–9, 6:1–17.

Simply implementing an abstract idea using conventional machines or devices “add[s] nothing of substance.” *See Alice*, 573 U.S. at 226–27; *see also Mayo*, 566 U.S. at 84–85 (explaining that “simply implementing a mathematical principle on a physical machine” does not suffice for patent eligibility) (citing *Gottschalk v. Benson*, 409 U.S. 63, 64–65, 71 (1972)).

In addition, the claimed computer-system components operate to collect, manipulate, and display data. Appeal Br. 13, 16. Court decisions have recognized that generic computer-system components operating to collect, manipulate, and display data are well understood, routine, and conventional to a skilled artisan. *See, e.g., Alice*, 573 U.S. at 226–27; *SAP Am.*, 898 F.3d at 1164–65 & n.1, 1170; *Apple*, 842 F.3d at 1234, 1241–42; *Symantec*, 838 F.3d at 1316–20; *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1334 (Fed. Cir. 2015); *Ultramercial*, 772 F.3d at 715–16; *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014).

For example, the system claims in *Alice* recited a “data processing system” with a “communications controller” and a “data storage unit” comparable to the claimed “computer” with a “processor,” a “memory device,” a “display drive,” and a “display screen” here. *See Alice*, 573 U.S. at 226. The Supreme Court decided that the system claims failed to satisfy § 101 because “[n]early every computer” includes those generic components for performing “basic calculation, storage, and transmission functions” and the system claims simply implemented the same abstract idea as the method claims. *Id.* at 226–27. The Court reasoned that (1) “the system claims are no different from the method claims in substance”; (2) “[t]he method claims

recite the abstract idea implemented on a generic computer”; and (3) “the system claims recite a handful of generic computer components configured to implement the same idea.” *Id.* at 226.

Here, the claimed computer-system components perform “basic calculation, storage, and transmission functions” that nearly every computer system performs. Appeal Br. 13, 16; *see* Final Act. 6–7; Ans. 4–8. For instance, nearly every computer system includes a “processor” for manipulating data, a “memory device” for storing data, and a “display drive” and “display screen” for displaying data. Hence, those generic computer-system components do not satisfy the “inventive concept” requirement. *See, e.g., Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324–25 (Fed. Cir. 2016) (holding that “generic computer components such as an ‘interface,’ ‘network,’ and ‘database’” did not satisfy the “inventive concept” requirement); *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1095–96 (Fed. Cir. 2016) (describing the claimed “microprocessor” and “user interface” as “generic computer elements”); *Prism Techs. LLC v. T-Mobile USA, Inc.*, 696 F. App’x 1014, 1016–17 (Fed. Cir. 2017) (describing the claimed “authentication server,” “access server,” “Internet Protocol network,” “client computer device,” and “database” as “indisputably generic computer components”).

We reach a similar conclusion concerning the data-collecting and data-presenting limitations, e.g., claim 1’s “receiving” and “displaying” limitations. As discussed above, the data-collecting limitations amount to mere data-gathering steps and require nothing unconventional or significant. As also discussed above, the data-presenting limitations require no particular presentation tool and nothing unconventional or significant. Consequently,

the claimed insignificant extra-solution activity does not satisfy the “inventive concept” requirement. *See, e.g., Mayo*, 566 U.S. at 79–80; *Flook*, 437 U.S. at 590; *Apple*, 842 F.3d at 1241–42; *OIP Techs.*, 788 F.3d at 1363–64; *CyberSource*, 654 F.3d at 1370.

Appellant asserts that the claims “recite significantly more than ‘well-understood, routine, and conventional activities previously known to the pertinent industry’” because the prior art “does not describe or suggest” certain limitations. Appeal Br. 9; *see id.* at 10–11. In addition, Appellant contends that “the unconventional nature of the ordered combination in the present claims is evidenced by the acknowledged allowability of the claims over the prior art.” Reply Br. 4.

But the absence of anticipation and obviousness “does not resolve the question of whether the claims embody an inventive concept” under *Mayo/Alice* step two. *Symantec*, 838 F.3d at 1315; *see SAP Am.*, 898 F.3d at 1163. “The search for a § 101 inventive concept” differs “from demonstrating § 102 novelty.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016); *see Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1340 (Fed. Cir. 2017). “The ‘novelty’ of any element[s] or steps” in a claim or even the claim itself “is of no relevance in determining whether the subject matter of a claim” satisfies § 101. *Diehr*, 450 U.S. at 189–90.

Insofar as Appellant relies on the recited abstract ideas to satisfy the “inventive concept” requirement, Appellant wrongly does so. *See, e.g.,* Appeal Br. 6–10; Reply Br. 3–4. A “claimed invention’s use of the ineligible concept,” e.g., an abstract idea, “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). “[U]nder the *Mayo/Alice* framework, a claim directed to a newly discovered” abstract idea “cannot rely on the novelty of that discovery for the inventive concept necessary for patent eligibility.” *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1376 (Fed. Cir. 2016).

Appellant argues that the claims “do[] not preempt other methods of making or ‘managing a maintenance program relating to an aircraft.’” Appeal Br. 10–11. That argument does not persuade us of Examiner error. While preemption may denote patent ineligibility, its absence does not establish patent eligibility. *See FairWarning*, 839 F.3d at 1098; Final Act. 11; Ans. 6. For claims covering a patent-ineligible concept, preemption concerns “are fully addressed and made moot” by an analysis under the *Mayo/Alice* framework. *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015).

“Whether a combination of claim limitations supplies an inventive concept that renders a claim ‘significantly more’ than an abstract idea to which it is directed is a question of law.” *BSG Tech*, 899 F.3d at 1290. Given the claimed generic computer-system components that perform generic computer functions and the claimed insignificant extra-solution activity, we conclude that the combination of limitations in each independent claim does not supply an “inventive concept” that renders the claim “significantly more” than an abstract idea. Thus, each claim does not satisfy § 101 under *Mayo/Alice* step two.

Summary for the Independent Claims

For the reasons discussed above, each independent claim fails to satisfy § 101 under *Mayo/Alice* step one and step two. Hence, we sustain the § 101 rejection of the independent claims.

Dependent Claims 3–9, 12–18, and 20–23

We also sustain the § 101 rejection of dependent claims 3–9, 12–18, and 20–23 because Appellant does not argue eligibility separately for them. *See* Appeal Br. 4–12; Reply Br. 1–5; 37 C.F.R. § 41.37(c)(1)(iv).

CONCLUSION

We affirm the Examiner’s decision to reject claims 1, 3–9, and 12–23.

In summary:

Claims Rejected	Basis	Affirmed	Reversed
1, 3–9, and 12–23	§ 101	1, 3–9, and 12–23	

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). *See* 37 C.F.R. § 41.50(f).

AFFIRMED