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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SIMON BLYTHE

Appeal 2019-000348
Application 14/497,509
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 1–7, 10, 19–23, and 25–31, 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 MasterCard International Incorporated. Appeal Br. 3.

STATEMENT OF THE CASE

The Invention

According to the Specification, the invention concerns “customised interaction with computer equipment,” and more specifically “customisation of interaction between . . . transaction cards or transaction card proxies” and “automated teller machines (ATMs) or other terminals in a financial transaction system.” Spec. ¶ 1.² The Specification explains that “different banks will typically use different ATM machine types, and some banks may have many different models in service.” *Id.* ¶ 4. The Specification also explains that “[t]his diversity in ATM ownership and ATM type means that the customer experience is highly inconsistent between ATM machines” and “may lead to slower use (as the customer works out how to use an unfamiliar interface) and increased likelihood of error.” *Id.* ¶ 5. The Specification further explains that “[t]he customer may also have preferences for ATM use” and “[a]t present, there is no way to respect the preferences of an individual customer.” *Id.* Hence, the invention endeavors to “address these issues” for “ATMs and also for other terminal types” by “allow[ing] for ready customization of a user interface in accordance with user preferences.” *Id.* ¶¶ 5, 7.

According to the Specification, the invention allows for ready customization of a user interface by (1) “establishing a local connection between [a] mobile computing apparatus” and a terminal; (2) “providing

² This decision uses the following abbreviations: “Spec.” for the Specification, filed November 3, 2014; “Final Act.” for the Final Office Action, mailed July 13, 2017; “Appeal Br.” for the Appeal Brief, filed February 7, 2018; “Ans.” for the Examiner’s Answer, mailed August 16, 2018; and “Reply Br.” for the Reply Brief, filed October 15, 2018.

customized interaction code from the mobile computing apparatus for storage in” the terminal’s memory; and (3) using “the customized interaction code to provide a customized user interface” through the terminal’s “display and . . . user input means during the local connection between the mobile computing apparatus” and the terminal. Spec. ¶ 6.

Exemplary Claim

Independent claim 1 exemplifies the claims at issue and reads as follows:

1. A method of customized interaction with computer equipment comprising a processor, a display, a memory and a user data entry device, the method comprising:

establishing a local connection between a mobile computing apparatus and the computer equipment, wherein the mobile computing apparatus includes a payment card or a mobile telephone acting as a proxy for a payment card, and wherein the computer equipment includes a terminal of a financial transaction system;

providing customized interaction code from the mobile computing apparatus for storage in the memory of the computer equipment; and

executing, by the processor of the computer equipment, the customized interaction code to provide a customized user interface using the display and the user data entry device during the local connection between the mobile computing apparatus and the computer equipment.

Appeal Br. 38 (Claims App.).

The Rejection on Appeal

Claims 1–7, 10, 19–23, and 25–31 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter.³ Final Act. 2–5.

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. 2–5, 11–17; Ans. 4–9. 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.

³ The statement of rejection also lists claims 11–14, which have been canceled. Final Act. 2. We consider this a harmless error.

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 an abstract idea of customizing a user interface in accordance with user preferences.” Final Act. 3 (emphasis omitted); Ans. 5. The Examiner explains that “the abstract idea of customizing a user interface in accordance with user preferences is similar to cases found by the courts to be abstract idea, such as data recognition and storage (Content Extraction), hedging in (Bilski) and mitigating settlement risk in financial transactions (Alice Corps.)” Final Act. 3–4 (emphasis omitted) (citing *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343 (Fed. Cir. 2014); *Bilski v. Kappos*, 561 U.S. 593 (2010); *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208 (2014)).

Appellant disputes that independent claims 1, 19, and 26 are directed to an abstract idea. *See* Appeal Br. 7–24; Reply Br. 2–12. Appellant asserts that the Examiner describes the claims at a high level of abstraction untethered from the claim language. Appeal Br. 16–18; *see id.* at 19 n.2. Appellant contends that the claims “go well beyond basic concepts such as storing and recognizing data, fundamental economic practices, and displaying results of gathered/analyzed information.” *Id.* at 17–18; *see* Reply Br. 6. According to Appellant, the claims are directed to “a specific way to effect a customized user interface.” Appeal Br. 18.

We disagree that the Examiner errs under *Mayo/Alice* step one. 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. 3–4; Ans. 5–6; *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 performed in the human mind,” such as “an observation, evaluation, judgment, [or] opinion.” *Id.* at 52 (footnote omitted). For the reasons explained below, each independent claim recites a concept performed in the human mind.

For instance, method claims 1 and 19 each recite the following limitation: “customized interaction code to provide a customized user interface.” Appeal Br. 38, 40. System claim 26 recites a similar “customized interaction code” limitation. *Id.* at 41.

The “customized interaction code” limitations encompass evaluations practically performed by a human mentally or with pen and paper. The

Specification does not limit “customized interaction code” to a computer program. *See, e.g.*, Spec. ¶¶ 6–19, 34, 48–49. That term encompasses a code associated with a user.

Thus, a person employing pen and paper could create a table or index by assigning different codes to different users who have different interface preferences. When assigning different codes to different users, the person could note in the table or index each user’s interface preferences, e.g., text displayed in English or Spanish. Subsequently, upon receiving a particular code associated with a particular user, someone could use the table or index to determine that user’s interface preferences. Someone performs a similar evaluation when using a telephone book to locate a telephone number based on a name.

Further, the claims here resemble the claims in *In re Brown*, 645 F. App’x 1014 (Fed. Cir. 2016). There, the claims covered “methods of cutting hair” by, among other things, (1) “defining a head shape,” (2) “designating the head into at least three partial zones,” (3) “identifying at least three hair patterns,” and (4) “assigning at least one of said at least three hair patterns to each of the said partial zones.” *Id.* at 1015. For *Mayo/Alice* step one, the Federal Circuit reasoned that “[i]dentifying head shape and applying hair designs accordingly is an abstract idea capable . . . of being performed entirely in one’s mind.” *Id.* at 1017.

Here, identifying information (“customized interaction code”) and selecting user interfaces accordingly is an abstract idea capable of being performed entirely in one’s mind. Also, the “tailoring of content based on information about the user . . . is an abstract idea that is as old as providing

different newspaper inserts for different neighborhoods.” *Affinity Labs of Tex., LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1271 (Fed. Cir. 2016).

For these reasons, the “customized interaction code” 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 an abstract idea, we consider whether each claim as a whole integrates the recited abstract idea 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. 38, 40–41. Specifically, method claims 1 and 19 each recite a “mobile computing apparatus” and “computer equipment comprising a processor, a display, a memory and a user data entry device.” *Id.* at 38, 40. Similarly, system claim 26 recites a “mobile computing apparatus” and a “terminal” with a “display” and a “memory.” *Id.* at 41.

The independent claims also recite data-collecting and data-presenting limitations. Appeal Br. 38, 40, 41. For instance, claim 1 recites the following data-collecting and data-presenting limitations:

- “establishing a local connection between a mobile computing apparatus and the computer equipment”;
- “providing customized interaction code from the mobile computing apparatus for storage in the memory of the computer equipment”; and
- “provid[ing] a customized user interface using the display and the user data entry device during the local connection between the mobile computing apparatus and the computer equipment.”

Appeal Br. 38. Claims 19 and 26 recite similar limitations. *Id.* at 40–41.

We determine that each independent claim as a whole does not integrate the recited abstract idea into a practical application because the additional elements do not impose meaningful limits on the abstract idea. *See* 84 Fed. Reg. at 53–54; *see also* Final Act. 4–5; Ans. 5–11. Instead, the claimed computer-system components constitute generic computer-system components that perform generic computer functions. *See* Final Act. 4, 15 (citing Spec. ¶¶ 33–35); Ans. 5 (citing Spec. ¶¶ 31–36); Spec. ¶¶ 2, 11, 31–38, 47. Further, the data-collecting and data-presenting limitations constitute insignificant extra-solution activity. *See, e.g., Mayo*, 566 U.S. at 79; *Bilski*, 561 U.S. at 611–12; *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 Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057, 1067 (Fed. Cir. 2011) (analogizing “data gathering” to “insignificant extra-solution activity”). In particular, the “establishing a local connection” and “providing customized interaction code” limitations in claim 1 operate to make data available for processing like the “conventional data-gathering activities” in *OIP Technologies*. *See OIP Techs.*, 788 F.3d at 1363–64. Consistent with this, the Specification explains that an “application is used to inject the code into a dedicated memory area in a payment terminal” for processing. Spec. ¶ 33. Claims 19 and 26 also include limitations that operate to make data available for processing, i.e., the “establishing” and “receiving” limitations in claim 19 and the “establish” and “receive”

limitations in claim 26. Hence, the data-collecting limitations in each independent claim do not help integrate the recited abstract idea into a practical application.

Further, in *Flook* the Supreme Court decided that adjusting an alarm limit according to a mathematical formula was “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. Instead, they require nothing more than a generic “display” presenting undefined information in some unspecified way. Appeal Br. 38, 40–41. Consistent with this, the Specification describes a terminal with a generic “display,” for example, a touchscreen. Spec. ¶ 45; *see id.* ¶ 36. Just as printing menu information in *Apple* constituted insignificant post-solution activity, presenting undefined information in some unspecified way here constitutes insignificant post-solution activity. Hence, the data-presenting limitation in each independent claim does not help integrate the recited abstract idea into a practical application.

Appellant contends that the claims provide “specific, unique, and concrete operations and configurations to facilitate a customized interaction with/at a financial system transaction terminal.” Appeal Br. 8. But providing “specific, unique, and concrete operations and configurations”

does not suffice for eligibility. For example, the claims in *Flook*, *Bilski*, and *Alice* all provided “specific, unique, and concrete operations and configurations,” but none of them satisfied § 101. *See Flook*, 437 U.S. at 594–98; *Bilski*, 561 U.S. at 599, 611–13; *Alice*, 573 U.S. at 212–14 & n.2, 221–27.

Appellant asserts that the claims address “highly inconsistent customer experiences between ATM machines of different types, slower use, and increased likelihood for error.” Appeal Br. 19. Appellant then characterizes those issues as “clearly technical problems that specifically arise in the context of electronic financial transaction system terminals.” *Id.* at 20. Further, Appellant asserts that the claims “are directed to ***technological improvements***: enhanced financial transaction system terminals and methods of electronically interacting therewith.” Appeal Br. 9; *see* Reply Br. 3–4.

We disagree that the claims are directed to technological improvements. The claims present undefined information in some unspecified way that purportedly permits a user to process information more quickly. *See* Spec. ¶¶ 5–7; Appeal Br. 38, 40–41. Permitting a user to process information more quickly “is not a technical solution to a technical problem.” *See Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1084, 1089–90 (Fed. Cir. 2019) (“*Trading Techs. I*”). Similarly, providing a user “with new or different information in an existing” terminal “is not a technical solution to a technical problem.” *Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1378, 1383 (Fed. Cir. 2019) (“*Trading Techs. II*”).

Appellant asserts that the claims “‘allow[] for ready customisation of a user interface,’ thereby improving financial transaction system terminal

capabilities, and whereby a user can have the same preferred user experience at virtually any transaction system terminal or ATM, without regard to the type of terminal or owner thereof.” Appeal Br. 9 (alteration in original) (quoting Spec. ¶ 7); *see* Reply Br. 3. Appellant similarly asserts that the claims improve “financial transaction system terminal technology and methods of electronically interacting therewith, which necessarily improves the functioning of such computer-based terminals and interactions.” Appeal Br. 24; *see id.* at 21; Reply Br. 6–7, 12.

We disagree that the claims improve the functioning of a terminal or any other device. Presenting information according to a user’s preferences “does not improve the functioning of the [terminal], make it operate more efficiently, or solve any technological problem.” *Trading Techs. II*, 921 F.3d at 1385. 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.’” *Id.* (quoting *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016)).

Further, the Examiner correctly finds that the claims do not improve “the functioning of a computer itself” or “another technology or technical field.” Final Act. 4, 13, 15, 17; Ans. 6, 8.

Appellant contends that the claims provide “non-routine and unconventional operations and configurations” by “uniquely providing or receiving *actual customized interaction code* from the mobile commuting apparatus . . . that is executed by the computer equipment . . . to provide a customized user interface, etc.” Appeal Br. 19; *see* Reply Br. 6–7.

Appellant’s contention does not persuade us of Examiner error. The Examiner correctly determines that the claims “are directed to the use of conventional or generic technology in a well-known environment, without any claim that the invention reflects an inventive solution to any computer specific problem.” Final Act. 15–16; Ans. 6. As the Examiner explains, the claims “do not require any nonconventional computer or database components” and instead “merely call for performance of the claimed customizing a user interface in accordance with user preferences ‘on a set of generic computer components.’” Ans. 10 (quoting *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016)).

Appellant analogizes the claims here to the claims in the following cases: *Core Wireless Licensing S.A.R.L. v. LG Electronics, Inc.*, 880 F.3d 1356 (Fed. Cir. 2018); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016); *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253 (Fed. Cir. 2017); *Finjan, Inc. v. Blue Coat Systems, Inc.*, 879 F.3d 1299 (Fed. Cir. 2018); *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299 (Fed. Cir. 2016); *BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016); and *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014). *See, e.g.*, Appeal Br. 11–15, 20–23; Reply Br. 5–7, 11–12. But the claims here do not resemble the claims in any of those cases.

In *Core Wireless*, the “claims recite[d] a specific improvement over prior systems,” i.e., a “particular manner of summarizing and presenting information in electronic devices.” *Core Wireless*, 880 F.3d at 1362–63. The Federal Circuit decided that the claims satisfied § 101 under *Mayo/Alice*

step one because the “invention improve[d] the efficiency of using the electronic device.” *Id.* at 1363.

Unlike the claims in *Core Wireless*, the claims here do not improve the efficiency of using a terminal or any other device. *See* Final Act. 4, 13, 15, 17; Ans. 6, 8. As claimed, a terminal operates no differently than conventional terminals when presenting information according to a user’s preferences. *See* Appeal Br. 38, 40–41.

In *Enfish*, the Federal Circuit decided that the claims satisfied § 101 under *Mayo/Alice* step one because they recited a “specific improvement to the way computers operate,” i.e., an improved database configuration that permitted faster and more efficient searching. *Enfish*, 822 F.3d at 1330–33, 1336, 1339. Further, the Federal Circuit has explained that the claims in *Enfish* “did more than allow computers to perform familiar tasks with greater speed and efficiency” and “actually permitted users to launch and construct databases in a new way.” *Finjan*, 879 F.3d at 1305; *see also Secured Mail Sols. LLC v. Universal Wilde, Inc.*, 873 F.3d 905, 910 (Fed. Cir. 2017) (explaining that the claims in *Enfish* “focused on an improvement to computer functionality”).

In *Visual Memory*, the claims also focused on an improvement to computer functionality. Specifically, the Federal Circuit decided that the claims satisfied § 101 under *Mayo/Alice* step one because they were “directed to an improved computer memory system” that “enabl[ed] interoperability with multiple different processors.” *Visual Memory*, 867 F.3d at 1259. That interoperability “obviate[d] the need to design a separate memory system for each [different] type of processor.” *Id.*

Similarly, in *Finjan* the claims recited “a system and method for providing computer security by attaching a security profile to a downloadable,” i.e., “an executable application program . . . downloaded from a source computer and run on [a] destination computer.” *Finjan*, 879 F.3d at 1302–03. The claimed “security profile” included “details about the suspicious code in the received downloadable,” such as “all potentially hostile or suspicious code operations that may be attempted by” the downloadable. *Id.* at 1304. The claimed “security profile” produced “a new kind of file that enable[d] a computer security system to do things it could not do before.” *Id.* at 1304–05. Thus, the Federal Circuit decided that the claims satisfied § 101 under *Mayo/Alice* step one because they provided an “improvement in computer functionality.” *Id.* at 1305–06.

Unlike the claims in *Enfish*, *Visual Memory*, and *Finjan*, the claims here do not provide an improvement in computer functionality. For instance, the claims do not recite an advance in hardware or software that causes a processor itself or a memory itself to operate faster or more efficiently. The claimed invention does not enable a terminal to do things it could not do before. Further, as discussed above, the Examiner correctly finds that the claims do not improve “the functioning of a computer itself” or “another technology or technical field.” Final Act. 4, 13, 15, 17; Ans. 6, 8.

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. 4, 13, 15, 17; Ans. 6, 8. As discussed above, permitting a user to process information more quickly “is not a technical solution to a technical problem.” *See Trading Techs. I*, 921 F.3d at 1089–90. As also discussed above, providing a user “with new or different information in an existing” terminal “is not a technical solution to a technical problem.” *Trading Techs. II*, 921 F.3d at 1383.

In *DDR Holdings*, the Federal Circuit determined that certain claims satisfied § 101 under *Mayo/Alice* step two because “the claimed solution amount[ed] to an inventive concept for resolving [a] particular Internet-centric problem,” i.e., a challenge unique to the Internet. *DDR Holdings*, 773 F.3d at 1257–59; *see Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d

1138, 1151 (Fed. Cir. 2016) (noting that “[i]n *DDR Holdings*, we held that claims ‘directed to systems and methods of generating a composite web page that combines certain visual elements of a “host” website with content of a third-party merchant’ contained the requisite inventive concept”). The Federal Circuit explained that the patent-eligible claims specified “how interactions with the Internet are manipulated to yield a desired result . . . that overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink.” *DDR Holdings*, 773 F.3d at 1258. The court reasoned that those claims recited a technological solution “necessarily rooted in computer technology” that addressed a “problem specifically arising in the realm of computer networks.” *Id.* at 1257.

According to the Federal Circuit, “*DDR Holdings* does not apply when . . . the asserted claims do not ‘attempt to solve a challenge particular to the Internet.’” *Smart Sys. Innovations, LLC v. Chi. Transit Auth.*, 873 F.3d 1364, 1375 (Fed. Cir. 2017) (quoting *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016)). Unlike the patent-eligible claims in *DDR Holdings*, the claims here do not attempt to solve a challenge particular to the Internet. *See* Appeal Br. 38, 40–41. Among other things, the claims do not require a network and instead recite “a local connection.”

Appellant contends that the claimed methods and systems “are tied to a particular machine (*e.g.*, terminal of financial transaction systems (*e.g.*, ATMs, etc.)) and further effect a transformation in the running of the terminal.” Appeal Br. 25. But “not every claim that recites concrete, tangible components escapes the reach of” *Mayo/Alice* step one. *TLI Commc’ns*, 823 F.3d at 611 (collecting cases); *see ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 770–73 (Fed. Cir. 2019). That claims

“recite components more specific than a generic computer” does not save them from abstraction. *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1286 (Fed. Cir. 2018).

Moreover, the claimed methods and systems in *Alice* effected a transformation in the running of a computer. *See Alice*, 573 U.S. at 212–14 & n.2, 224–26. Yet the Supreme Court decided that they were directed to an abstract idea. *Id.* at 225–27. Here, the alleged “transformation in the running of the terminal” at most transforms user-preference data into user-interface data. “A process that start[s] with data, add[s] an algorithm, and end[s] with a new form of data [is] directed to an abstract idea.” *RecogniCorp*, 855 F.3d at 1327.

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 idea 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 “mobile computing apparatus,” “computer equipment comprising a processor, a display, a memory and a user data entry device,” and a “terminal” with a “display” and a “memory.” Appeal Br. 38, 40–41. As also discussed above, the claimed computer-system components constitute generic computer-system components that perform generic computer functions. *See* Final Act. 4, 15 (citing Spec. ¶¶ 33–35); Ans. 5 (citing Spec. ¶¶ 31–36); Spec. ¶¶ 2, 11, 31–38, 47.

The Specification describes the claimed computer-system components generically and evidences their conventional nature. *See* Spec. ¶¶ 2, 11, 31–38, 47. As an example, the Specification describes a “mobile computing apparatus” as “a payment card, or a mobile telephone acting as a proxy for a payment card,” such as “a smartphone.” *Id.* ¶¶ 11, 37; *see id.* ¶ 31. As another example, the Specification describes a “terminal” as “any device that

interfaces directly with” a “transaction card (e.g. an interface allowing user entry of a personal identification number (PIN) such as a PIN pad or PIN Entry Device (PED), or a [point-of-sale] POS terminal or Automated Teller Machine (ATM) comprising means such as these, to allow interaction with a transaction card).” *Id.* ¶ 2; *see id.* ¶ 32. According to the Specification, “computer equipment” includes (1) a “terminal (such as an ATM),” (2) a “payment card (such as an EMV card),” and (3) a “proxy for a payment card (such as a mobile telephone running a suitable application).” *Id.* ¶ 47. Further, the Specification explains that “computer devices” have “processors and memories for storing information including firmware and applications run by the respective processors,” just like conventional computer devices. *Id.* ¶ 31.

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)).

Moreover, the claimed computer-system components operate to collect, manipulate, and display data. Appeal Br. 38, 40–41; *see* Final Act. 4–5; Ans. 5–8. 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” (e.g., a “mobile computing apparatus” or “terminal”) with a “communications controller” and a “data storage unit” (e.g., a “memory”). *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. 38, 40–41; *see* Final Act. 4–5; Ans. 5–8. For instance, nearly every computer system includes a “processor” for manipulating data and instructions (e.g., executing code) along with a “memory” for storing data and instructions (e.g., storing code). 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 “establishing” and “providing” 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.

Insofar as Appellant relies on the recited abstract idea to satisfy the “inventive concept” requirement, Appellant wrongly does so. *See, e.g.,* Appeal Br. 8–23; Reply Br. 3–8. 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*, 899 F.3d at 1290. “[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 contends that the claimed combination of limitations “is anything but routine and generic,” as “underscored by the Examiner’s failure to cite any prior art disclosing these limitations.” Appeal Br. 24; *see* Reply Br. 8–11. 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*, 839 F.3d at 1151; *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 188–89.

Appellant quotes PTO guidance about *Berkheimer*.⁴ Reply Br. 9–10. Appellant then asserts that the Examiner “cites no support (evidentiary or otherwise) for its conclusion that the pending claims ‘merely amount to the application or instructions to apply [customizing a user interface in accordance with user preferences] on a computer’” *Id.* at 10; *see id.* at 12–13.

But Appellant concedes that a “citation to one or more . . . court decisions” may demonstrate that additional elements are well understood, routine, and conventional to a skilled artisan. Reply Br. 9 (quoting Apr. 19, 2018 USPTO Mem. 4). As discussed above, court decisions have recognized that generic computer-system components operating to collect,

⁴ USPTO Memorandum, Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*) (Apr. 19, 2018).

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*, 793 F.3d at 1334; *Ultramercial*, 772 F.3d at 715–16; *buySAFE*, 765 F.3d at 1355.

Appellant contends that “[t]he concern underlying the abstract idea exception to § 101 is one of preemption.” Appeal Br. 7. Appellant then asserts that the claims “do not seek to tie up any abstract idea (or even customized interactions with/at computer equipment in general) such that others cannot practice it.” *Id.* at 8; *see* Reply Br. 2–3.

Appellant’s preemption 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. 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 Independent Claims 1, 19, and 26

For the reasons discussed above, Appellant's arguments have not persuaded us of any error in the Examiner's findings or conclusions under *Mayo/Alice* step one or step two. Hence, we sustain the § 101 rejection of the independent claims.

Dependent Claims 5–7, 10, 23, 25, and 29–31

We also sustain the § 101 rejection of dependent claims 5–7, 10, 23, 25, and 29–31 because Appellant does not argue eligibility separately for them. *See* Appeal Br. 7–26; Reply Br. 2–13; 37 C.F.R. § 41.37(c)(1)(iv).

Dependent Claims 2–4, 20–22, 27, and 28

Claims 2–4 depend directly or indirectly from claim 1; claims 20–22 depend directly or indirectly from claim 19; and claims 27 and 28 depend directly from claim 26. Appeal Br. 38–42. Appellant asserts that claims 2–4 recite “further operations providing for greater security” than claim 1. Appeal Br. 10 (emphasis omitted). Appellant also asserts that claims 20–22, 27, and 28 recite “similar detail[s], limitation[s], and technological improvement[s], whereby additional enhancements to financial transaction system terminals and methods of electronically interacting therewith are realized.” *Id.* at 11.

Appellant's assertions do not persuade us of Examiner error because the dependent claims merely narrow the abstract idea recited in each independent claim. Dependent claims that merely narrow an abstract idea “add nothing outside the abstract realm.” *SAP Am.*, 898 F.3d at 1169. Adding “a degree of particularity” does not save a claim from abstraction. *See Ultramercial*, 772 F.3d at 715; *see also BSG Tech*, 899 F.3d at 1287

(explaining that “a claim is not patent eligible merely because it applies an abstract idea in a narrow way”).

Additionally, the dependent claims employ the same generic computer-system components as the independent claims to perform generic computer functions, i.e., collecting, manipulating, and displaying data. Appeal Br. 38–42; *see* Final Act. 4–5, 15; Ans. 5–8, 11. As with the independent claims, we conclude that the combination of limitations in each dependent claim does not supply an “inventive concept” that renders the claim “significantly more” than an abstract idea.

For the reasons discussed above, dependent claims 2–4, 20–22, 27, and 28 fail to satisfy § 101 under *Mayo/Alice* step one and step two. Hence, we sustain the § 101 rejection of these dependent claims.

CONCLUSION

We affirm the Examiner’s decision to reject claims 1–7, 10, 19–23, and 25–31.

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1–7, 10, 19–23, 25–31	101	Eligibility	1–7, 10, 19–23, 25–31	

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