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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JEREMY A. GREENBERGER and JANA H. JENKINS

Appeal 2018-006323
Application 15/275,909
Technology Center 3600

Before JOHN A. JEFFERY, STEVEN M. AMUNDSON, and
JASON M. REPKO, *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 1–8, 10–17, and 19–22, 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 (2017). Appellant identifies the real party in interest as International Business Machines. Appeal Br. 2.

STATEMENT OF THE CASE

The Invention

According to the Specification, the “invention generally relates to sharing electronic coupons and, more particularly, to sharing electronic coupons within a venue based on user device location.” Spec. ¶¶ 1, 14.² The Specification explains that merchants offer coupons to shoppers to “increase sales and/or improve shopper relations.” *Id.* ¶ 14. The Specification also explains that “[s]ome coupons may offer a discount based on the purchase of multiple items” to “encourage shoppers to purchase additional items, thereby improving sales.” *Id.* The Specification further explains that “often times, a shopper may not want or need multiple items, but may still wish to take advantage of the savings offered by” a multiple-item coupon. *Id.* Hence, the “invention may allow a user (e.g., a shopper) to share” a multiple-item coupon with others. *Id.*

For instance, “if the coupon was originally for buying three items for 75 cents off, and the user partially redeemed the coupon to purchase only one item,” the unused “portion of the coupon may be shared with other users” to “provide a discount of 50 cents on two items.” Spec. ¶ 61; *see id.* ¶¶ 15, 75. Thus, if “a first user partially redeems a coupon offering 75 cents discount of a quantity of three items by purchasing one item” and if “a second user partially redeems the coupon by purchasing two items, the first

² This decision uses the following abbreviations: “Spec.” for the Specification, filed September 26, 2016; “Final Act.” for the Final Office Action, mailed June 29, 2017; “Advisory Act.” for the Advisory Action, mailed September 14, 2017; “Appeal Br.” for the Appeal Brief, filed November 29, 2017; “Ans.” for the Examiner’s Answer, mailed April 4, 2018; and “Reply Br.” for the Reply Brief, filed May 31, 2018.

user may receive a refund of 25 cents and the second user may receive refund of 50 cents once the coupon has been fully redeemed.” *Id.* ¶ 84.

Exemplary Claims

Independent claims 1 and 19 exemplify the claims at issue and read as follows (with formatting added for clarity):

1. A computer-implemented method comprising:

monitoring, by a computing device, a location of a user device by communicating with one or more location determination devices that are used to determine the location of the user device through computing network communications with the user device,

wherein the one or more location determination devices comprise at least one selected from a group consisting of:

a beacon,

a wireless router, and

a wireless personal area network device,

the one or more location determination devices determining the location of the user device based on receiving discovery signals from the user device or establishing a connection with the user device;

detecting, by the computing device, the availability of an electronic coupon stored in an inventory based on the location of the user device and a location associated with the electronic coupon;

offering, by the computing device, the electronic coupon to the user device based on the detecting the availability by providing an electronic query to the user device for display on the user device;

assigning, by the computing device, the electronic coupon to the user device based on the offering the electronic coupon to the user device;

detecting, by the computing device, that the user device departs a boundary based on the monitoring the location; and

assigning, by the computing device, an unused portion of the electronic coupon to the inventory based on the detecting that the user device departs the boundary, wherein the unused portion of the electronic coupon includes a partial value of an original value of the electronic coupon.

19. A system comprising:

a CPU, a computer readable memory and a computer readable storage medium associated with a computing device;

program instructions to monitor a location of a user device while the user device is located within the facility,

wherein the monitoring includes communicating with one or more location determination devices that are used to determine the location of the user device through computing network communications with the user device,

wherein the one or more location determination devices comprise at least one selected from a group consisting of:

a beacon,

a wireless router, and

a wireless personal area network device,

the one or more location determination devices determining the location of the user device based on receiving discovery signals from the user device or establishing a connection with the user device;

program instructions to assign an electronic coupon to the user device;

program instructions to track a usage of the electronic coupon based on assigning the electronic coupon;

program instructions to determine that the user device has departed the facility based on the monitoring the location of the user device; and

program instructions to reassign an unused portion of the electronic coupon to another user device based on determining that the user device has departed the facility, wherein the unused portion of the electronic coupon includes a partial value of an original value of the coupon,

wherein the program instructions are stored on the computer readable storage medium for execution by the CPU via the computer readable memory.

Appeal Br. 54, 57–58 (Claims App.).

The Prior Art Supporting the Rejections on Appeal

As evidence of unpatentability under 35 U.S.C. § 103, the Examiner relies on the following prior art:

Brodson et al. (“Brodson”)	US 2007/0288313 A1	Dec. 13, 2007
Mashinsky	US 2013/0290172 A1	Oct. 31, 2013
Voutour	US 8,602,300 B1	Dec. 10, 2013
Cheng et al. (“Cheng”)	US 2015/0269624 A1	Sept. 24, 2015

The Rejections on Appeal

Claims 21 and 22 stand rejected under 35 U.S.C. § 112(a) for failing to comply with the written-description requirement. Final Act. 3–4; Ans. 3.

Claims 1–8, 10–17, and 19–22 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 4–9; Ans. 3.

Claims 1, 4–8, 10–14, 16, 17, 21, and 22 stand rejected under 35 U.S.C. § 103 as unpatentable over Cheng and Brodson. Final Act. 10–15; Ans. 3.

Claims 2 and 15 stand rejected under 35 U.S.C. § 103 as unpatentable over Cheng, Brodson, and Mashinsky. Final Act. 15–16; Ans. 3.

Claim 3 stands rejected under 35 U.S.C. § 103 as unpatentable over Cheng, Brodson, and Voutour. Final Act. 16; Ans. 3.

Claim 19 stands rejected under 35 U.S.C. § 103 as unpatentable over Cheng and Mashinsky. Final Act. 16–18; Ans. 3.

Claim 20 stands rejected under 35 U.S.C. § 103 as unpatentable over Cheng, Mashinsky, and Voutour. Final Act. 18–19; Ans. 3.

ANALYSIS

We have reviewed the rejections in light of Appellant’s arguments that the Examiner erred. For the reasons explained below, we concur with the Examiner’s conclusions concerning ineligibility under § 101 and obviousness under § 103. But we disagree with the Examiner’s determination under § 112(a). We adopt the Examiner’s findings and reasoning regarding ineligibility and obviousness in the Final Office Action, Advisory Action, and Answer. *See* Final Act. 2–3, 4–19; Advisory Act. 2; Ans. 4–12. We provide the following to address and emphasize specific findings and arguments.

The § 112(a) Rejection of Claims 21 and 22

INTRODUCTION

Section 112(a) requires, among other things, that the specification “contain a written description of the invention.” 35 U.S.C. § 112(a). The written-description requirement serves to “clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed.” *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (alteration in original) (quoting *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991)); *see Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1344 (Fed. Cir. 2016). “[T]he test for sufficiency is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed

subject matter as of the filing date.” *Ariad*, 598 F.3d at 1351; *Mentor Graphics Corp. v. EVE-USA, Inc.*, 851 F.3d 1275, 1296 (Fed. Cir. 2017). The “test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art.” *Ariad*, 598 F.3d at 1351. The written-description requirement does not, however, “demand any particular form of disclosure” or require that “the specification recite the claimed invention *in haec verba*.” *Id.* at 1352. The analysis for disclosure sufficiency may consider “such descriptive means as words, structures, figures, diagrams, formulas, etc.” *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997).

THE CLAIMS AT ISSUE

Claim 21 reads as follows (with formatting added for clarity):

21. The method of claim 1, further comprising:

receiving a response to the query via a user interface of the user device,

wherein the response indicates whether the coupon should be assigned to the user device,

wherein the assigning the electronic coupon to the user device is based [on] receiving the response indicating that the coupon should be assigned to the user device; and

retaining the coupon in the inventory based [on] receiving the response indicating that the coupon should not be assigned to the user device.

Appeal Br. 58 (Claims App.). Claim 22 depends from claim 21 and specifies that “the unused portion is a non-zero value.” *Id.*

THE REASON FOR THE REJECTION

The Examiner determines that the Specification “does not convey *receiving a response indicating* that the coupon should not be assigned to

the user device” as recited in claim 21. Final Act. 4 (citing Spec. ¶ 15); Ans. 3. The Examiner explains that the Specification “sufficiently describes acceptance of the coupon via user input from the user as corresponding to assignment of the coupon to the user device” but that “denial of the coupon is not sufficiently described as assignment to the inventory.” Ans. 4. The Examiner rejects claim 22 “by virtue of its dependency to claim 21.” *Id.*

DISCUSSION

As support for claim 21’s subject matter, Appellant cites Specification paragraphs 60, 61, and 80. Appeal Br. 5 (citing Spec. ¶ 80); Reply Br. 2–3 (quoting Spec. ¶¶ 60–61).

Specification paragraph 60 explains that “a coupon management server 220 may be implemented within a boundary” and “may determine coupon availability based on the user device location and coupon attributes.” Spec. ¶ 60. That paragraph also explains that “[b]ased on determining that the coupon is available, the coupon management server 220 may” (1) “offer the coupon to the user device,” (2) “receive an acceptance of the coupon from the user device,” and (3) “assign the coupon to the user,” e.g., “by updating a data structure.” *Id.* Specification paragraph 61 explains that when “the user departs from the boundary, the coupon management server 220 may return the unused portion of the coupon to a coupon inventory,” e.g., “by updating the data structure.” *Id.* ¶ 61.

Further, Specification paragraph 80 explains that “the coupon management server 220 may provide a message (e.g., with a query) to the user device 210 to offer the coupon to the user device 210,” and “[b]ased on receiving the message, . . . the user of the user device 210 may respond via user input to accept or deny the offered coupon.” *Id.* ¶ 80.

Appellant asserts that the Specification “discusses how coupons are assigned to the inventory initially, later assigned to user devices, and then unused portions of the coupon are returned (or assigned back) to the inventory.” Reply Br. 2. Appellant also asserts that “it is evident that if a coupon is offered via a user device, and a response is received in which the coupon offer is declined, the coupon would be retained in the inventory, where it is originally assigned.” *Id.* at 3.

We agree with Appellant that Specification paragraphs 60, 61, and 80 reasonably convey to those skilled in the art that the inventors had possession of claim 21’s subject matter as of the filing date. That the server “return[s] the unused portion of the coupon to a coupon inventory” when “the user departs from the boundary” indicates that the coupon originates in the inventory. And if the user “den[ies] the offered coupon,” the inventory retains the coupon. Hence, we do not sustain the § 112(a) rejection of claims 21 and 22.

The § 101 Rejection of Claims 1–8, 10–17, and 19–22

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 THE INDEPENDENT CLAIMS

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 properly determines that the claims are directed to an abstract idea, e.g., “monitoring electronic coupons within a predetermined boundary.” Final Act. 6–7; *see* Ans. 4–5.

Appellant disputes that independent claims 1, 14, and 19 are directed to an abstract idea. *See* Appeal Br. 8–11, 25–27, 35–36; Reply Br. 3–8. Specifically, Appellant asserts that the Examiner employed “a piecemeal analysis of individual claims features rather than analyzing the claim as a

whole” and that each claim “has been overgeneralized.” Appeal Br. 8–9, 25–26, 35; *see* Reply Br. 3–4.

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. 2–3, 6–7; Advisory Act. 2; Ans. 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., “certain methods of organizing human activity.” *See* 84 Fed. Reg. at 51–52. As relevant here, the 2019 Guidance identifies “marketing or sales activities or behaviors” as among the enumerated methods of organizing human activity. *Id.* at 52. As explained below, each independent claim recites “marketing or sales activities or behaviors” in various limitations.

For instance, claim 1 recites the following limitations:

- “monitoring . . . a location of a user device by communicating with one or more location determination devices that are used to determine the location of the user device”;
- “detecting . . . the availability of an electronic coupon stored in an inventory based on the location of the user device and a location associated with the electronic coupon”;
- “offering . . . the electronic coupon to the user device based on the detecting the availability by providing an electronic query to the user device for display on the user device”;
- “assigning . . . the electronic coupon to the user device based on the offering the electronic coupon to the user device”;

- “detecting . . . that the user device departs a boundary based on the monitoring the location”; and
- “assigning . . . an unused portion of the electronic coupon to the inventory based on the detecting that the user device departs the boundary, wherein the unused portion of the electronic coupon includes a partial value of an original value of the electronic coupon.”

Appeal Br. 54. Claims 14 and 19 recite similar limitations. *Id.* at 56–58.

The above-identified limitations in the independent claims encompass “marketing or sales activities or behaviors” because they specify monitoring a shopper’s location, offering the shopper a coupon to induce a sale when the shopper travels to a certain location, and assigning an unused coupon portion to an inventory to permit coupon sharing with another shopper. *See* Spec. ¶¶ 14–15, 61, 75, 84, Abstract. Consistent with this, the Specification explains that merchants offer coupons to shoppers to “increase sales and/or improve shopper relations” and “encourage shoppers to purchase additional items, thereby improving sales.” *Id.* ¶ 14. In addition, claim 11 depends from claim 1 and specifies that the “steps of claim 1 are provided by a service provider on a[n] . . . advertising . . . basis.” Appeal Br. 55.

For these reasons, the above-identified limitations in the independent claims encompass “marketing or sales activities or behaviors.” As noted above, the 2019 Guidance identifies “marketing or sales activities or behaviors” as among the enumerated methods of organizing human activity, and thus an abstract idea. 84 Fed. Reg. at 52; *see also OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1361–63 (Fed. Cir. 2015) (deciding that the claimed concept of “offer-based price optimization” is an abstract idea “similar to other ‘fundamental economic concepts’ found to be abstract ideas by the Supreme Court and this court”).

Appellant contends that “the claimed invention is directed towards a specific computer-based application rather than a vague, theoretical, or hypothetical general idea involving organizing human activity.” Appeal Br. 10, 27, 36. But abstract ideas include concepts other than “vague, theoretical, or hypothetical general idea[s].” *See, e.g.*, 84 Fed. Reg. at 51–52 & nn.7–15. For instance, abstract ideas include “marketing or sales activities or behaviors.” *Id.* at 52.

Further, Appellant’s contention advances a false dichotomy. The difference between “a specific computer-based application” and “a vague, theoretical, or hypothetical general idea” does not accurately reflect the abstract-idea inquiry under the *Mayo/Alice* framework. As an example, the system claims in *Alice* concerned “a specific computer-based application,” but they did not satisfy § 101. *See Alice*, 573 U.S. at 212–13, 226–27.

Appellant asserts that the claims provide “a system having practical, real-life, and specific use cases rather than hypothetical use cases.” Appeal Br. 10, 27, 36. But that assertion also does not accurately reflect the abstract-idea inquiry under the *Mayo/Alice* framework.

Appellant argues that “the claimed invention has a reasonable degree of specificity and clarity as to what data is analyzed.” Appeal Br. 10, 26, 35–36. But “a reasonable degree of specificity and clarity as to what data is analyzed” does not suffice for eligibility. For example, the claims in *Flook*, *Bilski*, and *Alice* all had “a reasonable degree of specificity and clarity as to what data is analyzed,” but none of the claims satisfied § 101. *See Parker v. Flook*, 437 U.S. 584, 594–98 (1978); *Bilski v. Kappos*, 561 U.S. 593, 599, 611–13 (2010); *Alice*, 573 U.S. at 212–14 & n.2, 221–25.

MAYO/ALICE STEP ONE:
PTO STEP 2A PRONG TWO FOR THE INDEPENDENT CLAIMS

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 the following computer-system components: a “computing device,” a “user device,” a “network,” and “one or more location determination devices,” i.e., either a “beacon,” a “wireless router,” or a “wireless personal area network device.” Appeal Br. 54, 56–58. Further, claim 19 recites the following hardware components “associated with” the “computing device”: a “CPU,” a “computer readable memory,” and a “computer readable storage medium.” *Id.* at 57.

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. 7–8. The claimed computer-system and hardware components constitute a “conventional computer” and “generic computer components” that “perform generic computer functions.” Ans. 7–8; *see* Final Act. 7–8; Advisory Act. 2; *see also* Spec. ¶¶ 19–21, 23, 45, 49–50, 52, 55, 64–65, 68.

Appellant argues that “the claimed invention improves the technical field relating to the sharing of electronic coupons.” Appeal Br. 13–14,

29, 38. We disagree that “the sharing of electronic coupons” constitutes a technical field. In *Bilski*, for example, the Supreme Court did not view the balancing of risk positions as a technical field. *See Bilski*, 561 U.S. at 599, 609–13. And in *Alice*, the Court did not view the mitigating of settlement risk as a technical field. *See Alice*, 573 U.S. at 212–14 & n.2, 219–23.

Further, we agree with the Examiner that an improvement in a technical field should focus on “a specific improvement or technique,” e.g., “where computers are not used merely as a tool.” Ans. 6; *see, e.g., Smartflash LLC v. Apple Inc.*, 680 F. App’x 977, 982 (Fed. Cir. 2017). Here, however, “the focus is on improving shopper relations and reducing the [coupons] provided to the user.” Ans. 6; *see Spec.* ¶ 14.

Appellant argues that “the claimed invention improves the functioning of the computer itself.” Appeal Br. 14–15, 29, 38–39; *see Reply Br.* 7. To support that argument, Appellant cites Specification paragraph 16. Appeal Br. 14, 29, 38; Reply Br. 7. Among other things, paragraph 16 states, “Aspects of the present invention **may** reduce the consumption of computing resources on a coupon management system by reducing the total number of coupons issued and tracked in relation to when an entire catalog of coupons is provided to a user.” Spec. ¶ 16. Paragraph 16 does not say that the invention necessarily “reduce[s] the consumption of computing resources,” only that it “may” do so. And it “may” do so only in narrow circumstances, i.e., “in relation to when an entire catalog of coupons is provided to a user.”

The independent claims encompass processing a single coupon for a single user. Appeal Br. 54, 56–58. Due to their breadth, the claims do not capture the purported improvements described in the Specification, e.g., in paragraph 16. Improvements described in a specification but not claimed do

not support patent eligibility. *See ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 769 (Fed. Cir. 2019); *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1369–70 (Fed. Cir. 2018); *Two-Way Media Ltd. v. Comcast Cable Commc 'ns, LLC*, 874 F.3d 1329, 1338–39 (Fed. Cir. 2017); *Intellectual Ventures I LLC v. Erie Indem. Co.*, 850 F.3d 1315, 1331–32 (Fed. Cir. 2017); *see also* Final Act. 2–3; Ans. 6–7.

Moreover, the statements in Specification paragraph 16 about purported improvements amount to conclusory assertions. Among other things, the Specification does not explain why returning a coupon with an unused portion to an inventory “reduce[s] the consumption of computing resources” compared to simply replacing the coupon with another coupon having an amount corresponding to the unused portion. *See* Spec. ¶¶ 14–16; *see also* Ans. 6–7 (citing Spec. ¶¶ 14, 16). We may accord little weight to conclusory assertions. *See Skky, Inc. v. MindGeek, s.a.r.l.*, 859 F.3d 1014, 1022 (Fed. Cir. 2017); *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004).

Appellant asserts that “the claimed invention applies the idea with, or by use of, a particular machine,” i.e., a beacon, wireless router, or wireless personal area network device. Appeal Br. 15–16, 29–30, 39; *see* Reply Br. 7–8. Appellant also asserts that “the particular machine determines the location of the user device through a specific set of processes that are performed by the particular machine.” Appeal Br. 16, 30, 39.

That the claims recite “one or more location determination devices,” i.e., a beacon, wireless router, or wireless personal area network device, does not suffice for eligibility. “[C]laims are not saved from abstraction merely because they recite components more specific than a generic computer.”

BSG Tech LLC v. BuySeasons, Inc., 899 F.3d 1281, 1286 (Fed. Cir. 2018). 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 eligibility) (citing *Gottschalk v. Benson*, 409 U.S. 63, 64–65, 71 (1972)).

In *ChargePoint*, for example, certain apparatus claims required a “control device,” a “transceiver,” a “controller,” and an “electrical coupler to make a connection with an electric vehicle.” *ChargePoint*, 920 F.3d at 766, 770–71. Yet the Federal Circuit did not consider the claimed apparatus a “particular machine” that satisfied § 101. *See id.* at 773–75.

Here, the claimed “location determination devices” operate conventionally to “determin[e] the location of the user device based on receiving discovery signals from the user device or establishing a connection with the user device.” Appeal Br. 54, 56–57; *see* Spec. ¶ 65; Ans. 7. The Specification evidences the conventional nature of the claimed “location determination devices.” Spec. ¶ 65. It states that “location determination devices” may (1) “include one or more computing devices, such as beacons, network devices, or the like that may connect with” a user device “via, for example, a wireless local area network (WLAN), a wireless personal area network (WPAN), or the like”; (2) “receive broadcast or discovery signals transmitted by the user device . . . without establishing a connection with the user device”; (3) “provide information regarding the location of user devices”; (4) “provide information regarding their own locations and signal strength information of a signal received from the user device”; and

(5) “transmit signals that carry respective identifiers of the location determination devices.” *Id.*

Appellant contends that the claims include “meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment” because they “improve an existing technological process.” Appeal Br. 17, 31, 40. Contrary to Appellant’s contention, the claims do not improve an existing technological process. The Examiner correctly finds that the Specification “discloses offering electronic coupons to improve ‘shopper relations’, which is primarily a business need not a technological one.” Ans. 6; *see Alice*, 573 U.S. at 223 (explaining that “the claims in *Diehr* were patent eligible because they improved an existing technological process”). Allowing shoppers to share multiple-item coupons does not improve an existing technological process. *See* Spec. ¶ 14.

Based on *McRO*, Appellant asserts that the claims provide “a particular solution to the problem of managing coupons and sharing unused portions.” Reply Br. 6 (citing *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016)). But *McRO* does not help Appellant. 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. As explained above, the claims here do not improve an existing

technological process. Hence, the claims here do not resemble the claims in *McRO*.

Appellant asserts that the claims provide “a specific implementation of a solution to the problem of electronic coupon sharing.” Appeal Br. 11. But “a claim is not patent eligible merely because it applies an abstract idea in a narrow way.” *BSG Tech*, 899 F.3d at 1287.

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 Manual of Patent Examining Procedure §§ 2106.05(a)–(c), 2106.05(e) (9th ed. rev. 08.2017 Jan. 2018)). 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 FOR THE INDEPENDENT CLAIMS

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 Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)). 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 Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016).

As discussed above, the independent claims recite the following computer-system and hardware components: a “computing device” with a “CPU,” a “computer readable memory,” and a “computer readable storage medium”; a “user device”; a “network”; and “one or more location determination devices,” i.e., either a “beacon,” a “wireless router,” or a “wireless personal area network device.” Appeal Br. 54, 56–58. The Examiner correctly finds that the claimed computer-system and hardware components constitute a “conventional computer” and “generic computer components” that “perform generic computer functions,” e.g., collecting, manipulating, and displaying data. Ans. 7–8; *see* Final Act. 3, 7–8; Advisory Act. 2.

Consistent with the Examiner’s findings, the Specification describes the claimed computer-system and hardware components generically and evidences their conventional nature. *See, e.g.*, Spec. ¶¶ 19–21, 23, 45,

49–50, 52, 55, 64–65, 68. As an example, the Specification states that a “network” may “comprise copper transmission cables, optical transmission fibers, wireless transmission, routers, firewalls, switches, gateway computers and/or edge servers.” *Id.* ¶ 20. As another example, the Specification states that a “user device” may “correspond to a mobile communication device (e.g., a smart phone or a personal digital assistant (PDA)), a portable computer device (e.g., a laptop or a tablet computer), or another type of computer device.” *Id.* ¶ 64.

In addition, court decisions have recognized that generic computer-system and hardware 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; *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1316–20 (Fed. Cir. 2016) (“*Symantec*”); *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1334 (Fed. Cir. 2015); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715–16 (Fed. Cir. 2014); *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., “computing device”) with a “communications controller” and a “data storage unit” (e.g., “computer readable memory” or “computer readable storage medium”). *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 and hardware components perform “basic calculation, storage, and transmission functions” that nearly every computer system performs. Appeal Br. 54, 56–58; *see* Final Act. 3, 7–8; Advisory Act. 2; Ans. 7–8. For instance, nearly every computer includes a “CPU” for manipulating data and a “computer readable memory” or “computer readable storage medium” for storing data. Hence, those generic computer-system and hardware 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”).

Appellant asserts that “the claimed invention adds a specific limitation other than what is well-understood, routine and conventional in the field, or adding [sic] unconventional steps that confine the claim to a particular useful application.” Appeal Br. 16, 30, 39; *see* Reply Br. 8–9. In particular,

Appellant contends that the claims recite “the unconventional step of ‘assigning an unused portion of the electronic coupon to the inventory based on the detecting that the user device departs the boundary.’” Appeal Br. 16–17, 30; Reply Br. 8; *see* Appeal Br. 39–40. Appellant also contends that “the claimed invention must be considered to be significantly more since the claim recites features that are unconventional (e.g., not cited in the art . . . with respect to the rejections under 35 U.S.C. § 103).” Appeal Br. 17, 30, 40.

Appellant’s arguments do not persuade us of Examiner error because they wrongly rely on the recited abstract ideas to satisfy the “inventive concept” requirement. 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.

Insofar as Appellant’s arguments rest on the alleged novelty and nonobviousness of the claims, they also fail. 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; Ans. 8. “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*, 874 F.3d at 1340. “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.

Based on PTO guidance about *Berkheimer*,³ Appellant asserts that the “rejection is undoubtedly in error for lacking the factual findings necessary to support” the well-understood, routine, and conventional nature of the additional elements. Reply Br. 9–10. 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. *Id.* at 9.

As discussed above, court decisions have recognized that generic computer-system and hardware 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*, 793 F.3d at 1334; *Ultramercial*, 772 F.3d at 715–16; *buySAFE*, 765 F.3d at 1355.

“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. Considering the claim limitations as an ordered combination adds nothing to the abstract idea that is not already present when the limitations are considered separately. *See Mayo*, 566 U.S. at 79; Final Act. 8. The ordered combination of limitations amounts to nothing more than the abstract idea of “marketing or sales activities or behaviors” implemented with generic computer-system and hardware components that perform generic computer

³ USPTO Memorandum, Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*) (Apr. 19, 2018).

functions. *See Alice*, 573 U.S. at 225–26; Final Act. 3, 7–8; Advisory Act. 2. Hence, we conclude that the ordered combination of limitations in each independent claim does not supply an “inventive concept” that renders the claim “significantly more” than an abstract idea. *See* Final Act. 3, 7–8; Advisory Act. 2; Ans. 6–8. Thus, each claim does not satisfy § 101 under *Mayo/Alice* step two.

SUMMARY FOR THE INDEPENDENT CLAIMS

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 10–13

We also sustain the § 101 rejection of dependent claims 10–13 because Appellant does not argue eligibility separately for them. *See* Appeal Br. 23; Reply Br. 3–20; 37 C.F.R. § 41.37(c)(1)(iv).

DEPENDENT CLAIMS 2–8, 15–17, AND 20–22

Claims 2–8, 21, and 22 depend directly or indirectly from claim 1, claims 15–17 depend directly or indirectly from claim 14, and claim 20 depends directly from claim 19. Appellant asserts that each dependent claim “is not abstract” and instead “is directed to a specific computer-based application rather than a vague, theoretical, or hypothetical general idea directed to a judicial exception” since “the features of the claim further define the specific application and processes of the claimed invention.” Appeal Br. 18–24, 31–34, 41; *see* Reply Br. 10–15, 17–18, 20. Appellant also asserts that each dependent claim includes features that “are non-conventional, thus, it follows that the features are considered ‘significantly

more’ (step 2B).” Appeal Br. 18–24, 31–34, 41; *see* Reply Br. 10–15, 17–18, 20.

Appellant’s assertions do not persuade us of Examiner error because the dependent claims merely narrow the abstract ideas recited in the independent claims. *See* Final Act. 8–9; Ans. 8–10. 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. Also, narrowing “an abstract idea does not add ‘significantly more’ to it.” *BSG Tech*, 899 F.3d at 1291.

As an example, claim 4 depends from claim 1 and further requires “receiving an acceptance to the offer from the user device, wherein the assigning the electronic coupon is based on receiving the acceptance to the offer.” Appeal Br. 55. The claimed “receiving an acceptance to the offer” amounts to more “marketing or sales activities or behaviors.”

As another example, claim 5 depends from claim 1 and specifies that “the assigning the electronic coupon to the user device includes modifying a field in a data structure associated with the electronic coupon indicating that the electronic coupon [is] possessed by the user device.” Appeal Br. 55. Although claim 5 specifies another detail, adding “a degree of particularity” does not save a claim from abstraction. *See Ultramercial*, 772 F.3d at 715. “[A] claim is not patent eligible merely because it applies an abstract idea in a narrow way.” *BSG Tech*, 899 F.3d at 1287.

In addition, like the independent claims, the dependent claims do not “capture the purportedly inventive concepts” described in the Specification.

Further, Appellant wrongly relies on allegedly novel or nonobviousness features in the dependent claims to satisfy the “inventive concept” requirement. As explained above, 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 dependent claims employ the same generic computer-system and hardware components as the independent claims to perform generic computer functions, i.e., collecting, manipulating, and displaying data. Appeal Br. 54–58; *see* Final Act. 8–9; Ans. 8–10.

Considering the claim limitations as an ordered combination adds nothing to the abstract idea that is not already present when the limitations are considered separately. *See Mayo*, 566 U.S. at 79; Final Act. 8–9. The ordered combination of limitations amounts to nothing more than the abstract idea of “marketing or sales activities or behaviors” implemented with generic computer-system and hardware components that perform generic computer functions. *See Alice*, 573 U.S. at 225–26; Final Act. 3; Advisory Act. 2.

For the reasons discussed above, dependent claims 2–8, 15–17, and 20–22 fail to satisfy § 101 under *Mayo/Alice* step one and step two. Hence, we sustain the § 101 rejection of these dependent claims.

The § 103 Rejection of Claims 1, 4–8, 10–14, 16, 17, 21, and 22

INDEPENDENT CLAIMS 1 AND 14:
ASSIGNING A COUPON BASED ON OFFERING THE COUPON

As noted above, the § 103 rejection of claims 1 and 14 rests on Cheng and Brodson. *See* Final Act. 10–12; Ans. 3. Appellant argues that the

Examiner erred in rejecting claims 1 and 14 because “the combination of Cheng and Brodson does not teach” the following limitation in claim 1 and a similar limitation in claim 14: “assigning, by the computing device, the electronic coupon to the user device based on the offering the electronic coupon to the user device.” *See* Appeal Br. 42–43, 47; Reply Br. 20–22, 25. Appellant concedes that “Cheng states that offers can be selected.” Appeal Br. 42; *see* Reply Br. 20, 25. But Appellant contends that “the concept of ‘selecting’ an offer, as in Cheng is fundamentally different than the ‘assigning’ of an electronic coupon to a user device as in the claimed invention.” Appeal Br. 42; *see* Reply Br. 20, 25. According to Appellant, “an electronic coupon is a unique object” that “can only be in the custody of one user device at a time.” Appeal Br. 43; Reply Br. 21. Appellant asserts that Cheng does not teach or suggest assigning coupon custody to one user device at a time. Appeal Br. 43; Reply Br. 21.

Appellant’s arguments do not persuade us of Examiner error. The Examiner correctly finds that “Cheng discloses that the offer that is selected for the user is based on the ‘predicted likelihood of the user requesting the offer . . . and to increase usage.’” Ans. 10 (quoting Cheng ¶ 101); *see* Final Act. 11. The Examiner properly reasons that “[t]his shows that a particular offer is in custody with a particular user based on user profile information.” Ans. 10.

More specifically, Cheng discloses an offer-distribution system that supplies offers to user devices based on geographic location. Cheng ¶¶ 3, 24–27, code (57). Cheng notes that offers include coupons. *Id.* ¶¶ 3, 5, 30, 35, 69. In addition, Cheng discloses “single-use offers for which each instance of the offer is separately tracked” by the offer-distribution system.

Id. ¶ 35. Cheng explains that a single-use offer “is redeemable a limited number of times.” *Id.* Cheng’s single-use offers correspond to the claimed electronic coupons. For instance, a single-use offer may provide a 75-cent discount for purchasing three items with the value reduced by 25 cents after each item’s purchase, just like the example the Specification discusses. *See* Spec. ¶¶ 14–15, 61, 75, 84. Hence, one shopper could partially redeem a 75-cent single-use offer by receiving a 25-cent discount when purchasing one item, while another shopper could partially redeem the 75-cent single-use offer by receiving a 50-cent discount when purchasing two items.

Further, Cheng describes different types of geofences including “cache geofences” and “notification geofences.” *See, e.g.*, Cheng ¶¶ 50–51, 56, 96, 104, 107, Fig. 1. The “cache geofences” define “geographic areas in which offers are to be predicatively [sic] loaded to compensate for poor wireless connectivity in the geographic area.” *Id.* ¶ 96, code (57). The “notification geofences” define “geographic areas in which users are notified of offers in response to the user being in the area, for instance, automatically upon detecting that the client device is in the notification geographic area.” *Id.* ¶ 96.

Moreover, Cheng’s offer-distribution system “may store offer records describing offers.” Cheng ¶¶ 28, 30. “For single-use offers, each offer record may include an amount (e.g., a number) of instances of the offer to be redeemed,” an amount to be reserved, or both. *Id.* ¶ 35. Cheng’s offer-distribution system “may update records . . . to reflect interactions with offers,” e.g., upon sending a single-use offer to a user. *Id.* ¶ 41; *see id.* ¶¶ 44, 51, 73.

Updating an offer record upon sending a single-use offer to a user, e.g., when the user enters a notification geographic area, corresponds to assigning an electronic coupon to a user device according to claims 1 and 14. Thus, Cheng teaches or suggests the disputed coupon-assigning limitations in claims 1 and 14. *See* Final Act. 11; Ans. 11; *see also* Cheng ¶¶ 41, 51, 96, 101.

Appellant asserts that “Brodson makes no mention of the concept of ‘assigning’ an electronic coupon for the same reasons that Cheng does not teach this feature.” Appeal Br. 43; Reply Br. 21. Appellant’s assertion does not persuade us of Examiner error because the Examiner relies on Cheng—not Brodson—for the disputed coupon-assigning limitations. *See* Final Act. 11; Ans. 11.

Appellant contends that “[t]he claimed invention ‘assigns’ the electronic coupon so that that coupon can only be in the custody of one user at a given time.” Appeal Br. 43; Reply Br. 21. Appellant also contends that “electronic coupons are assigned to track the chain of custody of a coupon.” Appeal Br. 42–43 (citing Spec. ¶ 15); Reply Br. 20–21 (citing Spec. ¶ 15).

Appellant’s contentions do not persuade us of Examiner error. “[D]uring examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification.” *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000). Here, claims 1 and 14 do not require that one entity has sole custody of a coupon or “track[ing] the chain of custody of a coupon.” Appellant cannot rely on unclaimed features for patentability. *See In re Self*, 671 F.2d 1344, 1348, 1350 (CCPA 1982).

Further, the Specification does not require that one entity has sole custody of a coupon or “track[ing] the chain of custody of a coupon.” *See*,

e.g., Spec. ¶¶ 15, 62, 67. Instead, the Specification states that “aspects of the present invention **may** track the chain of custody of coupons.” *Id.* ¶ 62; *see id.* ¶¶ 15, 67. The Specification does not say that the invention necessarily tracks the chain of custody of coupons, only that it “may” do so. *Id.* ¶¶ 15, 62, 67. Federal Circuit case law “counsels against incorporating a feature of a preferred embodiment into the claims.” *Arthrex, Inc. v. Smith & Nephew, Inc.*, 935 F.3d 1319, 1330 (Fed. Cir. 2019). In addition, the Specification indicates that different user devices may each “locally” store a coupon, and thus share coupon custody, with “a code corresponding to the coupon” modified to denote coupon validity at a particular user device. *See* Spec. ¶ 76.

INDEPENDENT CLAIMS 1 AND 14:
ASSIGNING AN UNUSED PORTION OF THE COUPON

Appellant argues that the Examiner erred in rejecting claims 1 and 14 because “the combination of Cheng and Brodson does not teach” the following limitation in claim 1 and a similar limitation in claim 14: “assigning, by the computing device, an unused portion of the electronic coupon to the inventory based on the detecting that the user device departs the boundary.” *See* Appeal Br. 42–44, 47; Reply Br. 21–22, 25. Specifically, Appellant asserts that the Examiner provides “no explanation as to how the ‘termination of a transaction’ as discussed in Brodson corresponds to the claimed invention.” Appeal Br. 43, 47; *see* Reply Br. 21. Appellant also asserts that “Brodson makes no mention that the termination of a transaction corresponds to when a user device departs a boundary.” Appeal Br. 43, 47; *see* Reply Br. 21, 25. Additionally, Appellant disputes

that Brodson teaches or suggests “detecting that the user device departs a boundary based on the monitoring the location.” Reply Br. 21.

Appellant’s arguments do not persuade us of Examiner error because they attack the references individually. Where a rejection rests on the combined disclosures in the references, an appellant cannot establish nonobviousness by attacking the references individually. *See In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Here, the combined disclosures in Cheng and Brodson teach or suggest the disputed portion-assigning limitations in claims 1 and 14. *See* Final Act. 10–13; Cheng ¶ 73; Brodson ¶¶ 27, 75.

In particular, Brodson discloses an electronic-coupon (e-coupon) system “that enables electronic coupon redemption at any retail outlet having electronic funds transfer (EFT) capabilities.” Brodson ¶ 22, code (57), Fig. 5. Brodson’s e-coupon system “contain[s] multiple electronic coupons from various coupon sponsors.” *Id.* ¶ 25. A “purchaser or consumer” may “select a coupon or coupons of interest.” *Id.* “Cash reserves from at least one selected coupon sponsor,” such as a manufacturer, “are used to cover the discount value of the selected coupons.” *Id.* ¶ 26. “Coupon values for qualifying, purchased items are removed from” an account associated with a manufacturer. *Id.* ¶ 27. But any “[u]nredeemed coupon values . . . corresponding [to] cash reserves are released back to the manufacturer.” *Id.* ¶¶ 27, 75; *see id.* ¶ 67, Fig. 5. Releasing unredeemed coupon values “back to the manufacturer” as disclosed in Brodson teaches or suggests assigning an unused coupon portion to an inventory according to claims 1 and 14.

In addition, Cheng teaches or suggests assigning based on detecting that a user device departs a boundary according to claims 1 and 14. Specifically, Cheng discloses that “single-use codes may be marked in records of the offer distribution system as reserved while cached on the user device.” Cheng ¶ 73. Cheng also discloses that “the reserved code may be designated as returned to the available state when the user exits the geofence” for a cache geographic area. *Id.* Designating the reserved code “as returned to the available state when the user exits the geofence” as disclosed in Cheng teaches or suggests assigning based on detecting that a user device departs a boundary according to claims 1 and 14.

For the reasons discussed above, the combined disclosures in Cheng and Brodson teach or suggest the disputed portion-assigning limitations in claims 1 and 14. *See* Final Act. 10–13; Cheng ¶ 73; Brodson ¶¶ 27, 75.

DEPENDENT CLAIM 4

Claim 4 depends from claim 1 and further requires “receiving an acceptance to the offer from the user device, wherein the assigning the electronic coupon is based on receiving the acceptance to the offer.” Appeal Br. 55. Appellant contends that the Examiner erred in rejecting claim 4 because “the combination of Cheng and Brodson does not teach or suggest the concept of ‘assigning the electronic coupon’ as discussed” for claim 1. Appeal Br. 44; Reply Br. 22. Appellant maintains that Cheng “makes no mention of the ‘assigning of the electronic coupon.’” Appeal Br. 44; *see* Reply Br. 22–23. In addition, Appellant attempts to distinguish claim 4 from Cheng based on sole custody compared to shared custody, arguing that an offer in Cheng “could be retrieved by multiple different devices at a given

time, rather than being assigned to one device at one time.” Reply Br. 22–23.

Appellant’s arguments do not persuade us of Examiner error. As explained above, Cheng teaches or suggests the disputed coupon-assigning limitation in claim 1. *See* Final Act. 11; Ans. 11; *see also* Cheng ¶¶ 41, 51, 96, 101. Further, claim 4 does not specify that one entity has sole custody of a coupon. Appeal Br. 55. In addition, Cheng discloses a user device receiving instructions from the offer-distribution system “to display a notification indicating a uniform resource identifier (URI) from which the user may retrieve proof that the user is in possession of the offer.” Ans. 10–11 (citing Cheng ¶ 44); Cheng ¶ 44. The Examiner correctly reasons that (1) “the assigning of the electronic coupon is shown by the URI that shows that the user is in possession of the offer,” i.e., the user “has custody of the offer”; and (2) “[t]he assigning corresponds to the receiving acceptance.” Ans. 11.

DEPENDENT CLAIMS 5 AND 16

Claim 5 depends from claim 1 and specifies that “the assigning the electronic coupon to the user device includes modifying a field in a data structure associated with the electronic coupon indicating that the electronic coupon [is] possessed by the user device.” Appeal Br. 55. Claim 16 depends from claim 14 and includes a similar limitation. *Id.* at 57.

Appellant contends that the Examiner erred in rejecting claims 5 and 16 because “the combination of Cheng and Brodson does not teach or suggest the concept of ‘assigning the electronic coupon’ as discussed” for claims 1 and 14. Appeal Br. 45, 47–48; Reply Br. 23. Appellant admits that Cheng “teaches that a reward has been claimed.” Reply Br. 23 (citing

Cheng ¶ 44). But Appellant asserts that “a reward being claimed does not indicate that the electronic coupon was ‘assigned’ to the user device” according to the claims. *Id.*

Appellant’s arguments do not persuade us of Examiner error. As explained above, Cheng teaches or suggests the disputed coupon-assigning limitations in claims 1 and 14. *See* Final Act. 11; Ans. 11; *see also* Cheng ¶¶ 41, 51, 96, 101. In addition, Cheng discloses a user-retrievable code that “when presented to a merchant validates that the user is entitled to the reward.” Cheng ¶ 44; *see* Ans. 11. Assigning a user-retrievable code signifying user entitlement to a reward corresponds to assigning an electronic coupon to a user device according to the claims.

Cheng also discloses that an offer record for a single-use offer “may include a plurality of offer instance records, each instance record including an offer instance identifier, a value indicating whether the offer instance has been reserved, [and] a value indicating whether the offer instance has been redeemed.” Cheng ¶ 35. Cheng describes a user “taking affirmative steps to reserve” an offer, “such as interacting with an interface” on a user device to cause the “device to indicate to” the offer-distribution system “that the user wishes to reserve an offer instance.” *Id.* ¶¶ 35, 41; *see id.* ¶ 96.

In Cheng, an offer record’s “value indicating whether the offer instance has been reserved” corresponds to a field in a data structure indicating coupon assignment to a user device as recited in claims 5 and 16. When a user reserves an offer instance, Cheng’s offer-distribution system updates the offer record’s “value indicating whether the offer instance has been reserved.” *See id.* ¶¶ 35, 41. Updating an offer record when a user reserves an offer instance corresponds to assigning an electronic coupon to a

user device by modifying a field in a data structure according to claims 5 and 16. Hence, Cheng teaches or suggests the limitations in claims 5 and 16. *See* Final Act. 12–13; Ans. 11; Cheng ¶¶ 35, 41.

DEPENDENT CLAIM 22

Claim 22 depends from claim 21 and specifies that “the unused portion is a non-zero value.” Appeal Br. 58. Appellant asserts that the Examiner erred in rejecting claim 22 because “it is unclear as to whether” the “unused coupon amounts” in Brodson “are non-zero values” or “partial values of an original coupon amount.” Appeal Br. 46; *see* Reply Br. 24. Appellant contends that “there is no clear teaching or suggestion that Brodson [sic] in fact teaches an unused portion being a non-zero value.” Reply Br. 24. In addition, Appellant argues that the Examiner wrongly relies on speculation and conjecture. *Id.*

Appellant’s arguments do not persuade us of Examiner error because the Examiner correctly finds that Brodson discloses that (1) “unredeemed coupon values” are “released to the manufacturer” and (2) “unused coupon amounts” are “released back to the consumer product goods manufacturer.” Ans. 11 (citing Brodson ¶¶ 27, 75); *see* Final Act. 14–15; Brodson ¶¶ 27, 75. Both “unredeemed coupon values” and “unused coupon amounts” have non-zero values. In the Answer, the Examiner further explains that “the amounts returned to the manufacturer have a remaining non-zero value or else there would be no need to transfer the value.” Ans. 11. In the Reply Brief, Appellant identifies no deficiency in the Examiner’s explanation. Reply Br. 24–25.

SUMMARY FOR CLAIMS 1, 4, 5, 14, 16, AND 22

For the reasons discussed above, Appellant’s arguments have not persuaded us that the Examiner erred in rejecting independent claims 1 and 14 or dependent claims 4, 5, 16, and 22 for obviousness based on Cheng and Brodson. In our view, the claimed subject matter exemplifies the principle that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007). Thus, we sustain the § 103 rejection of claims 1, 4, 5, 14, 16, and 22.

DEPENDENT CLAIMS 6–8, 10–13, 21, AND 17

Claims 6–8, 10–13, and 21 depend directly or indirectly from claim 1, and claim 17 depends indirectly from claim 14. Appellant does not argue patentability separately for these dependent claims. *See* Appeal Br. 45–46, 48; Reply Br. 20–25. Thus, we sustain the § 103 rejection of these dependent claims for the same reasons as claims 1 and 14. *See* 37 C.F.R. § 41.37(c)(1)(iv).

The § 103 Rejection of Claims 2 and 15

Claim 2 depends from claim 1 and further requires “assigning the unused portion of the electronic coupon to another user device.” Appeal Br. 54. Claim 15 depends from claim 14 and includes a similar limitation. *Id.* at 57. As noted above, the § 103 rejection of claims 2 and 15 rests on Cheng, Brodson, and Mashinsky. *See* Final Act. 15–16; Ans. 3.

Appellant asserts that the Examiner erred in rejecting claims 2 and 15 because “Mashinsky makes no mention of an ‘unused portion’ of the coupon or that the unused portion is transferred, only that ‘an amount’ is transferred.” Appeal Br. 48–49; *see* Reply Br. 25–26. Appellant also asserts

that “[t]here is no teaching or suggestion that this amount is an ‘unused portion.’” Appeal Br. 48–49; *see* Reply Br. 25–26.

Appellant’s assertions do not persuade us of Examiner error. The Examiner correctly finds that Mashinsky “discloses an unused portion from one user (first user coupon balance) transfer[red] to a new use[r] (transferring coupon amount from [a] first user to a second user).” Ans. 11–12 (citing Mashinsky ¶ 88); *see* Final Act. 3, 15–16. Specifically, Mashinsky discloses a server that (1) receives an image file for a coupon, (2) identifies the coupon’s issuing party, (3) validates the “balance on the . . . coupon with the issuing party,” and (4) transfers “an amount from the . . . coupon of the first user to an account of a second user.” Mashinsky ¶ 88.

Appellant disagrees “that the ‘first user coupon balance’ of Mashinsky is an ‘unused portion.’” Reply Br. 25–26. But an obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim” because the analysis “can take account of the inferences and creative steps that a person of ordinary skill” would employ. *KSR*, 550 U.S. at 418. Here, a person of ordinary skill would recognize that a “balance” on a coupon corresponds to an “unused portion” according to the claims. Also, transferring “an amount from the . . . coupon of the first user to an account of a second user” would serve no purpose for an “amount” equal to zero. *See* Ans. 11. Transferring an “amount” to “an account of a second user” as disclosed in Mashinsky teaches or suggests assigning an “unused portion” to “another user device” according to the claims. *See* Final Act. 3. Thus, Mashinsky teaches or suggests the limitations in claims 2 and 15.

In addition, Cheng discloses “transactions of offers” including “transfers between or to users,” e.g., coupon transfers between users. Cheng ¶ 35. Thus, Cheng also teaches or suggests the limitations in claims 2 and 15.

For the reasons discussed above, Appellant’s arguments have not persuaded us that the Examiner erred in rejecting claims 2 and 15 for obviousness based on Cheng, Brodson, and Mashinsky. Thus, we sustain the § 103 rejection of claims 2 and 15.

The § 103 Rejection of Claim 19

As noted above, the § 103 rejection of claim 19 rests on Cheng and Mashinsky. *See* Final Act. 16–18; Ans. 3. Appellant argues that the Examiner erred in rejecting claim 19 because “the combination of Cheng and Mashinsky does not teach” the following limitation in claim 19: “program instructions to reassign an unused portion of the electronic coupon to another user device based on determining that the user device has departed the facility, wherein the unused portion of the electronic coupon includes a partial value of an original value of the coupon.” *See* Appeal Br. 50–52; Reply Br. 26.

Specifically, Appellant asserts that “Cheng makes no mention of assigning an unused portion of the electronic coupon to another user device” and that “Mashinsky does not cure the deficiencies of Cheng.” Appeal Br. 50; *see* Reply Br. 26. Appellant contends that “the Examiner has taken an overly broad interpretation of what is discussed in Mashinsky by mischaracterizing Mashinsky [sic] to teach transferring a ‘remaining amount’ when Mashinsky [sic] makes no mention of transferring a remaining amount.” Appeal Br. 51.

We disagree. As discussed above for claims 2 and 15, Mashinsky discloses a server that (1) receives an image file for a coupon, (2) identifies the coupon's issuing party, (3) validates the "balance on the . . . coupon with the issuing party," and (4) transfers "an amount from the . . . coupon of the first user to an account of a second user." Mashinsky ¶ 88. As additionally discussed above, a person of ordinary skill would recognize that a "balance" on a coupon corresponds to an "unused portion" according to claim 19. Also, transferring an "amount" to "an account of a second user" as disclosed in Mashinsky teaches or suggests reassigning an "unused portion" to "another user device" according to claim 19. *See* Final Act. 3.

For the reasons discussed above, Appellant's arguments have not persuaded us that the Examiner erred in rejecting claim 19 for obviousness based on Cheng and Mashinsky. Thus, we sustain the § 103 rejection of claim 19.

The § 103 Rejections of Claims 3 and 20

Claim 3 depends directly from claim 1, and claim 20 depends directly from claim 19. Appellant does not argue patentability separately for these dependent claims. *See* Appeal Br. 49–50, 52; Reply Br. 20–26. Thus, we sustain the § 103 rejections of these dependent claims for the same reasons as claims 1 and 19. *See* 37 C.F.R. § 41.37(c)(1)(iv).

CONCLUSION

We reverse the rejection of claims 21 and 22 under 35 U.S.C. § 112(a).

We affirm the rejection of claims 1–8, 10–17, and 19–22 under 35 U.S.C. § 101.

We affirm the rejections of claims 1–8, 10–17, and 19–22 under 35 U.S.C. § 103.

Because we affirm at least one ground of rejection for each claim on appeal, we affirm the Examiner’s decision to reject all of the claims on appeal. *See* 37 C.F.R. § 41.50(a)(1).

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–8, 10–17, 19–22	101	Eligibility	1–8, 10–17, 19–22	
1, 4–8, 10–14, 16, 17, 21, 22	103	Cheng, Brodson	1, 4–8, 10–14, 16, 17, 21, 22	
2, 15	103	Cheng, Brodson, Mashinsky	2, 15	
3	103	Cheng, Brodson, Voutour	3	
19	103	Cheng, Mashinsky	19	
20	103	Cheng, Mashinsky, Voutour	20	
21, 22	112(a)	Written Description		21, 22
Overall Outcome			1–8, 10–17, 19–22	

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