

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ALLIANCE LAUNDRY SYSTEMS, LLC,
Petitioner,

v.

PAYRANGE LLC,
Patent Owner.

PGR2025-00028
Patent 11,972,423 B2

Before MEREDITH C. PETRAVICK, JUSTIN T. ARBES, and
GEORGE R. HOSKINS, *Administrative Patent Judges*.

PER CURIAM.

DECISION
Granting Institution of Post-Grant Review
35 U.S.C. § 324

I. INTRODUCTION

A. Background and Summary

Petitioner Alliance Laundry Systems, LLC filed a Petition (Paper 1, “Pet.”) requesting post-grant review of claims 1–20 of U.S. Patent No. 11,972,423 B2 (Ex. 1001, “the ’423 patent”) pursuant to 35 U.S.C. § 321(a). Patent Owner PayRange LLC filed a Preliminary Response (Paper 9, “Prelim. Resp.”) pursuant to 35 U.S.C. § 323. Patent Owner’s

request for discretionary denial was denied and the Petition was forwarded to the Board. Paper 11.

Pursuant to 35 U.S.C. § 324(a), the Director may not authorize a post-grant review unless the information in the petition, if unrebutted, “would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.” *See* 37 C.F.R. § 42.4(a) (“The Board institutes the trial on behalf of the Director.”). For the reasons that follow, we institute a post-grant review as to claims 1–20 of the ’423 patent on all grounds of unpatentability asserted in the Petition.

B. Related Matters

The parties indicate that the ’423 patent is the subject of *Alliance Laundry Systems, LLC v. PayRange Inc.*, No. 1:24-cv-00733 (D. Del.) (“the district court case”), and was the subject of *PayRange Inc. v. Card Concepts, Inc.*, 6:24-cv-00339 (W.D. Tex.), and *PayRange Inc. v. Nayax Ltd.*, 6:24-cv-00340 (W.D. Tex.), which have been dismissed. *See* Pet. 5; Paper 3, 1–2. Petitioner filed petitions challenging other patents asserted in the district court case in PGR2025-00027, IPR2025-00573, and IPR2025-00950. The parties also identify, as related proceedings, CBM2020-00026, IPR2021-00086, IPR2023-01186, IPR2023-01187, IPR2023-01188, IPR2023-01449, PGR2021-00077, PGR2021-00084, PGR2021-00093, PGR2022-00035, PGR2023-00042, PGR2023-00045, and PGR2023-00050. *See* Pet. 1–4; Paper 3, 1–3. In PGR2021-00093, the Board issued a final written decision on December 14, 2022, determining that certain claims of U.S. Patent No. 10,891,614 B2 (“the ’614 patent,” a parent of the ’423 patent) were unpatentable. PGR2021-00093, Paper 38.

Patent Owner did not appeal the Board’s decision, and the Office issued a post-grant review certificate cancelling the unpatentable claims on March 27, 2023. *See* PGR2021-00093, Paper 39.

C. The ’423 Patent

The ’423 patent, titled “Method and System for Presenting Representations of Payment Accepting Unit Events,” issued on April 30, 2024. Ex. 1001, codes (45), (54). The ’423 patent claims priority, through a chain of patent applications, to a provisional patent application and a design patent application, both filed on December 18, 2013.¹ *Id.* at code (63), 1:5–40. The Specification, in the “Background” section, states the following:

As the number of people with Internet-connected mobile devices proliferates, so does the variety of uses for such devices. Mobile payment is a logical extension. There is a large development effort around bringing mobile payment to the retail sector in an effort to not only provide options to the user, but also increased convenience.

Id. at 2:16–21.

The ’423 patent describes “a mobile-device-to-machine payment processing system for processing transactions over a non-persistent network connection.” Ex. 1001, 5:66–6:2. The mobile-device-to-machine payment processing system may be a “payment accepting unit” (i.e., “equipment that requires payment for the dispensing of products and/or services,” such as a

¹ Because the earliest possible effective filing date for the ’423 patent is after March 16, 2013 (the effective date for the first inventor to file provisions of the America Invents Act) and the Petition was filed within nine months of its issue date, the ’423 patent is eligible for post-grant review. *See* 35 U.S.C. § 321(c).

vending machine, a parking meter, a toll booth, a laundromat washer and dryer, an arcade game, a kiosk, a photo booth, or a transit ticket dispensing machine). *Id.* at 1:60–2:4.

The '423 patent explains that some payment accepting units are capable of accepting cashless payments, such as “credit cards, debit cards, and alternative mobile device payment methods using, for example, smart phones.” Ex. 1001, 6:46–54. However, “traditional payment accepting units that accept cashless payments . . . require a persistent connection to a network (wired or wireless) to facilitate the cashless payments.” *Id.* Thus, “[i]f the network connection to a traditional machine is temporarily interrupted, cashless payments will be temporarily unavailable. If the machine is located in a location where no network connection is available, cashless payments is not possible.” *Id.* at 6:60–64.

The '423 patent purports to be able to solve this network connectivity problem by having a user's mobile device serve as an “intermediary” between the payment accepting unit and network. Ex. 1001, 6:5–10, 6:64–7:3. At the same time, the described system in the '423 patent purportedly also minimizes or even eliminates user interaction with the mobile device. *Id.* at 6:64–7:3. For example, one feature that the payment accepting unit may possess is a “manual (swipe to pay) mode.” *Id.* at 6:11–16. When a user's mobile device is brought within range of a payment accepting unit running this “manual” mode, a pre-installed mobile application on the mobile device automatically connects to the payment accepting unit. *Id.* at 7:19–22. The mobile device then connects to a server, which maintains a balance of the user's funds and authorizes the use of these funds. *Id.* at 10:23–26, 11:32–43. From there, the mobile application may

display the balance on the mobile device's touchscreen, which the user then "swipes" to transfer payment to the payment accepting unit, "just as if cash was inserted in the machine with the user inputting his selection on the payment accepting unit and the payment accepting unit dispensing the product or service." *Id.* at 7:22–31 (reference numbers omitted).

D. Illustrative Claim

Challenged claims 1, 13, and 15 of the '423 patent are independent. Claims 2–12 depend from claim 1, claim 14 depends from claim 13, and claims 16–20 depend from claim 15. Claim 1 recites the following (with number designations used in the Petition to refer to the various limitations):

1. A method of presenting representations of payment accepting unit events, comprising:

[1.1] at a mobile device with one or more processors, memory, one or more output devices including a display, and one or more radio transceivers:

[1.2] identifying one or more payment accepting units in proximity to the mobile device that are available to accept payment from a mobile payment application executing on the mobile device, [1.3] the identifying based at least in part on an identifier corresponding to the one or more payment accepting units, [1.4] wherein the one or more payment accepting units are payment operated machines that accept payment for dispensing of products and/or services;

[1.5] displaying a user interface of the mobile payment application on the display of the mobile device, [1.6] the user interface being configured to display a visual indication of the one or more payment accepting units and [1.7] accept user input selecting an available payment accepting unit of the one or more payment accepting units;

[1.8] establishing via the one or more radio transceivers a wireless communication path including the mobile device and the available payment accepting unit of the one or more payment accepting units;

[1.9] after establishing the wireless communication path, enabling user interaction with the user interface of the mobile payment application to complete a transaction with the available payment accepting unit;

[1.10] exchanging information with the available payment accepting unit via the one or more radio transceivers, in conjunction with the transaction; and

[1.11] after exchanging the information, displaying, on the display, an updated user interface of the mobile payment application to the user of the mobile device.

E. Evidence

Petitioner relies on the following prior art:

U.S. Patent No. 8,255,323 B1, filed Jan. 9, 2009, issued Aug. 28, 2012 (Ex. 1008, “Casey”);

U.S. Patent No. 8,958,846 B2, filed Aug. 23, 2006, issued Feb. 17, 2015 (Ex. 1007, “Freeny”);

U.S. Patent No. 9,898,884 B1, filed Apr. 4, 2013, issued Feb. 20, 2018 (Ex. 1006, “Arora”); and

U.S. Patent No. 10,210,501 B2, filed July 25, 2013, issued Feb. 19, 2019 (Ex. 1005, “Low”).

F. Prior Art and Asserted Grounds

Petitioner asserts that claims 1–20 of the ’423 patent are unpatentable under 35 U.S.C. § 101 and anticipated by, or would have been obvious on the basis of, prior art printed publications under 35 U.S.C. §§ 102 and 103:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–20	101	Eligibility
1–6, 8, 10, 12–20	102	Low
7, 9	103	Low, Arora
11	103	Low, Arora, Freeny, Casey

II. ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner argues that at the time of the ’423 patent,² a person of ordinary skill in the art would have had “an educational background of, or practical experience equivalent to, a bachelor’s degree in electrical engineering, computer engineering, computer science, or equivalent training, and approximately three years of experience with electronic payment systems, vending machine technologies, or distributed network systems,” where “[l]ack of work experience can be remedied by additional education, and vice versa.” Pet. 20 (citing Ex. 1003 ¶¶ 20–26). Patent Owner does not address the level of ordinary skill in the art in its Preliminary Response. Based on the record presented, including our review of the ’423 patent and the types of problems and solutions described in the ’423 patent and cited

² Petitioner states that it “takes no position on the proper priority date for the [c]hallenged [c]laims” and “uses the earliest possible priority date claimed, December 18, 2013,” for purposes of its asserted grounds. Pet. 14.

prior art, we agree with Petitioner’s definition and apply it for purposes of this Decision. *See, e.g.*, Ex. 1001, 1:42–2:21 (stating that “[t]he present application relates to the field of payment processing systems” and describing the functionality of payment accepting units in the “Background” section).

B. Claim Interpretation

We interpret each challenged claim

using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

37 C.F.R. § 42.200(b). Petitioner states that, “for purposes of [its] Petition, the Board need not construe any claim terms to resolve the parties’ disputes, and the claims should be given their ordinary and customary meaning.” Pet. 20. Patent Owner agrees that “[n]o constructions are necessary” to decide the issues disputed by the parties. Prelim. Resp. 2–3. We conclude that no express interpretation of any claim term is necessary to determine whether to institute a post-grant review in this proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“Because we need only construe terms ‘that are in controversy, and *only to the extent necessary* to resolve the controversy,’ we need not construe [a particular claim limitation] where the construction is not ‘material to the . . . dispute.’” (citation omitted) (emphasis added)).

C. Asserted Ground Under 35 U.S.C. § 101

1. Legal Standards

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

In determining whether a claim falls within an excluded category, we are guided by the Court’s two-part framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making waterproof cloth, vulcanizing India

rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

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

If the claim is “directed to” an abstract idea, we turn to the second part of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (quotation marks omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

In January 2019, the U.S. Patent and Trademark Office (USPTO) published revised guidance on the application of § 101. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Guidance”).³ “All USPTO personnel are, as a matter of internal agency management, expected to follow the guidance.” *Id.* at 51; *see also* October 2019 Update at 1.

Under the Guidance and the October 2019 Update, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes) (“Step 2A, Prong One”); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)) (“Step 2A, Prong Two”).⁴

Guidance, 84 Fed. Reg. at 52–55.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look, under Step 2B, to whether the claim:

- (3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or

³ We also have considered the October 2019 Patent Eligibility Guidance Update at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf (“October 2019 Update”).

⁴ This evaluation is performed by (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception, and (b) evaluating those additional elements individually and in combination to determine whether the claim as a whole integrates the exception into a practical application. *See* Guidance, Section III(A)(2), 84 Fed. Reg. 54–55.

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

Guidance, 84 Fed. Reg. at 52–56.

2. *Claim 1*

a) *Collateral Estoppel*

Petitioner argues that Patent Owner is collaterally estopped from arguing that claims 1–6, 8–10, 13, and 15–19 of the ’423 patent are not unpatentable under 35 U.S.C. § 101. Pet. 72–76. According to Petitioner, those claims are “materially identical” to claims of the ’614 patent that the Board determined to be unpatentable under 35 U.S.C. § 101 in PGR2021-00093. *Id.* at 73–76 (citing Ex. 1011, showing a redline comparison of the claims). Patent Owner disagrees, arguing that “Petitioner ignores multiple differences between” the ’423 patent claims challenged here and those of the ’614 patent. Prelim. Resp. 17–20. Patent Owner further contends that “the patent-eligibility inquiry under § 101 ‘requires that the claims be read as a whole’” and “Petitioner cites to no authority that collateral estoppel as to the issue of patent eligibility can be applied on a limitation-by-limitation basis.” *Id.* at 20–21.

For the reasons explained below, we conclude, on the merits and based on the current record, that Petitioner has shown that it is more likely than not that claim 1 is unpatentable as claiming patent-ineligible subject matter under 35 U.S.C. § 101. *See* Pet. 77–84. Accordingly, we need not determine at this time whether collateral estoppel applies based on the Board’s decision in PGR2021-00093. The parties, however, should address the issue in their papers during trial, with citations to relevant authority.

In particular, the parties are encouraged to address (1) how the collateral estoppel requirement that the issue be “identical to one decided in the first action” applies in the context of an asserted ground under 35 U.S.C. § 101, and (2) the parties’ apparent disagreement as to whether collateral estoppel may be applied in such circumstances on a “limitation-by-limitation basis.” See Pet. 72, 75 (quoting *Google LLC v. Hammond Dev. Int’l, Inc.*, 54 F.4th 1377, 1381 (Fed. Cir. 2022)); Prelim. Resp. 20–21; see also *Kroy IP Holdings, LLC v. Groupon, Inc.*, – F.4th –, No. 2023-1359, 2025 WL 2178321, at *4 (Fed. Cir. Aug. 1, 2025) (Dyk, J., dissenting) (“In subsequent Board proceedings, it is well established that collateral estoppel applies to claims adjudicated by the Board to be unpatentable and also to ‘related claims that present identical issues of patentability,’ i.e., patentably indistinct claims. . . . ‘It is well established that patent claims need not be identical for collateral estoppel to apply.’” (citing *MaxLinear, Inc. v. CF CRESPE LLC*, 880 F.3d 1373, 1377 (Fed. Cir. 2018); *Google*, 54 F.4th at 1381)).

b) Step 1: Statutory Category

Petitioner challenges claim 1 on the ground that the claim fails to recite patent-eligible subject matter under 35 U.S.C. § 101. Pet. 77–84. We first determine “whether the claim is to a statutory category (Step 1),” namely a process, machine, manufacture, or composition of matter. Guidance, 84 Fed. Reg. at 53–54. Claim 1 of the ’423 patent recites a “method,” which is a “process” that is statutory subject matter under 35 U.S.C. § 101.

c) *Step 2A, Prong 1: Whether the Claim Recites an Abstract Idea*

Under Step 2A, Prong 1 of the Guidance, we must determine whether claim 1 recites limitations that fall within any of the recognized categories of abstract ideas. The Guidance identifies certain groupings of abstract ideas that have been recognized under the case law: mathematical concepts, certain methods of organizing human activity, such as fundamental economic principles or practices, and mental processes. Guidance, 84 Fed. Reg. at 52. As part of this inquiry, we must examine the relevant limitations in the context of the claim language as a whole. *Alice*, 573 U.S. at 218 n.3. “The § 101 inquiry must focus on the language of the [a]sserted [c]laims themselves.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016); *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013) (“[T]he important inquiry for a § 101 analysis is to look to the claim.”).

Petitioner argues that claim 1 is directed to “identifying a merchant and enabling completion of a purchase from the merchant,” which “can be performed by a human in the mind or via oral, or written communication with a merchant.” Pet. 78. Claim 1 recites (with number designations used in the Petition):

[1.2] identifying one or more payment accepting units in proximity to the mobile device that are available to accept payment from a mobile payment application executing on the mobile device, [1.3] the identifying based at least in part on an identifier corresponding to the one or more payment accepting units, [1.4] wherein the one or more payment accepting units are payment operated machines that accept payment for dispensing of products and/or services;

[1.5] displaying a user interface of the mobile payment application on the display of the mobile device, [1.6] the user interface being configured to display a visual indication of the

one or more payment accepting units and [1.7] accept user input selecting an available payment accepting unit of the one or more payment accepting units;

[1.8] establishing via the one or more radio transceivers a wireless communication path including the mobile device and the available payment accepting unit of the one or more payment accepting units;

[1.9] after establishing the wireless communication path, enabling user interaction with the user interface of the mobile payment application to complete a transaction with the available payment accepting unit;

[1.10] exchanging information with the available payment accepting unit via the one or more radio transceivers, in conjunction with the transaction; and

[1.11] after exchanging the information, displaying, on the display, an updated user interface of the mobile payment application to the user of the mobile device.

Petitioner addresses each of the limitations above and explains how they support Petitioner's contention that the claim, as a whole, is directed to the alleged abstract idea. Pet. 78–81. Petitioner argues that limitations [1.2] and [1.3] recite “a customer using the generic mobile device to identify a merchant (i.e., a ‘payment accepting unit’) for purchasing goods based on an identifier,” which “can be done completely in the mind of the customer.” *Id.* at 78–79. Petitioner contends that limitation [1.4] merely limits the field of use of the alleged abstract idea to generic “payment operated machines that accept payment,” limitation [1.5] recites a generic “user interface” for performing a purchase, and limitation [1.8] recites generic “radio transceivers” for communication between the mobile device and payment accepting unit. *Id.* at 79–80. Petitioner further argues that the user interface functionality in claim 1 “merely ‘takes the place of the human acting as an intermediary,’ communicating with the customer and merchant.” *Id.* at 80.

In particular, Petitioner argues that the recited functionality is “akin to a customer seeing one or more merchants (limitation [1.6]), selecting one of those merchants (limitation [1.7]), and interacting with that merchant to complete a transaction” (limitation [1.9]). *Id.* According to Petitioner, the Specification of the ’423 patent describes these functions as being “performed using known, generic technology, such as an iPhone 5.” *Id.* at 79–80 (citing Ex. 1001, 2:9–15, 2:30–34, 9:9–25, 21:3, 36:14–33, 36:46–37:28). Finally, Petitioner argues that limitations [1.10] and [1.11] merely recite “a merchant communicating with a customer about a transaction.” *Id.* at 80–81.

Patent Owner responds that Petitioner “fails to apply the proper analysis” because it addresses each limitation individually and does not show that claim 1 as a whole is “directed to” an abstract idea. Prelim. Resp. 22–24. Patent Owner contends that “at step one” of the *Alice* inquiry, “it is not enough to merely identify a patent-ineligible concept underlying the claim, it must be determine[d] whether that patent-ineligible concept is what the claim is directed to.” *Id.* at 24 (quoting *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1050 (Fed. Cir. 2016)) (internal quotation marks omitted, alteration in original). Patent Owner also argues that “simply contending that the claims employ known or conventional components that existed in the prior art at the time of the invention is insufficient to establish that the claim is directed to an abstract idea at step one.” *Id.* at 23 (citing *Contour IP Holding LLC v. GoPro, Inc.*, 113 F.4th 1373, 1380 (Fed. Cir. 2024)). Patent Owner further contends that Petitioner “fail[s] to cite to any evidence to support its arguments (apart from unexplained citations to the patent’s [S]pecification and case law).” *Id.*

We determine that Petitioner has made a sufficient showing for Step 2A, Prong 1 based on the current record. Petitioner addresses each of limitations [1.2]–[1.11] and explains how they support Petitioner’s contention that the claim, as a whole, is directed to the alleged abstract idea. Pet. 78–81. For example, Petitioner notes specifically how limitation [1.2], reciting “identifying one or more payment accepting units,” pertains to identifying a merchant, and how limitations [1.6], [1.7], and [1.9] recite user interaction using the mobile device that enables the completion of a purchase. *Id.* Petitioner thus shows sufficiently how claim 1, by virtue of the limitations reproduced above,⁵ recites the concept of “identifying a merchant and enabling completion of a purchase from the merchant.” *Id.*

Petitioner also argues persuasively, on this record, that identifying a merchant and enabling completion of a purchase from the merchant is similar to other concepts held to be an abstract idea. *See* Pet. 78–79; *Universal Secure Registry LLC v. Apple Inc.*, 10 F.4th 1342, 1349–50 (Fed. Cir. 2021) (“The claims are directed to a method for enabling a transaction between a user and a merchant, where the merchant is given a time-varying code instead of the user’s secure (credit card) information.”); *cxLoyalty, Inc. v. Maritz Holdings, Inc.*, 986 F.3d 1367, 1376–77 (Fed. Cir. 2021) (“[C]laim 1 is directed to ‘facilitating, or brokering, a commercial

⁵ As explained further below in the context of Step 2A, Prong 2 and Step 2B of the Guidance, claim 1 recites that the method steps are performed “at a mobile device with one or more processors, memory, one or more output devices including a display, and one or more radio transceivers,” and also recites “one or more payment accepting units,” a “mobile payment application executing on the mobile device,” and a “user interface” of the mobile payment application displayed on the mobile device. *See infra* Sections II.C.2.d–e.

transaction (i.e., the sale and purchase of goods and services) between a purchaser using a first form of value (i.e., a rewards program participant using points in whole or in part) and a seller transacting in a second form of value (i.e., a vendor system which transacts purchases in currency).”); *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1372 (Fed. Cir. 2017) (“Taken together, the Asserted Claims are directed to the formation of financial transactions in a particular field (i.e., mass transit) and data collection related to such transactions.”); *In re AuthWallet, LLC*, No. 2022-1842, 2023 WL 3330298, at *3 (Fed. Cir. May 10, 2023) (“[T]he claims are directed to a method for processing financial transaction data that implements authorization requests and confers discounts and benefits upon the consumer.”); *In re Elbaum*, No. 2021-1719, 2021 WL 3923280, at *2 (Fed. Cir. Sept. 2, 2021) (“[T]he claim is directed to an abstract idea, specifically a method of providing information and allowing customers to utilize that information to engage in a commercial transaction.”); *Ex parte James*, Appeal No. 2018-005345, 2019 WL 2763407, at *7–8 (PTAB June 21, 2019) (affirming rejection of claims directed to “transmitting information to conduct financial transactions, including writing checks and maintaining an associated account ledger”). Patent Owner in its Preliminary Response does not address the cases cited by Petitioner or explain why they are inapplicable.

Based on the current record, Petitioner has shown sufficiently that claim 1 recites identifying a merchant and enabling completion of a purchase from the merchant, which falls within the enumerated “[c]ertain methods of organizing human activity” grouping of abstract ideas. *See* Guidance, 84 Fed. Reg. at 52.

d) Step 2A, Prong 2: Whether the Judicial Exception is Integrated Into a Practical Application

The Guidance provides that, if a claim recites an abstract idea, it must be further analyzed to determine whether the recited judicial exception is integrated into a practical application. Guidance, 84 Fed. Reg. at 53. Specifically, under Step 2A, Prong 2 of the Guidance, a claim reciting an abstract idea is not “directed to” the abstract idea “if the claim as a whole integrates the recited judicial exception into a practical application of that exception.” *Id.* Step 2A, Prong 2 is evaluated by “(a) [i]dentifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.” *Id.* at 54–55. “A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.” *Id.* at 53. One example in which a judicial exception may be integrated into a practical application is when the claim includes “[a]n additional element [that] reflects an improvement in the functioning of a computer, or an improvement to other technology or technical field.” *Id.* at 55.

Petitioner argues that

[o]ther than the abstract idea, [c]laim 1 recites only generic elements: (1) a mobile device, with one or more processors, memory, a display, and a radio transceiver; (2) an application, with a user interface, executing on the mobile device; (3) a payment accepting unit (i.e., a vending machine); and (4) a user interface which includes a visual representation of the payment accepting unit, an indication of a balance, and an

affordance that, in response to user input, indicates completion of the transaction.

Pet. 82. According to Petitioner, the generically-recited “mobile device,” “mobile payment application,” and “one or more payment accepting units” are “merely used as a tool” to perform the alleged abstract idea and do not integrate the exception into a practical application. *Id.*

Patent Owner responds that claim 1 recites a “specific method that is directed to an improvement over the way conventional payment operated machines can operate.” Prelim. Resp. 24. Patent Owner points specifically to the claim limitations reciting the identification of payment accepting units “based at least in part on an identifier corresponding to the one or more payment accepting units,” a user interface “configured to display a visual indication of the one or more payment accepting units” and “accept user input selecting an available payment accepting unit,” and, after establishing a wireless communication path, enabling user interaction with the user interface “to complete a transaction with the available payment accepting unit.” *Id.* at 25. Patent Owner argues that the conventional usage of a payment accepting unit involved the user approaching the unit, determining from the face of the unit what products are available, inserting payment, and inputting a selection into the unit’s user interface. *Id.* at 26 (citing Ex. 1001, 2:5–15). By contrast, according to Patent Owner, the claimed method “provides a user interface that improves upon such a traditional payment operated machine interface by extending its operating range,” “ensures that a user is interfacing with the desired payment operated machine and is able to complete the desired transaction,” and manages issues arising from “multiple users” or “multiple payment accepting units . . . available to [a] user.” *Id.* (citing Ex. 1001, 18:23–19:53, 23:9–24:15, 24:19–59).

We determine that Petitioner has made a sufficient showing for Step 2A, Prong 2 based on the current record. Claim 1 recites a “mobile device,” “mobile payment application,” “one or more payment accepting units,” and “user interface” as generic components at a high level of generality. And, as Petitioner points out, the Specification of the ’423 patent describes the use of generic technology. *See* Pet. 79. For example, the Specification states that “[m]obile devices include, but are not limited to smart phones, tablet or laptop computers, or personal digital assistants (PDAs), smart cards, or other technology (e.g., a hardware-software combination) known or yet to be discovered that ha[ve] structure and/or capabilities similar to the mobile devices described herein,” and discloses an application on the mobile device that can be “*any* software program(s) capable of implementing the features described herein.” Ex. 1001, 9:9–18 (emphasis added); *see also id.* at 21:2–6 (describing an iPhone 5 as the mobile device).

Petitioner persuasively argues that these components are merely used as a tool to identify a merchant and enable completion of a purchase from the merchant. *See* Pet. 82 (citing *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–95 (Fed. Cir. 2016) (concluding that the claims at issue were “directed to collecting and analyzing information to detect misuse and notifying a user when misuse is detected” and “the focus of the claims [was] not on . . . an improvement in computers as tools, but on certain independently abstract ideas that use computers as tools”) (second alteration in original)); *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1055 (Fed. Cir. 2017) (“The ‘focus of the claims’ is on the method of financing, and the recited generic computer elements ‘are invoked merely as

a tool.”); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016) (determining whether the claims at issue were focused on a “specific asserted improvement in computer capabilities” or “a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool”).

Patent Owner’s arguments also do not appear, on this record, to be commensurate with the language of claim 1. Patent Owner contends that the alleged technical improvement manages issues with “multiple users” and “multiple payment accepting units . . . available to [a] user,” but claim 1 recites a singular “user” of the mobile device and recites “one or more” payment accepting units (thus encompassing only one such unit). *See* Prelim. Resp. 26. Similarly, Patent Owner argues that the alleged technical improvement “extend[s] [the] operating range” of a “traditional payment operated machine interface,” but does not explain why that would be the case. *See id.* Indeed, claim 1 requires that the identified one or more payment accepting units be “in proximity to the mobile device.” It is the subject matter of the claims, not embodiments disclosed in the Specification, that we analyze. *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 769 (Fed. Cir. 2019) (“[A]ny reliance on the specification in the § 101 analysis must always yield to the claim language. . . . [T]he specification cannot be used to import details from the specification if those details are not claimed.”).

Finally, to the extent Patent Owner relies on the recited identification of one or more payment accepting units “based at least in part on an identifier,” the term “identifier” appears only once in the claim and is not used later in any respect, and Patent Owner does not explain why such use of

an “identifier” amounts to a technical improvement over the conventional usage of payment accepting units.

Based on the current record, Petitioner has shown sufficiently that claim 1 as a whole, looking at the additional limitations of the “mobile device,” “mobile payment application executing on the mobile device,” “one or more payment accepting units,” and “user interface,” does not integrate the recited abstract idea into a practical application. Petitioner has shown sufficiently that claim 1 is directed to identifying a merchant and enabling completion of a purchase from the merchant.

e) Step 2B: Whether the Claim Provides an Inventive Concept

Under the second step of the *Alice* inquiry, we “scrutinize the claim elements more microscopically” for additional elements that might be understood to “transform the nature of the claim” into a patent-eligible application of an abstract idea. *Electric Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (quoting *Alice*, 573 U.S. at 222–24). That is, we determine whether the claims include “an ‘inventive concept’—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Alice*, 573 U.S. at 217–18 (quoting *Mayo*, 566 U.S. at 72–73) (alteration in original). The relevant inquiry is whether “additional substantive limitations . . . narrow, confine, or otherwise tie down the claim so that, in practical terms, it does not cover the full abstract idea itself.” *Accenture*, 728 F.3d at 1344–45. If the claimed elements involve “well-understood, routine, [and] conventional activity previously engaged in,” they do not include an “inventive concept.” *Mayo*,

566 U.S. at 72–73. Notably, the patent eligibility inquiry may contain underlying issues of fact. *Mortgage Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325 (Fed. Cir. 2016). In particular, “[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018).

Consistent with the foregoing, under the Guidance, if a claim has been determined to be directed to a judicial exception at Step 2A, we must evaluate the additional elements individually and in combination at Step 2B to determine whether they provide an inventive concept (i.e., whether the additional elements amount to significantly more than the exception itself). Guidance, 84 Fed. Reg. at 56. We must consider in Step 2B whether an additional element or combination of elements: (1) “[a]dds a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present,” or (2) “simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception, which is indicative that an inventive concept may not be present.” *Id.*

Petitioner argues that claim 1 recites “a well-understood, routine, and conventional wireless mobile device” that “uses well-known, routine, and conventional elements operating as such elements do (including communication and display capabilities), to carry out the abstract idea of identifying a merchant and enabling completion of a purchase from the merchant,” citing supporting testimony from B. Clifford Neuman, Ph.D.

Pet. 83 (citing Ex. 1003 ¶¶ 292–293, 303–319). As to the combination of recited elements, Petitioner contends that

[t]aken as a whole, the steps of using a generic mobile phone to identify some information, display some information on the user interface of the mobile phone, accept user input via the user interface, and process and incorporate that user input, and then generally communicate with one or more other generic devices was well-understood, routine, and conventional.

Id. at 84 (citing Ex. 1003 ¶¶ 290–302).

Patent Owner refers to its earlier arguments regarding an alleged technical improvement, arguing that “the specific user interface elements and how those elements interact with the payment operated machine provide an improvement over traditional operation of such machines, which required a user to interact with a user interface provided on the machine itself.”

Prelim. Resp. 27. Patent Owner further contends that claim 1 “provide[s] a ‘concrete, specific solution’ to the operation of payment operated machines by reciting specific steps and user interface elements that enable the identification of and connection to an available machine and ensure the completion of a transaction with the machine through the mobile device’s user interface.” *Id.* at 27–28 (citing *CosmoKey Solutions GmbH & Co. KG v. Duo Security LLC*, 15 F.4th 1091, 1096, 1099 (Fed. Cir. 2021)).

We determine that Petitioner has made a sufficient showing for Step 2B based on the current record. Petitioner explains, with supporting testimony from Dr. Neuman, why claim 1 merely recites generic and conventional computer components (i.e., “mobile device,” “one or more processors,” “memory,” “one or more output devices including a display,” “one or more radio transceivers,” “one or more payment accepting units,” “application,” “user interface”) and functionality (i.e., “wireless

communication path”) for identifying a merchant and enabling completion of a purchase from the merchant. *See* Pet. 83–84; Ex. 1003 ¶¶ 290–319; *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) (“[A]fter *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible.”); *see also Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1341 (Fed. Cir. 2017) (holding that the claims at issue, which “recite[d] both a generic computer element—a processor—and a series of generic computer ‘components’ that merely restate their individual functions, . . . merely describe the functions of the abstract idea itself, without particularity,” which is “not enough under step two”); *Mortgage Grader*, 811 F.3d at 1324–25 (holding that “generic computer components such as an ‘interface’ . . . do not satisfy the inventive concept requirement”). Dr. Neuman’s opinion that the recited components were well-understood, routine, and conventional is supported by disclosures in the Specification of the ’423 patent. *See, e.g.*, Ex. 1003 ¶¶ 297 (a processor, memory, output device with a display, and radio transceiver are all “necessary for operation of, and found in, a conventional mobile device”), 298 (mobile device user interfaces, such as a keypad or touch screen, were well-known), 300 (payment accepting units, such as vending machines, parking meters, tool booths, etc., were well-known), 301 (wireless communication between a mobile device and vending machine, such as via Bluetooth, was well-known) (citing, e.g., Ex. 1001, 1:51–52, 9:16–24, 9:31–39, 9:55–57, 10:2–20, 12:30–39).

We also disagree with Patent Owner’s arguments on this record. Patent Owner does not identify or explain in any detail what “specific steps

and user interface elements,” or “specific” interactions with a payment operated machine, constitute an inventive concept. *See* Prelim. Resp. 27–28. Further, to the extent Patent Owner’s position is based on steps that enable the “identification” of an “available machine” and “ensure the completion of a transaction with the machine,” that is the abstract idea itself, not a specific limitation *beyond the judicial exception*, i.e., additional elements. *See id.* at 28. “[A] claimed invention’s use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention ‘significantly more’ than that ineligible concept.” *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018). Finally, the case relied upon by Patent Owner, *CosmoKey*, is distinguishable because the claims at issue recited “a specific improvement to authentication,” where the patent “disclose[d] a technical solution to a security problem in networks and computers” and described how the claimed steps “provide[] a technical improvement over conventional authentication methods.” 15 F.4th at 1098–99. Patent Owner does not point to, and we do not see, any similar technical problem or solution with respect to claim 1 of the ’423 patent.

Based on the current record, Petitioner has shown sufficiently that the limitations of claim 1, viewed individually and as an ordered combination, merely use well-understood, routine, and conventional computer components and functionality to identify a merchant and enable completion of a purchase from the merchant, and that claim 1 does not provide an inventive concept.

f) Conclusion

Based on the current record, Petitioner has shown sufficiently that, when considered individually and as an ordered combination, the elements of claim 1 do no more than apply a certain method of organizing human activity, namely identifying a merchant and enabling completion of a purchase from the merchant. *See Alice*, 573 U.S. at 217–18. Petitioner also has shown sufficiently on this record that claim 1 does not recite anything in a manner sufficient to transform that abstract idea into a patent-eligible invention. *See id.* Petitioner has shown on this record that claim 1 is more likely than not unpatentable as claiming patent-ineligible subject matter under 35 U.S.C. § 101.

3. Claims 2–20

Petitioner provides arguments regarding independent claims 13 and 15, and dependent claims 2–12, 14, and 16–20. Pet. 84–92. Patent Owner argues all of the challenged claims together. Prelim. Resp. 21–28. On this record, we disagree with Patent Owner’s arguments with respect to claim 1 and are persuaded that Petitioner has shown that it is more likely than not that claim 1 is unpatentable as claiming patent-ineligible subject matter under 35 U.S.C. § 101. *See supra* Section II.C.2. Accordingly, we need not determine at this time whether Petitioner also has shown that it is more likely than not that any of the other challenged claims are unpatentable. *See* 37 C.F.R. § 42.208(a).

D. Anticipation Ground Based on Low

Petitioner contends that claims 1–6, 8, 10, and 12–20 are anticipated by Low under 35 U.S.C. § 102(a) and (d), citing the testimony of Dr. Neuman as support. Pet. 21–47 (citing Ex. 1004). Patent Owner responds. Prelim. Resp. 3–16.

1. Legal Standards

“Anticipation requires that every limitation of the claim in issue be disclosed, either expressly or under principles of inherency, in a single prior art reference,” *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1255–56 (Fed. Cir. 1989), and that the claim limitations be “arranged or combined in the same way as recited in the claim,” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008). However, “the reference need not satisfy an *ipsissimis verbis* test.” *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009). “In an anticipation analysis, the dispositive question is whether a skilled artisan would ‘reasonably understand or infer’ from a prior art reference that every claim limitation is disclosed in that single reference.” *Acoustic Tech., Inc. v. Itron Networked Solutions, Inc.*, 949 F.3d 1366, 1373 (Fed. Cir. 2020) (citation omitted). Whether a reference anticipates is assessed from the perspective of an ordinarily skilled artisan. *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1336 (Fed. Cir. 2008) (“[T]he meaning of a prior art reference requires analysis of the understanding of an artisan of ordinary skill.”).

2. Low

Low is titled “Electronic Payments to Non-Internet Connected Devices Systems and Methods.” Ex. 1005, code (54).

Low describes how a user device such as a smart phone may be utilized to make wireless electronic payments for purchases at a non-Internet connected machine (“NICM”) such as a vending machine. *See* Ex. 1005, code (57), 1:17–19, 2:11–20. Figure 1 of Low is reproduced below.

FIG. 1

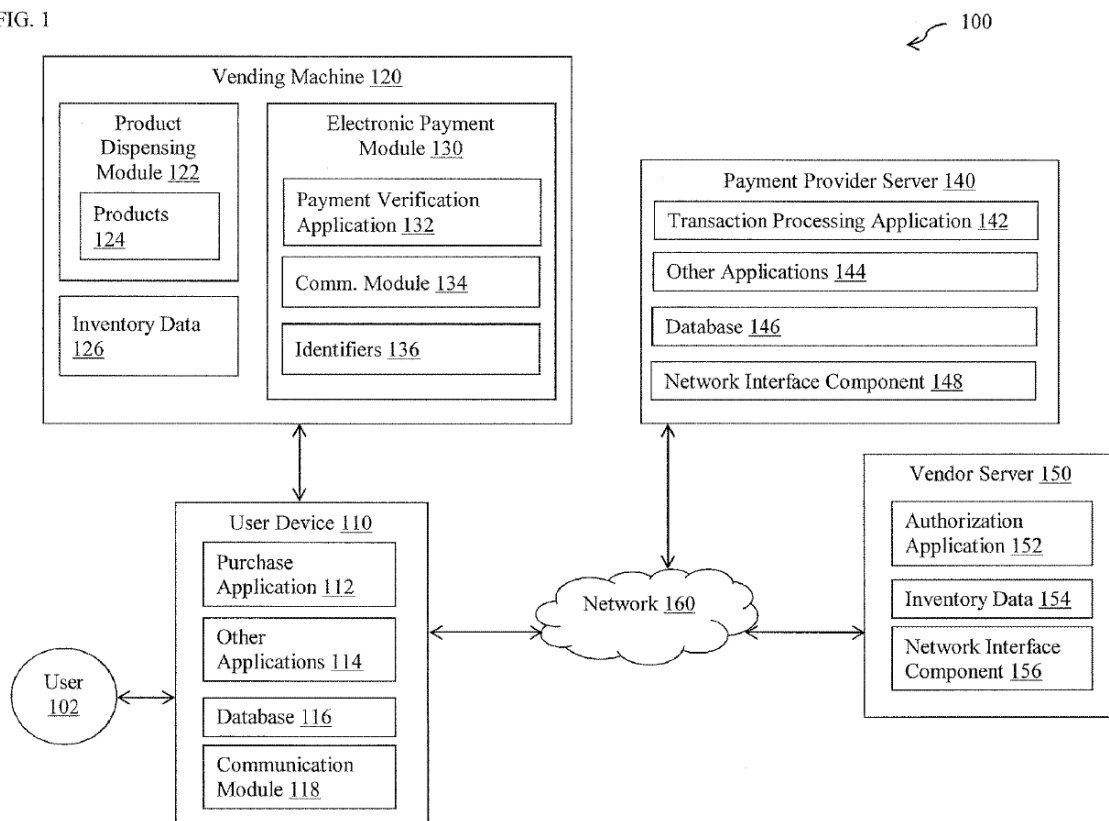


Figure 1 depicts a block diagram of Low’s networked system 100. *Id.* at 1:52–54, 2:63–3:2. System 100 includes user device 110 in wireless communication such as via Bluetooth with vending machine 120 (i.e., a NICM), and also in communication with payment provider server 140 and vendor server 150 through network 160 such as the Internet. *Id.* at 2:11–16, 3:18–25, 4:57–64, 8:48–52. User device 110 has purchase application 112

providing an interface that permits user 102 to select, purchase, and dispense products for sale at vending machine 120. *Id.* at 3:49–51, 3:57–63.

Figure 3 of Low is a flowchart illustrating an exemplary method 300 for user device 110 to make an electronic payment to vending machine 120. *See Ex. 1005*, 1:59–61, 10:1–5, Fig. 3. In step 302, communication module 118 of user device 110 wirelessly connects to communication module 134 of vending machine 120. *See id.* at 10:5–14, 11:36–43. User device 110 then receives information about items for sale from vending machine 120, along with “information corresponding to vending machine 120, such as a machine identifier.” *Id.* at 10:5–7, 10:14–17, 11:36–43.

In step 304, user 102 utilizes user device 110 and/or vending machine 120 to select a product to be purchased from vending machine 120. *See Ex. 1005*, 10:18–34 (“For example, user 102 may utilize user device 110 to view and select a product . . .”), 11:43–55.

In step 306, user device 110 transmits a purchase request to payment provider server 140 that: includes the machine identifier of vending machine 120; identifies the product to be purchased; identifies a funding source for the purchase; and provides other information. *See Ex. 1005*, 10:34–44, 11:56–63. Payment provider server 140 processes the purchase request and, if it is approved, in step 308 the server transmits to user device 110 an approval message including a payment authorization. *See id.* at 10:44–61, 11:64–12:8. User device 110 utilizes the payment authorization to cause vending machine 120 to dispense the purchased product. *See id.* at 10:57–61, 12:9–12.

Low further provides that “a user may not know a location of a NICM configured to accept electronic payments.” *Ex. 1005*, 9:16–18. In that

event, “the user may utilize a user device [110] to access payment provider server 140 and receive locations of available NICMs with lists of available products at each machine” as well as “directions, map coordinates, and/or a GPS location of [a] desired NICM.” *Id.* at 9:18–23.

3. Claim 1

Given our determination regarding Petitioner’s asserted ground under 35 U.S.C. § 101 as to claim 1, we need not determine at this time whether Petitioner has shown that it is more likely than not that claim 1 is anticipated by Low. *See supra* Section II.C.2; 37 C.F.R. § 42.208(a). Nonetheless, we address Patent Owner’s arguments concerning this asserted ground, to provide guidance to the parties for the upcoming trial.

a) Preamble and Limitations [1.1]–[1.4]

For the preamble of claim 1 and limitations [1.1] and [1.4], Petitioner contends that Low discloses a method of presenting representations of payment accepting unit events (i.e., vending machine 120 events) at a mobile device (i.e., user device 110) that has a processor, a memory, a display, and a radio transceiver, wherein vending machines 120 accept payment for dispensing of products. *See* Pet. 21–23, 25–26 (citing Ex. 1005, code (57), Figs. 4–5, 3:26–32, 3:40–44, 3:49–60, 4:57–59, 11:11–13, 12:39–56; Ex. 1003 ¶¶ 69–72, 77–78).

For limitations [1.2] and [1.3], Petitioner contends that Low’s user device 110 identifies one or more vending machines 120 that are available to accept payment from purchase application 112 executing on user device 110, wherein the identifying is based at least in part on an identifier (i.e., machine

identifier 136) corresponding to the identified vending machines 120. *See* Pet. 23–25 (citing Ex. 1005, Fig. 1, 2:16–20, 2:26–28, 6:16–21, 9:4–23; Ex. 1003 ¶¶ 73–76).

Patent Owner firstly argues that Petitioner “fails to explain how the identifiers 136 identify which of the [vending machines 120] are available to accept payment from the mobile payment application.” Prelim. Resp. 5. Patent Owner asserts that “limitations [1.2]–[1.3] require identifying a particular type of payment accepting unit—those that are ‘available’ to accept payment from the mobile application.” *Id.* According to Patent Owner, “it is not enough to show that limitations [1.2]–[1.3] are satisfied by identifying any payment accepting unit” because “the identifying must also identify the payment accepting unit as ‘available’ to accept payment.” *Id.* at 5–6, 24–27 (citing Ex. 1001, Figs. 1–2, 2:5–21, 9:57–65, 18:23–19:53, 23:9–24:15, 24:19–59). Thus, in Patent Owner’s view, Low falls short of limitations [1.2]–[1.3] because Petitioner does not explain how Low’s machine identifiers 136 “identify payment accepting units that are ‘available’ to accept payment from the mobile payment application.” *Id.* at 5–6 (citing Pet. 23–24; Ex. 1005, 6:16–21).

Based on the current record, we do not agree with Patent Owner’s claim construction that limitations [1.2]–[1.3] require the mobile device to determine that the one or more payment accepting units are “available” per claim 1. We conclude that it is sufficient for the mobile device to identify a payment accepting unit in proximity to the mobile device that is in fact available to accept payment from the mobile device, per the plain language of limitation [1.2] — “*identifying one or more payment accepting units in proximity to the mobile device that are available to accept payment from*

a mobile payment application executing on the mobile device.” Ex. 1001, 47:12–15 (emphasis added). We have reviewed the ’423 patent disclosures cited by Patent Owner, and they do not reflect that the claimed “identifying” includes an affirmative determination that the payment accepting unit is “available.” *See id.* at Figs. 1–2, 2:5–21, 9:57–65, 18:23–19:53, 23:9–24:15. Indeed, those disclosures do not use the term “available” to describe a payment accepting unit. *See id.* Further, we do not discern and Patent Owner does not explain how those disclosures might pertain to identifying some payment accepting units as being “available” versus other payment accepting units being “unavailable,” apart from simply identifying payment accepting units within the wireless communication range of the mobile device. *See* Prelim. Resp. 5–6, 26. In particular, Patent Owner’s terse descriptions of large swaths of disclosure in the ’423 patent Specification directed to multiple zone determinations and multiple user scenarios do not explain persuasively how those disparate disclosures relate to “available” payment accepting units in claim 1.⁶ *See id.*

Patent Owner also disputes Petitioner’s assertion that the identification in Low is performed “via identifiers 136.” Prelim. Resp. 6–7; *see* Pet. 24–25. Petitioner relies on Low’s disclosure that machine identifiers 136 may be “data associated with hardware of vending machine 120” or “other appropriate data used for authentication/identification of vending machine 120.” Pet. 25 (quoting Ex. 1005, 6:16–21; citing Ex. 1005,

⁶ To the extent the parties disagree as to the meaning of the “available” phrase in the claims, the parties are encouraged to address the issue in their papers during trial and propose an express claim interpretation, citing support in the claim language, Specification, and/or prosecution history of the ’423 patent.

2:16–20, 9:16–23); *see* Ex. 1003 ¶ 75. Patent Owner responds that “it is not clear from [the] cited portion of Low [at column 6, lines 16–21] how identifiers 136 that provide [the disclosed] data” would be used to identify a vending machine. Prelim. Resp. 6. According to Patent Owner, “[b]eyond merely quoting this portion of Low, Petitioner fails to provide any explanation specifically linking Low’s description of these identifiers 136 to the identification” of a vending machine. *Id.* Patent Owner similarly argues that Low’s description at column 9, lines 16–23 does not show identification “via identifiers 136” as Petitioner contends. *Id.* at 7 (emphasis omitted).

Patent Owner’s arguments, however, are focused on just some of Petitioner’s citations and not Low’s full disclosure. For example, Low discloses that the NICM “transmits a machine identifier to the user device, which allows the user device to retrieve a menu of items at the specific machine from the payment provider or an operator of the machine,” and the machine identifier received by the user device may be data “used for . . . identification” of a vending machine. Ex. 1005, 2:16–20, 6:16–21; *see* Pet. 25. The parties are encouraged to address the issue of how Low uses machine identifiers during trial.

b) Limitations [1.5] and [1.6]

For limitations [1.5] and [1.6], Petitioner contends that Low’s purchase application 112 displays a user interface on the display of user device 110, including a visual indication of the identified vending machine(s) 120. *See* Pet. 26–27 (citing Ex. 1005, 2:16–20, 2:24–28, 3:57–60, 8:66–9:2; Ex. 1003 ¶¶ 79–82).

Patent Owner firstly argues that Petitioner “fails to sufficiently explain how Low’s *machine identifier*—which the [P]etition maps to the claimed ‘visual indication’—is displayed on the user interface.” Prelim. Resp. 7–8 (citing Pet. 26–27; Ex. 1005, 2:16–20, 2:26–28, 8:66–9:2). Patent Owner asserts that “Low merely describes using this machine identifier as part of the communication transmissions between” user device 110 and payment provider server 140. *Id.* at 9–10 (citing Ex. 1005, 2:23–25, 2:46–49, 8:61–9:4, 9:8–13).

Based on the current record, it is not clear whether Petitioner argues that Low satisfies limitation [1.6] by user device 110 displaying a machine identifier 136 (specifically). *See* Pet. 26–27. Petitioner’s analysis of limitation [1.6] does conclude that Low teaches that the device’s interface is configured to display “a visual indication of the one or more payment accepting units (e.g., ‘machine identifier’).” *Id.* at 27 (citing Ex. 1003 ¶ 82 (identical conclusion)). To the extent Petitioner thereby contends that Low’s user device 110 specifically displays a machine identifier 136 on its display, we agree with Patent Owner’s argument that the cited disclosures in Low do not support that contention. *See* Ex. 1005, 2:16–20, 2:26–28, 8:66–9:2 (cited at Pet. 26–27).

However, in the discussion preceding that conclusion, Petitioner more generally asserts that Low teaches that when user device 110 receives machine identifiers 136 from multiple vending machines 120, “the user is able to select one or more machines to purchase from” and “*the user device 110 is configured to display the available machines* such that the user is able to interact with the display to select the one or more machines from which to make a purchase.” Pet. 27 (emphasis added). Based on the current

record, that more general contention is supported by the cited disclosures in Low.

In particular, Low states that user device 110 utilizes machine identifiers 136 to enable user 102 “to select one or more machines to purchase from.” Ex. 1005, 2:25–28. Based on the current record, we conclude that in order for the user to select a specific vending machine 120 to make a purchase, user device 110 would necessarily “display a visual indication” of that machine as broadly recited in limitation [1.6] (otherwise the user would not be able to make a selection).

Low further states that user device 110 utilizes machine identifiers 136 “to retrieve a menu of items at the specific machine from the payment provider or an operator of the machine” to be displayed on user device 110 for selection by user 102. Ex. 1005, 2:16–20, 2:23–25, 3:57–60. This disclosure is consistent with user device 110 displaying a visual indication of a particular vending machine 120 as the machine where the menu of items may be obtained.

Next, Patent Owner argues that “glaringly missing from Low’s disclosure is any depiction of a user interface, let alone what it displays to the user to complete a transaction.” Prelim. Resp. 4, 8–9 (citing Ex. 1005, Figs. 1–5, 2:16–20, 2:26–28, 8:66–9:2). For example, according to Patent Owner, Petitioner fails to explain “how [Low’s] user device ‘display[s] the available machines’ and what a [person of ordinary skill in the art] would have understood to be displayed as a visual indication of such machines.” *Id.* at 8–9 (citing Pet. 27).

Based on the current record, we agree with Patent Owner to the extent that Low does not provide much detail concerning exactly what is shown in

the display of user device 110 at various times throughout Low's purchase transaction. At the same time, however, claim 1 also is not very specific on this front. For example, limitation [1.6] merely requires the mobile device to be configured to display "a visual indication of" the identified payment accepting unit(s), and does not specify exactly when the visual indication must be displayed. Ex. 1001, 47:21–27. As discussed above, Low's disclosure appears to support Petitioner's contentions on this record.

For the foregoing reasons, Patent Owner's opposition to Petitioner's argument for limitations [1.5] and [1.6] is unavailing on the current record.

c) Limitations [1.7] and [1.8]

For limitation [1.7], Petitioner contends that Low's purchase application 112 displays a user interface configured to accept user input selecting an available vending machine 120. *See* Pet. 27 (citing Ex. 1005, 2:16–20, 2:26–28; Ex. 1003 ¶¶ 83–84). For limitation [1.8], Petitioner contends that Low's user device 110 establishes a wireless communication path (e.g., Bluetooth) with the selected vending machine 120. *See id.* at 28 (citing Ex. 1005, 2:11–16, 2:38–39, 8:24–28; Ex. 1003 ¶¶ 85–86).

Patent Owner argues that limitations [1.7]–[1.8] together "recite an ordered combination in which the user interface first accepts user input selecting an available payment accepting unit [per limitation [1.7]] and *then* a wireless communication path is established between the mobile device and the available payment accepting unit that was selected by the user input [per limitation [1.8]]." Prelim. Resp. 11. Patent Owner asserts that Petitioner fails to establish that Low discloses this ordered combination. *See id.* at 11–13 (citing Pet. 27–28; Ex. 1005, 2:11–20, 2:26–28, 2:38–39, 8:24–28).

Based on the current record, we do not agree with Patent Owner’s claim construction of limitations [1.7]–[1.8] whereby establishing the wireless communication path must occur *after* the user selects an available payment selecting unit. “Unless the steps of a method actually recite an order, the steps are not ordinarily construed to require one,” although “such a result can ensue when the method steps implicitly require that they be performed in the order written.” *Interactive Gift Express, Inc. v. CompuServe Inc.*, 256 F.3d 1323, 1342–43 (Fed. Cir. 2001). “[W]e look to the claim language to determine if, as a matter of logic or grammar, [the method steps] must be performed in the order written.” *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369 (Fed. Cir. 2003).

On this record, we discern no explicit or implicit requirement in the language of claim 1 that limitation [1.8] must be performed after limitation [1.7]. Indeed, in other instances claim 1 specifies that certain steps of the method must be performed “after” other steps. *See* Ex. 1001, 47:32 (“after establishing . . .”), 47:39 (“after exchanging . . .”). There does not appear to be any similar language requiring such an inter-relationship between limitations [1.7] and [1.8]. *See id.* at 47:21–31.

Furthermore, the ’423 patent Specification indicates that “the particular order in which the operations in FIGS. 27A–27B [illustrating an exemplary method of presenting representations of payment accepting unit events] have been described is merely for example purposes and is not intended to indicate that the described order is the only order in which the operations could be performed.” Ex. 1001, 37:29–32, 39:38–48. The ’423 patent Specification also indicates that, in at least some embodiments, establishing the wireless communication path may occur *before* the user

selects an available payment accepting unit. *See id.* at 24:17–59 (discussing a user encountering multiple payment accepting units in the same authorization zone, wherein the user’s mobile device establishes wireless communication with all of the units before the user selects a unit for a purchase transaction); *see also id.* at 7:13–22 (when a mobile device is in manual mode, it “automatically connects to” a payment accepting unit “when the user is within range”). Thus, Patent Owner’s ordered combination claim construction of limitations [1.7]–[1.8] is not supported by the ’423 patent Specification.⁷

As a result, even if Low’s disclosure is limited to establishing a wireless communication path between user device 110 and a selected vending machine 120 before user 102 selects the machine for a purchase, this does not distinguish Low from claim 1.

Patent Owner also repeats its argument, made for limitation [1.6], disputing Petitioner’s assertion that a person of ordinary skill in the art would have understood Low’s user device 110 to display the “available” machines from which the user can select. *See Prelim. Resp.* 12 (citing *Pet.* 27). We address that argument with respect to limitation [1.6] above. *See supra* Section II.D.3.b.

For the foregoing reasons, Patent Owner’s opposition to Petitioner’s argument for limitations [1.7] and [1.8] is unavailing on the current record.

⁷ To the extent the parties disagree as to whether the claim requires a timing relationship between limitations [1.7] and [1.8], the parties are encouraged to address the issue in their papers during trial, citing support in the claim language, Specification, and/or prosecution history of the ’423 patent, as well as supporting case law.

d) Limitation [1.9]

For limitation [1.9], Petitioner contends that Low's user device 110, after establishing a wireless communication path with the selected vending machine 120, enables user interaction with the user interface of purchase application 112 to complete a transaction with the selected vending machine 120. *See* Pet. 28–31 (citing Ex. 1005, Figs. 1, 3, 8:22–28, 10:1–3; Ex. 1003 ¶¶ 87–89).

Patent Owner argues that “none of the portions of Low relied upon in the [P]etition explain that *user interaction is enabled ‘to complete a transaction’* with the available vending machine selected by the user after the wireless communication path between the user device and vending machine is established.” Prelim. Resp. 14 (emphasis added). Patent Owner asserts that “Low does not depict or describe in detail the user interface that is provided on the user device 110” as discussed above in connection with limitation [1.6], and “Low is . . . silent on whether user interaction with the user interface of the mobile device is enabled ‘to complete a transaction’ after . . . a communication link has been established.” *Id.* (citing Ex. 1005, 8:24–28). For example, according to Patent Owner, “Petitioner’s reliance on Low’s Figure 3 does not illuminate what, if any, user interaction is enabled on the user interface ‘to complete the transaction.’” *Id.* at 14–15 (citing Pet. 29–30; Ex. 1005, Fig. 3, 10:5–7, 10:18–29, 10:41–61).

Based on the current record, we agree with Petitioner’s contention that Low’s purchase application 112 enables a user to interact with the user interface of user device 110 to complete a transaction. Specifically, Petitioner cites Figure 3 of Low, which illustrates method 300 for user device 110 to make an electronic payment to a selected vending

machine 120. *See* Ex. 1005, Fig. 3, 10:1–5. In step 304 of method 300, “user 102 may utilize user device 110 to . . . select a product” to be purchased from vending machine 120. *Id.* at 10:18–34. Low describes elsewhere that, in order to enable a user to select products to be purchased, user device 110 “retrieve[s] a menu of items at the specific machine [120]” and “[t]he menu is then displayed on the user device [110], and the user selects desired item(s) for purchase.” *Id.* at 2:16–25 (cited at Pet. 26 in relation to the “displaying” limitation [1.5]). This user selection of products to be purchased from a selected vending machine 120 utilizing the user interface of user device 110 is a necessary part of “complet[ing] a transaction” per limitation [1.9].

As discussed above in connection with limitation [1.6], we agree with Patent Owner to the extent that Low does not provide much detail concerning exactly what is shown in the display of user device 110. At the same time, however, claim 1 also is not very specific on this front. For example, limitation [1.9] merely requires the mobile device to enable user interaction with the user interface to complete a transaction, which is satisfied by the disclosures of Low discussed above.

For the foregoing reasons, Patent Owner’s opposition to Petitioner’s argument for limitation [1.9] is unavailing on the current record.

e) Limitations [1.10] and [1.11]

Patent Owner does not dispute Petitioner’s contentions for the remaining limitations [1.10] and [1.11] of claim 1. *See* Pet. 31–32; Prelim. Resp. 3–16. Thus, there is nothing further for us to address in this regard at this time. *See supra* Section II.C.2; 37 C.F.R. § 42.208(a).

4. *Claims 2–6, 8, 10, and 12–20*

Petitioner contends that claims 2–6, 8, 10, and 12–20 are anticipated by Low. Pet. 33–47. Patent Owner argues independent claims 1, 13, and 15 together, and does not argue separately any of the challenged dependent claims. *See* Prelim. Resp. 16. We address Patent Owner’s arguments as to claim 1 above. *See supra* Section II.D.3. Given our determination regarding Petitioner’s asserted ground under 35 U.S.C. § 101 as to claim 1, we need not determine at this time whether Petitioner has shown that it is more likely than not that claims 2–6, 8, 10, and 12–20 are anticipated by Low. *See supra* Section II.C.2; 37 C.F.R. § 42.208(a).

E. Obviousness Grounds

Petitioner contends that claims 7 and 9 are unpatentable over Low and Arora, and claim 11 is unpatentable over Low, Arora, Freeny, and Casey, under 35 U.S.C. § 103. Pet. 47–71. Patent Owner relies on its arguments regarding parent claim 1, and does not argue separately any of claims 7, 9, and 11. *See* Prelim. Resp. 16. Given our determination regarding Petitioner’s asserted ground under 35 U.S.C. § 101 as to claim 1, we need not determine at this time whether Petitioner has shown that it is more likely than not that claims 7, 9, and 11 are unpatentable based on the asserted obviousness grounds. *See supra* Section II.C.2; 37 C.F.R. § 42.208(a).

III. CONCLUSION

Based on the arguments presented in the Petition, we conclude that Petitioner has demonstrated that it is more likely than not that at least one claim of the ’423 patent challenged in the Petition is unpatentable.

Accordingly, we institute a trial on all claims and all grounds asserted in the Petition. The Board has not made a final determination under 35 U.S.C. § 328(a) with respect to the patentability of the challenged claims.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 324(a), a post-grant review of claims 1–20 of the '423 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 324(c) and 37 C.F.R. § 42.4(b), post-grant review of the '423 patent shall commence on the entry date of this Decision, and notice is hereby given of the institution of a trial.

PGR2025-00028
Patent 11,972,423 B2

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