

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CSC SERVICEWORKS, INC.,
Petitioner,

v.

PAYRANGE INC.,
Patent Owner.

IPR2023-01187
Patent 10,438,208 B2

Before KEN B. BARRETT, MEREDITH C. PETRAVICK, and
STACEY G. WHITE, *Administrative Patent Judges*.

BARRETT, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background and Summary*

CSC ServiceWorks, Inc. (“Petitioner”)¹ filed a Petition requesting *inter partes* review of U.S. Patent No. 10,438,208 B2 (“the ’208 patent,” Ex. 1001). Paper 1 (“Pet.”). The Petition challenges the patentability of claims 1–20 of the ’208 patent. Pet. 10. PayRange Inc. (“Patent Owner”)² filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”). With our authorization, Petitioner filed a Preliminary Reply (Paper 7) and Patent Owner filed a Preliminary Sur-reply (Paper 8).

An *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). Having considered the arguments and evidence presented by Petitioner and Patent Owner, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing on at least one of the challenged claims of the ’208 patent. Accordingly, we do not institute an *inter partes* review of the challenged claims.

B. *Related Proceedings*

Both parties identify, as matters involving or related to the ’208 patent, *PayRange Inc. v. CSC ServiceWorks, Inc.*, No. 1:23-cv-00278 (D. Del.) and *PayRange Inc. v. CSC ServiceWorks, Inc.*, No. 1:22-cv-00502 (D.

¹ Petitioner identifies CSC ServiceWorks, Inc. as the real party-in-interest. Pet. 76.

² Patent Owner identifies PayRange Inc. as the real party-in-interest. Paper 6, 1.

Del.). Pet. 76; Paper 4, 1. Patent Owner also identifies, as related matters, *PayRange Inc. v. Kiosoft Techs., LLC*, No. 1-20-cv-20970 (S.D. Fla.) and *PayRange Inc. v. KioSoft Techs., LLC*, No. 1-20-cv-24342 (S.D. Fla.). Paper 4, 1. Patent Owner additionally identifies, as related matters, several Board proceedings that involve patents other than the '208 patent.³ *See id.* at 1–2.

C. The '208 Patent

The '208 patent pertains to “interacting with an unattended machine by communicating with an electronic payment device that is coupled with an internal interface of the unattended machine.” Ex. 1001, 1:23–26. In particular, the '208 patent pertains to:

interacting with the unattended machine using detectable trigger conditions (e.g., detected by a mobile device that is communicating with the electronic payment device that is coupled with the internal interface of the unattended retail machine) and limited-scope authorization grants (e.g., temporary authorization grants that expire upon satisfaction of one or more predetermined criteria).

Id. at 1:26–33. The '208 patent describes “a mobile-device-to-machine payment system for facilitating a cashless transaction for purchase of at least one product or service by a user from a payment accepting unit [*e.g.*, a vending machine] that preferably has input mechanisms.” *Id.* at 3:63–65; 10:15–16. “The user has a mobile device [*e.g.*, a smart phone] that has both short-range communication technology and long-range communication technology.” *Id.* at 3:65–4:1; 13:2–3. An “adapter module [also referred to

³ Petitioner asserts that “there has been one prior PGR [post-grant review] challenging the '208 patent,” and cites PGR2021-00084. Pet. 9. The petition in that PGR challenged U.S. Patent No. 10,891,608 B2, not the '208 patent.

as an electronic payment device] is associated with the payment accepting unit and has short-range communication technology for communicating with the short-range communication technology of the mobile device.” *Id.* at 4:3–6; 10:11–12.

Figure 2 is reproduced below.

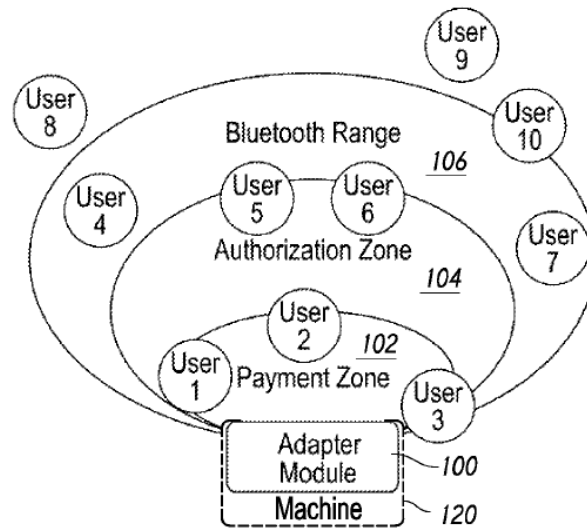


FIG. 2

Figure 2 is “a schematic diagram that shows . . . three zone[s] . . . with multiple users therein, the mobile-device-to-machine payment systems providing for managing and resolving multiple users.” *Id.* at 6:58–61.

When users, *e.g.*, users 4 and 7 as shown in Figure 2 above, are in the Bluetooth range 106, the users’ mobile phones are able to see the adapter module’s 100 advertisement for the vending machine items. *Id.* at 27:44–47. When a user enters the authorization zone 104, the adapter module 100 and the mobile device enter into a non-exclusive connection initiated by the mobile device 150, and a handshake occurs “(e.g. to exchange information needed to obtain authorization and, optionally, to log information needed for a self-calibrating authorization zone threshold).” *Id.* at 27:53–60. “After a successful handshake with the adapter module 100, the mobile device 150

registers the adapter module 100 and the adapter module 100 requests an authorization to the server 130 via the mobile devices' network connection (e.g. a WiFi or cellular connection . . .).” *Id.* at 23:30–35. “An authorization occurs in preparation for when the user enters the payment zone 102,” and” “[a]n authorization expires in a set period of time (for example, five minutes).” *Id.* at 23:40–42.

In the payment zone 102, the payment can be triggered automatically if the system has and is in hands-free mode. In such instances, the mobile device 150 is running the app 140 in background mode and will send credit to the payment accepting unit 120 without any explicit user interaction. The user completes the transaction on the payment accepting unit 120 in much the same manner as if cash had been inserted into the payment accepting unit 120 to establish credit.

Id. at 23:59–66. “In manual mode, the user launches the mobile application 140 in the mobile device 150 and is able to swipe to send payment to the payment accepting unit 120.” *Id.* at 24:11–14. “Like in hands-free mode, the purchase transaction is completed on the payment accepting unit 120 in the same manner as if cash were inserted into the payment accepting unit 120.” *Id.* at 24:15–18.

Figure 5 is reproduced below.

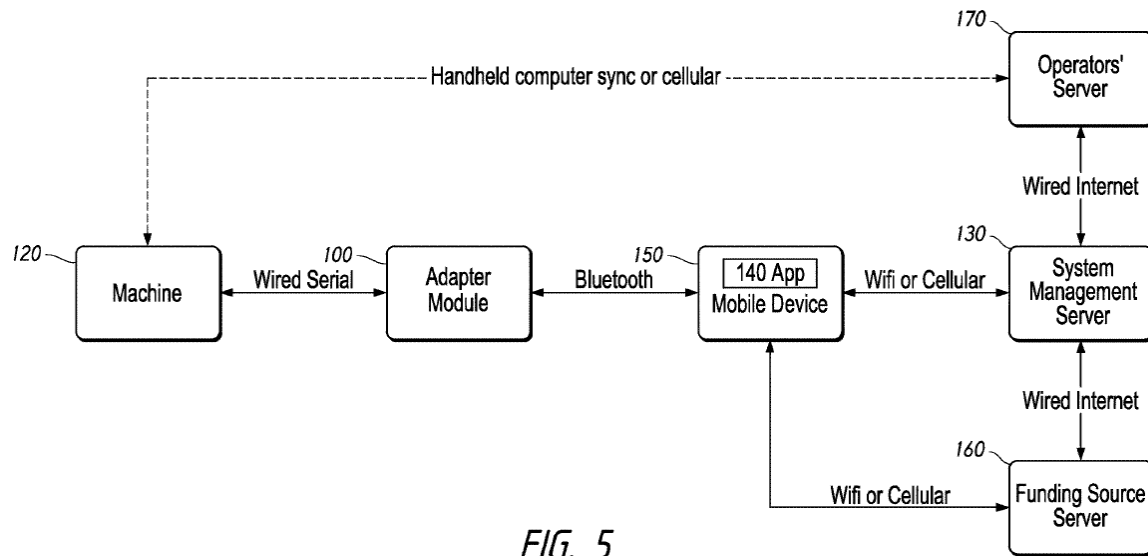


FIG. 5

Figure 5 shows a block diagram with the system elements, including the adapter module, the machine, the mobile device, and servers. *Id.* at 6:66–7:2. As shown in Figure 5, adapter module 100 connects to mobile device 150 and payment accepting unit (machine) 120.

D. Illustrative Claim

Of the challenged claims of the '208 patent, claims 1, 12, and 17 are independent claims. Claim 1, reproduced below with Petitioner's annotations, is illustrative.

1. [1(pre)] A method, comprising:

[1(a)] at a mobile device with one or more processors, memory, and a communications unit, and prior to user selection of any items or services provided by an automatic retail machine:

[1(b)] notifying an electronic payment device coupled with the automatic retail machine that the mobile device has entered an authorization zone associated with the automated retail machine:

[1(c)] in response to notifying the electronic payment device that the mobile device has entered the authorization zone, receiving from the electronic payment

device, via the communications unit, a request to preemptively obtain authorization to make funds available for cashless transactions with the automatic retail machine;

[1(d)] sending the request to a server via the communications unit;

[1(e)] in response to sending the request to the server, receiving, from the server, an authorization grant of an amount of funds corresponding to a maximum amount associated with an item or service provided by the automatic retail machine, wherein the authorization grant expires upon satisfaction of one or more predetermined criteria;

[1(f)] detecting, by an application executing on the mobile device, a trigger condition to initiate a cashless transaction with the automatic retail machine; and

[1(g)] in response to detecting the trigger condition and in accordance with a determination that the one or more predetermined criteria have not been satisfied, sending to the electronic payment device the authorization grant via the communications unit, enabling a user to select an item or service provided by the automatic retail machine for less than or equal to the amount of funds.

Ex. 1001, 33:35–34:3.

E. Evidence

Petitioner relies on the following references:

Name	Reference	Exhibit(s)
Freeny	US 8,958,846 B2, issued Feb. 17, 2015	1004
Canter	US 2013/0054016 A1, issued Feb. 28, 2013	1006
Kou	PAYMENT TECHNOLOGIES FOR E-COMMERCE (Weidong Kou, ed., 2003)	1005

Petitioner also relies on the declaration of Dr. B. Clifford Neuman (Ex. 1003) in support of its arguments.

F. Asserted Grounds of Unpatentability

Petitioner asserts that the challenged claims are unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §⁴	Reference(s)/Basis
1, 2, 5–13, 16–18	103	Freeny, Kou
3, 4, 14, 15, 19, 20	103	Freeny, Kou, Canter

II. ANALYSIS

A. Principles of Law

Petitioner bears the burden of persuasion to prove unpatentability of the claims challenged in the Petition, and that burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4), if present, any objective evidence of

⁴ The Leahy-Smith America Invents Act (“AIA”) includes revisions to 35 U.S.C. §§ 102 and 103 that became effective on March 16, 2013. Because the earliest filed application identified in the ’208 patent has a filing date of December 18, 2013 (*see* Ex. 1001, codes (60), (63), 1:6–19), we apply the AIA version of the statutory provisions.

obviousness or non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. The Level of Ordinary Skill in the Art

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (quoting *Custom Accessories, Inc. v. Jeffrey–Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed.Cir.1986)).

Petitioner contends that:

A person of ordinary skill in the art (“POSITA”) of the ‘208 patent in December of 2013 would have had 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. Additional education can substitute for less work experience, and vice versa.

Pet. 6–7 (citing Ex. 1003 ¶ 19). Patent Owner does not address the level of ordinary skill in the art.

Petitioner’s definition is consistent with the level of ordinary skill reflected in the prior art references of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (recognizing that the prior art itself may reflect an appropriate level of skill in the art). For purposes of this decision, we apply Petitioner’s definition of the person of ordinary skill in the art.

C. Claim Construction

We apply the same claim construction standard used in district court actions under 35 U.S.C. § 282(b), namely that articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). In applying that standard, claim terms generally are given their ordinary and customary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips*, 415 F.3d at 1312–13. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

Petitioner states that, “for the purposes of this proceeding, the terms of the challenged claims should be given their plain and ordinary meaning, and no terms require specific construction.” Pet. 7.

Patent Owner states that “the petition fails to account for all limitations at issue,” and, “[a]s such, no constructions are necessary to deny institution because the petition facially fails to show that the references satisfy the plain language of the claims.” Prelim. Resp. 5.

Thus, neither party contends that any claim construction is necessary at this time. On this record and for purposes of this decision, we determine that no claim terms require express construction.

D. The Alleged Obviousness of Claims 1, 2, 5–13, and 16–18 over Freeny and Kou (Ground 1)

Petitioner alleges that claims 1, 2, 5–13, and 16–18 of the ’208 patent would have been obvious over Freeny in view of Kou. *See* Pet. 11–67.

Patent Owner argues that the Petition is flawed because “Petitioner relies on multiple distinct embodiments in Freeny without explaining how or why a POSITA [(person of ordinary skill in the art)] would have combined them,” and because “[t]he petition also fails to show that the references teach numerous limitations.” Prelim. Resp. 9–10.

For reasons discussed below, Petitioner has not shown a reasonable likelihood that it would prevail in establishing unpatentability of the claims challenged in this ground.

1. Freeny (Ex. 1004)

Freeny is titled “Communication and Proximity Authorization Systems.” Ex. 1004, code (54). Freeny discloses “[a] proximity service unit for providing at least one predetermined service for use with multiple types of wireless devices.” *Id.*, code (57) (Abstr.).

Freeny discloses a Proximity Authorization Transaction System that improves upon and makes operative proximity systems using an Advanced Wireless Authorization Unit (AWAU). *Id.* at 9:47–54. The system operates with different types of wireless devices. *Id.* at 10:3–7.

Figure 7 is reproduced below.

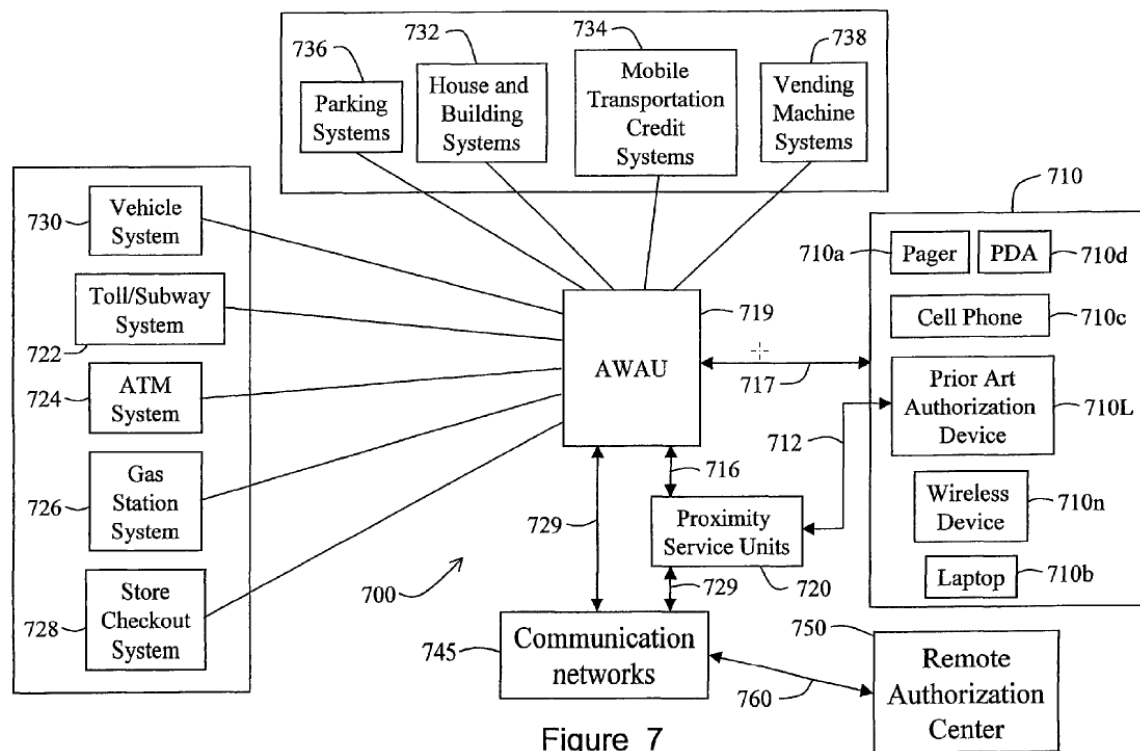


Figure 7

Figure 7 is a block diagram of proximity systems that can operate with the AWAU of Freeny. *Id.* at 3:1–3. Freeny describes connecting the AWAU to proximity service units, such as toll/subway systems, ATM systems, gas station systems, store checkout systems, vehicle systems, parking systems (including parking meters), mobile transportation credit systems such as used in taxis and buses, house and building systems, and vending machine systems. *Id.* at 9:60–10:1. Wireless devices include digital cell phones, pagers, computers, PDAs, and specialty devices. *Id.* at 10:5–7.

Freeny discloses wireless transaction authorizations. “The AWAU 719 is provided with a multiple channel wireless transceiver 740,” and “[t]he multiple channel wireless transceiver 740 receives a request authorization code from each of a plurality of the wireless devices 710a-n.” *Id.* at 11:18–23. “Each wireless device 710a-n is capable of communicating

the request authorization code when the wireless device is within a predetermined proximity distance from the multiple channel wireless transceiver 740 [of the AWAU 719].” *Id.* at 11:26–29.

Freeny also discloses a master proximity authorization system. *Id.* at 30:46–52. “Master proximity authorization system 2900 is provided with a proximity authorization unit 2910 . . . for activating a plurality of proximity service units 2920 incorporating features of [Freeny’s system].” *Id.* at 30:52–56. “Each of the proximity service units 2920 provide a predetermined service when activated in response to receiving a request authorization code.” *Id.* at 30:59–62.

[T]he proximity service unit 2920 can be activated either automatically or manually by the proximity authorization unit 2910. For example, when the proximity service unit 2920 is a toll booth system, the toll booth system can be activated either automatically or manually by the proximity authorization unit 2910 when the vehicle is within a predetermined distance of the toll booth system. Further, dual signaling modes can be utilized. For example, the authorization process using the request authorization codes, such as owner codes delivered to the toll booth system from the proximity authorization unit 2910 can be activated for example at a first proximity distance, and the gate or light signal showing approval is done at a closer second proximity distance.

Id. at 32:31–44.

As another example, the proximity service unit 2920 can also be the ATM system, or the vending machine system. The ATM system or the vending machine system can be activated either automatically or manually by the proximity authorization unit 2910 when the person is within a predetermined proximity distance of the ATM system or the vending machine system. The authorization process using the request authorization code transmitted to the ATM system or the vending machine system can be activated for example at one distance for services not requiring the owner of the proximity authorization unit 2910 to

physically use the menu on the ATM system or the vending machine system. In accordance with the present invention, if the owner of the proximity authorization unit 2910 needs to physically use the menu on the ATM system or the vending machine system, the menu operation can be enabled at a closer distance using the signal strength detected by the wireless adapter element 3180, for example. In the case of the ATM system and the vending machine system, the request authorization code can be transmitted to the wireless adapter element 3180 to begin the authorization process, and a physical connection between the proximity authorization unit 2910 and the physical adapter element 3170 can be used to activate the menu services.

Id. at 32:49–33:4.

2. *Kou (Ex. 1005)*

Kou is a book titled “Payment Technologies for E-Commerce,” and contains a chapter titled “Micropayments.” *See* Ex. 1005, 1, 9.⁵ Kou describes technologies useful for “a micropayment system,” where low-value transactions of amounts less than the “substantial” minimum credit card transaction fees (*e.g.*, 20 cents) drive the need for an alternative to credit card payments. *Id.* at 245. Kou focuses on “micropayments mechanisms that are operated by one or more payment service provider (PSP), allowing merchants to charge small amounts from customers.” *Id.* at 246. “Payment protocols include mechanisms for *payment approval* by the customer, where the customer agrees to pay, as well as *payment authorization* by the PSP, where the PSP indicates that there are funds to cover the payment.” *Id.* at 247.

⁵ This citation is to the pages of the exhibit. Hereinafter, we, like the parties, cite to the page numbers in the underlying book rather than the exhibit page numbers.

In [some] scenarios, the PSP is not ‘on the path’ between the consumer and merchant, and therefore either consumer or merchant should contact it to request authorization for payment when required. . . . In most micropayment systems, the consumer contacts the PSP to approve the payment and to request the PSP to authorize the PO [(purchase order)]. For technical reasons, namely, allowing the PSP to operate as an efficient server application, the PSP sends the authorized PO as a response to the consumer, who forwards it to the merchant. The merchant will later (offline) deposit the PO, often in a batch process with many other payment orders, to receive the aggregated payment.

Id. at 248. Figure 12.3 of Kou is reproduced below.

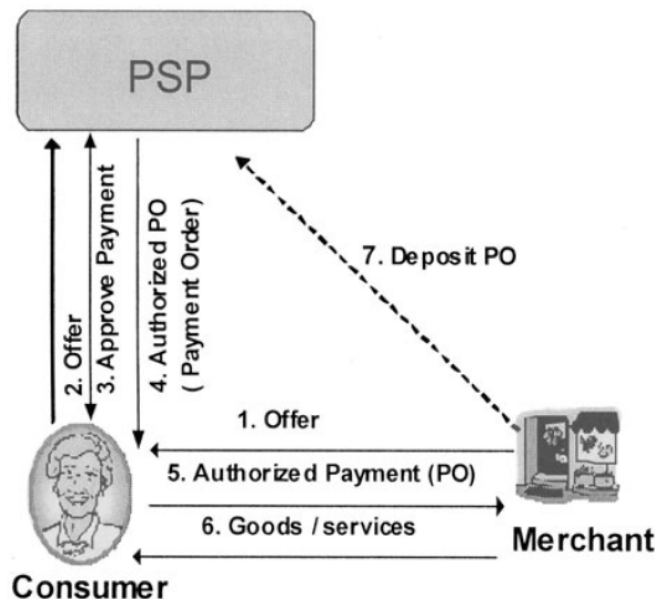


Fig. 12.3 Online payments invoked by consumer

Id. at 249. Figure 12.3 is a high-level illustration of the online payment process of the above-described scenario, namely where the payment is invoked by the consumer. *Id.* at 248. As shown in Figure 12.3, the consumer forwards a merchant’s offer to a payment service provider (PSP), who responds with authorized payment order (PO), which the consumer

forwards to the merchant to complete the transaction and receive the goods/services. Ex.1005, Fig.12.3.

Kou also discloses an offline and semi-offline payment system “for avoiding or reducing the online authorization requirements from the PSP, thereby eliminating or reducing the costs of the communication (messages) and of the necessary communication capabilities.” *Id.* at 274–275. In this regard, Kou explains that it is possible to add a GSM⁶ module to a vending machine but “there are scenarios where both payer and payee are disconnected and where it is not reasonable to require one of them to add communication capabilities, e.g., payments between two handheld devices.” *Id.* at 274. Kou explains that “[m]icropayment schemes are called *offline* if the PSP is *never* involved during the payment process and *semi-offline* if the PSP is involved only in few payment transactions.” *Id.* at 275. One approach is pre-authorization. *Id.* at 275–276. In that approach:

The PSP may authorize the customer payments up to a pre-defined limit to a *specific* merchant. Overspending is then limited to multiple payments to that specific merchant, which the merchant can easily detect (e.g., using sequence number). When the PSP pre-authorizes payments (up to some limit, for a given merchant), it actually delegates it[s] authority to the customer, who provides the final payment authorization directly to the merchant or point-of-sale (e.g., vending machine). . . . Pre-authorization is a semi-offline technique, as the customer needs to request pre-authorization for each specific merchant.

Id. at 276.

⁶ GSM refers to Global Systems for Mobile communications, a form of cellular communication. Ex. 1005, 97.

In a different chapter, Kou discloses that a merchant sends an electronic payment order ID (EPOID) with goods, and that “[t]he time stamp portion of the EPOID is used to expire stale transactions.” *Id.* at 202.

3. Discussion

Patent Owner argues that the Petition fails to disclose one or more requirements of the limitations designated by Petitioner as 1(a), 1(c), 1(e), and 1(g), and asserts that, for the remaining independent claims, the Petition, via cross-references, relies on those same flaws. Prelim. Resp. 9–11. As discussed below, we find at least some of Patent Owner’s arguments persuasive. We do not discuss all of Patent Owner’s arguments herein because any one successful argument is adequate for us to deny institution.

a. Prior To User Selection of Any Items or Services

Independent claim 1 recites a method comprising several steps. *See* Ex. 1001, 3:35–34:3. All of those steps are preceded by the recitation that they are performed “at a mobile device,” and, importantly, “prior to user selection of any items or services provided by an automatic retail machine.” *See id.* at 33:36–39 (limitation 1(a)). Thus, each of the recited steps contains the requirement that it be performed prior to user selection of any item or service. The other challenged independent claims, claims 12 and 17, contain similar recitations regarding actions taken prior to user selection of items or services.⁷ *See, e.g., id.* at 35:13–23, 36:36–27. During prosecution, as

⁷ We primarily refer to the method steps of independent claim 1. Our analysis applies equally to independent claim 12, which is a system that includes an electronic payment device and a mobile device that each must be configured to do certain steps, and independent claim 17, which is a memory having instructions to cause the mobile device to perform certain steps. *Cf.* Pet. 60–61, 65 (relying on its claim 1 arguments for the “prior to user selection” limitations of claims 12 and 17).

Petitioner acknowledges, the “prior to user selection” language was added by amendment to overcome the Examiner’s rejections and led to allowance. *See* Pet. 6 (citing Ex. 1002, 77–78 (applicant’s remarks with the amendment), 15–16 (notice of allowability)).

Patent Owner argues that Petitioner’s analysis regarding the “prior to user selection” requirement “falls short.” Prelim. Resp. 13–14. Specifically, Patent Owner argues that Petitioner’s contentions “are conclusory and fail to show that the combination teaches performing each of the subsequently recited steps prior to the selection of any items or services.” *Id.* at 14. We find Patent Owner’s argument persuasive.

Petitioner contends that “Freeny discloses or renders obvious performing the claimed method *prior to user selection of any items or services provided by an automatic retail machine*,” and also that “it would have been obvious in view of Kou.” Pet. 22 (citing Ex. 1003 ¶¶ 69–71).

Petitioner begins its discussion with Freeny, contending that:

Freeny describes users’ *mobile devices* “activating” any of an assortment of *automatic retail machines*, including vending machines or toll payment devices, prior to a given user initiating a transaction with such devices. For example, Freeny describes a PAU or other wireless device (the *mobile device*) transmitting a “request authorization code” to a vending machine to activate it. Freeny further teaches that the vending machine “can be activated for example at one distance for services not requiring the owner of the proximity authorization unit 2910 to physically use the menu on the . . . vending machine system.” A POSITA would have understood that the services requiring menu operation, as described in Freeny, would include the “*selection of any items or services*” on a vending machine system (or on any other system that provides more than one item or service). Thus, Freeny discloses the

authorization steps occurring “*prior to user selection of any items or services provided by an automatic retail machine.*”

Pet. 22–23 (citations omitted).

We agree with Patent Owner, Prelim. Resp. 14–15, that Petitioner does not explain adequately how the concept of “activation” prior to a “transaction” discloses or suggests performing, “prior to user selection of any items or services,” all of the steps of independent claim 1 or the similar recitations of the other independent claims. Dr. Neuman’s testimony contains similar assertions without further explanation. *See* Ex. 1003 ¶ 69.

Additionally, and as Patent Owner points out, “Petitioner . . . cites a proximity service unit that Freeny describes as ‘any device which provides **a predetermined service** upon activation.’” Prelim. Resp. 15 (citing Ex. 1004, 31:16–42; Pet. 22 (citing same)). As Patent Owner also points out, Prelim. Resp. 16, Freeny states that “[e]ach of the proximity service units 2920 provide a predetermined service when activated in response to receiving a request authorization code,” Ex. 1004, 30:59–62. Petitioner does not reconcile adequately the relied-on teaching of a predetermined service with the requirement to perform steps prior to user selection of any items or services.

Petitioner identifies Freeny’s toll payment device as a recited automatic retail machine that is “activat[ed]” “prior to a given user initiating a transaction.” Pet. 22 (citing, *inter alia*, Ex. 1004, 13:22–54); *see also id.* at 23 (citing Ex. 1004, 13:7–11 (the toll/subway system example)). Freeny explains that “[t]he toll/subway system 722 . . . provides the predetermined toll service, such as activating the gate or red/green light, for example, to pass the wireless device owner through the toll/subway system 722.” Ex. 1004, 13:18–22. Petitioner does not explain why the user has not

already selected the service, namely use of the toll road or of the subway system, prior to reaching an authorization zone (limitation 1(b)⁸) and prior to any “activation” of the toll system’s authorization process.

We do not find to be persuasive Petitioner’s contentions regarding the menu on a vending machine system. *See* Pet. 23. As indicated in the block quote above, Petitioner asserts that Freeny discloses an alternative where the machine can be activated at a certain distance for services not requiring the mobile device user to use the machine’s menu. *Id.* (citing Ex. 1004, 32:55–60). Petitioner contrasts that with the use of a menu, which, according to Petitioner, would include the selection of an item or service, and then Petitioner concludes that, “[t]hus, Freeny discloses the authorization steps occurring ‘prior to user selection of any items or services provided by an automatic retail machine.’” *Id.* (citing Ex. 1003 ¶ 69). We understand Petitioner to argue that the menu-less option teaches the completion of any authorization steps prior to selection. However, under Petitioner’s logic for that scenario, it seems that the user must have at least implicitly selected the item/service at some point in the process (*e.g.*, when opting to take the toll road) otherwise the machine would not know what service/item to vend when “activated.” Regardless, Petitioner does not explain adequately how the presence or absence of a menu is tied chronologically to the performance of the steps specifically recited in the claims (as opposed to Petitioner’s ambiguous references to a machine being “activated”).

⁸ Limitation 1(b) is the first step listed under the “prior to user selection” recitation, and calls for “notifying an electronic payment device coupled with the automatic retail machine that the mobile device has entered an authorization zone associated with the automated retail machine.” Ex. 1001, 33:40–43.

Petitioner turns to Kou, contending, in the alternative, that “a POSITA would have found this limitation obvious in view of Kou’s teachings on advance authorization of certain transactions.” Pet. 23 (citing Ex. 1003 ¶¶ 70–71). Petitioner’s argument in support of this conclusory assertion is that “Kou explains that a payment service provider (‘PSP’) ‘may authorize the customer payments up to a pre-defined limit to a *specific* merchant,’” and that “[t]he consumer then ‘provides the final payment authorization directly to the merchant or point-of-sale (e.g., vending machine).’” *Id.* at 23–24 (quoting Ex. 1005, 276) (emphasis in Kou).

Petitioner is relying on Kou’s semi-offline embodiment that is somewhat analogous to pre-loading money onto a merchant-specific gift card and completing a purchase by using the card at the merchant’s store. *See* Ex. 1005, 274-276. Petitioner does not explain adequately the basis for the implied assertion that there is no user selection of a service or item between the pre-authorization of an amount and the user completing the payment transaction by providing final authorization to the merchant. Pet. 23–24. Additionally, Petitioner does not describe adequately its proposed combination of Freeny and Kou and does not explain adequately how applying Kou’s pre-authorization scheme to Freeny’s machines providing a predetermined service would avoid any user selection of a service prior to the performance of all the steps of, *e.g.*, independent claim 1. *See* Pet. 24 (Petitioner offering little more than the assertion that “a POSITA would have been motivated to implement Kou’s technique of pre-authorizing transactions in Freeny’s system.”); *see also id.* at 17–18 (“Reasons to Combine” section); *cf.* Prelim. Resp. 17 (Patent Owner arguing that “alleging that a POSITA would have incorporated pre-authorization into

Freeny—a feature Petitioner alleges Freeny already has—does nothing to fix Petitioner’s conclusory discussion of activating predetermined services in Freeny.”); *see Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (“In an IPR, the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable. . . . Thus, it was Harmonic’s burden to explain to the Board how Haskell combined with Rossmere rendered the challenged claims unpatentable.”).

We determine that Petitioner has not shown a reasonable likelihood of demonstrating that Freeny or the combination of Freeny and Kou discloses or suggests that the pertinent steps recited in the independent claims are performed “prior to user selection of any items or services provided by an automatic retail machine.”

b. Preemptive Authorization Request

Limitation 1(c) recites: “in response to notifying the electronic payment device that the mobile device has entered the authorization zone, receiving from the electronic payment device, via the communications unit [of the mobile device], a request to preemptively obtain authorization to make funds available for cashless transactions with the automatic retail machine.” Ex. 1001, 33:44–50. Independent claims 12 and 17 contain similar recitations. *Id.* at 35:11–17, 35:24–25, 36:32–38. Thus, the mobile device must receive, *from* the electronic payment device (which is on the automatic retail machine), a request to obtain preemptive authorization to make funds available, and that request must be received in response to the mobile device’s notification that it is in the machine’s authorization zone. *See id.* at 33:40–43 (limitation 1(b) reciting the step of “notifying an electronic payment device coupled with the automatic retail machine that the mobile device has entered an authorization zone.”). This is consistent with

the Specification’s description of an embodiment where, after the mobile device “informs the adapter module 100 [(the electronic payment device on the machine)] of its presence,” “the adapter module 100 requests an authorization to the server 130 via the mobile devices’ network connection (e.g. a WiFi or cellular connection . . .).” *Id.* at 23:29–35.

Patent Owner argues that the Petition fails with respect to at least two aspects of this limitation: 1) that the request to obtain preemptive authorization for funds is *from the electronic payment device*, and 2) that the request is received *in response to* the mobile device’s notification that it is in the authorization zone. *See* Prelim. Resp. 17–26. We find both of Patent Owner’s arguments persuasive.

As mentioned, the step of receiving the request is performed “in response to” the notification that the mobile device is in the authorization zone. Patent Owner argues that “[t]he petition’s discussion of element 1(c) is facially incomplete, as Petitioner offers no analysis of how the references supposedly teach receiving the recited request ‘in response to notifying the electronic payment device that the mobile device has entered the authorization zone.’” Prelim. Resp. 18.

The Petition focuses its discussion of the subject limitation 1(c) on the phrase “a request to preemptively obtain authorization to make funds available,” but the “in response to” phrase appears only in Petitioner’s quotation of the claim language in the section heading and the conclusion at end of the section. *See* Pet. 30–33. Petitioner does not explain adequately what, if anything, it contends constitutes a prior art disclosure or suggestion of the claimed “in response to” relationship. *See id.*

Limitation 1(c) also requires that a particular type of request be “receiv[ed] from the electronic payment device” located on the automatic retail machine. Patent Owner argues, *inter alia*, that the Petition fails to show that the recited request is received from the electronic payment device. *See* Prelim. Resp. 20–26; *see e.g., id.* at 23 (“Petitioner does not even attempt to explain how activating a gate/light involves [the recited request], let alone such a request being ‘receiv[ed] from the electronic payment device.’”).

Petitioner contends that “a POSITA would have found it obvious to receive at a mobile device a request for pre-authorization of funds, as taught by Kou.” Pet. 30 (citing Ex. 1003 ¶¶ 79–80). We note that Petitioner’s contention is in terms of a request “at a mobile device,” but omits the key claim phrase “from the electronic payment device.” We also observe that Petitioner inexplicably intermingles two distinct embodiments of Kou—the semi-offline embodiment on pages 274–276, which involves the pre-authorization of funds to minimize communication costs, and the online embodiment of Figure 12.3 on page 248, which involves fund authorization during the purchase transaction. *See* Prelim. Resp. 24–25 (arguing that Petitioner overlooks Kou’s distinction between the embodiments).

Petitioner asserts that “Kou discloses a merchant sending an offer to a consumer as part of a payment authorization process,” and reproduces Kou’s Figure 12.3, highlighting the first step of an “Offer” from the merchant to the consumer. Pet. 30–31. To the extent that Petitioner contends that the offer from the merchant in Figure 12.3 contains the recited request, we are not persuaded. Petitioner offers no adequate explanation as to why the offer sent by the merchant to the consumer should be understood to include a

request from the merchant to preemptively obtain authorization for funds. Rather, it seems more likely that the merchant simply wants to be paid the amount of the offer, regardless as to how the consumer obtains funds. And, although not dispositive, we note that the figure is captioned as the payments (i.e., those authorized by the payment service provider (PSP)) are “invoked by consumer,” not the merchant, who merely makes an offer. As for the other, semi-offline embodiment, Petitioner does not explain how, if at all, the pre-authorization involves a request from the merchant rather than the more likely scenario of the consumer pre-loading the funds prior to visiting the merchant. *See* Pet. 31.

We determine that Petitioner has not shown a reasonable likelihood of demonstrating that the combination of Freeny and Kou discloses or suggests, “in response to notifying the electronic payment device that the mobile device has entered the authorization zone, receiving from the electronic payment device . . . a request to preemptively obtain authorization to make funds available for cashless transactions with the automatic retail machine,” as recited in independent claim 1 or the similar requirements of independent claims 12 and 17.

c. A Maximum Amount Associated with An Item or Service

Limitation 1(e) recites, in pertinent part: “in response to sending the request to the server, receiving, from the server, an authorization grant of an amount of funds corresponding to a maximum amount associated with an item or service provided by the automatic retail machine.” Ex. 1001, 33:53–57. Independent claims 12 and 17 contain similar recitations. *Id.* at 35:28–33, 36:41–45. Patent Owner argues that “Petitioner’s analysis of this limitation [1(e)] is facially deficient in at least three ways,” with one of those ways being that “Petitioner fails to show that the alleged authorization grant

corresponds to an amount of funds ‘associated with an item or service.’”

Prelim. Resp. 27; *see also id.* at 30–32.

Petitioner contends that the combination of Freeny and Kou discloses or renders obvious this limitation, and specifically relies on Kou for the “maximum amount” aspect. Pet. 35–36. Petitioner argues:

In the context of pre-authorization, Kou discloses this grant [from the payment service provider (PSP)] authorizing “customer payments up to a **pre-defined limit**.” Ex.1005, p.276 (emphasis added). The PSP thus delegates authority to the customer to authorize payment (up to the limit) for whatever purchase the customer ultimately makes, if any. Ex.1003 ¶88 (citing Ex.1005, p.276). Kou also teaches an *authorization grant* in the form of a “one-time (or limited-use) public key digital signature,” by which “the PSP preauthorizes the one-time signature scheme for a particular merchant and a **specific maximal amount**.” Ex.1005, p.278 (emphasis added). Kou further suggests using such schemes in combination with the pre-authorization scheme. *See id.*; Ex.1003 ¶89. A POSITA would have understood that the “pre-defined limit” and “specific maximal amount” each constitute *a maximum amount associated with an item or service*. Ex.1003 ¶88.

Pet. 36. Thus, Petitioner contends that Kou pre-authorizes a maximal and limited amount of funds, and Petitioner offers the conclusory assertion that a person of ordinary skill in the art would recognize that amount to be “associated with an item or service.” We determine that Petitioner has not adequately explained its theory as to how Kou purportedly discloses or suggests a maximum amount that is associated with an item or service provided by the machine. The semi-offline pre-authorization techniques on the cited pages 276 and 278 of Kou are specific to the consumer and the merchant (again, similar to a pre-loaded merchant-specific gift card), but we fail to see, and Petitioner does not persuasively explain, why the amount is associated with an item or service. Dr. Neuman’s testimony tying the

authorization to a provided item or service is equally conclusory. *See* Ex. 1003 ¶¶ 88–89 (“A POSITA would have understood that a ‘pre-defined limit’ corresponds to *an authorization grant of an amount of funds corresponding to a maximum amount associated with an item or service provided by the automatic retail machine,*” and “[a] POSITA would have understood that a ‘one-time signature’ for a ‘specific maximal amount’ constitutes *an authorization grant of an amount of funds corresponding to a maximum amount associated with an item or service provided by the automatic retail machine.*”).

We determine that Petitioner has not shown a reasonable likelihood of demonstrating that the combination of Freeny and Kou discloses or suggests, “an authorization grant of an amount of funds corresponding to a maximum amount associated with an item or service provided by the automatic retail machine,” as recited in independent claim 1 or the similar requirements of independent claims 12 and 17.

d. Conclusion as to Ground 1

For the reasons discussed above, Petitioner has not met its burden regarding the obviousness challenge to the independent claims. Petitioner’s challenges to the dependent claims do not overcome the deficiencies discussed above with respect to independent claims. Pet. 44–57, 63–64, 67. Accordingly, Petitioner has not demonstrated a reasonable likelihood of prevailing on its challenge to claims 1, 2, 5–13, and 16–18 as being obvious over Freeny and Kou.

E. The Alleged Obviousness of Claims 3, 4, 14, 15, 19, and 20 over Freeny, Kou, and Canter (Ground 2)

Petitioner alleges that dependent claims 3, 4, 14, 15, 19, and 20 of the ’208 patent would have been obvious over Freeny in view of Kou and

Canter. *See* Pet. 67–74. Petitioner relies on Canter for, *inter alia*, “improved personalization methods,” *id.* at 70, but Petitioner’s challenges to the dependent claims in this Ground 2 do not overcome the deficiencies discussed above with respect to independent claims.

III. CONCLUSION

Petitioner has not demonstrated that there is a reasonable likelihood of establishing the unpatentability of any of claims 1–20 of the ’208 patent.

IV. ORDER

For the foregoing reasons, it is

ORDERED that the Petition is *denied* and no trial is instituted.

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