

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

RFCYBER CORP.,
Patent Owner.

IPR2022-01239
Patent 10,600,046 B2

Before JOSIAH C. COCKS, PATRICK R. SCANLON, and
KEVIN W. CHERRY, *Administrative Patent Judges*.

SCANLON, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Apple Inc. (“Petitioner”) challenges claims 1–5, 12–14, 17, and 18 of U.S. Patent No. 10,600,046 B2 (Ex. 1001, “the ’046 patent”), which is assigned to RFCyber Corp. (“Patent Owner”). We have jurisdiction under 35 U.S.C. § 6, and this Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–5, 12–14, 17, and 18 of the ’046 patent are unpatentable.

A. Procedural History

Petitioner filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of the challenged claims. Patent Owner filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

We instituted a trial as to all challenged claims. Paper 7 (“Decision on Institution” or “Dec. Inst.”).

After institution, Patent Owner filed a Patent Owner Response (Paper 11, “PO Resp.”), Petitioner filed a Reply (Paper 15, “Reply”), and Patent Owner filed a Sur-reply (Paper 16, “Sur-reply”).

Petitioner relies on the Declaration of Gerald W. Smith (Ex. 1003) and the Supplemental Declaration of Gerald W. Smith (Ex. 1028) in support of its contentions. Patent Owner relies on the Declaration of Alfred C. Weaver, Ph.D. (Ex. 2001) in support of its contentions.

An oral hearing was held on October 24, 2023. A transcript of the hearing is included in the record. Paper 22 (“Tr.”).

B. Real Parties in Interest

Petitioner identifies itself as the real parties in interest. Pet. 69. Patent Owner identifies itself as the real party in interest. Paper 5, 1.

C. Related Matters

The parties identify the following proceedings as related matters involving the '046 patent: *RFCyber Corp. v. Apple Inc.*, Case No. 6:21-cv-00916-ADA (W.D. Tex.) (the “District Court Case”); and *RFCyber Corp. v. Visa U.S.A. Inc.*, Case No. 6:22-cv-00697 (W.D. Tex.). Pet. 69; Paper 5, 1. In addition, Petitioner identifies several other matters involving the '046 patent that have been dismissed or terminated. Pet. 69–70.

D. The '046 Patent

The '046 patent, titled “Method and Apparatus for Mobile Payments,” issued March 24, 2020, with claims 1–20, and claims priority to several applications dating to September 24, 2006.¹ Ex. 1001, codes (45), (54), (60), (63), 1:7–9, 25:20–28:31.

The '046 patent relates to electronic commerce and, more particularly, to settling payments “using a mobile device reading electronic bills or invoices off from another mobile device in a near field communication range.” Ex. 1001, 1:16–21. In general, the invention includes a first mobile device that generates an electronic invoice and can be part of a point of sale (“POS”) machine. *Id.* at 1:56–58, 2:1–3. The first mobile device is embedded with a secure element and executes a software module. *Id.* at 1:57–58, 2:55–59. When the first mobile device is brought to a consumer using a second mobile device, the electronic invoice is read wirelessly into the second mobile device. *Id.* at 1:59–63. The second mobile device is a

¹ Nevertheless, Petitioner argues that at least claim 1 has an effective filing date after March 16, 2013. Pet. 3–5 (citing *Google LLC v. RFCyber Corp.*, PGR2021-00029, Paper 10 at 3–14 (PTAB Sept. 23, 2021)). Patent Owner does not dispute this contention. *See generally* Prelim. Resp.; PO Resp. Therefore, for purposes of this proceeding, we agree that at least claim 1 has an effective filing date after March 16, 2013.

near field communication (“NFC”) device “configured to execute an application that communicates with the software module in the first mobile device to read the data off from the first mobile device.” *Id.* at 2:28–30, 2:65–3:1.

The user is then able to verify the amount charged and authorize payment, after which the second mobile device “communicates with a payment gateway or network for payment that is configured to proceed with the payment in accordance with a chosen payment method.” *Id.* at 1:63–67, 2:61–64. That is, the gateway receives the payment request from the second mobile device, verifies the payment request, and sends a payment response to the user of the first mobile device after the payment request is processed. *Id.* at 3:17–31.

Figure 1A of the ’046 patent is reproduced below.

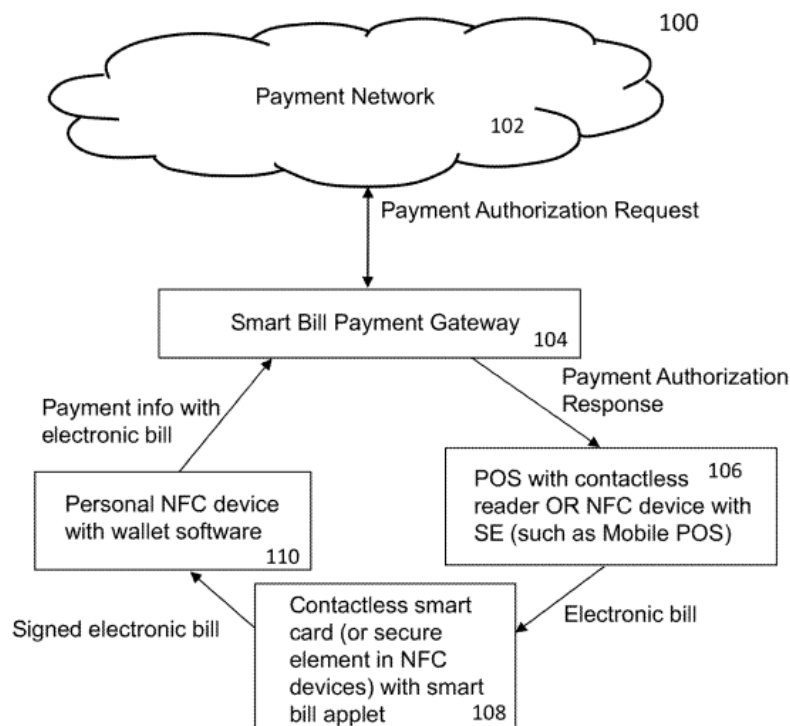


FIG. 1A

Figure 1A shows system configuration 100, which is one embodiment of the invention. Ex. 1001, 5:29–30. System configuration 100 includes network 102, which provides services by a financial institution to electronically transfer money or settle payments. *Id.* at 5:30–34. Payment gateway 104 comprises one or more servers configured to provide an application that may be installed on a user’s mobile device. *Id.* at 5:52–56. The application allows a user to authorize payment of an electronic invoice. *Id.* at 5:60–62.

System configuration 100 also includes POS device 106 at a point of sale. *Id.* at 6:6–7. POS device 106 generates an electronic bill or invoice that is loaded onto portable device 108, such as a contactless card or an NFC device, which contacts a user’s NFC device. *Id.* at 6:10–14. In one embodiment, “the POS device is a single device embedded with a secure element. The single device may be an NFC device that is used to enter information to generate an invoice.” *Id.* at 6:15–18. This device is brought to the customer for authorization and payment. *Id.* at 6:22–23.

Alternatively, “the POS device includes a stationary device corresponding to 106 of FIG. 1A and one or more contactless cards corresponding to 108 of FIG. 1A.” *Id.* at 6:23–26. In this case, “[t]he stationary device is used by the cash[i]er to enter charging information to generate an invoice. A contactless card is loaded with the electronic invoice and brought to the customer for authorization and payment.” *Id.* at 6:26–30.

Device 110 is a personal NFC device with wallet software. *Id.* at Fig. 1A. Specifically, device 110 “is configured to function as an electronic purse or e-purse that may be used to directly settle a charge being displayed on a display screen thereof.” *Id.* at 8:25–28.

To settle a payment, the merchant, such as a waiter or cashier at a restaurant, causes POS device 106 to generate an electronic bill that is transported to a contactless card. *Id.* at 7:19–22. The contactless card is then presented to the customer who uses his or her mobile device to read the contactless card. *Id.* at 7:24–26. Upon detecting the contactless card in the near field, the application on the user’s mobile device reads data pertaining to the electronic bill from the contactless card and subsequently displays the electronic bill on a screen of the mobile device for the customer to verify. *Id.* at 7:28–33. The customer then chooses a method for settling the bill, such as an e-purse already created in the mobile device, cash, traditional credit or debit card, and electronic transfer. *Id.* at 7:46–53.

When selecting to pay the bill via the e-purse, the customer enters the amount to be paid against the bill; the customer may enter more than what is being charged in the bill as a tip or gratuity. *Id.* at 7:57–61. Once the customer has entered the total amount to be paid, the application on the user’s mobile device sends a payment request to gateway or server 104 for processing. *Id.* at 7:57–61. “[T]he server 104 receives the payment request authorized by the consumer and proceeds with the payment request in conjunction with the payment network 102,” and “[o]nce the transaction is complete or denied, the server 104 sends a notice to the merchant.” *Id.* at 8:17–24.

Figure 6A of the '046 patent is reproduced below.

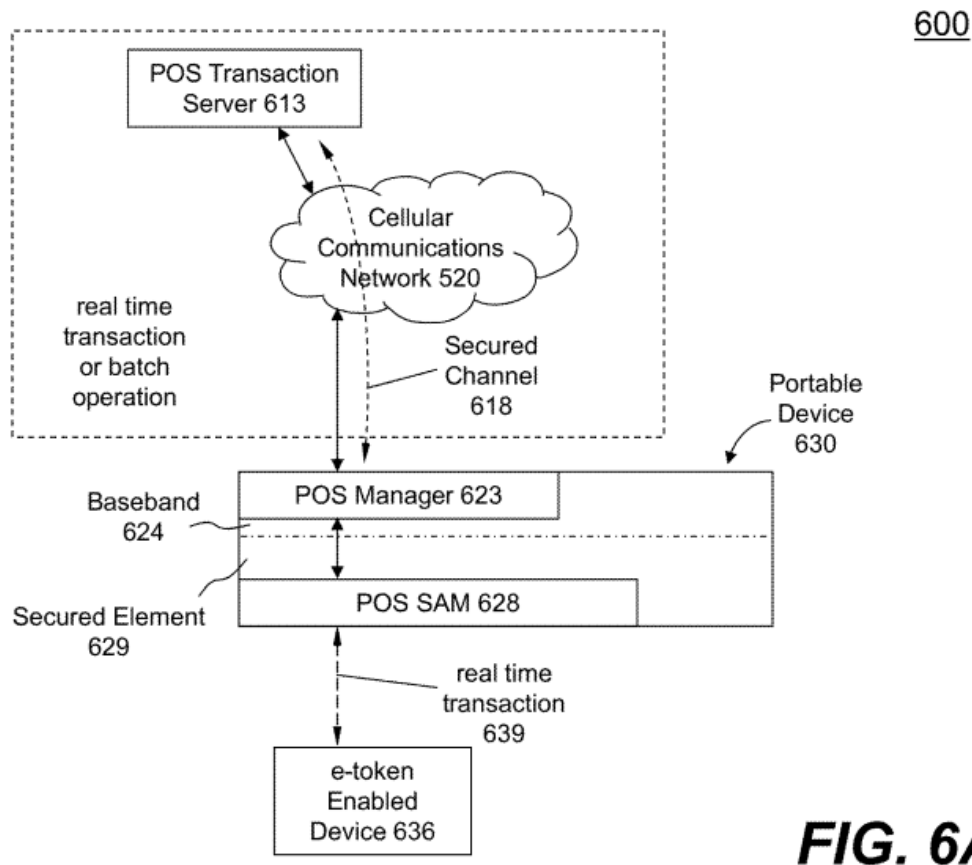


FIG. 6A

Figure 6A “is a diagram showing an exemplary architecture, in which a portable device is enabled as a mobile POS conducting e-commerce and m-commerce.” Ex. 1001, 4:32–35. Specifically, exemplary architecture 600 includes portable device 630 that includes baseband 624 and secured element 629. *Id.* at 18:65–19:3. POS manager 623 is installed in baseband 623, and POS SAM² 628 is installed in secured element 629 to enable portable device 630 to act as a mobile POS. *Id.* at 19:3–6. This configuration allows real time transaction 639 to be conducted between

² A “POS SAM” refers to a mobile POS application applet. Ex. 1001, 18:13–14. Although the acronym “SAM” is not defined in the '046 patent, it appears to refer to a Security Authentication Module. *See* Ex. 1016, 2.

portable device 630 and e-token enabled device 636, which can be a single functional card or a portable device enabled with an e-purse. *Id.* at 19:7–10.

Real time transaction 639 can be conducted without the portable device connecting to POS transaction server 613, in which case records of accumulated offline transactions are uploaded via secured channel 618 to POS transaction server 613 for settlement. *Id.* at 19:14–16, 9:23–27.

However, portable device 630 may connect to POS transaction servers 613 over cellular network 520 in certain instances. *Id.* at 19:16–18.

E. Challenged Claims

Petitioner challenges claims 1–5, 12–14, 17, and 18, of which claims 1, 12, and 18 are independent. Claim 1, reproduced below, is illustrative.

1. A method for mobile payment, the method comprising:

causing a mobile device to capture data directly from a tag physically presented thereto, wherein the tag receives the data directly from a POS device and allows the mobile device to capture the data, the data embedded in the tag includes an electronic invoice and settlement information with a merchant associated with the POS device;

extracting the electronic invoice from the captured data in the mobile device; displaying the electronic invoice on a display of the mobile device to show an amount to be paid by a user of the mobile device, wherein the mobile device is configured to execute an installed application therein to capture the data from the tag;

receiving an entry by the mobile device, the entry including the amount for the invoice and optionally an additional amount from the user;

calculating a total amount by adding the additional amount to the amount in the electronic invoice;

generating a payment request in the mobile device in response to the electronic invoice after the user has chosen an

electronic purse (e-purse) maintained locally in the mobile device;

displaying the electronic invoice on the display of the mobile device for the user to verify the payment request

verifying the total amount with a balance in the e-purse, wherein said verifying the total amount with a balance in the e-purse is performed within the mobile device without sending the payment request to a payment gateway;

displaying a denial of the payment request when the balance is less than the total amount;

sending the payment request from the mobile device to the payment gateway, wherein the balance is sufficient to honor the payment request, the payment gateway sends a message directly to the POS device that a monetary transaction per the payment request sent from the mobile device has been successfully completed; and

displaying a confirmation in the mobile device that the balance in the e-purse has been reduced by the total amount.

Ex. 1001, 25:20–63.

F. Instituted Grounds of Unpatentability

We instituted *inter partes* review of the challenged claims based on the following grounds of unpatentability asserted by Petitioner:³

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–5, 12–14	103	Laracey, ⁴ Jogu, ⁵
17	103	Laracey, Jogu, Tang ⁶

³ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103. Because at least one claim of the ’046 patent has an effective filing date after March 16, 2013, as discussed above in footnote 1, we apply the AIA version of 35 U.S.C. § 103. *See* AIA § 3(n)(1).

⁴ US 2011/0251892, published Oct. 13, 2011 (Ex. 1004).

⁵ JP 4901053, published Mar. 21, 2012 (Ex. 1005).

⁶ WO 2009/116954 A2, published Sept. 24, 2009 (Ex. 1006).

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
18	103	Laracey, Jogu, Dorsey ⁷

Dec. Inst. 22; Pet. 8.

II. ANALYSIS

A. Legal Standards

To prevail in its challenge, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e) (2018); 37 C.F.R. § 42.1(d) (2022). “In an IPR, the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (2012) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden of persuasion never shifts to the patent owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

A patent claim is unpatentable under 35 U.S.C. § 103(a) 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 ordinary skill in the art; and (4) when in evidence, objective

⁷ US 9,916,581 B2, issued Mar. 13, 2018 (Ex. 1007).

indicia of non-obviousness (also called secondary considerations), such as commercial success, long-felt but unsolved needs, and failure of others. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We analyze grounds based on obviousness in accordance with the above-stated principles.⁸

B. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, 35 U.S.C. § 103 requires us to resolve the level of ordinary skill in the pertinent art at the time of the effective filing date of the claimed invention. *Graham*, 383 U.S. at 17. The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art. *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. *Id.* In a given case, one or more factors may predominate. *Id.*

Petitioner contends that a person having ordinary skill in the art “would have had at least a bachelor’s degree in computer science, computer engineering, or equivalent with at least one year of experience in the field of mobile payments,” and “[a]dditional education or experience might substitute for the above requirements.” Pet. 6–7 (citing Ex. 1003 ¶¶ 34–35). Patent Owner does not address the level of ordinary skill in its Response.

Based on our review of the record before us, we determine that Petitioner’s stated level of ordinary skill in the art is reasonable because it appears consistent with the evidence of record, including the asserted prior

⁸ The record does not include any evidence of objective indicia of non-obviousness.

art. Accordingly, for the purposes of this Decision, we adopt Petitioner’s definition.

C. Claim Construction

In *inter partes* reviews, the Board interprets claim language using the district-court-type standard, as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). See 37 C.F.R. § 42.100(b). Under that standard, we generally give claim terms their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. See *Phillips*, 415 F.3d at 1313–14. Although extrinsic evidence, when available, may also be useful when construing claim terms under this standard, extrinsic evidence should be considered in the context of the intrinsic evidence. See *id.* at 1317–19.

Petitioner contends that, in the District Court Case, the parties have agreed to construe the claim term “payment gateway” as a “server or collection of servers for settling a payment.” Pet. 9 (citing Ex. 1016, 2). Petitioner further contends that the parties are disputing the constructions of the claim terms “e-purse,” “e-purse applet,” and “application” in the District Court Case, but the differences between the proposed constructions need not be resolved for this proceeding because its asserted grounds of unpatentability satisfy both Patent Owner’s and Petitioner’s proposed constructions.⁹ *Id.* at 9–10 (citing Ex. 1016, 4–5). Petitioner, however, applies its proposed construction in its arguments. See Pet. 29.

⁹ In the District Court Case, Petitioner proposed that “e-purse” should be construed as “software that stores electronic financial information, including electronic value, in a local portable device,” while Patent Owner proposed

In its Response, Patent Owner contends that its proposed construction was adopted in the District Court Case, as well as in another proceeding in the Eastern District of Texas. PO Resp. 11 (citing *RFCyber Corp. v. Google LLC*, No. 2:20-cv-274-JRG, 2021 WL 5357465, at *6-*9 (E.D. Tex. Nov. 17, 2021); *RFCyber Corp. v. Apple Inc.*, No. 6:21-cv-00916-ADA, Dkt. 100 (W.D. Tex. Sep. 13, 2022)). Patent Owner argues that because the parties agree that an e-purse must be “software” that “stores financial information in a local device,” “[t]he Board need not resolve the distinction between the parties’ proposals for this proceeding because Petitioner fails to show that Laracey discloses ‘an electronic purse (e-purse) maintained locally in the mobile device’ under the agreed portions of the construction.” *Id.* at 11–12.

We agree that the differences between the two proposed constructions are minimal. On the full record before us, however, Petitioner does not explain sufficiently why the proper construction of “e-purse” requires that the stored financial information include electronic value and that the software is in a local *portable* device. Therefore, we adopt the district court’s construction of “e-purse” as “software that stores electronic financial information in a local device” for purposes of this Decision.

D. Ground 1: Asserted Obviousness Based on Laracey and Jogu

Petitioner asserts that claims 1–5 and 12–14 are unpatentable under 35 U.S.C. § 103 based on Laracey and Jogu. Pet. 10–54. Patent Owner provides arguments addressing this asserted ground of unpatentability.

that “e-purse” should be construed as “software that stores electronic financial information in a local device.” Ex. 1016, 4.

PO Resp. 13–32. We first summarize the references and then address the parties’ contentions.

1. Laracey

Laracey, titled “Mobile Phone Payment Processing Methods and Systems,” was published on October 13, 2011. Ex. 1004, codes (54), (43). Laracey relates to “using mobile devices to conduct payment transactions at merchant locations including brick and mortar locations and remote locations as well as for person to person transactions.” *Id.*, code (57). Figure 1 of Laracey is reproduced below.

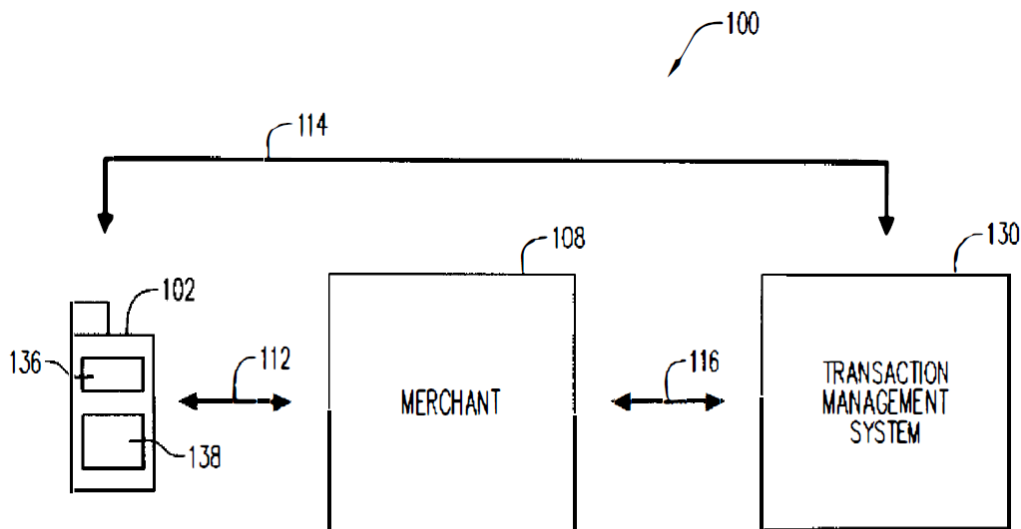


FIG. 1

Figure 1 is a block diagram depicting payment system 100. Ex. 1004 ¶¶ 7, 27. A user, referred to as the customer, uses mobile device 102 (such as a mobile telephone) to conduct a purchase transaction with merchant 108. *Id.* ¶ 27. For a point-of-sale purchase, merchant 108 totals the items to be purchased and prompts the customer to select a payment option, such as the mobile payment option disclosed by Laracey. *Id.* ¶ 28. Alternatively, rather

than requiring the customer to select the mobile payment option, the choice can be made by the customer scanning, capturing, or entering a checkout identifier. *Id.* ¶ 29. When the mobile payment option is selected, merchant 108 transmits a merchant payment authorization request message to transaction management system 130 via path 116. *Id.* ¶ 30. This message may include a merchant identifier, the amount due, and a unique checkout token. *Id.*

The customer, either before or after selecting the mobile payment option, performs an authentication process to confirm their identity and authority to conduct transaction via the mobile payment process. *Id.* ¶ 33. “After a successful authentication process, the customer is prompted to scan, capture (or otherwise enter) a checkout token from a device associated with the merchant 108 (shown as interaction 112 between the mobile device 102 and the merchant 108).” *Id.* ¶ 35. Mobile device 102 then transmits the checkout token to transaction management system 130 in a customer transaction lookup request message via path 114. *Id.* The checkout token can be either a static or dynamic token. *Id.* ¶ 36.

When a static token is used, transaction management system 130 matches information in the customer transaction lookup request with information in the merchant payment authorization request. *Id.* Upon finding a match, transaction management system 130 transmits a transaction detail message to mobile device 102 via path 114 that provides the customer with details about the transaction. *Id.* When a dynamic token is used, checkout processing may proceed without a customer transaction lookup request message being transmitted to transaction management system 130. *Id.* ¶ 38.

Next, the customer causes a customer payment authorization request message to be submitted from mobile device 102 to transaction management system 130. *Id.* ¶ 39. Transaction management system 130 then sends an authorization approval request message to one or more payment processing networks for the authorization, clearing, and settlement of funds for the transaction. *Id.* ¶ 40.

2. *Jogu*

Jogu relates to a payment method using a mobile phone, and, more specifically, a service that mediates payments at virtual stores and brick-and-mortar stores on the Internet. Ex. 1005, 3. In one embodiment, a user orders a product or service from virtual store 24 using mobile phone 13 and selects the mobile phone payment method. *Id.* at 5, Fig. 5. Upon receiving the billing request, mobile phone company 10 either notifies virtual store 24 that the service cannot be used if there is a problem with the user's status, or sends an electronic invoice to mobile phone 13 if there is no problem with the user's status. *Id.* at 5–6. When the user approves payment of the invoice, mobile phone 13 verifies the prepaid balance and, if the prepaid balance is less than the payment amount, notifies mobile phone company 10 that the payment cannot be made due to insufficient balance. *Id.* at 6. On the other hand, if the prepaid balance is more than the payment amount, mobile phone company 10 is notified that the payment is approved. *Id.*

3. *Independent Claims 1 and 12*

Petitioner contends that the proposed combination of Laracey and Jogu discloses each limitation of claims 1 and 12. Pet. 14–47, 52–54. To support its arguments, Petitioner identifies certain passages in the cited references and explains the significance of each passage with respect to the corresponding claim limitation. *Id.* Petitioner also articulates reasons that

one of ordinary skill in the art allegedly would have been motivated to implement Jogu's balance check and update processes in Laracey's mobile device with a reasonable expectation of success. *Id.* at 40–42, 53; *see also id.* at 46–47 (asserting reasons to modify Laracey to display a confirmation of a balance reduction on the mobile device as taught by Jogu).

Patent Owner argues that Laracey does not disclose or render obvious an “e-purse” that is “maintained locally in the mobile device” as required by claims 1 and 12. PO Resp. 13–28. Patent Owner also argues that the proposed combination fails to satisfy verifying the e-purse balance, as required by claims 1 and 12, because one of ordinary skill in the art would not combine Laracey and Jogu in the manner proposed. *Id.* at 28–32.

a) The “E-purse” Limitation

Claims 1 and 12 both recite “an electronic purse (e-purse) maintained locally in the mobile device.” Ex. 1001, 25:42–43, 27:1–3. In addressing this limitation, Petitioner argues that Laracey discloses a mobile device equipped with *software* that satisfies Petitioner's construction of “e-purse.”¹⁰ Pet. 29 (citing Ex. 1004 ¶ 16). More specifically, Petitioner argues that one of ordinary skill in the art “would have understood that *Laracey's* ‘stored value’ account is an e-purse that stores electronic financial information, including electronic value, as claimed.” *Id.* at 29–30 (citing Ex. 1003 ¶¶ 98–101). Petitioner argues further that Laracey also discloses displaying stored value account balances on the mobile device. *Id.* at 30–31 (citing Ex. 1004 ¶¶ 93, 165, Fig. 8B; Ex. 1003 ¶ 101).

¹⁰ Mr. Smith testifies that Petitioner's analysis satisfies both Patent Owner's and Petitioner's constructions of “e-purse.” Ex. 1003 ¶ 98.

Mr. Smith testifies that “a stored value account was well known prior to the ’046 patent and was commonly stored in a form of secured memory and contained data representing an amount of money (i.e., electronic value) that could be used for a purchase transaction and funded.” Ex. 1003 ¶ 100; *see also id.* ¶¶ 50–60 (describing background technology relating to mobile payments and stored value accounts). In addition, Mr. Smith testifies that “*Laracey’s* stored value account would have been understood to be software located in memory within a mobile device that contained financial information including data representing an amount of money (e.g., a balance) useable for purchases.” *Id.* ¶ 100.

As discussed above, we construe “e-purse” for purposes of this Decision as “software that stores electronic financial information in a local device.” *See supra* § II.C. Patent Owner contends that Laracey does not disclose an e-purse satisfying this construction for two reasons. First, Patent Owner argues that neither Petitioner nor Mr. Smith have shown that Laracey’s stored value account, particularly the “PetPlace...3518” account depicted in Figure 8B, is software. PO Resp. 14 (citing Pet. 29–31; Ex. 1003 ¶ 101; Ex. 2003, 67:11–68:12). Instead, relying on the testimony of Dr. Weaver, Patent Owner asserts that a customer account “is simply a visualization of a collection of information,” and one of ordinary skill in the art would not recognize it as software. *Id.* (citing Ex. 2001 ¶ 56); *see also* Sur-reply 2 (making the same argument). Patent Owner also argues that “the concept of a stored value account is not software either.” PO Resp. 15 (citing Ex. 2001 ¶ 56).

In the Reply, Petitioner contends that neither Patent Owner nor Dr. Weaver disputes that Laracey’s mobile device uses software for its transaction functionality. Reply 20 (citing Ex. 1029, 60:19–24). Patent

Owner responds by arguing that the Petition identifies Laracey's stored value account—not its transaction functionality—as the claimed e-purse. Sur-reply 1 (citing Pet. 29; PO Resp. 14). Patent Owner asserts that “Petitioner’s late attempt to backfill its Petition” should be rejected. *Id.* at 1–2 (citing *MModal LLC v. Nuance Commc’ns*, 846 F. App’x 900, 906-07 (Fed. Cir. 2021); *Apple Inc. v. UUSI, LLC*, No. 2021-1035, 2023 WL 3071643, at *3 (Fed. Cir. Apr. 25, 2023)).

We agree with Petitioner that the Petition does “not rely solely and exclusively on the account balance in isolation.” *See* Tr. 11:17–20. Specifically, the Petition asserts that “*Laracey* teaches that its mobile device is equipped with software that satisfies [Petitioner’s] construction. Namely, *Laracey*’s **‘mobile device can be used to initiate and conduct payment transactions involving** a number of different payment accounts, including, for example, credit, debit, deposit, **stored value**, checking and other **accounts.**” Pet. 29 (quoting Ex. 1004 ¶ 16). Thus, Petitioner relies not only on Laracey’s disclosure of a stored value account, but also on Laracey’s disclosure of using a mobile device to initiate and conduct payment transactions. As for the subsequent assertion on page 29 of the Petition that one of ordinary skill in the art “would have understood that Laracey’s ‘stored value’ account is an e-purse that stores electronic financial information, including electronic value,” we agree with Petitioner that this assertion is intended to show that Laracey’s software satisfies the portion of the claim construction that requires storing financial information. *See* Tr. 12:1–5. We are not persuaded that this assertion is intended to identify Laracey’s stored value account solely as the claimed e-purse. For these reasons, we disagree with Patent Owner’s assertion that Petitioner improperly raises a new argument in its Reply.

Furthermore, we agree that Laracey discloses mobile devices that use software to conduct payment transactions. *See* Pet. 29 (Petitioner asserting Laracey’s mobile device is equipped with software for initiating and conducting payment transactions); *see also* Ex. 1029, 60:19–24 (Dr. Weaver agreeing that Laracey’s mobile device executes software to perform its transaction functionality). For instance, Laracey discloses that its invention relates to “systems, methods, processes, *computer program code*, and means for using mobile devices to conduct payment transactions.” Ex. 1004 ¶ 16 (emphasis added); *see also id.* ¶ 17 (describing providing computer program code for conducting payment transactions). Laracey also discloses one example of mobile phone that has a web browser for accessing and using the payment system and another example of mobile phone that accesses and uses the payment system via “an iPhone® application (or ‘app’) configured to facilitate payment transactions” that has been downloaded to the phone. *Id.* ¶ 24. In addition, Laracey discloses that “mobile device 202 may operate a payment application allowing mobile device 202 to operate as a payment device” and “[t]he mobile payment application may be an ‘app’ or computer program code stored on the mobile device 202.” *Id.* ¶¶ 46, 91. In view of these disclosures, we determine that Laracey discloses using software stored on a mobile device for conducting payment transactions with the mobile device.

Moreover, even if assuming for the sake of argument that the Petition does rely on Laracey’s stored value account *alone* as the claimed e-purse, we disagree that Petitioner has not shown sufficiently that Laracey’s stored value account is software. As noted above, Mr. Smith testifies that “a stored value account was well known prior to the ’046 patent and was commonly stored in a form of secured memory and contained data representing an

amount of money (i.e., electronic value) that could be used for a purchase transaction” and “*Laracey*’s stored value account would have been understood to be software located in memory within a mobile device that contained financial information including data representing an amount of money (e.g., a balance) useable for purchases.” Ex. 1003 ¶ 100. In contrast, Dr. Weaver testifies that “an ‘account’ like the PetPlace Gift account is not software. Instead, it is simply a visualization of a collection of information. *Laracey* simply displays the gift card account balance 884n on the mobile phone 102 after that account balance has been received from the Transaction Management System (TMS) 130.” Ex. 2001 ¶ 56.

Weighing the competing testimony of Mr. Smith and Dr. Weaver, we credit Mr. Smith’s testimony as more persuasive evidence. Dr. Weaver does not explain adequately why “a visualization of a collection of information” is not software, or, more importantly, why displaying an account balance on the mobile phone does not involve software.

In view of the above, we are not persuaded by Patent Owner’s argument that *Laracey* does not disclose e-purse software.

Second, Patent Owner argues that *Laracey* stores financial information in a database on a server (e.g., transaction management system 130) but does not store financial information locally as required by the construction of “e-purse.” PO Resp. 15–16 (citing Ex. 2001 ¶ 57; Ex. 1004 ¶¶ 34, 36, 56, 58, 67–68, Fig. 9). According to Patent Owner:

The only information which the mobile device has access to at all is “a proxy or representation of the payment account,” and *Laracey*’s transaction flow makes clear that the device only has access to this information for the duration of a transaction – this is not “maintained” in a mobile device.

Id. at 16–18 (citing Ex. 2001 ¶¶ 58–59; Ex. 1004 ¶¶ 38, 53, 56–57, 82, 98–100, 108, 112, 132–133, 141, 165, Fig. 4B). Patent Owner also argues that “[e]ven Laracey’s embodiments that utilize a ‘dynamic checkout token’ still retrieve payment accounts from the transaction management system 130 server and do not maintain financial information on the local mobile device,” and “a dynamic token cannot remove the need for the mobile device to receive the payment account information from [transaction management system] 130.” *Id.* at 18–19 (citing Ex. 1004 ¶¶ 38, 54, 98–100, Fig. 4B; Ex. 2001 ¶¶ 60–61). Additionally, Patent Owner argues that because Laracey’s system is intended to allow multiple devices to use the same customer payment information, downloading the payment information to the mobile device, rather than maintaining the information in the device, is critical to Laracey’s functionality. *Id.* at 21 (citing Ex. 1004 ¶¶ 18, 43, 67; Ex. 2001 ¶ 65).

We begin by noting that Patent Owner’s arguments refer to both “storing” and “maintaining” financial information, seemingly interchangeably. PO Resp. 15–21. To the extent Patent Owner contends that “maintain” means something more than “stored,”¹¹ such a distinction is not applicable to Patent Owner’s arguments regarding whether Laracey discloses an e-purse as construed because the construction requires software that *stores* electronic financial information in a local device.

Keeping that clarification in mind, we disagree with Patent Owner’s contention that Laracey stores financial information in the transaction management system *only* and not in the mobile device. *See* PO Resp. 15–16. Although Patent Owner is correct that Laracey discloses storing

¹¹ We address Patent Owner’s arguments on this point below.

payment account information in the transaction management system (*see* Ex. 1004 ¶¶ 34, 36, 56, 58, 67–68), Laracey also discloses that the mobile device receives “transaction details and payment account information” from the transaction management system. *Id.* ¶ 99; *see also id.* ¶ 36 (disclosing that transaction management system 130 transmits a transaction detail message mobile device 102, where the transaction detail message provides details about the transaction, such as the amount due and the name and location of the merchant, as well as list of payment accounts the customer has registered with the system). One of ordinary skill in the art would have recognized that the information received from the transaction management system would be stored on the mobile device. Indeed, Patent Owner admits that Laracey *downloads* the payment information to the mobile device. PO Resp. 21; *see also* Sur-reply 8 (arguing that “Laracey always downloads the current information before processing a transaction”). The use of the term “downloading” indicates that the information or data is transferred from the transaction management system to the mobile device and, thus, is stored on the mobile device.

Laracey’s implied disclosure of storing transaction details and payment account information on the mobile device is reinforced by the fact that, as noted by Petitioner, Laracey discloses displaying payment account balances on the mobile device. Ex. 1004 ¶¶ 93, 165, Fig. 8B; *see* Pet. 30–31. Moreover, Laracey discloses that “the mobile device 202, under control of the mobile application, presents the transaction details and enhanced payment account choice(s) to the customer on a display screen of the mobile device 202,” and “the display of options may include information about the status of each of the available accounts (e.g., such as the balance, the current interest rate, any current rewards or loyalty points, etc.).” Ex. 1004 ¶ 100.

An ordinarily skilled artisan would have recognized that account balance data would be stored on the mobile device in order for the balances to be displayed on the mobile device.

In view of these disclosures, we agree with Petitioner that there is no teaching or suggestion in Laracey that would have caused one of ordinary skill in the art to conclude that account information is stored exclusively on the transaction management system and that one of ordinary skill in the art would have understood Laracey to “fairly suggest[]” storing account information on both the transaction management system and the mobile device. *See* Reply 10–11 (citing Ex. 1028 ¶¶ 9–10).

Furthermore, both the Petition and Mr. Smith state that Laracey’s account balances are financial information. Pet. 29–30 (citing Ex. 1003 ¶¶ 98–101); Ex. 1003 ¶ 100. Patent Owner does not appear to dispute these statements. Indeed, Patent Owner agreed during the hearing that a balance is financial information. Tr. 27:24.

Next, Patent Owner’s contention that the only information that Laracey’s mobile device has access to is “a proxy or representation of the payment account” is not persuasive. *See* PO Resp. 16. To begin with, the contention is not accurate. As discussed above, Laracey discloses that the mobile device receives “transaction details and payment account information” from the transaction management system (Ex. 1004 ¶ 99) and, thus, the mobile device has access to the transaction details and payment account information in addition to the proxies. Also, we agree with Petitioner that the proxies disclosed in Laracey are an optional feature used in only some embodiments. *See* Reply 22–23 (citing Ex. 1004 ¶¶ 41, 99, 100; Ex. 1028 ¶ 14; Ex. 1029, 40:10–16).

Laracey discloses that:

Pursuant to some embodiments, . . . the merchant 108 is not provided with any actual payment credentials of the customer during the checkout process. Further, the mobile device 102 never stores, sends or receives actual payment credentials. Instead, the mobile device 102 stores or has access to a proxy associated with actual payment credentials, and the proxy is used to identify a desired payment account for use in a given transaction.

Ex. 1004 ¶ 41 (emphasis added). Laracey thus indicates that the proxies are used only in *some embodiments*, and are not necessarily used in every embodiment. Furthermore, in the embodiments that use proxies, the mobile device never stores, sends or receives *actual payment credentials*. *Id.* In Laracey, “actual payment credentials” refer to information for processing a transaction using an account, such as account numbers. *Id.* ¶ 67.

Laracey does not, however, disclose withholding all of the financial information pertaining to a transaction. For instance, Laracey discloses that the mobile device receives transaction details and payment account information—for example, “data associated with the current transaction (such as the transaction total, the merchant name and information, and other transaction details) *as well as* data identifying the customer’s payment account(s) that may be used for the current transaction.” *Id.* ¶ 99 (emphasis added). The data identifying the customer’s payment account(s) may include proxies. *Id.* Thus, even when proxies are used and the actual payment credentials are not sent to the mobile device, the mobile device still receives other financial information such as account balances.

In addition, we are not persuaded by Patent Owner’s argument that “Laracey’s transaction flow makes clear that the device only has access to this information for the duration of a transaction.” *See* PO Resp. 16 (citing

Ex. 2001 ¶ 58). Patent Owner and Dr. Weaver both provide a description of Laracey's process of a customer making a purchase with the system, but neither explains sufficiently how this disclosure supports the contention that the mobile device has access to the information only for the duration of the transaction. *Id.* at 16–18 (citing Ex. 1004 ¶¶ 38, 53, 56–57, 82, 98–100, 108, 112, 132–133, 141, 165, Fig. 4B); Ex. 2001 ¶ 58.

Petitioner argues that Dr. Weaver's testimony that one of ordinary skill in the art would have understood from Laracey's context that the data should be purged at the conclusion of a transaction because the data is no longer of value is not supported by Laracey. Reply 15–16 (citing Ex. 1029, 42:6–43:7). According to Petitioner,

Dr. Weaver admitted that the sole rationale underlying his interpretation is that “Laracey's system is intended to allow multiple devices to utilize the same customer payment data” and “it would be difficult to synchronize that data with other devices” if it were not purged at the conclusion of a transaction.

Id. at 16 (citing Ex. 2001, 65; Ex. 1029, 43:9–44:16). We agree with Petitioner that the disclosures relied on by Petitioner and Dr. Weaver do not support the argument that Laracey teaches or suggests purging data at the conclusion of a transaction. *See id.* at 17 (citing Ex. 1004 ¶¶ 18, 43, 67). Paragraph 43 states Laracey's system of Figure 1 could include multiple devices, multiple merchants, and multiple transaction management systems. We are not persuaded that this passage suggests that a single user uses multiple devices to conduct payment transactions. Paragraph 18 of Laracey refers to “one of the authorized devices that has been designated by the customer as having access to the customer's payment credentials,” and Paragraph 67 states “the customer provides information about one or more payment devices.” At most, these passages suggest that a user could use

either a single device or, optionally, multiple devices. Contrary to Patent Owner's assertion, Laracey does not require the use of multiple devices in every embodiment. *See* Sur-reply 7; *see also* Tr. 20:10–21:3 (Patent Owner agreeing that Laracey's system does not require a customer to register more than one device). Considering the entire record, we agree with Petitioner that there is no support for the notion that Laracey necessarily purges data at the conclusion of a transaction.

Moreover, even assuming for the sake of argument that Laracey's mobile device does have access to *the information only for the duration of the transaction*, this detail would not be persuasive because we are not directed to any claim language that requires financial information to be stored for longer than the duration of the transaction. *See* Tr. 28:7–19 (Patent Owner conceding that the claim language does not have a specific temporal limitation).

In response to Patent Owner's arguments regarding Laracey's dynamic checkout token, Petitioner argues that Laracey's transaction lookup request is eliminated when using a dynamic checkout token such that the transaction details are received from the dynamic checkout token provided by the merchant and not from the transaction management system. Reply 6–8 (citing Ex. 1004 ¶¶ 38, 54–55, 60; Ex. 1003 ¶ 92; Ex. 1028 ¶¶ 4–8; Pet. 20). Petitioner also suggests that Laracey's transaction management system does not send payment account information to the mobile device when a dynamic checkout token is used. *Id.* at 8–10 (citing Ex. 1004 ¶¶ 112–113; Ex. 1028 ¶¶ 4–8).

Patent Owner disagrees, arguing that although a dynamic checkout token generated by the merchant can contain the transaction details, “[t]he user's payment information cannot be a transaction detail because the

merchant POS *never* has any payment information and thus cannot generate a token that includes it.” Sur-reply 3 (citing Ex. 1004 ¶¶ 3, 41). We agree with Patent Owner because Petitioner does not explain sufficiently how Laracey’s merchant would possess payment account information to be able to include it in a dynamic checkout token. Nevertheless, Patent Owner’s argument that Laracey’s mobile device retrieves payment account information from the transaction management system even when using a dynamic checkout token is not persuasive because the mobile device still receives transaction details and payment account information, regardless of the source, and displays financial information. For the reasons discussed above, this fact establishes that financial information is stored on the mobile device.

In view of the above, we determine that Laracey discloses software that stores electronic financial information and, thus, satisfies the construction of an “e-purse.”

The next aspect of the “e-purse” limitation that Patent Owner addresses is the requirement that the e-purse is “maintained locally in the mobile device.” PO Resp. 22–28. Before considering the Response arguments, we first address a new argument raised by Patent Owner in its Sur-reply regarding the meaning of “maintained.” Specifically, Patent Owner argues that one of ordinary skill in the art “would understand that ***maintaining*** financial information entails having the correct non-stale value of the information.” Sur-reply 4 (citing PO Resp. 22); *see also* Tr. 25:1–26:3 (Patent Owner arguing that “storing” is broader than “maintaining” and page 22 of the Patent Owner Response indicates that “maintain” requires the information be kept up to date).

Even if we consider this argument, we do not find it persuasive. The cited passage from the Patent Owner Response states: “The transaction management system must maintain the storage of financial information. First, as explained above, Laracey allows for multiple devices to use the same accounts. Thus, under Laracey’s implementation, the transaction management system must maintain those accounts so that the data remains synchronized.” PO Resp. 22 (citing Ex.2001 ¶ 68). We disagree that this passage indicates that the claim term “maintained” requires keeping information up to date and not stale. The passage is discussing Laracey’s disclosure, not claim terminology. Patent Owner does not explain adequately why Laracey’s disclosure would inform one of ordinary skill in the art about the meaning of the claim term “maintained.”

Furthermore, several other statements in the Patent Owner Response indicate that Patent Owner views “storing” and “maintaining” as interchangeable. For instance, Patent Owner argues “in the Laracey system, electronic financial information related to a customer’s accounts are *stored (maintained)* in remote servers.” PO Resp. 15–16 (emphasis added). Patent Owner also argues that “[t]o the extent Laracey discloses any software that *stores* financial information, that software is *maintained* on a server, ***not*** ‘locally in the mobile device.’” *Id.* at 22 (first and second emphases added).

In view of the above, we determine that the claim term “maintained,” as used in the “e-purse” limitation, does not require keeping information up to date and does not differ in meaning from “stored.”

Turning now to Patent Owner’s arguments regarding the e-purse being “maintained locally in the mobile device,” we note that these arguments essentially repeat Patent Owner’s arguments made disputing that Laracey discloses software that stores electronic financial information in a

local device and discussed above. For instance, Patent Owner argues: “[t]o the extent Laracey discloses any software that stores financial information, that software is maintained on a server, **not** ‘locally in the mobile device’” (PO Resp. 22 (citing Ex. 2011 ¶ 67)); Laracey’s “mobile device itself ‘never stores, sends or receives actual payment credentials. Instead, the mobile device 102 stores or has access to a proxy associated with payment credentials,’” and “Laracey’s detailed discussion of transaction flows in relation to Fig. 6 teaches that the mobile device only ever ‘stores or has access’ to even a proxy for the duration of a transaction based on receipt of a checkout token, through which the device forwards that information to a merchant” (*id.* at 23 (citing Ex. 2011 ¶ 69; Ex. 1004 ¶¶ 41–43)); “one of ordinary skill in the art would understand [Laracey’s disclosure of] ‘other details cached on the system’ and downloaded to the mobile device to include information regarding a proxy associated with payment credentials” (*id.* at 24 (citing Ex. 2011 ¶ 70)); “Laracey’s approach of avoiding access or storage of any actual financial information, and only storing proxy information for the duration of a transaction, is consistent with its approach of using customer authentication and checkout tokens” (*id.* at 25 (citing Ex. 2011 ¶ 71)); “it is a central aspect of Laracey’s system to **avoid** maintaining financial information locally on a mobile device” (*id.* (citing Ex. 2011 ¶ 72)); and “the information is temporarily displayed, but [Laracey] does not teach or disclose ever maintaining any of that information locally in a mobile device” (*id.* at 27 (citing Ex. 2011 ¶ 74)). We find these arguments unpersuasive for the same reasons discussed above in connection with the similar arguments disputing that Laracey discloses software that stores electronic financial information in a local device.

Based on the full record before us, we determine that Petitioner has met its burden of establishing that the combination of Laracey and Jogu discloses the “e-purse” limitation.

b) *The “Verifying” Limitations*

Claim 1 recites “verifying the total amount with a balance in the e-purse, wherein said verifying the total amount with a balance in the e-purse is performed within the mobile device without sending the payment request to a payment gateway.” Ex. 1001, 25:47–51. Similarly, claim 12 recites that “the payment request is denied in the mobile device when the amount is more than a balance of an electronic purse (e-purse) maintained locally in the mobile device.” *Id.* at 26:66–27:3.

Regarding the claim 1 limitation, Petitioner first argues that Laracey discloses that transaction management system 130 is in communication with one or more payment servers and receives a payment authorization message from a mobile device. Pet. 34 (citing Ex. 1004 ¶¶ 39–40). Thus, in Petitioner’s view, “transaction management system 130 in conjunction with one or more payment processing networks is a *payment gateway* as claimed at least because they comprise a collection of servers for settling payment.” *Id.* (citing Ex. 1003 ¶¶ 108–109).

Petitioner then argues that

it would have been obvious to modify *Laracey*’s e-purse transaction process pursuant to the teachings of *Jogu* to *verify[] the total amount with a balance in the e-purse, wherein said verifying the total amount with a balance in the e-purse is performed within the mobile device without sending the payment request to a payment gateway.*

Id. at 35. Specifically, Petitioner contends that Laracey discloses maintaining a balance for a “stored value” account, or an e-purse, and

providing that balance to the user when the user is deciding which account to select for a transaction. *Id.* at 35–36 (citing Ex. 1004 ¶¶ 100, 165, Fig. 8B). Petitioner adds that, despite stressing the importance of maintaining the account balance, Laracey does not explain what happens if the user selects a stored value account that has insufficient funds for the transaction. *Id.* at 36.

Petitioner argues, however, that Jogu discloses a POS terminal that transmits a payment amount to a mobile device, which performs a balance check for sufficient funds (i.e., determines whether the payment amount is within the current balance). *Id.* at 37–38 (citing Ex. 1005, 14, 15, Fig. 39). Petitioner further argues that Jogu discloses that the user is notified of the insufficient balance if the payment amount exceeds the balance, but the mobile device communicates with the POS terminal to continue the payment process if the balance is sufficient. *Id.* at 38 (citing Ex. 1005, 14, Fig. 23).

In view of these teachings, Petitioner argues that one of ordinary skill in the art would have been motivated to implement Jogu’s balance check in Laracey’s mobile device because this modification would have achieved the same benefits in Laracey that the balance check provides in Jogu. *Id.* at 40–41 (citing *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007)).

Petitioner also argues that one of ordinary skill in the art would have understood that Jogu’s balance check ensures that a user is informed of insufficient funds before proceeding with a transaction that will ultimately fail, which provides the benefit producing successful transactions and avoids the need to resolve an insufficient funds issue. *Id.* at 41 (citing Ex. 1003 ¶¶ 119–121). In addition, Petitioner argues that a skilled artisan “would have recognized that *Jogu*’s balance check process is particularly well-suited to *Laracey*’s system because *Laracey* expressly provides alternative account options for the user to select in the event an e-purse has insufficient funds.”

Id. (citing Ex. 1003 ¶¶ 119–121). Petitioner asserts that there would have been a reasonable expectation of success for the proposed combination because it would have required only minor programming that was well within the ordinary skill in the art. *Id.* at 42 (citing Ex. 1003 ¶ 122).

Petitioner asserts that the combination of Laracey and Jugo discloses the claim 12 limitation for the same reasons asserted in connection with the verifying limitation of claim 1. *Id.* at 53.

In its Response, Patent Owner argues that it would not have been obvious to one of ordinary skill in the art to combine Laracey and Jugu in the manner proposed by Petitioner. PO Resp. 28–32. In particular, Patent Owner argues that “Jogu performs its balance check so that it may make transactions while the mobile phone is out of range of radio wave service,” but Laracey “always requires communication between the mobile device and the transaction management system, so as to authenticate the mobile payment user and to allow the transaction management system to provide payment details.” PO Resp. 30 (citing Ex. 2001 ¶ 82; Ex. 2003, 63:11–15). To the extent Patent Owner is arguing that these differences render the references incompatible, we disagree. The fact that Jogu can perform a balance check while the phone is offline does not mean one of ordinary skill in the art would not have recognized the advantages of using a balance check in Laracey’s system. An obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418; *see also id.* at 421 (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”).

Patent Owner also argues that “even if [one of ordinary skill in the art] would seek to introduce a balance verification step into Laracey, Petitioner provides no evidence that they would verify the balance *without* sending a request to the payment gateway as required.” PO Resp. 30. Patent Owner also argues that Laracey is incompatible with Jogu’s verification step “because Laracey allows multiple users to use the same payment accounts, including the stored value gift card accounts on which Petitioner relies, it is critical that the Laracey system download the payment information, including a balance, from the server in response to the customer transaction request,” and one of ordinary skill in the art “would not seek to introduce a balance verification before receiving the information from the server, as the verification would be against stale data.” *Id.* at 31 (citing Ex. 2001 ¶ 83). Further, Patent Owner argues that Petitioner’s stated reasons for combining Laracey and Jogu are insufficient because of the stale date problem. *Id.* at 31–32 (citing Ex. 2001 ¶¶ 84–85).

We disagree for the following reasons.

Laracey discloses that after mobile device 102 captures the checkout token, it sends the token to transaction management system 130 in a “customer transaction lookup request message.” Ex. 1004 ¶ 35. In response to the customer transaction lookup request message, transaction management system 130 transmits a “transaction detail message” to mobile device 102. *Id.* ¶ 36. The transaction detail message provides details about the transaction, “including but not limited to the amount due, the name and location of the merchant . . . , and possibly one or more marketing messages,” and also “a list of payment accounts the customer has registered with the system, including credit, debit, checking, prepaid and other types of accounts.” *Id.* The list of accounts can also include additional information

associated with each account, such as the current available balance. *Id.* ¶ 58. Then, to complete the transaction, the customer uses mobile device 102 to select a desired payment account, which sends a “customer payment authorization request message” to transaction management system 130. *Id.* ¶ 39. Next, transaction management system 130 can transmit a “payment authorization request message” to the mobile device, which enables the customer to have a final opportunity to confirm or cancel the payment transaction. *Id.* The confirmation or cancellation is transmitted from mobile device 102 to transaction management system 130 as a “customer payment authorization message.” *Id.*

Petitioner maps the “customer payment authorization message” to the claimed “payment request.” Pet. 31–32 (citing Ex. 1004 ¶ 39; Ex. 1003 ¶¶ 102–107). As noted above, Laracey’s mobile device receives the transaction details and payment account information from the transaction management system (via the “transaction detail message”) in response to the transaction management system receiving the “customer transaction lookup request message.” Thus, the mobile device receives the transaction details and payment account information *before* the payment request (i.e., the “customer payment authorization message”) is sent to the payment gateway (i.e., the transaction management system). Furthermore, because the payment account information includes the *current* available balances (Ex. 1004 ¶ 58), we disagree that the mobile device would have stale data prior to the payment request being sent to the payment gateway.

For these reasons, Patent Owner’s arguments are not persuasive. Considering all of the evidence, we determine that Petitioner’s proposed reasons to combine Laracey and Jogu are realistic, have rational underpinning, and are supported by expert testimony, which we find

persuasive and credit. Thus, Petitioner's evidence shows that a skilled artisan would have had reasons to combine the teachings of Laracey and Jogu and would have had a reasonable expectation of success in doing so.

Based on the full record before us, we determine that Petitioner has met its burden of establishing that the combination of Laracey and Jogu discloses the "verifying" limitations of claims 1 and 12.

c) The Remaining Aspects of Petitioner's Contentions

Patent Owner does not offer any arguments specifically addressing the remaining limitations of claims 1 and 12. PO Resp. 13–32. We need not set forth formal findings as to the undisputed assertions by Petitioner that the combination of Laracey and Jogu discloses or suggests these limitations. *See LG Elecs., Inc. v. Conversant Wireless Licensing S.A.R.L.*, 759 F. App'x 917, 925 (Fed. Cir. 2019) ("The Board is 'not required to address undisputed matters' or arguments about limitations with which it was never presented." (quoting *In re Nuvasive, Inc.*, 841 F.3d 966, 974 (Fed. Cir. 2016))). Also, we cautioned Patent Owner "that any arguments not raised in the response may be deemed waived." Paper 8, 9; *cf.* 37 C.F.R. § 42.23(a) ("Any material fact not specifically denied may be considered admitted."). Nevertheless, we have reviewed Petitioner's contentions with respect to the remaining limitations of claims 1 and 12 and find that the combination of Laracey and Jogu discloses these limitations as set forth by Petitioner. *See* Pet. 14–29, 32–33, 42–47, 52–54.

d) Conclusion

For the above reasons, we determine that Petitioner has shown by a preponderance of the evidence that claims 1 and 12 are unpatentable over the combination of Laracey and Jogu.

4. *Dependent Claims 2–5, 13, and 14*

Claims 2–5 depend from claim 1, and claims 13 and 14 depend from claim 12. Petitioner provides reasonable and detailed explanations, supported by the testimony of Mr. Smith, indicating where in the references the limitations of claims 2–5, 13, and 14 are disclosed. Pet. 48–52, 54. Patent Owner offers no specific argument disputing Petitioner’s contentions with respect to these claims. PO Resp. 13–32.

We have considered the evidence and arguments of record and determine that Petitioner has demonstrated by a preponderance of the evidence that the combination of Laracey and Jogu renders obvious claims 2–5, 13, and 14 for the reasons discussed in the Petition and as supported by the testimony of Mr. Smith.

E. Ground 2: Asserted Obviousness Based on Laracey, Jogu, and Tang

Petitioner challenges claim 17, which depends from claim 12, as unpatentable under 35 U.S.C. § 103 based on the combination of Laracey, Jogu, and Tang. Pet. 54–58. Petitioner relies on Tang as disclosing a mobile device transmitting financial transaction data to a remote server via a secured channel. *Id.* at 57 (citing Ex. 1006, 12). Petitioner also provides reasons, supported with the testimony of Mr. Smith, for why it would have been obvious to one of ordinary skill in the art to combine Tang with Laracey with a reasonable expectation of success. *Id.* at 58 (citing Ex. 1003 ¶¶ 144–147).

In its Response, Patent Owner argues that “Petitioner and Mr. Smith rely on their arguments regarding Laracey and Jogu for the limitations of claim 12 that are included within claim 17. Petitioner and Mr. Smith do not suggest that Tang remedies the deficiencies of the Laracey/Jogu combination

discussed above.” PO Resp. 32. Patent Owner does not offer any other arguments specifically addressing this challenge to claim 17. *Id.*

We need not set forth formal findings as to the undisputed assertions by Petitioner that the combination of Laracey, Jogu, and Tang renders claim 17 unpatentable. *See LG Elecs.*, 759 F. App’x at 925; *see also* 37 C.F.R. § 42.23(a) (“Any material fact not specifically denied may be considered admitted.”). Nevertheless, we have reviewed Petitioner’s contentions and are persuaded that Petitioner has shown by a preponderance of the evidence that claim 17 is unpatentable over the combination of Laracey, Jogu, and Tang. *See* Pet. 54–58.

F. Ground 3: Asserted Obviousness Based on Laracey, Jogu, and Dorsey

Petitioner challenges independent claim 18 as unpatentable under 35 U.S.C. § 103 based on the combination of Laracey, Jogu, and Dorsey. Pet. 58–65. Independent claim 18 is substantially similar to claims 1 and 12, although claim 18 recites “the additional amount is added optionally by the user, after the user of the mobile devices verifies the electronic invoice displayed on the mobile device and authorizes a payment to the electronic invoice.” Ex. 1001, 28:11–14. Petitioner relies on Dorsey as disclosing this temporal variation on the additional amount or tip. Pet. 63–65 (citing Ex. 1007, 19:17–20, Fig. 16D; Ex. 1003 ¶¶ 155–157). Petitioner also provides reasons, supported with the testimony of Mr. Smith, for why it would have been obvious to one of ordinary skill in the art to combine Laracey and Dorsey with a reasonable expectation of success. *Id.* (citing Ex. 1003 ¶¶ 155–157).

In its Response, Patent Owner argues that, for the reasons argued in connection with Ground 1, the combination of Laracey and Jogu does not satisfy the claim 18 limitations “electronic purse (e-purse) maintained

locally in the mobile device” and “wherein the payment request is denied within the mobile device without sending the payment request to the payment gateway.” PO Resp. 33–34. Other than arguing that Dorsey does not remedy the alleged deficiencies of Laracey and Jogu, Patent Owner does not offer any arguments specifically addressing this challenge to claim 18. *Id.*

We need not set forth formal findings as to the undisputed assertions by Petitioner that the combination of Laracey, Jogu, and Dorsey renders claim 18 unpatentable. *See LG Elecs.*, 759 F. App’x at 925; *see also* 37 C.F.R. § 42.23(a) (“Any material fact not specifically denied may be considered admitted.”). Nevertheless, we have reviewed Petitioner’s contentions and are persuaded that Petitioner has shown by a preponderance of the evidence that claim 18 is unpatentable over the combination of Laracey, Jogu, and Dorsey. *See* Pet. 58–65.

III. CONCLUSION¹²

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
1–5, 12– 14	103(a)	Laracey, Jogu	1–5, 12–14	

¹² Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

17	103(a)	Laracey, Jogu, Tang	17	
18	103(a)	Laracey, Jogu, Dorsey	18	
Overall Outcome			1–5, 12–14, 17, 18	

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–5, 12–14, 17, and 18 of the '046 patent are determined to be unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2022-01239
Patent 10,600,046 B2

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