

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BJ'S WHOLESALE CLUB HOLDINGS, INC.,
Petitioner,

v.

WALMART APOLLO, LLC,
Patent Owner.

IPR2022-01496
Patent 10,368,187 B2

Before NEIL T. POWELL, MITCHELL G. WEATHERLY, and
ARTHUR M. PESLAK, *Administrative Patent Judges*.

WEATHERLY, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining No Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

We have authority to hear this *inter partes* review under 35 U.S.C. § 6(c). We enter this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. Briefly, we determine that BJ's Wholesale Club Holdings, Inc. ("Petitioner") has failed to prove by a preponderance of the

evidence that claims 1–21 of U.S. Patent No. 10,368,187 B2 (Ex. 1001, “the ’187 patent”) are unpatentable. *See* 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

A. Background

Petitioner filed a petition for *inter partes* review of claims 1–21 (the “challenged claims”) of the ’187 patent. Paper 1 (“Petition” or “Pet.”) Walmart Apollo, LLC (“Patent Owner”) timely filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). On April 12, 2023, based on the record before us at the time, we instituted an *inter partes* review of all challenged claims on all grounds alleged as indicated in the table below. Paper 7 (“Institution Decision” or “Dec.”).

Claim(s) challenged	35 U.S.C. §¹	Reference(s)
1–21	103	Poole, ² Hammad ³
1–21	103	Roeding, ⁴ Poole

After we instituted this review, Patent Owner filed a Patent Owner Response in opposition to the Petition (Paper 13, “PO Resp.”). Petitioner filed a Reply in support of the Petition (Paper 20, “Reply”). Patent Owner filed a Sur-reply responding to the Reply (Paper 22, “Sur-reply”). Patent

¹ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. §§ 102 and 103 that became effective March 16, 2013. The application for the ’187 patent was filed December 7, 2017, which claims priority to a provisional application filed December 9, 2016. Therefore, we apply the post-AIA versions of 35 U.S.C. §§ 102 and 103.

² U.S. Pat. Pub. No. 2015/0356667 A1 (Ex. 1006, “Poole”).

³ U.S. Pat. Pub. No. 2013/0166332 A1 (Ex. 1007, “Hammad”).

⁴ U.S. Pat. No. 8,489,112 B2 (Ex. 1008, “Roeding”).

Owner did not move to amend any claim of the '187 patent. We heard oral argument on January 10, 2024, and a transcript of the argument has been entered in the record (Paper 28, "Tr.").

B. Real Parties-in-Interest

Each party identifies itself as the only real party in interest. Pet. 1; Paper 3, 1.

C. Related Proceedings

The parties identify the '187 patent as a subject of *Sam's West, Inc. et al. v. BJ's Wholesale Club Holdings, Inc.*, Case No. 6:22-cv-00587 (M.D. Fla., Mar. 22, 2022). Pet. 1 (citing Ex. 1020); Paper 3, 1.

D. The '187 Patent

The '187 patent is titled "Systems and Methods for Identifying Available Location-Based Services." Ex. 1001, code (54). The '187 patent issued on July 30, 2019, from Application No. 15/834,674, which was filed on December 7, 2017. *Id.* at codes (45), (21), (22). Application No. 15/834,674 claims priority to Provisional Application No. 62/432,339, filed December 9, 2016. *Id.* at code (60).

The '187 patent explains that "[m]obile applications executing on a mobile computing device . . . may . . . use . . . the . . . device's wireless communication capabilities to interact with other computing devices." Ex. 1001, 1:15–18. One embodiment of the '187 patent describes "a system for performing location-based services" that "includes a mobile application executable on a mobile computing device operated by a user." *Id.* at 1:25–28. "The system also includes a machine-readable element [(MRE)] configured to provide location information and used in initiating performance of one or more available ordered services." *Id.* at 1:32–37.

“The system also includes a server hosting a[] services management framework coupled in communication with a database and the mobile application,” where “[t]he database includes one or more services ordered by the user”—“referred to as ‘ordered services.’” *Id.* at 3:1–5.

In operation, a user can approach a local POS terminal with a mobile computing device and use a mobile application thereon to scan a machine-readable element generated and displayed at the POS terminal. Ex. 1001, 3:22–30, 6:13–16. The mobile application can then decode the identifiers in the machine-readable element and identify therefrom the location of a POS terminal associated with the machine-readable element as well as the types of services available at that location. *Id.* at 3:17–30, 3:50–51, 4:24–27, 6:13–25. According to the ’187 patent, “types of services include purchasing goods and services, processing a pharmacy order, financial services such as transferring or receiving money to/from a third party, receiving an electronic receipt (i.e., an e-receipt) from a purchase, and returning an item from the e-receipt.” *Id.* at 2:63–67. In turn, “[t]he mobile application transmits the user’s identity and the available types of services to [the] services management framework being executed on [the] server,” which “maps the available types of services to the ordered services associated with the user to determine which ordered services are available at the particular location and transmits that information to the mobile application.” *Id.* at 3:52–3:59. Available ordered services may be automatically processed “[f]or example, if pharmacy services are available . . . an associate may be notified to pick up a previously filled prescription for delivery to the user”—or the user may be asked which available ordered services she wishes to have performed. *Id.* at 3:64–4:5.

E. Illustrative Claims

Claims 1, 8, and 15 are independent claims. Claim 1, which is representative, recites:

- 1[a]. A system for identifying available location-based services, the system comprising:
 - [b] a mobile application executable on a mobile computing device operated by a user;
 - [c] a database storing one or more previously ordered services associated with the user, wherein the one or more previously ordered services are pending services that are not yet complete due to the services requiring an interaction of the user with a physical facility;
 - [d] a plurality of location-specific computing devices located at a plurality of locations within a facility that are configured to use location-based wireless communication to transmit a code to the mobile application that identifies types of services available to be performed at a location of a location-specific computing device, at least one available service differing between two of the plurality of locations, wherein the available types of services are location-based services capable of being performed at a location of a location-specific computing device;
 - [e] a machine-readable element configured to provide location information used in initiating performance of one or more available ordered services; and
 - [f] a server communicatively coupled to the database and the mobile application and hosting a services management framework configured to map the one or more previously ordered services to the one or more available types of services to determine one or more available ordered services at a location of a location-specific computing device, wherein the one or more available ordered services are ordered services capable of being performed at a location of a location-specific computing device,

[g] wherein the mobile application is configured to:

receive a code from a first location-specific computing device
of the plurality of location-specific computing devices;

[h] identify one or more available types of services based on
the code;

[i] transmit, to the services management framework, the
identification of the one or more available types of
services and user authentication data;

[j] receive an indication from the services management
framework of the one or more available ordered services;

[k] decode the machine-readable element to decode location
information; and

[l] initiate performance of at least one of the one or more
available ordered services determined by the services
management framework using the decoded location
information.

Id. at 9:48–10:31 (with certain line breaks and bracketed labels added to ease
discussion).

II. ANALYSIS

A. Claim Interpretation

We interpret claims in the same manner used in a civil action under 35 U.S.C. § 282(b) “including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b). When applying that standard, we interpret the claim language as it would be understood by one of ordinary skill in the art in light of the specification. *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1279–80 (Fed. Cir. 2017). Thus, we give claim terms their ordinary and customary meaning as understood by an ordinarily skilled artisan. *See*

Phillips v. AWH Corp., 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). Only terms that are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

B. Legal Standards

To prevail in its challenges to the patentability of the claims, Petitioner must establish unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). “In an [*inter partes* review], 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) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review).

The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), reaffirmed the framework for determining obviousness as set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). The *KSR* Court summarized the four factual inquiries set forth in *Graham* that we apply in determining whether a claim is unpatentable as obvious under 35 U.S.C. § 103(a) as follows: (1) determining the scope and content of the prior art, (2) ascertaining the differences between the prior art and the claims at issue, (3) resolving the level of ordinary skill in the pertinent art, and (4) when in

evidence, considering objective evidence indicating obviousness or nonobviousness. *KSR*, 550 U.S. at 406 (citing *Graham*, 383 U.S. at 17–18).

Petitioner must explain how the proposed combinations of prior art would have rendered the challenged claims unpatentable. 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; *accord In re Translogic Tech., Inc.*, 504 F.3d 1249, 1259 (Fed. Cir. 2007). However, Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements,” but “must instead articulate specific reasoning, based on evidence of record” to support an obviousness determination. *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380–81 (Fed. Cir. 2016). Petitioner also must articulate a reason why a person of ordinary skill in the art would have combined the prior art references. *NuVasive*, 842 F.3d at 1382.

At this final stage, we determine whether a preponderance of the evidence of record shows that the challenged claims would have been rendered obvious in view of the asserted prior art. We analyze the asserted grounds of unpatentability in accordance with these principles.

C. Level of Ordinary Skill

We review the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art at the time of the invention. *Graham*, 383 U.S. at 17. Petitioner submits that the ordinarily skilled artisan would have had a “bachelor’s degree in electrical engineering (or equivalent subject) together with one to two years of experience in research, design, development, and/or testing of location-based systems

including mobile device applications.” Pet. 8 (quoting Ex. 1003 ¶ 20).
Petitioner also contends that “[m]ore education can supplement practical experience and vice versa.” *Id.* Patent Owner adds that a POSA could also have a bachelor’s degree in computer science, but otherwise agrees with Petitioner’s definition of a POSA. PO Resp. 16 (citing Ex. 2004 ¶¶ 74–78).

We apply Petitioner’s proposed level of skill in the art, but, add that the person of ordinary skill in the art could also have a bachelor’s degree in computer science because that is consistent with the problems addressed in the ’187 patent and the prior art. Our Decision, however, would not be affected if we adopted Petitioner’s level of skill in the art.

D. Claims 1–21: Obviousness in View of Poole and Hammad

Petitioner argues that the combined teachings of Poole and Hammad render claims 1–21 unpatentable as obvious. Pet. 10–38. Generally, Petitioner relies on Poole as describing most limitations in claim 1, *id.* at 10–23, and relies upon Hammad in combination with Poole as describing the uses of a machine-readable element in the claimed system among other limitations, *id.* at 14, 18, 19. For the reasons expressed below, we determine that Petitioner has failed to demonstrate by a preponderance of evidence that the combined teachings of Poole and Hammad render claims 1–21 unpatentable as obvious.

1. Poole

Poole is titled “Systems and Methods for Location Sensing for Purchases.” Ex. 1006, code (54). Poole is directed to “systems and methods . . . for assisting a customer with purchasing merchandise items in a store.” *Id.* ¶ 6. Figure 1 of Poole, reproduced at right, depicts a block diagram of a store consistent with the disclosed embodiments. Ex. 1006 ¶¶ 15, 25. As shown, store 100 includes aisles 102 each equipped with racks or other equipment for storing merchandise items 104. *Id.* ¶ 25. According to Poole, “[a]isles 102 may also be equipped with one or more sensors 214, which may be configured to detect the position of one or more customer devices being carried by one or more customers, when the customer devices are located near to or adjacent to sensors 214.” *Id.*

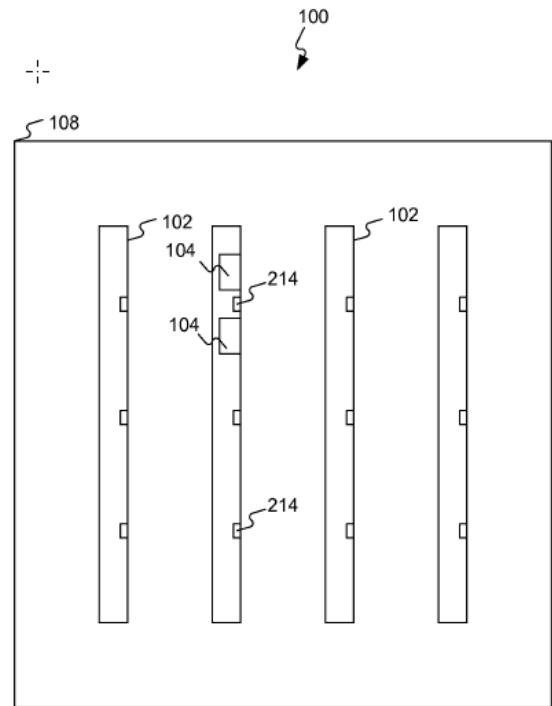
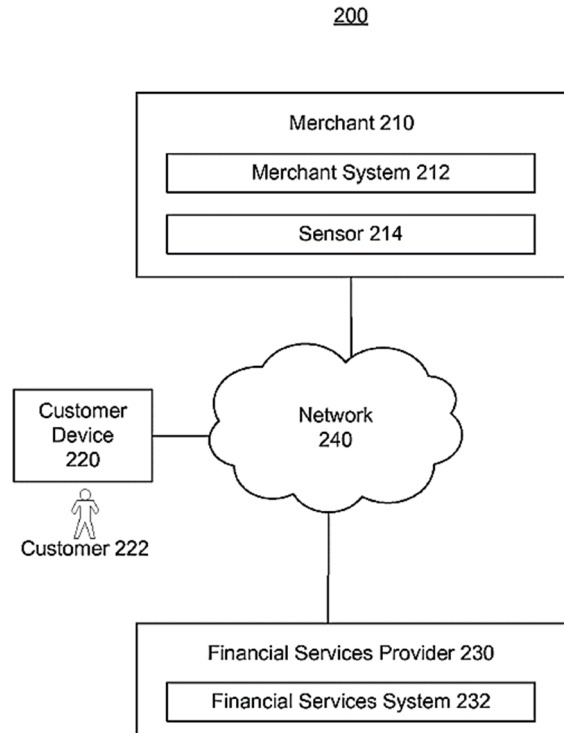


Figure 2 of Poole, reproduced at right, depicts a system according to one embodiment. Ex. 1006 ¶¶ 26–27. As shown, system 200 includes merchant 210 (including merchant system 212), customer device 220, customer 222, financial services provider 230, and network 240. *Id.* ¶ 27.

“Merchant system 212 may include server(s) . . . configured to execute stored software instructions to perform operations associated with merchant 210, including . . . processing purchase transactions, generating transaction data, generating product data (e.g., SKU data) relating to purchase transactions, etc.” *Id.* ¶ 29. Merchant 210 may also include one or more sensors 214 for detecting the presence of or communicating with a customer 222 in the vicinity. *Id.* ¶ 31. Each sensor 214 may have a sensor identifier associated therewith. *Id.* ¶ 32. “[C]ustomer device 220 may be configured to execute a customer assistance application, which may be configured to assist a customer locate in-store merchandise items 104, communicate with sensor 214, and/or facilitate or perform transactions (e.g., the selection and purchase of one or more merchandise items 104 in store 100).” *Id.* ¶ 33.

For example, “sensor 214 may detect the presence of customer device 220, when customer device 220 is in the vicinity of sensor 214” and “transmit information regarding merchandise items 104 stored near customer device 220” “to customer 222 on a display of customer device 220.” *Id.*



¶ 34. Customer device 220 may also extract information about sensor 214, such as its position, from the received signals and transmit the extracted information to merchant system 212 through network 214. *Id.* ¶ 48.

Using customer device 220, customer 222 may select one or more of the displayed merchandise items 104 for purchase and communicate with merchant system 212 and financial services system 232 over network 240 to complete the purchase 104 without having to wait in line or take items 104 to the checkout counter. *Id.* ¶ 34. If customer 222 does not want to complete the purchase now, the selected merchandise items 104 may be saved in memory 306, storage medium 308, or database 314, which can store various customer data, sensor data, inventory data, purchase data, and financial data. *Id.* ¶¶ 44, 80. If the customer does want to complete the purchase, however, the system determines whether the customer has a registered profile or needs to complete the purchase as a guest. *Id.* ¶¶ 81–83.

2. Hammad

Hammad is titled and directed to “Mobile Wallet Store and Service Injection Platform Apparatuses, Methods and Systems (SEWI)” for “transform[ing] user goal, trigger, trigger monitoring and paperless electronic ticket entry inputs, via SEWI components, into triggered monitoring updates, purchase transaction triggers, and goal resolution outputs.” Ex. 1007, code (54), ¶¶ 4, 94. Figure 1 of Hammad, reproduced below, depicts various gameday mobile purchasing activities according to some embodiments of the SEWI. Ex. 1007 ¶¶ 7, 95, Fig. 1.

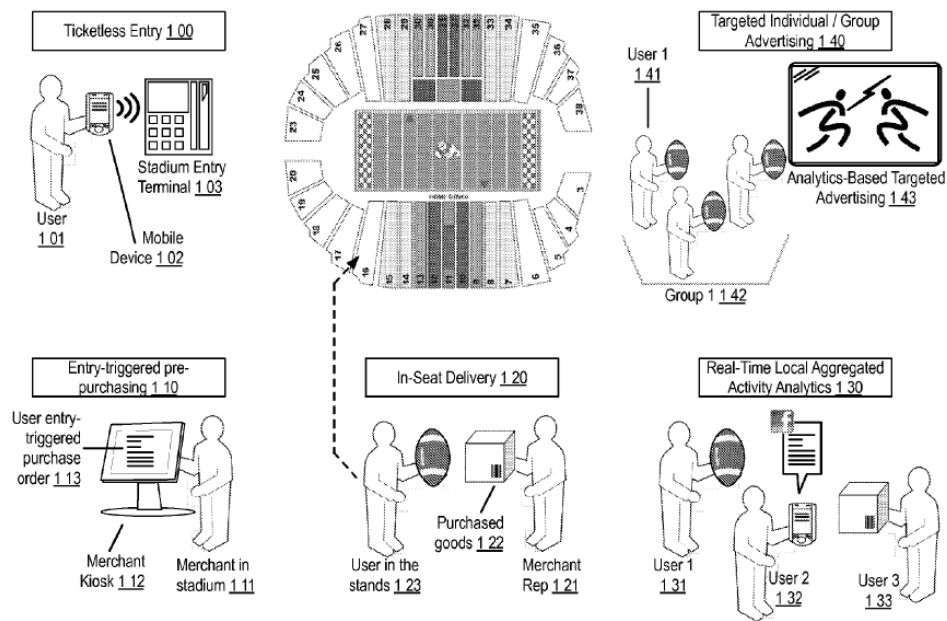
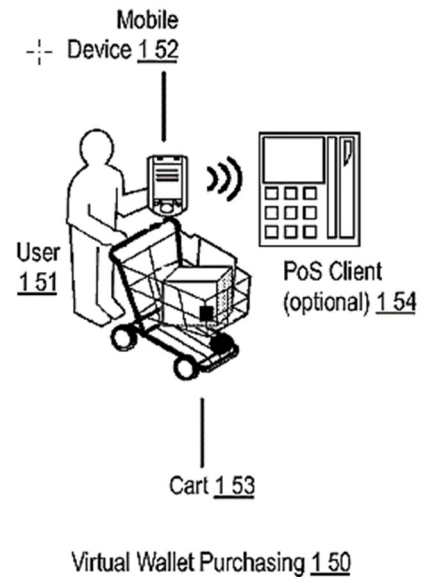


FIGURE 1

Example: Gameday Mobile Purchasing

Among other things, “the SEWI may provide pre-purchasing of user pre-selected goods for delivery to the user's seating area . . . while the user is still in transit from the stadium entrance to the seating area of the user.” *Id.* ¶ 96. “For example, when a user successfully enters the stadium using the user’s mobile device, the SEWI may lookup a database to determine any pre-purchasing preferences of the user,” and based thereon, “the SEWI may initiate purchase transactions using funding sources included in an electronic virtual wallet associated with the user’s mobile device.” *Id.* Further, “[u]pon successful authorization of the transactions, the SEWI may notify merchants . . . in the user’s pre-purchasing preferences 111,” who have “kiosks 112 in the stadium, that they are to deliver the user’s ordered goods 113.” *Id.*

Hammad's Figure 1B, reproduced at right, depicts a virtual mobile wallet purchasing aspect of the SEWI. *Id.* ¶ 8, Fig. 1B. As shown, the SEWI can make use of "a virtual wallet . . . 150[]" for conducting purchase transactions," in which "a user 151 may utilize a mobile device 152 . . . to conduct a purchase transaction for contents of a cart 153 . . . , optionally at a point-of-sale (PoS) client 154." Ex. 1007 ¶ 99. "In some embodiments, the SEWI may determine offers, coupons, discounts, and/or the like to provide to individual users and/or groups of users, based on the analytics performed on the real-time localized aggregated activity," where "the activities aggregated may include . . . social networking activity, purchasing activity, web browsing activity, media streaming activity, and/or the like." *Id.* ¶ 98.



Hammad's Figure 12F, reproduced below, illustrates a snap mode in the virtual wallet application of the SEWI. *Id.* ¶ 19, Fig. 12D.

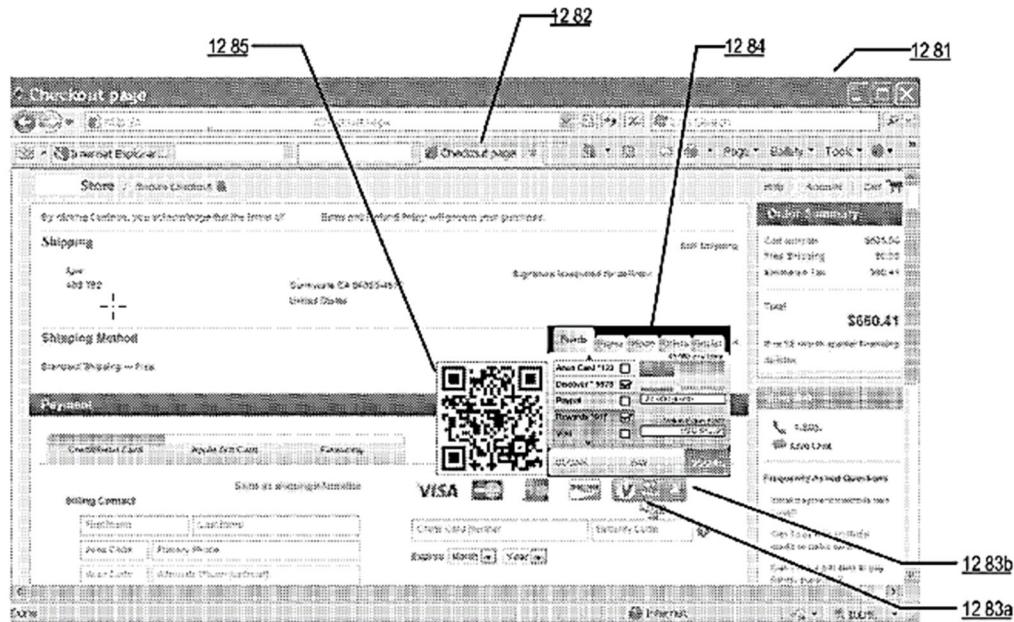


FIGURE 12F

Example: Virtual Wallet Application Embodiment - Snap Mode: Web

As shown, the checkout webpage of an online shopping website 1282, displayed on a client browser 1281, can provide user interface element 1283a-b, whereby the user can indicate the desire to use snap mobile payment. *Id.* ¶ 161. “[I]f the user activates element [1283a], the website may generate a QR code using default settings of the user, and display the QR code . . . 1285[] on the screen of the client for the user to capture using the user’s mobile device . . . to initiate purchase transaction processing.” *Id.*

3. Independent Claim 1

We find that Petitioner has failed to demonstrate that Poole describes the limitations of element 1k, which requires that the “mobile application is configured to,” Ex. 1001, 10:14, “decode the machine-readable element to

decode location information,” *id.* at 10:26–27, and element 1l, which requires, the mobile application to “initiate performance of [the] available ordered service[] . . . using the decoded location information,” *id.* at 10:28–31. Element 1e, which introduces the concept of “location information” recites “a machine-readable element configured to provide location information used in initiating performance of one or more available ordered services.” *Id.* at 10:1–3. Regarding element 1e, Petitioner contends that “Poole discloses a barcode (‘machine-readable element’) configured to provide a sensor identifier that is used ‘to identify and/or locate sensor 214’ (‘location information’).” Pet. 14 (citing Ex. 1006 ¶¶ 32, 88, 94; Ex. 1003 ¶ 118). For element 1k, Petitioner contends that “Poole discloses this feature. Poole discloses that customer device 220 may extract information regarding sensors 214, such as sensor identifier, by scanning a barcode associated with a sensor 214.” *Id.* at 21 (citing Ex. 1006 ¶¶ 48, 94; Ex. 1003 ¶¶ 145–147) (internal citation omitted). For element 1l, Petitioner contends that “Poole discloses that scanning the barcode associated with sensor 214 initiates the process through which merchandise items 104 previously identified by the customer are presented for purchase.” *Id.* at 22 (citing Ex. 1006 ¶¶ 34, 88, 94). Accordingly, Petitioner collectively cites Poole’s ¶¶ 34, 48, 88, 94 as evidence supporting its contention that Poole describes a mobile application running on Poole’s customer device 220⁵ that scans a

⁵ Petitioner identifies Poole’s customer assistance application running on its customer device 220 as the claimed mobile application. Pet. 11 (citing Ex. 1006 ¶ 33; Ex. 1003 ¶ 105). Petitioner mistakenly identifies “customer device 222,” which is apparent from our review of the portion of Poole that Petitioner cites. Ex. 1006 ¶ 33.

barcode to decode location information used to “initiate” an “available ordered service.”

However, none of the cited material within Poole (¶¶ 32, 48, 88, 94) supports Petitioner’s contention. Poole’s ¶ 32 describes sensors 214 having a “sensor identifier” that “may be used by . . . customer device 220 . . . to identify and/or locate sensor 214,” but wholly fails to describe scanning a machine-readable element to decode location information. Ex. 1006 ¶ 32.

Poole’s ¶ 48 explains:

information contained in signals transmitted by sensors 214 may include a Bluetooth identifier, Bluetooth profile, sensor identifier, and/or sensor position. The sensor identifier of each sensor 214 may be stored in association with a known position of sensor 214 in memory 306, storage medium 308, and/or database 314. Customer device 220 may retrieve a position or sensor identifier of sensor 214 located near customer device 220 based on the stored information.

Id. ¶ 48. This paragraph similarly fails to describe that customer device 220 scans a barcode to decode location information, but instead describes device 220 receiving a wireless signal from sensor 214 used to obtain the position of the sensor from a database. *Id.* Barcodes are not discussed at all in Poole’s ¶ 48. *Id.*

Poole’s ¶ 88 relates to step 802 in process 800 for “receiving a selection of merchandise item 104 from a previously prepared list of merchandise items 104.” *Id.* ¶ 88. Poole also explains that “[c]ustomer 222 may want to see merchandise item 104 before making the final decision to purchase.” *Id.* Barcodes are not discussed in this portion of Poole at all. *Id.* Later, in step 810 of process 800, Poole describes “determining a sensor identifier or a position of sensor 214 associated with merchandise items 104

[selected by customer 222].” *Id.* ¶ 91. However, barcodes are not discussed in this portion of Poole either. *Id.*

Barcodes are mentioned only in Poole’s ¶¶ 94 and 97, but not in connection with customer device scanning a barcode to initiate an available ordered service as recited in element 11. Poole’s ¶ 94 describes, in part, process 900 illustrated in Figure 9. *Id.* ¶ 94. Figure 9 “shows an exemplary process of inventory management in a store consistent with disclosed embodiments.” *Id.* ¶ 23. Poole’s ¶ 94 explains:

As further illustrated in FIG. 9, process 900 may include a step 902 of receiving a sensor identifier associated with a first sensor 214. Sensor identifier may be received in many ways. In one exemplary embodiment, sensor identifier may be received by receiving a Bluetooth identifier of sensor 214 using a Bluetooth scanning or reading device. *In another exemplary embodiment, sensor identifier may be received by scanning a barcode associated with first sensor 214 using, for example, a barcode reader.* In another exemplary embodiment, each sensor 214 may be equipped with a RFID tag. Sensor identifier may be received accessing the RFID tag using, for example, an RFID tag reader to retrieve the sensor identifier stored in the RFID tag. In yet another exemplary embodiment, sensor identifier may be received by entering it using one or more I/O devices 304.

Id. (emphasis added). Poole thus describes using a “barcode reader” to scan a barcode to decode a sensor identifier. *Id.* However, Poole wholly fails to mention scanning such a barcode on sensor 214 with its customer device 222. *See id.* The only other mention of scanning a barcode in Poole relates to the receiving a merchandise identifier, “when a barcode associated with [a] merchandise item is scanned using, for example, a barcode reader.” *Id.* ¶ 97. Poole’s inventory management process stores a “merchandise identifier and inventory information in association with [a] sensor identifier.” *Id.* at Fig. 9. Neither Figure 9 nor its associated description

teach that customer device 222 scans a barcode to receive a sensor identifier for any reason. *Id.* ¶¶ 93–99, Fig. 9. In short, Poole’s barcode is used in an inventory management process; it is not scanned by a mobile application to decode location information as required in element 1k or to initiate an available ordered service using the decoded location information as required in element 1l. Petitioner does not rely upon Hammad as describing either of these aspects of elements 1k and 1l. *See* Pet. 21–23. For the reasons set forth above, we find that Petitioner has failed to demonstrate by a preponderance of evidence that the Poole-Hammad combination teaches elements 1k or 1l. Accordingly, Petitioner fails to demonstrate by a preponderance of evidence that the combined teachings of Poole and Hammad render independent claim 1 unpatentable as obvious.

4. Independent Claim 8

Elements 8h, 8i and 8j of independent claim 8 recite materially identical limitations to those set forth as elements 1e, 1k and 1l. *Compare* Ex. 1001, 11:31–41 (elements 8h, 8i, 8j), *with id.* at 10:1–3 (element 1e), 10:14, 26–31 (elements 1k, 1l). For elements 8h,⁶ 8i, and 8j, Petitioner cross-references its showing for elements 1e, 1k, and 1l respectively. Pet. 31. For the same reasons expressed in Part II.D.3 above relating to elements 1e, 1k, and 1l, we conclude that Petitioner has failed to demonstrate by a preponderance of evidence that the combined teachings of

⁶ Unlike element 1e, element 8h expressly requires that the scan of the machine-readable element providing location information be “taken by the mobile computing device” and received “via the mobile application.” Ex. 1001, 11:31–33.

Poole and Hammad describe or suggest elements 8h, 8i and 8j and thus Petitioner fails to demonstrate that claim 8 is unpatentable as obvious.

5. Independent Claim 15

Elements 15i, 15j, and 15k of independent claim 15 recite materially identical limitations to those set forth as elements 8h, 8i and 8j. *Compare* Ex. 1001, 12:44–53 (elements 15i, 15j, 15k), *with id.* at 11:31–41 (elements 8h, 8i, 8j). For elements 15i, 15j, and 15k, Petitioner cross-references its showing for elements 8h, 8i and 8j respectively. Pet. 35–36. For the same reasons expressed in Part II.D.4 above relating to elements 8h, 8i and 8j, we conclude that Petitioner has failed to demonstrate by a preponderance of evidence that the combined teachings of Poole and Hammad describe or suggest elements 15i, 15j, and 15k and thus Petitioner fails to demonstrate that claim 15 is unpatentable as obvious.

6. Dependent Claims 2–7, 9–14, and 16–21

Claims 2–7 depend directly from independent claim 1. Ex. 1001, 10:32–58. Claims 9–14 depend directly from independent claim 8. *Id.* at 11:42–67. Claims 16–21 depend directly from independent claim 15. *Id.* at 12:54–13:16. For all the reasons expressed in Parts II.D.3–5 above relating to independent claims 1, 8, and 15 respectively, we find that Petitioner has failed to demonstrate by a preponderance of evidence that the combined teachings of Poole and Hammad render dependent claims 2–7, 9–14, and 16–21 unpatentable as obvious.

E. Claims 1–21: Obviousness in View of Roeding and Poole

Petitioner argues that the combined teachings of Roeding and Poole render claims 1–21 unpatentable as obvious. Pet. 38–63. Generally, Petitioner relies on Roeding as describing most limitations in claim 1, *id.*

at 38–50, and relies upon Roeding in combination with Poole as describing the wireless transmission of a code identifying services available at a specific location within a store among other limitations, *id.* at 40–41, 44–48. For the reasons expressed below, we determine that Petitioner has failed to demonstrate by a preponderance of evidence that the combined teachings of Roeding and Poole render claims 1–21 unpatentable as obvious.

1. Roeding

Roeding, used as the primary reference in Petitioner’s second ground, is titled “Method and System for Location-Triggered Rewards.” Ex. 1008, code (54). Roeding relates to systems and methods for “transmitting store advertising information directly to consumers through their mobile phones.” *Id.* at 2:22–24. Roeding’s system “provides rewards such as points that can be accumulated and redeemed for merchandise at the stores, or for digital goods (song downloads, virtual goods etc.).” *Id.* at 3:6–10. Rewards are provided by “detecting a presence of a mobile phone within an enclosed space, [and] transmitting information relating to the presence of the mobile phone within the enclosed space to a server computer.” *Id.* at Abstract, code (57). An application running on the mobile phone receives personalized targeted advertising based upon the location of the phone, *id.* at 2:39–45, 2:54–56, and a customer profile containing previous shopping history and the user’s demographic data including “birth date, income, marital status, address and other information,” *id.* at 18:46–49.

2. Independent Claim 1

We find that Petitioner has failed to demonstrate that Roeding describes the limitations of element 1i, which requires that the “mobile application is configured to,” Ex. 1001, 10:14, “transmit, to the services

management framework, . . . user authentication data,” *id.* at 10:20–22. Petitioner contends that Roeding alone describes a mobile application that transmits authentication data to the services management framework by transmitting “registered user information” to the “retailer’s device” when the user walks into a participating retailer. Pet. 47 (citing Ex. 1008, 2:39–44, 14:1–8, 18:35–49; Ex. 1003 ¶ 319). Dr. Williams expands upon Petitioner’s cited materials by testifying that Roeding also describes manual authentication in which the user would “manually input [a] unique ID into their phone and proceed to receive personalized offers, discounts and rewards.” Ex. 1003 ¶ 319 (citing Ex. 1008, 30:1–6). In its Reply, Petitioner expressly cites the transmission of a “unique ID” by Roeding’s mobile application as transmitting “user authentication data” to the services framework. Reply 19 (citing Pet. 47 (citing Ex. 1003 ¶ 316 (citing Ex. 1008, 30:1–6))). Petitioner also argues that Dr. Long testifies that a “unique ID is something a user has, which is the second type of authentication data described by Dr. Long,” *id.* (citing Ex. 2004 ¶ 30), and that a user’s social security number could be used as “authentication data,” *id.* (citing Ex. 1026, 48:10–14)⁷. None of Petitioner’s cited evidence supports its contention that Roeding’s mobile application transmits user authentication data to the services framework.

Patent Owner argues, and we agree, that Petitioner identifies Roeding’s transmission of “user identification data” (recited in dependent

⁷ Dr. Long’s cited cross-examination testimony fails to support the proposition that a user’s social security number could be used as “user authentication data.” Dr. Long expressly testifies that he “would never use a social security number for [authentication], because they’re not necessarily unique.” Ex. 1026, 48:15–17.

claims 7, 14, and 21) which we find does not correspond to the recited transmission of “user authentication data.” PO Resp. 47. Patent Owner persuasively points out that “user authentication data” is described in the ’187 patent as “a user name or a user identification (ID) and a password.” Sur-reply 18 (citing Ex. 1001, 2:50–53); *see also* PO Resp. 47 (making same argument without citing Specification).

We credit Dr. Long’s uncontroverted testimony on the topic of “authentication,” which he supports with citations to objective evidence. Ex. 2004 ¶¶ 26–31 (citing Ex. 2020, 594, 595, 626, 627, 632, 633, 636). He describes the three types of user authentication as being based upon what a user “knows,” “has,” or “is.” Ex. 2004 ¶ 28 (citing Ex. 2020, 627). He testifies that authentication based on what a user “knows” involves entering a user name and password or answering security questions. *Id.* ¶ 29 (citing Ex. 2020, 632–633). He further explains that the second type of authentication based on a user providing something that they “have,” involves the user providing, for example, “a key to a door” or an “ATM card.” *Id.* ¶ 30 (citing Ex. 2020, 633). Regarding the last way of authentication, Dr. Long testifies that the third method, providing something that the user “is,” such as a user’s biometric characteristic like a fingerprint or image of a face. *Id.* ¶ 31 (citing Ex. 2020, 636).

We find that the portions of Roeding cited by Petitioner fail to describe a mobile application transmitting “user authentication data” to a “services management framework” as required in element 1i. Rather, we find that the cited portions of Roeding describe: (1) various ways in which Roeding’s system locates the user, Ex. 1008, 2:39–44, (2) Roeding’s phone

transmitting a user profile to the retailer's devices, *id.* at 14:1–8, and (3) the content of a user's profile that identifies the user, *id.* at 18:35–49.

Petitioner's reliance on Roeding's disclosure of "manual authentication" in its Reply, even if it were within the proper scope of a reply under Rule 42.23(b),⁸ is unpersuasive. Roeding describes a process of manually and temporarily authenticating a user by a representative of the retailer authenticates a user by checking a "form of physical ID." Ex. 1008, 30:1–6. Although we agree with Petitioner that the cited manual process is a form of user authentication, the second type described by Dr. Long based on something a user "has" (a physical ID), Roeding's manual process does not involve a mobile application transmitting "user authentication data" to a services management framework or anywhere else. *Id.*

Although Petitioner states that the combination of Roeding and Poole meets element 1i, Petitioner does not rely upon Poole as describing the transmission of "user authentication data," but rather for a different aspect of element 1i. *See* Pet. 47–48 (relying on Poole as describing transmitting "the identification of the one or more available types of services to the services management framework").

For all these reasons, we find that Petitioner fails to demonstrate by a preponderance of evidence that the combined teachings of Roeding and Poole meet all the limitations of element 1i. Accordingly, we also find that Petitioner has failed to demonstrate by a preponderance of evidence that the

⁸ Petitioner expressly cited this portion of Roeding in its Reply, but Dr. Williams cited it in his original declaration filed with the Petition, and Petitioner cited that testimony in the Petition. Reply 19 (citing Pet. 47 (citing Ex. 1003 ¶ 316 (citing Ex. 1008, 30:1–6)))

combined teachings of Roeding and Poole render claim 1 unpatentable as obvious.

3. Independent Claim 8

Element 8e of independent claim 8 recites materially identical limitations to those set forth as element 1i. *Compare* Ex. 1001, 11:12–15 (element 8e), *with id.* at 10:20–22 (element 1i). For element 8e, Petitioner cross-references its showing for element 1i. Pet. 54. For the same reasons expressed in Part II.E.2 above relating to element 1i, we conclude that Petitioner has failed to demonstrate by a preponderance of evidence that the combined teachings of Roeding and Poole describe or suggest element 8e and thus Petitioner fails to demonstrate that claim 8 is unpatentable as obvious.

4. Independent Claim 15

Element 15f of independent claim 15 recites materially identical limitations to those set forth as element 8e. *Compare* Ex. 1001, 12:29–32 (element 15f), *with id.* at 11:12–15 (element 8e). For element 15f, Petitioner cross-references its showing for element 8e. Pet. 59. For the same reasons expressed in Part II.E.3 above relating to element 8e, we conclude that Petitioner has failed to demonstrate by a preponderance of evidence that the combined teachings of Roeding and Poole describe or suggest element 15f and thus Petitioner fails to demonstrate that claim 15 is unpatentable as obvious.

5. Dependent Claims 2–7, 9–14, and 16–21

Claims 2–7 depend directly from independent claim 1. Ex. 1001, 10:32–58. Claims 9–14 depend directly from independent claim 8. *Id.* at 11:42–67. Claims 16–21 depend directly from independent claim 15. *Id.*

at 12:54–13:16. For all the reasons expressed in Parts II.E.2–4 above relating to independent claims 1, 8, and 15 respectively, we find that Petitioner has failed to demonstrate by a preponderance of evidence that the combined teachings of Roeding and Poole render dependent claims 2–7, 9–14, and 16–21 unpatentable as obvious.

III. CONCLUSION

In summary,

Claim(s)	35 U.S.C. §	Reference(s)	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
1–21	103	Poole, Hammad		1–21
1–21	103	Roeding, Poole		1–21
Overall Outcome				1–21

IV. ORDER

For the reasons given, it is:

ORDERED that claims 1–21 of U.S. Patent 10,368,187 B2 have not been shown to be unpatentable; and

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

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