

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

KIOSOFT TECHNOLOGIES, LLC and TECHTREX, INC.
Petitioners

v.

PAYRANGE, INC.
Patent Owner

U.S. Patent No. 11,501,296

Issued: November 15, 2022

Filed: January 12, 2021

Inventor: Paresh K. Patel

Title: Method And System For Presenting Representations Of Payment Accepting
Unit Events

Post-Grant Review No. Unassigned

PETITION FOR POST-GRANT REVIEW

Pursuant to 35 U.S.C. §§ 321-329 and 37 C.F.R. §§ 42.1-42.80, 42.200 *et seq.*

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EXHIBIT LIST (37 C.F.R. §42.63(e))

Exhibit No.	Description
1001	U.S. Patent No. 11,501,296 to Patel et al. (“’296 Patent”)
1002	Prosecution History of the ’296 Patent
1003	U.S. Patent No. 10,210,501 to Low et al.
1004	U.S. Patent No. 9,898,884 to Arora et al.
1005	U.S. Patent No. 8,255,323 to Casey et al.
1006	U.S. Patent Application Publication No. 2010/0082485 to Lin <i>et al.</i>
1007	U.S. Patent Application Publication No. 2010/0280956 to Chutorash <i>et al.</i>
1008	Excerpts from Prosecution History of U.S. Patent No.10,891,614
1009	Excerpts from Patent Prosecution History of U.S. Patent No. 9,659,296
1010	US Patent No. 11,182,794 to Aument
1011	US Patent Publication Application No. US2016/0098690 to Silva
1012	Declaration of Safwan Zaheer
1013	Curriculum Vitae of Safwan Zaheer

I. INTRODUCTION

Through counsel, real parties-in-interest KioSoft Technologies, LLC and TechTrex, Inc. (“Petitioners”) hereby petition and request post-grant review (“Petition”) and cancellation of claims 1-28 (“Challenged Claims”) of U.S. Patent No. 11,501,296 (“’296 Patent,” EX1001) pursuant to 35 U.S.C. §§321-329 and 37 C.F.R. §42.200 *et seq.* This Petition, supported by an accompanying declaration of technical expert Safwan Zaheer (“Zaheer Declaration,” EX1012), demonstrates that the Challenged Claims are not patentable.

This Petition is timely and shows a reasonable likelihood that the Petitioners will prevail because at least one of the Challenged Claims: (1) is patent-ineligible under 35 U.S.C. §101 (“§101”); (2) would have been obvious in view of the prior art under 35 U.S.C. §103 (“§103”); and (3) would have been indefinite under 35 U.S.C. §112(b). Each prior art reference discussed in this Petition was either not cited or not substantively considered by the Examiner and has particularly unique relevance. For those grounds under §103, the motivation to combine is provided. Petitioners’ detailed statement of the reasons for the relief requested is set forth below.

II. MANDATORY NOTICES (37 C.F.R. §42.8)

A. Real Parties-in-Interest (37 C.F.R. §42.8(b)(1))

Petitioners are the real parties in interest for this matter.

According to a statement filed by the Patentee during prosecution of the '296 Patent, pursuant to 37 C.F.R. §3.73(c), PayRange Inc. claims to be “the assignee of the entire right, title and interest in the patent application...by virtue of an assignment from the inventors of the parent application.... recorded...on November 21, 2014, at Reel 034236, Frame 0376....” EX1002, p.60.

B. Notice of Related Matters (37 C.F.R. §42.8(b)(2))

U.S. Patent No. 10,891,614 (“’614 Patent”), the parent of the '296 Patent via continuation application, U.S. Patent Nos. 10,891,608 (“’608 Patent”), and 10,719,833 (“’833 Patent”), have been asserted by the Patent Owner, PayRange, Inc. (“PayRange” or “Patent Owner”), against Petitioners in co-pending litigation captioned *PayRange Inc. v. KioSoft Technologies, LLC et al.*, Case No. 1:20-cv-24342 (S.D. Fla.) (“’614 Litigation”). The '608 Patent and '833 Patent share common priority claims with the '614 Patent. A Petition for Post Grant Review (“PGR Petition”), docketed as PGR2021-00093, was filed June 10, 2021, for the '614 Patent. On December 14, 2022, a Final Written Decision (“FWD”) was issued finding Claims 1–6, 8–10, 14-15, and 18–25 of the '614 Patent unpatentable under §101. PGR2021-00093, Paper 38. A PGR Petition, docketed as PGR2021-00077,

was filed April 29, 2021, for the '833 Patent. On October 26, 2022, a FWD was issued finding Claim 1 of the '833 Patent unpatentable under §101. PGR2021-00077, Paper 32. A PGR Petition, docketed as PGR2021-00084, was filed May 27, 2021, for the '608 Patent; that Petition was not instituted. PGR2021-00084, Paper 12.

U.S. Patent No. 9,659,296 (“’296 Parent Patent”) is the parent via continuation application of the '614 Patent and was the subject of a separate patent infringement lawsuit initiated by the Patent Owner against Petitioners in *PayRange, Inc., v. KioSoft Technologies, LLC et al.*, Case No.: 1:20-cv-20970-RS (S.D. Fla.) (“’296 Parent Litigation”), along with U.S. Patent No. 9,134,994 (the “’994 Patent”). On March 31, 2022, the district court granted summary judgment of noninfringement in favor of Petitioners concerning the alleged claims of the '296 Parent Patent and the '994 Patent (docketed as ECF No. 290 in the '296 Parent Litigation).

Petitions for Covered Business Method Review, docketed as CBM2020-00026, and *Inter Partes* Review, docketed as IPR2021-00086, were filed September 15 and October 15, 2020, respectively, for the '296 Parent Patent. Both CBM2020-00026 and IPR2021-00086 were denied institution based on discretionary grounds—35 U.S.C. §324(b) as to CBM2020-00026, and 35 U.S.C. §314 as to IPR2021-00086. U.S. Patent No. 11,481,772 is a child of the '296 Parent Patent via

continuation application. A PGR Petition docketed as PGR2023-00042, was filed on July 25, 2023. This PGR is awaiting consideration by the Board.

U.S. Patent No. 11,074,580 is a continuation-in-part of the '833 Patent. A PGR Petition, docketed as PGR2022-00035, was filed on April 27, 2022. The PGR was denied institution pursuant to 35 U.S.C. §324(a). U.S. Patent No. 11,488,174 is a continuation of the '833 Patent. A PGR Petition, docketed as PGR2023-00045, was filed on July 31, 2023. This PGR is awaiting consideration by the Board.

C. Designation of Lead and Back-Up Counsel (37 C.F.R. §42.8(b)(3))

Pursuant to 37 C.F.R. §42.8(b)(3), Petitioners provide the following designation of counsel:

Lead Counsel	Backup Lead Counsel
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Thomas Rammer (Reg. No. 62,591) Tom.Rammer@icemiller.com Ice Miller LLP 200 West Madison, Suite 3500 Chicago, IL 60606-3417 312-705-6016 212-824-4947 (Fax)	

D. Notice of Service Information (37 C.F.R. §42.8(b)(4))

Service on Petitioners may be made by mail or hand delivery to: Ice Miller LLP, One American Square, Suite 2900, Indianapolis, IN 46282. The fax numbers for lead and backup counsel are shown above. Petitioners also consent to electronic service by email at H.Banta@icemiller.com, Safet.Metjahic@icemiller.com, and Tom.Rammer@icemiller.com.

III. STANDING AND ADDITIONAL REQUIREMENTS

A. Time for Filing (37 C.F.R. §42.202)

The '296 Patent issued on November 15, 2022. This Petition is being filed by the nine-month deadline of August 15, 2023.

B. Payment of Fees (37 C.F.R. §42.203); Procedural Statements

The required fees are submitted herewith in accordance with 37 C.F.R. §§42.203(a) and 42.15(b). The U.S. Patent and Trademark Office ("USPTO") is authorized to charge fee deficiencies or credit overpayments to Deposit Acct. No. 09-0007. Concurrently filed herewith are Powers of Attorney and an Exhibit List per 37 C.F.R. §42.10(b) and §42.63(e), respectively.

C. Grounds for Standing (37 C.F.R. §42.204(a))

The undersigned and Petitioners certify that (1) the '296 Patent is eligible for Post-Grant Review ("PGR") and (2) Petitioners are not barred or estopped from requesting PGR of the Challenged Claims on the grounds identified herein.

**D. Statement of Precise Relief Requested and Reasons Therefor
(37 C.F.R. §42.204(b))**

Petitioners respectfully request PGR and cancellation of the Challenged Claims of the '296 Patent based on the unpatentability grounds listed in the index below. Per 37 C.F.R. §42.6(c), copies of the references are filed herewith. In support of the proposed grounds of unpatentability, this Petition is accompanied by the Zaheer Declaration (EX1012), which Declaration explains what the prior art would have conveyed to a person of ordinary skill in the art ("POSITA") at the time of the alleged invention, why the Challenged Claims were well-understood, routine, and conventional to POSITA, and why Claim 17 is indefinite.

Ground	Statute(s)	Challenge	Challenged Claim(s)
1	§101	Non-statutory Subject Matter	1-28
2	§103	Obviousness by U.S. 10,210,501 ("Low," EX1003) in view of U.S. 9,898,884 ("Arora," EX1004) and further in view of U.S. 8,255,323 (Casey," EX1005, which incorporates by reference in its entirety U.S. Patent Application Publication No. 2010/0082485 to Lin et al. ("Lin," EX1006))	1-28
3	§112	Indefiniteness	17

For at least the reasons set forth in this Petition, Petitioners respectfully request that the Board institute trial on the grounds set forth herein and determine that the Challenged Claims are unpatentable.

E. Claim Construction

Petitioners submit that, for purposes of this Petition, the Board need not construe any claim terms in order to resolve the parties' dispute, and the claims should be given their ordinary and customary meaning. Petitioners reserve the right to further clarify those ordinary and customary meanings in this proceeding, in the '614 Litigation, the '296 Parent Litigation, or as disputes may otherwise arise.

IV. THE CHALLENGED CLAIMS ARE UNPATENTABLE

The '296 Patent appears to be assigned to PayRange and contains twenty-eight claims. Fundamentally, the "invention" of the '296 Patent is directed to nothing more than detecting a merchant and enabling completion of a purchase from the merchant using conventional and generic wireless and mobile technology—an abstract matter that is patent-ineligible. For similar reasons, the claims are obvious over the prior art that discloses and/or teaches these same conventional features. Further, Claim 17 is indefinite under §112(b). Accordingly, for the reasons set forth in this Petition, and supported by the accompanying Zaheer Declaration (EX1012), Petitioners respectfully request that the Board institute trial on the grounds set forth herein and determine that Claims 1-28 of the '296 Patent are unpatentable.

A. Overview of the Alleged Invention

The '296 Patent describes that “the mobile-device-to-machine payment processing system disclosed herein allows a user (having a mobile device [] with a mobile application [] thereon) to make a cashless purchase from a payment accepting unit [] (having an adapter module [] associated therewith).” EX1001, 5:64-6:2 (reference numbers removed). The '296 Patent explains that “[v]ending machines are one type of ‘payment accepting unit,’” and further explains that other types of payment accepting units include parking meters, toll booths, laundromat washers and dryers, and kiosks. *Id.*, 1:39-59.

The '296 Patent acknowledges that “[v]ending machines (or ‘automatic retailing’ machines), in the broadest sense, have been around for thousands of years.” *Id.*, 1:39-40. The '296 Patent also recognizes that “[m]obile payment is a logical extension,” *Id.*, 2:6, “[a]s the number of people with Internet-connected mobile devices proliferates....” *Id.*, 2:4-6.

The claims of the '296 Patent are directed generally to using the conventional wireless technology and graphical user interfaces of a mobile device to perform the steps of (1) detecting a payment accepting unit, (2) displaying an interface on the mobile device for interacting with the payment accepting unit, (3) connecting to the payment accepting unit, and (4) enabling a purchase from the payment accepting unit. EX1012, ¶75. The '296 Patent explains that in “general, a mobile device 150

may be a user's personal mobile device 150," and the device could comprise "smart phones, tablet or laptop computers." EX1001, 8:65-9:7. The '296 Patent, for instance, references the iPhone 5. *Id.*, 20:61. The '296 Patent further describes that the "mobile device 150 (with a mobile application 140 thereon) acts as a communication bridge between the adapter module 100 (associated with payment accepting unit 120) and the server 130." *Id.*, 8:59-62. The '296 Patent describes "wireless communications" between the mobile device and the payment accepting unit as including conventional "long-range" and "short-range" "communication technology" or "protocol" including Bluetooth, NFC, RFID, and other well-known communications technologies. *Id.*, 9:62-10:13.

The Challenged Claims include three independent claims, each of which is directed to substantially the same subject matter in method, system, and computer-readable form.

B. The State of the Art Prior to December 2013

By the earliest possible priority date of the Challenged Claims, December 18, 2013, mobile devices such as smart phones and tablet devices were widespread and well-known. EX1012, ¶¶52-53. Such devices incorporated wireless technology and the ability to interface with the mobile device through a graphical user interface ("GUI"). *Id.*, ¶52.

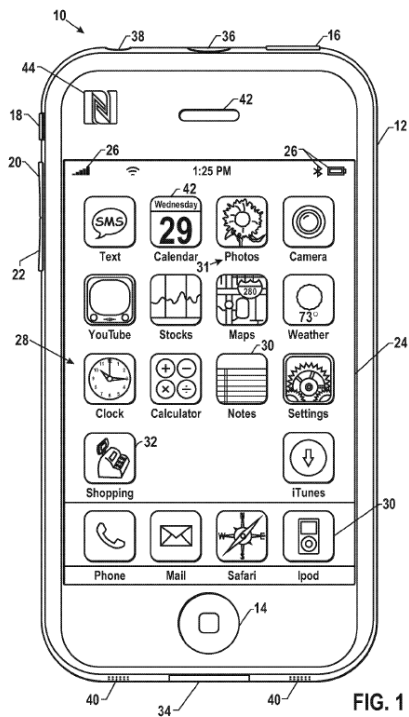
For example, Casey (EX1005) discloses that electronic devices such as the iPhone had features such as:

- the ability to communicate with other devices using short-range communications such as Bluetooth and near-field communication (EX1005, 3:65-4:03);
- user input structures including “buttons, switches, control pads, keys, knobs, scroll wheels,” among “other suitable forms” (*id.*, 4:36-39);
- a display that may be used to display a GUI to allow a “user to interact with the device,” which may include “various layers, windows, screens, templates, or other graphical elements,” and “include icons and other images representing buttons, sliders, menu bars, and the like” (*id.*, 4:23-27);
- input and output ports such as connection ports for transmitting and receiving data, including a barcode reader, a connection slot such as a SIM card, and an audio jack, among other features (*id.*, 5:24-43);
- a CPU that controls the operation of the device (*id.*, 6:15-25);
- long-term storage (*id.*, 6:26-50);
- one or more network cards that provide an interface for connecting to a network, including a local area network (LAN), wide area network (WAN), or a personal area network (PAN) for connecting to a

Bluetooth network, ZigBee network, or an ultrawideband network (UWB) (*id.*, 6:51-7:12); and

- a motion-sensing device configured to sense motion of the device and transmit motion data to the CPU (*id.*, 8:4-13).

Figure 1 of Casey discloses an electronic device that includes a display 24 that may include a touch screen and may be used to display a GUI to allow a user to interact with the device. The GUI can include “various layers, windows, screens, templates, or other graphical elements that may be displayed in all, or a portion , of the display,” and which “graphical elements may include icons and other images representing buttons, sliders, menu bars, and the like...” (EX1005, 4:41-58):



That is—each of these enumerated features were already part of a POSITA’s “toolbox,” by December 18, 2013. EX1012, ¶¶52-55.

Also, it was well-known by December 18, 2013, that the display features on GUIs could incorporate features including “Swipe to Confirm,” swipe to decline payment, and otherwise use a combination of windows, buttons, and sliders, by which the user could interact with the mobile application. EX1005, 20:17-22; EX1012, ¶¶55, 70.

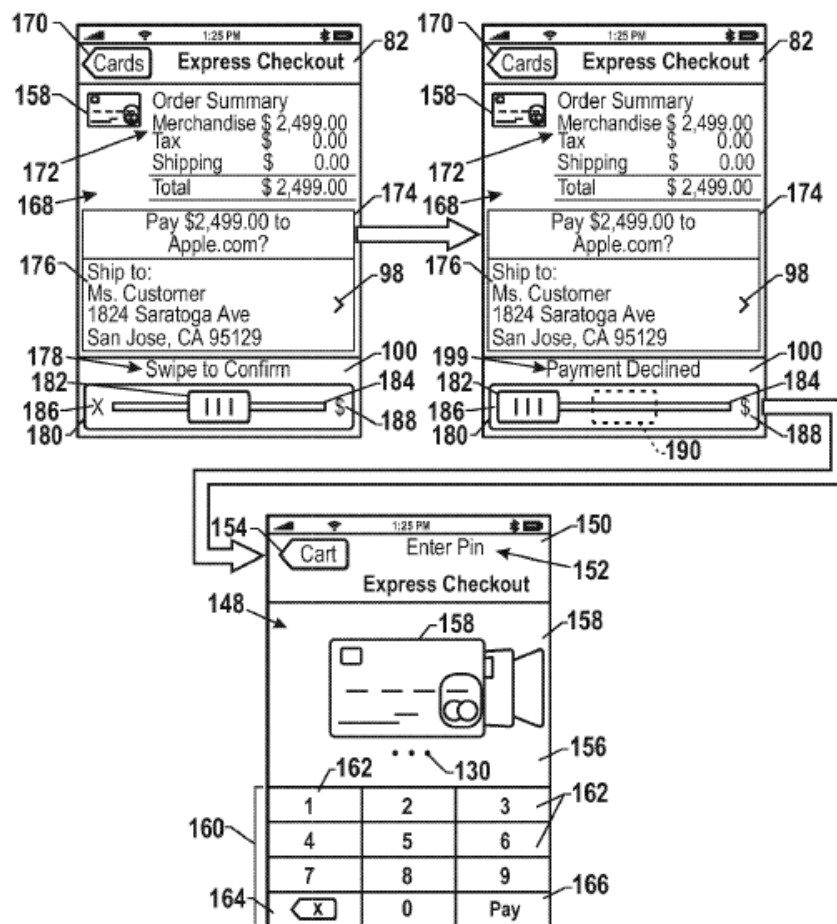


FIG. 6

EX1005, FIG. 6.

Various sensors, including accelerometers, were also part of the conventional mobile device. EX1012, ¶¶132-133, 188. As Casey explains:

In addition to receiving user input through the input structures 60 and the touch screen 54, the device 10 may include a motion sensing device 62 for receiving user input. The motion sensing device 62 may be any device configured to measure motion or acceleration, such as an accelerometer or a gyroscope. In one embodiment, the motion sensing device 40 may be a three-axis accelerometer that includes a sensing element and an integrated circuit interface for providing the measured acceleration and/or motion data to the CPU 46. The motion sensing device 62 may be configured to sense and measure various types of motion including, but not limited to, velocity, acceleration, rotation, and direction.

EX1005, 7:59-8:3.

The ability of a mobile device to make payments online or in-store via an application in the mobile device was well-known (*id.*, 1:20-27, 5:3-8). EX1012, ¶¶52, 56.

The concept of conducting a transaction between two devices in close proximity or in contact with each other, including to make a payment transaction, was also well-known and well-understood. EX1005, 17:19-18:2; EX1006 (Lin, as explicitly incorporated by reference in its entirety by Casey (EX1005, 16:40-47)),

¶¶[0101], [0112], [0150]; EX1012, ¶¶56-57. The fact that one of those devices could be a “vending machine” or “kiosk” was also well-known. EX1005, 16:36-40 (“The electronic device 234 may include a handheld portable electronic device, such as a portable media player or personal data organizer, or may include a point of sale or purchase terminal, a vending machine or kiosk, or other suitable payment receiving device.”). By December 18, 2013, a POSITA was well aware of all of these components and capabilities of a mobile device. EX1012, ¶¶52-58, 131-133.

C. Relevant Prosecution History

1. The ’296 Patent Prosecution History

The prosecution history demonstrates that the Challenged Claims were allowed to issue without any substantive examination. The application that issued as the ’296 Patent (Appl. No. 17/147,305, the “’305 Application”) was filed on January 12, 2021. EX1001. The ’305 Application was allowed by the Examiner on September 20, 2022, and the Notice of Allowance was mailed on October 6, 2022. EX1002, pp.372-379.

Applicant filed a preliminary amendment cancelling original claim 1 and adding pending claims 2-29. *Id.*, 136-144. The first and only Office Action on the merits was mailed on August 31, 2022, in which all pending claims in the ’305 Application were rejected on the basis of obviousness-type double patenting as being unpatentable over claims 1-23 of the ’296 Parent Patent and claims 1-25 of the ’614

Patent. *Id.*, 312-317. The Examiner remarked that “[t]he only difference between the instant application and the ’296 [Parent] patent is merely a labeling difference. It is noted that all the features of claims 2-29 [in the ’305 Application] are contained in claims 1-23 of the ’296 [Parent] patent.” *Id.*, pp.314-315. The same remark was made with respect to the ’614 Patent. *Id.*, p.315.

A terminal disclaimer was filed on September 15, 2022, disclaiming the terminal part of the statutory term of the ’296 Parent Patent and the ’614 Patent. *Id.*, pp.334-336. A Notice of Allowance was mailed on October 6, 2022. *Id.*, pp.372-379. The ’305 Application claims priority ultimately to December 18, 2013, through a chain of continuation and continuation-in-part applications. EX1001, 1:5-29.

2. The ’614 Patent Prosecution History

The ’614 Patent, according to the ’296 Patent Examiner’s double-patenting rejection (discussed above, EX1002, p.315), has patentably indistinguishable claims from the claims in the ’296 Patent. The ’614 Patent issued because its independent claims 1, 14, and 20 were limited to further require the underlined limitations on September 10, 2019:

[a] wherein the one or more payment accepting units are vending machines that accept payment for dispensing of products and/or services; and

[b] displaying a user interface of the mobile payment application on the display of the mobile device, the user interface being configured to

display a visual indication of the one or more payment accepting units
and accept user input to (i) receive selection by a user of the mobile
device of an available payment accepting unit of the one or more
payment accepting units.

EX1008, pp.17-22.

The '614 Patent claims were initially rejected in a June 12, 2019, Office Action by the same Examiner assigned to the '296 Patent under §§102, 103 and for non-statutory, obviousness-type double-patenting in view of the '296 Parent Patent. *Id.*, pp.14-15. In rejecting then-pending claims 1-18 of the application that issued as the '614 Patent, the Examiner concluded that each of the independent claims was anticipated by Chutorash *et al.* (U.S. Publication No. 2010/0280956), EX1007, explaining that, as “per claims 1, 8, 9 [the pending independent claims], Chutorash et al. disclose a system, method and computer program product for providing at least a user with a mobile device or a device in their vehicle to conduct financial transactions with a nearby merchant via wired or wireless communications.” EX1008, pp.8-13. The applicant responded to the rejections on September 10, 2019, by amending each of the independent claims to require the underlined portions of limitations [a] and [b] above. *Id.*, pp.17-22.

On March 12, 2020, the '614 Patent applicant further amended the term “short-range transceiver” to “one or more radio transceivers” in independent claim

9 (issued claim 20). *Id.*, pp.49-50. Applicant’s rationale was that claim 9 was “amended to address minor informalities regarding antecedent basis” and “no new matter has been added.” *Id.*, p.56. The claims were eventually allowed on December 15, 2020. *Id.*, pp.68-69.

3. The ’296 Parent Patent Prosecution History

The ’296 Parent Patent, according to the ’296 Patent Examiner’s double-patenting rejection (EX1002, pp.146-147), has claims that are patentably indistinguishable from the claims in the ’296 Patent. The ’296 Parent Patent was filed on August 12, 2014. EX1001, 1:13-15.

The ’296 Parent Patent claims were initially rejected under §102 by the same Examiner as in the ’296 Patent. EX1009, pp.5-10. The rejection, which identified mobile device communications capabilities and visual display of information, confirmed that these were conventional features. *See id.*, pp.7-10. The claims were also initially rejected under §101. *Id.*, pp.10-11. The applicant overcame the §101 rejection through the addition of conventional technology elements such as use of a “radio transceiver” and a step of displaying a message. *Id.*, pp.13-16.

In a subsequent November 24, 2015, amendment, the claims were further amended to add several limitations, including the presence of a payment application, which also failed to overcome the prior art-based rejection. *Id.*, pp.45-49. Finally,

in an amendment dated September 28, 2016, the claims were amended to recite the following limitations:

- the application was “configured to identify one or more vending machines in proximity to the mobile device that are available to accept payment from the mobile payment application, the identifying including detecting predefined radio messages broadcast by the one or more vending machines”; and
- the function of “displaying a user interface of the mobile payment application on the display of the mobile device, the user interface being configured to accept user input to trigger payment by the mobile payment application for a vending transaction initiated by the user with an available vending machine of the one or more vending machines.”

Id., pp.72-78. The claims were subsequently allowed and the '296 Parent Patent issued on May 23, 2017.

D. A Person Having Ordinary Skill in the Art

A POSITA at the time of the earliest-claimed filing date of the '296 Patent would have had an education background of, or practical experience equivalent to, a Bachelor of Science in Electrical Engineering, Computer Science, Information Technology, or a related/equivalent field and at least 3 years of academic or industry experience in electronic payment systems. EX1012, ¶20.

E. Priority Date of the Challenged Claims

For purposes of this Petition, Petitioners take no position on the proper priority date for any of the Challenged Claims. Thus, Petitioners use the earliest possible priority date claimed by the '296 Patent, December 18, 2013, for purposes of the invalidity grounds presented in this Petition.

F. Ground 1: Claims 1-28 Are Unpatentable Under §101

1. Legal standard

Patent-eligibility under §101 is assessed using the two-part framework described in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012) and *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208 (2014). The USPTO's guidance on the application of §101, 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("2019 Revised Guidance"), requires that, after determining a claim is drawn to a process, machine, manufacture, or composition of matter (Step 1), the Board must look to whether the claim recites (1) any judicial exceptions, including certain groupings of abstract ideas (*e.g.*, mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes) ("Step 2A, Prong One"); and (2) additional elements that integrate the judicial exception into a practical application ("Step 2A, Prong Two"). *See* MPEP §§2106.1, 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 08.2017, Jan. 2018); 2019 Revised Guidance, 84 Fed. Reg., pp.52–55.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, does the Board then look, under Step 2B, to whether the claim: (3) adds a specific limitation beyond the judicial exception that is not a “well-understood, routine, conventional activity” in the field (*see* MPEP §2106.05(d)); or (4) simply appends well-understood, routine, and conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. 2019 Revised Guidance, 84 Fed. Reg., pp.52–56.

“To be sufficiently inventive to be worthy of a valid patent, claims ‘implemented on a computer’ must be ‘directed to an *improvement to computer functionality* versus being directed to an abstract idea.’” *Tranxition, Inc. v. Lenovo (United States) Inc.*, 664 Fed. Appx. 968, 971 (Fed. Cir. 2016) (emphasis added) (quoting *Enfish LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016)). The claims must add “significantly more” in order to be patent-eligible and cannot merely add “conventional or obvious” features. *Mayo*, 566 U.S. at 82.

2. Application to the Challenged Claims

a. Step 1

Claims 1-14 are directed to a “method of executing payment accepting unit events” and corresponding steps. EX1001, 46:61-48:29. Claims 1-14 fall within the process category of §101.

Claims 15-21 are directed to a “mobile device” and its elements. *Id.*, 48:30-49:43. Claims 15-21 fall within the machine category of §101.

Claims 22-28 are directed to a “non-transitory computer readable storage medium.” *Id.*, 49:44-50:56. Claims 22-28 fall within the manufacture category of §101. Therefore, the inquiry for each of the Challenged Claims moves to Step 2A.

b. Under Step 2A, All of the Challenged Claims Recite Judicial Exceptions With No Practical Application

(i) Step 2A, Prong One

Under Step 2A, Prong One, the inquiry is whether the claims recite any judicial exception, including certain groupings of abstract ideas (*i.e.*, mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes). 2019 Revised Guidance, 84 Fed. Reg., pp.52-55. Each of the Challenged Claims is directed to “certain methods of organizing human activity,” specifically, detecting a merchant and enabling a transaction with the merchant, which is a commercial interaction.

Claim 1 recites:

[1.0] A method of executing payment accepting unit events, comprising:

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

[1.2] detecting one or more payment accepting units in proximity to the mobile device, [1.3] including detecting predefined radio transmissions broadcast by the one or more payment accepting units, [1.4] wherein the one or more payment accepting units are payment operated machines that accept payment for dispensing of products and/or services;

[1.5] displaying a user interface of a mobile payment application on the display of the mobile device, [1.6] the user interface being configured to display a visual indication of the one or more payment accepting units and [1.7.1] accept user input to (i) receive selection by a user of the mobile device of an available payment accepting unit of the one or more payment accepting units and [1.7.2] (ii) trigger payment by the mobile payment application for a transaction initiated by the user of the mobile device with the available payment accepting unit of the one or more payment accepting units;

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

[1.9] after establishing the wireless connection, enabling user interaction with the user interface of the mobile payment application to complete the transaction;

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

[1.11] in response to receiving the information, displaying, on the display, an updated user interface of the mobile payment application to the user of the mobile device.¹

EX1001, 46:61-47:30 (identifying bracketed numbers added). Independent claims 15 and 22 recite the identical subject matter of elements [1.2]-[1.11] in apparatus and computer-readable-storage-medium forms. *Id.* at 48:30-67 (claim 15 stating in part “A mobile device comprising...”) and 49:44-50:24 (claim 22 stating in part “A non-transitory computer readable storage medium...”).

Each of the Challenged Claims involve at a well-understood, routine, and conventional mobile device having conventional one or more processors, memory, display, and one or more radio transceivers performing well-understood, routine, and conventional activities—that is, sending and receiving information between a mobile device and a payment accepting unit. *See, e.g., id.*, 8:56-9:17, 12:26-43 (describing the *mobile device*, *mobile payment application*, and *one or more programs* as generic computers and software implementing the method); *id.*, 9:36-10:13, 13:39-51, 14:11-26, and 15:46-53 (describing the *communications unit* and *transceivers* as generic elements that “include standard means of provision including ‘transmit’ and

¹ With respect to independent claims 15 and 21, Petitioners use the same numbering convention for the corresponding claim elements of independent claim 1—*i.e.*, [15.2]-[15.11] and [22.2]-[22.11], respectively.

‘transmitting,’ ... as long as the ‘communications,’ ‘signals,’ and/or ‘transmissions are ‘received’”); *id.*, 12:23-32 (describing *processors* as generic “known” hardware); *id.*, 12:50-61 (describing the *memory* as generic “known” hardware); *id.*, 1:48-59 (describing the *payment accepting unit* as being various generic devices); and *id.*, 14:3-10 (describing using generic communication to send information between the *electronic payment device, mobile device, and server*). See also *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (“That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive”); *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016) (determining receiving, processing, and sending data to be well-known, generic computer-implemented steps); *Cyberfone Sys., L.L.C. v. CNN Interactive Grp., Inc.*, 558 F. App’x 988, 992 (Fed. Cir. 2014) (organizing, storing, and transmitting information determined to be well-established).

The elements common to each of the Challenged Claims demonstrate that each claim is directed to nothing more than using well-understood, routine, conventional elements for sending and receiving information in well-understood, routine, conventional ways to perform the abstract idea of detecting a merchant and enabling a transaction with the merchant—*i.e.*, a method of organizing human activity.

The following description and discussion of the claims in this section are high-level overviews and are not intended to outline the precise boundaries of the claims. Steps [1.2], [15.2], and [22.2] are directed to a customer noticing a nearby open merchant or store for purchasing goods. This can be done completely in the mind of the customer. The addition of a conventional GUI and conventional radio broadcast technology does not change this deficiency. *See* discussion of *Ex Parte Latoya H. James, infra*. The inclusion of a payment operated machine does not render the claims non-abstract, as the functionality of the payment operated machine is not otherwise implicated. *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (“limiting the claims to the particular technological environment[], without more, [is] insufficient to transform them into patent-eligible applications of the abstract idea at their core.”).

Steps [1.3], [15.3], and [22.3] are directed to the merchant or store displaying a sign with the merchant’s name using conventional technology—“predefined radio transmissions.” Steps [1.4], [15.4], and [22.4] add nothing more than conventional technology for accepting payment and dispensing products and/or services.

Steps [1.5], [15.5], and [22.5] recite the use of a conventional user interface of a conventional mobile device to perform the conventional step of displaying. Steps [1.6], [15.6], and [22.6] are akin to a customer seeing multiple merchants or stores while, *e.g.*, walking down a street. Steps [1.7.1]-[1.7.2], [15.7.2]-[15.7.2], and

[22.7.2]-[22.7.2] are directed to a customer determining which merchant or store to transact with, and once identified, allowing the transaction to proceed with that merchant, all with a conventional mobile application with conventional GUI, which GUI displays unspecified general information and allows unspecified general input.

Steps [1.8], [15.8], and [22.8] recite the use of conventional wireless technology to perform the abstract task of communicating. Steps [1.9], [15.9], and [22.9] recite the use of generic technology to display that communication to a user and accept input from the user.

Similarly, Steps [1.10], [15.10], and [22.10] recite the generic task of transmitting information regarding a transaction with a generic payment accepting unit using generic and conventional wireless technology. Steps [1.11], [15.11], and [22.11] merely recite displaying or showing the transmitted information to the customer.

Put together, Steps [1.8]-[1.11], [15.8]-[15.11], and [22.8]-[22.11] are directed to a merchant communicating with an actual or potential customer about a transaction or potential transaction, implemented on generic and conventional technology.

Each independent claim as a whole merely recites an abstract method of detecting a merchant and enabling a transaction with the merchant using conventional and generic wireless and mobile technology. Independent Claim 1 is

directed only to this abstract method. Independent Claim 15 is directed to a “mobile device” that performs the identical method, and independent Claim 22 is directed to a “non-transitory computer readable storage medium” on the mobile phone used to store and perform the abstract method. As discussed further below, neither Claim 15 nor Claim 22 add elements or limitations to change the abstract method into something patentable. The claimed elements add nothing more than performing the abstract method of Claim 1 “on a computer,” and do not claim any improvement to the recited generic and routine hardware. *See Tranxition*, 664 Fed. Appx. at 971.

The dependent claims also each recite a judicial exception that is limited to a particular technological environment using conventional technology. *Elec. Power Grp.*, 830 F.3d at 1354. Each of dependent claims 2-6, 8-10, 13-14, 16-21, and 23-28 addresses claim limitations that cover two categories. Either they recite the transmission of entirely abstract financial or detecting information, or they utilize well-understood, routine, and conventional technology in a well-understood, routine, and conventional manner to implement the abstract idea of the claims. The transmission of generic abstract information does not render the claims patent-eligible. *See Inventor Holdings, LLC v. Bed Bath & Beyond, Inc.*, 876 F.3d 1372, 1378-80 (Fed. Cir. 2017) (holding that additional recitation of abstract information such as codes and payment data do not render the claims patentable). Nor does the addition of conventional technical limitations render the claims patent-eligible.

See Square, Inc. et al. v. Unwired Planet, LLC et al., CBM2014-00156, Paper 40, p.27 (P.T.A.B December 22, 2015), *Ex Parte James* at 2019 WL 2763407 at *6-*10.

The following claim elements recite the transmission of entirely abstract financial or detecting information using well-understood, routine, and conventional technology according to well-understood, routine, and conventional methodologies that are also described by the prior art, *see generally*, Section IV.G:

- Claims 2 and 23 recite that the updated user interface of the mobile payment application includes at least one of “a message displayed on the display of the mobile device; a banner notification displayed on the display on the mobile device; and/or a visual alert from one or more LEDs of the mobile device.” EX1001, 47:30-37, 50:25-32. The claims recite nothing more than using a conventional display to convey a message to the user, much like writing a note on paper or printing a paper receipt and showing it to the user, or even simply stating it out loud.
- Claim 4, which depends on Claim 2, further recites that the mobile device includes a long-range transceiver, that the transmitted message recited in the independent claims includes the amount of the transaction, and that the mobile device sends the message to a server. *Id.*, 47:41-46. Thus, the claim recites nothing more than using a conventional transceiver already existing

in the “user’s personal mobile device,” *id.*, 8:58-59, to communicate completion of a transaction, much like writing a message on a cash register display to communicate completion of the transaction to the user.

- Claims 3 and 24 recite that the information indicates completion of the transaction between the customer and merchant, *id.*, 47:38-40, 50:33-36, which is analogous to a merchant telling the customer the transaction is complete or giving a printed receipt to the customer at completion of the transaction.
- Claim 25, which depends on Claim 24, further recites that the information at least includes an amount of the completed transaction, and the instructions further cause the mobile device to send at least the amount of the completed transaction to a server. *Id.*, 50:37-41. These limitations are akin to the printed receipt including the transaction amount and the user filing, or sending to be filed, the printed receipt in a box or other container, or the user telling someone else how much the transaction cost.
- Claims 5 and 26 merely recite that the message is a cancellation message, and in no way improve or alter the message being sent. *Id.*, 47:47-49, 50:43-44.
- Claims 6 and 27 recite that the message reflects a failure of the transaction, and in no way improve or alter the message being sent. *Id.*, 47:50-53,

50:45-49.

- Claim 8 recites that the message “reflects a status of the transaction for a product stocked by the available payment accepting unit,” *id.*, 47:62-64, akin to a merchant communicating with the customer about product inventory during a transaction for the sale of an item.
- Claim 9 recites transmitting a coupon, *id.*, 48:1-5, an inherently abstract financial instrument. *Motivation Innovations, LLC v. Petsmart, Inc.*, 156 F. Supp. 3d 558, 568 (D. Del. 2016) (finding claims directed to use and redemption of coupons invalid for patent ineligibility because the use of coupons to provide discounts is an abstract idea).
- Claim 10 recites a generic notification by the interface of the mobile payment unit that a conventional connection using conventional technology has been formed, EX1001, 48:6-10, akin to the merchant acknowledging to the customer that a transaction dialogue has begun.
- Claim 13 simply describes that the predefined radio transmissions are broadcasted by the conventional and generic one or more payment accepting units indicating status, *id.*, 48:22-25, much like writing a message on a sign to communicate the store is open to the user.
- Claims 14, 21, and 28 recite that the “payment operated units” can be from a group of notoriously well-known and ubiquitous machines, including a

laundromat washer or dryer, a vending machine, a parking meter, a toll booth, an arcade game, a kiosk, a photo booth, a toll booth [recited twice], or a ticket dispensing machine. *Id.*, 48:26-30, 49:39-43, 50:50-55.

- Claim 19 depends on claim 15 and is nearly identical to Claims 14, 21, and 28, but recites that the “payment accepting units” “further comprise” one of the examples claimed in Claims 14, 21, and 28, rather than “includes.” *Id.*, 49:26-30.
- Claim 16 recites only conventional components already existing in the “user’s personal mobile device,” *id.*, 8:58-59—*i.e.*, one or more speakers, LEDs, and a vibration mechanism. *Id.*, 49:1-4.
- Claim 17 is directed to nothing more than transmitting conventional information between two conventional devices. *Id.*, 49:5-18.
- Claim 18 simply recites conventional technology of a conventional and well-understood mobile device being used according to a conventional and well-understood methodology, *i.e.*, establishing a wireless connection via a first transceiver, exchanging information via the second transceiver, and the first transceiver being different from the second transceiver. *Id.*, 49:19-25.
- Claim 20 merely recites using conventional technology of a conventional and well-understood mobile device, *i.e.*, a “Bluetooth connection,” among other already-known wireless connection modes. *Id.*, 49:31-38.

Claim 11 recites “a visual representation of available payment accepting unit,” akin to displaying a sign of available merchants, “an indication of a prepared balance,” akin to displaying a written receipt, and “an affordance that when slid, indicates the initiation of the vending transaction,” *id.*, 48:11-18, akin to allowing the user to slide the written receipt to indicate a desire to complete the purchase. This too, is directed to a method of organizing human activity, simply implemented using generic and conventional GUI elements (*see, e.g.*, Casey (EX1005, FIG.6); Arora (EX1004, FIGs 3, 7)), which does not render the claims patentable. *Ex Parte James* at 2019 WL 2763407 at *6-*10.

Claim 12, which depends on Claim 11, merely adds “the affordance is slid in response to receiving a user input of swipe on the affordance displayed on the display of the mobile device.” EX1001, 48:19-21. This claim does nothing more than specify the written receipt slides due to the user’s touch.

Claim 7 recites the use of an accelerometer already existing in the “user’s personal mobile device,” *id.*, 8:58-59, 20:61, to detect when a user has departed and then to cancel the transaction. *Id.*, 47:54-61. This step is fundamentally no different than ending a personal transaction when a customer walks out of the store. Accelerometers were well-known standard technology already part of smartphones like the iPhone (EX1005, 8:4-13) to detect movement of a mobile device incorporating that feature. EX1012, ¶¶130-135. The use of a conventional

accelerometer included in commonplace mobile devices such as the iPhone to perform the mental operation of noticing a customer depart does not render this function patent-eligible. *See Square*, CBM2014-00156, Paper 40, p.27; *Ex Parte James* at 2019 WL 2763407 at *6-*10 (holding that the use of conventional technical features to perform abstract activities does not render them patentable).

Each of the Challenged Claims is directed to an abstract idea—a judicial exception—and, as discussed next, is not integrated into a practical application.

(ii) Step 2A, Prong Two

Under Step 2A, Prong Two, if a claim recites a judicial exception, the Board determines whether the recited judicial exception is integrated into a practical application of that exception by (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application. 2019 Revised Guidance, 84 Fed. Reg., pp.54–55. Petitioners submit that no such practical application, individually or in combination, exists in any Challenged Claim.

The Challenged Claims are directed to a potential purchaser detecting a merchant and the purchaser and merchant communicating information about a purchase. This is quintessentially an abstract idea dressed in conventional technical language. It is no less abstract than a customer noticing a store, selecting the store,

and being able to make a purchase while communicating with the merchant. Tying the otherwise abstract claims of the patent to the physical world through inclusion of well-understood and well-known generic elements such as a “mobile device,” “processor,” “memory,” “display,” “radio transceiver” and “user interface” does not make the claims patent-eligible. *See Fort Props, Inc. v. Am. Master Lease LLC*, 671 F.3d 1317, 1322 (Fed. Cir. 2012) (“an abstract concept cannot be transformed into patentable subject matter merely because of connections to the physical world”).

The claiming of generic and conventional features, including and not limited to “output devices including a display,” “displaying a user interface,” “configured to display,” and “displaying, on the display, an updated user interface,” do not constitute a practical application or patent-eligible subject matter. *See, e.g., Gree, Inc. v. Supercell Oy*, Case No. 2020-2125 (Fed. Cir. May 10, 2021) at 3 (non-precedential, appealed from PGR2019-00018, affirming the PTAB’s finding of patent-ineligible subject matter in claims directed to the “abstract idea of associating game objects and moving one or more of the objects,” rather than to an improvement in a GUI, as suggested by the Patent Owner, which was “made clear by the patent’s wholly generic claiming and description of the touch interface, and the claiming of wholly generic touch-screen functionality.”). The Board has also specifically addressed claims directed to the use of mobile devices for point-of-sale transactions and has rejected these claims as covering ineligible subject matter. *See, e.g., Square*,

CBM2014-00156, Paper 40, pp. 2, 8; PGR2021-00093, Paper 38 (P.T.A.B. Dec. 14, 2022); PGR2021-00077, Paper 32 (P.T.A.B. Oct. 26, 2022).

The Challenged Claims are similar to other claims that have been held to be an abstract idea. *In re Elbaum*, No. 2021-1719, 2021 WL 3923280, at *2 (Fed. Cir. Sept. 2, 2021) (“The plain language of claim 48 recites a method for enabling an internet seller to pay a finder’s fee to a retail store when a customer finds the internet seller’s product through advertising in the retail store. Accordingly, the claim is directed to an abstract idea, specifically a method of providing information and allowing customers to utilize that information to engage in a commercial transaction.”); *Western Express Bancshares, LLC v. Green Dot Corp.*, 816 F. App’x 485, 486 (Fed. Cir. 2020) (a method of funds transfer using a payment card is a fundamental economic practice long prevalent in our system of commerce); *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1371–72 (Fed. Cir. 2017) (acquiring identification data from a bankcard, granting access to a transit system if the bankcard is valid, funding a transit ride from multiple balances associated with the bankcard, and charging a different fare if the bankcard is associated with a time pass subway card involve the collection, storage, and recognition of data as an abstract idea). The Challenged Claims are no less abstract.

As discussed *supra*, under Step 2A, Prong One, there are no claim elements that are outside of the abstract idea, as they merely use conventional technology to

bring the abstract idea into a particular environment. That is insufficient to rise to a practical application.

b. Under Step 2B, All of the Challenged Claims Simply Append Well-Understood, Routine, Conventional Activities

Because the Challenged Claims are directed to the abstract idea of a transaction between a customer and a merchant, the claims must add “significantly more” in order to become patent-eligible and cannot merely add “conventional or obvious” features. *Mayo*, 566 U.S. at 82. The Challenged Claims only use well-understood, routine, and conventional wireless mobile device such as the ubiquitous “user’s personal mobile device” or iPhone 5, EX1001, 8:58-59, 20:61, having well-known, routine, and conventional elements operating as such elements do, to carry out the abstract idea of a purchase transaction. EX1012, ¶¶79-81. The Challenged Claims do not reach the threshold for patent-eligibility.

It was well-understood, routine, and conventional for a POSITA to take a commonplace off-the-shelf mobile device such as the iPhone 5 (EX1001, 20:61), which phone prior to December 18, 2013, included a mobile application to perform the well-understood, routine, and conventional steps of “detecting” some information or data type, “displaying” some information or data type on the user interface of the mobile device, accepting user input via the user interface of the mobile device, and processing and incorporating that user input, and then generally

communicating with one or more other well-understood, routine, and conventional devices throughout the process using the already existing transceivers in the mobile device. *Id.* ¶81.

The inventor of the '296 Patent did not invent a wireless device or a wireless network or a mobile application. The patent specification describes the functionality of existing devices and networks that utilize existing short-range and long-range communications protocols. EX1001, 9:36-10:5. The '296 Patent further describes that the application technology covers known software functions. “The term ‘app’ is used broadly to include any software program(s) capable of implementing the features described herein.” *Id.*, 9:9-11. These conventional uses of known technology to transmit and display information do not establish an inventive concept. *Square*, CBM2014-00156, Paper 40, at pp.30-31 (“Viewed as a whole, the recited methods of the challenged claims simply describe a transaction between a customer and a merchant, assisted or facilitated, but not fundamentally altered, by the use of a wireless device.”).

The act of detecting and communicating with a merchant, facilitated, but not altered by wireless and mobile technology, is not patentable. *See id.*, at 27; *Ex Parte James* at 2019 WL 2763407 at *15-*16 (holding that conventional uses of wireless and touchscreen interface technology used in a conventional manner do not create an inventive concept). The '296 Patent's specification makes clear that the abstract

communication concepts are not tied to a novel technological environment. *See e.g.*, EX1001, 2:4-6, 9:58-10:13, 13:34-51. Rather, these concepts cover a broad range of well-known message formats, mechanisms of communication, and wireless transmission protocols. *Id.*, 13:34-51. These conventional uses of known technology to transmit and display information do not establish an inventive concept. *Elec. Power Grp., LLC*, 830 F.3d at 1354.

In *Ex Parte Latoya H. James*, the Board held patent-ineligible claims directed to the use of a mobile device to wirelessly receive financial balance information and display it to the user. 2019 WL 2763407 at *4-*6 (PTAB June 21, 2019). The claims of the rejected application recited a “mobile telecommunications transceiver” for receiving and transmitting data, a “touch screen interface” for displaying financial information, and a separate “local network transceiver” for direct communication with a point-of-sale device. *Id.*, *1. The Board held that this conventional use of well-known communication technology did not render the concept of transmitting information about financial transactions non-abstract. *Id.*, *7, *16-*17. Similarly, the Board in the parent ’614 PGR (involving the parent of the ’296 Patent) found very similar claims to be ineligible for patent protection. *KioSoft Technologies, LLC v. PayRange Inc.*, PGR2021-00093, Paper 38 (P.T.A.B. Dec. 14, 2022).

The dependent claims fare no better, as they merely add abstract information or recite conventional components that operate in a conventional manner. As discussed *supra*, Section IV.F.1.b.i (Step 2A, Prong One), each of Claims 2-6, 8-10, 13-14, 16-21, and 23-28 cover two categories: either reciting the transmission of entirely abstract financial or detecting information or utilizing well-known and conventional technology in a well-understood, routine, and conventional manner to implement the abstract idea of the claimed invention. *See* EX1005; EX1006, FIG.5; EX1012 ¶¶115-129, 136-144, 142-176; *see also Inventor Holdings*, 876 F.3d at 1378-1380.

Claims 11-12 are no exception, particularly in view of the state of the art of payment applications existing as of December 18, 2013. *See, e.g.*, EX1005, FIG.5; EX1012 ¶¶145-154. By December 18, 2013, the iPhone already had a “Swipe” feature. EX1005, 20:17-22, FIGs. 5, 6; EX1012 ¶¶52-55.

Claim 7, which recites the use of the mobile device’s accelerometer to detect when a user has departed and then to cancel the transaction, fares no better, as accelerometers were well-known, Casey (EX1005), and the recited *use* of an accelerometer (as opposed to merely the accelerometer itself) was routine and conventional and is not indicative of an innovative concept. *See* EX1005, 8:4-13, FIGs. 5, 6; EX1012 ¶¶130-135. This is particularly true as of December 18, 2013,

when accelerometers were already being used in payment transactions, including to confirm payments. EX1012, ¶¶134-135; EX1005, 7:59-8:13.

The Challenged Claims are patent-ineligible under §101, and Petitioners respectfully request that the Board rule that the Challenged Claims are patent-ineligible.

G. Ground 2: Low in View of Arora and Casey Renders Obvious Claims 1-28

Low is prior art under §102(a)(2). EX1003. Low, filed July 25, 2013, published on January 30, 2014 as U.S. Patent Application Publication No. 2014/0032413, more than five years before it issued. Low was cited by Patent Owner in an information disclosure statement (IDS) disclosing 415 documents (including 280 U.S. patent documents, 26 foreign patent documents, and 109 other publication documents). EX1002, pp.301-311. The legend at the bottom of the IDS page bearing the Low reference indicates that the reference had been “considered” just six days (on August 23, 2022) after the 415-reference IDS was submitted on August 17, 2022. *Id.*, p.307. There is no indication that the Examiner read the Low reference during prosecution of the ’296 Patent.

Arora, filed April 4, 2013, issued on February 20, 2018, is prior art under §102(a)(2). EX1004. Like Low, Arora was buried in the 415-reference IDS, and there is no indication that the Examiner read the Arora reference. EX1002, p.307.

Casey, filed January 9, 2009, and issued on August 28, 2012, is prior art under §102(a)(2). EX1005. The '296 Patent and its prosecution history do not indicate that Casey was considered by the Examiner during prosecution of the '296 Patent. Casey incorporated by reference in its entirety U.S. Patent Application Publication No. 2010/0082485 to Lin et al. ("Lin," EX1006). EX1005, 16:40-47.

Having all three references before her, a POSITA would have found it obvious to modify Low in view of Casey and Arora, with the resultant combination disclosing each and every element recited in each Challenged Claim. For the reasons discussed below, Low in view of Casey and Arora render obvious each and every element in each Challenged Claim, including the order of elements in the claims, under §103.

1. Low

Low is directed to systems and methods for facilitating wireless electronic payments between a mobile device and a non-Internet connected machine ("NICM"), including vending machines. EX1003, Abstract, FIG. 1. Low describes that "[i]n addition to traditional online purchases/payments[,] and more recently to payments made through smart phones, Internet-enabled unmanned devices, such as vending machines and kiosks, allow a consumer to make an electronic purchase," *Id.*, 1:29-33 and "eliminate the need for a consumer to carry cash and/or small bills in order to make a purchase from an unmanned machine." *Id.*, 1:37-39. The problem

with such devices, according to Low, is that, “as with other electronic payment methods, when the unmanned machine does not have or loses Internet connection, the electronic payment option may not be available for the consumer.” *Id.*, at 1:40-43. Low teaches that “complications may lead to lost sales for a merchant and inconvenience for the consumer.” *Id.*, at 1:46-48.

Low discloses a solution that allows consumers to use their smartphones or computing tablets to communicate with a NICM via a wireless communication, such as Bluetooth or NFC, and make an electronic payment to the NICM utilizing a payment provider. *Id.*, 2:11-16. Low’s solution, like the Challenged Claims, includes, among other things, a method, a mobile device, and a computer-readable medium having one or more programs for presenting representations of payment-accepting unit events. Low discloses:

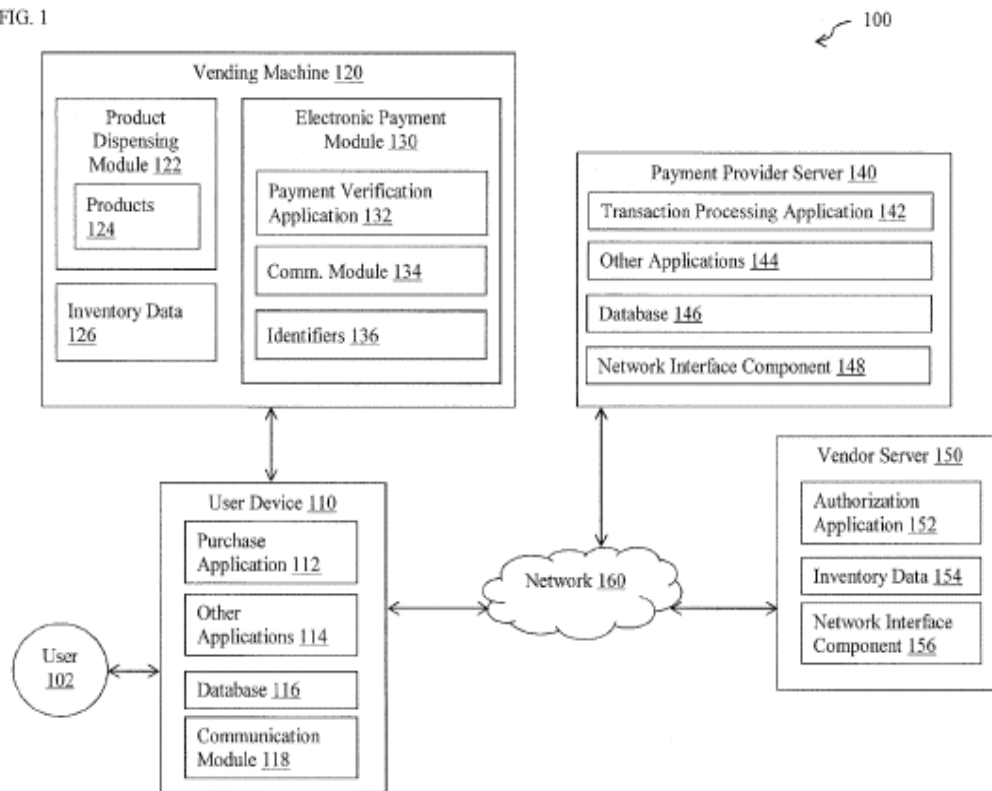
- detecting, by the mobile device 110/410, one or more NICMs that are able to accept payment from the mobile payment application executing on the mobile device (*e.g.*, *id.*, 2:25-28, 3:49-63, 6:27-31, 8:64-9:2, 11:36-47, 15:16-20), the detecting based at least in part on an identifier corresponding to the NICM(s) (*e.g.*, *id.*, 4:57-5:3, 6:3-9, 8:66-9:2, 11:36-47) wherein the NICM(s) are payment-operated machines that accept payment for dispensing of products and/or services (*e.g.*, *id.*, 4:57-59);

- displaying a user interface of the mobile payment application 112 on the display of the mobile device 110/410 (*e.g., id.*, 3:57-63, 4:24-27, 7:9-12), the user interface being configured to display, for example, a displayable list or menu of products (*e.g., id.*, 6:64-67), inventory levels of products (*e.g., id.*, 8:28-33), database information (*e.g., id.*, 9:8-10), and a displayable indication of available machines (*e.g., id.*, 15:26-30) and accept user input to (i) receive selection by the user of the mobile device of an available NICM (*e.g., id.*, 15:26-30) and (ii) trigger payment by the mobile payment application 112 for a transaction initiated by the user of the mobile device 110 with the available NICM (*e.g., id.*, 9:24-26, 11:56-63);
- establishing, by operation of a communication module 118 of the mobile device 110/410, which necessarily includes at least two transceivers (*e.g., id.*, 4:45-56, 9:2-4, 10:5-17, 11:38-47), a wireless communication path including the mobile device 110/410 and the NICM (*e.g., id.*, 6:27-31, 10:5-17);
- after establishing the wireless communication path, enabling user interaction with the user interface of the mobile payment application to complete the transaction (*e.g., id.*, 10:18-28); exchanging information with the available payment accepting unit via the one or more radio transceivers, in conjunction with the transaction (*e.g., id.*, 10:55-61, 12:9-25); and

- after exchanging the information, displaying, on the display, an updated user interface of the mobile payment application to the user of the mobile device (*e.g., id.*, 14:48-51).

Low FIG. 1 (reproduced below) shows an embodiment of a networked system. To the extent that certain limitations in Low are not inherent, such limitations would have been obvious to a POSITA at the time of the alleged invention. *See* EX1012, Section X.A. Low discloses that the user device 110 in FIG. 1 may be “a smart phone, personal digital assistant (PDA), laptop computer, and/or other types of computing devices capable of transmitting and/or receiving data, such as an IPAD® from APPLE®.” EX1003, 3:40-44. A POSITA would have understood that any then-available devices, including the iPhone 5 (EX1001, 20:62) and other conventional devices (*id.*, 8:59-62, 9:2-7) described in the '296 Patent, could have been used for displaying various user interfaces and information, according to the conventional functionality of those specific devices. EX1012, ¶¶52-55.

FIG. 1



EX1003, FIG. 1.

2. Arora

Arora discloses a “system and method for vending products to a customer that encompasses a group of vending machines managed by a vending company... and the use of a [customer’s own] personal electronic device [] as “a second, virtual, or replacement ‘front panel’ for one or more physical vending machines.” EX1004, Abstract, 2:6-9. Arora discloses a mobile device system for communicating with a vending machine over local or remote wireless technologies. *Id.*, 4:2-7. Arora discloses that the mobile device utilizes either local (Bluetooth, WiFi) or cellular wireless technology to detect proximity to a local machine and initiate

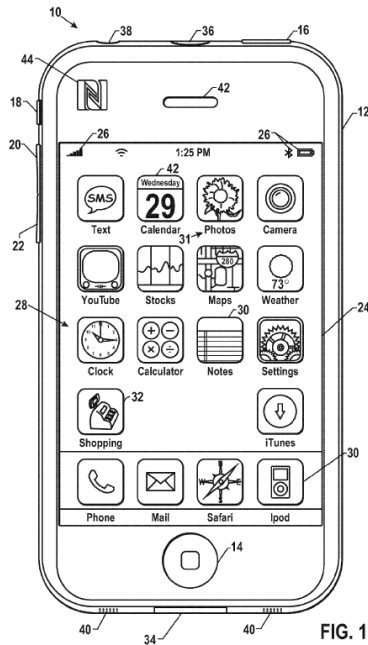
communications. *Id.*, 4:15-22, 4:40-44, 12:34-13:7. “Embodiments include the customer selecting either products or vending machines from a list of options provided via the user interface of the personal electronic device, wherein the list of options depends on the actual available inventory on vending machines co-located with customer, and the customer purchase history.” *Id.*, Abstract. Arora also discloses the use of transaction distances, including “identification distances,” to facilitate the purchase transaction. *Id.*, 12:37-13:5, 18:38-48.

The system of Arora enables users to utilize the GUI application on their mobile devices, which devices receive communications and confirmations related to purchases. *Id.*, 2:6-12, 18:44-55. In addition, Arora discloses that the vending units and mobile devices can communicate over different wireless protocols. *Id.*, 3:64-4:7, 27:52-28:3. Arora also discloses a GUI on the mobile device for communicating with the vending unit. *Id.*, 2:6-11, 4:40-59. A POSITA would have understood that any disclosed communications or graphic display features could have been used to communicate and display the results of those communications. EX1012, ¶67.

3. Casey

A POSITA, as of December 18, 2013, would have understood the capabilities of the then-existing smartphones and looked to already existing technology such as that described by Casey (EX1005) to improve user experience. EX1012, ¶184. Casey is “directed to techniques for confirming a payment

transaction on an electronic device that includes a touchscreen,” EX1005, Abstract, 1:13-17, 3:10-12, such as the GUI shown in FIG.1.



Id., FIG.1.

Casey describes various ways in which to interact through the touch screen of a mobile device to conduct a payment transaction and exchange information. *Id.*, 3: 12-35, 12:42-14:36.

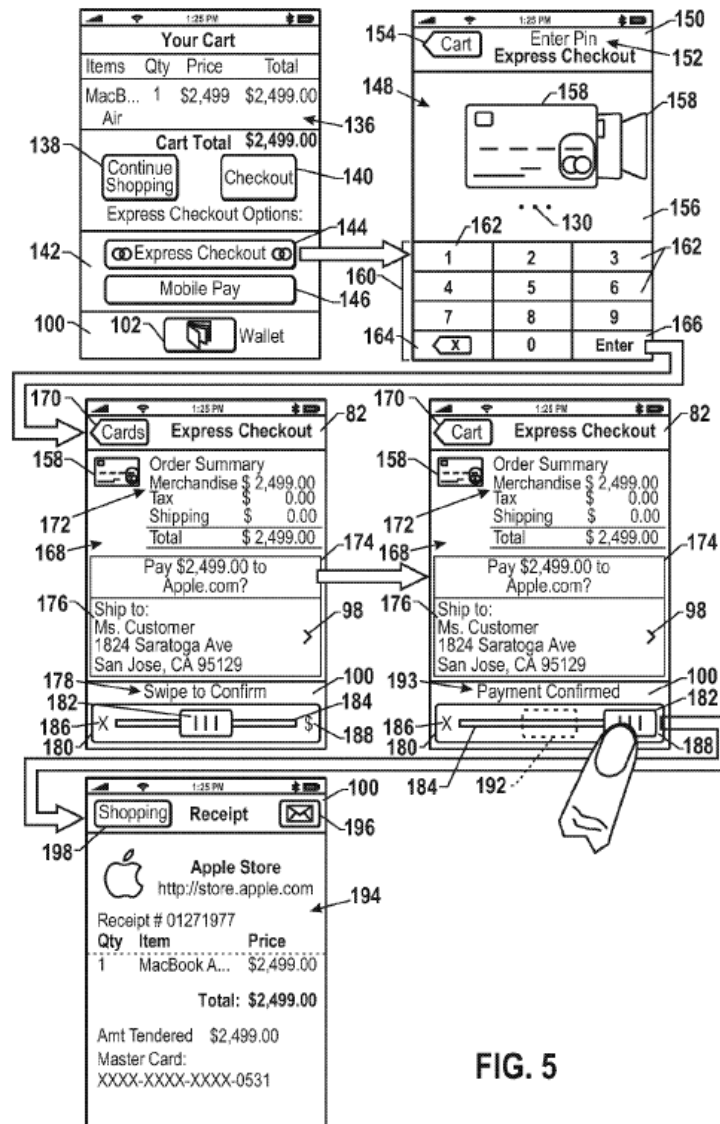


FIG. 5

Id., FIG.5.

Casey discloses that the electronic device “may communicate with other devices using short-range connections, such as Bluetooth and near field communications.” *Id.*, 3:65-4:1. The disclosed electronic device may be an iPod or iPhone, or a derivative thereof. *Id.*, 4:1-3.

4. Motivation to Modify or Combine Low and Arora

While Low explicitly discloses that, “in some embodiments, multiple machines may send their unique identifiers, such that the user is able to select one or more machines to purchase from” (EX1003, 2:25-28), and that the mobile device 110/410 provides “a selection of a first non-Internet connected machine from the plurality of non-Internet connected machines” (*id.*, 14:22-26), Low does not specify a particular methodology for what happens when the user approaches multiple NICMs at a particular location, such as, for example, two vending machines—one that dispenses soft drinks and the other food products. EX1012, ¶178. Accordingly, a POSITA would have been motivated to look to the prior art for a methodology that would allow for selection of one of multiple NICMs at a particular location. *Id.*, ¶178-179.

In the same field of endeavor as Low, Arora describes a conventional methodology for allowing a user to, via a mobile device, detect one or more NICMs and select one or more vending machines in proximity to the mobile device that are available to accept payment from a mobile payment application executing on the mobile device. EX1004, Abstract, 5:23-30, 7:22-24, 7:62-8:32, 12:41-13:5, 18:21-28, 18:37-47, 24:42-62; EX1012, ¶179. Accordingly, with a reasonable certainty of success, a POSITA would have been motivated to modify and/or combine the systems and methods of Low with Arora so as to enable the user of the mobile device

in Low to avoid out-of-service NICMs (EX1004, 24:43-62) and enable the user, via the mobile device, to select a NICM from the group of those NICMs that are available to accept payment and complete a desired purchase transaction at locations with multiple NICMs, or to purchase products from multiple NICMs in a single transaction as taught by Arora (*id.*, 6:50-54, 8:39-56). EX1012 ¶¶179-182.

Low discloses the purchase application 112 and GUI application 114 in the user device 110 that may interface with a corresponding module of one or more vending machines 120 and exchange information with a vending machine 120 about a transaction. EX1003, 2:11-28, 4:3-13, 4:24-27. Relatedly, Arora discloses a mobile device system for communicating with a vending machine over local or remote wireless technologies. EX1004 at 4:2-7. Low, modified in view of Arora, would have resulted in the mobile device using either local (Bluetooth, WiFi) or cellular wireless technology to detect proximity to a local machine and initiate communications. *Id.*, 4:15-22, 4:40-44, 12:34-13:7. The combination system would have enabled users to utilize the described graphical application on their mobile devices to receive communications and confirmations related to purchases. *Id.*, 18:44-55; EX1012 ¶183.

Arora lists dozens of features and benefits of its system, including those that address the concerns of Low. *See e.g.*, EX1003 1:46-47 (stating “complications may lead to lost sales for a merchant and inconvenience for the consumer”); EX1004,

2:17-3:53 (stating that it provides “fast and simple product selection by the customer”). EX1012 ¶181. A POSITA would have had a reasonable expectation of success in combining the features of Arora with Low and/or modifying the system or method of Low with the features disclosed or taught by Arora. *Id.*, ¶182. Both were in the same field of endeavor, *i.e.*, payment systems between a user device and a vending machine; both contemplated use of a mobile payment application using a smart phone such as the iPhone; and both used then-existing communication modalities, including cellular, WiFi, Bluetooth, and NFC. *Id.* ¶¶179, 182.

In particular, given Arora’s disclosures of its user interface, which allow, *e.g.*, a user to select a vending machine or product from a list and the ability to interact with the mobile application, a POSITA reading Low would have been motivated to incorporate such features of Arora. EX1012, ¶¶181-183. This combination would facilitate selection by the user mobile device of one or more NICMs from which to make a purchase at locations with multiple NICMs, while bringing more convenience to the user, and ultimately increasing sales. *Id.* Although Low in view of Arora discloses displaying a user interface of the mobile payment application on the display of the mobile device (EX1003, 3:57-4:2; EX1004, 2:6-11, 3:63-67, FIGS 3, 7), a POSITA would have recognized that the disclosed user interface does not include any particular configuration to accept user input to trigger payment by the mobile payment application. *Id.*, EX1012 ¶¶179-184.

5. Motivation to Combine the System and Method of Low in View of Arora with Casey

In the same field of endeavor as Low and Arora, Casey discloses the use of, for example, an iPhone (EX1005, 4:1-3) with a convenient swipe-to-pay feature that displays a user interface with the capability of allowing the user to trigger payment by sensing motion through the touch screen to confirm, and thereby trigger, payment. *Id.*, 9:32-52. Having Casey before her, and having recognized that the disclosed user interface in Low in view of Arora does not include any preferred configuration to accept user input to trigger payment by the mobile payment application, the POSITA would have been motivated to combine the system and method of Low in view of Arora with Casey, thereby resulting in a user interface of the mobile application that can accept a convenient user input such as swipe-to-pay or motion to trigger payment on a mobile device to facilitate a transaction. EX1012, ¶¶184-187. A POSITA would have understood that any of the conventional features described in Casey, including an accelerometer, could have been used in the system and methods of Low and Arora without any modification to hardware or its operation, particularly as Low and Arora explicitly disclosed the use of smart phones, as well as tablets such as the iPad. EX1003, 1:2:16, 4:37-48; EX1004, 3:63-67; EX1012, ¶¶187-190.

6. Low in View of Arora and/or Casey Renders Obvious Claims 1-28

Element	The '296 Patent	Disclosures of Low
1.0	A method of executing payment accepting unit events, comprising:	Low alone or in combination with Arora and/or Casey would have disclosed or rendered obvious this element. EX1012, ¶¶193-207. Low discloses “systems and methods for an electronic payment to a non-Internet connected device [“NICM”]...,” (EX1003, Abstract), including using a networked system 100, shown at FIG. 1, comprising a user device 110 and vending machine 120, wherein the user device 110 has at least one communication module 118 adapted to communicate with vending machine 120, EX1003, 4:45-56, which user device 110 can include a GUI, EX1003, 4:24-27, and has a purchase application 112 executing on the user device 110. EX1003, 3:49-56. Low further discloses that the purchase application 112 has a user interface enabling the user to purchase products for sale at vending machine 120. <i>See id.</i>, Abstract, FIG. 1. Arora discloses “[a] system and method for vending products to a customer...,” EX1004, Abstract, including a personal electronic device, which may be a smartphone, tablet, or PDA, with a GUI and communication ability, EX1004, 3:64-4:7, wherein the user interface may include representations of transaction events. EX1004, FIGS. 3, 6, 7. Casey discloses “[m]ethods and devices for confirming payment transactions,” EX1005, Abstract, and various user interfaces. <i>Id.</i>, FIGS. 4-8, 10-13.

1.1	at a mobile device with one or more processors, memory, one or more output devices including a display, and one or more radio transceivers:	Low alone or in combination with Arora and/or Casey would have disclosed or rendered obvious this element. EX1012, ¶¶193-207. Low discloses the user device 110 has one or more processors, a memory (EX1003, 3:26-36; 12:26-38; 12:65-13:21), one or more input/output components 504 including a display 511 (EX1003, 12:35-48), and one or more radio transceivers (EX1003, 4:45-56, 10:10-14, 12:52-58), and the user device 110 may be a smart phone, PDA, or an IPAD. <i>Id.</i>, 3:37-48. The user device 110 can include a GUI. <i>Id.</i>, 4:24-27. A POSITA would have understood that the user device 110 would have necessarily included at least two transceivers in the communication module 118 and network interface 506 to provide short-range (e.g., Bluetooth) communication with the vending machine and long-range (e.g., cellular) communication with the server. <i>Id.</i>, 4:45-56, 6:9-16, 9:62-67, 13:30-39, 14:52-55; EX1012, ¶¶197, 205, 207. Arora discloses a personal electronic device such as a smartphone, tablet, or PDA, with a processor, memory, display, and one or more transceivers. EX1004, 3:64-4:7; 26:65-27:6, 27:52-28:3. A POSITA would have understood that the personal electronic device of Arora includes the claimed elements, including two or more transceivers for short-range and long-range communication. EX1012, ¶202, 205. Casey discloses already existing components of a smart phone such as an iPhone. EX1005, 3:64-6:14. “By way of example, the electronic device 10 may be a model of an iPod® or
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		iPhone®, or a derivative thereof, available from Apple Inc. of Cupertino, Calif.” <i>Id.</i> , 4:1-3.
1.2	detecting one or more payment accepting units in proximity to the mobile device,	Low alone or in combination with Arora and/or Casey would have disclosed or rendered obvious this element. EX1012, ¶¶208-224. Low discloses a user may utilize user device 110 to receive data, including locations of available NICMs, EX1003, 2:16-20, including detecting one or more NICMs in proximity to the mobile device based on broadcast identifiers. <i>Id.</i>, 2:25-28. Low discloses that the vending machine 120 includes an electronic module 130 having a communication interface to communicate a machine identifier and other transaction information, via wireless communication including microwave, radio, infrared, Bluetooth, and other modalities. EX1003, 4:59-5:3. Low discloses a method comprising receiving a request to view information associated with a plurality of NICMs associated with the location of a user within a distance to the user device. <i>Id.</i>, 16:13-54 (Claim 12). To the extent Low alone does not disclose, or alone render obvious, this element, Low in view of Arora and/or Casey, as discussed in §§IV.G.5-6 <i>supra</i>, would have included (1) detecting nearby vending machines, wherein the “list of options depends on the actual available inventory on vending machines co-located with customer,” (EX1004, Abstract), (2) display of an “available vending machine” (EX1004, 24:42-62), (3) an ability of the nearby vending machines to communicate

		location (EX1004, 5:23-30, 7:22-24, 7:62-8:32), and (4) the concept of transaction distances, including an “identification distance” (EX1004, 12:41-13:5, 18:21-28, 18:37-47). EX1005 3:59-4:3. EX1012, ¶¶219-224.
1.3	including detecting predefined radio transmissions broadcast by the one or more payment accepting units,	Low alone or in combination with Arora and/or Casey would have disclosed or rendered obvious this element. EX1012, ¶¶225-233. Low discloses that vending machine 120 includes an electronic module 130 having a communication interface to communicate a machine identifier and other transaction information. EX1003, 4:57-5:3. Low discloses that user device 110 includes at least one communication module 118 adapted to communicate with vending machine 120, and further, that communication module 118 may include wired and/or wireless network communication devices including radio frequency, Bluetooth, and NFC devices. <i>Id.</i>, 4:45-56. Low discloses: “in some embodiments, multiple machines may send their unique identifiers, such that the user is able to select one or more machines to purchase from.” <i>Id.</i>, 2:25-28, 6:17-31. Low discloses at its claim 12 “[a] method comprising: receiving, by a payment provider, a request to view information associated with at least one of a plurality of non-Internet connected machines associated with a location of a user device for a user, wherein the request

		comprises the location of the user device; determining, based at least in part on the location, identification of the plurality of non-Internet connected machines within a distance to the user device; communicating the identification of the plurality of non-Internet connected machines to the user device” <i>Id.</i>, 16:13-54 (emphasis added). Arora discloses in FIG. 5 “wireless communication by the vending machine (65), EX1004, 16:37-38, and discloses various wireless communication methods. EX1004, 27:52-28:3. Casey discloses various communication protocols in which each device broadcasts its identification information using Internet protocol or other device identification protocol. EX1005, 3:65-4:3; 5:57-6:7; 6:51-7:25.
1.4	wherein the one or more payment accepting units are payment operated machines that accept payment for dispensing of products and/or services;	Low alone or in combination with Arora and/or Casey would have disclosed or rendered obvious this element. EX1012, ¶¶234-237. Low discloses that the vending machines 120 are vending machines that accept payment for dispensing items that are purchased, and include, for example, a vending machine, kiosk, and terminal. EX1003, 4:57-59. Arora also discloses vending machines that accept payment for dispensing of products or services. EX1004, 4:44-49, 21:35-36. Casey discloses that one of the devices taking part in the transaction may include a vending machine or a kiosk. EX1005, 16:36-40.

1.5	displaying a user interface of a mobile payment application on the display of the mobile device,	Low alone or in combination with Arora and/or Casey would have disclosed or rendered obvious this element. EX1012, ¶¶238-241. Low discloses that the user device 110 includes a user interface that enables the user to purchase products for sale at vending machine 120. EX1003, 3:57-4:2, 3:64-67. Low also discloses a purchase application 112 executing on the user device 110. <i>Id.</i>, 3:49-56, <i>see id.</i>, Abstract, FIG.1. Arora discloses that its personal electronic device is a smart phone or other device executing applications (apps). EX1004, 26:65-27:6, with a GUI and communication ability, EX1004, 3:64-4:7. EX1004, FIGS. 3, 7, 11:49-50, 11:55-56. Casey also discloses various different iterations of potential user interfaces of the mobile payment application on the display of the mobile device. EX1005, FIGS. 4-8, 10-13.
1.6	the user interface being configured to display a visual indication of the one or more payment accepting units and	Low alone or in combination with Arora and/or Casey would have disclosed or rendered obvious this element. EX1012, ¶¶242-249. Low discloses that the purchase application 112 of user device 110 may interface with a corresponding module at vending machine 120 and receive a purchase request containing, for example, a machine identifier. EX1003, 4:3-13. Low also discloses that in some embodiments, “multiple machines may send their unique identifiers, such that the user is able to select

	one or more machines to purchase from.” <i>Id.</i>, 2:11-28. A POSITA would have understood that purchase application 112 of user 100 could be configured to receive unique identifiers from multiple machines and that such information could be reviewed as a visual indication of the one or more multiple machines on purchase application 112. <i>See id.</i>, 2:25-28, 4:24-28; EX1012, ¶245. Arora discloses Figures 3 and 7, reproduced below, which show exemplary screenshots of the personal electronic device. EX1004, 11:49-50, 11:55-56. “FIG. 3 shows an exemplary screen on a personal electronic device, 40. The screen shows two different vending machines, 41 and 42.” <i>Id.</i>, 13:47-48, 19:30-34 (“FIG. 7 shows an exemplary screen on a personal electronic device in one embodiment. This screen is used by the customer to identify a particular vending machine. The visible screen is 40. Two different vending machine types are shown, 110 and 111.”).
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Fig. 3

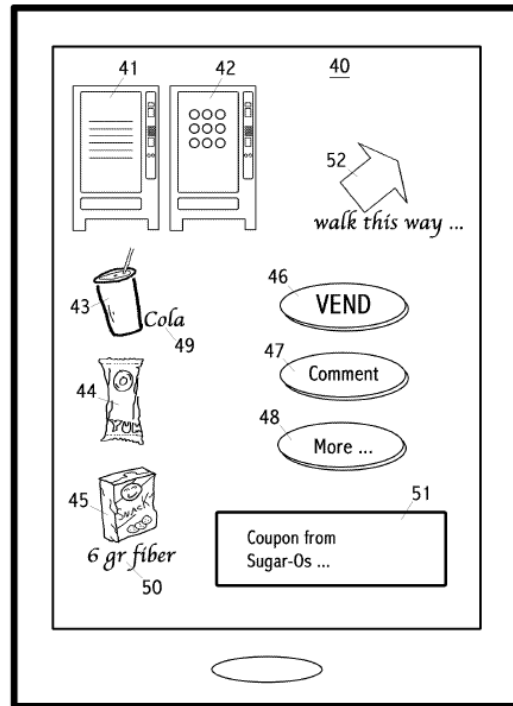
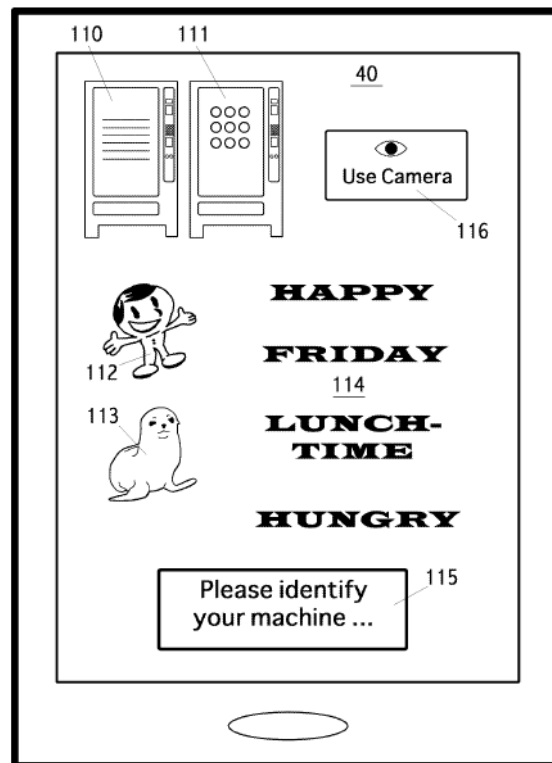


Fig. 7



		A POSITA would have understood the GUI of user device 110 of Low would have been modified in view of Arora and Casey to display a visual indication of the one or more payment accepting units, as taught by Arora in Figures 3 and 7 in order to provide a better user experience to the customer and raise the level of convenience to the customer. EX1005, FIGS. 4-9, 10-13; EX1012, ¶249.
1.7.1	accept user input to (i) receive selection by a user of the mobile device of an available payment accepting unit of the one or more payment accepting units and	Low alone or in combination with Arora and/or Casey would have disclosed or rendered obvious this element. EX1012, ¶¶250-257; <i>see also</i> claim elements 1.2, 1.3 above. Low discloses that the user interface of the purchase application 112 is configured to accept user input to receive selection by a user of the user device 110 of an available vending machine 120. EX1003, 2:11-28, 16:13-54 (“A method comprising... receiving, from the user device, a selection of a first non-Internet connected machine from the plurality of non-Internet connected machines, wherein the selection comprises identification information of the first non-Internet connected machine...”), FIG.3 (step 304): <pre> graph TD 300[300] --> 302[Receiving information about items for sale from a non-Internet connected machine] 302 --> 304[Receive a purchase request from a user for an item for sale] 304 --> 306[Transmit the purchase request to a server for approval] 306 --> 308[Receive an approval of the purchase request] </pre>

		Arora discloses with respect to the user interface shown in Figure 3 that “In one embodiment, the customer selects which machine she wishes to use by touching icon 41 or 42.” EX1004, 13:52-54, 19:46-50 (discussing FIG.7, reproduced above in Element 1.6). Low in view of Arora and Casey would have disclosed or rendered obvious a GUI that accepts user input to receive selection by a user of the mobile device of an available payment accepting unit of the one or more payment accepting units. EX1012, ¶257.
1.7.2	(ii) trigger payment by the mobile payment application for a transaction initiated by the user of the mobile device with the available payment accepting unit of the one or more payment accepting units;	Low alone or in combination with Arora and/or Casey would have disclosed or rendered obvious this element. EX1012, ¶¶258-265. Low discloses “The user device displays the purchase request and, if the information is correct, the user selects a payment button or option on the user device, which communicates the payment request to a payment provider....” EX1003, 2:46-51. FIG. 3 of Low discloses a method for use of user device 110 for an electronic payment to the vending machine 120, including a step 306, wherein the user device 110 transmits the purchase request to a server. <i>Id.</i>, 10:41-57, FIG. 3 (step 306). Low in view of Arora and Casey discloses that Low’s app would include Casey’s swipe-to-pay and other triggering features implementable via the GUI features. <i>See, e.g.</i>, EX1004, 6:7-12; 2:16-30, 25:28-33; EX1005, 9:37-52.

1.8	establishing via the one or more radio transceivers a wireless connection between the mobile device and the available payment accepting unit of the one or more payment accepting units;	Low alone or in combination with Arora and/or Casey would have disclosed or rendered obvious this element. EX1012, ¶¶266-271. Low discloses that the user device 110 includes at least one communication module 118 adapted to communicate with the vending machine 120, including through radio frequency, Bluetooth and NFC devices. EX1003, 4:45-56. Low discloses that a consumer device such as a smart phone communicates with the unmanned device/machine via wireless communication, such as Bluetooth or NFC. <i>Id.</i>, 2:11-16. Low discloses a method for use by the user device 110 including a step 302, at which step the communication module 118 of the user device 110 connects to the communication module 134 of the electronic payment module of the vending machine 120. <i>Id.</i>, 10:1-17. Arora discloses, for example at FIG. 5, a connection between the vending machine 60 and the personal electronic device 67 through wireless communication 66. EX1004, 17:40-43; 3:63-4:7, 27:52-28:3. Casey discloses various ways of establishing a wireless communication path between two devices. EX1005, 16:37-52.
1.9	after establishing the wireless connection, enabling user interaction with the user interface of the mobile payment application to	Low in view of Arora and/or Casey would have disclosed or rendered obvious this element. EX1012, ¶¶272-280. Low discloses the “user device receives a purchase request for an item for sale at step 304,” and that the purchase request may be

	complete the transaction;	received after a user utilizes her user device 110 to select at least one of products 124 for purchase. EX1003, 10:18-26. A GUI may be provided on the user device for interaction by the user. <i>Id.</i>, 4:24-28. Low discloses that “[f]or example, user 102 may utilize user device 110 to view and select a product while user device 110 is in communication with electronic payment module 130.” <i>Id.</i>, 10:26-27. Low discloses that user device 110 may receive the approval and use a payment authorization included in the approval with electronic payment module 130 to dispense products 124 from vending machine 120. <i>Id.</i>, 10:55-61. Low, in view of Arora and Casey, would have disclosed or rendered obvious a system and method wherein user interaction is facilitated with the user interface of the purchase application 112 of the user device 110 of Low after establishing the wireless communication path in order to provide more options to the user for the goal of enabling the purchase. EX1012, ¶277. A POSITA would have understood that the step in this element would necessarily come after the establishment of the wireless communication path in Low, as modified in view of Arora and Casey, in order to ensure that the transaction was secure. EX1005, 7:13-22, 16:22-35, 17:35-37; EX1012, ¶280.
1.10	exchanging information with the available payment accepting unit via the	Low in view of Arora and/or Casey would have disclosed or rendered obvious this element. EX1012, ¶¶281-286.

	one or more radio transceivers, in conjunction with the transaction; and	Low discloses that “[f]or example, user 102 may utilize user device 110 to view and select a product while user device 110 is in communication with electronic payment module 130.” EX1003, 10:26-27. Low discloses use of a transceiver, a communication module 118 (EX1003, FIG. 1) and a network interface 506 (EX1003, FIG. 5) to communicate between the user device and electronic payment module of the NICM using short-range communication. EX1003, 4:45-56, 10:1-17, 12:52-58. Arora discloses this claim element throughout its disclosure <i>See, e.g.</i>, EX1004, 5:27-39 (“Once a unique machine (or a physical group of machines where each machine in the group stocks products unique to that group) is identified, the customer may initiate a transaction related to that machine...”). Casey discloses exchanging information via the one or more radio transceivers via the various communication protocols, and using such protocols with the system of Low and Arora would have been routine and well-understood to a POSITA. EX1005, 3:65-4:3, 5:57-6:7, 6:51-7:25; EX1012, ¶286.
1.11	in response to receiving the information, displaying, on the display, an updated user interface of the mobile payment application to the user of the mobile device.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this element. EX1012, ¶¶287-293. Low discloses that approval is received by the user device 110. EX1003, 10:55-61. A POSITA would have understood that the information would necessarily have been conveyed to the user device 110 via purchase

		application 112 and/or other application 114 (GUI). EX1012, ¶¶288-289. Low, as modified in view of Arora and Casey, discloses this element. <i>See, e.g.</i>, EX1004, FIG.3, 13:47-14:51; EX1005, 14:25-32; (after exchanging information app displays an updated interface to allow user to confirm accuracy of information).
2	The method of claim 1, wherein the updated user interface of the mobile payment application includes at least one of: a message displayed on the display of the mobile device; a banner notification displayed on a display of the mobile device; and/or a visual alert from one or more LEDs of the mobile device.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶294-302. A POSITA would have understood the user interface of the purchase application 112 and/or application 114 (GUI) in Low would necessarily have included at least one of a message, banner or visual alert, as recited in this element. EX1012, ¶¶297-300. Low, in view of Arora and Casey, renders obvious providing messages at various points of the transaction, for example, based on Arora's disclosure of "[w]hen the customer is within the transaction distance, in step 92 [of FIG.6], a message appropriate to the potential transaction is sent to the customer." EX1004, 18:44-46. Arora discloses "[a]dditional embodiments shown in FIG. 7 include an option to use the camera in the personal electronic device, shown with a touch button 116. There is also a message area to the customer, with a displayed message in the box, 115." <i>Id.</i>, 19:57-60. Casey also discloses displaying an updated message. EX1005, 4:28-40.

3	The method of claim 1, wherein the information indicates completion of the transaction between the user of the mobile device and the available payment accepting unit.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶303-306. Low discloses “[o]nce transaction processing application 142 has processed the purchase request, an approval is received by the user device of the purchase request at step 308. User device 110 may receive the approval and use a payment authorization included in the approval with electronic payment module 130 to dispense a purchased item of products 124 from vending machine 120.” EX1003, 10:55-61. Further, Low, as modified in view of Arora and Casey discloses this element at, <i>e.g.</i>, EX1005, FIG 10. EX1012, ¶306.
4	The method of claim 2, wherein the mobile device includes a long-range transceiver and the information at least includes an amount of the completed transaction, and the method further comprises: sending at least the amount of the completed transaction to a server via the long-range transceiver.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶307-312. Low discloses that the user device 110 includes at least one communication module 118. EX1003, 4:45-56. In addition, Arora discloses that the personal electronic device includes communication ability which can include various connections, including WiFi. EX1004, 3:64-4:7. Low discloses that the payment provider server 140 includes a transaction processing application 142 that processes a funding source according to payment details included in the payment request, such as a product price. EX1003, 10:41-54. Low similarly discloses “[t]he user device displays the purchase request and, if the information is correct, the user selects a

		payment button or option on the user device, which communicates the payment request to a payment provider.” <i>Id.</i>, 2:46-49. Low, as modified in view of Arora and Casey renders obvious this element. <i>See e.g.</i>, EX1005, 10:14-19; EX1012, ¶312.
5	The method of claim 1, wherein the information indicates abortion of the transaction initiated by the user of the mobile device.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶313-319. A POSITA would have understood that Low necessarily included, or at minimum teaches this element, particularly in view of Low’s disclosure of “the payment provider process[ing] the request, and <i>if approved</i>, send[ing] approval information back to the user device.” EX1003, 2:32-35 (emphasis added); EX1012 ¶315-317. Low discloses “[t]he user device displays the purchase request and, <i>if the information is correct</i>, the user selects a payment button or option on the user device, which communicates the payment request to a payment provider.” EX1003, 2:46-49 (emphasis added). A POSITA would have read these disclosures and would have understood that Low’s system and method would also contemplate a situation of returning information back to the user device if the request is <i>not</i> approved. EX1012, ¶317. Additionally, a POSITA would have understood that if the information is not correct and/or the user does not select a payment button or option on the user device, then the transaction is aborted. <i>Id.</i>

		Arora discloses “When a timely response has been received, step 95 verifies the validity of the response.... If the customer response fails verification, the flowchart reverts to step 90 or 92.” EX1004 at 18:56-67. Step 92 is an initial solicitation of the customer. <i>Id.</i>, 18:44-47. Accordingly, a new message soliciting the customer after the customer has responded positively to the prior purchase offer would indicate an abortion of the prior transaction. EX1012, ¶317. A POSITA would have understood that any communications from the vending machine would necessarily have been displayed on the mobile interface or, at minimum, would have been obvious to display, particularly in view of Casey. EX1012, ¶¶318-319.
6	The method of claim 1, wherein the information indicates failure of the transaction initiated by the user of the mobile device or a malfunction associated with the available payment accepting unit.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶320-324. Low implicitly includes this claim in, <i>e.g.</i>, its claims 4, 5. <i>Id.</i>, ¶322. To the extent that Low alone or in view of Arora and Casey does not disclose this claim element, a POSITA would have understood that Low, in view of Arora and/or Casey, would have rendered obvious that the information indicates failure of the vending transaction initiated by the user of the mobile device or a malfunction associated with the available payment accepting unit. <i>Id.</i>, ¶¶322-324. A POSITA would have read these disclosures and would have understood that Low’s system and method contemplated a situation of returning information back to the user device if the information indicated failure of the vending transaction initiated by the

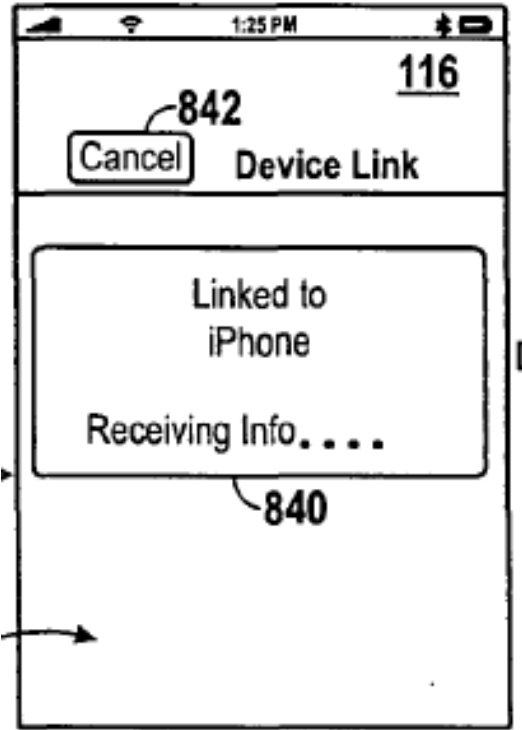
		mobile device's user or a malfunction, particularly in view of POSITA's knowledge of the GUIs by 2013. <i>Id.</i> , ¶324.
7.1	The method of claim 1, wherein the mobile device includes an accelerometer and the method further comprises:	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶188-191, 325-327. Casey discloses that its embodiment includes a motion sensing device such as an accelerometer. EX1005, 7:59-8:3 (“...device 10 may include a motion sensing device 62 for receiving user input...”).
7.2	based on data from the accelerometer, determining whether the user is walking away from the available payment accepting unit; and	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶328-332. Low, as modified in view of Arora and Casey, discloses that the user “device 10 may include a motion sensing device 62 for receiving user input. The motion sensing device 62 may be any device configured to measure motion or acceleration, such as an accelerometer or a gyroscope...Motion data acquired by the motion sensing device 62 may be used to confirm a payment transaction...” EX1005, 7:40-58, 8:6-8:3, 9:55-60. Based on such disclosure, a POSITA would have understood that the payment-decline feature using the accelerometer of the mobile device 10 could be used to determine whether the user is walking away from the electronic payment unit. EX1012, ¶332.
7.3	in accordance with a determination that the user is walking away from the available payment accepting	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶333-334.

	unit, canceling the wireless connection.	A POSITA would have understood Low, as modified in view of Arora and Casey, to teach the use of accelerometers in the user device 110 to, in accordance with a determination that the user is walking away from the available payment accepting unit, cancel the wireless communication path after the user declines to complete the transaction. <i>See e.g.</i>, EX1005, 18:58-9:9; EX1012, ¶¶333-334. A POSITA would have further understood Low, as modified in view of Arora and Casey, to teach the use of accelerometers in the user device as another means for which the user device could receive information regarding the vending machine 120 upon the user approaching, or walking away from, the vending machine. <i>Id.</i>, ¶¶334. A POSITA would have understood that the hardware/software of user device 110 in Low could include an accelerometer, and look to Casey to understand that certain accelerometer data may be used to initiate interaction between two devices. <i>Id.</i>, ¶¶333-334. Low and Casey teach adding an accelerometer, or configuring the existing accelerometer inherent in Low's user device 110, and configuring Low's user device 110 to, based on data from the accelerometer, determine whether the user is walking away from the available payment accepting unit, and if the user is walking away from the available payment accepting unit, canceling the wireless connection, as recited in claim 7. <i>Id.</i>, ¶334.
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8	The method of claim 1, wherein the information reflects status of the transaction for a product stocked by the available payment accepting unit.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶335-340. Low discloses that vending machine 120 includes inventory data 126 that may include current stocks of products 124, and discloses that this inventory data may be utilized with the user device 110 to display information to the user 102 and/or with a server. EX1003, 5:3-9, 5:36-43, 8:22-36, 9:11-12. A POSITA would have understood that, in Low, as modified in view of Arora and Casey, the inventory data 126 of vending machine 120 displayed to user 102 on the user device 110 would necessarily reflect the status of the transaction for a product stocked by the available payment accepting unit. EX1012, ¶¶338-340. Arora discloses that the “state” of a vending machine includes stock of a product, EX1004, 23:63-67, and that the system of Arora is able to generate message to the customer regarding vending machines that have a requested product in current inventory. EX1004, 24: 42-62; <i>see id.</i>, 4:41-44. A POSITA would have understood that such message rendered obvious this claim element alone or in combination with Low. EX1012, ¶¶339-340.
9	The method of claim 1, further comprising: in addition to exchanging the information, receiving, via the one or more radio	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶341-350. Low discloses that the payment provider service 140 includes database 146 that may include cross-promotional products and/or

	transceivers, a coupon that is targeted to the user of the mobile device based on the transaction.	preferences for use in upselling products. EX1003, 7:13-28. Low discloses that the machine may send out product details to the user device to upsell or advertise products available on the machine. <i>Id.</i>, 2:20-25. In view of these disclosures, a POSITA would have understood that Low, as modified in view of Arora and Casey, teaches a coupon that could be targeted to the user of the mobile device based on the vending transaction. EX1012, ¶¶345-350. Arora discloses that an advantage of its system and method is the “ability of the vending company to sell advertising or promotions, including advertising or promotions to customer from the product manufacturers.” EX1004, 3:16-18. Arora further discloses that a transaction between the personal electronic device and the machine “take[s] advantage of an incentive or promotion, such as a coupon, sale or discount, points, contest entry, ability to vote, games or other products, services or features.” <i>Id.</i>, 5:27-39. Arora also discloses that “[a]nother advantage [of the system of Arora] is to provide to the customer additional information or incentives on the same screen or related screen as used for product selection. <i>Id.</i> 5:56-59. Based on these disclosures, a POSITA would have been motivated to modify the system and method of Low in view of Arora and/or Casey to provide a targeted coupon to drive sales, without any modification to any hardware. EX1012, ¶350.
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10	The method of claim 1, wherein the user interface of the mobile payment application presented after establishing via the wireless connection indicates that the wireless connection has been established with the available payment accepting unit.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶351-354. Low discloses that “[u]ser device 110 may be implemented using any appropriate hardware and software configured for wired and/or wireless communication over network 160” (EX1003, 3:37-39), and information corresponding to the vending machine can be displayed on the GUI. EX1003, 4:24-27, 10:14-17. A POSITA would have understood that Low, as modified in view of Arora and Casey, would have included as part of the purchase application 112 of Low, an indication that the wireless connection has been established with the available payment accepting unit, particularly in view of Casey (incorporating Lin (EX1006), FIG. 39, excerpt reproduced below). EX1012, ¶354.
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		 Such modification was routine, predictable, and a POSITA would have been motivated to make such modification in order to provide another layer of convenience to the user, particularly in view of Arora's disclosures at FIGS. 3 and 7, which include a wide variety of icons, as well as in view of the state of the technology as of December 18, 2013, including as disclosed and taught by Casey. <i>See</i> EX1005, FIG.5; EX1012, ¶354.
11.1	The method of claim 1, wherein the user interface of the mobile payment application presented after establishing via the wireless connection includes:	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶355-361. <i>See</i> claim element 1.6 discussed <i>supra</i>; <i>see also</i> EX1004, at FIGS. 3, 7, 11:49-50; 1:55-56. Arora discloses that "FIG. 3 shows an exemplary screen on a personal electronic device, 40. The screen shows two different

	a visual representation of the available payment accepting unit;	vending machines, 41 and 42.” EX1004, 13:47-48; 9:30-34 (“FIG. 7 shows an exemplary screen on a personal electronic device in one embodiment. This screen is used by the customer to identify a particular vending machine. The visible screen is 40. Two different vending machine types are shown, 110 and 111.”). A POSITA would have understood that the GUI of user device 110 of Low, as modified in view of Arora and Casey, would display a visual indication of the one or more payment accepting units after establishing the wireless communication path in order to orient the customer to the vending machine with which the customer is interacting. EX1012, ¶¶355-361. A POSITA would have been motivated to do so particularly in view of Arora’s disclosures of various types of icons and graphical images that could be used to detect the machine and in view of the state of technology relating to GUIs, for example as discussed by Casey and Lin. <i>Id.</i>, ¶¶359-361. Such modification would have been routine and predictable. <i>Id.</i>, ¶361.
11.2	an indication of a prepared balance; and	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶362-363. Low, as modified in view of Arora and Casey, discloses displaying an “amount of the transaction.” EX1005, 13:36-39. A POSITA would have been motivated to modify the user interface of the system of Low in view of Arora and Casey to further indicate an indication of a prepared balance in order to provide a more positive user experience by

		increasing the level of convenience and transparency to the user. EX1012, ¶363. Such modification would have been routine, particularly in view of the state of GUI technology, for example in the display of Casey. EX1005, FIG.5; EX1012, ¶363.
11.3	an affordance that when slid, indicates the initiation of the transaction;	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶364-367. A POSITA would have understood that Low, at 3:39-48, 11:9-28, <i>inter alia</i>, includes element 11.3. <i>Id.</i>, ¶365. A POSITA would have understood that the hardware/software in the user device 110 of Low was capable of initiating a vending transaction when slid, particularly because the concept of sliding on a user interface was a feature of smart phones like the iPhone and not new as of the '296 Patent's filing date. <i>Id.</i> A POSITA would have understood that a GUI could be customized to include various windows, buttons, or sliders, as described by Casey (EX1005), and would have been motivated to modify the system and method of Low and Arora to include a sliding interface to initiate a vending transaction in order to avoid inadvertent initiation of transactions. EX1005, FIG. 3; EX1012, ¶367.
12	The method of claim 11, wherein the affordance is slid in response to receiving a user input of swipe on the affordance displayed on the	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶368-370. <i>See</i> claim elements 11.1-11.3 discussion <i>supra</i>. A POSITA would have understood that Low, as modified in view of Arora and Casey, would have included the slide-to-pay feature, in view

	display of the mobile device.	of Casey’s disclosure of such feature. EX1005, 13:36-51, 20:17-22; EX1012, ¶370. A POSITA would have further understood that the user device in Low was capable of having the affordance be slid in response to receiving a user input of swipe, particularly because the concept of “sliding” on a user interface was a feature of the iPhone. EX1005, FIG. 3; EX1012, ¶370.
13	The method of claim 1, wherein the predefined radio transmissions are broadcasted by the one or more payment accepting units indicating status of the one or more payment accepting units.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶371-373. <i>See</i> claim element 1.3, claim 8.
14	The method of claim 1, wherein the one or more payment operated machines include a laundromat washer or dryer, a vending machine, a parking meter, a toll booth, an arcade game, a kiosk, a photo booth, a toll booth, or a ticket dispensing machine.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶374-376. <i>See also</i> claim 1. Both Low and Arora disclose vending machines. EX1003, 1:29-33; EX1004, Abstract. Low also discloses kiosks as a device that allows a consumer to make an electronic purchase. EX1003, 1:29-33. Low discloses other examples including a terminal. <i>Id.</i> , 4:57-59. Casey discloses vending machines and kiosks. EX1005, 16:52-56.
15.0	A mobile device, comprising:	<i>See</i> claim elements 1.0, 1.1.

15.1	one or more radio transceivers; one or more output devices including a display; one or more processors; and memory storing one or more programs to be executed by the one or more processors, the one or more programs comprising instructions for:	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶194-207. <i>See</i> claim element 1.1.
15.2 - 15.11	<i>See</i> claim elements 1.2-1.11, respectively, on a claim element-by-claim element basis.	Low in view of Arora and/or Casey would have disclosed or rendered obvious these claim elements. EX1012, ¶¶208-293. <i>See</i> claim elements 1.2-1.11, respectively, on a claim element-by-claim-element basis.
16	The mobile device of claim 15, wherein the one or more output devices of the mobile device include at least one of: one or more speakers, one or more light emitting diodes (LEDs), and a vibration mechanism.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element to a POSITA. EX1012, ¶¶377-381. Low discloses that the user device may be a smart phone. EX1003, 3:37-44. Arora discloses the personal user device may include audio output, haptics, “and the like.” EX1004, 26:65-27:6. Casey discloses the device 10 may be an iPhone (EX1005, 4:1-3) and further discloses an LED display (<i>id.</i>, 4:36-39), and various audio input

		and output structures such as microphones. EX1005, 5:44-56.
17.1	The mobile device of claim 15, wherein: the mobile payment application on the mobile device is configured to communicate with a payment module coupled with an internal interface of the available payment accepting unit;	Claim 17 is indefinite to a POSITA. EX1012, ¶¶412-415; <i>see infra</i> Section IV.H (Ground 3). In the alternative, to the extent that the Board considers the claim to be definite, Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element to a POSITA. EX1012, ¶¶382-387. Low discloses that the vending machine 120 includes an electronic payment module 130. EX1003, 4:64-5:3. Low discloses that the “communication module 118 of user device 110 connects to communication module 134 of electronic payment module 130. <i>Id.</i>, 10:7-10; <i>see id.</i>, FIG 1, 3.
17.2	the mobile device sends a transmission to the payment module via the one or more radio transceivers of the mobile device in conjunction with the transaction; the available payment accepting unit sends the transmission to the payment module in conjunction with the transaction; and the mobile device obtains, via the one or more radio	Claim 17 is indefinite to a POSITA. EX1012, ¶¶412-415; <i>see infra</i> Section IV.H (Ground 3). In the alternative, to the extent that the Board considers the claim to be definite, Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element to a POSITA. EX1012, ¶¶388-392. Low discloses that the electronic payment module 130 includes at least one communication module 134 adapted to communicate with communication module 118 of the user device 110, which may include various types of wired and/or wireless short range communication devices. EX1003, 6:9-16. Low discloses that the purchase application 112 “may interface with a corresponding module at vending machine 120.” <i>Id.</i>, 4:5-14, 6:3-9. A POSITA would have understood that the

	transceivers, the information from the payment module based on the transmission.	transmission could be to-and-from the user device and the electronic payment module. EX1012, ¶¶392; EX1003, FIG 1, 6:11-27.
18	The mobile device of claim 15, wherein: the wireless connection is established via a first transceiver of the one or more transceivers; the information is exchanged via a second transceiver of the one or more transceivers; and the first transceiver is different from the second transceiver.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim to a POSITA. EX1012, ¶¶393-396. Low discloses that the “user device 110 includes at least one communication module 118 adapted to communicate with vending machine 120 and/or network 160 including payment provider server 140 and/or vendor server 150” and describes various types of “wired and/or wireless network communication devices.” EX1003, 4:45-56. Low discloses the “electronic payment module 130 includes at least one communication module 134 adapted to communicate with user device 110,” <i>id.</i> 6:9-17. To the extent Low does not disclose or render obvious this claim element, a POSITA would have been motivated to modify the system of Low, Arora and Casey in order to arrive at claim 18 for multiple reasons, including to ensure smooth and efficient communications, optimize energy usage and conserve battery life, or to optimize the purpose of the connection. EX1012, ¶396.
19	The mobile device of claim 15, wherein the one or more payment accepting units further comprise one or more of: parking meters, toll booths,	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶397-399. <i>See claim 14 supra.</i>

	laundromat washers, laundromat dryers, arcade games, kiosks, photo booths, toll booths, and/or transit ticket dispensing machines.	
20	The mobile device of claim 15, wherein the wireless connection between the mobile device and the available payment accepting unit is a Bluetooth connection, a Bluetooth Smart connection, a Bluetooth Low Energy connection, a near-field communication connection, an Ultra Wideband connection, a radio frequency identification connection, an infrared wireless connection, and/or an induction wireless connection.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶400-404. Low discloses that “According to various embodiments, a consumer device, such as a smart phone or computing tablet, communicates with a non-Internet connected unmanned device/machine via wireless communication, such as Bluetooth or NFC (Near Field Communication) means, for making a payment to the device utilizing a payment provider.” EX1003, 2:11-16. Low also discloses various communication means employed by the user device 110, including Bluetooth. <i>Id.</i>, 2:38-39, 4:45-56; 10:10-14. Arora also discloses that the communication may be, <i>e.g.</i>, Bluetooth, NFC, among other wireless communication methods. EX1004, 3:64-4:7, 27:52-67. Casey discloses that “The electronic device 10 also may communicate with other devices using short-range connections, such as Bluetooth and near field communication. By way of example, the electronic device 10 may be a model of an iPod® or iPhone®, or a derivative thereof, available from Apple Inc. of Cupertino, Calif.” EX1005, 3:65-4:3.

21	The mobile device of claim 15, wherein the one or more payment operated machines include a laundromat washer or dryer, a vending machine, a parking meter, a toll booth, an arcade game, a kiosk, a photo booth, a toll booth, or a ticket dispensing machine.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶374-376. <i>See claims 1, 14 supra.</i>
22.0	A non-transitory computer readable storage medium storing one or more programs, the one or more programs comprising instructions,	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶194-200. Low discloses that a computer system 500 performs specific operations by processor 512 and other components by executing one or more sequences of instructions contained in system memory component 514. EX1003, 12:26-38.
22.1	which, when executed by a mobile device with one or more processors, one or more output devices including a display, and one or more radio transceivers, cause the mobile device to perform operations comprising:	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶194-200. <i>See claim element 1.1.</i>

22.2- 22.11	<i>See</i> claim elements 1.2-1.11, respectively, on a claim element-by-claim element basis.	Low in view of Arora and/or Casey would have disclosed or rendered obvious these claim elements. EX1012, ¶¶208-293. <i>See</i> above claim elements 1.2-1.11, respectively, on a claim element-by-claim element basis.
23	The non-transitory computer readable storage medium of claim 15, wherein the updated user interface of the mobile payment application includes at least one of: a message displayed on the display of the mobile device; a banner notification displayed on a display of the mobile device; and/or a visual alert from one or more LEDs of the mobile device.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶294-302. <i>See</i> claims 1, 2 above.
24	The non-transitory computer readable storage medium of claim 22, wherein: the information indicates completion of the transaction between the user of	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶303-306. <i>See</i> claim 3 above.

	the mobile device and the available payment accepting unit;	
25.1	The non-transitory computer readable storage medium of claim 24, wherein:	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶405-407. <i>See claim 24 above.</i>
25.2	the information at least includes an amount of the completed transaction; and the instructions further cause the mobile device to send at least the amount of the completed transaction to a server.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim element. EX1012, ¶¶405-407. <i>See claim 4 above.</i>
26	The non-transitory computer readable storage medium of claim 22, wherein the information indicates abortion of the transaction initiated by the user of the mobile device.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶313-319. <i>See claim 5 above.</i>

27	The non-transitory computer readable storage medium of claim 22, wherein the information indicates failure of the transaction initiated by the user of the mobile device or a malfunction associated with the available payment accepting unit.	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶320-324. <i>See claim 6 above.</i>
28	The non-transitory computer readable storage medium of claim 22, wherein the one or more payment operated machines include a laundromat washer or dryer, a vending machine, a parking meter, a toll booth, an arcade game, a kiosk, a photo booth, a toll booth, or a ticket dispensing machine..	Low in view of Arora and/or Casey would have disclosed or rendered obvious this claim. EX1012, ¶¶374-376. <i>See claims 14, 19, 21, and 22 supra.</i>

H. Ground 3: Claim 17 is Indefinite

A claim is indefinite under §112(b) when, viewed in light of the specification and prosecution history, it fails to inform a POSITA about “the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134

S.Ct. 2120, 2129 (2014). Claim 17 is indefinite under §112(b) because it recites contradictory limitations that are on their face non-sensical.

Claim 17 recites “...the mobile device sends a transmission to the payment module via the one or more radio transceivers of the mobile device in conjunction with the transaction; the available payment accepting unit sends the transmission to the payment module in conjunction with the transaction....” The “transmission” was sent by the mobile device to the “payment module,” not the “available payment accepting unit”; and the ’296 Patent specification does not provide any teaching that would suggest to a POSITA that the “payment accepting unit” receives a transmission from the mobile device, which it then sends to the “payment module.” EX1012, ¶¶412-415. In fact, there is no disclosure whatsoever in the ’296 Patent that the payment accepting unit has the capability to receive any transmission—it is the payment module retrofitted to the payment accepting unit that has the communication capabilities. Petitioners respectfully request that the Board institute trial on the grounds set forth herein and determine that the Challenged Claims are unpatentable.

V. DISCRETION UNDER 35 U.S.C. § 325(d)

The Board should decline to exercise its discretion to deny the petition based on 35 U.S.C. §325(d) (“§325(d)”) because the two-part test set out in *Advanced*

Bionics, which incorporates the factors set out in *Becton Dickinson*, favors institution. *Advanced Bionics, LLC v. MED-EL Elektromedizinische Gerate GmbH*, IPR2019-01469, Paper 6 (P.T.A.B. Feb. 13, 2020). § 325(d) identifies two separate issues to consider in exercising discretion to deny institution of review: (1) whether the petition presents to the Office the same or substantially the same art previously presented to the Office, or (2) whether the petition presents to the Office the same or substantially the same arguments previously presented to the Office. *Advanced Bionics*, Paper 6, p.7. Whether the proffered art or arguments are “the same or substantially the same” is a factual inquiry in which the Board looks to the six factors set forth in *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (P.T.A.B. Dec. 15, 2017) (precedential as to §III.C.5, first paragraph). “Under § 325(d), the art and arguments must have been previously presented to the Office during proceedings pertaining to the challenged patent.” *Advanced Bionics*, IPR2019-01469, Paper 6, p.7.

1. Factors (a) and (c): (a) The Similarities and Material Differences Between the Asserted Art and the Prior Art Involved During Examination and (c) the Extent to which the Asserted Art was Evaluated During Examination, Including Whether the Prior Art was the Basis for Rejection

When the Examiner allowed the Challenged Claims to issue, the only merits-based rejections were non-statutory double-patenting rejections based on the '614

Patent and '296 Parent Patent. *See* Section IV.C.1, *supra*; EX1002, pp.312-317. No amendments (other than adding two periods to two claims) were made to the original claims of the '296 Patent. *Id.*, 325-343. When the claims were allowed, the Examiner cursorily pointed to two references—US Patent No. 11,182,794 to Aument, filed March 29, 2018 (EX1010), and US Patent Publication Application No. US2016/0098690 to Silva (EX1011), filed October 1, 2015, and published April 7, 2016—but did not provide further explanation. Each of Aument and Silva have earliest possible priority dates after the earliest possible priority date of December 18, 2013, for the '296 Patent.

Low and Arora were cited on August 17, 2022, two weeks before the August 31, 2022, Office Action, as part of an eleven-page IDS containing 280 patent documents, 26 foreign patent documents, and 109 Other Publications. EX1002, pp.301-311. This 415-reference IDS was submitted less than 2 months prior to the Examiner's allowance of the claims on October 6, 2022. *Id.*, pp.377-379. The Examiner signed the 415-reference IDS as “considered” on August 23, 2021, six days (four business days) after the applicant submitted that 415-reference IDS including Low and Arora. *Id.*, p.307; *see, e.g., Advanced Energy Industries v. Reno Technologies*, IPR2021-01397, Paper 7, p.7 (P.T.A.B. Feb. 16, 2022) (declining to exercise discretion based in part on the fact that two references were not applied in a rejection during prosecution of the patent at issue and the Examiner's consideration

of both references were limited to initialing an IDS); *Samsung Electronics Co., Ltd. et al. v. Power2B, Inc.*, IPR2021-01190, Paper 11, p.19 (P.T.A.B. Jan. 6, 2022).

Two other IDS were submitted: (1) one on August 30, 2022, disclosing seven references, and signed as considered by the Examiner on September 21, 2022, one day after the Examiner's allowance of the claims, *id.*, pp.291, 355, 377-379; and (2) a second on September 22, 2022, *id.*, p.346, which disclosed ten U.S. Patent documents and 3 Non-Patent Literature Documents. It was signed as considered by the Examiner on September 30, 2022. *Id.*, p.367. The Notice of Allowance was mailed out on October 6, 2022. *Id.*, p.372.

These facts confirm that, while under factor (a) both Low and Arora constitute the “same art” as previously presented during examination because they were contained in the 415-reference IDS, factor (a) should only slightly weigh against institution. *Id.*, pp.310-320. Here, as in *Apple Inc. v. Seven Networks, LLC*, “the Examiner merely signed the IDS without explaining why he disagreed with the [prior art at issue].” IPR2020-00285, Paper 10, p.30 (P.T.A.B. July 28, 2020) (declining to exercise discretionary denial under § 325(d)). Neither Casey nor Lin were of record during prosecution and do not constitute the “same art” previously presented to the Office.

Factor (c) weighs strongly in favor of institution. Neither Low nor Arora, alone or in combination with Casey, were evaluated during examination and made

the basis for any rejection. There were no anticipatory or obviousness-based rejections during examination. Low and Arora were “simply listed in an IDS during prosecution,” unlike in *Becton Dickinson*, IPR2017-01586, Paper 8, p.25. *Lyft, Inc. v. RideShare Displays, Inc.*, IPR2021-01602, Paper 7, pp. 14-15 (P.T.A.B. Apr. 11, 2022) (declining to exercise discretion when, even though two of the three asserted grounds constitute art that was previously presented to the USPTO, the reference was not discussed by Patent Owner or the Examiner during prosecution (for factor (c))).

2. Factors (b) and (d): (b) The Cumulative Nature of the Asserted Art and the Prior Art Evaluated During Examination and (d) the Extent of the Overlap Between the Arguments Made During Examination and the Manner in which Petitioner Relies on the Prior Art

The combinations asserted in Ground 2 (Low, Arora, and Casey) have not been considered by the Examiner or this Board; nor has Casey has been considered by the Examiner or this Board. No prior post-grant review proceeding has been brought against the '296 Patent. There were no anticipatory or obviousness-based rejections during examination, so the references cited by Petitioners cannot be cumulative to other art that the Examiner did consider and cite in an Office Action.

Only a double-patenting rejection was made during examination. EX1002, pp.312-317. The Petition asserts unpatentability based on obviousness, patent-

ineligibility, and indefiniteness grounds. *See, e.g., J.P. Morgan Chase & Co. v. Maxim Integrated Products, Inc.*, CBM2014-00179, Paper 11, pp.14-15 (P.T.A.B. Feb. 20, 2015) (declining to exercise discretion to deny under §325(d)). There is no overlap between the arguments made during examination and the manner in which Petitioners rely on the prior art. Factors (b) and (d) strongly weigh in favor of institution.

To the extent Patent Owner argues that this art has been presented in *another* post-grant review proceeding involving *another* patent, this information should not weigh in favor of declining to institute. Low was considered by the Board in connection with the '614 Patent (PGR2021-00093), but the combination of Low, Arora, and Casey was never presented to the Board for any post-grant proceeding related to the '296 Patent or any family members of the '296 Patent.

Arora was considered by the Board in connection with the '296 Parent Patent CBM (CBM2020-00026), but the Board declined institution based on 35 U.S.C. §314(a) in view of the '296 Parent Litigation, rather than on the merits of Arora. CBM2020-00026, Paper 11 (P.T.A.B. Mar. 22, 2011). Arora is currently being presented as a secondary reference for Ground 2, and the motivations to combine Low, Arora, and Casey are not cumulative.

Petitioners present significant arguments that do not overlap with the Examiner's positions during examination or any review by the Board. *See, e.g.,*

Apple, IPR2020-00285, Paper 10, pp. 29-30 (“We are not persuaded by Patent Owner’s assertion that the Office’s finding ‘substantially similar claims’ in a child application allowable after careful consideration of the Petition and its art/arguments is sufficient to warrant denial of this Petition under § 325(d).”); *Mmodal LLC v. Nuance Communications, Inc.*, 2019 WL 469510, IPR2018-01355, Paper 7, (P.T.A.B. Feb. 6, 2019). Therefore, factors (b) and (d) strongly weigh in favor of institution.

3. Factors (e) and (f): (e) Whether Petitioner Has Pointed Out Sufficiently How the Examiner Erred in Its Evaluation of The Asserted Prior Art and (f) the Extent to which Additional Evidence and Facts Presented in the Petition Warrant Reconsideration of the Prior Art or Arguments

Petitioners have sufficiently pointed out how the Examiner either did not evaluate or erred in evaluation of Low and Arora and how the Examiner did not evaluate Casey. The arguments presented in this Petition, along with the accompanying Zaheer Declaration (EX1012), provide significant evidence that was not before the Examiner, warranting the Board’s consideration of the prior art and Petitioners’ arguments. Factors (e) and (f) strongly weigh in favor of institution.

VI. CONCLUSION

Petitioners respectfully request PGR institution.

Dated: August 15, 2023

Respectfully submitted,

By: /Safet Metjahic/
Safet Metjahic (Reg. 58,677)

Holiday W. Banta (Reg. 40,311)

Attorneys for Petitioners

CERTIFICATE OF SERVICE OF THE PETITION

The undersigned certifies service pursuant to 37 C.F.R. §§42.6(e) and 42.105(b) on the Patent Owner on the signature date below by Priority Mail Express of a copy of this Petition for Post-Grant Review, all exhibits thereto, and Petitioners' Power of Attorney, at the correspondence address of record for the '296 Patent:

Morgan, Lewis & Bockius LLP (PA)

1400 Page Mill Road

Palo Alto, CA 94304-1124

Customer No. 24341

Additionally, the undersigned certifies service on the Patent Owner on its litigation counsel in the '296 Parent Litigation and '614 Litigation at the email addresses below.

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Dated: August 15, 2023

/Safet Metjahic/

**CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME
LIMITATION, TYPEFACE REQUIREMENTS, AND TYPE STYLE
REQUIREMENTS**

1. This Petition complies with the type-volume limitation in 37 C.F.R. §42.24(a) in that it contains 18,695 words, excluding the parts exempted by 37 C.F.R. §42.24(a), as measured by the word processing software used to prepare the document.

2. This Petition complies with the general format requirements of 37 C.F.R. §42.6(a) and has been prepared using Microsoft Office 365 Plus in 14-point Times New Roman.

Date: August 15, 2023

/Safet Metjahic/