

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

IMMERSION CORPORATION,
Patent Owner.

Case IPR2017-01310
Patent No. 8,749,507

**IMMERSION CORPORATION'S
PATENT OWNER PRELIMINARY RESPONSE**

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EXHIBIT LIST

Immersion Ex. 2001	Declaration of Daniel Wigdor, Ph.D. in Support of Immersion Corporation's Patent Owner Preliminary Response
Immersion Ex. 2002	<i>Curriculum Vitae</i> of Daniel Wigdor, Ph.D.
Immersion Ex. 2003	Excerpt from Immersion's ITC Complaint (ITC Inv. No. 337-TA-1004/990)
Immersion Ex. 2004	Excerpt from April 27, 2017 Hearing Transcript (International Trade Commission)
Immersion Ex. 2005	Excerpt from Apple's Invalidity Claim Chart for U.S. Patent No. 8,749,507 Based On U.S. Patent No. 6,590,568 (Astala '568)
Immersion Ex. 2006	Decision on Appeal 2009-015440 in Application 10/723,778 (Board of Patent Appeals and Interferences)
Immersion Ex. 2007	May 13, 2013 Applicant Arguments and Remarks Made in an Amendment in Application 13/441,108
Immersion Ex. 2008	Excerpt from Exhibit 5 to December 16, 2016 Expert Report of Dr. Andy Cockburn regarding Invalidity
Immersion Ex. 2009	U.S. Patent No. 4,555,952 to Jenkins
Immersion Ex. 2010	Excerpt from Apple's Supplemental Interrogatory Responses to Immersion's 6th Set of Interrogatories (Nos. 98-100, 103-104), served September 14, 2016 in ITC Inv. No. 337-TA-1004/990

STATEMENT OF MATERIAL FACTS IN DISPUTE

Petitioner Apple, Inc. did not submit a statement of material facts in this Petition. Accordingly, no response is due pursuant to 37 C.F.R. § 42.23(a), and no facts are admitted.

I. INTRODUCTION

The Patent Trial and Appeal Board (“Board”) should deny this *second* petition for *inter partes* review (“Petition”) that Petitioner Apple, Inc. filed against U.S. Patent No. 8,749,507 (Ex. 1101, the “‘507 patent”). Petitioner is engaged in a campaign to harass Immersion Corporation (“Patent Owner”) and drive up litigation costs by filing serial petitions against not only the ‘507 patent but several other Immersion patents. This Petition is one of fourteen petitions Petitioner has now filed against seven patents in Patent Owner’s patent portfolio. In each case, including this one, Petitioner strategically waited for Patent Owner to file a preliminary response and for the Board to make a decision before crafting another serial petition challenging the same claims. As in *Akamai Techs., Inc. v. Limelight Networks*, IPR2017-00358, Paper 9 at 12, the Board should exercise its discretion to deny institution here of this repeat strategic petition.

Each of the factors articulated in *Akamai* favors denying institution. Apple filed the second petition against the ‘507 patent on April 21, 2017, almost four months after receiving Patent Owner’s Preliminary Response and almost a month after receiving the Board’s decision *denying* institution of the first petition. Petitioner freely admitted in ITC proceedings between Patent Owner and Petitioner that it used the Board’s decision to craft the arguments in its second petition with the hope of obtaining a different outcome. *See* Ex. 2005, 2017-04-27 Trial Tr. at

42:11-15 (“The other two patents, the ‘051 and the ‘507, their petitions were initially denied. We’ve since, *following the cues that the PTAB has given us*, refiled petitions for both of those and we expect those will be instituted as well.”) (emphasis added). Petitioner did so even though it was well aware of the prior art used in this Petition at the time it filed the first petition and had in fact already developed its invalidity contentions based on that art. Petitioner’s strategy of holding back prior art and arguments in order to file a second petition imposes inequities on Patent Owner. Indeed, the present Petition references the Board’s Institution Decision in IPR2016-01777 repeatedly over the span of many pages, essentially challenging the previous decision. These are precisely the circumstances in which institution of a serial petition like this should be denied.

Should the Board reach the merits, the Petition fails to establish a reasonable likelihood that Petitioner would carry its burden of showing that any claim of the ‘507 patent is not patentable. The Petition asserts a single Ground, alleging that claims 1-18 are obvious under 35 U.S.C. § 103(a) in light of Astala (Ex. 1103) in view of Shahoian (Ex. 1104) – references the PTO already considered either in prosecution or earlier IPR proceedings. A comparison of the references to the ‘507 patent confirms that the asserted Ground lacks merit.

The ‘507 patent teaches a novel of way of determining whether a user intended to “press” an input device such as a touchpad and providing haptic

feedback in response. Specifically, the ‘507 patent teaches examining data about the user’s contact, including the pressure of the contact, changes in the pressure, and a time interval, and determining a press if the “pressure is greater than a pressure threshold,” “the change in pressure is greater than a change in pressure threshold,” and “a first interval has elapsed.” Ex. 1101 at 4:47-63 & cl. 1. This novel combination of considerations is absent from the prior art. Neither of Petitioner’s asserted references, Astala and Shahoian, teaches determining a press based on a change in pressure being greater than a change in pressure threshold.

Petitioner also concedes that its lead reference Astala fails to disclose a required element of the ‘507 patent claims, “outputting a haptic effect” in response to determining a gesture. *See* Ex. 1101, cl. 1. Astala contains no disclosure whatsoever regarding haptics. Petitioner argues that it would have been obvious to add such a feature to Astala, based only on using hindsight to apply general statements in the Shahoian reference that it would be beneficial for touchpads to use haptics. This is insufficient, and Petitioner fails to identify a combination of references that would actually produce the claimed invention of the ‘507 patent.

Petitioner’s obviousness challenges to the dependent claims of the ‘507 patent also are deficient. Claims 2, 10, and 15 require the use of contact data “comprising both an actual pressure and a pseudo pressure.” *See, e.g.*, Ex. 1101 cls. 2, 10, 15. But neither Astala nor Shahoian disclose contact data comprising a

“pseudo pressure.” To the contrary, both references at most describe measuring only the actual pressure applied by the user to the touchpad or touchscreen. Petitioner concedes that Astala fails to disclose contact data comprising a “pseudo pressure,” and tries to fill this gap with arguments based on misinterpretations of the Shahoian disclosure and an unreasonably broad proposed claim construction that the Board should reject.

In short, this second Petition against the ‘507 patent can and should be denied based on Petitioner’s abusive practice of making serial IPR filings. Even if the Board does not exercise this discretion, the Board should nonetheless decline to institute *inter partes* review based at least on the deficiencies in the asserted prior art on which Petitioner relies for Ground 1.

II. THE ‘507 PATENT

The ‘507 patent is entitled “Systems and Methods for Adaptive Interpretation of Input from a Touch-sensitive Input Device.” The patent arose out of Immersion’s work developing improved ways to interpret touch inputs from different users of a device, such as a touchscreen on a cell phone. Because of factors such as physical differences between users, different angles of finger contacts, different pressures applied by different users or between different touches, or finger movement across the touch surface during a press, it may be difficult to determine the user’s intent. Ex. 1101 at 1:55-65; Ex. 2001 (Declaration

of Daniel Wigdor, Ph.D., hereinafter “Wigdor Decl.”) ¶ 17. The ‘507 patent addresses these difficulties by determining a gesture using additional information about a touch other than just position or pressure. For example, a press is determined if the “pressure is greater than a pressure threshold,” “the change in pressure is greater than a change in pressure threshold,” and “a first interval has elapsed.” Ex. 1101 at cl. 1; Wigdor Decl. ¶ 17. Using these criteria, the system can better determine the user’s intended gesture and provide haptic feedback in response. Ex. 1101 at 4:47-63; Wigdor Decl. ¶ 17.

III. PROCEDURAL HISTORY

The ‘507 patent is one of seven patents that are the subject of the following District Court and ITC cases: *Immersion Corp. v. Apple Inc., et al.*, Nos. 1-16-cv-00077 and 1:16-cv-00325 (D. Del.) (stayed) and *In the Matter of: Certain Mobile and Portable Electronic Devices Incorporating Haptics (Including Smartphones and Laptops) and Components Thereof*, ITC Investigation Nos. 337-TA-990 and -1004 (consolidated). In addition to the ‘507 patent, the other patents at issue in one or both of these cases are U.S. Patent Nos. 8,619,051 (the “‘051 patent”); 8,659,571 (the “‘571 patent”); 8,581,710 (the “‘710 patent”); 7,336,260 (the “‘260 patent”); 7,808,488 (the “‘488 patent”) and 8,773,356 (the “‘356 patent”).

Petitioner Apple filed two petitions, sequential in time, for *each patent* Patent Owner asserted against Apple in co-pending litigation. The chart below

lists each of these patents and the corresponding case number for “IPR #1,” the dates for the filing of the petition and the Board’s decision in IPR#1, and case number and filing date for “IPR #2.” The information for the ‘507 patent at issue in this Petition is highlighted in bold.

<u>Patent</u>	<u>IPR #1 Case No.</u>	<u>Filed</u>	<u>Board Decision</u>	<u>IPR #2 Case No.</u>	<u>Filed</u>
8,619,051	IPR2016-01371	7-7-16	1-11-17	IPR2017-00887	2-10-17
8,659,571	IPR2016-01372	7-7-16	1-11-17	IPR2017-00896	2-12-17
8,773,356	IPR2016-01381	7-8-16	1-11-17	IPR2017-00897	2-12-17
8,581,710	IPR2016-01603	8-12-16	2-23-17	IPR2017-01368	5-4-17
8,749,507	IPR2016-01777	9-12-16	3-23-17	IPR2017-01310	4-21-17
7,336,260	IPR2016-01884	9-23-16	4-3-17	IPR2017-01369	5-4-17
7,808,488	IPR2016-01907	9-29-16	4-3-17	IPR2017-01371	5-4-17

In each instance, Apple waited for the Patent Owner to file a preliminary response and the Board to make a decision before it crafted a new, serial petition. In this case, Apple filed the second Petition on April 21, 2017, almost four months after receiving Patent Owner’s Preliminary Response and almost a month after the Board denied institution on the first Petition. The Board denied Apple’s Request for Rehearing on April 27, 2017. *Apple*, IPR2016-01777, Paper 9.

IV. THE BOARD SHOULD EXERCISE ITS DISCRETION UNDER 35 U.S.C. §§ 314(A) AND 325(D) TO DENY INSTITUTION

Institution of an *inter partes* review is discretionary under 35 U.S.C. § 314(a). *Akamai*, IPR2017-00358, Paper 9 at 6. Because of the “potential inequity

of Petitioner filing multiple attacks, adjusting along the way based on Patent Owner's contentions and the Board's decision responding to a prior challenge" (*id.*, at 8), the Board should exercise its discretion and deny the petition under 35 U.S.C. § 325(d).

The Board has identified the following factors to consider when deciding whether to exercise its discretion not to institute review based on concerns of the inequity that results from multiple petitions:

- (a) whether the same petitioner previously filed a petition directed to the same claims of the same patent;
- (b) whether the petitioner knew or should have known of the prior art asserted in the later petition when it filed its earlier petition;
- (c) whether at the time of filing of the later petition, the petitioner already received the patent owner's preliminary response to the first petition or received the Board's decision on whether to institute review in the earlier petition;
- (d) the length of time that elapsed between when the petitioner had patent owner's or Board's analysis on the earlier petition and when petitioner filed the later petition; and
- (e) whether the petitioner provides adequate explanation why we should permit another attack on the same claims of the same patent.

Akamai, IPR2017-00358, Paper 9 at 9.

Here, all five factors favor denying this Petition. The same petitioner has now filed two petitions directed at the same claims. Both the first petition in

IPR2016-01777 and the current Petition requested *inter partes* review of claims 1-5, 9-12, and 14-17 of the '507 patent. *Apple Inc. v. Immersion Corporation*, IPR2016-01777, Paper 1 at 3; Pet. at 3. The Board denied institution of *inter partes* review of claims 1-5, 9-12, and 14-17 in IPR2016-01777. *Apple*, IPR2016-01777, Paper 7 at 2. The current Petition requests *inter partes* review of the same claims. Pet. at 3. Although the current Petition also requests *inter partes* review of a few additional claims (6-8, 13, and 18) that were not challenged in the first petition, these claims all depend from claims for which institution was denied.

The prior art at issue in this Petition also is not new to Petitioner. There is no dispute that Petitioner was well aware of both the Astala and Shahoian references asserted in this Petition when it filed the previous IPR2016-01777 petition. The earlier petition asserted grounds involving Shahoian, so it goes without saying that Petitioner knew of Shahoian at that time. *See Apple*, IPR2016-01777, Paper 1 at 3. Petitioner also knew of Astala when it filed the IPR2016-01777 petition. Not only is Astala cited on the face of the '507 patent and discussed at length during the prosecution history, Immersion produced Astala to Petitioner in the ITC investigation on May 5, 2016 when it filed its ITC complaint regarding the '507 patent. Ex. 2003. Petitioner did not file the first IPR petition until September 12, 2016 over four months later. *Apple*, IPR2016-01777, Paper 1. By the time the first petition was filed on September 12, 2016, Petitioner also had

already developed its invalidity theories based on Astala. In fact, two days after the first petition was filed, Petitioner served detailed invalidity contentions about Astala in the ongoing ITC investigation. Ex. 2010 (served September 14, 2016). These contentions included a 19-page invalidity claim chart asserting that Astala allegedly anticipated or rendered obvious (including in combination with Shahoian) claims 1-5, 9-12, and 14-17 of the ‘507 patent. Ex. 2004 (Astala claim chart served with Ex. 2010).

Petitioner also had ample time to study Immersion’s Patent Owner Preliminary Response and the Board’s Institution Decision in the IPR2016-01777 proceeding before filing the present Petition. Immersion filed its Preliminary Response to the IPR2016-01777 petition on December 27, 2016. *See Apple*, IPR2016-01777, Paper 6. The Board issued its Institution Decision denying institution on March 23, 2017. *Id.*, Paper 7. Petitioner had Patent Owner’s Preliminary Response for four months and the Board’s Institution Decision for a month before filing the current petition. These facts line up with *Akamai*, where the Board declined institution where the second petition was filed four months after first POPR and one month after first Board decision. *See Akamai*, IPR2017-00358, Paper 9 at 11.

In *Akamai*, the Board noted that “any non-strategic reasons” offered by Petitioner for the delay in filing the petition could be weighed against the factors

discussed above. *Akamai*, IPR2017-00358, Paper 9 at 11. Petitioner has presented no non-strategic purpose. To the contrary, Petitioner admitted in its opening statement in the ITC investigation that its strategy in filing the second petition against the ‘507 patent was to follow the “cues” given by the Board’s institution decision with the hopes of achieving a different result. *See* Ex. 2005, 2017-04-27 Trial Tr. at 42:11-15 (“The other two patents, the ‘051 and the ‘507, their petitions were initially denied. We’ve since, *following the cues that the PTAB has given us*, refiled petitions for both of those and we expect those will be instituted as well.”) (emphasis added).

Petitioner argues that this second Petition should be allowed because it raises an additional prior art reference (Astala) and attacks additional claims. Pet. at 16-17. These arguments are without merit. As the Board noted in *Akamai*, substituting one prior art reference for another does not, on its own, “justify permitting Petitioner to gain an unfair advantage by waiting to file the present Petition so that it could utilize our Institution Decision in the earlier . . . proceeding in order to craft the arguments presented in the present Petition.” *Akamai*, IPR2017-00358, Paper 9 at 11-12. As noted above, Petitioner was well aware of Astala at the time it filed the IPR2016-01777 petition and had already developed its invalidity contentions based on that reference. Petitioner held back the art, either deciding that the reference was not strong or that it would assert it in a

subsequent IPR attempt if the first one failed, as it did. If Petitioner were not acting with strategic intent, it could have easily included arguments based on Astala in the IPR2016-0177 petition at that time, rather than waiting months to learn from Patent Owner's arguments and the Board's decision.

The same is true for the few additional dependent claims Petitioner has added to the current Petition. The current Petition spends only a handful of pages addressing these dependent claims, which could have been addressed efficiently in the earlier petition if the Astala reference had not been withheld. Petitioner's asserted justification that the few additional claims should change the outcome is also belied by the fact that the current Petition challenges all claims of the '507 patent, not just the five claims unasserted in the ITC investigation that Petitioner now contends it must challenge to avoid estoppel. *See* Pet. at 17.

Neither of the two cases on which Petitioner relies to justify its second petition under § 325(d) supports its position. Each of these Board decisions are distinguishable in critical ways. In *Silicon Laboratories*, the Board did permit a second petition challenging additional claims beyond those denied institution in an earlier petition. *Silicon Labs, Inc. v. Cresta Tech. Corp.*, IPR2015-00615, Paper 9 at 24-25. However, the Board noted how in that case **only two** claims were being challenged a second time, with the newly challenged claims "represent[ing] a minority of the claims [challenged]" in the second petition. *Id.* at 24. Here, by

contrast, **13 out of 18** claims challenged in the current Petition were already challenged in IPR2016-01777, where institution was denied. In *Microsoft Corp. v. Bradium Techs.*, IPR2016-00448, Paper 9, the Board declined to deny institution of a second petition because the second petition raised issues that had not been considered previously and the Board was not persuaded that Petitioner could have raised those issues in the first petition. *See id.* at 10-11 (“Patent Owner does not establish how Petitioner would have relied on Fuller to assert the same challenges as those asserted based on Reddy as a primary reference in the instant Petition.”). This is not such a case. Here, there is no question that Petitioner could have raised the challenges raised in this Petition earlier. Petitioner was well aware of Astala and Shahoian and had already developed the invalidity arguments based on those references in the related ITC investigation.

Moreover, Petitioner’s challenge based on Astala is not new to the PTO. The Astala reference was considered during prosecution of U.S. Patent App. 10/723,778 (issued as U.S. 8,164,573), the parent application to the ‘507 patent. Ex. 2006 at 3. In that prosecution, claims including the “change in pressure” limitation of the ‘507 patent were rejected as obvious in view of the combination of Astala and another reference, Gillespie. *Id.* After an appeal, the Board of Patent Appeals and Interferences reversed the examiner’s rejection, finding that the combination of Astala and Gillespie failed to teach or suggest “comparing a

change in pressure (delta P) to a change in pressure threshold (delta P threshold).” *Id.* at 5. Patent Owner added the “change in pressure” claim limitation to the claims of the ‘507 patent during prosecution, referring to this exact language in the appeal decision in the parent application. Ex. 2007 at 8-9. The Board’s decision on appeal during prosecution may well have influenced Petitioner’s strategic decision not to include Astala in the first IPR petition, but the fact remains that Astala is not a new reference to either Petitioner or the PTO.

Apple’s filing multiple attacks against the ‘507 patent and adjusting its position along the way as Apple learns from the Board’s prior decisions is inequitable and should not be rewarded. Patent Owner respectfully requests that the Board exercise its discretion under 35 U.S.C. § 314(a) and 37 C.F.R. § 42.108(a) not to institute *inter partes* review of claims 1-18 of the ‘507 patent.

V. PERSON HAVING ORDINARY SKILL IN THE ART (POSITA)

A person of ordinary skill in the art for the field of the ‘507 patent would have at least: a Bachelor of Science degree in an engineering discipline such as Mechanical Engineering or Computer Science, or at least two years of experience working with human machine interface systems, graphical user interfaces, haptic feedback systems, or mobile devices or equivalent embedded systems. Wigdor Decl. ¶ 19. The conclusions regarding claim construction and validity contained

herein would be the same regardless of whether Immersion's or Petitioner's proposed level of skill is adopted by the Board. Wigdor Decl. ¶ 20.

VI. CLAIM CONSTRUCTION

During *inter partes* review, a patent claim shall be given “its broadest reasonable construction in light of the specification of the patent in which it appears.” *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2133, 195 L. Ed. 2d 423 (2016) (quoting 37 C.F.R. § 42.100(b)). The standard for claim construction at the Patent Office is different from that used during a United States District Court litigation. See *PPC Broadband, Inc., v. Corning Optical Comms. RF, LLC*, 815 F.3d 747, 756 (Fed. Cir. 2016); 37 C.F.R. § 42.100(b). Immersion expressly reserves the right to argue a different claim construction in litigation for any term of the ‘507 patent, as appropriate in that proceeding.

In its decision denying institution of IPR2016-01777, the Board discussed the meaning of the claim limitation “determining a press if: the pressure is greater than a pressure threshold, the change in pressure is greater than a change in pressure threshold, and a first interval has elapsed.” *Apple*, IPR2016-01777, Paper 7 at 11-16. Petitioner filed a request for rehearing, arguing that the Board incorrectly construed the claim limitation in its decision. *Id.*, Paper 8 at 1. The Board denied Petitioner's request for rehearing. *Id.*, Paper 9.

Here, apparently recognizing that the asserted prior art would not render the claims obvious under the Board's interpretation in IPR2016-01777, Petitioner spends five pages of the Petition arguing that the Board's "interpretation is incorrect and should not be adopted here" and that it has made an "error in claim construction." Pet. at 10. Patent Owner does not endorse the Board's interpretation or offer a claim construction of the "determining a press if . . ." term in this Preliminary Response. However, it is inappropriate for Petitioner to use serial petitions to re-try the same claim construction arguments with a different panel of judges, making an end-run around the Board's rules regarding requests for rehearing. Petitioner's claim construction arguments on this issue in the instant petition are copied nearly verbatim from its denied request for rehearing in IPR2016-01777. *Compare* Pet. at 9-14 with *Apple*, IPR2016-01777, Paper 8 at 3-8. This is yet another example of Petitioner using serial petitions as a tool for harassment through repeated, duplicative administrative attacks on the validity of Patent Owner's patent. *See Akamai*, IPR2017-00358, Paper 9 at 12-13 (declining to institute *inter partes* review on similar grounds).

With respect to the claim term "pseudo pressure" in certain challenged dependent claims (claims 2, 10, 15), Immersion contends that the broadest reasonable interpretation is "a measure of the area of the screen contacted by an object." Wigdor Decl. ¶ 23. This construction is consistent with the surrounding

claim language and the specification, which make clear that “pseudo pressure” can occur in input devices that utilize a variety of different touchpad technologies. *Id.*

In the context of the claimed invention, the pseudo pressure is a measure of the area of the screen contacted by an object, which the ‘507 patent explains is part of the “contact data” upon which a determination of pressure and change in pressure is based. *See, e.g.*, Ex. 1101 at cl. 2 (reciting “The method of claim 1, ***wherein the contact data comprises*** an actual pressure and ***a pseudo pressure***”) (emphasis added); claim 1 (reciting “A method comprising: receiving contact data from an input device” and then using it to “determin[e] an interaction with a displayed object on a screen based on the contact data” and “determin[e] a pressure and a change in pressure based on the contact data”).

The specification explains how the pseudo-pressure—the area of the touchpad contacted by the user’s finger—may be useful in analyzing the user’s motions. Ex. 1101, 3:15-19 (“In other words, the pseudo pressure or Z parameter provided by the touchpad102 is not a measure of the actual vertical displacement by a conductor at a single point on the touchpad 102, but rather an estimation of the vertical displacement based on the size of the capacitance change.”); *id.* at 3:24-28 (“[I]f a user ***presses heavily*** against the touchpad 102 with a fleshy part of the finger, ***the amount of touchpad 102 area covered by the finger is greater*** than when the same part of the finger is touching lightly.”) (emphasis added); Wigdor

Decl. ¶ 23. That is, because the user's finger is deformable, the finger will tend to flatten out and cover a larger area of the touchpad when the user presses down heavily. Wigdor Decl. ¶ 23.

Petitioner advances several constructions, including that “pseudo pressure” should be interpreted to “include at least all indirect measures of pressure.” Pet. at 15. As Petitioner's own arguments in the Petition illustrate, this construction is unreasonably broad because nearly any measure of pressure can be argued to be, in at least some sense, “indirect.” For example, Petitioner argues that any measure of pressure involving “capacitance” or “resistance” is necessarily a “pseudo pressure.” See Pet. at 16, 45. Such a result is unreasonable as it was well known in the art that actual pressure could be measured, for example, by measuring the deflection of a parallel plate capacitor as a result of the application of pressure. Wigdor Decl. ¶ 22. Petitioner's interpretation would convert well-known actual pressure sensors into “pseudo pressure” sensors and would thus effectively erase the term “actual pressure” from the claims. See Ex. 1101 at cl. 2 (“contact data comprises an actual pressure *and* a pseudo pressure”) (emphasis added); Wigdor Decl. ¶ 22.

Petitioner argues that the '507 patent specification “categorizes” capacitive and resistive touchpads as providing pseudo pressure and “distinguishes” them from those that sense an actual pressure, see Pet. at 16, 45. Petitioner is incorrect.

The cited portion of the ‘507 patent specification simply states that “touchpads work by utilizing resistance, capacitance, or membrane switches.” Ex. 1101 at 2:56-57. The specification then elaborates on one particular embodiment “shown” in which the touchpad used senses only pseudo pressure, and not actual pressure. Ex. 1101 at 2:53 (“The touchpad 102 shown does not sense an actual pressure.”). In other embodiments, “actual pressure may be sensed” by the touchpad. Ex. 1101 at 2:60-61. Thus, the ‘507 patent makes clear that touchpads (which may use, for example, capacitive or resistive sensors) are capable of sensing pseudo pressure, actual pressure, or a combination of both. Wigdor Decl. ¶¶ 22-23. As noted above, “pseudo pressure” in the claims of the ‘507 patent refers to “a measure of the area of the screen contacted by an object.

VII. CLAIMS 1-18 ARE NOT OBVIOUS OVER ASTALA IN VIEW OF SHAHOIAN

A. Neither Astala Nor Shahoian Discloses The “determining a press if: . . . the change in pressure is greater than a change in pressure threshold” Limitation

The ‘507 patent addresses the problem of determining whether a user contact with a touchscreen is intended as a press, as opposed to an accidental touch or another gesture. Determining user intent presents a challenge in touch-sensitive systems, for example because of physical differences between users. Wigdor Decl. ¶ 17. The ‘507 patent addresses this challenge by, among other things, using three

criteria to determine whether a user's contact is intended to be a press: (1) the pressure is greater than a pressure threshold, (2) the change in pressure is greater than a change in pressure threshold, and (3) a first interval has elapsed. Ex. 1101 cl. 1. Astala lacks this insight entirely and in fact teaches away from determining a press based on the combination of those three conditions (pressure, change in pressure, and time).

1. Astala Consistently Teaches Determining Touch Inputs Based Only On Pressure And Time

Astala does not describe “determining a press” as claimed in the ‘507 patent. Moreover, to the extent that Astala discusses detecting touch inputs from a user, Astala sets out a different approach than the ‘507 patent uses to determine presses. In contrast to the ‘507 patent, for touch inputs reflecting a selection in Astala, the system looks at only two factors: pressure and duration of contact. Wigdor Decl. ¶ 25. Prior to the ‘507 patent, this was the conventional approach in the art for translating the traditional “mouse click” gesture into touchscreen systems. Wigdor Decl. ¶ 25; Ex. 1103 at 2:32-38 (“For example, pressing a selection point for a first predetermined time period may correspond to single clicking the left button on a mouse.”). Astala uses this technique to detect the two touch inputs that begin and end a “drag and drop” motion on a touchscreen computer system. Ex. 1103 at 2:11-14, Figs. 1-2; 3:30-34; Wigdor Decl. ¶ 26. Astala describes how the user can

“drag and drop” displayed items by proceeding through three steps: (1) the user applies pressure to an icon to select it; (2) the user reduces the applied pressure and drags the icon across the screen; and (3) the user applies pressure a second time on the destination for the icon. Ex. 1103 at 9:3-65; Wigdor Decl. ¶ 26.

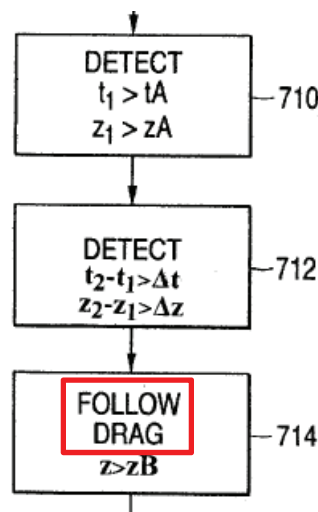
Astala never discloses or suggests “determining a press” based on a change in pressure. Wigdor Decl. ¶ 27. To the contrary, it expressly teaches determining both the “first” and “second” touch inputs as part of a drag and drop operation based only on the pressure and duration of the touch. Wigdor Decl. ¶ 27; Ex. 1103 at 9:27-30 (“At step 710, a determination is made that the value of the pressure z of touch input 732 is greater than a predetermined value Z_a over the period of time.”), 9:50-53 (“At step 716, a second touch input is detected by determining that the value of the pressure z of the object on the touch screen 70 is greater than a predetermined pressure value z_B (which may be equal to z_A) over a period of time.”). These two touch inputs are the only touch inputs Astala describes determining. Every single reference in Astala to determining a touch input involves only those two criteria—pressure and time. See Wigdor Decl. ¶ 27; Ex. 1103 at 9:27-30 (first touch input), 9:50-53 (second touch input), cl. 14 (two touch inputs described in Claim 14).

2. Astala Uses “Change In Pressure” For An Entirely Different Purpose, Unrelated To “Determining A Press”

The only purpose for which Astala looks at a change in pressure at all is after the first touch input has been determined. Specifically, after the user has already performed the touch input and thereby selected a displayed icon, the user can reduce pressure to initiate a “dragging” sequence to move the icon to another location (such as a destination folder). Wigdor Decl. ¶ 28; Ex. 1103 at Fig. 6(a) (step 712). The displayed item may then be “dragged across the face of the touch screen 70 at the reduced pressure” (step 714). Ex. 1103 at 9:40-42, Fig. 6(a); Wigdor Decl. ¶ 28. This reduction in pressure, after the touch input has already occurred and the icon already selected, is the only instance in which a pressure change is considered in Astala. In other words, Astala considers reduction in pressure only after a touch input has already been determined. And it considers this information for a completely different purpose – to determine that the user intends to begin dragging. Wigdor Decl. ¶ 28. There is nothing in Astala to suggest that a reduction in pressure is or should be considered to “determine a press” as in the ‘507 patent.

Petitioner attempts to argue that the reduction in pressure is somehow part of the first touch input and somehow to “determine a press,” but Petitioner’s arguments are contradicted by the plain language of the Astala disclosure. First,

Petitioner argues that the “dragging” action does not begin until “step 714” of Astala’s method, which is the step after “step 712” where the reduction in pressure is measured. *See* Pet. at 33-34. Petitioner is incorrect. The “drag” is not initiated in step 714; it has already begun. This is evident from Astala’s description of step 714 as “FOLLOW DRAG,” not “BEGIN DRAG” or similar:



Ex. 1103, Fig. 6a (excerpt of relevant portion of figure, red box added). The dragging action is initiated first in step 712, when the reduction in pressure is determined to be greater than a predetermined pressure differential. Ex. 1103 at 9:36-39; Wigdor Decl. ¶ 28. In step 714, the selected icon (now in “drag mode”) will “follow” the user’s dragging movement around the touch screen until the user “drops” the icon at a destination. Ex. 1103 at 9:40-42, Fig. 6b (illustrating “drag path 734” for the selected icon); Wigdor Decl. ¶ 29.

Second, Petitioner argues that the “drag” discussed in step 714 is “start[ed] based on detecting finger movement.” *See* Pet. at 34. Again, Petitioner misreads the Astala disclosure. Astala says that “changes in the x and y coordinates” (*i.e.*, finger movement) may be used to discern that a “drag operation is ***occurring***.” Ex. 1103 at 9:43-45 (emphasis added). In other words, after the user initiates the dragging mode by reducing pressure (described in step 712), the system can discern if dragging is ***occurring*** by monitoring changes in the x and y coordinates of the user’s touch (and moving the selected icon to match the user’s finger movement).

This is confirmed by Astala’s disclosure that the dragging movement occurs at “reduced pressure,” *see* Ex. 1103 at 9:40-42, or “a lighter pressure than the initial pressing,” *see* Ex. 1103 at 2:38-44.¹ If Petitioner were correct that the “drag” was initiated solely by finger movement (changes in x, y position), then the

¹ Petitioner argues that the reference to a “lighter pressure” at col. 2:38-44 does not necessarily describe the embodiment set forth in Astala’s column 9 because it is part of the “Summary of the Invention” section, *see* Pet. at 34-35, but as shown here the description in column 9 uses similar language, stating that dragging occurs at “reduced pressure” (*i.e.*, compared to the first press). Ex. 1103 at 9:40-42.

drag would not necessarily occur at a “reduced” or “lighter” pressure because the user could just as easily slide his or her finger across the screen without changing pressure (or with increased pressure). This would, in Petitioner’s view, be a “dragging movement” because the finger position would be changing, even though it would not be occurring at a “reduced pressure” or “lighter pressure,” which directly conflicts with Astala’s description of the dragging movement. Astala’s disclosure makes clear that the reduction in pressure is required to initiate the “drag” mode and that the drag movement occurs at the reduced pressure. Ex. 1103 at 9:40-42 (“[A] determination is made that the value of the pressure *z* of the object on the touch screen 70 has been reduced . . . [T]he object is dragged across the face of the touch screen 70 at the reduced pressure *z* of the object on the touch screen 70.”); Wigdor Decl. ¶¶ 28-29.

Requiring a reduction in pressure to initiate a “drag” mode, moreover, is consistent with the understanding of a POSITA. A POSITA would recognize that touch screen systems always detect some finger movement (changes in *x*, *y* position) when the user presses down on the screen. Wigdor Decl. ¶ 30. Requiring a reduction in pressure at step 712 to begin the drag prevents the system from prematurely moving the icon before the user intends to do so, and indicates to the system that subsequent changes in *x*, *y* coordinates (in step 714) are intended as dragging movements. Wigdor Decl. ¶ 30.

The claims of Astala confirm that the consideration of change in pressure in Astala's system relates only to initiation of "drag" mode, not determining a "press." Astala's claim 1 describes detecting a first touch input on a displayed object (based on pressure and time), detecting a reduction in pressure and subsequent "dragging" of the object across the screen at the reduced pressure, and detecting a second touch input at the destination location (again based on pressure and time). Ex. 1103 cl. 1. Astala's claim 14 also describes detecting a first touch input on a displayed object and a second touch input at the destination location (again, detecting both based solely on pressure and time), but does not require any "dragging" motion. Ex. 1103 c l. 14. In other words, in the claim 14 embodiment, the user may simply apply pressure once on an icon, lift the finger off the screen, and then apply pressure again on a destination without needing to slide her finger across the touch surface between presses. Wigdor Decl. ¶ 31. Notably, when the Astala inventors omitted the "dragging" movement step from claim 14, they also omitted the related step of detecting a reduction in pressure, as illustrated in the side-by-side comparison of Astala's own claim language below:

ASTALA CLAIM 1	ASTALA CLAIM 14
1. A method of dragging and dropping an item displayed on a touch screen, the method comprising:	14. A method of dragging and dropping an item displayed on a touch screen, the method comprising:

detecting a first location of an object touching a display of the item on the touch screen; detecting that a pressure between the object and the touch screen at the first location is greater than a first predetermined pressure for a first predetermined period of time; <u>detecting a decrease in the pressure between the object and the touch screen at the first location of a predetermined amount from the first predetermined pressure to a reduced pressure;</u> <u>detecting movement of the object across the touch screen at the reduced pressure from the first location to a second location;</u> detecting that the pressure between the object and the touch screen at the second location is greater than a second predetermined pressure for a time duration greater than a second predetermined period of time; and moving the display of the item from the first location on the touch screen to the second location on the touch screen.	detecting a first location of an object touching a display of the item on the touch screen; detecting that a pressure between the object and the touch screen at the first location is greater than a predetermined pressure for a time duration greater than a first predetermined period of time; [NO CHANGE IN PRESSURE] [NO DRAG MOVEMENT] detecting that a pressure between the object and the touch screen at a second location on the touch screen is greater than the predetermined pressure for a time duration greater than a second predetermined time period, the second predetermined time period being smaller than the first predetermined time period; and moving the display of the item from the first location on the touch screen to the second location on the touch screen.
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Ex. 1103 at cls. 1, 14 (annotated to indicate claim elements present in claim 1 but omitted from claim 14). A POSITA reading claims 1 and 14 would understand

that, consistent with the rest of Astala's disclosure, the detection of a change in pressure is directly tied to detecting a "dragging" movement across the screen and totally independent of the detection of a first or second touch input. Wigdor. Decl. ¶ 32.

Indeed, Petitioner's own expert, Dr. Cockburn, has admitted in a signed expert report that the first part of Astala's gesture (*i.e.*, the first touch input that Petitioner alleges to be a "press") is determined based only on pressure and time. In his expert report on invalidity of the '507 patent in the ITC investigation, Dr. Cockburn opined that the "drag-and-drop gesture" of Astala "includes three main parts: *1) a touch with a pressure greater than a pressure threshold zA and longer than a predetermined time; 2) a subsequent dragging sequence at "reduced pressure;" and 3) a subsequent touch with a pressure greater than a pressure threshold zB.*" Ex. 2008 at 4 (emphasis added). Notably, Dr. Cockburn associated only pressure and time with the first "touch" and associates "reduced pressure" with the "*subsequent* dragging sequence," *i.e.*, after the completion of the first touch input, consistent with Astala's disclosure. Dr. Cockburn's changed argument here, that the reduction in pressure is somehow part of the first touch input determination is inconsistent with Dr. Cockburn's prior opinion and the Astala disclosure and should be given little weight in this proceeding.

3. Petitioner's Conclusory Obviousness Arguments Fail

Petitioner also asserts that Astala renders this limitation obvious, but offers only a conclusory recitation of its literal disclosure argument in support. *See, e.g.*, Pet. at 35-36 (“The differences between this limitation and Astala in this regard are none, because Astala discloses that such a determination is made in step 712, before the drag begins, as established above.”). Petitioner simply asserts, without explanation, that “[m]aking the change in pressure determination as part of the press would have been well within the skill of a POSITA, could have been accomplished with minimal effort, and would have led to predictable results.” Pet. at 36. Petitioner cites the declaration of its expert, Dr. Cockburn, for support, but Dr. Cockburn’s declaration is merely a verbatim copy of the Petition in this regard. *Compare* Pet. at 35-36 with Ex. 1110 at ¶ 106. This circular citation, without any actual factual basis, lends no weight to Petitioner’s assertion that a POSITA would have been motivated to change the Astala system to instead do something entirely different and determine a press based on a change in pressure in addition to other criteria. *See Apple Inc. v. Immersion Corp.*, Case IPR2016-01371, Paper 7 at 13-14 (disregarding expert testimony on obviousness where testimony is “simply a verbatim copy of the argument in the Petition”); *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1366 (Fed. Cir. 2016) (reversing finding of obviousness where PTAB relied on “conclusory statements and unspecific expert testimony”); *In re. Am.*

Acad. of Sci. Tech. Ctr., 367 F.3d 1359, 1368 (Fed. Cir. 2004) (“[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.”).

In fact, a POSITA would have been actively discouraged from making the modification proposed by Petitioner, for several reasons. First, as Petitioner concedes, this modified version of Astala would determine that a “drag” has begun solely based on movement of the finger (*i.e.*, a change in x,y coordinates of the touch). *See* Pet. at 36 (“Motivation to do so arises from Astala’s disclosure of discerning that a drag has begun (***based on finger movement***) . . .”) (emphasis added). But finger movement occurs naturally during the application of pressure to a touchscreen, so the modified Astala system would prematurely detect the initiation of the “drag” movement, including while the user was *increasing* pressure and while the system was in the process of determining a touch input. Wigdor Decl. ¶ 33. A POSITA would be well aware of this issue and would avoid modifying Astala to determine the initiation of a “drag” based only on finger movement. Wigdor Decl. ¶ 33; *see also* Pet. at 37 (admitting that POSITA would be aware of existence of “noise in sensor data,” such as touch location data). Second, as discussed above, Astala’s description of the drag and drop operation includes two touch inputs, one to select an icon and a second to drop the icon at its destination. Wigdor Decl. ¶ 34. In Astala, both these touch inputs are performed

and detected in the same way: by applying sufficient pressure for a sufficient amount of time. *Id.* It would be confusing for the user if the first touch input required a reduction in pressure to perform, when the second touch input has no such requirement. *Id.* A POSITA would avoid modifying Astala in a way that creates confusion and inconsistency for the user regarding the type of body movement required to perform presses on the screen. *Id.* Third, the Astala disclosure teaches away from Petitioner's proposed modification. As discussed above, when Astala describes an embodiment of the invention without dragging, in claim 14, it drops all reference to "change in pressure." Ex. 1103 at cl. 14; Wigdor Decl. ¶¶ 31-32, 35. In other words, a POSITA would not think to incorporate "change in pressure" into a press determination because Astala clearly teaches that "change in pressure" is associated only with dragging, not pressing. Wigdor Decl. ¶ 35.

Petitioner offers no argument, expert testimony, or published prior art to rebut these motivations not to modify Astala to determine presses using changes in pressure. Petitioner does not argue, for example, that Shahoian, or any other prior art reference for that matter, contains any disclosure regarding change in pressure or determining a press. *See* Pet. at 35-38.

B. Astala Contains No Disclosure Relating To Haptics, and Shahoian Fails to Remedy the Deficiency

The independent claims of the ‘507 patent contain the limitation “responsive to determining the gesture, outputting a haptic effect.” Ex. 1103 cls. 1, 9, 14. Astala contains no disclosure whatsoever of outputting haptic effects, as Petitioner concedes. *See* Pet. at 38. Astala’s disclosed system simply has no haptic capability. Wigdor Decl. ¶ 36.

Petitioner argues that a POSITA would have been motivated to add haptic capability to Astala, based on a general statement in the Background section of Shahoian that “[o]ne problem with existing touchpads is that there is no haptic feedback provided to the user.” *See* Pet. at 41 (citing Ex. 1104 at ¶ 6). Shahoian’s statement is too general to render the ‘507 patent’s claims obvious.

Specifically, Shahoian’s disclosure is about a different kind of haptic feedback than what is recited in the ‘507 patent’s claims. In the ‘507 patent, the haptic effect is output “responsive to determining the gesture.” Ex. 1103 cls. 1, 9, 14. In other words, in response to determining the user’s gesture, the system outputs a haptic effect confirming that the gesture was determined. Wigdor Decl. ¶ 37. For example, Petitioner asserts that the “gesture” in Astala is a “drag-and-drop” sequence, *see* Pet. at 38 (“Astala teaches detecting a drag-and-drop gesture”), so Astala’s system would need to output a haptic effect in response to the “drag-and-drop” (*i.e.*, after the user has completed the gesture by performing the second “press” at the destination location). Wigdor Decl. ¶ 37. As discussed

above, Astala discloses no such haptic feedback, so Petitioner relies on Shahoian to fill in the gap. *See* Pet. at 38. But Shahoian discloses a different kind of haptic feedback entirely—providing a continuous vibration while the user is in “drag mode” to let the user know that the mode is active. Ex. 1104 at ¶ 189 (“When the user is in such a drag mode, a vibration or other haptic sensation can be output to indicate to the user that this mode is active.”); Wigdor Decl. ¶ 38. Even if Shahoian were combined with Astala as Petitioner suggests, the combination would not provide a haptic effect responsive to the “drag-and-drop” gesture of Astala. Wigdor Decl. ¶ 39. At most, the combined Astala/Shahoian system would vibrate while the user was dragging his or her finger across the screen (*i.e.*, in “drag mode”), before the “drag-and-drop gesture” had been completed. Wigdor Decl. ¶ 39.

C. Astala and Shahoian Do Not Render Obvious Claims 2, 10, and 15

Claims 1, 9, and 14 of the ‘507 patent include, among other limitations, “receiving contact data from an input device” and “determining a pressure and a change in pressure based on the contact data.” Ex. 1101, cls. 1, 9, 14. Claims 2, 10, and 15 depend from claims 1, 9, and 14, respectively, and add the additional limitation “wherein the contact data comprises an actual pressure and a pseudo pressure.” Ex. 1101, cls. 2, 10, 15.

Neither Astala nor Shahoian disclose contact data comprising a pseudo pressure. Astala does not disclose contact data comprising a pseudo pressure (under any construction advanced by Petitioner), nor does Petitioner argue that it does. *See* Pet. at 43-44. In fact, Petitioner admits that Astala “does not disclose the particular type of pressure sensors used in its system.” *Id.* Astala simply states that “the pressure of the object on the touch screen may be detected.” Ex. 1103 at 2:24-26.

Petitioner relies on Shahoian for the pseudo pressure limitation, because, according to Petitioner, “Shahoian discloses that touchpad 16 may detect pressure using capacitive sensing.” *See* Pet. at 44 (citing Ex. 1104 at ¶ 41). Petitioner contends that an estimate of pressure based on capacitance would be an “indirect measure of pressure” and thus a pseudo pressure under Petitioner’s proposed construction. *See id.* However, Petitioner has misread Shahoian’s disclosure. Shahoian does not disclose detecting pressure using capacitive sensing. Indeed, there is nothing in Shahoian discusses using capacitance for detecting pressure. Shahoian discloses determining the location of the user’s touch using capacitive sensing. Ex. 1104 at ¶ 41 (“Capacitive touchpads typically sense the **location** of an object on or near the surface of the touchpads . . .”), ¶ 5 (“The touchpad senses the **location** of a pointing object by any of a variety of sensing technologies, such as

capacitive sensors . . .”) (emphasis added). Thus, Shahoian does not disclose contact data comprising a pseudo pressure.

Petitioner argues that Shahoian nonetheless “discloses capacitive sensors *in the context of* detecting pressure,” because it discloses “capacitive touchpads that do not require significant pressure.” *See* Pet. at 45 (emphasis added) (citing Ex. 1104 at ¶ 41). But again, Shahoian is simply stating that a capacitive touchpad is capable of measuring the location of a user’s touch even when the user is pressing lightly (*i.e.*, without significant pressure). Ex. 1104 at ¶ 41 (“Capacitive touchpads typically sense the *location* of an object on or near the surface of the touchpads . . .”); Wigdor Decl. ¶ 41. Shahoian never discloses or suggests using capacitive sensors to measure pressure in any way. Wigdor Decl. ¶ 41.

Petitioner also argues that Shahoian discloses a pseudo pressure because it discloses a “resistive” pressure-sensitive touchpad. *See* Pet. at 45. Petitioner contends that any measurement of pressure based on resistance is necessarily a “pseudo pressure,” based on a misinterpretation of the ‘507 patent specification. As discussed above regarding claim construction, the ‘507 patent does not, as Petitioner contends, “categorize resistive touchpads as providing a pseudo pressure.” *See* Pet. at 45 (citing Ex. 1101 at 2:56-61). The specification simply states that “touchpads work by utilizing resistance, capacitance, or membrane switches,” *see* Ex. 1101 at 2:55-56, and then separately notes that the touchpad

used in one embodiment does not sense actual pressure, *see* Ex. 1101 at 2:53. It does not follow that any sensor that uses capacitance or resistance in any way necessarily measures only pseudo pressures. Wigdor Decl. ¶ 42. Resistance is simply an electrical property indicating how freely current can move through a wire. *Id.* An actual pressure sensor could observe changes in resistance to determine directly how much pressure a user is applying, just as a pseudo pressure sensor could observe changes in resistance to determine the area of the screen being contacted by the user's finger, which could be indirectly correlated with applied pressure. *Id.* The mere fact that a sensor uses resistance is not dispositive, one way or another, as to whether the sensor is measuring actual pressure or pseudo pressure. *Id.* Petitioner's argument is also inconsistent with the plain language of Shahoian, which describes pressure being measured directly, not indirectly. *Id.* Shahoian states that what is "sensed" by the touchpads or touchscreens is "the amount of pressure the user is exerting on the touchpad" (*i.e.*, the actual pressure being applied by the user). Ex. 1104 at ¶ 188. Shahoian never discloses or suggests that pressure is or should be measured indirectly, such as via a pseudo pressure technique. *Id.*

Finally, Petitioner incorrectly relies on Shahoian's discussion of a "palm check" feature as disclosing the use of pseudo pressure. Petitioner argues that the palm check "computes the contact area made by the conductive object (finger,

palm, arm, etc.).” Pet. at 46 (citing Ex. 1104 at ¶ 51). But Shahoian’s “palm check” feature is totally unrelated to the determination of pressure based on contact data. To the contrary, Shahoian discloses that if this feature determines that a user is touching the touchpad with a palm, “the palm check feature would *ignore input* that is determined to be provided by a user’s palm,” and that the contact area is only used to determine whether “the contact is *rejected*.” Ex. 1104 at ¶ 51 (emphasis added). In other words, the palm check is used to detect accidental inputs and determine that the user is *not* pressing. Shahoian does not teach, for instance, that a larger contact area would be associated with a greater pressure, or vice versa, such that a POSITA would be taught to use contact area as a pseudo pressure. *See id.*; Wigdor Decl. ¶ 43.

Because there is no teaching or suggestion in the art to use contact data comprising pseudo pressure, combining Astala and Shahoian does not render claims 2, 10, and 15 obvious. Neither reference discloses the use of pseudo pressure and Petitioner identifies no motivation for a POSITA to modify the references to use pseudo pressure, choosing to argue instead that pseudo pressure is expressly taught by Shahoian and could be readily incorporated into Astala’s system. *See* Pet. at 46-52.

D. Additional Dependent Claims

The remaining claims challenged by Petitioner are not obvious at least because they depend from independent claims 1, 9, or 14 and/or dependent claims 2, 10, or 15, for which, as discussed above, Petitioner has failed to show a reasonable likelihood of success in showing that the claims are obvious.

VIII. CONCLUSION

The Board should exercise its discretion to deny this abusive second petition under 35 U.S.C. § 325(d). In any event, the Petition fails to show that there is a reasonable likelihood Petitioner will prevail with respect to at least one of the challenged claims under 35 U.S.C. § 314(a). As such, the Board should deny the Petition and decline to institute an *inter partes* review.

Date: August 9, 2017

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE WITH 37 C.F.R. § 42.24

Pursuant to 37 C.F.R. § 42.24 (d), I certify that the present paper contains 8,759 words as counted by the word-processing program used to generate the brief. This total does not include the tables of contents and authorities, the caption page, table of exhibits, signature blocks, certificate of service, or this certificate of word count.

Dated: August 9, 2017

Respectfully submitted,

/s/ Babak Redjaian

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. 42.6, the undersigned certifies that on August 9, 2017, a copy of the Patent Owner Preliminary Response and Exhibits 2001-2010 were served by electronic mail upon the following:

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