

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.
Petitioner,

v.

SMITH INTERFACE TECHNOLOGIES, LLC
Patent Owner.

Case IPR2024-01091
Patent 10,936,114

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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LIST OF EXHIBITS

APPLE-1001	U.S. Patent No. 10,936,114
APPLE-1002	U.S. Patent No. 10,936,114 File History
APPLE-1003	Declaration of Dr. Andrew Cockburn
APPLE-1004	U.S. Patent Publication No. 2010/0302281 to Kim (“Kim”)
APPLE-1005	U.S. Patent Publication No. 2009/0273571 to Bowens (“Bowens”)
APPLE-1006	U.S. Patent Publication No. 2006/0139320 to Lang (“Lang”)
APPLE-1007	U.S. Patent Publication No. 2010/0156818 to Burrough et al. (“Burrough”)
APPLE-1008	U.S. Patent Publication No. 2011/0310043 to Lacroix et al. (“Lacroix”)
APPLE-1009	Simon, Windows CE 2 for Dummies (1997)
APPLE-1010	U.S. Patent Publication No. 2011/0221666 to Newton et al. (“Newton”)
APPLE-1011	U.S. Patent Publication No. 2015/0324116 to Marsden et al. (“Marsden”)
APPLE-1012	U.S. Patent Publication No. 2018/0059928 to Westerman et al. (“Westerman”)
APPLE-1013	U.S. Patent Publication No. 2013/0212541 to Dolenc et al. (“Dolenc”)

APPLE-1014	U.S. Patent Publication No. 2005/0168488 to Montague (“Montague”)
APPLE-1015	U.S. Patent No. 8,954,887 to Tseng et al. (“Tseng”)
APPLE-1016	Smith’s Infringement Contention
APPLE-1017	U.S. Patent Publication No. 2007/0024593 to Schroeder (“Schroeder”)
APPLE-1018	U.S. Patent Publication No. 2009/0167508 to Fadell et al. (“Fadell”)
APPLE-1019	United States District Courts — National Judicial Caseload Profile (Dec. 31, 2023) United States Courts (uscourts.gov), https://www.uscourts.gov/sites/default/files/fcms_na_distprofile1231.2023_0.pdf (last visited June 25, 2024)
APPLE-1020	Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (USPTO June 21, 2022) (“Guidance”)
APPLE-1021	Case Management Order, Smith Interface Technologies, LLC v. Apple Inc., 3-23-cv-01187, S.D. Cal. (June 20, 2024)
APPLE-1022	Supplemental Declaration of Dr. Andrew Cockburn
APPLE-1023	Transcript of the Deposition of Dr. Vijay Madiseti ¹

¹ Petitioner understands that Patent Owner intends for Dr. Madiseti to perform a read-and-sign of this deposition transcript (APPLE-1023), per 37 C.F.R.

APPLE-1024	Smith's Preliminary Infringement Contentions ("Exhibit A9")
APPLE-1025	Smith's Preliminary Infringement Contentions ("Exhibit B7")
APPLE-1026	Smith's Preliminary Infringement Contentions ("Exhibit C1")

§ 42.53(f)(5). At the time of this filing, Petitioner has not received any communications from Patent Owner regarding the progress of Dr. Madisetti's read-and-sign. Petitioner assumes Patent Owner is facilitating Dr. Madisetti's review, that the review is ongoing, and that Patent Owner will raise any alleged errata. Should Patent Owner propose entry into the record of any alleged errata that does not seek to change the substance of Dr. Madisetti's testimony, Petitioner does not expect to object.

CONVENTIONS OF THIS REPLY BRIEF

- All emphasis is added unless noted otherwise;
- Quotations are generally reserved for exhibits; and
- The phrase “as discussed” and equivalent phrases incorporate fully the analysis of the cross-cited portion of the Reply Brief or Claim Construction Brief.

I. Introduction

The Petition establishes that the '114 Patent's putative invention is merely an obvious variant of the prior art. Smith contends otherwise, but not credibly. Arguing that rudimentary touchscreen inputs that varied only by duration and elicited a responsive action were new in 2011 is simply a nonstarter, and Smith gets no further by suggesting that the '114 Patent does anything more than combine these known elements using known techniques. The Petition shows, conclusively, that it does not.

At a high level, the majority of Smith's arguments are properly refuted when the correct common-sense interpretation of the claims is applied, Petitioner's presentation of the prior art grounds give full effect to the antecedent basis of "the gesture" being detected and responded to, as laid out in Petitioner's Claim Construction Brief (Paper 22).

Ultimately, Smith's strained interpretation is based exclusively on the presence of "the" before "gesture" for each of the conditional limitations ([1.f], [1.g], and [1.i]) and it is belied by Smith's failure to similarly require a single interpretation for each of several recited instances of the term "magnitude of a duration" of the gesture. Indeed, Smith offers interpretations of [1.f], [1.g], and [1.i] where it explicitly assigns one meaning to the phrase "magnitude of the duration" at [1.f] (i.e., requiring that the end of the duration is "at the conclusion of the gesture") and another meaning when addressing the same phrase in [1.g] and [1.i] (i.e.,

indicating that the end of the duration is “*at the time of the execution of the logic* or at the conclusion of the gesture”), despite both being preceded with “the.”

Significantly, any gesture that met the condition of [1.f] would necessarily be a different gesture that met the condition of [1.g], for example, because gestures are “identified and parameterized” by the “inputs, flags, and signals” associated with them (APPLE-1001, 58:13-15), and a gesture that met the [1.f] condition would at least have a different duration magnitude than a gesture that met the condition of [1.g].

The '114 Patent includes dependent claims that explicitly call out different gestures satisfying the different conditional limitations (*see*, e.g., claims 10-11) or explicitly require that the conditions associated with each of the conditional limitations be met (*see*, e.g., claims 33 and 64). The only way these scenarios recited in the dependent claims could be met would be to permit different gestures to satisfy the conditional limitations. The Challenged Claims must be interpreted to permit the conditional limitations to be met by different gestures in which each gesture has a different duration that satisfies different alternatives.

In view of this clear and consistent approach to claim interpretation, the Board should find the Challenged Claims² obvious and unpatentable.

II. The Petition’s mapping of “the gesture being detected” limitation to three different gestures is entirely proper (claims 1, 32, 34, 64)

A. The Petition’s approach to claim construction is consistent and aligned with the ’114 Patent

As discussed in Petitioner’s Claim Construction Brief, the Petition’s mappings and approach to claim construction are aligned with the ’114 Patent and consistent with the claims’ recitation of antecedent basis. Paper 22, §§II.A-D.

B. Smith’s position that the claim requires each conditional limitation to refer to the same gesture is inconsistent with the proper claim interpretation and results in a claim that cannot be met

Smith alleges that Petitioner must “identify a single gesture to map against the [conditional] claim limitations,” [1.f]-[1.i]. POR, 31. However, in a contradictory fashion, Smith further appears to acknowledge that no single gesture (or “instance of user input”) would meet all of [1.f], [1.g], and [1.i]. POR, 29-30, 35. This is more than inconsistency; it reveals a fatal flaw in Smith’s claim construction position.

² The Petition challenged claims 1, 27, 30, 32, 34, 59, 62, and 64. Pet., 2. Since filing the Petition, Smith disclaimed claims 27 and 59. As such, only claims 1, 30, 32, 34, 62, and 64 are discussed in this Reply.

Specifically, as Smith acknowledges, Smith advances an interpretation of the limitations that cannot be met. APPLE-1022, ¶¶49-52. Smith’s Response suggests that it provided an example of “a single gesture having three different durations that result in three different actions” (POR, 21-22 n.6), and yet, Smith fails to clarify where it has “done so in [its] Paper.” Relatedly, Smith’s and Dr. Madisetti’s position regarding the relevant Board inquiry on “whether conditional limitations [1.f, 1.g. and 1.i] could be met by a single detected gesture” is evasive, inconsistent, and unclear. Carefully avoiding usage of the Board’s terminology—pertaining specifically to a “*single detected gesture*,” Smith and Dr. Madisetti purposefully omit that language, instead offering a response relating to whether “[a] *single instance of user input*” would meet the limitations. POR, 29-30; EX2008, ¶¶64-65. Dr. Madisetti’s testimony on this point is similarly evasive. *See, e.g.*, APPLE-1023, 78:3-11, 84:5-85:16. And it is telling that, despite the Board posing and thus foreshadowing these specific questions, Dr. Madisetti was repeatedly unable or at least unwilling to provide even one example—either in the ’114 Patent or a real-life use case—that would meet the claim limitations; rather, Dr. Madisetti acknowledged

this was not something he considered.³ APPLE-1023, 121:13-122:21, 127:19-128:13 (“Q. Does the ’114 patent provide an example of a single gesture having three different durations that result in three different actions? A. I don’t think I offered an opinion with respect to that issue... ***it is not something I was looking for.***”). Surely consideration of whether a single detected gesture could meet the conditional limitations would have required such analysis.

³ Dr. Madisetti’s deposition revealed his narrow and biased analysis. For instance, Dr. Madisetti confirmed that “[his] focus was on rebutting and addressing the assertions by the petitioner and its declarant.” APPLE-1023, 53:4-16; *see id.*, 51:18-20 (“...I reviewed the entire specification in the patent in that context as a rebutting the assertions of the petition.”), 116:21-117:13 (“I provided a rebuttal to the grounds raised by the petition and its declarant. ***Nothing else. [...]I was asked to respond to certain topics. And I confined my declaration and my analysis to those topics.***”). When asked whether he needed to “fully understand the meaning of the claims” to determine validity, Dr. Madisetti responded, “***All I had to do in my understanding was to provide a rebuttal based on the grounds provided by Apple and its declarant[.]***” *Id.*, 120:14-21; 125:5-12 (“...I was asked to rebut...”).

In general, Smith’s inconsistent approach to claim construction results in confusing arguments. Smith seemingly indicates that no single gesture⁴ would meet all of [1.f], [1.g], and [1.i] (POR, 29, 35), while in contradictory fashion, claiming that it directed the Board to “written description that describes a single gesture having three different durations that result in three different actions”⁵ (POR, 21 n.6). Similarly inconsistent, despite its response that no single gesture would meet all limitations, Smith concludes that “[a]ll [limitations] must be met.” POR, 2. In contrast, as discussed in Petitioner’s Claim Construction Brief, Petitioner’s interpretation of the claims is consistent with the ’114 Patent’s disclosure and its recitation of antecedent basis, and Petitioner’s interpretation also results in the claim being able to be met in a real-world example, as illustrated in Petitioner’s Grounds. The question of whether the ’114 Patent includes “written description that describes a single gesture having three different durations that result in three different actions” (POR, 21-22 n.6) remains unanswered.

⁴ Smith discusses an “instance of user input,” not the Board’s language. POR, 29-30.

⁵ While alleging that it has provided such an example, it is unclear where Smith “has done so”; Dr. Madisetti refused to provide such an example. POR, 21-22 n.6; APPLE-1023, 126:22-128:2.

C. Smith's arguments regarding antecedent basis for "the gesture" is inconsistent with its position for "the magnitude of the duration"

Smith's treatment of "the magnitude of the duration" as being different across [1.f], [1.g], and [1.i] is inconsistent with its insistence that "the gesture" refers to the same gesture across all limitations. Stressing the significance of the antecedent bases of "the duration" and "the gesture," Smith conveniently ignores the same "impact" of the antecedent basis of "the magnitude of the duration." *See* POR, 22-25, 28-29. That is, if the "duration" and "gesture" referenced in each of [1.f], [1.g], and [1.i] are the same, then the "magnitude of the duration" (e.g., same length of time) of the same gesture in the same limitations must be as well.

However, Smith does not equally apply the antecedent basis "the" to the claim's recitation of "magnitude of the duration." *See* POR, 22-25. It does not demand that each of the conditional limitations refers to the same "magnitude of the duration," requiring only that "the magnitude of the duration" refers to "the gesture." *See id.*, 23-24.

Instead, and without expressed justification, Smith inexplicably applies *different* constructions to "[a/the] magnitude of [a/the] duration of the gesture." This cannot be correct. To illustrate, for [1.f], Smith refers to "the length of a period of time beginning at the start of the gesture and *ending at the conclusion of the gesture.*" POR, 23 (emphasis altered). For [1.g] and [1.i], Smith refers to "the length

of a period of time beginning at the start of the gesture and *ending at the time of the execution of the logic or at the conclusion of the gesture*.” POR, 24 (emphasis altered). In other words, for [1.f], Smith’s interpretation requires that the gesture ceases. Yet for [1.g] and [1.i], its interpretation does not require that the gesture ceases (instead, offering an option based on the execution of the logic; an option that is inexplicably absent for [1.f]).

D. Smith’s interpretation of “magnitude of a duration of the gesture” is inconsistent with dependent claims

1. Smith’s requirement of the duration “ending at the conclusion of the gesture” is inconsistent with dependent claims

Several dependent claims contradict Smith’s narrow interpretation of “the magnitude of a duration” in [1.f] as requiring that the duration “ending at the conclusion of the gesture.” Smith requires that the gesture’s duration “end[s] at the conclusion of the gesture” for [1.f] (and equivalents in claims 32, 34, and 64) so “[a] single instance of user input” that met [1.f] would not also meet [1.g] or [1.i] because the user input would have ceased. POR, 23 n.8, 26 n.9, 29; EX2008, ¶64. However, this position directly contradicts claim 33 (dependent on claim 32)⁶, which broadly recites instances where [1.f] and [1.g] conditions both occur, and where [1.f], [1.g],

⁶ The same is true for claim 65. Smith does not address either claim.

and [1.i] conditions all occur. APPLE-1001, 108, 4-13 (e.g., “the first, second, and third components of the gesture are detected in a third use case scenario”); *see id.*, 102:6-8 (claim 26 reciting “said gesture includes at least one of a combination of a touch gesture component and a press gesture component”). Smith’s and Dr. Madisetti’s narrow position that “a single instance of user input” could not meet [1.f], [1.g], and [1.i] directly contradicts the broad requirements of claim 33.⁷ POR, 29; EX2008, ¶¶ 61, 64; *Littelfuse, Inc. v. Mersen USA EP Corp.*, 29 F.4th 1376, 1380 (Fed. Cir. Apr. 4, 2022) (“an independent claim is broader than a claim that depends from it, so if a dependent claim reads on a particular embodiment of the claimed invention, the corresponding independent claim must cover that embodiment as well.”); *Baxalta Inc. v. Genentech, Inc.*, 972 F.3d 1341, 1346 (Fed. Cir. 2020).

2. Cessation of the gesture is not a requirement of [1.f]

Furthermore, claims depending from claim 1 further demonstrate that claim

⁷ While only claims 32 and 64 have dependent claims (33 and 65) that explicitly permit these scenarios, Smith’s reasoning for why “[a] POSITA would understand that the ‘duration’ in this first logical Limitation [for claims 1, 32, 34, and 64] refers to a period from the start of the gesture to after the gesture has concluded,” Smith’s reasoning for this flawed position is directly reliant on the language of claim 32, thus being equally flawed for all claims to which Smith applies this flawed interpretation.

[1.f] cannot be construed or otherwise interpreted to require cessation of the gesture. For instance, through its recitation of the following text, claim 26 demonstrates that claim 1 must be broad enough to include a gesture that ceases before the first time threshold: “when the magnitude of the duration of the gesture being detected on the touch interface on the object is less than the first magnitude threshold *includes upon a cessation* of the magnitude of the duration of the gesture being detected on the touch interface on the object when the magnitude of the duration of the gesture being detected on the touch interface on the object is less than the first magnitude threshold.”. APPLE-1001, 103:13-21. And yet, through its recitation of the following additional text, claim 26 demonstrates that claim 1 must also be broad enough to NOT require cessation of the gesture: “when the magnitude of the duration of the gesture being detected on the touch interface on the object is less than the first magnitude threshold includes at least one point in time after the magnitude of the duration of the gesture being detected on the touch interface on the object is less than the first magnitude threshold.” *Id.*, 103:28-33. And, by requiring that “at least one point in time *after* ... the gesture [is] detected ... is less than the first magnitude threshold,” this clause strongly suggests that the gesture satisfying [1.f] can persist beyond the first magnitude threshold.⁸ Indeed, all told, claim 26 includes nine

⁸ Equivalent analysis applies to claim 34 (based on claim 58 at 114:38-43).

limitations that relate to the first magnitude threshold of [1.f], with *none of which* mentioning any cessation of the gesture. *Id.*, 103:22-104:7.

As another example of how the dependent claims of claim 1 show that cessation of the gesture is not a requirement of [1.f], claim 2, which recites performing the operation “after a cessation of the gesture is detected,” would be rendered moot if adopting Smith’s contrived requirement that a duration magnitude of the gesture be dependent on cessation of the gesture. APPLE-1001, 97:39-43; *Littelfuse*, 29 F.4th at 1380. That is, if the magnitude of the duration of the gesture for [1.f] necessarily required a specific “conclusion of the gesture” as Smith posits, then performance of any of the functions of [1.f], [1.g], or [1.i] could not occur until cessation of the gesture, so claim 2’s requirement that performance of the operation occurs “after a cessation of the gesture is detected” is superfluous.

Additionally, Smith is misplaced in its reliance on [32.f]’s recitation of “cessation of the gesture being detected” in support of the position that “determining that a duration is *less* than a threshold requires the duration to be concluded and fixed” due to its failure to separate *detection* of a gesture and *performance* of the resulting function. *See* POR, 23-24 n.8. That is, [32.f] does not require *detection* of a gesture to occur “upon a cessation of the gesture being detected” but rather, it requires *performance* of the function to occur after cessation. In this way, claim 32 permits an ongoing detection of a gesture, which thereby *later* causes performance

of the function after cessation of the gesture. The fact that claim 32 is sufficiently broad to include detecting the first gesture component without detecting cessation of the gesture is made clear from dependent claim 33, which includes “the first, second, and third components of the gesture are detected.” Any detection of the first, second *and* third gesture components would be impossible if detecting the first component required detecting cessation of the gesture. Therefore, “perform a function upon cessation of the gesture being detected” in [32.f] can occur after detection of the first, second, and third gesture components. Smith’s construction that requires cessation of the gesture before the first time threshold is therefore clearly flawed.

That Smith’s constructions are inconsistent with the dependent claims is unsurprising given Smith’s reliance on testimony from Dr. Madisetti, who neither addressed nor familiarized himself with the dependent claims, despite his acknowledgement that the scope of an independent claim is informed by the scope of the claims that dependent from it. APPLE-1023, 60:2-61:10, 62:8-11; EX2008, ¶¶58-61 (including no discussion of dependent claims with respect to the “magnitude” term).

3. The “magnitude of a duration of the gesture being detected” need not refer to “a period of time beginning at the start of the gesture”

Finally, Smith’s and Dr. Madisetti’s contention that the duration magnitude must refer to the period of time from the start of the gesture and not refer to a

component of a gesture is similarly misguided and wrong, as demonstrated by the dependent claims, among other things. *See* POR, 23-24; EX2008, ¶59. While Smith and Dr. Madisetti both provide divergent constructions for the duration magnitude of [1.f], [1.g], and [1.i], each of these constructions defines the duration magnitude with reference to the beginning of the gesture – “the length of a period of time *beginning at the start of the gesture.*” *Id.*

Smith and Dr. Madisetti state that “the plain language of the claim “duration *of the gesture*” cannot be replaced with “duration *of a component of the gesture.*” POR, 49; EX2008, ¶99. But Dr. Madisetti’s and Smith’s narrow constructions and statements, in particular, here, as it relates to a “component of the gesture,” render certain dependent claims impossible. In particular, claim 23,⁹ which depends from claim 1, includes the limitation “*when the magnitude of the duration of the gesture* being detected on the touchscreen on the object *is continually reduced* before the magnitude of the duration of the gesture being detected on the touch screen on the object is greater than the second magnitude threshold.” It is clear that the duration magnitude can *only increase* if it is limited from the start of the gesture, as Dr. Madisetti’s and Smith’s construction requires. That is, claim 23 could not be performed with a “magnitude of the duration of the gesture being detected” that must

⁹ The same analysis applies to claim 55, which depends from claim 34.

“begin[] at the start of the gesture.” A correct construction, however, which permits the duration magnitude to encompass the duration of a **component** of a gesture—one that is not limited from the start of the gesture—is consistent with the requirements of claim 23. For example, the time between an upcoming threshold and the time of a current gesture component will reduce as the gesture being determined approaches the threshold, and having passed the threshold, the duration magnitude between the same threshold and the current time of the gesture being determined will increase. APPLE-1022, ¶¶59-60.

E. Smith’s interpretation of a “gesture” is wrong

Preliminarily, Smith’s overly narrow argument that the gesture must be a “single continuous touch” is inconsistent with its district court infringement contentions where it mapped [1.f] to a **tap** but then mapped [1.g] and [1.i] to a **long press**—separate from the tap. APPLE-1024, 6-9, 27-30; APPLE-1025, 6-9, 20-23; APPLE-1026, 5-8, 24-27. That is, Smith’s own contentions mapped claims 1 and 32 to two discontinuous touches on the accused devices.

Moreover, Smith’s apparent interpretation of “the gesture” is nonsensical and redundant. Applying what Smith’s expert Dr. Madisetti claimed to be the “plain and ordinary meaning” (APPLE-1023, 64:20-65:21, 125:14-126:4), Smith’s interpretation of “the gesture” as “a user touch on the touch screen on the [] object” (POR, 1) results in [1.e] reciting “detecting ‘a user touch on the touch screen on the

object’ on the touch screen on the object.” Thus, at a minimum, Smith’s construction improperly imports features not required by the plain meaning of the claim term, yielding a redundant result. *N. Telecom Ltd. v. Samsung Elecs. Co.*, 215 F.3d 1281, 1290, (Fed. Cir. 2000). Smith’s alleged “plain and ordinary meaning” erroneously limits “the gesture” to “a ***single continuous touch (or contact)***” where neither the claim language nor the specification supports it. POR, 37 (emphasis in original); EX2008, ¶76. Indeed, the ’114 Patent contradicts Smith’s position, offering “a two finger, ***double press***” as an example gesture. APPLE-1001, 57:31-34.

Smith’s insistence that claim 1’s reference to “the gesture” must necessarily refer to the ***same*** gesture—which is inconsistent with its approach to a “magnitude of a duration”—is further inconsistent with dependent claim 10, which permits multiple gestures to meet the conditions: (1) when condition [1.f] is met by “a ***first gesture***,” that “***only*** the operation to be performed,” (2) when condition [1.g] is met by “a ***second gesture***,” “the scaling ***without*** the operation nor the another operation being performed,” and (3) when condition [1.i] is met by “a ***third gesture***,” “the scaling and the another operation being performed ***without*** the operation being performed.” APPLE-1001, 98:16-62; *see id.*, 109:14-30 (cl. 43).

That the ’114 Patent contradicts Smith’s position, however, is unsurprising, given that Dr. Madisetti neither cited nor considered those portions of the ’114 Patent in forming his understanding of “the plain and ordinary meaning of a gesture.”

APPLE-1023, 149:21-150:19.

F. Under the proper interpretation of the claims, the Petition’s mapping of [1.g] and [1.i] satisfies the requirements of the claim

Smith’s arguments concerning the Petition’s mapping of [1.g] and [1.i] are premised on the flawed understanding that claim 1 requires that a “single continuous gesture”¹⁰ must meet the limitations. *See* POR, 43. As explained in Petitioner’s Claim Construction Brief, this understanding of a “gesture” is not supported by the ’114 Patent, is inconsistent with Smith’s infringement contentions, renders dependent claims impossible, and improperly imports features not required by the plain meaning of the claim. Paper 22, §II.A; *N. Telecom Ltd. v. Samsung Elecs. Co.*, 215 F.3d 1281, 1290, (Fed. Cir. 2000) (“This court has repeatedly and clearly held that it will not read unstated limitations into claim language.”).

When properly construed, claim 1 does not require a “single continuous gesture” that meets “the respective preconditions in each of Limitations [1.g] and [1i] (POR, 41) as Smith alleges, but rather, permits the conditional limitations to be met by different detected gestures, each having a duration that meets a different condition, as presented in the Petition. Paper 22, §II.D. Based on this correct

¹⁰ Smith also refers to the gesture as requiring a “single continuous touch (or contact).” POR, 37.

interpretation, Smith’s arguments concerning whether Kim’s device is in a zoom mode are irrelevant. *See* POR, 43 (alleging that “zoom mode” is a necessary predicate).

Finally, the Petition’s mapping is also consistent with *Ex Parte Schulhauser*. Appeal No. 2013-007847, 2016 WL 6277792, 14-15 (PTAB Apr. 28, 2016) (precedential). Namely, the prior combination renders obvious a device with “structure capable of performing all the recited functions” in the form of a mobile device that is configured to detect various gestures on its touch screen, such that, there exists at least one detected gesture that meets each condition and the device responds by performing the respective operation/scaling. *Id.*; Pet., 62-68.

III. The Petition’s mapping of a(n) “operation”/“function” and “another operation”/“another function” is proper (claims 1, 32, 34, 64)

A. Kim and/or Kim-Bowens render obvious performance of an “operation”/“function” “when”/“based on”/“in response to” a magnitude of a duration of the gesture being detected is less than a first magnitude threshold

As discussed in Petitioner’s Claim Construction Brief, “a magnitude of a duration of the gesture being detected” should be interpreted as being broad enough to include the magnitude¹¹ of the duration of *any* gesture, which includes the

¹¹ The ’114 Patent’s limited examples of any “magnitude” relate to “pressure” or, e.g., “the length of the swipe.” APPLE-1001, 62:39-47.

duration magnitude of any part of the inputs, flags, and signals that constitute the gesture being detected. Paper 22, §II.B. Based on this proper interpretation, Smith’s criticism relating to the duration of one tap of the double tap gesture has no basis.

Moreover, the Petitioner further asserted that “a POSITA would have understood that a double tap—a well known user input by the Critical Date—comprises two short duration taps in quick succession, which individually and collectively have a duration shorter than a threshold duration associated with a more persistent gesture (e.g., a hold).” Pet., 20 (citations omitted); APPLE-1003, ¶54 (citing APPLE-1009, 3; APPLE-1012, [0072]). Thus, to the extent that the “magnitude of the duration of the gesture being detected” is not interpreted to include the duration of each individual tap, the Petition establishes that the duration of the double tap gesture “collectively [has] a duration shorter than a threshold duration associated with a more persistent gesture (e.g., a hold).” *Id.*

B. Kim and/or Kim-Bowens render obvious performance of another “operation”/“function” “when”/“based on”/“in response to” the magnitude of the duration of the gesture being detected is greater than the second magnitude threshold

1. Ground 1

Smith’s argument that that Kim does not “reference or suggest utilizing a ‘minimum threshold of an intentional user input’” (POR, 52) ignores the Petition’s citation to corroborating references that support what a POSITA would have readily

understood—that there would be no performance of the “other action” without the input that cause the interrupt determined to be intentional. Pet., 24-26; APPLE-1003, ¶¶62-64 (citing APPLE-1016, [0033]; APPLE-1014, [0049]).

Smith’s further criticism that “the reference ‘perform some action’ provides no mapping of ‘another [operation]/[function]’ because no specific action has been identified” (POR, 53) is likewise flawed. Indeed, the independent claims do not identify any “specific action”—only “another operation” or “another function.” Limitation [1.i]’s lack of specificity is in contrast to, for example, [1.g]’s recitation of “a scaling,” which does require identification of a specific action (i.e., scaling). *Compare* APPLE-1001, 97:35-38, *with id.*, 97:27-34. Smith also argues that “Kim does not associate [the action of displaying a requested menu] with *any* user gesture” (POR, 53 (emphasis in original)), seemingly criticizing Kim’s lack of a particular *label* for the intentional user input. A POSITA, however, would have readily understood such an intentional user input to be a detected gesture. APPLE-1022, ¶¶70-72.

Additionally, Smith’s argument that “Kim is clear that steps 203 and 207 do not occur simultaneously nor when/based on/in response to the same event” appears to improperly import a “simultaneous” requirement into the claims where none is recited. *See* POR, 53-54. Not only do the claims not recite a “simultaneous” requirement, the dependent claims in fact *reject* any such requirement. For instance,

claim 26 (dependent on claim 1) recites “each instance of said when includes at least one point in time *after* the magnitude of the duration changes to the corresponding magnitude threshold.” APPLE-1001, 102:59-61; *see also, e.g., id.*, 103:7-9, 114:1-3; *N. Telecom Ltd. v. Samsung Elecs. Co.*, 215 F.3d 1281, 1290, (Fed. Cir. 2000).

2. Ground 2

Smith argues that Petitioner does not demonstrate that the system takes an action based on the magnitude of the duration of the gesture being greater than the second magnitude threshold, but rather that the system acts based on a duration of a period that begins after the tap gesture ends. POR, 55-56. Smith’s argument, however, confuses the recitation of the claims, which considers “magnitude of the duration of the gesture being detected.” That the KBD device uses a timeout “to decide if the user has made a tap gesture” (Pet., 54 (quoting APPLE-1005, [0081])) does not change whether “the magnitude of the duration of the gesture being detected” is “greater than the second magnitude threshold.” The Petition clearly establishes that the tap input detected by the KBD device has a duration magnitude greater than a second magnitude threshold, “the ‘timeout/tap’ transition from SecondTapPending to Idle,” and the device performs another operation. Pet., 67-68; APPLE-1003, ¶195.

Finally, Smith’s hindsight bias arguments are based on a flawed premise. As discussed in §III.C, the independent claims do not offer any limitation as to the

relationship between the “first magnitude threshold” and the “second magnitude threshold.” §III.C. Thus, the independent claims permit the “first magnitude threshold” to be greater than or less than the “second magnitude threshold. *Id.* Based on this understanding, Smith’s accusations of hindsight for “switch[ing] these thresholds” is unfounded.

C. Smith’s assertion that the “second magnitude threshold” must be greater than the “first magnitude threshold” is wrong

Smith’s argument that the “second magnitude threshold” is greater than the “first magnitude threshold” improperly imports unrecited limitations into the claims. *N. Telecom Ltd. v. Samsung Elecs. Co.*, 215 F.3d 1281, 1290, (Fed. Cir. 2000). Independent claims 1, 32, 34, and 64 are silent as to any relationship between the first and second magnitude thresholds. For instance, claim 1’s only mention of a “second magnitude threshold” is in [1.i]’s condition of “when the magnitude of the duration of the gesture ... is greater than a second magnitude threshold.” Given this silence, the independent claims permit that the “first magnitude threshold” to be greater than or less than (or even equal to) the “second magnitude threshold,”¹² a

¹² While some dependent claims provide more detail as to the relationship between the “first magnitude threshold” and the “second magnitude threshold,” these details do not limit the independent claims. Smith’s reliance on dependent claim 8 as

position fully consistent with the dependent claims. *See* POR, 58-59.

That the dependent claims offer further limitations regarding the relationship between the “first magnitude threshold” and the “second magnitude threshold” supports Petitioner’s broad interpretation of the claim, not Smith’s improper importation of unstated limitations. *See* POR, 58. For example, dependent claim 8, which depends from claim 1, references “when the magnitude of the duration of the gesture is detected ... to be greater than the first magnitude threshold, but is detected to remain less than the second magnitude threshold.” APPLE-1001, 98, 1:7. That is, the requirements of dependent claim 8 indicate that the first magnitude threshold is less than the second magnitude threshold—a requirement newly added to claim 8. *See id.* Indeed, “the presence of dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim.” *Liebel–Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004)

allegedly supporting the position that the “second magnitude threshold” must be greater than the “first magnitude threshold” ignores the possibility that claim 1, as written, is broad enough to permit any relationship between the thresholds. A device could read on claim 1 and 8 (where the “second magnitude threshold” is greater), and another device could read only on claim 1 (where the “first magnitude threshold” greater). The interpretation of claim 1 would be permitted in either case.

(citing *Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.2d 1225, 1233 (Fed. Cir. 2001); *Comark Communications, Inc. v. Harris Corp.*, 156, F.3d 1182, 1187 (Fed. Cir. 1998)). Moreover, “where the limitation that is sought to be ‘read into’ an independent claim already appears in a dependent claim,” as it does here—Smith itself highlights this fact, “the doctrine of claim differentiation is at its strongest.” *Id.* (citing *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1302-03 (Fed. Cir. 2003); *see also* APPLE-1001, 108:50-56, 109:6-13.

IV. The Petition identifies a strong motivation for adding haptic feedback to Kim’s double tap gesture (claims 30, 62)

The Kim-Burrough Device (and in combination with Bowens and Lang) includes a device, per Kim, as modified by Burrough’s teaching relating to a “haptic device (e.g., piezoelectric actuator assembly) that provides a ‘vibro-tactile response.’” Pet., 50-51; APPLE-1003, ¶151. Or more specifically, the combination incorporates Burrough’s teaching of a haptic device that “generate[s] a zoom out haptic signal” or “generate[s] a zoom in haptic signal.” *Id.*

The combination further incorporates Burrough’s teaching of generating a zoom out or zoom in haptic signal after generating a zoom out or zoom in signal, per FIG. 11 of Burrough. Pet., 50; APPLE-1003, ¶151 (“Burrough teaches ‘generate a zoom out haptic signal’ or ‘generate a zoom in haptic signal’ and thus inspiring haptic vibration after steps 1112/1114, which result in a zoom in or zoom out

operation, thus rendering obvious haptic vibration after zooming or scaling”); APPLE-1007, FIG. 11. The focus of the Petition’s focus on this portion of Burrough’s teaching is reflected in excerpted FIG. 11 in the Petition. Pet., 45.

Smith’s arguments concerning combining Kim and Burrough mischaracterize the Petition’s combination. *See* POR, 59-62. Smith first improperly characterizes Burrough’s zoom operation as necessarily “ongoing” though it need not be so. *See* APPLE-1007, FIG. 11. Instead, Burrough’s teaching regarding generating haptic signals does not depend on whether a zoom gesture is ongoing. Rather, the zoom in/zoom out portions of FIG. 11 relied upon in the Petition (1112/1116 and 1114/1118) simply indicate that, as long as a zoom in/out signal is generated (1112/1114), that signal is followed by a zoom in/out haptic signal 1116/1118. *Id.*; APPLE-1022, ¶79. Thus, the Kim-Burrough Device would generate a zoom in or zoom out signal (to return the display to a given basic magnification or default zoom level), per Kim, and following generating that zoom in/out signal, the device would generate a zoom in/out haptic signal, per Burrough.

Next, Smith claims there is no suggestion to combine Burrough’s multi-touch detection algorithm with Kim’s more simple touch surface. However, Smith’s argument is a straw man—the Petition alleges no such combination. Rather, the Petition’s motivation to combine was more general—including “a haptic device and use of haptic feedback, per Burrough, ... to provide haptic feedback to improve the

user experience with the touch screen,” a motivation unrelated to the number of touches associated with the input. Pet., 46.

Thus, Smith’s criticisms of the combination are solely based on mischaracterizations of the combination and its misunderstanding of Burrough. Thus, its arguments necessarily fail.

V. Conclusion

Petitioner respectfully requests that the Board find the Challenged Claims unpatentable.

Respectfully submitted,

Dated: August 5, 2025

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CERTIFICATION UNDER 37 CFR § 42.24

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petitioner's Reply to Patent Owner's Response totals 5,598 words, which is less than the 5,600 allowed under 37 CFR § 42.24(c)(1).

Dated: August 5, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(1) and 42.6(e)(4)(iii), the undersigned certifies that on August 5, 2025, a complete and entire copy of this Petitioner's Reply to Patent Owner's Response and supporting exhibits were provided via email to the Patent Owner by serving the email correspondence addresses of record as follows:

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