

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO. LTD., SAMSUNG ELECTRONICS

AMERICA, INC. AND APPLE, INC.,

Petitioners

v.

NEONODE SMARTPHONE LLC,

Patent Owner

Case IPR2021-00145

U.S. Patent No. 8,095,993

**PATENT OWNER NEONODE SMARTPHONE LLC'S
PRELIMINARY RESPONSE**

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION.....	1
II. The ‘993 Patent	4
A. Response to Petitioners’ “Prosecution History.”	4
B. The ‘993 Patent Claims.	5
III. CLAIM CONSTRUCTION	7
IV. THE PTAB SHOULD DENY INSTITUTION UNDER THE GROUNDS PRESENTED BY THE PETITION.	9
A. The PTAB should deny institution because the Petition does not show a reasonable likelihood that Petitioners would prevail on at least one of the challenged claims.	9
1. <i>Ground 1A</i> : The Petition does not show that independent Claim 1 of the ‘993 Patent would have been obvious over the combination of Hisatomi in view of POSA knowledge and/or Ren.	10
a. Hisatomi does not disclose a “ <i>tap-present state</i> ” wherein “ <i>a plurality of tap- activatable icons [...] are present, each [...] being activated in response to a tap on its respective icon.</i> ”	11
b. Hisatomi does not disclose a “ <i>user interface comprising at least two states, namely, (a) a tap-present state ... and (b) a tap-absent state.</i> ”	23
c. Hisatomi does not disclose “ <i>transitioning the user interface from the tap-absent state to the tap-present state.</i> ”	24
d. The Petition does not show that a POSA would have been motivated at the time of	

	invention to modify Hisatomi in view of POSA knowledge or Ren.	24
e.	The Petition does not show that Hisatomi discloses “ <u>icons for ... system functions,</u> ” “ <u>each system function being activated in response to a tap on its respective icon.</u> ”	31
2.	<u>Ground 2A:</u> The Petition does not show that independent Claim 1 of the ‘993 Patent would have been obvious over the combination of Hansen in view of Gillespie.	35
a.	Hansen does not disclose “ <u>a processor of an electronic device having a touch-sensitive display screen.</u> ”	35
b.	Hansen does not disclose a “ <u>tap-present state</u> ” wherein “ <u>a plurality of tap- activatable icons [...] are present, each [...] being activated in response to a tap on its respective icon.</u> ”	39
c.	Hansen does not disclose a “ <u>user interface comprising at least two states, namely, (a) a tap-present state ... and (b) a tap-absent state.</u> ”	43
d.	Hansen does not disclose “ <u>transitioning the user interface from the tap-absent state to the tap-present state.</u> ”	44
e.	Hansen does not disclose “ <u>icons for [...] system functions,</u> ” “ <u>each system function being activated in response to a tap on its respective icon.</u> ”	45
3.	Petitioners have not shown that Claims 2-8 would have been obvious because they have not shown that Claim 1, from which Claims 2-8 depend, would have been obvious.	47
B.	The PTAB should deny the Petition because institution of this proceeding under § 314(a) would not be consistent	

with the objective of the AIA to “provide an effective and efficient alternative to district court litigation.” 47

C. The PTAB should exercise its discretion to deny institution under 35 U.S.C. § 325(d) as to Hansen-Gillespie because Hansen was considered by the Examiner and Gillespie is substantially the same as the art before the Examiner. 56

1. Becton, Dickinson Factor (a): The similarities and material differences between the asserted art and the prior art involved during examination..... 59

2. Becton, Dickinson Factors (b) and (d): The cumulative nature of the asserted art and the prior art evaluated during examination, and the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art. 59

3. Becton, Dickinson Factor (c): The extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection. 63

4. Becton, Dickinson Factor (e): Whether Petitioners have pointed out sufficiently how the examiner erred in its evaluation of the asserted prior art..... 65

5. Becton, Dickinson Factor (f): The extent to which additional evidence and facts presented in the petition warrant reconsideration of the prior art or arguments. 68

V. CONCLUSION 68

TABLE OF AUTHORITIES

Page(s)

CASES

Advanced Bionics, LLC v. Med-El Elektromedizinische Gerate GMBH, IPR2019-01469, Paper 6, at 8 (PTAB Feb. 13, 2020) 56, 57, 58, 66

Arctic Cat Inc. v. Polaris Indus., Inc.,
795 Fed. Appx. 827 (Fed. Cir. 2019) 31

Apple Inc. v. Voip-Pal.com, Inc.,
976 F.3d 1316 (Fed. Cir. 2020) 39

Becton, Dickinson & Co. v. B. Braun Melsungen AG,
IPR2017-01586, Paper 8 (Dec. 15, 2017).....*passim*

Cuozzo Speed Techs., LLC v. Lee,
136 S. Ct. 2131 (2016)..... 47

Harmonic Inc. v. Avid Tech., Inc.,
815 F.3d 1356 (Fed. Cir. 2016)..... 48

NHK Spring Co. v. Intri-Plex Techs., Inc.,
IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018)..... 2, 48

Pacing Techs., LLC v. Garmin Intern., Inc.,
778 F.3d 1021 (Fed. Cir. 2015)..... 36

SAS Inst. Inc. v. Iancu,
138 S. Ct. 1348 (2018) 47

STATUTES

28 U.S.C. § 1781 52

35 U.S.C. § 112(d)..... 6, 47

35 U.S.C. § 314(a)..... 2, 47

35 U.S.C. § 325(d)..... 56, 58

OTHER AUTHORITIES

37 C.F.R. § 42.4(a) 47

TABLE OF EXHIBITS

NEO Exhibit Number	Description
2001	Declaration of Craig Rosenberg, Ph.D.
2002	Craig Rosenberg, Ph.D., <i>Curriculum Vitae</i>
2003	MicroTouch Mac-‘n-Touch Technical Data Sheet
2004	US Patent No. 5,406,307 (Hirayama, et al.)
2005	Transcript of 30(b)(6) Videotaped Deposition of Neonode, Inc. by Joseph Shain and Thomas Eriksson (March 19, 2012) in the matter of <i>Motorla Mobility, Inc. v. Apple Inc.</i> , CA No. 1:10cv023580, United States District Court for the Southern District of Florida.
2006	Transcript of Telephonic conference Before the Honorable Alan D. Albright (October 23, 2020), in the matter of <i>Neonode Smartphone, LLC v. Apple, Inc.</i> , Docket No. WA 20-CA-505, <i>Neonode Smartphone, LLC v. Apple, Inc.</i> , Docket No. WA 20-CA-507, United States District Court for the Western District of Texas, Waco Division
2007	Plaintiff Neonode Smartphone LLC’s Motion for Issuance of Letter of Request to Examine Persons, Inspect Documents, Inspect Property Pursuant to the Hague Convention on the Taking of Evidence Abroad in Civil or Commercial Matters, and Exhibit A thereto.
2008	Apple Inc.’s Unopposed Motion for Issuance of Letter of Request to Examine Persons and Inspect Documents Pursuant to Hague Convention, and Exhibit A thereto.
2009	Order Granting Plaintiff Neonode Smartphone LLC’s Motion for Issuance of Letter of Request to Examine Persons, Inspect Documents, Inspect Property Pursuant to the Hague Convention on the Taking of Evidence Abroad in Civil or Commercial Matters
2010	Declaration of Jakob Falkman

NEO Exhibit Number	Description
2011	Declaration of Philip Graves
2012	Neonode N1 Quick Start Guide, V 0.5

I. INTRODUCTION

Samsung and Apple (“Petitioners”) cite two combinations of alleged prior art to argue that US Patent No. 8,812,993 (the “’993 Patent”) is obvious. On that basis, they argue that the Patent Trials and Appeals Board (“PTAB”) should institute an *inter partes* review in this case.

But Petitioners fail to show that either of their prior art combinations disclose all of the recited limitations of Claim 1 of the ‘993 Patent. First, they fail to show that the element of “*tap-activatable icons*” is disclosed in the cited prior art. Consequently, they fail to show that the cited prior art discloses “*two states*” of the user interface, one of which is “*tap-present*” and the other is “*tap-absent*.” It follows that they fail to show that the cited prior art discloses a user interface that enables “*transitioning the user interface from the tap-absent state to the tap-present state*.” Second, they fail to show that the cited prior art discloses icons that represent “*system functions*.” Third, with respect to one combination (Hansen-Gillespie (Ground 2A)), they fail to show that the cited prior art discloses the limitations of the ‘993 Patent in a single device with “*a processor of an electronic device having a touch-sensitive screen*.” And finally, with respect to both cited combinations, Petitioners fail to show that a Person of Skill in the Art at the time of the invention claimed in the ‘993 Patent (“POSA”) would have been motivated to combine the references that Petitioners rely upon.

Apart from Petitioners' failure to meet their burden, the PTAB should exercise its discretion to deny institution of an *inter partes* review here on two grounds. First, the PTAB should exercise its discretion to deny institution under 35 U.S.C. § 314(a) because institution of an *inter partes* review here would not be consistent with the objective of the America Invents Act ("AIA") to "provide an effective and efficient alternative to district court litigation." *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential). In Petitioners' first prior art combination, Hisatomi-Ren, it appears likely that primary reference Hisatomi is not prior art, given the fact that a functional prototype of a phone incorporating the patented swipe-gesture interface was demonstrated at a trade show in Germany just a few weeks after Hisatomi was published, strongly suggesting that the patented interface was conceived and diligently reduced to practice prior to Hisatomi's priority date. In addition, the evidence suggests that Petitioners' secondary Gillespie reference may also not be prior art, due to the inventor's prior conception and diligence.

Therefore, proof of the conception date and reduction to practice of the invention claimed in the '993 Patent is an issue in the District Court case, as it would be in any *inter partes* review that the PTAB were to institute here. However, the key direct and corroborating witnesses to the inventor's conception and reduction to practice – inventor Magnus Goertz and Thomas Eriksson, the co-

founders of the company that commercialized the phones incorporating the patented interface – are residents of Sweden. So obtaining the evidence necessary to establish the true priority date of the ‘993 Patent will require foreign discovery in Sweden under the Hague Convention on the Taking of Evidence Abroad in Civil and Commercial Matters. Both Patent Owner and one of the Petitioners (Apple) have moved in the district court for issuance of a Letter of Request to the Swedish Ministry of Justice, seeking enforcement of deposition notices and document requests as against Mr. Goertz, and Patent Owner has also moved for the same with respect to Mr. Eriksson. And the district court has granted Patent Owner’s motion.

But Sweden imposes procedural requirements on the enforcement of such discovery that are not likely to be met within the six months remaining before the Patent Owner’s Response would be due were review to be instituted. Therefore, the priority issue – which could on its own entirely dispose of Petitioners’ arguments – may be more efficiently and equitably addressed in the district court, where the pace of enforcement in Sweden may be more easily accommodated.

Second, the PTAB should exercise its discretion to deny institution here under 35 U.S.C. §325(d) because the art and arguments that Petitioners assert here were the same or substantially the same as those previously before the Examiner when the ‘993 Patent was prosecuted. In the Hansen-Gillespie combination,

Hansen was cited by the Examiner in two office actions, and Gillespie was identified by the Examiner and the Applicant and was substantially similar to art the Examiner cited in two office actions. But the Examiner allowed the ‘993 Patent application over the asserted prior art and arguments. And Petitioners have not shown that the Examiner erred in a manner that was material to the ‘993 Patent’s patentability. Petitioners are not entitled to a second bite at the apple here in *inter partes* review.

The PTAB should therefore deny institution of *inter partes* review.

II. THE ‘993 PATENT

A. Response to Petitioners’ “Prosecution History.”

Petitioners present excerpts from a select set of office actions and responses as the “prosecution history.” Petition, 7. The omissions from their description of this portion of the prosecution history of the ‘993 patent application materially misrepresents the prosecution history.

The Examiner rejected application Claim 21, which corresponds to ‘993 Patent independent Claim 1, as obvious over the combination of Hansen in view of Hirayama. EX1003, 173-181 at 175-177.

The Applicant amended Claim 21 to overcome Hansen-Hirayama to recite that the “otherwise activatable graphic is present in a strip along at least one edge of the display screen,” that the input device (“object”) touches “the display screen”

within the strip,” and that the object glides “along the display screen away from the touched location.” EX1003, 147-159 at 148-149.

The Examiner rejected amended Claim 21 as obvious over the combination of Hansen in view of Hirayama in further view of Brisebois. EX1003, 87-97 at 90-92.

In response, the Applicant amended Claim 21 again to overcome the combination of Hansen-Hirayama-Brisebois to recite that the object glides “on the display screen away from and out of the strip.” EX1003, 71-81 at 72-73.

The Examiner allowed Claim 21 and others over the prior art. EX1003, 25-28 at 26.

The above office actions and responses are addressed in more detail in Section IV, C, below.

B. The ‘993 Patent Claims.

The ‘993 Patent has eight claims. Claim 1 is independent. Claims 2-8 depend from Claim 1.

Claim 1 is reproduced below, with emphasis supplied for the limitations that are addressed in this preliminary response:

A non-transitory computer readable medium storing instructions, which, when executed by *a processor of an electronic device having a touch-sensitive display screen,* cause the processor to enable a user

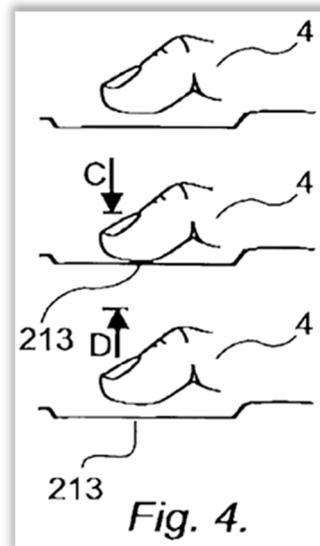
interface of the device, *the user interface comprising at least two states, namely, (a) a tap-present state, wherein a plurality of tap-activatable icons for a respective plurality of pre-designated system functions are present, each system function being activated in response to a tap on its respective icon,* and (b) a tap-absent state, wherein tap-activatable icons are absent but an otherwise-activatable graphic is present in a strip along at least one edge of the display screen for *transitioning the user interface from the tap-absent state to the tap-present state* in response to a multistep user gesture comprising (i) an object touching the display screen within the strip, and (ii) the object gliding on the display screen away from and out of the strip.

EX1001, 6:50-65. Since Claims 2-8 depend from Claim 1, they incorporate all of the limitations of Claim 1. 35 U.S.C. § 112(d). Accordingly, this Preliminary Response focuses on Petitioners' failure to meet their burden to show that the limitations of Claim 1 are disclosed in the cited prior art, and that a POSA would have been motivated to make the cited prior art combinations.

III. CLAIM CONSTRUCTION

Respondent requests that the PTAB construe the term “tap-activatable,” as used in Claim 1 of the ‘993 Patent.

The ‘993 Patent’s specification defines “tapping” as a gesture with at least two components: “FIG. 4 shows that selection of a preferred service or setting is done by tapping C, D on a corresponding icon 213.” EX1001, 4:41-42. Figure 4, which illustrates “tapping,” is reproduced below:



EX1001, FIG 4. “Tapping” as described in the specification is a gesture comprised of a downward touch on the coordinates of the icon displayed on the touch-sensitive screen (image C in Figure 4) followed by an upward lift off of the icon’s coordinates (image D in Figure 4). *Id.*

A POSA would have understood that a “tap” as used in a gesture-based user interface design for touch-sensitive screens, means a gesture in which the input

device (1) touches the screen, and then (2) lifts off the screen. EX2001, ¶50. This gesture corresponds to a downward press on the left mouse button followed by a release of the mouse button at a predetermined cursor location on a conventional monitor and desktop system with a mouse as the input device. *Id.* A POSA would have known that this gesture is referred-to in programming as “mouse up.” *Id.*

And a POSA would have understood that a “tap” gesture as used in a gesture-based user interface for touch sensitive screens activates a function or service associated with the tapped screen coordinates upon the user device completing its lift off of the screen. EX2001, ¶50. In other words, the associated function or service is activated upon “mouse up.” *Id.* This property would have distinguished tap, in the mind of the POSA, from other known user interface gestures such as touch activation, in which processing associated with a program or service is activated upon detecting the coordinates of the initial touch in a predetermined location on a touch sensitive screen. *Id.*

Accordingly, Patent Owner requests that the PTAB construe the term “tap-activatable” to mean “activatable upon completion of a gesture consisting of a downward touch on the display followed quickly and directly by an upward lift off of the display.”

IV. THE PTAB SHOULD DENY INSTITUTION UNDER THE GROUNDS PRESENTED BY THE PETITION.

A. The PTAB should deny institution because the Petition does not show a reasonable likelihood that Petitioners would prevail on at least one of the challenged claims.

Claim 1 of the '993 Patent recites a "*non-transitory computer readable medium storing instructions, which, when executed by a processor of an electronic device having a touch-sensitive display screen cause the processor to enable a user interface of the device.*" EX1001, 6:50-53. In other words, the claimed user interface is displayed on an electronic device having both a processor and a touch-sensitive display.

The claimed user interface must have at least "*two states.*" *Id.*, 6:54. The recited "two states" are defined by the presence and absence of tap-activatable icons: (1) "*a tap-present state, wherein a plurality of tap-activatable icons ... are present, each ... being activated in response to a tap on its respective icon ;*" and (2) "*a tap-absent state, wherein tap-activatable icons are absent*" *Id.*, 6:54-59. The user interface must provide for "*transitioning the user interface from the tap-absent state to the tap-present state.*" *Id.*, 6:61-62. And in the tap-present state, the tap-activatable icons must represent "*pre-designated system functions.*" *Id.*, 6:56.

Petitioners argue they have shown a reasonable likelihood that they will prevail on at least one of the '993 Patent's claims under 35 US.C. §103 based upon

two combinations of prior art. In Ground 1A, they argue that Claim 1 of the ‘993 Patent is obvious over the combination of Hisatomi in view of POSA knowledge and/or Ren. Petition, 27-48. In Ground 2A, they argue that Claim 1 of the ‘993 Patent is obvious over the combination of Hansen in view of Gillespie. *Id.*, 48-75. But neither combination discloses the Claim 1 limitations quoted above. And since Claims 2-8 depend from Claim 1, they incorporate all of Claim 1’s limitations, and consequently Petitioners’ showing fails for the same reasons.

1. ***Ground 1A: The Petition does not show that independent Claim 1 of the ‘993 Patent would have been obvious over the combination of Hisatomi in view of POSA knowledge and/or Ren.***

Hisatomi addresses the problem where, when a main image is displayed on a “portable information terminal with a narrow display screen,” a pull-out menu will cover the main image. EX1005, ¶[0004]. If the pull-out menu is made smaller, it will be more difficult to read, but if a larger menu is displayed more of the main image is covered. *Id.* And the more “function items” on the pull-out menu, the more these problems increase. *Id.*

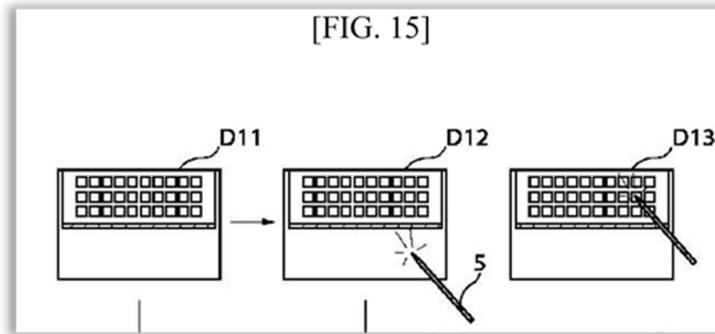
Hisatomi solves these problems with pull-out menus responsive to inputs from an input device on a touch panel sensor. It discloses a portable information processing device with an image display screen and a touch panel sensor that receives touch coordinate instructions from a pen-type input device. EX1005,

¶[0012]. When the touch panel sensor is touched by the pen-type input device, “the coordinate is designated by this touch, and various functions can be selected.” *Id.*, ¶[0015]. The screen has an image display area that is bordered by four pull-out menu display trigger areas. *Id.*, ¶[0018]; FIG 6. When the user touches the pen-type input device to one of the pull-out menu display trigger areas and scrolls toward the center of the touch panel sensor, the selected pull-out menu is displayed. *Id.*; FIG 12, Images D1-D7. The pull-out menus have “GUI function buttons.” *Id.*, ¶[0025, 0037]. A touch from the input device with the coordinate value of a GUI function button causes activates the selected function. *Id.* ¶[0055].

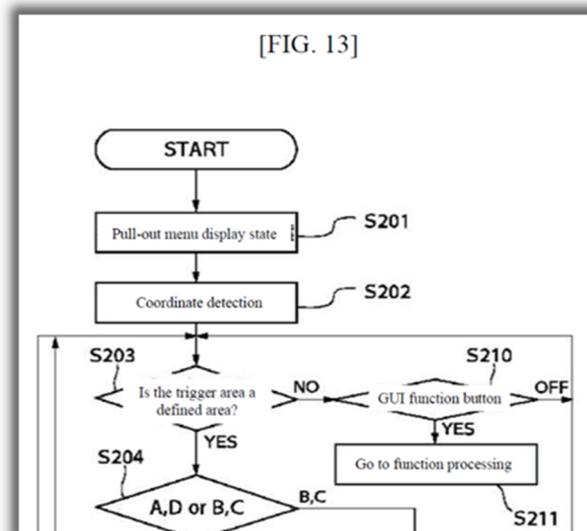
- a. **Hisatomi does not disclose a “*tap-present state*” wherein “*a plurality of tap-activatable icons [...] are present, each [...] being activated in response to a tap on its respective icon.*”**

Petitioners argue that Hisatomi discloses a “tap-present state including a plurality of tap-activatable icons” when a pull-out menu having GUI function buttons is displayed. Petition, 31-38. But as shown below, the pull-out menu GUI function buttons are activated by the coordinates of the *touch* of the input device on the touch panel sensor in Hisatomi, not by a *tap*. Therefore, Hisatomi does not disclose a “tap-present state” with “tap-activatable icons.”

Hisatomi describes the processing of a GUI function button with reference to Figure 15, reproduced in pertinent part below:



EX1004, FIG 15. The steps for initiating the processing of a GUI function button are illustrated in Figure 13, reproduced in pertinent part below:



EX1004, FIG 13. Hisatomi explains with reference to Figure 13 that “in step S202, the position coordinate on the touch panel sensor 11 touched by the input device 05 will be detected.” EX1005, ¶[0054]. In step S203, the processing determines whether the coordinate value detected in step S202 is in a pull-out menu display trigger area, and if not, “it is determined whether or not the specific function button (GUI function button) in the pull-out menu was selected by the

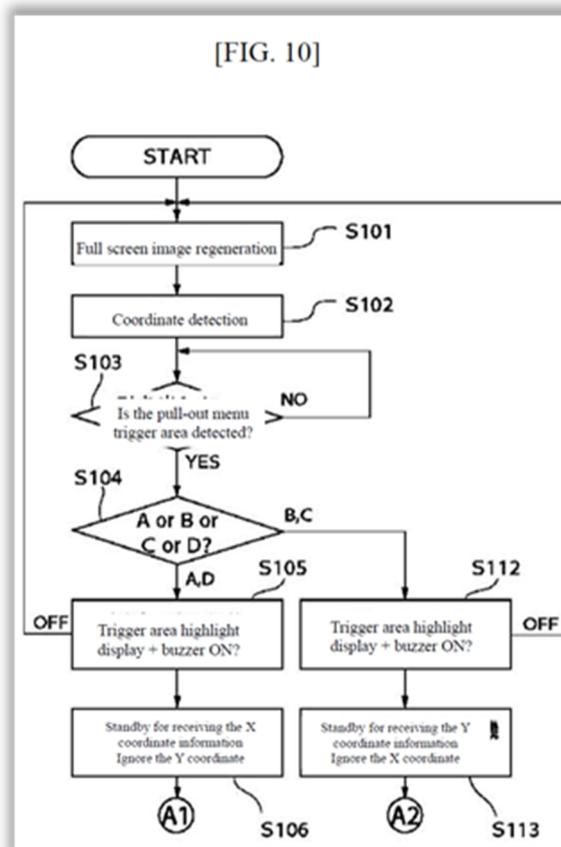
input device 05 (S210); if it is selected, the selected function will be processed (S211).” *Id.*, ¶[0055].

In other words, the processing associated with a GUI function button is activated (step S211) when the coordinates of the input device’s *touch* correspond to those of the GUI function button. EX2001, ¶52. A POSA would have distinguished between the touch-activation of Hisatomi and the tap-activation of the ‘993 Patent. *Id.*, ¶49. In touch-activation, the processing of a function is activated upon the event of detecting the coordinates of the initial touch of the input device on the touch sensitive display within the coordinates of the desired button or icon. EX2001, ¶50. In programming, this event is referred to as “mouse down.” *Id.* It corresponds to pressing the left mouse button down at a particular cursor location or touching the stylus tip to the screen. *Id.*

In contrast, in tap-activation, the processing of a function is activated upon the event of the input device lifting off of the touch sensitive display from the coordinates of the desired button or icon. EX2001, ¶50. In programming, this event is referred to as “mouse up.” *Id.* It corresponds to pressing down and then releasing the left mouse button at a particular cursor location or lifting the stylus tip off of the screen. *Id.* In Hisatomi, all processing, whether of the menu displays or the GUI function buttons, is activated upon the event of detecting the coordinates of the touch. EX2001, ¶51.

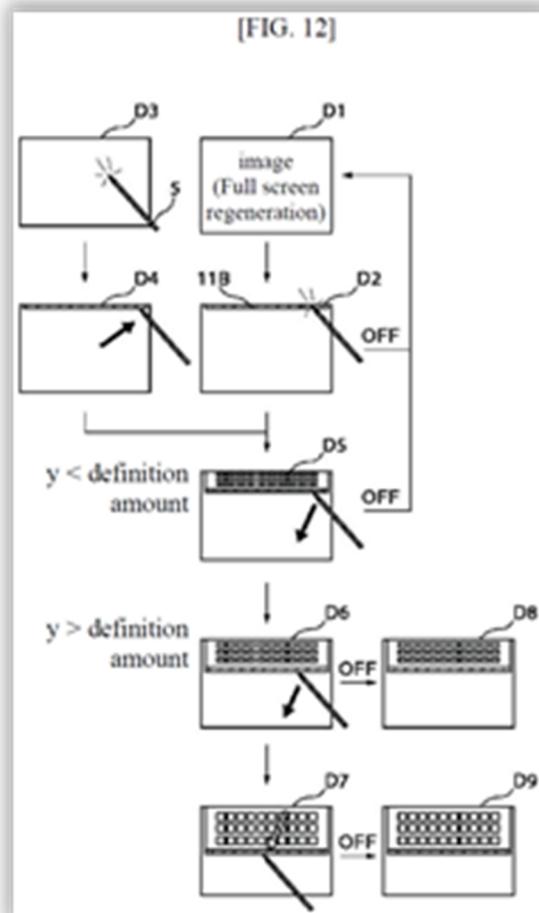
Nowhere in Hisatomi is there a disclosure of processing that is activated upon the event of the pen-type stylus lifting *off* of the touch panel sensor (mouse up). EX2001, ¶51. Hisatomi defines “OFF” to mean “that the touch panel sensor 11 will no longer be in contact with the input device 05 and the coordinate will no longer be detected.” EX1005, ¶[0039]. But contrary to tap-activation, an “OFF” event in Hisatomi causes the processing to stop and return to the touch coordinate detection step. EX2001, ¶55.

For example, FIG 10 illustrates the processing associated with displaying a pull-out menu, reproduced below:

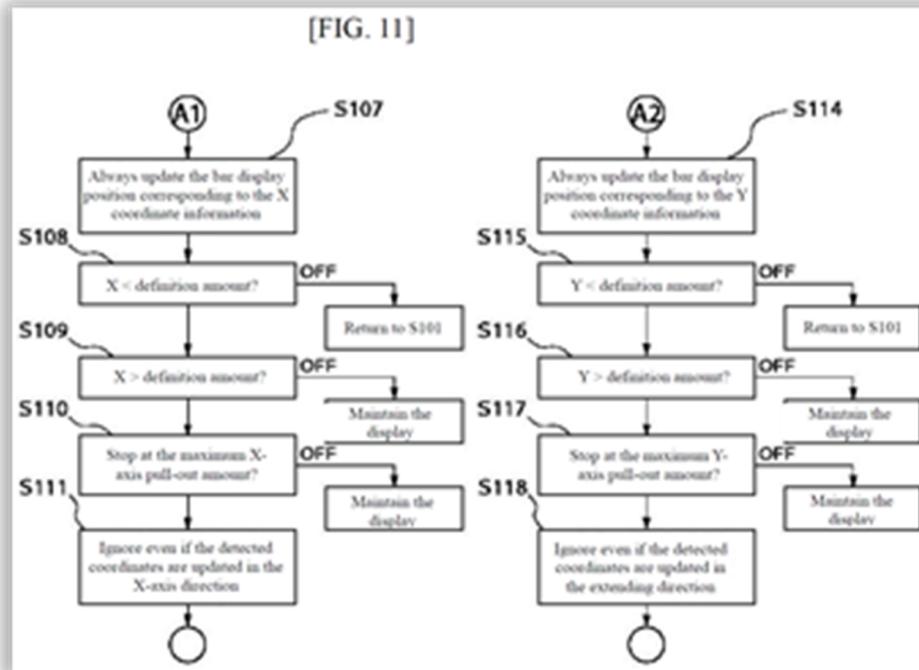


EX1005, FIG 10. Hisatomi explains that even if the coordinate value of the input device touch is in a pull-out menu trigger area, “if it went OFF, the process will return to step S101.” *Id.*, ¶¶0041; EX2001, ¶53. Similarly, if the selected pull-out menu display trigger area is highlighted and displayed, “if it went OFF during this period, the process will return to step S101.” EX1005, ¶¶0043; EX2001, ¶53.

Similarly, Figure 12 illustrates the drag gesture to open the pull-out menu, reproduced below:

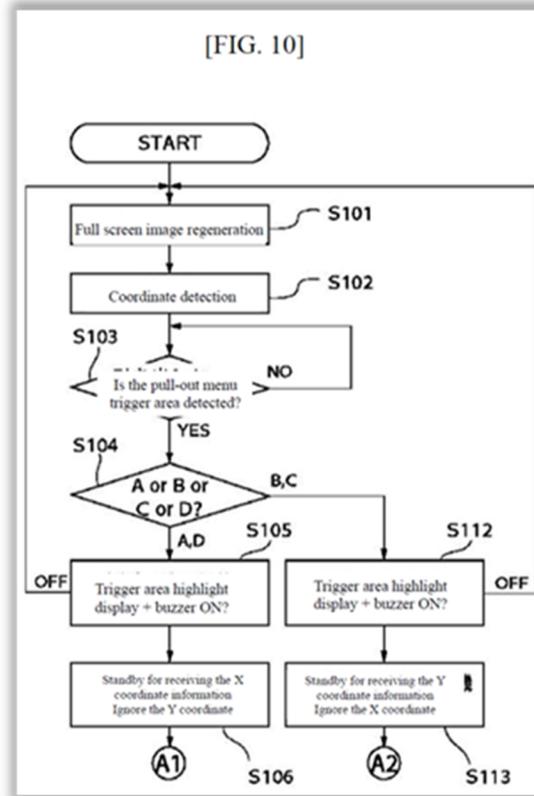


EX1005, FIG 12. The steps of the processing are illustrated in Figure 11,
reproduced below:



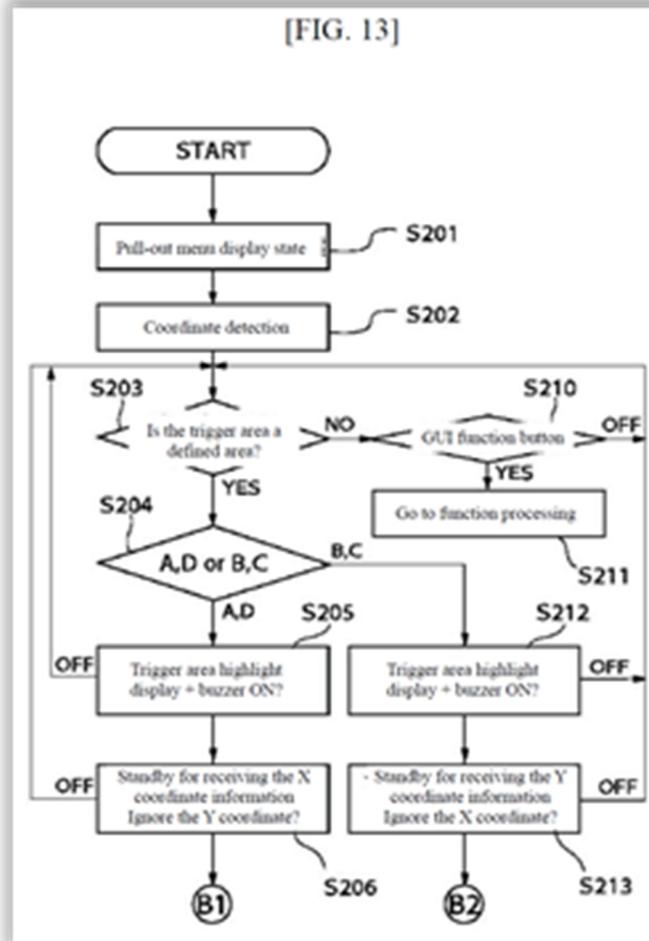
EX1005, FIG 11. Hisatomi explains that in step 114, “the display amount of the pull-out menu will be updated according to the Y coordinate value generated by the input device 05,” but if “the menu pull-out amount y is less than the defined amount, if it became OFF as shown on screen D5 in FIG. 12, the process of pulling out the menu will be cancelled midway and the process will return to step S101 (S115).” *Id.*, ¶[0047-0048, 0052]. Step S101 is the full-image display mode that precedes coordinate detection. *Id.*, FIG 10. If the Y coordinate exceeds the defined amount when the OFF event occurs, “the process of pulling out the pull-out menu will be stopped...” *Id.*, ¶ [0048, 0052]

With reference to Figure 12, image D2 (reproduced above), Hisatomi illustrates the associated processing in Figure 10, reproduced below:



EX1005, FIG 10. Hisatomi explains “as shown on screen D2 in FIG 12, even if the detected coordinate value is included in one of the pull-out menu display trigger areas 11A to 11D, if it went OFF, the process will return to step S101.” *Id.*, ¶[0041]. Similarly, in steps S105 and S112, a touch in the pull-out menu display trigger area followed by a drag will cause the pull-out menu to be displayed, but “if it went OFF during this period, the process will return to step S101.” *Id.*, ¶[0043].

And most pertinently here, Figure 13 illustrates the steps for determining which pull out menu is selected and for activating the processing associated with a GUI function button, reproduced below:

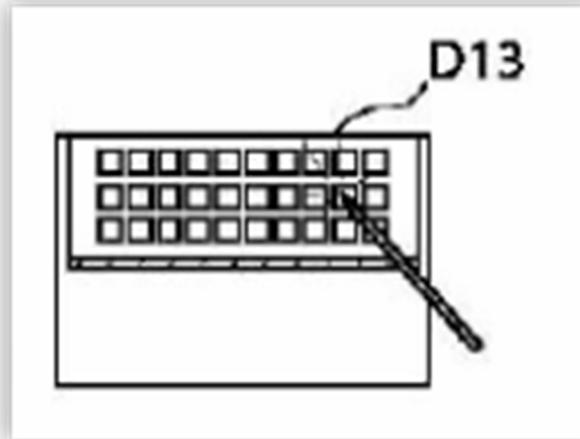


EX1005, FIG 13. As illustrated in Figure 13, every “OFF” event causes the processing to return to the coordinate detection steps S202, S203, S210. *Id.*, FIG 13, ¶[0055]; EX2001, ¶52. There are many more such examples in Hisatomi. *Id.*, e.g., ¶[0048, 0052, 0057].

In each instance disclosed in Hisatomi, processing is activated by detecting the coordinates of the pen-type stylus's touch on the touch sensitive screen (mouse down) at a corresponding pre-defined location. EX2001, ¶51. An "OFF" event (mouse up), terminates any active processing and loops back to the coordinate detection step. *Id.* Therefore, Hisatomi does not disclose a "tap-present state" with "tap-activatable icons." *Id.*

Petitioners assert that Hisatomi discloses tap-activatable icons, but do not cite any disclosure of tap-activation in Hisatomi. Petitioners cite the Bederson declaration for the proposition that "each icon is capable of selection (activation) by a user touching or tapping the icon with the pen device." Petition, 34; EX1002, ¶130. Bederson, however, fails to distinguish between touch-activation and tap-activation. EX1002, ¶130. He states that "touching an icon on the screen with the pen (i.e., performing a tap) will select an icon and its related function." EX1002, ¶130. But for support, he cites Hisatomi's disclosure that "[t]he touch panel sensor 11 on the image display screen 09 is touched by the pen-type input device 05, the coordinate is designated by this touch, and various functions can be selected." *Id.*, quoting EX1004, ¶[0015]. This quote describes touch-activation because the coordinates of the touch select the GUI function button to be activated, not the event of lifting off of those coordinates, as in tap-activation. EX2001, ¶55.

And Bederson cites Image D13 in Figure 15 of Hisatomi as illustrating “a user touch on an icon within a pull-out menu” (EX1002, ¶130), reproduced in pertinent part below:



EX1005, FIG 15. But Image D13 discloses touch-activation, as Bederson appears to acknowledge (“Image D13 in Figure 15 depicts a user touch on an icon within a pull-out menu”). It does not disclose tap-activation.

The text explaining Image D13 confirms that activation is by touch, not tap. There, Hisatomi discloses that if “the coordinate value detected at step S102” (of Figure 13, reproduced above) is not in the pullout menu trigger areas, “it is determined whether or not the specific function button (GUI function button) in the pull-out menu was selected by the input device 05 (S210); if it is selected, the selected function will be processed.” EX1005, ¶[0055]. Selection is determined by “the coordinate value detected at step S102” in Hisatomi, and activation is

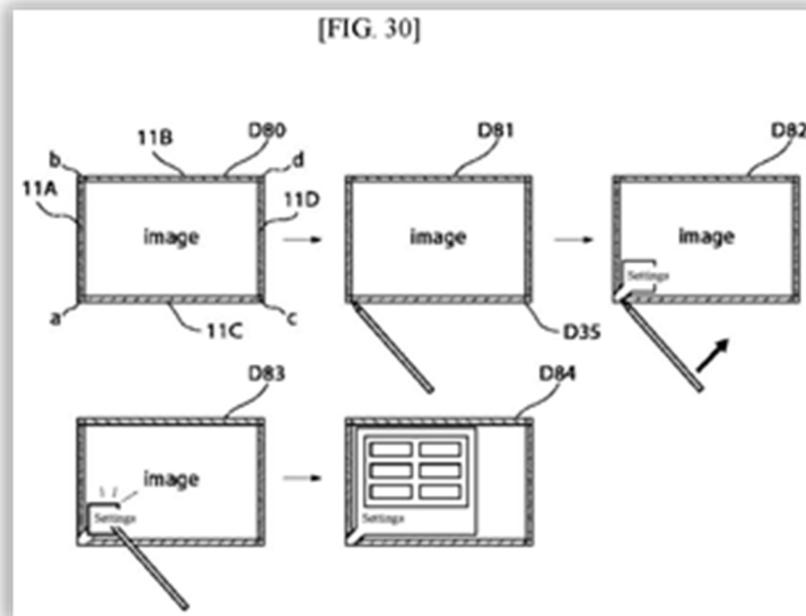
based on the coordinate value of the touch (“if it is selected, the selected function will be processed”), not by an “OFF” event (mouse up). *Id.*, EX2001, ¶59. To the contrary, an OFF event ceases processing and returns to coordinate detection.

EX1005, FIG 13.

Bederson cites “FIGS. 49, 50, 131” as supportive, but Figures 49 and 50 are essentially the same as Figures 13 and 15 with respect to touch activation of a GUI function button (EX1002 ¶130; EX1001 FIGs 13, 15, 49, 50), and Hisatomi has no Figure 131. Paragraph [0131] relates to accommodating left and right handed persons performing the drag operation to pull out a menu, not GUI function button activation, so it does not support Bederson either. EX1005, ¶[0131]. And Bederson cites paragraph [0189] as supportive, but there Hisatomi refers to executing processing corresponding to a GUI function button selected by the input device 05, and makes clear that an “OFF” event will return the processing to the coordinate detection step (“if the input device 05 goes OFF in this state, the process will return to step S1103 [coordinate location step, *see* FIG 49]”).

EX1005, ¶[0189], FIG 49.

The Petition also cites Figure 30 Image D84 as depicting a tap-present state. Petition, 35. Figure 30 is reproduced below:



EX1005, FIG 30. But the illustrations clearly collectively illustrate a drag-activation gesture, not tap-activation, as the accompanying text confirms.

Paragraph [0126], which Petitioners cite, states “[i]n such pop-up display state, as shown on screen D83 in FIG 20, when the input device 05 is slid to the upper right and reaches the inside of the start button area (S706) and then goes OFF, the menu display process related to the start button will be executed” EX1005, ¶[0126].

In other words, as shown in Figures D81-83, the input device touches the activation area, slides to the upper right, “and then goes OFF.” This text describes drag-activation, not tap-activation.

And Petitioners cite EX1005 ¶[0030] to support their argument that Hisatomi discloses tap-activation, but the text they quote expressly describes

touch-activation, not tap-activation. Petition, 35. The text Petitioners quote is “[B]y touching the soft button on the screen of the image display screen 09 with the input device 05, the coordinate...can be detected, and according to the detected coordinate information, the CPU21 will execute various functions.” *Id.*, quoting EX1005, ¶[0030]. This text describes touch-activation.

Accordingly, Petitioners fail to prove that Hisatomi discloses the element of a “tap-present state” wherein “a plurality of tap-activatable icons [...] are present, each [...] being activated in response to a tap on its respective icon.”

- b. **Hisatomi does not disclose a “user interface comprising at least two states, namely, (a) a tap-present state ... and (b) a tap-absent state.”**

Claim 1 of the ‘993 Patent recites a user interface having “at least two states,” one of which is “a tap-present state.” But as demonstrated in subsection a, above, the user interface of Hisatomi does not disclose “a tap-present state,” and so at most it discloses only one state, not the recited two, and that state is not “a tap-present state” as required by Claim 1.

Therefore, the Petition fails to demonstrate that Hisatomi discloses a “*user interface comprising at least two states, namely, (a) a tap-present state ... and (b) a tap-absent state.*”

- c. **Hisatomi does not disclose “transitioning the user interface from the tap-absent state to the tap-present state.”**

As shown in subsections a and b, above, Hisatomi does not disclose a tap-present state, nor does it disclose two states (one of which is tap present). It follows that Hisatomi does not disclose transitioning “from the tap-absent state to the tap present state.”

- d. **The Petition does not show that a POSA would have been motivated at the time of invention to modify Hisatomi in view of POSA knowledge or Ren.**

Petitioners assert that tap as disclosed and claimed in the ‘993 Patent (EX1001, 2:35-36, 4:41-42, FIG 4, 6:53-58), “was a well-known technique for selecting a target in a GUI” and “was one of the most common in 2002 as well as today,” citing Bederson, although they acknowledge that “variations of tap functionality existed.” Petition, 36. And they cite Ren as an example of a disclosure of tap-activation that would have been known by a POSA. *Id.*, 37.

Petitioners cite Bederson for the proposition that a POSA would have been motivated to modify Hisatomi’s touch-activatable GUI function buttons with “POSA knowledge” of tap-activation. Petition, 36-37, citing EX1002, ¶¶133-134. Bederson asserts that “tapping” “was a well-known technique for selecting a target in a GUI,” and that “[i]n the most common usage, touch screen interaction mirrored standard mouse usage,” in which “tap” operated in the same way as a

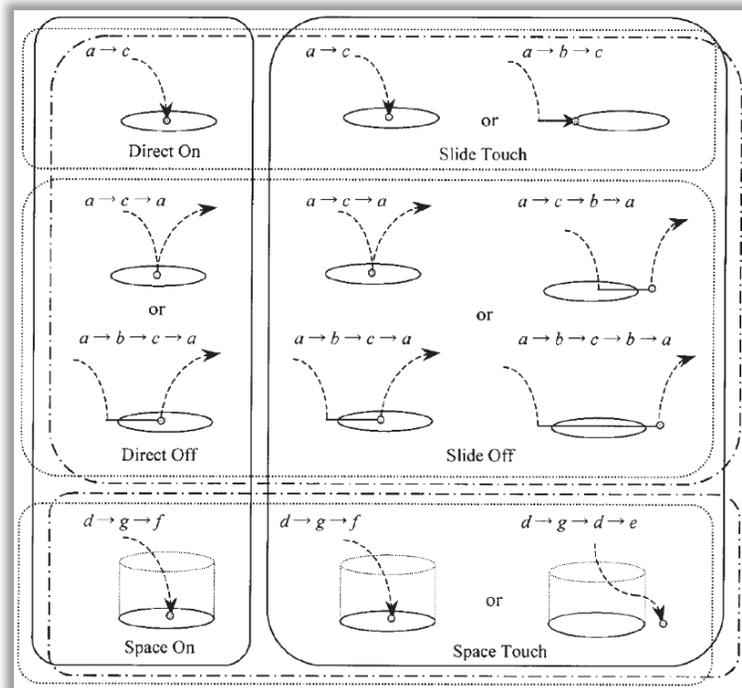
“click.” EX1002, ¶133. This generic reference to “POSA knowledge” of “tapping” does not cite any patents or printed publications, and therefore is not a permissible basis for instituting *inter partes* review. 35 U.S.C. §311. Nor does Bederson provide any motivation for a POSA to modify Hisatomi in view of Bederson’s alleged generic POSA knowledge of “tapping.” He also cites his own “code that was written to respond to mouse clicks [that] worked without change to respond to touch screen taps.” EX1002, ¶134. But again, Bederson’s code is not a patent or a publication, so it is not a permissible basis for instituting *inter partes* review under Section 311.

Bederson cites generally his own publication, *Does Zooming Improve Image Browsing?* (EX1014) in support of his assertion that his code responded to touch screen taps, but this reference is about zooming and does not disclose tap-activation. And he cites a dissertation by Dean Rubine, *The Automatic Recognition of Gestures* (EX1015), which states merely that a “knob responds to two gestures: it may be turned or it may be tapped” (EX1002, ¶134; EX1015, 67), references an unspecified “system” by “Minsky” in which allegedly “[t]apping a button caused it to execute” (EX1015, 29), and includes a Figure 2.11 that lists gestures allegedly supported by Go Corporation’s PenPoint system and includes “tap” (EX1015, Figure 2.11). But the Rubine dissertation references many

gestures, not just tap. Bederson provides no motivation for a POSA to modify Hisatomi's GUI function buttons in view of either Rubine or the Bederson paper.

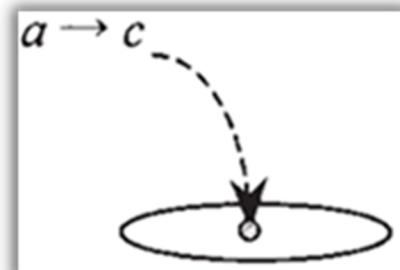
Ren is a research paper published in September, 2000. EX1006, 384. It discloses the results of two experiments comparing "pen-based selection strategies and their characteristics." *Id.* Ren "looks at selection strategies suitable for selecting small targets, and identifies and quantifies the influential factors that make strategies more or less efficient with a view to improving selection performance on pen-based systems." *Id.* at 386. Six selection strategies were tested in the experiments. *Id.*

The six activation strategies tested in Ren are illustrated in Ren Figure 3, reproduced below:



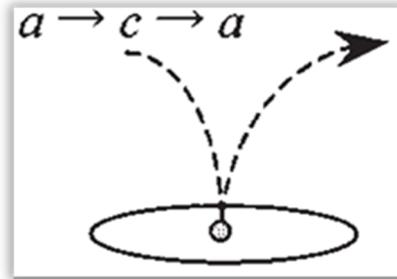
EX1006, FIG 3. The arrows show the direction of pen-tip movement. *Id.*, at 389. “The dashed lines indicate that the pen-tip is not in contact with the screen surface (either before or after contact),” and the solid lines “show that the pen-tip is in contact with the screen surface. *Id.* The six activation strategies were (1) *Direct On*, (2) *Slide Touch* (two variations), (3) *Direct Off* (two variations), (4) *Slide Off* (four variations), (5) *Space On*, and (6) *Space Touch* (two variations). *Id.*, at 389-391.

The *Direct On* strategy is a touch activation strategy as taught in Hisatomi. EX2001, ¶69. “The target is selected only momentarily at the time the pen makes contact with the screen in the target area” (EX1006, at 389), as illustrated in Ren Figure 3, reproduced in pertinent part below:



EX1006, FIG 3; EX2001, ¶69. And the *Direct Off* strategy is a tap-activation strategy as taught in the ‘993 Patent. EX2001, ¶69. “[T]he target is highlighted only while the pen is touching it,” and “selection is made at the moment the pen is

taken off the target” (EX1006, at 390), illustrated in Ren Figure 3, reproduced in pertinent part below:



EX1006, FIG 3; EX2001, ¶69. According to Ren, the *Direct On* and *Direct Off* strategies were both “already in common use” as of September 2000, when Ren was published. Ex. 1006, at 391.

Ren was directed to the problem that “[i]n small pen-based systems,” accessing information by the selection of a target” has resulted in smaller targets as the amount of information displayed on the screen increases. EX1006, at 385. And “[t]his is especially obvious in mobile products, such as personal digital assistants (PDAs), personal information managers (PIMs), and other mobile pen-based applications.” *Id.* The object of the experiments in Ren was to examine “selection strategies suitable for selecting small targets,” and identify and quantify “the influential factors that make strategies more or less efficient with a view to improving selection performance on pen-based systems.” EX1006, at 386.

Petitioners and Bederson posit that the “tapping” activation strategy “was one of the most common in 2002,” and “the vast majority of touch screen interfaces in 2002 relied primarily on simple tap or drag focused interfaces.” Petition, 36-37, 38; EX1002, ¶¶133-134. And this supposition is based in part on the rationale that “[a] ‘tap’ operates in the same way as a ‘click,’” so according to Petitioners the use of tap-activation in full-sized systems with touchscreens and mouse input devices would have motivated a POSA to modify Hisatomi’s touch-activation strategy on a “portable information processing device” such as “a notebook-sized portable information terminal” or “PDA” to employ the tap-activation strategy taught in the ‘993 Patent for hand-held devices. EX1005, ¶[0012]; Petition, 36-37; EX1002, ¶133. But this rationale was the very proposition that Ren tested, and Ren does not support the conclusion urged by Petitioners and Bederson.

The only teaching of Ren that Petitioners and Bederson cite to support their argument—other than the bare fact that *Direct Off* was one of the six strategies tested—is that Ren “teaches the desirability of using the tap or *Direct Off* technique, for example, in dense displays where targets are close together.” Petition, 38; EX1002, ¶136. Both cite Ren, page 403. But this half-truth materially misrepresents Ren’s teaching. At the cited page, Ren teaches that of the six tested strategies, the four *In-Out* activation strategies were not efficient in dense

displays, such as the touch screens of portable devices, and “[i]n dense displays the *Direct On* and *Direct Off* strategies (*In* strategy group) can be used.” Ex. 1006, at 403. Contrary to Petitioners’ and Bederson’s argument that Ren teaches a preference for *Direct Off* in dense displays where targets are close together, in fact Ren teaches that either *Direct On* or *Direct Off* may be used in dense displays, and Ren offers no reason to prefer one over the other in that context. EX2001, ¶71.

Furthermore, contrary to Petitioners’ and Bederson’s supposition that a POSA would have viewed *Direct Off* as preferable to *Direct On*, Ren provided the POSA with reason to view *Direct On* as the preferred activation strategy for dense displays. Ex. 2001, ¶72. Ren confirmed experimentally that activation happens faster with *Direct On* because the processing begins immediately. *Id.* In contrast, with *Direct Off* the user has to first perform a *Direct On* before lifting the finger or stylus to activate the processing. *Id.* In Ren, Figure 5 shows that the selection time was faster with *Direct On* (1027.5ms) compared to *Direct Off* (1543.9ms) in Experiment 1. EX2001, ¶72; EX1006, FIG 5. And in Ren’s Experiment 2, where smaller icons were used in the test, Figure 11 shows that the selection times were even faster with *Direct On* (1079.5ms) compared to *Direct Off* (1615.3ms). EX2001, ¶72; EX1006, FIG 11. Both experiments in Ren concluded that in terms of activation time, *Direct On* was preferable to *Direct Off*. EX2001, ¶72.

So Ren provides no motivation for the POSA to reject the *Direct On* touch-activation strategy in favor of the *Direct Off* tap-activation strategy. EX2001, ¶¶71-73. And in fact, Ren teaches that *Direct On* offers greater efficiency compared to *Direct Off* in the context of the small activatable icons that you would expect to find on small touch sensitive screens. *Id.* The POSA would not have perceived *Direct On* as a deficiency in Hisatomi that required modification. *Id.* He would therefore have had no motivation to make Petitioners’ proposed substitution. *Arctic Cat Inc. v. Polaris Indus., Inc.*, 795 Fed. Appx. 827, 832-34 (Fed. Cir. 2019).

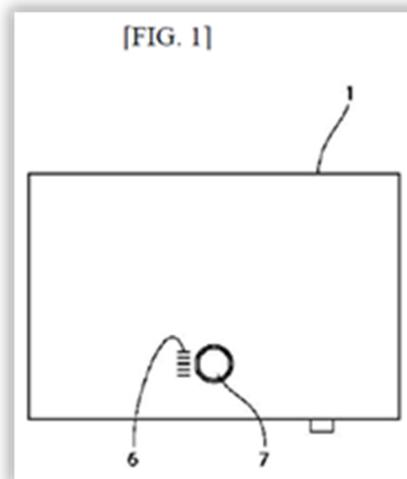
While tap may have been one of the many activation strategies known to a POSA (*see, e.g.*, EX1006, 391; EX2001, ¶¶62-63), the Petition does not show that a POSA would have been motivated to modify Hisatomi to reject the touch-activation strategy it teaches in favor of the tap-activation strategy taught by the ‘993 Patent. Nor does the Petition show such a motivation to modify Hisatomi in view of alleged generic “POSA knowledge” of tap.

- e. **The Petition does not show that Hisatomi discloses “icons for ... system functions,” “each system function being activated in response to a tap on its respective icon.”**

Petitioners do not address the issue of whether the GUI function buttons disclosed in Hisatomi represent “system functions” as recited in Claim 1 of the

‘993 Patent. Nor does Bederson provide any support for “system function” icons in Claim 1 of Hisatomi. But with reference to dependent Claim 6, which also recites “system functions,” both Petitioners and Bederson argue that Hisatomi discloses “system functions” in paragraphs [0013-14] and Figure 1 (for Hisatomi, Petitioners and Bederson confusingly cite to EX1004, Bederson’s CV, an error repeated throughout by Petitioners and Bederson). Petition, 60-61, EX1002, ¶178. They are plainly wrong.

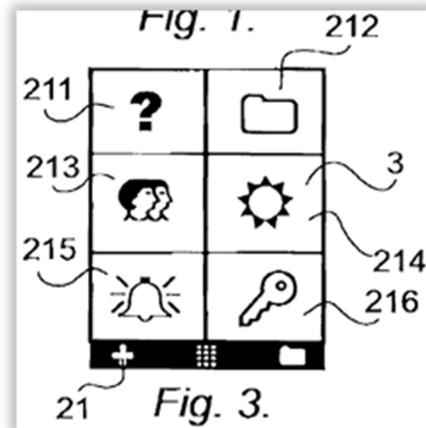
Hisatomi paragraphs [0013-0014] describe hardware—that the disclosed device is equipped with a camera 07, microphone 06, and shutter switch 08. EX1005, [0013-14]; EX2001, ¶83. The shutter switch is clearly a two-position mechanical switch. *Id.* And Figure 1 illustrates the side of the device that contains the camera and microphone hardware, reproduced below:



EX1005, FIG 1. The “GUI function buttons” taught by Hisatomi are not disclosed in paragraphs [0013-0014], they are not illustrated on Figure 1, and they are not icons for “system functions” as described and claimed in the ‘993 Patent. EX2001, ¶83.

The ‘993 Patent describes a portable electronic device with a user interface that is a computer program product. EX1001, 6:34-40. “[T]he computer program product is adapted to function as a shell upon an operations system.” *Id.*, 6:41-43. And the electronic device “is adapted to run several applications simultaneously and to present an active application on top of any other application on the display area.” *Id.*, 3:66-4:1.

The specification of the ‘993 Patent describes two embodiments of the user interface. In the first embodiment, if the first function 21 as shown in Figure 3 is activated, “then the display area 3 is adapted to display icons 211, 212, 213, 214, 215, 216 representing services or functions depending on the current active application.” EX1001, 4:20-23; 2:25-29. Figure 3, illustrating the first function 21, is reproduced below:



EX1001, FIG 3. The specification gives an example of the active application of the first embodiment, a photo editing application that “handles a picture,” where “the icons that are shown when the first function is activated can be services such as ‘save to disk’, ‘send as SMS’, or ‘delete’ and they can be settings such as ‘resolution’, ‘colour’, or ‘brightness’.” EX1001, 4:31-35.

In the second embodiment described in the ‘993 Patent’s specification, if the first function 21 as shown in Figure 3 is activated and “no application is currently active on the computer unit, then the icons 211, 212, 213, 214, 215, 216 are adapted to represent services or settings of the operations system of the computer unit, such as background picture, clock, alarm 215, users 213, help 211, etc.” EX1001, 4:36-40; 2:31-34.

Petitioners have cited nothing from Hisatomi to suggest a disclosure of GUI function buttons that represent “system functions.” The Petition fails to show that the GUI function buttons disclosed in Hisatomi represent “icons for ... system

functions,” “each system function being activated in response to a tap on its respective icon.”

2. **Ground 2A: The Petition does not show that independent Claim 1 of the ‘993 Patent would have been obvious over the combination of Hansen in view of Gillespie.**

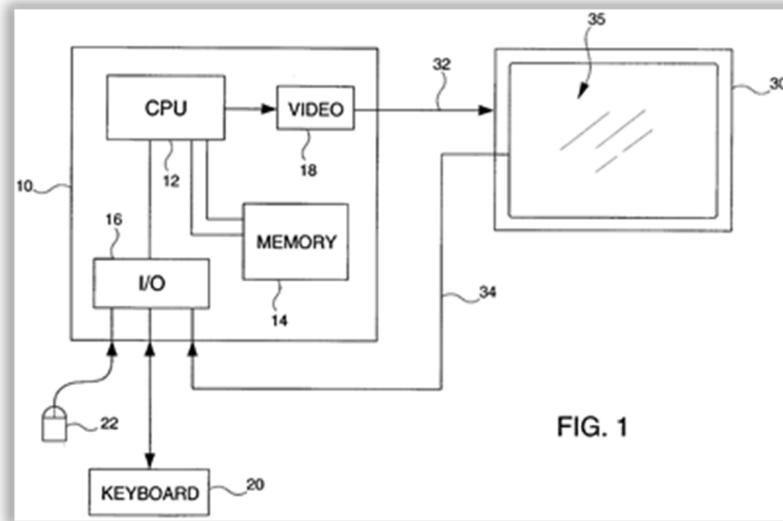
a. **Hansen does not disclose “a processor of an electronic device having a touch-sensitive display screen.”**

The ‘993 Patent “relates to a user interface for a mobile handheld computer unit, which computer unit comprises a touch sensitive area.” EX1001, 1:14-16. A problem the invention solves is “to provide a user-friendly interface that is adapted to handle a large amount of information and different kinds of traditional computer-related applications on a small handheld computer unit.” *Id.*, 1:59-62. Another problem is “to provide a small handheld computer unit with an easily accessible text input function.” *Id.*, 1:66-67. And another problem it solves is “to provide a simple way to make the most commonly used functions for navigation and management available in the environment of a small handheld computer unit.” *Id.*, 2:1-4.

Consistent with the specification, Claim 1 of the ‘993 Patent recites “a non-transitory computer readable medium storing instructions” that “cause the processor to enable a user interface of the device.” EX1001, 6:50-53. Here, the preamble of Claim 1 is limiting because it provides antecedent basis for the “the

user interface” and “the display screen” limitations of the claim. *Pacing Techs., LLC v. Garmin Intern., Inc.*, 778 F.3d 1021, 1024 (Fed. Cir. 2015). The “processor” of Claim 1 is “a processor of an electronic device having a touch-sensitive display screen.” *Id.*, 6:51-52. Based on the specification and Claim 1 of the ‘993 Patent, a POSA at the time of the invention would have understood Claim 1 to be drawn to a unitary electronic device, having both a processor element and a touch-sensitive display element. EX2001, ¶87.

Hansen does not disclose an electronic device including both a processor and a touch-sensitive display. Rather, Hansen discloses a conventional desktop computer system, comprising a computer board having a central processing unit (CPU), an input/output port, and a video controller. EX1029 3:51-54. Input devices include an external keyboard and mouse. *Id.*, 3:54-57. And the display is an external conventional video monitor coupled to the computer board’s video controller by a lead. *Id.*, 4:10-13. Figure 1 of Hansen illustrates the distinct components of the disclosed system:



EX1029, FIG 1.

In Hansen’s Figure 1, Element 10 is a computer board “which includes a Central Processing Unit (CPU) 12, a memory unit 14, an input/output port 16 and a video controller 18.” EX1029, 3:51-54. Element 30 is the video monitor, coupled by a lead to the video controller 18. *Id.*, 4:10-11. “[T]he video monitor 30 is equipped with a touch-sensitive screen 35, which overlays the video monitor.” *Id.*, 4:8-10. The touch-sensitive screen is coupled to the input/output port by a lead 34, which carries an electrical signal that “is read by the CPU 12 to produce an X,Y signal that indicates where a user has touched the touch-sensitive screen 35.” *Id.*, 4:15-19. Hansen provides an example of the touch-sensitive screen 35 (EX1029, 4:20-23), the “Mac-n-Touch” made by the Micro-Touch company, shown below:



EX2003 (Copyright 1988).

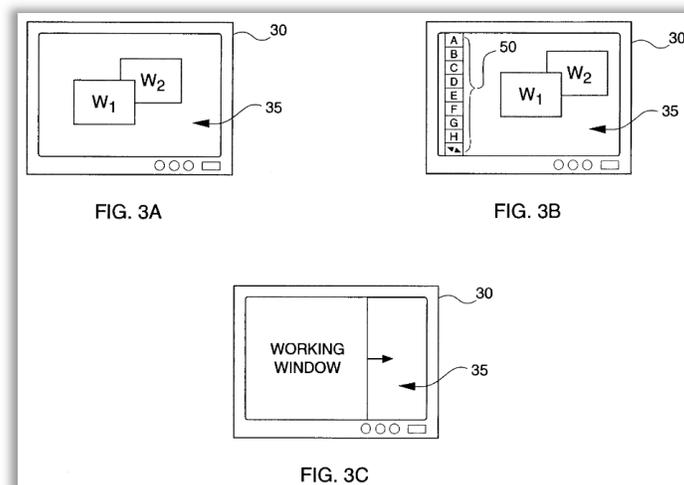
In Hansen, the CPU, video monitor, and touch-sensitive screen are three distinct electronic devices. The “electronic device” with the processor disclosed in Hansen, the CPU, does not have a touch-sensitive display screen. EX2001, ¶91. And the “electronic device” with the “touch-sensitive display screen” is one electronic device (a video monitor), overlaid by another electronic device (a touch-sensitive screen), neither of which has a processor. *Id.* Rather, the electronic device with the processor, the CPU, is connected by a lead to the external display monitor and a lead to the external touch-sensitive overlay. *Id.*

Petitioners assert that the claims of the ‘993 Patent are obvious over the combination of Hansen in view of Gillespie, but their only citation to Hansen for the element of a “processor of an electronic device having a touch-sensitive display

screen” is the conventional desktop constellation of discrete electronic devices of Hansen. They do not explain how Hansen discloses a unitary device as recited in the preamble, having both a processor and a touch-sensitive display screen; they simply offer Bederson’s *ipse dixit*. But Hansen does not disclose such a device, and Petitioners’ (and Bederson’s) conclusory assertions are not enough to carry their burden. *Apple Inc. v. Voip-Pal.com, Inc.*, 976 F.3d 1316 (Fed. Cir. 2020). Because Petitioners’ proposed combination omits a limitation of claim 1, Ground 2A fails.

- b. Hansen does not disclose a “tap-present state” wherein “a plurality of tap-activatable icons [...] are present, each [...] being activated in response to a tap on its respective icon.”

Petitioners and Bederson rely on Hansen’s Figure 3B as a disclosure of a “tap present” state. Petition, 64; EX1002, ¶185. Figures 3A through 3C are reproduced below:



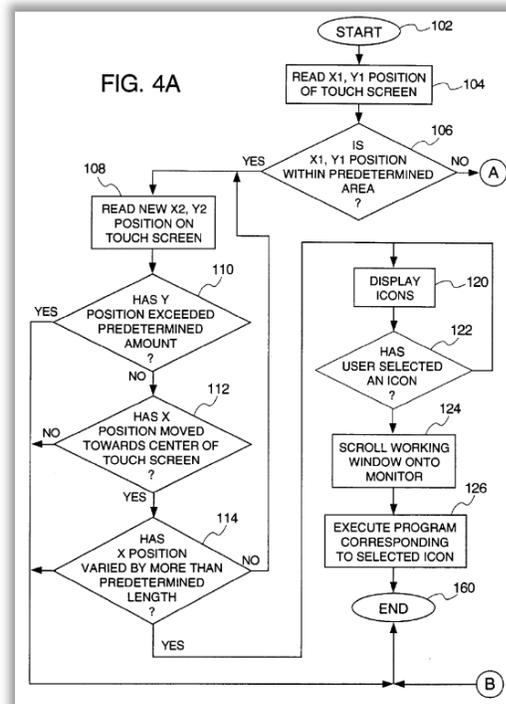
EX1029, FIGs. 3A-3C. Figure 3A “illustrates the video monitor 30 before the user has drawn the first predetermined input stroke to bring forth the working window.” *Id.*, 5:9-11. When the user performs the “first predetermined input stroke,” the “CPU displays a plurality of icons 50,” and “[e]ach icon A-H corresponds to a computer program that can be run in the working window” *Id.*, 5:14-19. The display illustrated by Figure 3B “remains on the video monitor until the CPU 12 detects a second predetermined user input stroke.” *Id.*, 5:23-25. Bederson asserts that the “second predetermined user input stroke” is a tap that is executed by the user on the icons A-H illustrated in Figure 3B. EX1002, ¶186.

In Hansen’s specification “[t]he second predetermined user input stroke is defined as momentarily touching one of the plurality of icons displayed on the screen.” EX1029, 2:56-58; 5:33-35; 7:52-54. “Upon touching the touch-sensitive screen 35, the CPU generates a second electrical signal corresponding to [the] second user input stroke.” EX1029, 5:26-28. The CPU then “compares the second electrical signal to a second predetermined electrical signal” (EX1029, 5:28-30) to determine which, if any, of the icons was selected by the second predetermined user input stroke (EX1029, 5:30-33), displays a “working window on the screen 35” (EX1029, 5:36-40), and “executes the computer program corresponding to the icon selected by the second predetermined user input stroke” (EX1029, 5:48-51).

The program represented by the selected icon runs in the working window.

EX1029, 5:52-53.

The processing flow is illustrated by Figure 4A of Hansen, reproduced below:



EX1029 Fig. 4A.

After the icons are displayed in step 120, the program determines whether the user has selected an icon using the second predetermined user input stroke in step 122. EX1029, 7:50-65. This is determined “by reading the X,Y coordinates corresponding to where the user has touched the touch-sensitive screen 35 and comparing those coordinates to a list of X,Y coordinates for each icon.” *Id.*, 7:54-59. “If the user has touched the touch-sensitive screen 35 at a point that is occupied

by one of the icons displayed on the video monitor 30, the CPU 12 determines that the user has selected that icon.” *Id.*, 7:59-62. The method proceeds to block 124 to open the working window, and block 126 to execute the program corresponding to the selected icon. EX1029, 7:67-8:6.

A POSA would have understood that Hansen discloses icon activation in Figure 3B by touch, not tap. EX2001, ¶102. The flow chart of Figure 4A and the corresponding explanatory text rely upon the X,Y coordinates of the user’s touch exclusively to determine the selected icon representing the program to be activated in the working window. *Id.* There is no determination of whether the input device has lifted off of the touch-sensitive display as a step in any of the processing related to activation of icons A-H. *Id.*

Bederson asserts that “[i]n response to icon selection, a ‘working window associated with the icon selected by the user is scrolled onto the video monitor 20’ such that the computer program is ‘activated in response to a tap on its respective icon,’ as recited.” EX1002, ¶103. This mish-mash of quotes is misleading. The first internal quote (“working window associated with the icon selected by the user is scrolled onto the video monitor 20”) is from Hansen, and it corresponds to Bederson’s citation of EX1029, 5:36-46. But this Hansen quote says nothing about how the icons are activated. EX2001, ¶103. The second quote, which references tap-activation, is not from Hansen, but rather from Claim 1 of the ‘993 Patent. *Id.*;

EX1001, 6:57-58. There is no mention of “tap” anywhere in the text from Hansen that Bederson cites. EX2001, ¶103. Nor is “tap” mentioned, whether literally, by words to that effect, or even described functionally, anywhere in Hansen. EX2001, ¶103.

Petitioners and Bederson argue that the claims of the ‘993 Patent are obvious over the combination of Hansen in view of Gillespie, but they do not cite Gillespie for the element of a “*tap-present state*” wherein “*a plurality of tap-activatable icons [...] are present, each [...] being activated in response to a tap on its respective icon.*” Nor do they cite any other reference for that limitation. And they do not show any motivation for a POSA to modify Hansen’s touch-activated icons to incorporate tap-activation.

The Petition fails to show that Hansen discloses “*tap-present state*” wherein “*a plurality of tap-activatable icons [...] are present, each [...] being activated in response to a tap on its respective icon.*”

- c. **Hansen does not disclose a “*user interface comprising at least two states, namely, (a) a tap-present state ... and (b) a tap-absent state.*”**

Hansen does not disclose “tap-activatable icons,” so it follows that Hansen does not disclose a “user interface comprising at least two states” defined respectively by the presence and absence of tap-activatable icons. According to Petitioners and Bederson, Hansen Figure 3B illustrates a tap-present state. Petition,

64, EX1002, ¶185. But as shown in subsection b, above, the display illustrated in Hansen Figure 3B is tap-absent. Petitioners and Bederson have not shown a “tap-present state,” so they have not shown a “user interface comprising at least two states” in which one is “a tap-present state.”

Petitioners and Bederson argue that the claims of the ‘993 Patent are obvious over the combination of Hansen in view of Gillespie, but they do not cite Gillespie for “a tap-present state.” EX2001, ¶106. Nor do they provide a motivation for a POSA to modify Hansen’s single tap-absent state by adding a second tap-present state in view of Gillespie. *Id.*

The Petition fails to show that Hansen discloses “user interface comprising at least two states, namely, (a) a tap-present state ... and (b) a tap-absent state .”

- d. **Hansen does not disclose “transitioning the user interface from the tap-absent state to the tap-present state.”**

As shown in subsections b and c, above, Hansen does not disclose a tap-present state, nor does it disclose two states (one of which is tap present). It follows that Hansen does not disclose transitioning “from the tap-absent state to the tap present state.”

- e. **Hansen does not disclose “icons for [...] system functions,” “each system function being activated in response to a tap on its respective icon.”**

Petitioners assert that the icons A-H illustrated in Figure 3B, reproduced above, are a “plurality of pre-designated system functions.” Petition, 65-66; EX1002, ¶187. They cite Hansen’s specification, defining “icons” in the prior art as “graphical representations of various computer programs [that] are displayed on a computer screen.” *Id.*; EX1029, 1:34-43. And they assert, without any support or explanation, that “a POSA would have understood a computer program to be at least one type of ‘system function.’” Petition, 66. This alleged understanding is an incorrect reading of Hansen.

Hansen discloses that “[t]he plurality of icons correspond to a plurality of computer programs.” EX1029, 2:45-47; 5:17-20. “After the user has selected one of the plurality of icons,” the processing displays a “working window,” and “continues with the step of executing the computer program corresponding to the icon selected by the second user input stroke” EX1029, 7:66-8:5. The processing associated with “executing the computer program corresponding to the icon” is illustrated in Figure 4A, reproduced below:



EX1029, FIG 4A.

A POSA would understand that the “plurality of computer programs” selected by the user and executed in Hansen are applications. EX2001, ¶113. The POSA would understand that Hansen discloses a method for opening applications on a touch-sensitive screen based on the coordinates of the touch in relation to icons representing the applications. *Id.* A disclosure of icons that are configured to launch an application is distinct from a disclosure of icons that are configured to activate a plurality of pre-designated system functions. EX2001, ¶125. Hansen does not disclose icons that activate a plurality of pre-designated system functions. *Id.*

The Petition fails to show that Hansen discloses “icons for a respective plurality of pre-designated system functions,” “each system function being activated in response to a tap on its respective icon.”

3. **Petitioners have not shown that Claims 2-8 would have been obvious because they have not shown that Claim 1, from which Claims 2-8 depend, would have been obvious.**

“A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.” 35 U.S.C. § 112(d).

Consequently, Claims 2-8 incorporate all of the limitations of Claim 1, and as demonstrated in subsections A,1-2, above, the Petition fails to show that all of the limitations of Claim 1 are disclosed in the cited prior art combinations of Hisatomi-POSA Knowledge and/or Ren and Hansen-Gillespie.

- B. The PTAB should deny the Petition because institution of this proceeding under § 314(a) would not be consistent with the objective of the AIA to “provide an effective and efficient alternative to district court litigation.”**

Institution of *inter partes* review is discretionary. See 35 U.S.C. § 314(a); *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) (section “314(a) invests the Director with discretion on the question whether to institute review”) (emphasis omitted); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) (“[T]he agency’s decision to deny a petition is a matter committed to the Patent Office’s discretion.”); *see also* 37 C.F.R. § 42.4(a) (“The Board institutes the trial on behalf

of the Director.”). “[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016). The PTAB should exercise its discretion to deny institution when institution would not be consistent with the objective of the AIA to “provide an effective and efficient alternative to district court litigation.” *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential). That condition exists here.

A common issue in both the district court and the Petition is the priority date of the ‘993 Patent. The ‘993 Patent was filed on December 4, 2011, and is a continuation of an application filed on December 10, 2002. EX1001. But in prior litigation, *Motorola Mobility, Inc. v. Apple Inc.*, Civil Action No. 1:10cv023580 (S.D.FLA), officers of Neonode testified that reduction to practice and conception occurred much earlier.

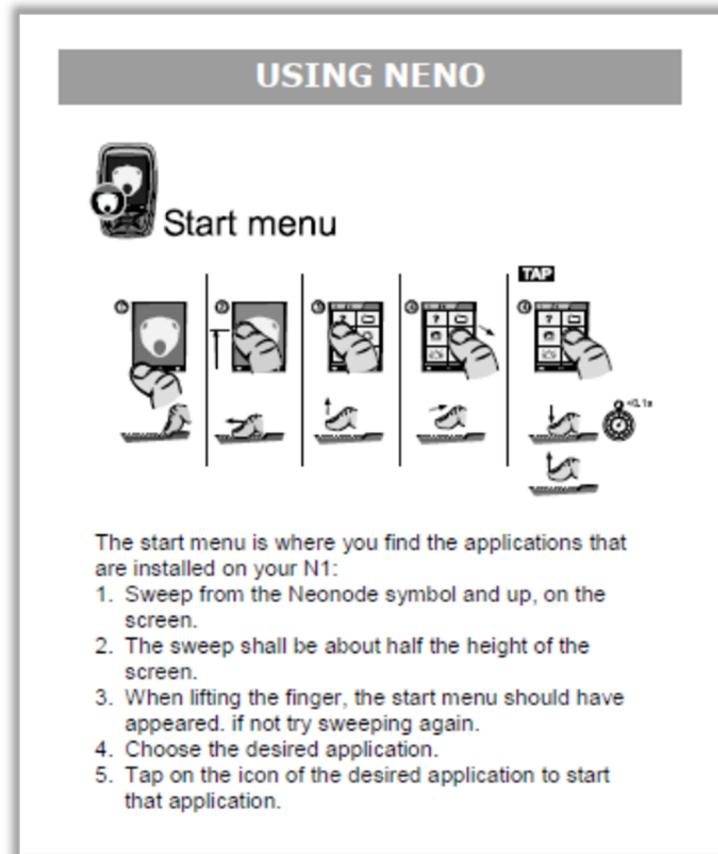
Joseph Shain, Vice President of Intellectual Property of Neonode, testified that Neonode began working on the first commercial embodiment of the invention claimed in the ‘993 Patent, the N1 Phone, in 2001. EX2005, at 8:18-21. Those primarily involved were Thomas Eriksson and inventor Magnus Goertz. *Id.*, at 8:20-22. The N1 Phone was first announced to the public in 2001. *Id.*, at 9:14-17. Eriksson and Goertz continued working on development of the N1 for over three years. *Id.*, at 8:23-9:2. Neonode founder and ‘993 inventor Magnus Goertz and

co-founder Thomas Eriksson attended the March 2002 CeBIT (Centrum für Büroautomation, Informationstechnologie und Telekommunikation) conference in Hanover, Germany, where the N1 prototype was demonstrated. *Id.*, 10:3-6.

Thomas Eriksson, a Neonode founder, confirmed that he demonstrated the N1 prototype at CeBit in March 2002. EX2005, at 12:22-13:1. The prototype had a gesture-based user interface, including a gesture that was a swipe from one side of the phone to the other that unlocked the N1 prototype. *Id.*, at 14:6-15:9.

Neonode handed out literature at the March 2002 CeBit that described the gesture-based user interface. *Id.*, 16:18-24.

The user interface of the N1 Phone was an embodiment of claim 1 of the '993 Patent. The N1 Phone had a user interface known as "Neno." EX2012, 9-21. The N1 Phone shipped with a Quick Start Guide that explained how to interact with the device by swiping a finger or thumb across the display to transition to a Start Menu, which when displayed has tap-activatable icons. *Id.*, 11. The swipe and tap gestures are illustrated in the Quick Start Guide as reproduced below:



EX2012, 11.

As explained in the Quick Start Guide, when the user turns the phone on, the display will show the “Neonode symbol,” along with three icons in the lower portion of the display. Each icon represents a menu – the Start Menu, the Keyboard Menu, and the Tools Menu. There are no tap-activatable icons on the display at that time. A user opens the Start Menu by touching the display at the location of the “Neonode symbol,” which is located in the lower portion of the display, and gliding upward along the display with a thumb or finger. The display will then transition to the Start Menu, presenting a set of six icons. The icons

include a file manager, help and alarm icon. The user may activate any of these icons by tapping on it. It is reasonable to infer that the N1 phone demonstrated in March 2002 functioned in the same way; if so, then the phone demonstrated in March 2002 was already programmed with functionality covered by the '993 Patent.

Thus, the evidence currently available already suggests that the invention claimed in the '993 Patent was conceived well before '993 Patent's December 10, 2002 priority date, indeed well before the reduction to practice demonstrated in March 2002, and diligently reduced to practice. This is important, because Hisatomi, the primary reference in Petitioners' Hisatomi-Ren combination, has a publication date of February 20, 2002, just weeks before Mr. Eriksson demonstrated the N1 prototype with the claimed user interface at CeBIT in Germany. EX1005, at 2.

To prove the true priority date, however, Neonode will need testimony from the inventor, Mr. Goertz, as well as corroborating evidence in the form of documents or, possibly, testimony of a third party witness such as Mr. Eriksson. Mr. Goertz and Mr. Eriksson also likely possess knowledge and documents relevant to the commercial success of Neonode's N1 phone and successor models, and industry praise for the user interface. However, Mr. Goertz and Mr. Eriksson

both reside in Sweden. EX2007, Exhibit A (Dkt. 43-1, at 7). Neither witness is subject to jurisdiction in the United States.

Recognizing this fact, Apple raised the need for foreign discovery on the issues of conception and reduction to practice for the purpose of establishing the ‘993 Patent’s priority date from at least the inventor, Mr. Goertz, at the October 23, 2010 case management conference in the District Court. EX2006, at 12:14-13:9; 14:5-15. Neonode responded that it did not control Mr. Goertz and could not provide the requested discovery in a deposition of Neonode under Rule 30(b)(6) of the Federal Rules of Civil Procedure. *Id.*, 15:6-24. The District Court agreed that the foreign discovery should be allowed. *Id.*, 18:10-21.

Both the United States and Sweden are signatories to the Hague Convention on the Taking of Evidence Abroad in Civil and Commercial Matters (“the Hague Convention”). T.I.A.A. 7444, 23 U.S.T. 2555, reprinted in 28 U.S.C. § 1781. EX2007, 1. The procedure for compelling testimony and production of documents in Sweden under the Hague Convention is complex. The process begins with a Motion to Issue a Letter of Request under Rule 28(b) of the Federal Rules of Civil Procedure, to be filed in the district court. EX2010, ¶7.

On February 9, 2021, Neonode filed a Motion for Issuance of Letter of Request for the depositions of Mr. Goertz and Mr. Eriksson in Sweden and a production of documents in their possession relevant to conception, reduction to

practice, commercial success, and industry praise. EX2007. And on March 9, 2021, Apple likewise moved for a Letter of Request seeking the deposition of Mr. Goertz and a broader production of documents, including those relevant to priority. EX2008. Neither motion was opposed. Neonode's motion was granted by the District Court on March 9. EX2009. The District Court has not ruled on Apple's motion.

After the District Court issues the Letter of Request, it must be submitted to the Swedish Ministry of Justice. EX2010, ¶7. The Ministry of Justice then forwards the Letter of Request to the Swedish judicial authority with jurisdiction over the matter, typically the district court with jurisdiction over the person to provide evidence. *Id.*, ¶9. The judicial authority examines the Letter of Request and determines whether it appears to comply with the Hague Convention and with all declarations and reservations filed by Sweden in connection with the Hague Convention. *Id.*

Even if a Letter of Request is determined to be proper under Sweden's declarations to the Hague Convention, Swedish procedural rules apply to the execution of the request. EX2010, ¶13. The party seeking to obtain the documents must specify the particular documents to be produced and what is to be proven with each document. *Id.* If the Swedish judicial authority determines that a request for production of documents fails to specify precisely the documents to be

produced, or to identify precise themes of proof or a narrowly-defined category of documents, the judicial authority will not execute the Letter of Request. *Id.*, ¶14.

This Swedish judicial review process typically takes at least one to two months. EX2010, ¶15. When completed, the Swedish judicial authority sends a letter to the requesting U.S. court explaining the judicial authority's determination and, if the determination is adverse to discovery, the U.S. court may be given an opportunity to submit a statement responding to the matters referenced in the determination. *Id.*

If the Letter of Request is judged to be enforceable, the examination of the witness and production of documents will be scheduled to take place at a Swedish court and the U.S. district court will be notified in advance. EX2010, ¶16. The time for the examination and production is likely to be at least 1-2 months after the determination on enforceability. *Id.*

Consequently, it will likely be necessary to submit multiple Letters of Request to obtain document discovery as broad as that sought by parties to U.S. litigation. EX2010, ¶17. It may be necessary to examine the witness just to learn the identity of relevant documents in sufficient specificity to include them in a second letter of request seeking those documents. *Id.* The result is that it may take substantially more than six months, excluding any time expended obtaining the

Letter of Request from the district court, to obtain discovery of documents from a witness in Sweden. *Id.*, ¶18.

If the PTAB decides to institute this *inter partes* review, Neonode's response to the Petition will be due in mid-September. So it is highly unlikely that the discovery from Mr. Goertz and Mr. Eriksson will be available to Neonode to prove the '993 Patent's true priority date in time for its response to the Petition.

As noted above, the true priority date of the '993 Patent is important to Neonode's response to the Petition, because it is likely that two of Petitioners' references are not prior art. Hisatomi has a priority date (publication date) of February 20, 2002, several months after Mr. Shain testified commercialization began on the Neonode phone embodying the claimed gestural interface and just a few weeks before Mr. Goertz demonstrated the N1 prototype with the claimed user interface at CeBIT in Germany. EX1005, at 2. And Gillespie, part of the Hansen-Gillespie combination, has a filing date of April 17, 2002, after the CeBIT show at which the prototype was demonstrated. EX1030.

In sum, both parties and the district court agree that establishing the true priority date of the '993 Patent requires discovery from Sweden. And the priority date of the '993 Patent is also a crucial issue common to the district court case that will have to be decided by the PTAB if the Petition is granted. But due to the procedural requirements of the Hague Convention and Swedish law, it is unlikely

that either party can complete discovery in Sweden before September, 2021.

Consequently, instituting an *inter partes* review on the issues raised by the petition would deprive Patent Owner of the practical ability to take discovery of the two witnesses – Mr. Goertz and Mr. Eriksson – with unique knowledge of the conception and reduction to practice of the invention claimed in the patent at issue in this proceeding. Conversely, deferring to the district court would allow discovery on this issue to be completed in a manner that accommodates the requirements of Swedish law, and would enable the priority issue to be fully and fairly litigated. Accordingly, the PTAB should exercise its discretion to deny institution under 35 U.S.C. §314(a).

C. The PTAB should exercise its discretion to deny institution under 35 U.S.C. § 325(d) as to Hansen-Gillespie because Hansen was considered by the Examiner and Gillespie is substantially the same as the art before the Examiner.

Under section 325(d), the PTAB uses a two-part framework to determine whether to exercise its discretion to deny the Petition: (1) whether the same or substantially the same art or arguments previously were presented to the Office; and (2) if either condition is met, whether the Petitioner has shown that the Office erred in a manner material to the patentability of challenged claims. *Advanced Bionics, LLC v. Med-El Elektromedizinische Gerate GMBH*, IPR2019-01469, Paper 6, at 8 (PTAB Feb. 13, 2020) (precedential). If a condition of the first part

of the analysis is satisfied but the Petitioner fails to show material error, “the Director generally will exercise discretion not to institute *inter partes* review.” *Id.*, at 9. “If reasonable minds can disagree regarding the purported treatment of the art or arguments, it cannot be said that the Office erred in a manner material to patentability.” *Id.*

The PTAB’s determination under the two-part framework is guided by the *Becton, Dickinson* factors. *Advanced Bionics*, Paper 6, at 9 n. 10. *Becton, Dickinson* identifies six non-exclusive factors to be considered:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;
- (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
- (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
- (e) whether Petitioner has pointed out sufficiently how the examiner erred in its evaluation of the asserted prior art; and

(f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Id., citing *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17-18 (Dec. 15, 2017) (precedential as to § III.C.5, first paragraph).

“If, after review of factors (a), (b), and (d), it is determined that the same or substantially the same art or arguments previously were presented to the Office, then factors (c), (e), and (f) relate to whether the Petitioner has demonstrated a material error by the Office.” *Advanced Bionics*, Paper 6, at 10. The focus should be on the record when determining whether the Office erred in evaluating such art or arguments. *Id.*

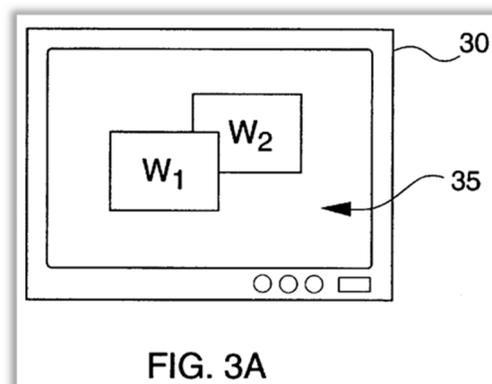
Here, Hansen was the subject of rejections and responses filed in the ‘993 Patent’s prosecution history, and Gillespie is substantially the same as art the Examiner combined with Hansen. The arguments Petitioners assert as to the combination of Hansen and Gillespie are substantially the same as those made during prosecution. And Petitioners have failed to carry their burden to show that the Examiner erred. Under the *Becton, Dickinson* factors, the PTAB should exercise its discretion to deny the Petition under 35 U.S.C. § 325(d).

1. **Becton, Dickinson Factor (a): The similarities and material differences between the asserted art and the prior art involved during examination.**

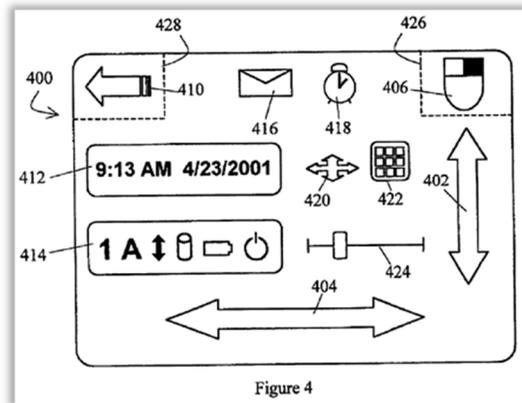
Petitioners rely on Hansen (EX1029) as the primary reference in the Hansen-Gillespie combination. And they agree that “Hansen was substantively addressed by the examiner.” Petition, 83. Although Gillespie was not applied in any rejections, Petitioners agree that “Gillespie was one of twelve references cited in the non-final Office Action of May 11, 2012 and one of sixteen references cited in the final Office Action of any rejections. *See* EX1003, 87-97, 172-181, 248-256, 341-349, 432-449.” *Id.*, 83-84. So it is undisputed that both Hansen and Gillespie were both before the Examiner.

2. **Becton, Dickinson Factors (b) and (d): The cumulative nature of the asserted art and the prior art evaluated during examination, and the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art.**

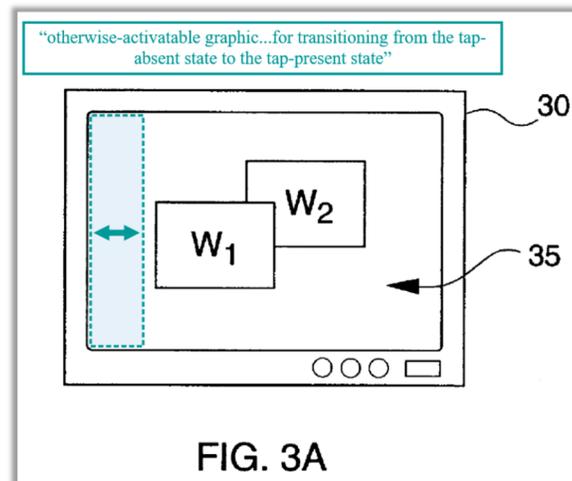
Petitioners cite Hansen Figure 3A for the “tap-absent state” recited in Claim 1 of the ‘993 Patent. Hansen Figure 3A is reproduced below:



EX1029, FIG 3A. But Petitioners concede that Hansen’s figures “do not show any visible indicator representing an ‘otherwise-activatable graphic’” for the transition from the tap-absent to the tap-present state. Petition, 67. For the “otherwise-activatable graphic” element, they cite Gillespie Figure 4, reproduced below:

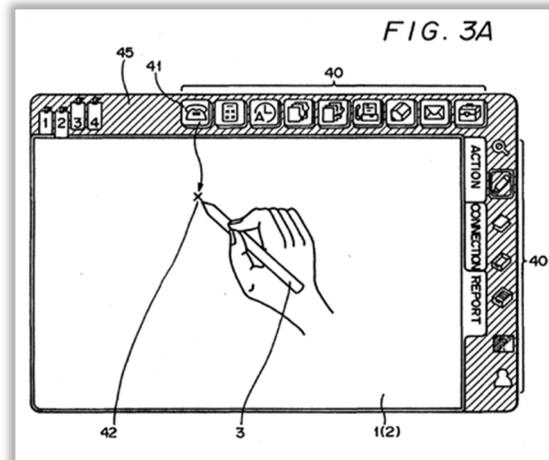


EX1030, FIG 4. Petitioners cite Gillespie element 400 (the dotted lines around the arrow graphic on Figure 4), as “visual conventions” that “indicate special tapping or scrolling regions on the touch sensor surface.” Petition, 23, citing EX1030, ¶¶[0044], [0046]-[0056]. They then modify Hansen Figure 3A to incorporate the dashed lines of Gillespie Figure 4 to indicate the region (Hansen’s “predetermined area”) of the touch sensor surface where the “otherwise-activatable graphic” may be found:



Petition, at 69.

But the Examiner already ploughed this ground. Both Petitioners and the Examiner rely upon the same argument for a POSA's motivation to combine references. The Examiner rejected application Claim 21, which corresponds to '993 Patent Claim 1, as obvious over the combination of Hansen in view of Hirayama. EX1003, 176-177. The Examiner contended that Hansen disclosed the claimed "multi-step gesture," but "fails to distinctly point out a multi-step user gesture at an otherwise activatable graphic." *Id.*, 91. The Examiner asserted that "Hirayama teaches activating utilizing a multi-step user gesture comprising an object touching the touch sensitive surface at a location where an otherwise-activatable graphic is provided, and the object gliding along the touch sensitive area away from the touched location" (*Id.*), citing Hirayama Figure 3A, reproduced below:



EX2004, FIG3A (Petitioners' EX1011 is not the Hirayama patent cited by the Examiner). The Examiner then asserted that a POSA would have been motivated to combine Hansen and Hirayama "to provide [a] way for the user to enable the preferred mode such that it is unlikely to be carried out through unintentional movement or touching," and furthermore, "the predetermined area of Hansen is unknown to the user since it is not displayed, by adding the graphic indicator of Hirayama the user will not have to guess the predetermined area location."

EX1003, 91.

Petitioners' argument in support of POSA motivation to combine Gillespie with Hansen is the same as the Examiner's argument for motivation to combine Hirayama with Hansen. Petitioners argue that "Gillespie describes using visual conventions to 'indicate control regions that respond specifically to finger motions and/or finger taps' and a POSA would have found it obvious to incorporate

Gillespie’s visual conventions into Hansen’s interface to visually indicate the entire predetermined area of Hansen’s interface within which a user can initiate an input stroke, affording a user a visual indication of Hansen’s two-step input stroke.” Petition, 84-85. They assert “the rationale for the Hansen-Gillespie combination is to indicate an entire area of the screen within which the input stroke could be initiated.” *Id.*, 85. Both Petitioners and the Examiner rely on the desirability of a “visual indicator” of the “otherwise activatable graphic” on the screen for the POSA’s motivation to combine references.

And with respect to the “otherwise-activatable graphic” element of Claim 1 of the ‘993 Patent, which the Examiner found missing from Hansen but disclosed in Hirayama, Gillespie Figure 4 is cumulative of Hirayama Figure 3A. If anything, the “otherwise-activatable graphic” is more distinctly disclosed in Hirayama Figure 3A than in Gillespie Figure 4. And yet the Examiner allowed Claim 1 over Hirayama.

3. **Becton, Dickinson Factor (c): The extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection.**

Hansen was the primary reference in prior art combinations that were the basis for two rejections. EX1003, 175-177, 90-92. And although Gillespie was not the basis for any rejection, Gillespie was cited by the Examiner and the Applicant in prosecution. *Id.*, 83-84; *see* EX1003, 87-97, 172-181, 248-256, 341-

349, 432-449.” Notwithstanding, as detailed in subsection 2, above, Gillespie is cumulative of Hirayama, which the Examiner relied upon in combination with Hansen in the two rejections cited above. EX1003, 175-177, 90-92.

Petitioners argue that *Becton, Dickinson* Factor (c) supports institution, because “since Gillespie was not included in a ground of rejection advanced by the examiner, the examiner did not specifically evaluate the prior art teachings advanced herein for at least the ‘otherwise-activatable graphic’ and ‘object gliding on the display screen away from and out of the strip.’” Petition, 86. They are wrong on both limitations.

For the “otherwise-activatable graphic” limitation, Petitioners rely on Gillespie. Petition, 70-75. But as shown in subsection 2, above, the Examiner found that Hirayama discloses this element in two office actions. EX1003, 91, 176. And Hirayama’s disclosure in Figure 3A is at least as distinct as Gillespie’s disclosure in Figure 1. So Gillespie would have been cumulative of the Hirayama reference that the Examiner cited.

And for the “object gliding on the display screen away from and out of the strip” limitation, Petitioners rely on Hansen. Petition, 72-74. But like Petitioners, the Examiner also relied on Hansen for this limitation in two office actions. EX1003, 90-91, 175-176. So the same element Petitioners assert is contributed by Gillespie was considered by the Examiner in Hansen.

Petitioners emphasize that Gillespie teaches a “visual convention” (dashed lines and a colored background enclosing the “otherwise-activatable graphic”), that serves as “a visual indication to the user of a ‘control region [] that respond[s] specifically to finger motions.” Petition, 72, citing Gillespie. But none of the ‘993 Patent application’s claims recite a “visual convention” to indicate a control region around the “otherwise-activatable graphic,” so there was no reason for the Examiner to have considered this allegedly new teaching of Gillespie. And the Examiner considered Hirayama’s disclosure of a visual convention indicating a control region around the “otherwise-activatable graphic” in Figure 3A (the shaded area surrounding the otherwise-activatable icons) as a rationale supporting the POSA’s motivation to combine Hansen with Hirayama. *See*, EX1003, 91, 176-177 (motivation to combine because “the predetermined area of Hansen is unknown to the user since it is not displayed, by adding the graphic indicator of Hirayama the user will not have to guess the predetermined area location.”).

4. **Becton, Dickinson Factor (e): Whether Petitioners have pointed out sufficiently how the examiner erred in its evaluation of the asserted prior art.**

Petitioners advance a single argument for Examiner error. The Examiner found in an office action that “Hansen-Hirayama fails to teach a touch sensitive strip along at least one edge of the display screen.” EX1003, 92. In view of this finding, the Examiner further found that this limitation was disclosed in Brisebois

(EX1033), and rejected application Claim 21 as obvious over the combination of Hansen in view of Hirayama and Brisebois. *Id.* Petitioners assert that the Examiner’s finding that Hansen does not disclose “a touch sensitive strip along at least one edge of the display screen” was an error, because the Examiner overlooked disclosure of this limitation in Hansen. Petition, at 86-88. Consequently, they argue, the Examiner’s reliance on Brisebois was “unnecessary.” *Id.*, 87.

This argument relies on a textbook example of error that is not material to patentability. It is not sufficient for the Petitioner to point out just any examiner error under *Becton, Dickinson* factor (e). The Petitioner must also show that the examiner error was “material to the patentability of challenged claims.” *Advanced Bionics*, Paper 6, at 8. If the asserted error is “overlooking specific teachings of the relevant prior art,” as Petitioners assert here, Petitioners must show that those teachings “impact the patentability of the challenged claims.” *Id.*, n. 9. And when the “alleged error is a disagreement with a specific finding of record by the Office, as Petitioners assert here, “then ordinarily the petitioner’s required showing of material error must overcome persuasively that specific finding of record.” *Id.*, at 10-11.

Here, Petitioners present no argument (persuasive or otherwise) that the alleged error—that the Examiner allegedly overlooked Hansen’s disclosure of “a

touch sensitive strip along at least one edge of the display screen”—was material to the patentability of application claim 21. And even if the Examiner had overlooked the alleged disclosure of “a touch sensitive strip along at least one edge of the display screen” in Hansen, this alleged error did not cause him to allow the claim. Rather, he rejected the claim as obvious over the combination of Hansen-Hirayama in view of Brisebois, which the Examiner cited for disclosure of the “touch sensitive strip.” EX1003, 92.

According to Petitioners, Brisebois’s disclosure of “a touch sensitive strip along at least one edge of the display screen” was “unnecessary” and duplicative of the alleged disclosure in Hansen. Petition, 87. But even if Petitioners were correct, the Examiner’s inclusion of a redundant reference in an obviousness combination would not be an error “material to the patentability” of the ‘993 Patent. The ‘993 Patent did not issue because the Examiner overlooked a disclosure in Hansen; rather, it issued because the applicant subsequently amended a different limitation of the claim (EX1003, 72-73) to overcome the combination of Hansen-Hirayama-Brisebois, and the Examiner allowed the amended claim over the prior art (EX1003, 25-28 at 26).

5. **Becton, Dickinson Factor (f): The extent to which additional evidence and facts presented in the petition warrant reconsideration of the prior art or arguments.**

Petitioners argue that the additional evidence and facts presented in their Petition warrant reconsideration of Hansen because the Examiner overlooked Hansen's disclosure of the claimed "strip." Petition, 87-88. But because Petitioners have not shown that this alleged oversight was material to patentability, they have not shown that the additional evidence and facts of their petition warrant reconsideration.

Given the admitted fact that both Hansen was considered by the Examiner, Gillespie was cited to the Examiner and was substantially the same as the art before the Examiner, and Petitioners have failed to show Examiner error that was material to patentability, Petitioners bear the burden of demonstrating that discretionary denial of institution under section 325(d) is not appropriate here. They fail to do so. To the contrary, all of the *Becton, Dickinson* factors favor denial. Accordingly, the Board should exercise its discretion to deny institution on this ground, as well as those set forth above.

V. CONCLUSION

For the foregoing reasons, Petitioners have failed to establish a reasonable likelihood of prevailing as to the Challenged Claims of the '993 Patent. Furthermore, the PTAB should exercise its discretion to deny institution here under

35 U.S.C. §§314(a) and 325(d). *Inter partes* review of the Challenged Claims should be denied.

Dated: March 17, 2021

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CERTIFICATION OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), it is certified that this Preliminary Response of the Patent Owner contains 12,856 words, excluding those portions identified in 37 C.F.R. § 42.24(a)(1), as measured by the word-processing system used to prepare this Preliminary Response.

Dated: March 17, 2021

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CERTIFICATE OF SERVICE

It is certified that on March 17, 2021, the foregoing document has been served on Petitioners as provided in 37 C.F.R. § 42.6(e) via electronic mail at IPR50095-0016IP1@fr.com.

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