

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

SMITH INTERFACE TECHNOLOGIES, LLC,
Patent Owner.

IPR2024-01116
Patent 10,656,754 B1

Before NATHAN A. ENGELS, SHARON FENICK, and
JULIET MITCHELL DIRBA, *Administrative Patent Judges*.

FENICK, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

Apple Inc. (“Petitioner”) filed a petition requesting an *inter partes* review of claims 2, 27, 186, 187, 189, 191, 192, 197, 199–204, 225, and 230 (the “challenged claims”) of U.S. Patent No. 10,656,754 B1 (Ex. 1001, “the ’754 patent”). Paper 2 (“Petition” or “Pet.”). With its Petition, Petitioner filed a Declaration of Dr. Loren Terveen (Ex. 1003) and a paper (Paper 3; “Ranking Notice”) ranking seven petitions filed by Petitioner that each challenge claims of the ’754 patent. Smith Interface Technologies, LLC (“Patent Owner”) timely filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). With its Preliminary Response, Patent Owner filed a Declaration of Marc Davis, Ph.D. (Ex. 2001) and a response to Petitioner’s Ranking Notice (Paper 8; “Ranking Response”).

Pursuant to 35 U.S.C. § 314(a), the Director may not authorize an *inter partes* review unless the information in the petition and preliminary response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons that follow, we institute an *inter partes* review as to the challenged claims of the ’754 patent on all grounds of unpatentability presented in the Petition.

I. BACKGROUND

A. *Real Parties-in-Interest*

Petitioner identifies itself as its sole real party-in-interest. Pet. 72. Patent Owner identifies itself as its sole real party-in-interest. Paper 5, 1.

B. Related Matters

The parties indicate that the '754 patent has been asserted in *Smith Interface Technologies, LLC v. Apple Inc.*, 3:23-cv-01187 (S.D. Cal.) (“the related litigation”). Pet. 72; Paper 5 (Patent Owner Mandatory Notices), 1.

The '754 patent is also the subject of various proceedings at the United States Patent and Trademark Office, all initiated by Petitioner. Specifically, on June 28, 2024, Petitioner filed this Petition as well as petitions in IPR2024-01086, IPR2024-01114, IPR2024-01115, IPR2024-01117, IPR2024-01118, and IPR2024-01119. Ranking Notice 1–2. In addition, on September 5, 2024, Petitioner filed an *ex parte* reexamination request for selected claims of the '754 patent in Reexamination Control No. 90/019,646, and reexamination was ordered on November 14, 2024. *See* Ex. 2004 (October 2, 2024 order in the related litigation) 4, 9–10 n.4.¹

C. The '754 Patent

The '754 patent is titled “Devices and Methods for Navigating Between User Interfaces.” Ex. 1001, code (54). The application leading to this patent was filed on June 11, 2019, claiming priority to several applications, including a provisional application filed on August 5, 2011. *Id.* at codes (22), (60), (63).

The '754 patent includes a description of a method in which a signal is received in association with a touch interface of a device, and the user experience for the user of the device is altered utilizing the signal. *Id.* at

¹ Neither Petitioner nor Patent Owner identified this related matter to the Board; however, both parties are obligated to update their mandatory notices within 21 days of any relevant change. 37 C.F.R. §§ 42.8(a)(3), 42.8(b)(2). Appropriate correction is required.

3:4–6, 14:31–53, 15:12–18, Fig. 3. The touch interface of a device may be combined with a display of the device, and thus may be a touch screen for the device. *Id.* at 14:57–65. The signal may include a pressure signal that is indicative of a magnitude of pressure applied to a touch screen. *Id.* at 15:39–43.

The '754 patent describes that a user's touch may be analyzed to determine if it is a gesture based on touch event attributes. *Id.* at 56:32–38; Fig. 18. The '754 patent notes that “[s]ome gestures may be able to be identified solely from initial touch event attributes” while “[o]ther gestures may only be identified after the gesture has been performed for some period of time.” *Id.* at 56:53–56. A user may be given feedback, such as a display of a representation of the gesture, as a gesture is performed. *Id.* at 59:48–51. “Once the gesture has been identified, the corresponding operation is performed.” *Id.* at 57:9–10, Fig. 18. The association between gesture and operation may be context-dependent or context-independent. *Id.* at 59:28–29, 59:35–38, 59:41–44.

Gesture dynamics are aspects of a gesture that may vary without changing the identity of the gesture, such as contact point velocity, contact point acceleration, contact pressure velocity, contact pressure acceleration, time to complete gesture, or other aspects. *Id.* at 59:18–27. Gesture magnitude refers to the magnitude of gesture dynamics. *Id.* at 61:1–3. “For example, in one embodiment, the gesture magnitude of a swipe gesture may include the length of the swipe and/or the contact pressure exerted during the swipe.” *Id.* at 61:3–5.

An interface may include multiple layers, which may be physical layers or virtual display layers. *Id.* at 68:30–47. Virtual display layers may be given the appearance of depth through the use of 3D depth cues. *Id.* at

68:58–60. “[A] 3D depth cue refers to an effect, manipulation, transformation, animation or operation which gives a visual indication of a simulated depth.” *Id.* at 68:60–63. “[A] 3D depth cue may be a blur operation, such that layers located at successively greater depths may appear blurrier than those closer to the user.” *Id.* at 68:63–66. “As an option, 3D depth cues may be used to indicate ‘moving’ through the display layers as the contact pressure is changed (i.e. magnifying and fading display layers as they are passed by, sharpening previously blurry display layers as they grow closer, etc.” *Id.* at 71:4–9.

D. Challenged Claims

In this Petition, Petitioner challenges claims 2, 27, 186, 187, 189, 191, 192, 197, 199–204, 225, and 230 of the ’754 patent. Of these, claims 2 and 225 are independent. Claim 2 is reproduced below:

2.[2.a] An apparatus, comprising:

at least one non-transitory memory;

a touch screen; and

one or more processors in communication with the at least one non-transitory memory, and the touch screen, wherein the one or more processors execute instructions in the at least one non-transitory memory, to cause the apparatus to:

[2.b] display an object and at least one other object;

[2.c] detect at least part of a gesture on the touch screen;
and

[2.d] during detection of at least a portion of the gesture before a completion thereof is detected, blur, based on a change in a magnitude of the gesture being detected on the touch screen, at least a portion of the at least one other object.

Ex. 1001, 95:35–49 (Petitioner’s reference designations added).

E. Petitioner's Asserted Ground

Petitioner asserts the following grounds of unpatentability (Pet. 1):

Claim(s) Challenged	35 U.S.C. ² §	Reference(s)/Basis
2, 27, 186, 187, 189, 191, 192, 197, 199–204, 225, 230	103(a)	Ahn ³ , Chaudhri ⁴

II. DISCRETIONARY DENIAL

Petitioner, in its Ranking Notice, ranks this Petition second on its list of petitions filed challenging claims of the '754 patent. Ranking Notice 1–2. Patent Owner agrees that “this may be one of the ‘rare’ situations that requires ‘two petitions.’” Ranking Response 1–2 (quoting PTAB Consolidated Trial Practice Guide (Nov. 2019) (“Trial Practice Guide”),⁵ 59). Our complete analysis of this issue is provided in our decisions on institutions in other proceedings, such as IPR2024-01086. However, because Patent Owner does not argue against the institution of two petitions in this situation, and because this Petition is ranked second, we do not reproduce that analysis here.

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. §§ 102 and 103 effective March 16, 2013. We refer the pre-AIA version of the statute because the '754 patent claims priority to at least one application filed before that date. We additionally note that each party's declarant refers to the pre-AIA version of § 103. Ex. 1003 ¶ 12; Ex. 2001 ¶ 16. Our findings and analysis herein would be the same under the current statute.

³ US 2008/0207188 A1, published August 28, 2008 (Ex. 1004).

⁴ US 2007/0150842 A1, published June 28, 2007 (Ex. 1005).

⁵ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

III. ANALYSIS

A. Legal Standards

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden of persuasion does not shift to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review).

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are “such that the subject matter as a whole would have been obvious . . . to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved based on underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations.⁶ *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate

⁶ The present record contains no arguments regarding objective evidence of nonobviousness.

specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

B. Level of Ordinary Skill in the Art

Petitioner contends that one of ordinary skill in the art would have had “a Bachelor of Science degree in computer science, computer engineering, electrical engineering, human-computer interaction, or a comparable field and at least two years of professional experience in the design and development of graphical user interfaces (GUIs), human-computer interfaces, or equivalents thereof,” and that “[a]dditional years of experience could substitute for an advanced-level degree (and vice versa).” Pet. 6 (citing Ex. 1003 ¶¶ 29–30).

Patent Owner “does not agree with all aspects of Petitioner’s proposed level of ordinary skill but does not believe that resolving that level is necessary to resolve the issues raised in this preliminary response.” Prelim. Resp. 7.

The portion of the definition proposed by the Petitioner requiring a bachelor’s degree in computer science, computer engineering, human-computer interaction, or a comparable field and at least two years of professional experience working with graphical user interfaces and applications for computers (Pet. 6) appears to be commensurate with the problems and solutions in the ’754 patent and prior art of record and is supported by declarant testimony. We adopt this as the definition of one of ordinary skill in the art for the purposes of this Decision. We note that since it is unclear whether the bachelor’s degree in the proposed definition is considered by Petitioner to be “an advanced-level degree” we do not adopt

the portion of Petitioner’s proposed definition relating to the substitution of years of experience for “an advanced-level degree” at this time.

C. Claim Construction

Petitioner argues that no claim terms need to be construed. Pet. 6.

Patent Owner also does not propose that we construe any claim terms. Prelim. Resp. 7. Patent Owner reports that in the related litigation, Petitioner proposes some claim constructions that Petitioner does not raise here. *Id.* at 6–7 (citing Ex. 2003, 9–31).

We note that Petitioner presents arguments and evidence regarding “blur[ring] . . . at least a portion of” an object, as recited in independent claims 2 and 225, and argues that displaying less detail in a portion of a background object because of the display of a semitransparent foreground object would have been “a type of blurring”. Pet. 32–33 (citing Ex. 1001, 99:51–53; Ex. 1004 ¶ 70; Ex. 1009, 3, 6; Ex. 1003 ¶ 93). Petitioner asserts that one of ordinary skill would have understood “blur” to mean “make or become unclear or less distinct” and that the ’754 patent, in a dependent claim, recites that a blur “includes changing a translucency” of an overlaying object. *Id.* (citing Ex. 1001, 99:51–53). Patent Owner does not address this contention. On the present record, Petitioner’s proposed construction appears correct and, for purposes of institution, we construe the blurring of an object as displaying that object with less detail.

Otherwise, for institution and on the present record, we determine that none of the claim terms from the related litigation require construction, and neither do any other claim terms. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (only those terms that are in controversy need be construed, and only to the extent

necessary to resolve the controversy)(citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

D. Obviousness of Claims 2, 27, 186, 187, 189, 191, 192, 197, 199–204, 225, and 230 over Ahn and Chaudhri

Petitioner argues the challenged claims would have been obvious over a combination of Ahn and Chaudhri. Pet. 19–68. Patent Owner argues that Ahn does not teach or suggest limitation 2.d of claim 2 (and limitation 225d of claim 225), including that one of ordinary skill would not have made the proposed combination of Ahn and Chaudhri. Prelim. Resp. 17–48.

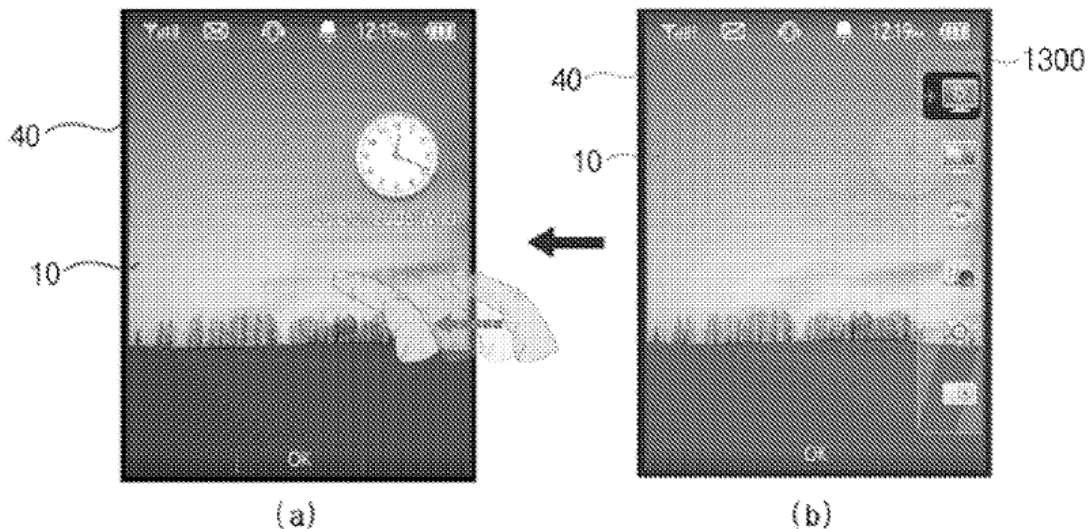
1. Ahn

Ahn is a publication of a U.S. patent application, titled “Method of Displaying Menu in a Mobile Communication Terminal.” Ex. 1004, codes (23), (54). Ahn’s abstract describes displaying a menu in a mobile terminal by selecting a specific direction through an input device of the terminal and displaying a menu corresponding to the selected specific direction. *Id.*, code (57).

Ahn describes a device with a screen that may receive input, including via a touch screen. *Id.* ¶¶ 27–28, 72. A standby screen may be displayed on the device. *Id.* ¶¶ 21, 36, 96, 97, Figs. 3A, 12. Ahn describes that, upon user input, e.g., an upward motion or direction key selection, a menu may be displayed, such as by transparent display of a pop-up menu window. *Id.* ¶¶ 10, 11, 35–51, Figs. 3A–3E, 4A–4B. Ahn further describes that the detection of a touch and drag operation may cause the display of an item list matched to a direction in the display, such as a menu list or file list. *Id.* ¶¶ 98–99, Fig. 11. For example, according to Ahn, if the user touches a specific position of the touch screen and drags the touch in a left direction, a

menu list matched to the left direction is displayed in the display; a sequence that is depicted in Figure 13a and 13b, reproduced below. *Id.* ¶ 102, Figs. 13a, 13b.

FIG. 13



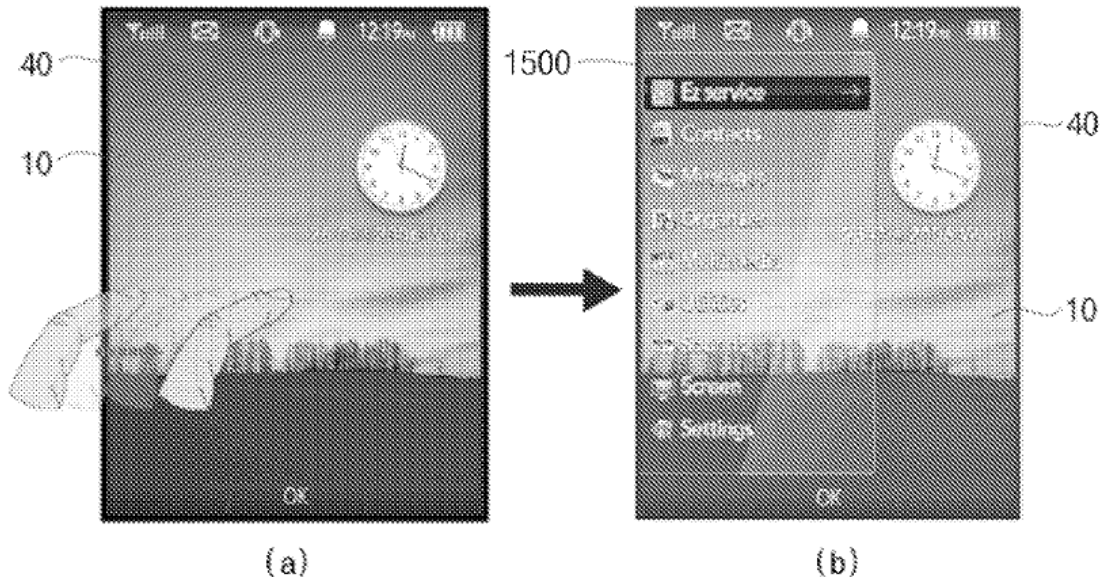
Ex. 2005,⁷ 71. As shown in Figures 13a and 13b, when the user touches a right side of touch screen 10 and drags the touch in a left direction, menu list 1300 matched to the left direction is displayed in the display 40.

Ex. 1004 ¶¶ 102, 104. Menu list 1300 shown in Figure 13b is displayed over a clock widget. *Id.* ¶ 70; Figs. 13a, 13b.

⁷ Patent Owner files EP “the counterpart European application” (EP 08101835.0) to Ahn as Exhibit 2005, and uses figures from this Exhibit “[f]or improved clarity.” Prelim. Resp. 21–22 n.5. We agree, on the present record, that the figures from Exhibit 2005 appear to be clearer while also identical in all respects, and use figures from Exhibit 2005 herein. Ex. 1004; Ex. 2005; *compare* Ex. 1004, code (30), ¶¶ 1–3 (claiming priority to KR 10-2007-0018175, KR 10-2007-0033308, and KR 10-2007-0043067), *with* Ex. 2005, 78 (listing the same applications in the priority declaration).

Figures 15a and 15b, reproduced below, illustrate a screen for displaying a menu list according to a touch and drag operation in the rightward direction. *Id.* ¶¶ 101, 103.

FIG. 15



Ex. 2005, 73. As seen in these figures, “if the user touches screen 10 and drags the touch in a rightward direction, a menu list 1500 matched to a right direction is displayed in the display 40.” Ex. 1004 ¶ 103. Ahn additionally teaches that a user may be notified of the start position for a touch and drag operation by a graphic shadow, and that, if so, “as the user drags the graphic shadow 1800, the menu list 1500 can be displayed along the dragged graphic 1800.” *Id.* ¶ 118.

2. Chaudhri

Chaudhri describes how a device with a touch-sensitive display may be unlocked via gestures performed on the touch-sensitive display.

Ex. 1005, code (57), ¶ 2. Chaudhri describes “a need for more efficient, user-friendly procedures for transitioning” devices “between user interface

states (e.g. from a user interface state for a first application to a user interface state for a second application, between user interface states in the same application, or between locked and unlocked states.)” *Id.* ¶ 6.

Chaudhri describes a device in a first state detecting progress towards satisfaction of an input condition needed to transition to a second state. *Id.* ¶ 81, Fig. 6. While still in the first user-interface state, progress is indicated by “transitioning an optical intensity of one or more user interface objects associated with the second user-interface state.” *Id.* ¶¶ 82, 91–93, Figs. 6, 91–93. Chaudhri teaches that “[t]he optical intensity of a user-interface object, as used herein, is the object’s degree of visual materialization.” *Id.* ¶ 85. “In some embodiments, the optical intensity may be perceived by users as a transparency effect (or lack thereof) applied to the user-interface object.” *Id.* ¶ 85, *see also id.* ¶¶ 79, 82.

The optical intensity may be the visual differentiation between the user interface object and the background, based on color, hue, color saturation, brightness, contrast, transparency, and any combination thereof. *Id.* The optical intensity of the user interface objects to be displayed in the second user interface state may be increased smoothly. *Id.* ¶ 86. The indication of progress towards completion of the user input condition is a function of the user’s satisfaction of the condition. *Id.* ¶ 87. The user may perceive the optical intensity transition as a fading in of the user interface objects as the unlock action is performed. *Id.*

If the user input condition includes a predefined gesture, then the indication of progress of the gesture may be defined in terms of how much of the gesture is completed. Ex. 1005 ¶ 88. For example, if the gesture includes moving the finger from one edge of the screen to the opposite edge horizontally, then the indication of progress may be defined in terms of the

distance between the two edges. *Id.* If the user input condition includes dragging an image to a predefined location, then the indication of progress may be defined in terms of the distance between the initial location of the image and the predefined location. *Id.* ¶ 89.

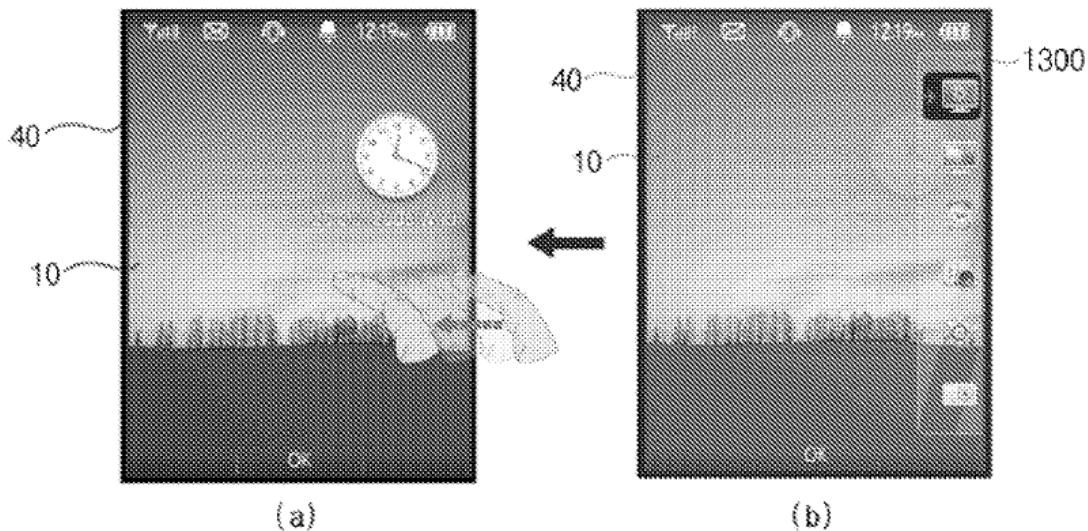
3. Claim 2 – Petitioner’s Arguments

Petitioner argues that Ahn teaches or suggests the apparatus, memory, touch screen, and processors of limitation 2.a, citing Ahn’s mobile communication terminal with a memory, touch input device, and controller. Pet. 24–28 (citing, *inter alia*, Ex. 1004 ¶¶ 27–29, 32, 99–104, Fig. 1; Ex. 1003 ¶¶ 78–82).

With respect to limitation 2.b, reciting that the apparatus is caused to “display an object and at least one other object,” Petitioner argues that Ahn teaches the display of a standby screen by the Ahn device, and that its standby screen includes a clock widget and icons for menu items in an indicator area. *Id.* at 28–30 (citing Ex. 1004 ¶¶ 36, 40, Figs. 3A, 12, 13a; Ex. 1003 ¶¶ 83–87). Petitioner contends that an icon in the indicator area teaches the “an object” recitation of limitation 2.b, and that the clock widget on the standby screen teaches the “at least one other object.” *Id.* at 30 (citing Ex. 1003 ¶ 86).

Limitation 2.c of claim 2 requires that the apparatus is caused to “detect at least part of a gesture on the touch screen.” Ex. 1001, 95:44. Petitioner contends that this is taught or suggested by Ahn, which describes a method of displaying a menu in response to a touch and drag operation. Pet. 30–32 (citing Ex. 1004 ¶¶ 95–99, 102, Figs. 13a, 13b; Ex. 1003 ¶¶ 88–90). Petitioner describes Figure 13, reproduced below, as illustrating an example of this teaching from Ahn.

FIG. 13



Ex. 2005, 71 (Fig.13). Figure 13 illustrates touch screen 10, in which a user touches a specific portion of touch screen 10 and drags the touch in a left direction (in (a)) and menu list 1300 containing icons is consequently displayed on the left side of touch screen 10 (in (b)). Ex. 1004 ¶¶ 101–102. Petitioner contends that one of ordinary skill would have understood the “touch and drag” operation illustrated in Figure 13 to teach or suggest the gesture, and Ahn to teach or suggest the detection of a gesture in its Figure 13 disclosure. Pet. 31–32 (citing Ex. 1003 ¶¶ 90–91).

Limitation 2.d of claim 2 recites that the apparatus is caused to, “during detection of at least a portion of the gesture before a completion thereof is detected, blur, based on a change in a magnitude of the gesture being detected on the touch screen, at least a portion of the at least one other object.” Ex. 1001, 95:45–49.

Petitioner contends that Ahn teaches that its displayed menus may be displayed in translucent form overlaying the standby screen 300, and contends that this teaches “semitransparent” menus that would blur the

standby screen, including objects displayed on it, such as the clock widget. Pet. 32–35 (citing Ex. 1004 ¶ 70; Ex. 1003 ¶¶ 93, 95). Petitioner argues that Ahn’s teachings describe a menu list displayed along a graphic shadow that begins on a first edge of the display and is dragged with a user gesture. Pet. 33 (citing Ex. 1004 ¶¶ 118–119, Fig. 18; Ex. 1003 ¶ 94). Thus, Petitioner argues, in Ahn, the sliding of the menu onto the screen corresponds with the magnitude of the touch and drag gesture as it progressively blurs the portion of the background over which it is being displayed, teaching or suggesting the recitation of limitation 2.d of claim 2.

Petitioner further argues, with respect to limitation 2.d, that one of ordinary skill would have noted in other teachings of Ahn that a portion of the background standby screen including the clock widget is blurred as a result of the opening of a menu. Pet. 35–36 (citing Ex. 1004 ¶¶ 36, 97, 103, Figs. 3A, 4B, 10, 12, 13a, 13b; Ex. 1003 ¶ 96). Petitioner argues that one of ordinary skill would have looked to Chaudhri to determine how to transition between the prior state of the standby screen and the blurred state. Pet. 19–24, 36–39.

Petitioner contends that Chaudhri’s teaching of transitioning optical intensity to provide visual feedback regarding the progress of a transition between user interface states would have been used in the context of Ahn’s terminal, resulting in a device that would indicate the progress of a gesture through the optical intensity of user interface objects, including the visual differentiation between a user interface object (such as a pull-down menu) and the background. Pet. 36–39 (citing Ex. 1005 ¶¶ 60, 80–82, 85, 87–88; Ex. 1003 ¶¶ 97–100). Petitioner argues a combination of Ahn’s teachings of the blurring of a portion of the background standby screen and the teachings of Chaudhri regarding changing an optical intensity to indicate the user’s

progress in completing a gesture, and contends that this combination would have yielded a device that would vary the optical intensity of the standby screen to indicate to a user the progress in completing the gesture and to help a user differentiate between the user-interface object and the background. *Id.* at 39 (citing Ex. 1003 ¶¶ 101–102).

With respect to the combination of Ahn and Chaudhri, Petitioner argues that each of the disclosures is directed to improving the usability of mobile devices with small display screens, and that one of ordinary skill would have expected the combination to yield predictable and expected results. Pet. 19 (citing Ex. 1003 ¶ 61). Petitioner contends that Ahn shows a process of opening menus that ends in a blurred background screen, but does not describe the implementation, and that one of ordinary skill would have found it obvious to consult Chaudhri for an example of such implementation details. *Id.* at 20–21 (citing Ex. 1003 ¶¶ 62–64). Additionally, Petitioner argues that Chaudhri teaches specific benefits to a user that one of ordinary skill would have looked to provide in an implementation of Ahn’s device. *Id.* at 21–22 (citing Ex. 1003 ¶ 65). Petitioner contends that one of ordinary skill would also have known that similar visual cuing techniques would have been used to draw the user’s attention to the most relevant objects and help a user navigate through multi-layer user interfaces. *Id.* at 22–23 (citing Ex. 1008, 1–2; Ex. 1003 ¶ 66).

4. Claim 2 – Patent Owner’s Arguments

Patent Owner presents arguments relating to Petitioner’s argument that limitation 2.d is taught or suggested by Ahn alone (Prelim. Resp. 18–28), and additionally relating to Petitioner’s argument that this limitation is

taught by Ahn and Chaudhri, including relating to the motivation for the proposed combination of Ahn and Chaudhri (Prelim. Resp. 29–48).

a) Ahn and Limitation 2.d

Patent Owner argues that Ahn teaches displaying a menu in response to a swipe, and that Ahn’s display of the menu thus happens “in response to the *completion* of a touch and drag gesture, not ‘*during detection* of at least a portion of the gesture *before a completion* thereof is detected,’ as required” in limitation 2.d. Prelim. Resp. 18, 19–24. Broadly, Patent Owner contends that the Petition conflates two embodiments of Ahn, a first in which no change occurs to the screen until a gesture is completed (and thus any blurring does not occur “during detection of at least a portion of the gesture before a completion thereof is detected”), and a second in which the appearance of the clock widget is not altered. *Id.*

With respect to Ahn’s disclosure relating to Ahn’s Figure 13(a), according to Patent Owner, Ahn displays its menu only after a user’s touch and drag operation (gesture) is completed, thus the alleged “blurring” is not “during detection of at least a portion of the gesture” and “before a completion [of the gesture] is detected.” *Id.* at 20–23 (citing Ex. 1004 ¶¶ 102, 107–109, 116, Fig. 4B, 13, 16; citing Ex. 2001 ¶¶ 60–63); 23 (“A POSITA would therefore understand that Ahn’s display of menu list 1300/420 is a binary operation—the full menu will open if a user enters an input . . . and the menu will stay closed otherwise.” (citing Ex. 1004 ¶¶ 106–109, Fig. 16)). Patent Owner further argues Ahn’s Figure 18 is irrelevant to Petitioner’s mapping, as it is a different embodiment with no explanation of reasons for combining Ahn’s distinct embodiments, and that the Petition is internally inconsistent in mapping to different gestures—a drag right from

one embodiment and a drag left from a different embodiment. *Id.* at 24–27 (citing Ex. 1004 ¶¶ 66, 118, 119, Figs. 13a, 13b, 18; Ex. 2001 ¶ 71).

b) Ahn and Chaudhri – Limitation 2.d

Addressing Petitioner’s limitation 2.d arguments based on a combination of Ahn and Chaudhri, Patent Owner contends that Chaudhri discloses adjusting the optical intensity of user interface objects in the foreground, not the background of a screen, and notes that “Ahn’s clock widget is part of the background.” Prelim. Resp. 31 (citing Ex. 1005 ¶¶ 85; Ex. 1003 ¶¶ 75, 76); *see id.* at 45–46. Patent Owner argues varying the optical intensity or translucency of the background is “nonsensical,” and “a POSITA would have understood that varying the transparency of the *background* standby screen is pointless because there is nothing below the background (e.g., underlying layers) that would be revealed by altering its transparency.” *Id.* at 31–32 (citing Ex. 2001 ¶ 77).

Next, Patent Owner argues Chaudhri teaches an optical intensity that increases as a user gestures, while “Petitioner’s Ahn-Chaudhri combination relies on *reducing* the optical intensity of Ahn’s background (the alleged *first* user interface state).” *Id.* at 34. Patent Owner also argues “Petitioner’s modification to change the appearance of Ahn’s clock widget (of the *first* user-interface state) is inconsistent with Chaudhri[]’s teaching to ‘transition[] an optical intensity of one or more user interface objects associated with the *second user-interface state*’ and “Petitioner’s alleged modification does the opposite of what Chaudhri teaches.” *Id.* at 35. Further, Patent Owner argues Petitioner’s proposed modification would not have made sense in the context of Chaudhri and a POSITA would not have made such a conflicting modification. *Id.* at 35–36 (citing Ex. 2001 ¶¶ 81,

82). Further still, Patent Owner argues that “once the touch and drag operation is complete and the menu subsequently deployed, the clock widget also cannot be interacted with (i.e., selected) in the second interface, meaning that the alleged *decreasing* the optical appearance of the clock widget fails to serve the purpose set forth in Chaudhri[] for *increasing* the optical intensity of Chaudhri[]’s virtual buttons.” *Id.* at 37 (citing Ex. 2001 ¶ 83).

Finally, Patent Owner argues flaws in the motivation to combine provided by Petitioner. *Id.* at 37–48. Patent Owner notes that Chaudhri gives a user feedback by the distance an indicator has moved relative to the total length of a slide channel and by *increasing* the optical intensity of virtual buttons to an opaque end point with solid outlines. *Id.* at 39 (citing Ex. 1005 ¶¶ 87, 90–93). But in Petitioner’s combination, Patent Owner argues, the user would only see the alleged blurring of the clock widget without any indication of progress of the user’s gesture and the user would not know when the gesture would reach its end state nor when or if the menu would appear. *Id.* at 40–42 (citing Ex. 2001 ¶¶ 90, 92). According to Patent Owner, “this change in appearance would indicate only that a gesture is happening” and “the user would only know the gesture is complete once the menu list 1300/420 appears, ***upon completion of the gesture***” and so Petitioner’s motivation of indicating “progress” towards completion of the gesture would not have led a POSITA to make the alleged modification of Ahn. *Id.* at 42. Patent Owner also argues that because Ahn’s menu is not displayed until after the gesture is complete, the menu would not be displayed while the appearance of Ahn’s clock widget is progressively changing such that “[w]ithout the display of the menu there can be no differentiation between the menu and the clock widget, as Petitioner

alleges.” *Id.* at 43 (citing Ex. 2001 ¶ 95). According to Patent Owner, “a POSITA reading Chaudhri[] would have understood that progressively changing the appearance of Ahn’s background would not improve visual differentiation of Ahn’s menu” and would not have led a POSITA to make the asserted modification of Ahn. *Id.* at 44; *see id.* at 46–48.

5. Claim 2 – Our Analysis

On the present record, and for the purposes of institution, we determine that Petitioner has sufficiently shown how Ahn teaches or suggests limitation 2.d of claim 2, and that the proposed combination of Ahn and Chaudhri teaches or suggests this limitation.

First, with respect to limitations 2.a through 2.c of claim 2, and to the presently undisputed assertions regarding limitation 2.d, we determine that Petitioner sufficiently shows, in its contentions summarized above, how Ahn teaches or suggests these recitations in its descriptions of the hardware of its touch input device, including the display of objects on the touch screen, the detection of touch input gestures, and the display of menus on a standby screen in translucent form.

With respect to the balance of limitation 2.d, we find Petitioner sufficiently shows Ahn teaches that its standby screen elements, including the clock widget on the standby screen, are blurred as a result of the display of menu elements. Ex. 1004 ¶ 36, Figs. 4B, 10, 13b; Ex. 1003 ¶ 96. With respect to Patent Owner’s contention that Figure 18 cannot be relied upon because it describes a dragging gesture in a different direction from the one in Figure 13 (Prelim. Resp. 24–27), on the present record and for the purposes of institution, we disagree. We credit Dr. Terveen’s testimony that one of ordinary skill in the art would have understood Ahn to teach or

suggest that a translucent menu would blur the background over which the menu is displayed (Ex. 1003 ¶¶ 37, 38, 93, 95), and we understand Ahn to indicate that Figure 18 is a variation of the embodiment described in Figures 13 to 15. Moreover, we do not, on the present record, understand Ahn to contain any indication that this is dependent on the direction of a gesture or to be specific to certain embodiments.

Patent Owner cites Ahn's paragraph 116 as showing Ahn does not teach the display of a menu until a touch and drag operation has been completed. Prelim. Resp. 20–24 (citing Ex. 1004 ¶ 116). But this paragraph of Ahn describes a second implementation of the Figure 17 embodiment of Ahn in which different menus are displayed based on the distance of a touch and drag gesture. Ex. 1004 ¶¶ 115–116, Fig. 17). In the first implementation described in Ahn, a first menu is displayed during a gesture once a first drag distance has been detected, with a second menu appearing after a second distance of the same touch operation has been reached. Ex. 1004 ¶¶ 111–112. Paragraph 116 of Ahn, cited by Patent Owner, describes a different implementation, in which only one menu is displayed, based on the drag distance, and only after the completion of the touch and drag operation. *Id.* ¶¶ 115–116. While this second implementation describes the display of a menu only after a gesture is completed, on the present record Ahn does not teach that menus are only displayed after the completion of a gesture, and in fact, teaches the opposite, in the first implementation. *Id.* ¶¶ 111–112.

We additionally determine that Petitioner sufficiently shows that Ahn teaches a dragging gesture causing a translucent menu to progressively be displayed (by sliding onto the display) as a function of the magnitude of the user's dragging gesture, and that this occurs as the dragging is occurring.

Ex. 1004 ¶¶ 118–119; Ex. 1003 ¶ 94; *see* Pet. 33. While Patent Owner contends that the examples provided with the cited portions of Ahn do not show the clock widget being blurred, on the present record and for the purposes of institution, Petitioner sufficiently shows that Ahn teaches (or at least suggests), even if it does not depict, that this progressive display of a menu would blur a portion of the standby screen. We do not, on the present record, understand the portions of Ahn relied upon by Petitioner to be two separate embodiments, and we do not discern any specific direction or specific portion of the standby screen is specifically contemplated or excluded in the cited embodiment. *See* Pet. 36; Ex. 1003 ¶ 97. Consistent with our construction of blurring as encompassing displaying an object with less detail, we determine that Petitioner has sufficiently shown that Ahn’s display of the menu on top of the standby screen blurs the elements of the standby screen, including the clock widget. *See supra* § III.C.

Additionally, we determine that Petitioner sufficiently shows limitation 2.d to be taught in the combination of Ahn and Chaudhri. On the present record, Ahn teaches that the opening of a menu blurs a clock widget. Ex. 1004 ¶ 51, Fig. 4B. Chaudhri teaches a transition of optical intensity to provide visual feedback during a gesture transitioning between user interface states. Ex. 1005 ¶¶ 80–82, 85, 88; Ex. 1003 ¶¶ 98–100. On the present record, and for the purposes of institution, Petitioner sufficiently shows that one of ordinary skill in the art would have been motivated to provide implementation details for Ahn’s Figure 4B menu opening, and to use Chaudhri’s discussion of using varying optical intensity to indicate user progress and help a user differentiate between the user-interface object and the background. Ex. 1005 ¶¶ 82, 85; Ex. 1003 ¶¶ 63–66, 101.

While we understand Patent Owner’s contention that in Chaudhri, an object in the foreground changes, rather than an object in the background (e.g. the clock widget) (Prelim. Resp. 31), our understanding is that the blurring in Ahn and Chaudhri each teach a foreground object that covers a background object, and that in each case this results in background objects being displayed with progressively less detail. Ex. 1004, Fig. 4B; Ex. 1005 ¶ 85, Ex. 1003 ¶ 63; *supra* § III.C. Chaudhri teaches increasing the “visual differentiation” between the user interface object and background, and on the present record Petitioner shows that Ahn and Chaudhri both describe such visual differentiation. Thus on the present record it does not appear that one of ordinary skill would have understood the differentiation to require that a background object (or an object of a first user-interface state) is reduced in optical intensity rather than a foreground object (or object of a second user-interface state) increasing in optical intensity (*see* Prelim. Resp. 34–37). Additionally, we understand Petitioner’s argument to be that the blurring of the widget on the standby screen would occur in a transition between the standby screen user interface state and the menu list display user interface state, progressively to differentiate between an appearing menu and the standby screen clock widget. Pet. 39. Thus, on the present record, Patent Owner’s argument that the user would see progressive blurring of a clock widget and then the appearance of a menu only on completion of a gesture (Pet. 40–44) does not appear to be commensurate with Petitioner’s assertions.

For these reasons, we determine that Petitioner has sufficiently shown that Ahn teaches or suggests each limitation of claim 2. We also determine that the combination of Ahn and Chaudhri teaches or suggests each limitation of claim 2, and that the motivation to combine has been

sufficiently shown. Therefore, we determine that Petitioner has shown a reasonable likelihood of prevailing in showing claim 2 to be unpatentable.

6. Claim 225

Claim 225 is argued on substantially the same basis as claim 2. Pet. 67–68. Patent Owner presents no additional arguments for claim 225.

For the same reasons as those discussed above, we determine that Petitioner has shown a reasonable likelihood of prevailing in showing claim 225 to be unpatentable over Ahn and Chaudhri.

7. Claim 27 and 230

Claim 27 depends from claim 2, and further requires that “the apparatus is configured such that, when the magnitude, including a distance magnitude, of the gesture detected on the touch screen is detected to increase above a distance threshold, a menu is displayed with at least one option.” Ex. 1001, 97:34–38.

Petitioner argues that Ahn’s description of displaying specific menu lists depending on the distance of a touch and drag teaches or suggests this limitation. Pet. 40–41 (citing Ex. 1004 ¶¶ 108–109, Fig. 16; Ex. 1003 ¶¶ 132–134). Patent Owner presents no additional arguments for claim 27.

Petitioner sufficiently shows the additional recitations of claim 27 as, on the present record and for the purposes of institution, we determine that Ahn describes a detected gesture (touch and drag operation) that displays a menu (first menu list) when the distance magnitude of a gesture (gesture drag distance) is more than a distance threshold (first drag distance). Ex. 1004 ¶ 109, Fig. 16.

Claim 230 depends from claim 225 and adds that “in response to the magnitude, including a distance magnitude, of the gesture detected on the touch screen being detected to increase above a distance threshold, a menu is displayed with at least one option.” Ex. 1001, 120:16–20. Petitioner argues this claim by reference to its arguments with respect to claim 27. Pet. 68. Patent Owner presents no additional arguments for claim 230. For the same reasons as those described with respect to claim 27, we determine that Petitioner’s showing is sufficient.

Therefore, we determine that Petitioner has shown a reasonable likelihood of prevailing in showing claims 27 and 230 to be unpatentable.

8. Claims 186, 187, 189, 191, 192, 197, 199, and 201–204

Claim 186 depends from claim 2, and further recites that the apparatus is configured such that:

the at least part of the gesture is detected on the touch screen on an edge of the touch screen;

the magnitude of the gesture includes a distance magnitude;

the gesture includes a swipe gesture;

a magnitude of the blurring is continuously increased as a continuous function of an increase in the magnitude of the gesture being detected on the touch screen;

a magnitude of the blurring is continuously decreased as a continuous function of another change; and

when the magnitude of the gesture detected on the touch screen is detected to increase above a distance threshold, a menu is displayed with at least one option, such that:

the at least one other object is displayed via a first virtual display layer,

the menu is displayed in a second virtual display layer that appears above the first virtual display layer, and

the menu remains displayed after a completion of the gesture.

Ex. 1001, 109:66–110:19.

Patent Owner presents no additional arguments for claim 186.

We find Petitioner sufficiently shows the additional recitations of claim 186, in its contentions, as summarized here:

For the first additional limitation (“the at least part of the gesture is detected on the touch screen on an edge of the touch screen”), Petitioner argues that Ahn teaches a gesture beginning on an edge of the touch screen. Pet. 41–43 (citing Ex. 1004 ¶¶ 102, 118–119; Ex. 1003 ¶¶ 256–257). For the next two additional limitations of claim 186, that the gesture includes a swipe gesture and the magnitude of the gesture includes a distance magnitude, Petitioner argues that Ahn’s Figure 16 embodiment, in which the magnitude of a touch and drag operation determines the opening of a first menu, teaches or suggests a swipe gesture with a distance magnitude, and in the description of Figure 12’s detection of a touch and drag operation. Pet. 45 (citing Ex. 1004 ¶¶ 98, 99, 109, Fig. 16; Ex. 1003 ¶¶ 259–263).

For the second additional limitation, reciting that “a magnitude of the blurring is continuously increased” and the subsequent limitation that a menu is displayed when the “the magnitude of the gesture . . . is detected to increase above a distance threshold,” Petitioner presents arguments similar to those with respect to limitation 2.d, citing also Chaudhri’s description of optical intensity as a linear function of user input completion. Pet. 45–46 (citing Ex. 1005 ¶ 95, Figs. 8A–8C; Ex. 1003 ¶¶ 265–267).

With respect to the limitation requiring that “a magnitude of the blurring is continuously decreased as a continuous function of another change,” Petitioner argues that “a POSITA would have understood and found obvious that mirroring the touch and drag gesture that opens a menu would close the menu, including decreasing optical intensity. Pet. 47–49 (citing Ex. 1005 ¶; Ex. 1006 ¶ 77; Ex. 1011 ¶ 53; Ex. 1003 ¶¶ 268–272).

For the two limitations relating to virtual display layers, Petitioner cites the standby screen of Ahn and the menus displayed “on” the standby screen. Pet. 50–52 (citing Ex. 1004 ¶¶ 39, 64, 70, Figs. 3A, 4B; Ex. 1007 ¶ 82; Ex. 1008, 2–4, 8; Ex. 1003 ¶¶ 275–276).

For the last additional limitation of claim 186, Petitioner argues that one of ordinary skill would have understood that Ahn’s item list (menu) is displayed after the completion of the touch and drag gesture. Pet. 52–53 (citing Ex. 1004 ¶¶ 95–100, Figs. 4B, 10, 13b; Ex. 1003 ¶¶ 278–280).

Because we find Petitioner sufficiently shows the additional recitations of claim 186 in these contentions, Petitioner has shown a reasonable likelihood of prevailing in showing claim 186 to be unpatentable over Ahn and Chaudhri.

9. Claims 187, 189, 191, 192, 197, 199, and 201–204

Claims 187, 189, 191, 192, 197, 199, and 201–204 depend directly or indirectly from claim 186. Patent Owner does not present any additional arguments with respect to these claims.

We have reviewed Petitioner’s contentions (Pet. 53–67) regarding these claims and find them to sufficiently show a reasonable likelihood of prevailing with respect to these claims.

10. Claim 200

Claim 200 is identical to claim 199 in all respects except its dependency; claim 199 depends from claim 186, while claim 200 depends from claim 165. Ex. 1001, 113:51–60. The patentability of claim 165 is not addressed in the Petition. On the present record, therefore, Petitioner has not shown a reasonable likelihood of prevailing with respect to showing claim 200 unpatentable.

IV. CONCLUSION

On the present record, and for the purpose of institution, we determine that Petitioner has shown a reasonable likelihood of prevailing in its challenge with respect to at least one of the challenged claims. Therefore, we institute on all grounds raised and all challenges in the Petition. 37 C.F.R. § 42.108(a); see *SAS Inst. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018).

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that *inter partes* review of all challenged claims of US Patent 10,656,754 B1 is *instituted* with respect to all grounds of unpatentability set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a) and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is given of the institution of a trial commencing on the entry date of this Decision.

IPR2024-01116
Patent 10,656,754 B1

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