

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

SMITH INTERFACE TECHNOLOGIES, LLC,
Patent Owner.

IPR2024-01256
Patent 11,740,727 B1

Before MIRIAM L. QUINN, *Acting Senior Lead Administrative Patent Judge*, SHARON FENICK and LISA A. MURRAY, *Administrative Patent Judges*.

MURRAY, *Administrative Patent Judge*.

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

I. INTRODUCTION

Petitioner, Apple Inc., filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1–6, 10–14, 16, and 17 of U.S. Patent No. 11,740,727 B1 (Ex. 1001, “the ’727 patent”) pursuant to 35 U.S.C. § 311(a). Patent Owner, Smith Interface Technologies, LLC, filed a Preliminary Response (Paper 6, “Prelim. Resp.”) pursuant to 35 U.S.C. § 313.

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 claims 1–6, 10–14, 16, and 17 of the ’727 patent on the ground of unpatentability asserted in the Petition.

II. REAL PARTIES-IN-INTEREST

Petitioner identifies itself (Apple, Inc.) as its sole real party-in-interest. Pet. 79. Patent Owner identifies itself (Smith Interface Technologies, LLC) as its sole real party-in-interest. Paper 3, 1.

III. RELATED MATTERS

The Petitioner and Patent Owner state that the ’727 patent is the subject of the following proceedings:

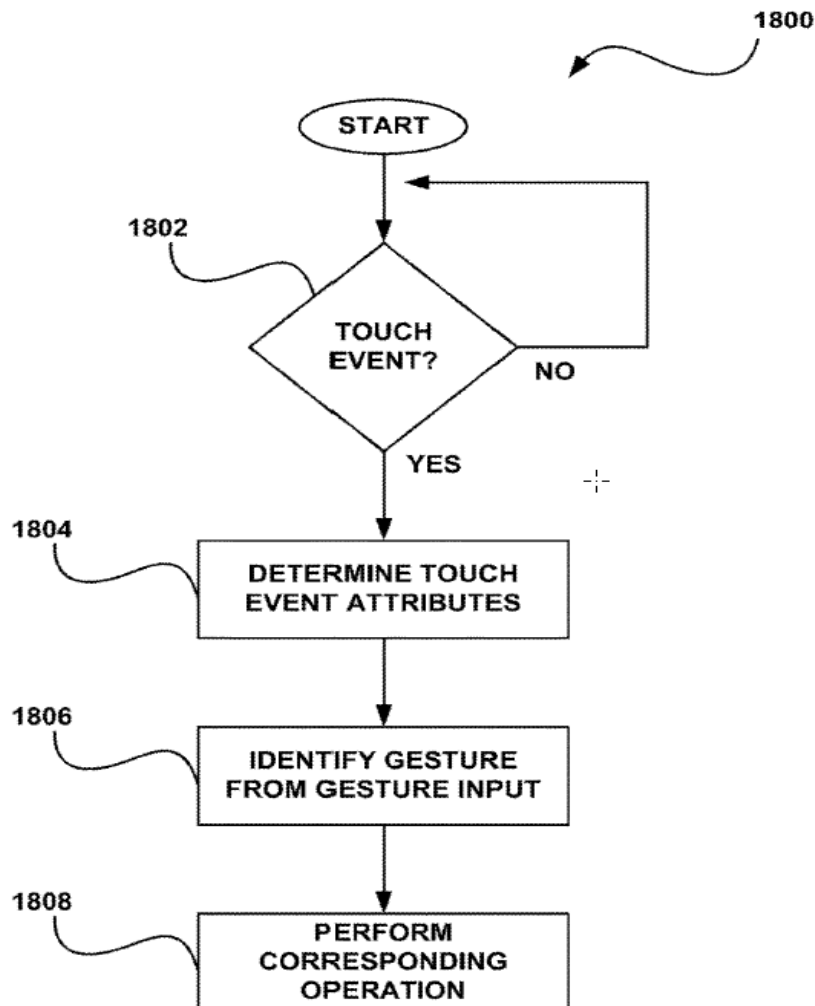
Smith Interface Technologies, LLC v. Samsung Electronics Co., Ltd. et al., 2-22-cv-00290 (EDTX) (terminated)

Smith Interface Technologies, LLC v. Apple Inc., 3-23-cv-01187 (SDCA) (pending).

Pet. 79–80; Paper 3, 1.

IV. THE '727 PATENT

The '727 patent relates to devices, methods, and graphical user interfaces for manipulating user interface objects with visual and/or haptic feedback. Ex. 1001, Code (54). A device having a display and a touch-sensitive surface displays a first user interface of a first application. When the device detects a first input by a first contact on the touch-sensitive surface that meets one or more criteria, the device ceases to display the first user interface and displays another user interface. If a contact does not meet the one or more criteria, the device maintains the display of the first user interface. *Id.* at Abstr. Figure 18 shows method 1800 for utilizing contact pressure-based gestures and is reproduced below. *Id.* at 55:65–66.



As shown in Figure 18, at 1802 the method determines whether a touch event has occurred. Ex. 1001, 56:6–7. If a touch event has occurred, the method determines touch event attributes at 1804. *Id.* at 56:8–10. Touch event attributes refer to measurable aspects of the user interaction which resulted in the touch event, such as touch state, contact area, contact point, or any other measurable aspect of user interaction. *Id.* at 53:1–7. Then, the method identifies the gesture from the gesture input at 1806. *Id.* at 56:11–12. Some gestures may be identified solely from initial touch event attributes. *Id.* at 56:27–28. Other gestures may only be identified after the gesture has been performed for some time. *Id.* at 56:28–30. Once the gesture has been identified, the method performs the corresponding operation at 1808. *Id.* at 56:50–51. Such operations can include the modification of one or more display attributes, such as by blurring a display attribute. *Id.* at 57:9–10, 68:37–52.

One reason to modify a display attribute is to provide a visual cue to the user. Examples of cues include, but are not limited to, the display logic within selection functions, visual representation of contact point movement, proximity feedback, contact pressure level feedback, and/or any other form of user feedback. *Id.* at 67:22–27. Cues may include 3D or pseudo-3D effects, such as by causing the anchor object to appear to be floating above a background image. *Id.* at 67:32–35, 68:37–39. A 3D-layered surface may be implemented in a device having a single layer display through the use of virtual display layers. *Id.* at 68:16–18. A virtual display layer refers to a collection of display elements which have all been assigned the same apparent depth within the 3D layered user interface. *Id.* at 68:18–21. Virtual display layers give the appearance of depth through the use of 3D depth cues. *Id.* at 68:37–39. An example of a depth cue is a blur operation, in

which layers located at successively greater depths appear blurrier than those closer to the user. *Id.* at 68:42–45.

V. ILLUSTRATIVE CLAIM

Claim 1 is independent, claim 2 depends from claim 1, and claims 3–6, 10–14, 16, and 17 depend directly from claim 2. Ex. 1001, 102:30–103:57. Challenged claim 1 of the '727 patent is reproduced below using Petitioner's notation:

[1.a] A device, 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 device to:

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

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

[1.d.i] during detection of at least a portion of the gesture before a completion thereof is detected, blur, based on a change in a distance magnitude of the gesture being detected on the touch screen to thereby move the object on the touch screen, at least a portion of the at least one other object that is not overlapped,

[1.d.ii] such that a magnitude of the blur itself, and not a magnitude of an area of the touch screen that is blurred, is increased as a function of an increase in the distance magnitude.

Pet. vi.

VI. ASSERTED GROUND

Petitioner asserts that claims 1–6, 10–14, 16 and 17 of the '727 patent are unpatentable on the following ground:

Claim(s) Challenged	35 U.S.C. § ¹	Reference(s)/Basis
1–6, 10–14, 16, 17	103(a)	Ahn ² , Chaudhri ³

VII. LEVEL OF ORDINARY SKILL

Petitioner contends that a person of ordinary skill in the art would have “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.” Pet. 5 (citing Ex. 1003 ¶ 28). In addition, Petitioner states that additional years of experience could substitute for an “advanced-level degree” (and vice versa). *Id.* Patent Owner notes that it does not agree with all aspects of Petitioner’s proposed level of ordinary

¹ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103. Petitioner contends that the '727 patent is not entitled to its earliest claimed priority date of August 5, 2011, although Petitioner does not identify the priority date that it believes should apply. Pet. 1. At this stage, we determine that the '727 patent is entitled to at least the filing date of Application No. 13/567,004 filed on Aug. 3, 2012. Because the '727 patent’s effective filing date is before the March 16, 2013 effective date of the applicable AIA amendment, the pre-AIA version of § 103 applies. We would reach the same outcome, however, under the post-AIA version of § 103.

² Ex. 1004, Ahn, US Patent Application Publication No. 2008/0207188 A1, published Aug. 28, 2008.

³ Ex. 1005, Chaudhri, US Patent Application Publication No. 2007/0150842 A1, published June 28, 2007.

skill, “but does not believe that resolving the level is necessary to resolve the issues raised in this preliminary response.” Prelim. Resp. 5.

As Petitioner’s description of a person of ordinary skill appears commensurate with the subject matter before us, we apply Petitioner’s definition for 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.

VIII. CLAIM CONSTRUCTION

We interpret claim terms using “the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b) (2023). In this context, claim terms “are generally given their ordinary and customary meaning” as understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (citations omitted) (en banc). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). Extrinsic evidence is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Phillips*, 415 F.3d at 1317 (citations omitted). Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Petitioner and Patent Owner contend that no claims need to be construed in order to resolve the controversy currently before us. Pet. 5; Prelim. Resp. 5. Petitioner, however, asserts that one of ordinary skill would have understood “blur” to mean “make or become unclear or less distinct.” Pet. 11 (quoting Ex. 1009, 3); Ex. 1003 ¶ 36. Petitioner further asserts that one of ordinary skill would have understood that translucency, i.e., “not transmitting detail[,]” is a type of blurring. Pet. 11 (citing Ex. 1009, 6 (defining “translucent” as “allowing light, but not detailed images, to pass through; semitransparent”)); Ex. 1003 ¶ 36. Patent Owner states that it does not agree with Petitioner’s proposed interpretation of blurring, but does not propose any alternative construction and presents argument challenging the grounds based on Petitioner’s proffered interpretation. Prelim. Resp. 21 n.5. 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.

We further note that for the term “distance magnitude [of the gesture],” Patent Owner represents that Petitioner has argued in related district court proceedings that this term means “length [of the gesture].” Prelim. Resp. 5. Patent Owner contends that “the plain and ordinary meaning of this term is readily understandable and Patent Owner does not believe formal construction to be necessary to deny institution[.]” *Id.* On the present record, Petitioner’s proposed construction appears correct, and for purposes of institution, we construe “distance magnitude” as “length” in our analysis of limitations [1.d.i] and [1.d.ii] below.

Otherwise, for institution and on the present record, we determine that no additional claim terms require construction. *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)).

IX. 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”)); *see also* 37 C.F.R. § 42.104(b) (requiring a petition for *inter partes* review to identify how the challenged claim is to be construed and where each element of the claim is found in the prior art patents or printed publications relied upon).

A claim is unpatentable under 35 U.S.C. § 103(a) if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made 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) (quoting 35 U.S.C. § 103(a)). “The [obviousness] analysis is objective: ‘Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved.’” *Id.* (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966)). When in evidence, “secondary considerations [such] as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized.” *Id.* Against this

factual background, the obviousness or nonobviousness of the claims at issue is determined. *Id.*

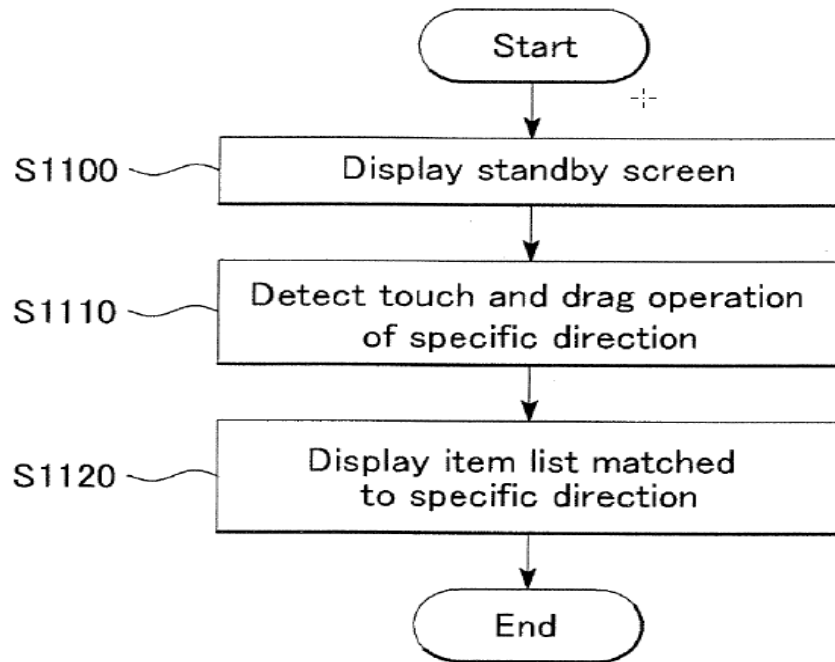
The obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418. Additionally, the obviousness inquiry typically requires an analysis of “whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2016) (requiring “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”)). Furthermore, Petitioner does not satisfy its burden of proving obviousness by employing “mere conclusory statements,” but “must instead articulate 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. Ground 1: Whether Claims 1–6, 10–14, 16, and 17 Are Obvious Based on Ahn and Chaudhri

1. Ahn – Exhibit 1004

Ahn discloses a method of 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. Ex. 1004, Abstr. Figure 11, reproduced below, is a flowchart illustrating a method of displaying a menu in a mobile terminal having a touch screen. *Id.* ¶ 95.

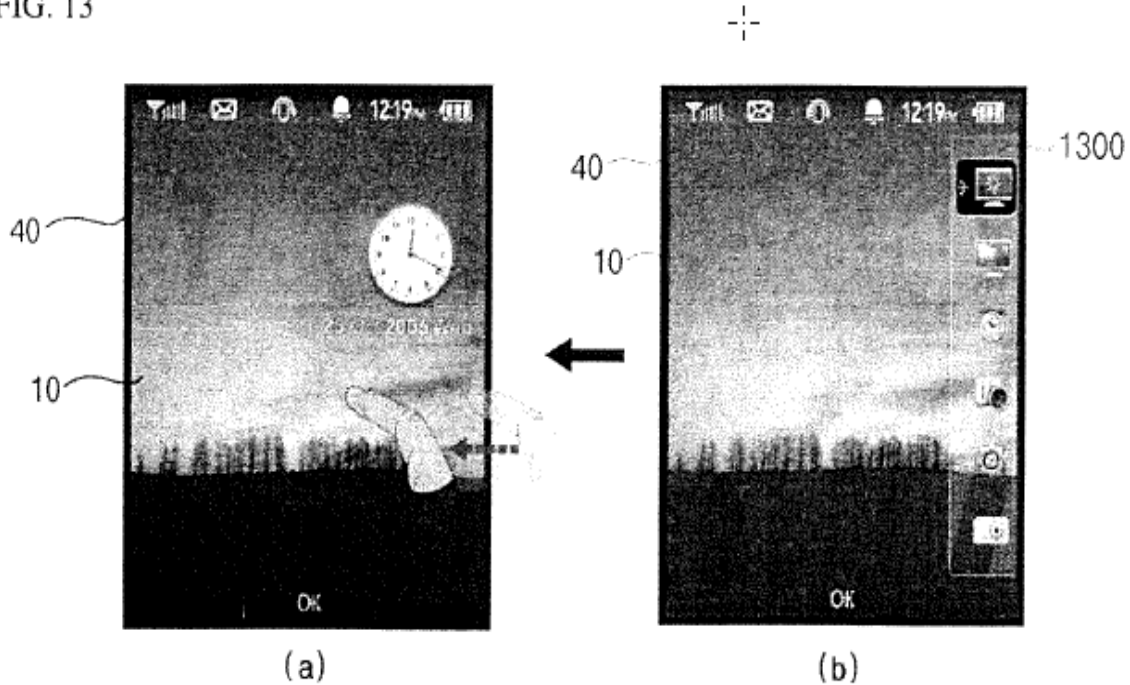
FIG. 11



As shown in Figure 11, at S1100 a controller displays a standby screen in the display of the mobile terminal. *Id.* ¶ 96. At S1110 the controller detects a touch and drag operation, where the touch and drag operation indicates movement of an external object on the touch screen. *Id.* ¶ 98. At S1120, as the touch and drag operation is detected, the controller displays a menu list matched to the specific direction in the display. *Id.* ¶ 99. For example, menu list A may be matched to a right direction and menu list B may be matched to a left direction. *Id.*

Figures 13a, 13b, 14a, 14b, 15a, and 15b illustrate examples of a screen for displaying a menu list according to a touch and drag operation of a specific direction. Ex. 1004 ¶ 101. Figures 13a and 13b are reproduced below.

FIG. 13



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 300 shown in Figure 13b is displayed in translucent form over a clock widget. *Id.* ¶ 70; Figs. 13a, 13b. Also, the clock widget shown in Figure 13a is depicted as blurred in Figure 13b. *Id.* Figs. 13a, 13b.

2. Chaudhri – Exhibit 1005

Chaudhri discloses a device with a touch screen that may be unlocked when contact with the display corresponds to a predefined gesture for unlocking the device. Ex. 1005, Abstract. The predefined gesture may include moving an unlocked image to a predefined location or along a predefined path. *Id.* While the device is unlocked, the device may display on the touch screen user interface objects such as text, images, icons, virtual buttons, pull-down menus, radio buttons, check boxes, selectable lists, and so forth. Ex. 1005 ¶ 60. Figure 6 illustrates a process for indicating progress

towards satisfaction of a user input condition such as a predefined gesture and is reproduced below.

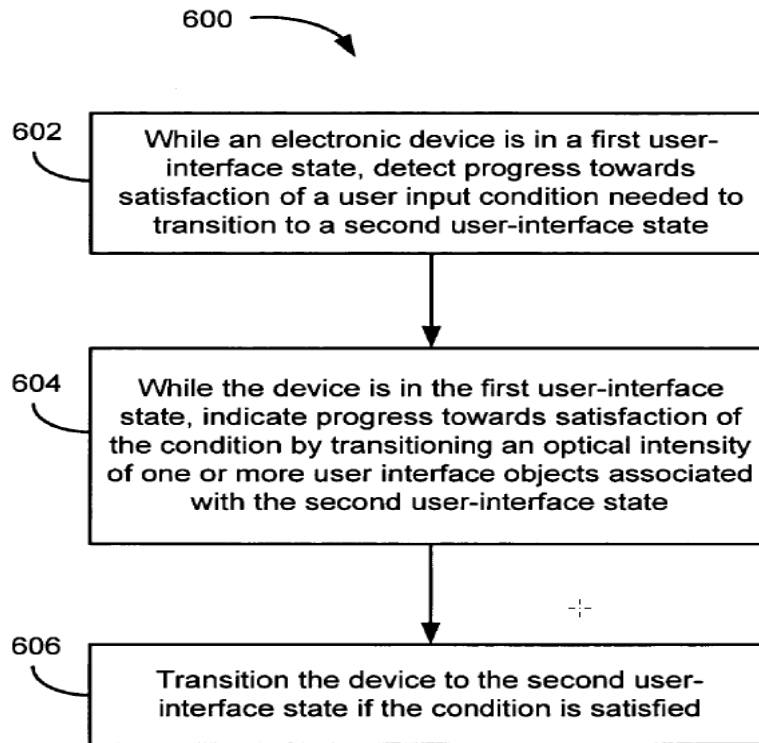


Figure 6

As shown in Figure 6, while an electronic device is in a first user-interface state, progress towards satisfaction of a user input condition needed to transition to a second user interface state is detected at 602. Ex. 1005 ¶ 81. While the device is in the first user-interface state, progress towards satisfaction of the condition is indicated by transitioning an optical intensity of one or more user interface objects associated with the second user interface state at 604. *Id.* ¶ 82. The device transitions to the second user interface state if the condition is satisfied. *Id.* ¶ 84. Chaudhri further discloses that as a user transitions from a first user interface state to a second user interface state, the optical intensity of displayed objects may change. Ex. 1005 ¶¶ 79, 82. The optical intensity may be perceived by users as a

transparency effect (or lack thereof) applied to the user interface object. *Id.* ¶ 85. 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. *Reasons to Combine Ahn and Chaudhri*

Petitioner contends that a person of ordinary skill would have combined the teachings of Ahn and Chaudhri to yield the benefit of a mobile device that changes an optical intensity of a user interface object as a function of progress towards satisfaction of a user's gesture that transitions the user interface from one state to another. Pet. 19 (citing Ex. 1003 ¶ 49). Patent Owner disagrees, and argues that "Petitioner's modification is only

logical when using the claims of the '727 Patent as a roadmap to reconstruct the claimed invention,” which is insufficient to support an obviousness finding. Prelim. Resp. 38.

a) Petitioner’s contentions

Petitioner argues that a person of ordinary skill in the art would have had a reasonable expectation of success in applying the user interface state transition techniques of Chaudhri to the touch screen of Ahn’s mobile device because the combination is of known elements and does no more than yield expected and predictable results. Pet. 18 (citing Ex. 1003 ¶ 48).

Petitioner identifies three benefits of combining Ahn and Chaudhri that one of ordinary skill in the art in 2011 would have recognized. First, Petitioner asserts that Ahn discloses blurring without discussing that process in detail, but that Chaudhri details how user-interface transitions in optical intensity were known to a person of ordinary skill in the art and would have been beneficial when implementing Ahn’s optical effect of blurring the clock widget when opening the edge menu. Pet. 19–20 (citing Ex. 1003 ¶¶ 50–51; Ex. 1004, Figs. 3A and 4B). Second, Chaudhri’s optical intensity transitions provide users with a visual indication of the progress of transitioning between user interface states that would have been applicable to Ahn’s edge menu opening. Pet. 20–22 (citing Ex. 1005 ¶ 82; Ex. 1003 ¶ 53). Third, Petitioner contends that blurring background user interface objects when opening the edge menu of Ahn using the transitioning technique of Chaudhri yields the benefit of drawing the user’s attention to the most relevant layer of a user interface. *Id.* at 22 (citing Ex. 1008, 1–2; Ex. 1003 ¶ 54).

Petitioner further contends that there are a limited number of ways of implementing the blurring effect shown in Figures 4B, 10, and 13b of Ahn. Pet. 23. Petitioner argues that the blurring effect could be done in one of two ways: (1) binary, instantly toggling from unblurred to blurred; or (2) progressive, as shown in Figures 4B, 10, and 13b of Ahn. *Id.* (citing Ex. 1003 ¶ 55; *Uber Technologies, Inc. v. X One, Inc.*, 957 F.3d 1334, 1339–40 (Fed. Cir. 2020)).

b) Patent Owner’s counter-arguments

Patent Owner responds that the proposed combination does not flow from the teachings of either Ahn or Chaudhri, Prelim. Resp. 38–48, and that the proposed modification would not achieve the functionality asserted by Petitioner. *Id.* at 48–58.

Patent Owner argues that Ahn teaches at least two separate embodiments. In the first, as a user drags a graphic across a display, a menu is displayed “along the dragged graphic.” Neither the graphic nor the menu fade in or out. *Id.* at 41 (citing Ex. 1004 ¶ 118; Ex. 2001 ¶ 98). In the second, a user presses a graphic, and then the graphic gradually disappears from view while a menu gradually appears. The fading does not occur until after the pressing gesture is completed. *Id.* (citing Ex. 1004 ¶ 119; Ex. 2001 ¶ 98). Thus, neither embodiment corresponds exactly to the claim language “during detection of at least a portion of the gesture before a completion thereof is detected, blur . . . at least a portion of the at least one other object that is not overlapped[.]” *See* Ex. 1001, 102:41–46. Patent Owner argues that “[t]he Petition does not provide any rationale for integrating the teachings of Ahn’s mutually exclusive embodiments” in a manner that would disclose the above claim limitation. Prelim. Resp. 41 (citing Pet. 33–40).

Patent Owner further argues that Petitioner’s proposed modification does not flow from Chaudhri’s teachings. Patent Owner contends that Chaudhri discloses adjusting an optical intensity of user interface (UI) objects, which are *foreground* elements, and that therefore Chaudhri does not disclose varying the optical intensity of a *background*. Prelim. Resp. 42 (citing Ex. 1005 ¶ 85; Ex. 2001 ¶ 100). Patent Owner argues that “[u]nlike Chaudhri-842’s foreground UI elements, Ahn’s clock widget is part of the background[.]” *Id.* Patent Owner concludes that therefore Petitioner’s proposed modification (in which the clock widget of Ahn blurs as the display transitions from a first user-interface state to a second user-interface state) is inconsistent with the teachings of Chaudhri. *Id.* at 42–43.

Finally, Patent Owner argues that Petitioner’s proposed modification would not achieve the functionality asserted by Petitioner. For example, while Petitioner asserts that blurring the clock widget of Ahn during a touch and drag operation would “provide visual feedback regarding the progress of a transition between user interface states[.]” Pet. 35–36, Patent Owner counters that this is not so because in Petitioner’s modification, “the user cannot compare its gesture to some visual end point and, instead, would see only in abstract the alleged ‘blur’ of the clock widget.” Prelim. Resp. 51. Patent Owner also disagrees with Petitioner’s argument that the blurring effect “would have helped differentiate between the user-interface object (e.g., the menu list 1300) and the background (e.g., the standby screen and/or clock widget)[.]” *Id.* at 53 (quoting Pet. 39). According to Patent Owner, the “differentiation” provided in the proposed modification “offers no change from the ‘differentiation’ already provided by Ahn. That is, the alleged motivation is a solution without a problem.” *Id.* Moreover, Patent Owner argues, one of ordinary skill in the art would not have been motivated

to provide for *progressively* varying the optical intensity of the background in a touch input device due to the greater burden that option would impose on a device's limited hardware resources. *Id.* at 57.

c) Analysis

For purposes of this Decision, we find that Petitioner cites sufficient evidence to support its contention that a person of ordinary skill in the art would have had a reason to combine the teachings of Ahn and Chaudhri. We do not find Patent Owner's arguments to the contrary persuasive. In particular, we find unpersuasive the argument that the proposed modification "does not flow" from the cited prior art because it purportedly combines elements of different embodiments of Ahn and relies on Chaudhri's blurred foreground to teach blurring the background on a display. *See Prelim.*

Resp. 38. At the heart of Patent Owner's arguments is the characterization of Petitioner's obviousness theory as that of a significant modification of Ahn to incorporate specific interface adjustment elements from Chaudhri. *Prelim.*

Resp. 48–58. This is not what the Petition states. The Petition reads: "the Ahn-Chaudhri combination represents the predictable and expected result of *applying*, in the context of Ahn's touch screen mobile device, the user interface state transition *techniques* described by Chaudhri '842." Pet. 18 (emphasis added). Petitioner explains that "[t]he fundamental aspects of Ahn's disclosure would remain intact[.]" *Id.* Therefore, Patent Owner's arguments alleging modifications of Ahn's operation are unpersuasive at this juncture. And, to the extent Patent Owner alleges that there may be drawbacks to the techniques in Chaudhri, we disagree because tradeoffs do not necessarily undermine Petitioner's proffered combination of teachings, given the articulated benefits on the present record, such as to indicate user

progress and to help a user differentiate between the user-interface object and the background. *See Winner Int'l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 n.8 (Fed. Cir. 2000) (“The fact that the motivating benefit comes at the expense of another benefit, however, should not nullify its use as a basis to modify the disclosure of one reference with the teachings of another. Instead, the benefits, both lost and gained, should be weighed against one another.”). As to whether the indication of user progress would be imperfect or not as helpful in differentiating between objects as Patent Owner argues, we note that Chaudhri’s technique need not be the most optimal technique for accomplishing visual differentiation, so long as it is a suitable option. *See PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1197–98 (Fed. Cir. 2014).

As for the additional Patent Owner arguments challenging the stated rationale for the combination, we disagree with Patent Owner. First, we are satisfied that the Petition reasonably explains how the Ahn’s graphic shadow 1800 (of Figure 18), menu list 1500 (of Figure 15), and the background screen with clock widget (Figure 4B) are interpreted together and not as separate embodiments. *See, e.g.*, Pet. 28–29.

Second, the distinctions Patent Owner makes concerning the changes in the foreground rather than in the background are unpersuasive at this juncture. 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. Ex. 1003 ¶ 53. Thus, on the present record, we credit Dr. Terveen’s testimony, *id.*, that Chaudhri’s differentiation would be directly applicable to Ahn’s mobile terminal and the opening of its edge menus. And, to the extent Patent Owner’s arguments attempt to characterize Petitioner’s

contentions as implementing Chaudri’s specific embodiment of intensifying a foreground into Ahn’s background and menu display, such an attempt appears to be a bodily incorporation argument that is not persuasive.

Third, we agree at this juncture with Petitioner’s statement that “[f]rom a POSITA’s perspective in 2011, integrating the supplemental teachings of Chaudhri ’842 with Ahn’s disclosure would have involved nothing more than applying known solutions to known problems in the field of computer interfaces and applications to achieve predictable outcomes.” Pet. 18 (citing Ex. 1003 ¶ 48). We find that Petitioner cites to sufficient evidence to support this contention. *Id.* at 19–23. 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 the blurring depicted in Ahn Figure 13b by using Chaudhri’s teaching of varying optical intensity to indicate user progress.

4. Independent claim 1

Petitioner challenges claim 1 as unpatentable over the combination of Ahn and Chaudhri. Pet. 23–43. Patent Owner presents arguments only with respect to limitations [1.d.i] and [1.d.ii]. Prelim. Resp. 16–38.

a) Limitation [1.a]

Limitation [1.a] recites “[a] device, 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[.]” Ex. 1001, 102:31–38. Petitioner contends that Ahn teaches this limitation in disclosing a mobile communication terminal that includes a touch input device, a memory, a

display, a controller, and a wireless transceiver. Pet 23 (citing Ex. 1004 ¶ 27, Fig. 1; Ex. 1003 ¶¶ 56–60). Petitioner contends that a person of ordinary skill in the art would have understood that Ahn’s memory, which includes a program memory and a data memory, is “at least one non-transitory memory.” *Id.* at 24 (citing Ex. 1004 ¶ 29; Ex. 1003 ¶ 57). Petitioner further contends that Ahn’s description of controller 50 indicates that at least one known hardware implementation for controller 50 would have been “one or more processors.” *Id.* at 25 (citing Ex. 1003 ¶ 59). Finally, Petitioner contends that Chaudhri describes that its respective devices comprise one or more processors that execute instructions in the at least one non-transitory memory. *Id.* at 26–27 (citing Ex. 1005 ¶ 28; Ex. 1003 ¶ 60).

Based on the evidence and arguments currently of record, for purposes of institution we are sufficiently persuaded that the Ahn-Chaudhri combination teaches limitation [1.a] of claim 1.

b) Limitation [1.b]

Limitation [1.b] recites “display an object and at least one other object[.]” Ex. 1001, 102:39. Petitioner contends that Ahn teaches this limitation in disclosing a mobile device that displays an object (e.g., a menu identifier icon such as graphical shadow 1800 for notifying the user of a start position of the touch and drag operation) and at least one other object (e.g., the clock widget of standby screen 300). Pet. 27–31 (citing Ex. 1004 ¶¶ 36, 117–119, Figs. 3A, 12, 13a, 18; Ex. 1003 ¶¶ 61–65).

Based on the evidence and arguments currently of record, for purposes of institution we are sufficiently persuaded that Ahn teaches limitation [1.b] of claim 1.

c) Limitation [1.c]

Limitation [1.c] recites “detect at least part of a gesture on the touch screen[.]” Ex. 1001, 102:40. Petitioner contends that this limitation is taught by Ahn. Pet. 31–33. Petitioner argues Ahn teaches that if a user touches a specific position of the touch screen and drags the touch in a specific direction, in response the mobile device will display a menu list matched to that specific direction in the display. Pet. 32 (citing Ex. 1004 ¶ 102, Figs. 3a, 13b, 18a; Ex. 1003 ¶ 68). Petitioner contends that one of ordinary skill in the art would have understood that Ahn’s “touch and drag operation” is a “gesture.” Pet. 32–33 (citing Ex. 1005 ¶ 55).

Based on the evidence and arguments currently of record, for purposes of institution we are sufficiently persuaded that Ahn teaches limitation [1.c] of claim 1.

d) Limitation [1.d.i]

Limitation [1.d.i] recites:

during detection of at least a portion of the gesture before a completion thereof is detected, blur, based on a change in a distance magnitude of the gesture being detected on the touch screen to thereby move the object on the touch screen, at least a portion of the at least one other object that is not overlapped[.]

Ex. 1001, 102:41–46. Petitioner contends that the combination of Ahn and Chaudhri teaches this limitation. Pet. 33–41.

As discussed above with regard to limitation [1.c], Petitioner has shown that Ahn teaches “detect at least part of a gesture on the touch screen.” Pet. 32. Petitioner argues that Ahn also illustrates blurring a “clock widget” background object as a result of a user gesture that causes a menu object to appear. *Id.* at 33–34 (citing Ex. 1004 Figs. 4B, 10, 13b; Ex. 1003 ¶ 71); *see also* Ex. 1001, 103:57–59 (defining “blurring”). Ahn shows that

the entire clock widget object is blurred during the user gesture, even when a portion of the clock widget is not overlapped by the menu object. *See* Pet. 35, 39; Ex. 1003 ¶ 77; *compare* Ex. 1004, Fig. 3A (depicting display screen before detection of a user gesture) *with* Ex. 1004, Fig. 4B (depicting display screen after detection of a user gesture that opens a menu object).

Petitioner contends that it would have been obvious to apply Chaudhri's technique of *progressively* blurring an object throughout Ahn's detection of the touch and drag operation until a completion thereof is detected. Pet. 38–39 (citing Ex. 1005 ¶¶ 80–89; Ex. 1003 ¶¶ 76, 77). Petitioner further argues that the Ahn-Chaudhri combination teaches the limitation “based on a change in a distance magnitude of the gesture being detected on the touch screen to thereby move the object on the touch screen[.]” Pet. 40–41; Ex. 1003 ¶ 79. Chaudhri discloses that a device may “display visual cues of the predefined gesture on the touch screen to remind a user of the gesture.” Ex. 1005, Abstr. Display of a visual cue may be triggered by particular user inputs, such as the user interacting with a button object or making contact with a touch screen on the device. *Id.* ¶ 54. For example, “the device may display one or more visual cues of the unlock action,” including an “unlock image.” *Id.* ¶ 62. Chaudhri teaches that “[i]n some embodiments, performing the unlock action with respect to the image includes dragging the unlock image in a predefined manner, which moves the unlock image across the touch screen.” *Id.*

Patent Owner argues that the Ahn-Chaudhri combination does not teach or suggest limitation [1.d.i] for two reasons: (1) the combination does not teach that the user's dragging gesture moves an object displayed on the touch screen; and (2) the combination does not teach that the blurring effect occurs “*during*—and before completion of—a gesture[.]” Prelim. Resp. 16–

17, 23–30. Based on the current record, we are not persuaded by Patent Owner’s arguments for the reasons discussed below.

Patent Owner argues first that limitation [1.d.i] recites “a change in a distance magnitude of the gesture being detected on the touch screen” that has the effect of “mov[ing] the object on the touch screen[.]” Prelim. Resp. 16. According to Patent Owner, “Petitioner relies solely on paragraph [0118] of Ahn to support that graphic 1800 moves (i.e., is dragged) in response to and along with a user’s touch and drag gesture.” *Id.* (internal quotation marks omitted); *see* Pet. 39–40. Paragraph 118 of Ahn reads in relevant part, “as the user drags the graphic shadow 1800, the menu list 1500 can be displayed along the dragged graphic 1800.” Ex. 1004 ¶ 118. Patent Owner argues that this passage does not disclose that the graphic shadow 1800 moves because “[i]n Ahn, ‘drag’ explicitly ‘indicates movement of an *external object* on the touch screen 10.’” Prelim. Resp. 16 (citing Ex. 2001 ¶¶ 65–66, Ex. 1004 ¶ 98).

We determine that at this juncture Petitioner has sufficiently shown, based solely on the plain reading of paragraph 118 of Ahn, that a touch and drag gesture on a touchscreen moves the graphic object displayed beneath the gesture. We also note that there is competing testimony on this issue that should be resolved based on a full record. *Compare* Ex. 1003 ¶ 78 (testifying that Ahn describes moving or dragging graphic 1800) *with* Ex. 2001 ¶ 67 (testifying that user does not drag the graphic shadow 100, but merely performs a drag gesture). Moreover, Patent Owner is incorrect in arguing that the Petitioner relies solely on paragraph 118 for this purpose. The Petition also relies on Chaudhri as teaching “graphics such as movable images that help the user visualize the correct gesture and how to complete it successfully[.]” Pet. 40–41 (citing Ex. 1005 Abstr., ¶¶ 54, 62). Chaudhri

explicitly teaches that “dragging the unlock image in a predefined manner . . . moves the unlock image across the touch screen.” Ex. 1005 ¶ 62. On this record, we are sufficiently persuaded for the purpose of determining whether to institute that the combination of Ahn and Chaudhri teaches “a change in a distance magnitude of the gesture being detected on the touch screen to thereby move the object on the touch screen[.]” *See* Ex. 1001, 102:43–45.

Patent Owner next argues that the Ahn-Chaudhri combination does not teach that the blurring effect occurs “*during*—and before completion of—a gesture[.]” Prelim. Resp. 21. Relying on Ahn’s Figures 13a and 13b,⁴ Patent Owner argues that the “touch and drag” operation in Ahn does not change the appearance of the background clock widget *before* a completion of the gesture. *Id.* at 23–25.

As shown in FIG. 13(a), the user’s finger drags from a first point to a second point on the display, while the display does not change as the user’s finger “drags the touch in a left direction.” Only after “the touch and drag operation [i.e., gesture] of the user is completed” is the appearance of the clock changed (FIG. 13b).

Id. at 24 (citations omitted) (citing Ex. 2001 ¶ 75; Ex. 1004 ¶¶ 102, 116).

We find, however, that neither Figures 13a and 13b nor the paragraphs in Ahn cited by the Patent Owner require this interpretation. Figure 13a depicts a display at the start of the user gesture, while Figure 13b depicts the display after the gesture. Neither figure depicts the details of what occurs *during* the gesture. *See* Ex. 1004 Figs. 13a, 13b. Nor does the corresponding written description provide this detail. Ahn paragraph 102

⁴ Figures 13a and 13b are reproduced in Part IX.B.1 above.

reads, “[f]or example, referring to FIGS. 13a and b, if the user touches a specific position of the touch screen 10 and drags the touch in a left direction a menu list 1300 matched to a left direction is displayed in the display 40.”

Id. ¶ 102. Paragraph 116 merely teaches that different menus may be displayed depending on the distance traveled by the dragging gesture: a first menu for a short dragging motion, or a second menu for a longer dragging motion. *Id.* ¶ 116. Neither paragraph discusses whether or when the background clock widget object is blurred.

Concerning Petitioner’s contention that in the Ahn-Chaudhri combination the clock widget of Ahn would progressively blur in response to a dragging gesture, Patent Owner argues in response that Chaudhri does not suggest decreasing the optical intensity of an object *before* a completion of the gesture is detected. Prelim. Resp. 30–38. At least one embodiment of Chaudhri, however, suggests exactly that. Paragraph 79 of Chaudhri, relied on by Petitioner and addressed by Patent Owner, as will be explained below, describes an example in which the device transitions from one application to another, such as “from a telephone application to a music player or vice versa.” Ex. 1005 ¶ 79; *see* Prelim. Resp. 33–34; Pet. 42–43. In this example, “*as the user transitions* from a first application and to a second application, a user interface for the second application may fade in (i.e., increase in intensity) and a user interface for the first application may fade out (i.e., decrease in intensity).” Ex. 1005 ¶ 79 (emphasis added).

Patent Owner contends that in this example, “a POSITA would have understood that the first application UI will fade out *after* completion of the unlock gesture.” Prelim. Resp. 34 (citing Ex. 2001 ¶ 89). Patent Owner further argues that Chaudhri paragraph 79 discloses that the fade in and fade out occurs over a fixed, “pre-determined time interval” that “cannot be

determined until *after* the gesture has been completed.” *Id.* Paragraph 79, however, discloses more than one way to time the fade in/fade out feature: “The fade in and fade out may occur smoothly over a pre-determined time interval, such as 0.2s, 1s or 2s. The pre-determined time interval may be in accordance with the unlock gesture, *such as the time it takes the user to perform the gesture.*” Ex. 1005 ¶ 79 (emphasis added). In other words, contrary to Patent Owner’s arguments, the fade in and fade out disclosed in Chaudhri may occur “*during—and before completion of—a gesture.*” *See* Prelim. Resp. 21.

We determine on the current record that Petitioner sufficiently shows that Ahn teaches a dragging gesture causing a translucent menu to move across the display, and that the combination of Ahn and Chaudhri teaches (or at least suggests) that as the menu moves it would blur a portion of the standby screen as a function of the magnitude of the user’s dragging gesture. Consistent with our construction of blurring as encompassing displaying an object with less detail, we determine for the purposes of institution that Petitioner sufficiently shows that Ahn’s display of the menu on top of the standby screen “blurs” the elements of the standby screen, including the clock widget. Based on the evidence and arguments currently of record, for purposes of institution we are sufficiently persuaded that the combination of Ahn and Chaudhri teaches limitation [1.d.i] of claim 1.

e) Limitation [1.d.ii]

Limitation [1.d.ii] recites “such that a magnitude of the blur itself, and not a magnitude of an area of the touch screen that is blurred, is increased as a function of an increase in the distance magnitude.” Ex. 1001, 102:47–50.

Petitioner contends that the Ahn-Chaudhri combination teaches this limitation. Pet. 41. Petitioner argues that Chaudhri describes applying its changes in optical intensity “to entire ‘graphical objects,’ not just portions of them.” *Id.* at 42 (citing Ex. 1003 ¶ 83; Ex. 1005 ¶ 42 (“The optical intensity module 142 controls the optical intensity of graphical objects, such as user-interface objects, displayed on the touch screen 126.”), ¶¶ 79, 82, 85). Based on these teachings, Petitioner argues, one of ordinary skill in the art would have at least found it obvious in the mobile device of the Ahn-Chaudhri combination that “the entire area of the clock widget is progressively blurred as the touch and drag gesture is detected and a menu is opened, such that the size of the area being blurred does not change[.]” *Id.* at 43.

Patent Owner does not dispute that the entire area of the clock widget in Ahn is blurred, but argues that the proposed combination does not disclose limitation [1.d.ii] because Petitioner must also show that the “blur” of the clock widget “increases as a function of the distance magnitude of the gesture.” Prelim. Resp. 18. Patent Owner contends that Ahn fails to describe any gradual change in the appearance of its clock widget, while Chaudhri explains that “such fading is performed according to a pre-set *temporal* interval, not a *distance* magnitude.” *Id.* at 19.

Patent Owner’s arguments repeat those already made in connection with limitation [1.d.i]. As discussed above, paragraph 79 of Chaudhri teaches that gradual fading may occur “in accordance with the unlock gesture, *such as the time it takes the user to perform the gesture.*” Ex. 1005 ¶ 79 (emphasis added). Additionally, we note that Chaudhri paragraph 87, relied on by Petitioner, provides more detail as to how the indication of progress (the degree of blurring) can be a function of the distance magnitude of the user gesture:

In some embodiments, the indication of progress towards completion of the user input condition is a function of the user's satisfaction of the condition. For example, for a transition to an unlock state, *the indication of progress towards completion is a function of the user's performance of an unlock action*. For a linear function, the indication of progress is 10% complete when the unlock action is 10% complete; the indication of progress is 50% complete when the unlock action is 50% complete, and so forth, up to 100% completion of the unlock action, at which point the transition to the unlock state occurs. Correspondingly, for a linear function, the transition of the optical intensity from an initial value to a final value is 10% complete when the unlock action is 10% complete; the transition is 50% complete when the unlock action is 50% complete, and so forth, up to 100% completion of the unlock action, at which point the optical intensity is at its final value. In some embodiments, the user may perceive the optical intensity transition as a fading in of the user-interface objects as the unlock action is performed.

Ex. 1005 ¶ 87 (emphasis added); *see* Pet. 38–39. We determine that for the purposes of institution Petitioner sufficiently shows that one of ordinary skill in the art would have understood Chaudhri as teaching that the magnitude of the blur increases as a function of an increase in the distance magnitude.

Based on the evidence and arguments currently of record, for purposes of institution we are sufficiently persuaded that the combination of Ahn and Chaudhri teaches limitation [1.d.ii] of claim 1.

f) Summary

Based on the evidence and arguments currently of record, for purposes of institution we are sufficiently persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing in showing that the combination of Ahn and Chaudhri renders obvious claim 1.

5. *Dependent claims 2–6, 10–14, 16, and 17*

Petitioner challenges dependent claims 2–6, 10–14, 16, and 17 as unpatentable and provides a limitation-by-limitation comparison of the dependent claims to the teachings of Ahn and Chaudhri. *See* Pet. 43–75. Patent Owner does not present any arguments specific to the dependent claims. *See* Prelim. Resp. At this stage, we preliminarily determine that Petitioner has shown a reasonable likelihood of prevailing in showing claims 2–6, 10–14, 16, and 17 to be unpatentable over Ahn and Chaudhri. Further analysis is best left for trial after full development of the record.

X. CONCLUSION

Based on the arguments presented in the Petition, we conclude that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to at least one claim of the '727 patent challenged in the Petition. Accordingly, we institute a trial on all claims and on the sole ground asserted in the Petition. 37 CFR § 42.108(a). The Board has not made a final determination under 35 U.S.C. § 318(a) with respect to the patentability of the challenged claims.

XI. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–6, 10–14, 16, and 17 of the '727 patent is instituted with respect to the ground set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '727 patent shall commence on the entry date of this Decision, and notice is hereby given of the institution of a trial.

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