Paper 7

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner

v.

SMITH INTERFACE TECHNOLOGIES, LLC

Patent Owner

IPR2024-01117
Patent 10,656,754

PATENT OWNER PRELIMINARY RESPONSE

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PATENT OWNER'S EXHIBIT LIST

Exhibit	Shorthand	Description
2001	Declaration	Declaration of Marc Davis, Ph.D.
2002	CV	CV of Marc Davis, Ph.D.
2003	JCC	Excerpt of Joint Claim Construction Chart Exhibit A.
2004	Stay Order	October 2, 2024, Order Granting in Part Apple's Motion to Stay in *Smith Interface Technologies, LLC v. Apple Inc.*, 3-23-cv-01187, S.D. Cal (Dkt. No. 127).
2005	Ahn EP	European Publication App. No. EP08101835.0 to Hye Sang Ahn et al. ("Ahn EP")

I. INTRODUCTION

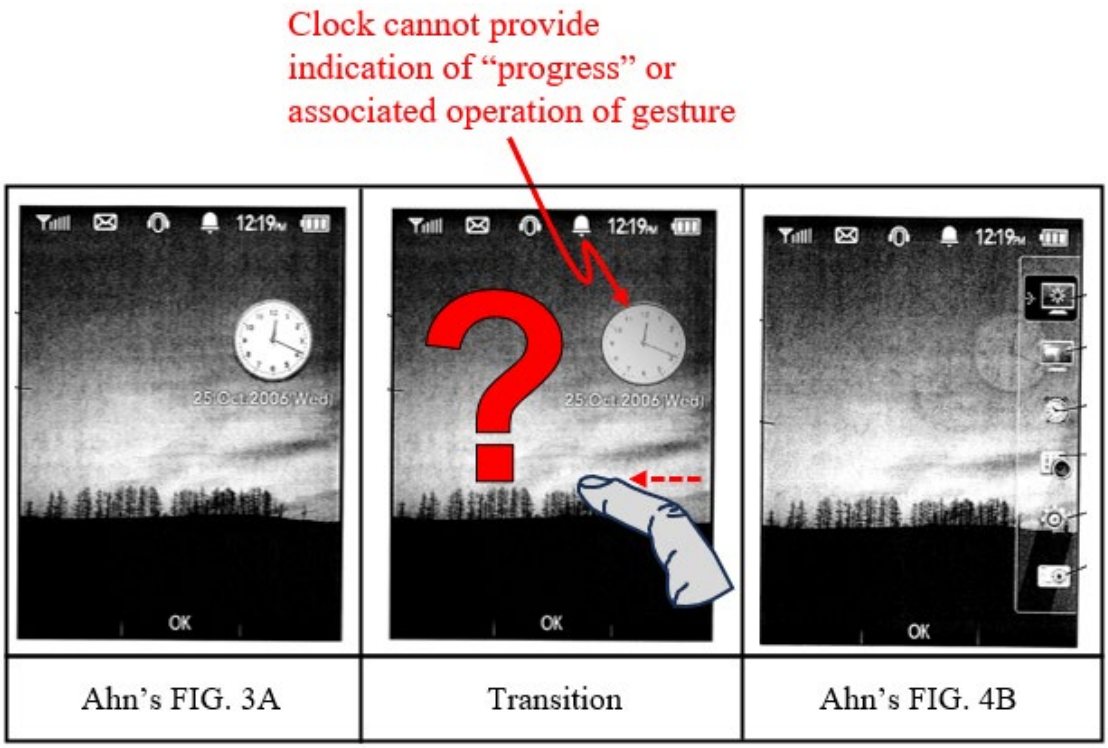
Institution should be denied because the Petition fails to establish a reasonable likelihood of prevailing on any challenged claim.

Limitations [2d] requires "*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." Petitioner provides two theories for this feature, both of which fail to meet what is claimed.

First, Petitioner relies on Ahn alone as disclosing alleged blurring of a background 'clock widget' upon deployment of a menu in response to a "touch and drag operation." But Ahn only displays the menu *after completion* of the touch-and-drag operation—*i.e.*, does not change the appearance of its background clock widget "during detection of" or "before completion" of the alleged gesture.

Second, Petitioner relies on Chaudhri-842's *decreasing* the translucency of *foreground* buttons to a point at which the buttons are 'solid' and selectable by a user to answer or decline a call. Petitioner contends that this would have led a POSITA to *increase* the translucency of Ahn's *background* during Ahn's "touch and drag operation" to (a) indicate progress toward display of the foreground menu (which is not visible during that operation), and (b) to differentiate between the background and Ahn's foreground menu. But neither "motivation" would have led

a POSITA to the asserted modification. As illustrated below, there is no frame of reference for the *background* "blurring," meaning that progressively doing so (while the menu is not visible) would not convey progress toward the display of that *foreground* menu.



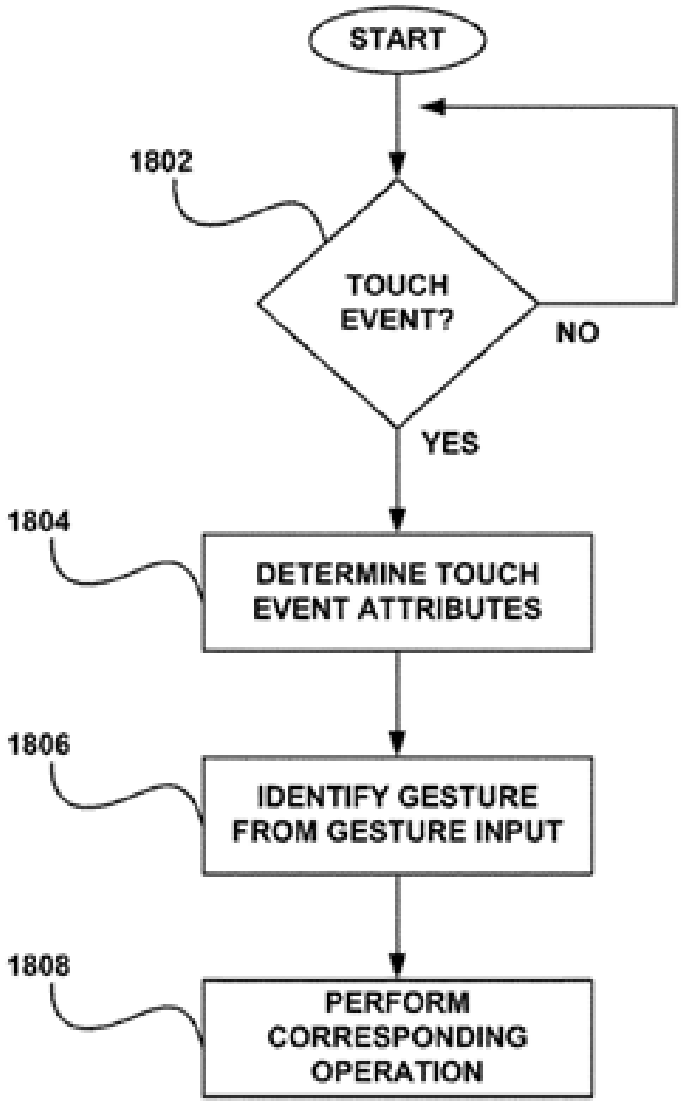
Nor would progressively blurring the background *while the menu is not displayed* do anything to help distinguish between that background and the menu. Ahn already alters the appearance of its background *once the menu is displayed*, such that there is no reason to do so *before* the menu appears. Thus, starting with Ahn, Chaudhri-842, and Petitioner's proffered "motivations," a POSITA would not have arrived at the asserted combination, which is therefore non-obvious.

Institution should therefore be denied.

II. OVERVIEW OF THE ’754 PATENT

The ’754 Patent describes devices, methods, and graphical user interfaces for navigating between user interface objects. EX1001, Title. For example, the ’754 Patent describes a mobile device having various components, including user interface devices such as a touch screen. EX1001, 13:61-14:11. In operation, signals can be received in association with the touch interface (e.g., touch screen) and can correspond to a signal indicative of a touch interface being touched. *Id.*, 14:31-53. The user experience can then be altered utilizing these touch signals. *Id.*, 15:39-51, FIG. 3.

An example of these operations can be seen in FIG. 18, where attributes of touch events are detected, and gesture inputs related to these touch event attributes (both initial and over time) can be identified. EX1001, 56:34-60.



EX1001, FIG. 18.

These attributes can include the duration and/or distance of a gesture because often different gestures will be indistinguishable based on initial contact. EX1001, 56:34-60, 61:1-5. Once the gesture is identified, a corresponding operation can be performed (step 1808). EX1001, 57:9-10. Such operations can include the modification of one or more display attributes such as blurring the display

attributes. EX1001, 57:35-36, 68:58-69:6. For example, some "gestures may be associated with operations that are carried out as functions of the gesture input" EX1001, 59:15-27. In this way, the device can provide a user with feedback as a gesture is performed. *See id.*, 59:47-53.

A. Independent Claim 2

Independent claim 2 is directed to an "apparatus" having one or more processors that are configured to execute instructions to perform functions at the apparatus. EX1001, 95:35-49. Specifically, claim 2 recites **[2a]** 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:

> **[2b]** display an object and at least one other object;
>
> **[2c]** detect at least part of a gesture on the touch screen; and
>
> **[2d]** 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.

EX1001, 95:35-49.

B. Claim Construction

The claims are construed "in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." 37 C.F.R. § 42.100; *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). Petitioner "submits that no claim terms need to be construed to resolve issues of controversy in the present Petition." Pet., 7. In the Litigation,[1] however, Apple contends that "adjacent" is indefinite, and that "distance magnitude [of the gesture]" means "length [of the gesture]." EX2003, 9-16/31, 17-31/31. However, the plain and ordinary meaning of these terms is readily understandable and, in any event, these terms do not appear in the limitations addressed below. Patent Owner does not believe formal construction to be necessary to deny institution on the following bases.

[1] *Smith Interface Techs., LLC v. Apple Inc.*, 3:23-cv-01187 (S.D. Cal., June 27, 2023) (the "Litigation"). On October 2, 2024, the Court granted in part Petitioner's request to stay the Litigation, staying the Litigation "pending the issuance of the last of the PTAB's institution decisions on Apple's pending IPR petitions," with any "further stay" to be addressed after those decisions. EX2004.

III. LEVEL OF ORDINARY SKILL

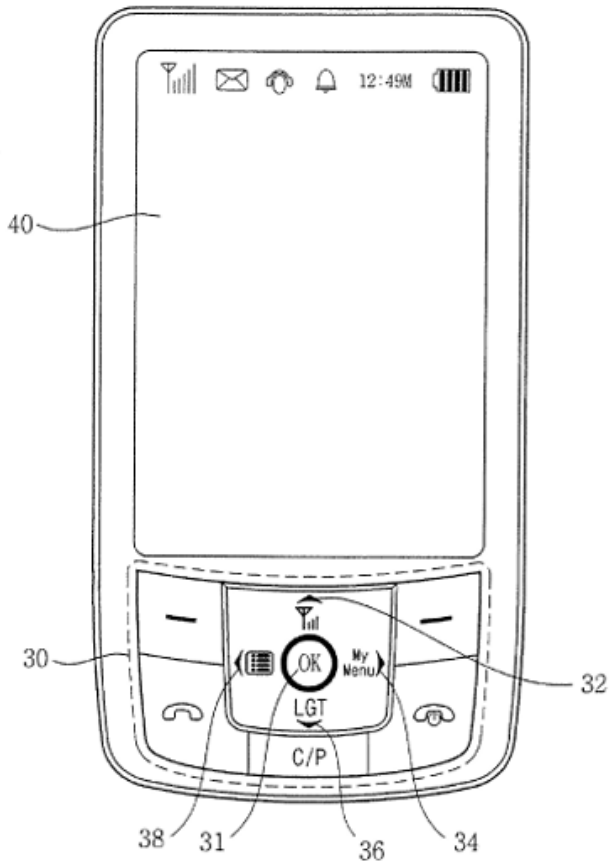
Patent Owner does not agree with all aspects of Petitioner's proposed level of ordinary skill but does not believe that resolving that level is necessary to resolve the issues raised in this preliminary response.

IV. OVERVIEW OF THE PRIOR ART

A. Ahn (EX1004)

As depicted in FIG. 2 (inset below), Ahn discloses a mobile communication terminal that includes a display 40 along with a key input device 30 and a touch input device (e.g., element 10 in FIG. 1). EX1004, Abstract, ¶[0027].

FIG. 2



Ahn's proposed operation attempts to solve the problem where device characteristics are unavailable when a menu list is displayed. EX1004, ¶¶[0005]-[0006]. In conventional browsers, the standby screen disappears when a menu screen is displayed. Thus, Ahn proposes to provide menus that only take up a portion of the display so that the standby screen can still be displayed concurrently with the menu. EX2001, ¶34.

Against this backdrop, Ahn discloses a method of displaying menus in a mobile communication terminal, where each menu can correspond with a selection of one of a plurality of specific directions associated with the menus. EX1004, Abstract ("menu corresponding to the selected specific direction on the standby screen"). In Ahn, the menu is displayed after an input (e.g., after selection of direction key (¶[0034]) or after a touch and drag operation (¶[0102])) is completed. If the input is not completed, the menu will not open and will remain closed (i.e., not displayed). EX2001, ¶36; *see e.g.,* EX1004, ¶[0116] (menu can be displayed "if the touch and drag operation of the user ***is completed***").[2]

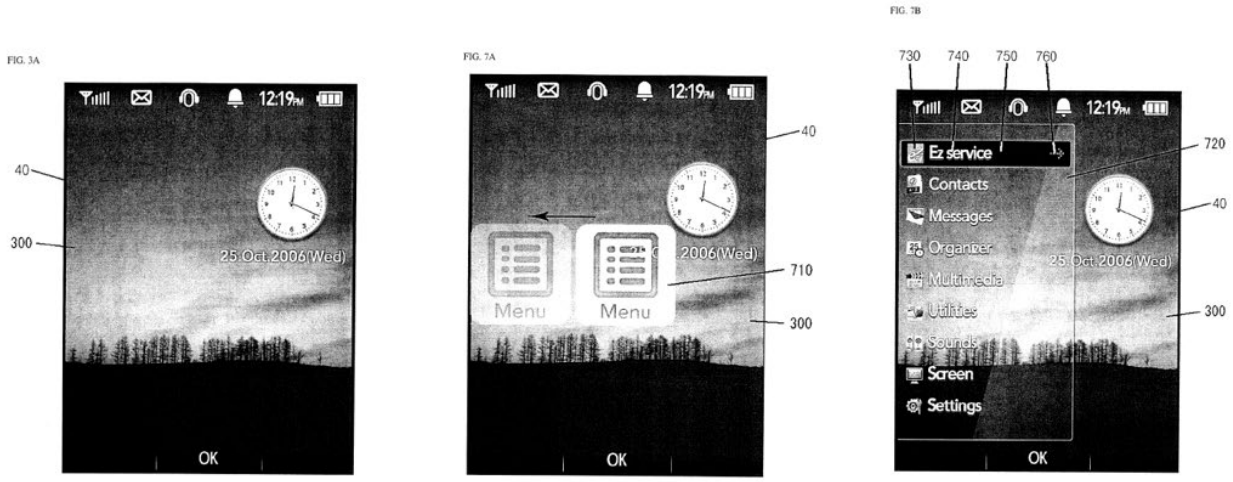
As described in more detail below, Ahn discloses three separate methods for displaying its menu via the use of directional keys, a simple touch and drag operation, and via a start position operation.

[2] All emphasis added unless otherwise noted.

1. Directional Key Operation

In a first embodiment, Ahn describes a method of displaying a menu via a selection of a specific direction on a direction key. *See* EX1004, ¶¶[0030], [0034]-[0035]. As shown in FIGs. 7A-7C, a menu (e.g., setting menu 720/820) can be accessed "when a leftward direction key is selected." *Id.*, ¶[0062]. This operation starts "when the standby screen 300 is displayed on the display 40." *Id.*, ¶[0063]. After the "user selects the leftward direction key 38," an icon 710 is "displayed around the center of the standby screen 300" and then "disappears while moving to [the] left" side of the screen. *Id.* A menu associated with the direction of the user's completed input is then displayed. *Id.*

This operation is illustrated in greater detail below, in which three graphical settings are displayed to the user.



(i) (ii) (ii)

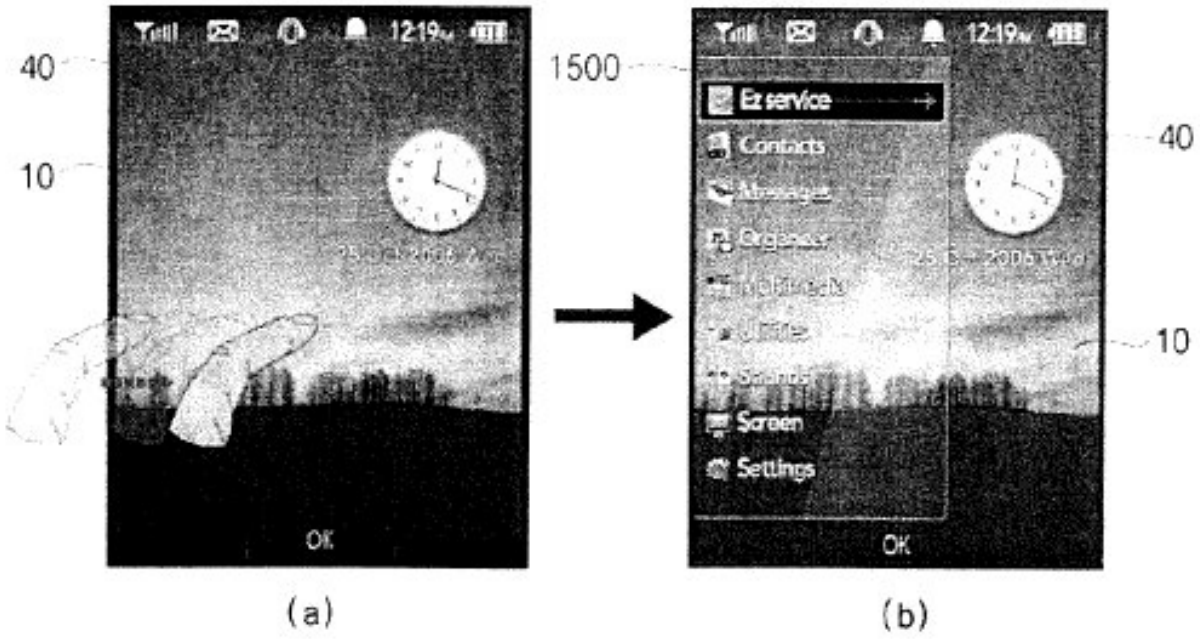
First, the standby screen 300 is displayed. EX1004, ¶[0035]. Next, after the left direction key is pressed (i.e., the gesture is completed), an icon 710 is displayed and

fades to the lefthand side of the screen to provide the user with feedback as to the operation associated with the left direction key. *Id.*, ¶[0063]. Finally, once the icon 710 disappears, a menu 720 is displayed on the lefthand side of the standby screen 300. *Id.*

2. Touch and Drag Operation

In another embodiment, Ahn describes a method of displaying a menu via "a touch and drag operation of a specific direction." *Id.*, ¶[0101], see also ¶¶[0102]-[0104]. As shown in FIGs. 15A-15B of Ahn (inset below), "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." *Id.*, ¶[0103].

FIG. 15

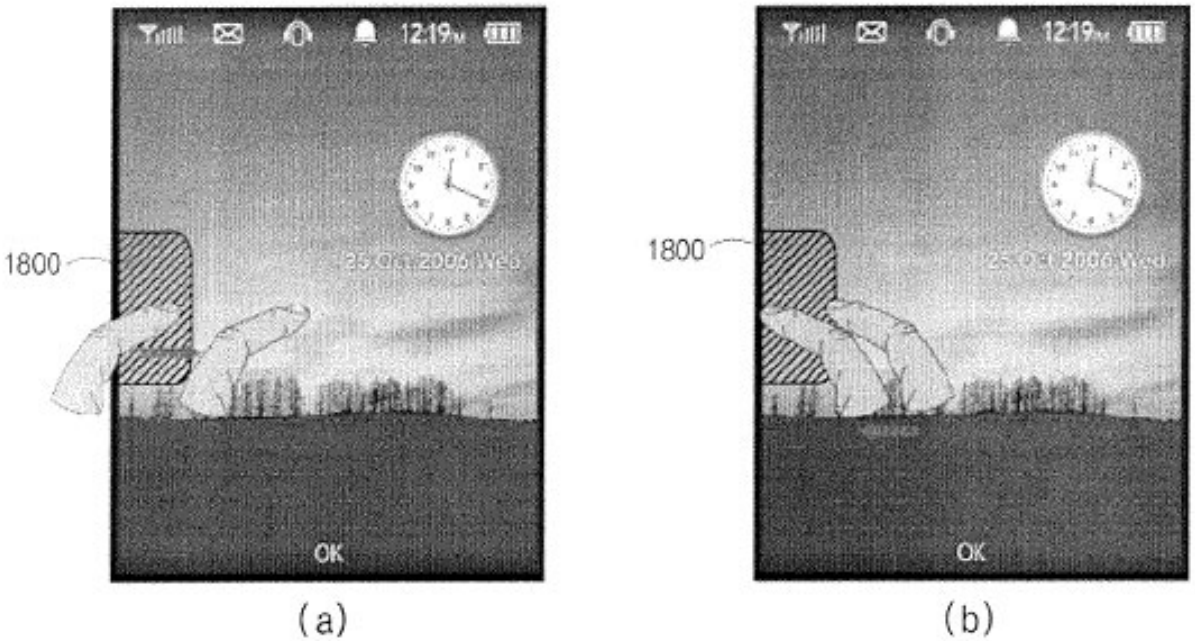


In this operation, "[a] controller 50 detects a touch and drag operation of a specific direction in the touch screen 10." *Id.*, ¶[0107]. Then "controller 50 determines whether a drag distance of the detected touch and drag operation is a first distance or more." *Id.*, ¶[0109]. ***After*** the user performs the touch and drag gesture and the controller compares the drag distance to a threshold, the menu can then be displayed. *Id.*; *see also* FIG. 16 (detecting touch at step 1610 and displaying menu at step 1630); EX2001, ¶41. "That is, if the touch and drag operation of the user ***is completed***, the controller 50 determines a distance of the touch and drag operation, whereby a specific menu list corresponding to the distance can be displayed in the display 40." EX1004, ¶[0116].

3. Start Position Operation

In another embodiment, Ahn describes methods of "notifying a start position of a touch and drag operation to a user," as illustrated in FIGs. 18a and 18b (inset below). *Id.*, ¶[0118].

FIG. 18



In these embodiments, a "graphical shadow 1800," instead of a menu, is displayed based on a user's touch and drag operation. Unlike the directional key and touch and drag operations described above, this operation does not open a menu that corresponds to the direction of a user's input and, instead, menu 1500 is opened based on a left and right swipe. EX2001, ¶43; EX1004, ¶¶[0118]-[0119] (opening menu list 1500 when "the user drags in a right direction after touching" and when "the user touch drags to the left").

In a first embodiment, "if the user drags in a right direction after touching the screen, a graphical shadow 1800 is displayed in the display 40." *Id.*, ¶[0118]. Then, after the drag in the right direction is completed, the user may select and drag the graphical shadow 1800 to display menu list 1500, as illustrated in FIG. 18A.

In a second embodiment, the menu list 1500 can also be displayed "if the user touch drags to the left." *Id.*, ¶[0119]. In this operation, the user touch drags to the left to display the graphical shadow 1800 and, after the gesture is completed, the user may then press the graphic 1800 with a finger. *Id.* After the user selects the graphical shadow 1800 (when activated with a left swipe), the graphical shadow "disappears in the display 40, and the menu list 1500 can be displayed." Thus, Ahn's Start Position operation provides an alternative manner of handling the detected touch and drag gestures than the Touch and Drag Operation described in Section IV.A.2, above. EX2001, ¶45; *see also id.*, ¶¶40-43..

B. Chaudhri-842 (EX1005)

Chaudhri-842 discloses "[a] device with a touch sensitive display [that] may be unlocked via gestures performed on the touch-sensitive display." EX1005, Abstract. The primary focus of Chaudhri-842 is a method for "unlocking [a] device" via a "predefined gesture" where the method includes "moving [an] unlock image to a predefined location and/or moving the unlock image along a predefined path." EX1005, Abstract. As described in more detail below, Chaudhri-842 discloses two separate methods for unlocking a device: (1) via transitioning from a lock screen to a separate interface and (2) via displaying additional interface objects on the lock screen.

1. Transition From Lock Screen to Separate Interface

In a first embodiment, Chaudhri-842 describes a method of unlocking a device using a predefined gesture via transitioning from a lock screen to a separate interface. *See* EX1005, ¶¶[0074]-[0076]. As shown in FIGs. 5A-5D (inset below), this operation starts when a user "touch[es] a touch screen 408 of device 400 with her finger 502." *Id.*, ¶[0074]. Specifically, "[t]he user touches the touch screen 408 at the location corresponding to the unlock image 402 which is located initially at the left end of the channel 404." *Id.* When the user drags the finger "in the direction of movement 504 . . . [t]he unlock image 402 is dragged along the channel 404 as a result of the gesture." *Id.*, ¶[0075]. When "the user has dragged the unlock image 402 to the right end of the channel 404 . . . [and] releases the unlock image 402 at the right end of the channel 404, the unlock action is complete." *Id.* When the unlock action is complete, "the device unlocks and displays on the touch screen 408 user-interface objects associated with normal operation of device 400[,]" such as menu 506. *Id.*, ¶[0076].

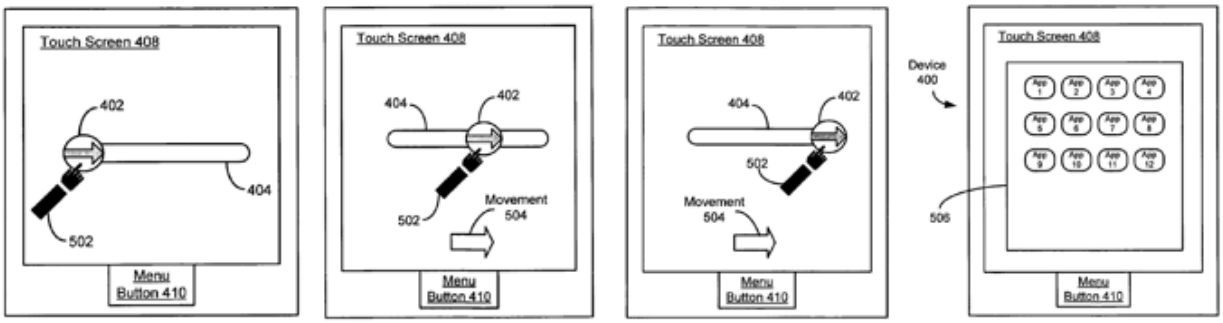


Fig. 5A Fig. 5B Fig. 5C Fig. 5D

2. Display Additional Interface Objects on Lock Screen

In another embodiment, Chaudhri-842 describes a method of unlocking a device using a predefined gesture via displaying additional interface objects on a lock screen. *See* EX1005, ¶¶[0091]-[0093]. As shown in FIGs. 7A-7D (inset below), this operation starts when "device 700 is locked . . . [and] display[s] a prompt 706 to the user, informing the user of [an] incoming call . . . ." *Id.*, ¶[0091]. When the user "drag[s] unlock image 702 along the channel 704 in the direction of movement 712 . . . a set of virtual buttons 708 appears and increases in optical intensity." *Id.*, ¶[0092]. When "the user completes the unlock action by dragging the unlock image to the right end of channel 704 . . . [t]he unlock image 702 and the channel 704 disappear from the display and the virtual buttons 708 are at their final optical intensity levels." *Id.*, ¶[0093]. Once the virtual buttons are at their final intensity levels, "the user may interact with virtual buttons 708 and accept or decline the incoming call." *Id.*

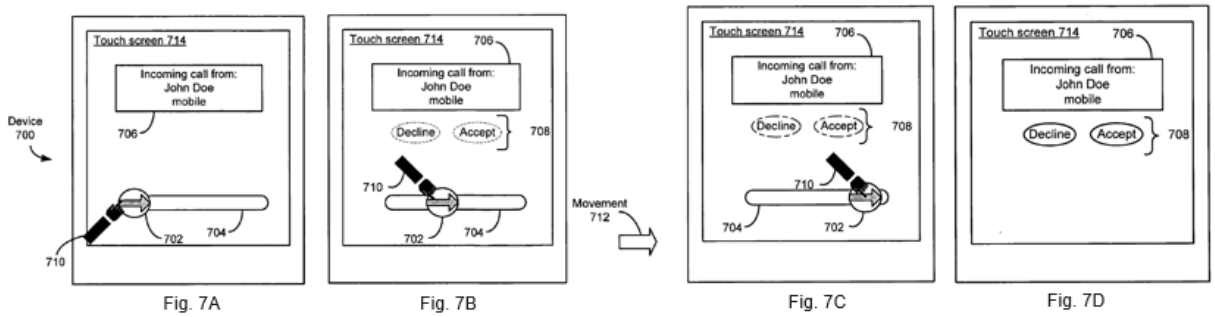


Fig. 7A Fig. 7B Fig. 7C Fig. 7D

V. GROUND 1A: THE PETITION FAILS TO ESTABLISH OBVIOUSNESS OF CLAIMS 2 and 27 OVER AHN AND CHAUDHRI

Petitioner fails to show that its combination of Ahn and Chaudhri would arrive at each of the claimed limitations of independent claim 2. Claims 27 depends from claim 2 and, therefore, Petitioner also fails to establish obviousness of these dependent claims.

A. Limitation [2d]

Independent claim 2 recites one or more processors configured to execute instructions causing the apparatus to perform certain functions.

Limitation [2d] recites "during detection of at least a portion of the gesture before a completion thereof is detected" the processor causes the apparatus to "blur, based on a change in a magnitude of the gesture being detected on the touch screen, at least a portion of <u>the</u> *at least one other object*." *Supra*, II.A. That is, Claim 2 requires "detect[ing] . . . a gesture on [a] touch screen" and "blur[ring]" a portion of an object displayed on the touch screen "during detection of" the gesture and "before a completion" of the gesture is detected. EX1001, 95:45-49, 119:50-54.

"[T]he at least one other object" is introduced in Limitation [2b], which recites "display an object and at least one other object." For Limitation [2b], the Petition relies on the "clock widget of [Ahn's] standby screen 300" as the claimed "at least one other object.". *See* Pet., 28-30 ("at least one of the icons in the indicator area 320 and the clock widget displayed on display 40 of Ahn's mobile communication

terminal 100 are ***an object and at least one other object***, respectively, as in [2.b]" (emphasis in original)); *see also* EX1003, ¶¶83-87 (same). The Petition does not identify any other elements as allegedly corresponding to the claimed "at least one other object." Thus, for Limitation [2d], the Petition must show that Ahn-Chaudhri-842 would have rendered obvious blurring Ahn's "clock widget" as required by the language of the claim. But the Petition fails to establish any reasonable chance of success on this point.

The Petition provides two theories for changing the appearance of Ahn's clock widget in its analysis of Limitation [2d]. Each theory focuses on certain elements of Limitation [2d] but neglects other elements, meaning both theories fail to meet all required elements of Limitation [2d].

Petitioner's first theory relies on Ahn alone; specifically, Ahn's disclosure of displaying a menu in response to a swipe. This theory cannot succeed, at least because Ahn displays the menu 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 by Limitation [2d].

Petitioner's second theory relies on Ahn in combination with Chaudhri-842. Petitioner contends that Chaudhri-842's disclosure, of increasing the optical

intensity of a *foreground* UI element would have led a POSITA to "blur"[3] Ahn's *background*. Pet., 37-40. But Chaudhri-842 does not suggest blurring a background, and Petitioner's expert adds no further explanation or analysis, leaving Petitioner's second theory without support.

1. Petitioner's Ahn Theory is Deficient

Petitioner's first theory relies solely on Ahn. Pet., 32-36. Nowhere in its discussion of the first theory does the Petition propose a modification to Ahn or provide a motivation for doing so. *See* Pet., 32-36.[4] Instead, Petitioner contends that Ahn's menu can be displayed in a translucent state and that "when embodied in translucent form, its menus would have blurred at least a portion of the background

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[3] Patent Owner does not agree with Petitioner's proposed interpretation of blurring. Nevertheless, Petitioner's grounds are deficient even under Petitioner's own interpretation. Patent Owner therefore reserves the right to address Petitioner's interpretation if IPR is instituted.

[4] Petitioner's reference to Chaudhri-842 does not include a modification of Ahn. Pet., 33-34. Further, Petitioner's reliance on providing a visual confirmation of the gesture to the user to "help direct them on how to complete the gesture" (*id.*) is inapplicable in Ahn's user interface and deficient for at least the same reasons discussed in Section V.A.2.

standby screen (e.g., shown in FIG. 12) by rendering the portion under which it is displayed as unclear or less distinct." Pet., 33. According to Petitioner, Ahn's translucent menu list "would have been graphically displayed as ***sliding onto*** the display based on a change in magnitude of the 'touch and drag' gesture being detected on the touch screen." Pet., 34 (emphasis added). But Ahn teaches otherwise.

a. Petitioner's first theory relies on Ahn's Fig. 4B embodiment

Petitioner's first theory is difficult to parse. *See* Pet., 32-37. It begins by addressing the alleged translucency of Ahn's menus (Pet., 32-33), then quotes language that describes certain aspects of Ahn's Figure 18 embodiment (Pet., 33), gives passing mention to Chaudhri-842 (Pet., 33-34) seemingly to suggest an interpretation of Ahn's Figure 18 embodiment (Pet., 33-34), and then lands on Ahn's Figure 4B embodiment to show alleged blurring of the "clock widget" (Pet., 34-36).

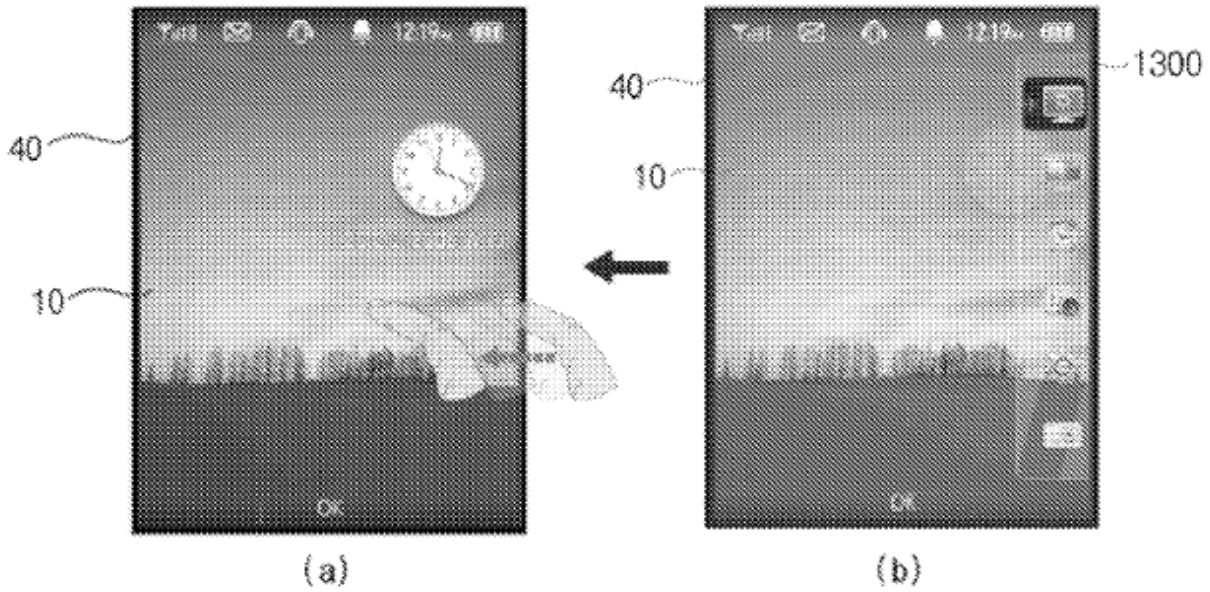
What is crystal clear, however, is that the <u>only</u> place this first theory alleges blurring of the clock widget is in connection with the deployment of user menu 420 in Ahn's Figure 4B. Pet., 30-31, 34-36; *see also, e.g.*, EX1005, FIG. 15 (no apparent change in appearance of clock widget by menu list 1500), FIG. 8C (same). Thus, to succeed on this first theory, Petitioner must show that deployment of Ahn's user menu 420 meets all requirements of Limitation [2.d].

b. Ahn does not alter the appearance of the clock widget *during* detection of and *before a completion* of the gesture is detected

First, Petitioner fails to show that display of Ahn's menu 420 would cause the alleged 'blurring' "during detection of at least a portion of the gesture" and "before a completion [of the gesture] is detected." EX2001, ¶60.

Petitioner's analysis of Limitation [2c] maps the claimed "gesture" to a "touch and drag operation" associated with opening Ahn's menu list 1300, which matches Ahn's user menu 420. Pet., 31-32; *compare* EX1005, FIG. 13 *with id.*, FIG. 4B. Referring to Ahn's FIGs. 13A-B (inset below), a user touches the screen and "drags the touch in a left direction" as shown in FIG. 13A. EX1004, ¶[0102]. <u>Afterwards</u> a menu list 1300 matched to a left direction is displayed, as shown in FIG. 13B. EX2001, ¶61.

FIG. 13



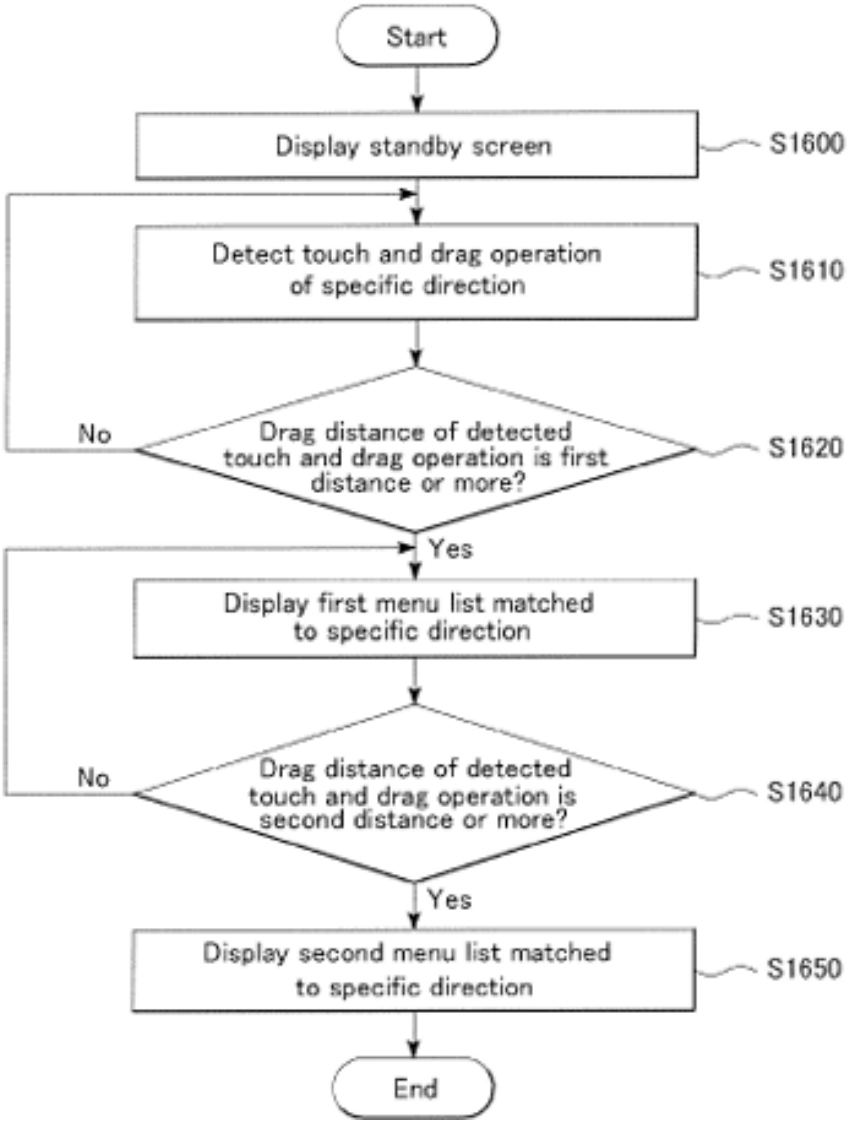
EX2005, 71/75.[5]

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 <u>not</u> change as the user's finger "drags the touch in a left direction." EX2001, ¶62; *see* EX1004, ¶[0102]. Only ***after*** "the touch and drag operation [i.e., gesture] of the user is completed" is the menu displayed (FIG. 13b). *See* EX1004, ¶[0116]. Thus, a POSITA would understand

[5] For improved clarity, the figure is from the counterpart European application (EP1962480) that is substantially identical to Ahn and claims priority to the same applications as Ahn. *See* EX2005, 78/79 (claiming priority to KR 2007-018175, KR 2007-033308, KR 2007-043087); EX1004, 1 (same).

that the drawings of Ahn disclose that its menu 1300 does not move with the user's finger but is displayed after the gesture is detected as complete. EX2001, ¶62; EX1004, ¶¶[0102], [0108]-[0109]; FIG. 13(a) (showing user's finger dragging across screen with no menu displayed); FIG. 13(b) (showing the finger as being removed from the screen when menu 1300 is displayed).

This operation is confirmed by Ahn's FIG. 16 (inset below). EX2001, ¶63; *see* EX1004, ¶[0107]-[0109]. As shown, the touch and drag operation is detected at step 1610 and the drag distance is compared with a drag distance at step 1620 ***before*** a menu is displayed at step 1630. EX1004, ¶[0107]-[0109]. That is, Ahn only displays its menu ***after*** determining a drag distance exceeded a first distance. *Id.*



EX1004, FIG. 16.

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 (right direction on arrow key (¶[0050]) or left slide on touchscreen (¶[0102])) and the menu will stay closed otherwise. EX1004, ¶¶[0106]-[0109], FIG. 16. "That is, if the touch and drag operation of the user ***is completed***, the controller 50 determines

a distance of the touch and drag operation, whereby a specific menu list corresponding to the distance can be displayed in the display 40." EX1004, ¶[0116].

The menu 1300 is not displayed ***during*** the gesture; rather, it is displayed only ***after*** the gesture is completed. *See id.*[6] Petitioner's first theory for Limitation [2.d] does not purport to modify this functionality of Ahn's menu 1300/420. *See* Pet., 32-34. Thus, regardless of whether Ahn's menu alters the appearance of the clock widget once the menu is displayed ***after*** the gesture is completed, the Petition fails to show the menu is displayed (or the clock widget's appearance altered) "***during detection*** of at least a portion of the gesture ***before a completion thereof*** is detected."

c. Ahn's FIG. 18 operation does not alter the appearance of the clock widget

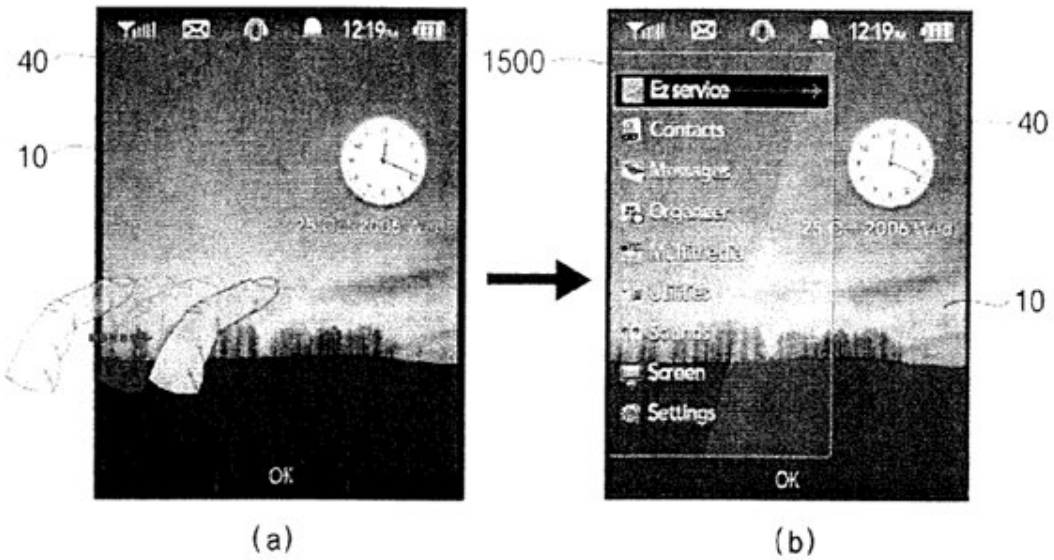
Petitioner's discussion of "Ahn's FIG. 18" is irrelevant to the operation of menu 1300 in Petitioner's mapping. Pet., 33-34. The operation of FIG. 18 is a different embodiment that displays a different menu (menu list 1500) than the menu

[6] Ahn's menu 1300 does not include a "second menu list." *See* EX1004, ¶¶[0051]-[0057] (submenus of menu 420—which corresponds to menu list 1300—are not activated by a slide gesture), [0102], FIGs. 5A-5B, 13; *cf* EX1004, ¶[0112] (second menu list 1710 is displayed by slide gesture), FIG. 17. Thus, the gesture relied on in the Petition is completed after the touch and drag is determined to be past the first distance and before menu list 1300 is displayed. EX2001, ¶65, n.5.

list 1300 associated with the gesture identified in the Petition. EX2001, ¶66; Pet., 31-32 (identifying the gesture "as shown in at least FIGS. 13a and 13b" as allegedly disclosing "detect[ing] at least part of a gesture on the touch screen, as in [2.c]."); EX1004, FIGs. 13a-13b (depicting menu list ***1300***); ¶¶[0118]-[0119] (FIG. 18 describing opening menu list ***1500***). Nor does the Petition explain or provide a motivation for combining the alleged functionality of Ahn's distinct embodiments. As such, Petitioner's reference to Ahn's FIG. 18 only highlights the deficiencies in Petitioner's first theory.

The operation of FIG. 18—which is only disclosed as opening menu list 1500—fails to alter the appearance of the clock widget. As shown in Ahn's FIGs. 15a-15b (inset below), the display of menu list 1500 does not dim, obstruct, or otherwise alter the appearance of the clock widget.

FIG. 15

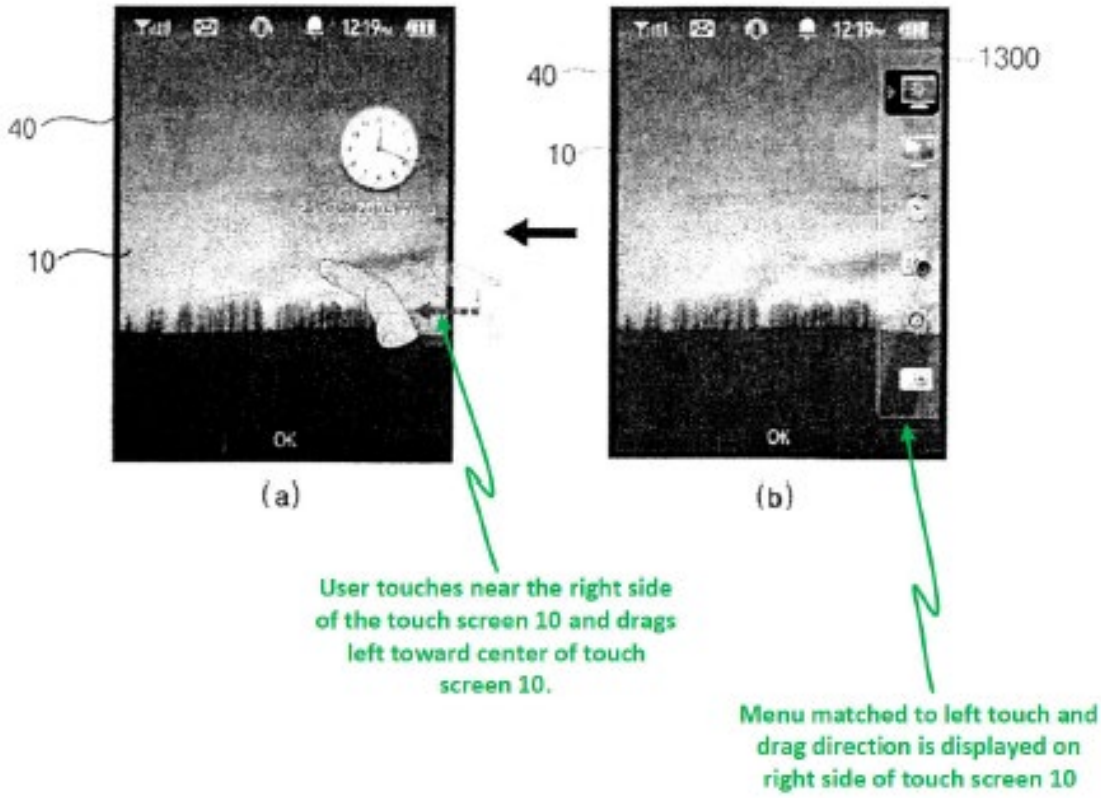


EX1004, FIG. 15A-B (appearance of clock widget is not changed from FIG 15A to FIG. 15B) *see also* FIGs. 8C, 9A, 9B (same).

Ahn clearly shows that the appearance of the clock widget is not altered by menu list 1500 (or corresponding menu list 820). EX2001, ¶68; *see* EX2005, 64-65/79 (showing FIGs. 8C and 9A in more clarity). "[T]he clock widget of standby screen 300" is the only component Petitioner identifies as corresponding to the claimed "at least one other object." Pet., 29-30. Thus, Petitioner's citations to FIG. 18 or graphical shadow 1800 fail to disclose any operation that would "blur … at least a portion of the at least one other object" (e.g. the clock widget), as claimed.

Second, Petitioner's reliance on the operation of FIG. 18 renders Petitioner's mappings internally inconsistent (identifying different menus and different gestures than those previously mapped in the Petition) and must fail for at least this reason. As shown in Petitioner's analysis of Limitation [2c], Petitioner identifies a gesture where "a user initially touches near the right side or edge of the touch screen 10 and initiates the drag gesture that moves inward toward the center of the display." Pet., 31. In this scenario, "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." EX1004, [0102]. Petitioner's position is illustrated in its annotated version of Ahn's FIGs. 13a-13b (inset below).

FIG. 13



Menu list 1300 is unequivocally different than menu list 1500 (EX1004, ¶¶[0102]-[0103]) and, therefore, Petitioner's mapping is internally inconsistent.

Petitioner also inconsistently maps to different gestures. For Limitation [2c], the Petition identifies the claimed gesture as a user "drags the touch in a left direction." Pet., 31. As explained above in Section IV.A.3, Ahn describes two embodiments for opening menu 1500 in the start position operation shown in Ahn's FIG. 18A-B. In the first embodiment of the start position operation, "if the user drags in a right direction after touching the screen, a graphical shadow 1800 is displayed in the display 40." EX1004, ¶[0118]. Thus, the gesture in Ahn's FIG.

18A (right drag) is not ***the*** gesture the Petition identifies for Limitation [2c] (left drag).

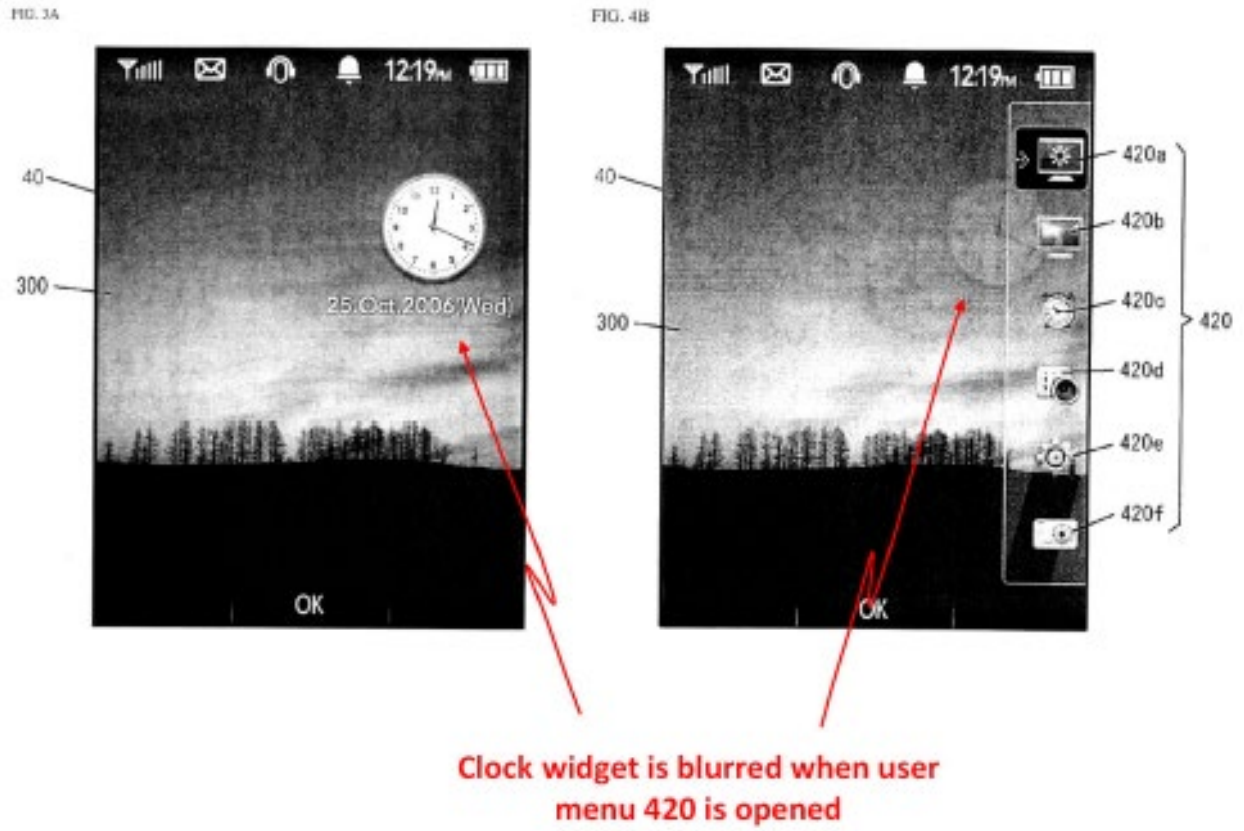
In the second embodiment (Ahn's FIG. 18B), when the user performs a touch and drag in a ***left*** direction—similar to Petitioner's mapping of the gesture in Limitation [2c] (Pet., 31)—a graphical shadow 1800 is displayed, not a menu. EX1004, ¶[0119]; EX2001, ¶71. Performing the identified gesture in the second embodiment of the start position operation (displaying graphical shadow 1800) does not alter the appearance of the clock widget. In this operation, a user may perform a ***separate*** gesture to display menu list 1500, but this gesture is inconsistent with "the gesture" identified in the Petition (EX2001, ¶71; EX1004, ¶[0119]) and, regardless, menu list 1500 does not "blur" the clock widget.

Independently, Petitioner's treatment of different embodiments of Ahn as interchangeable is insufficient to support obviousness. *See Abiomed, Inc. v. Maquet Cardiovascular, LLC*, IPR2017-01204, -01205, Paper 8 at 10-11 (faulting Petitioner for "treat[ing] the various features of [reference's] different embodiments as if they are interchangeable with one another.") When relying on two disparate embodiments of Ahn, Petitioner must provide "a sufficient rationale to combine the teachings of [the reference's] different embodiments." *Id.* Petitioner does not and, thus, fails to establish obviousness.

2. Petitioner's Ahn-Chaudhri Theory is Deficient

Petitioner's second theory relies on the alleged blurring of the clock widget in Ahn's background. Pet., 35-36. According to Petitioner, "when the user menu 420 is opened, Ahn illustrates that the clock widget becomes blurred." *Id.* As explained above, however, Ahn does not display its user menu 420 or alter the appearance of its background until *after* completion of Ahn's "touch and drag operation." Ahn therefore does not alter the appearance of its clock widget "during detection of at least a portion of the gesture before a completion thereof is detected."

Petitioner then turns to Chaudhri-842's, "use of transitioning optical intensity." Pet., 36-37, 39-40. Specifically, Petitioner contends that it would have been obvious to "blur" Ahn's clock widget during a transition from "a [first] user interface state where the standby screen is displayed (*see, e.g.*, EX1004, FIG. 13a) to a second user interface state where a menu list 1300 is displayed above or on top of the [background] standby screen (*see, e.g.*, EX1004, FIG. 4B, 10, and 13b)." The two alleged user-interface states are illustrated by Petitioner's annotated Figures 3A and 4B of Ahn (reproduced below). Pet., 36, 39-40.



For this theory, Petitioner contends that Chaudhri-842 would have led a POSITA to *decrease* the optical intensity of Ahn's *background* (including the clock widget). But that is not what Chaudhri-842 discloses. EX2001, ¶74. As explained below, rather than address Chaudhri-842's actual teachings, the Petition simply uses the challenged claims as a roadmap to select and reassemble certain words of Chaudhri-842 to seemingly match what is claimed. However, Petitioner's presentation of Chaudhri-842 is incorrect, and the alleged motivations for modification of Ahn are illogical and would not result in Petitioner's combination.

a. Petitioner's proposed modification is inconsistent with Chaudhri-842's varying the optical intensity of foreground UI elements

Chaudhri-842 does not vary the optical intensity of a background. EX2001, ¶75. To the contrary, Chaudhri-842 discloses adjusting an optical intensity of user interface (UI) objects: "The optical intensity of a user-interface object, as used herein, is the object's degree of visual materialization." EX1005, [0085]. And Chaudhri-842 repeatedly makes clear that user interface objects are distinct from a background. *See, e.g.*, EX1005 [0085] ("optical intensity may be the visual differentiation *between* the user-interface object and *the background*"); EX2001, ¶75. Thus, Chaudhri-842 teaches varying the optical intensity of foreground UI elements. EX2001, ¶75.

Unlike Chaudhri-842's foreground UI elements, Ahn's clock widget is part of the background, as conceded by Petitioner. *See* Pet., 35 ("that a clock widget is part of the background standby screen 300"), 40 ("the background (e.g., the standby screen and/or clock widget)."). But Chaudhri-842 does not suggest adjusting the optical intensity (or otherwise altering) a background. EX2001, ¶76. And neither the Petition nor Petitioner's expert explain this gap in logic.

Further, Petitioner's assertion to "vary … the optical intensity of the [background] standby screen" by "utilizing [a] progressive translucency" on the background (Pet., 39-40) is nonsensical. EX2001, ¶77. The modification proposed

in the Petition relies solely on altering "transparency" for the variation in optical intensity. Pet., 38-39 (emphasis in original); *see id.*, 35 ("blur includes changing a translucency"). However, 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. EX2001, ¶77.

b. Petitioner's proposed modification is inconsistent with Chaudhri-842's varying the optical intensity UI elements associated with a second user-interface state

As explained in the Petition, "Chaudhri-842 describes 'a process 600 for indicating progress towards satisfaction of a user input condition.'" Pet., 37-38 (quoting EX1005, ¶[0080]). In this process, an electronic device is transitioned between a first user-interface state and a second user-interface state. EX1005, [0081]-[0082]. Chaudhri explains that "progress is indicated (604) towards satisfaction of the condition by transitioning an optical intensity of one or more user interface objects ***associated with the second user-interface state***." EX1005, [0081]-[0082]. This operation is illustrated in Chaudhri's FIG. 6 (inset and annotated below).

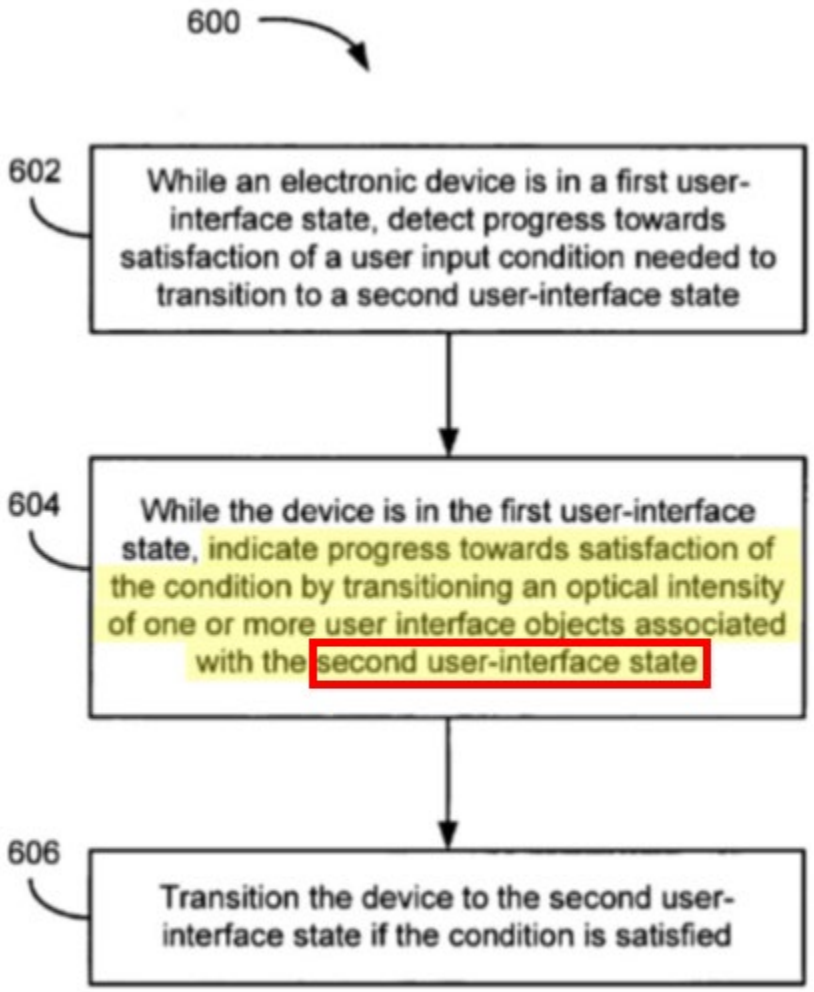
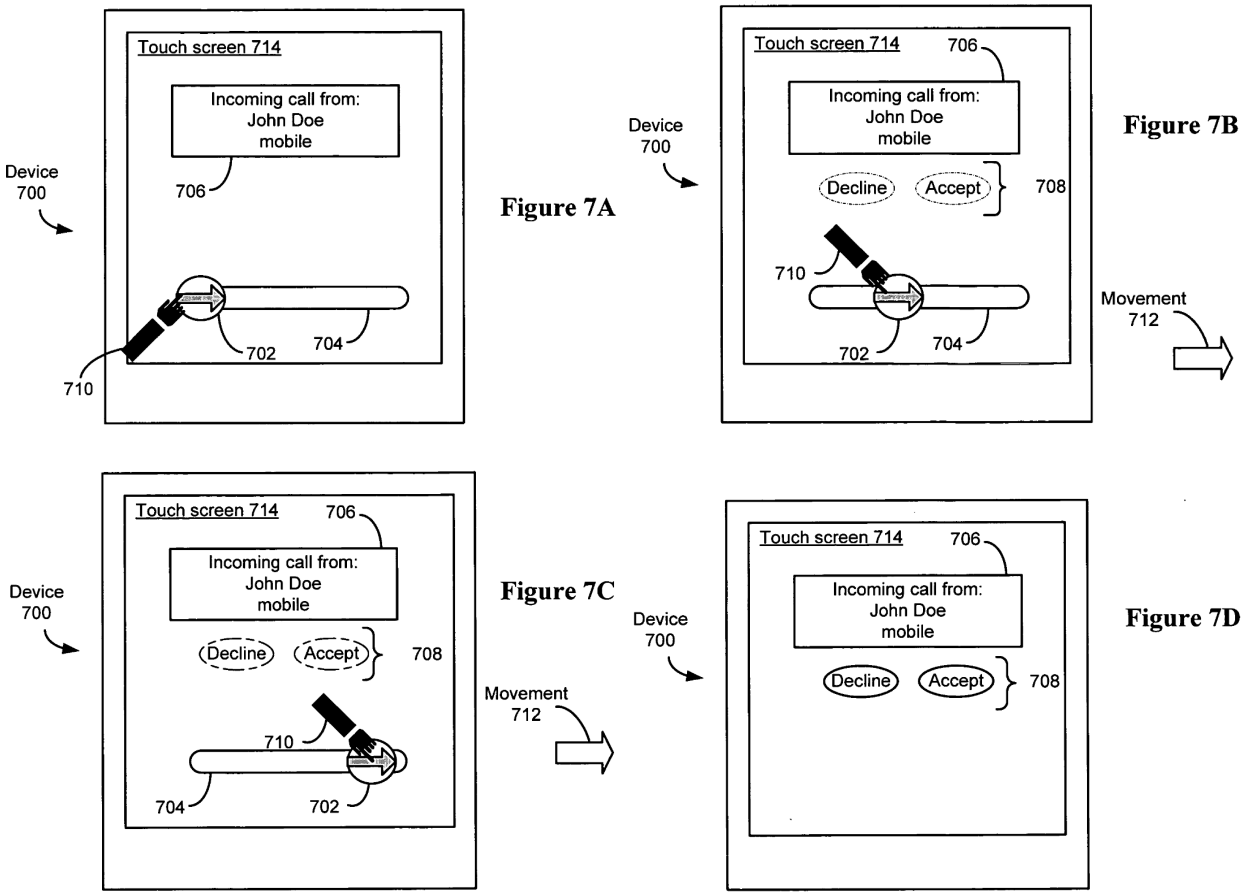


Figure 6

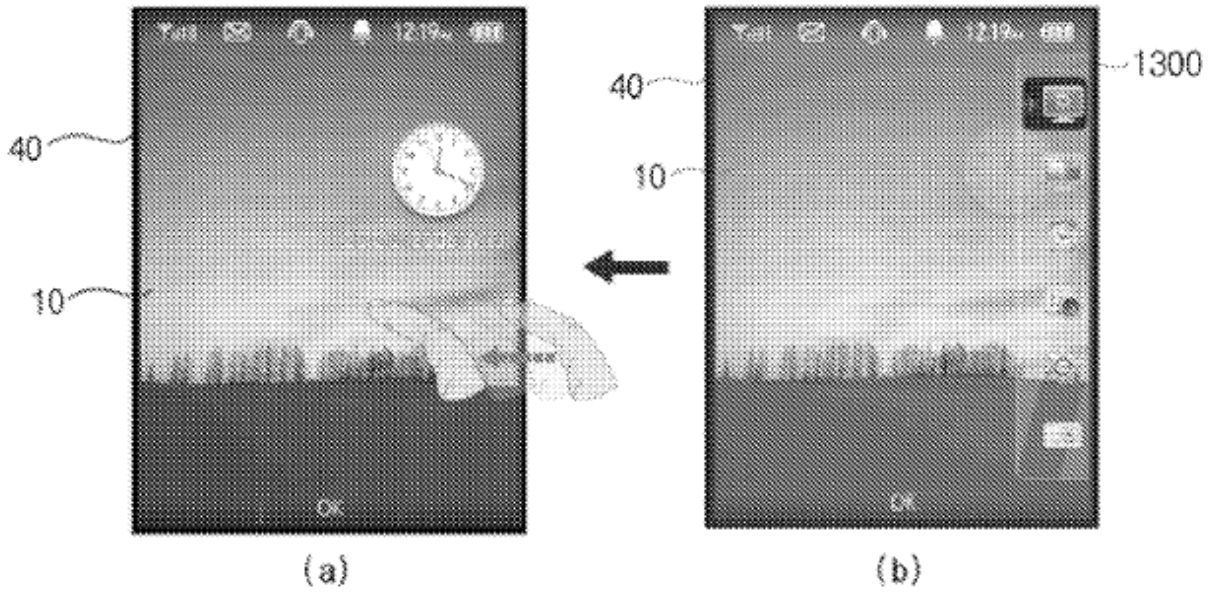
EX1005, FIG. 6. Chaudhri-842 also illustrates an example of this concept in its Figures 7A-7D (inset below). As shown, as the arrow 702 slides to the right, the optical intensity of the virtual buttons 708—associated with the <u>second</u> user interface state—increases. EX1005, [0092]-[0093] ("In FIG. 7D, the user completes the unlock action … [such that] [t]he unlock image 702 and the channel 704 disappear

from the display and the virtual buttons 708 are at their final optical intensity levels, as illustrated by their solid outlines."); *see also* EX2001, ¶79.



In contrast, Petitioner's Ahn-Chaudhri combination relies on *reducing* the optical intensity of Ahn's background (the alleged *first* user interface state). Specifically, Petitioner identifies the standby screen of Ahn (FIG. 13A – below left) as corresponding to the <u>first</u> user-interface state and "state where a menu list 1300 is displayed" (FIG. 13B – below right) as the <u>second</u> user-interface state. Pet., 39-40.

FIG. 13



EX2005, 71/75.

In Petitioner's mapping to Ahn, the clock widget is displayed in (e.g., associated with) the ***first*** user-interface state. EX2001, ¶81. But Chaudhri-842 does not teach adjusting the optical intensity of an object associated with the ***first*** user-interface state. EX2001, ¶81. Thus, Petitioner's modification to change the appearance of Ahn's clock widget (of the ***first*** user-interface state) is inconsistent with Chaudhri-842's teaching to "transition[] an optical intensity of one or more user interface objects associated with the ***second user-interface state***." EX1005, ¶82; EX2001, ¶81. As such, here too, Petitioner's alleged modification does the opposite of what Chaudhri teaches, and a POSITA would not have made such a

conflicting modification—especially not without some articulable reason, which the Petition does not provide. EX2001, ¶81.

Ultimately, Petitioner's proposed modification would not have made sense in the context of Chaudhri-842's teachings. EX2001, ¶82. As shown in Chaudhri-842's FIGs. 7A-7D (above) a ***selectable UI element*** (708) from a second interface state <u>increases</u> in optical intensity to signify to the user that further completion of its gesture will allow the user to interact with that UI element. EX2001, ¶82; EX1005, ¶[0092]. In the example of Chaudhri-842's FIGs. 7A-7D, the increasing optical intensity of the virtual buttons 708 helps the user understand that continuing to slide image 702 to the end of channel 704 will allow the user to interact with (e.g., select) one of buttons 708. *Id.*

In contrast, Petitioner's modification would decrease the optical intensity of the *background* clock widget as the user drags their finger towards an undefined end, which would not offer any context to the user on what operation will occur or when. EX2001, ¶83. Thus, Petitioner departs from Chaudhri-842's teachings at least in that the proposed Ahn-Chaudhri-842 combination purports to make translucent a *background* object (clock widget) that is part of the *first* user interface state. EX2001, ¶83. It makes little sense to add translucency to a background, given the lack of anything beneath the background that might otherwise show through (Petitioner offers no other motivation for making any element translucent). EX2001,

¶83. Moreover, 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-842 for *increasing* the optical intensity of Chaudhri-842's virtual buttons. EX2001, ¶83 (a POSITA would understand that the clock widget is not selectable when obstructed by menu).

Petitioner fails to acknowledge these significant discrepancies, much less provide any evidence or explanation for why a POSITA would have done the opposite of what Chaudhri-842 discloses. That alone undermines the alleged Ahn-Chaudhri-842 combination.

c. Petitioner's Asserted Modification Would Not Achieve the Functionality that Allegedly Motivates Petitioner's Combination

Petitioner relies on several of the benefits associated with Chaudhri-842's operation as motivations for a POSITA to make its alleged modifications to Ahn. But, as explained above, Petitioner's alleged modifications are inconsistent with Chaudhri-842's teachings and, ultimately, none of those purportedly motivating benefits actually carry over to Petitioner's alleged combination.

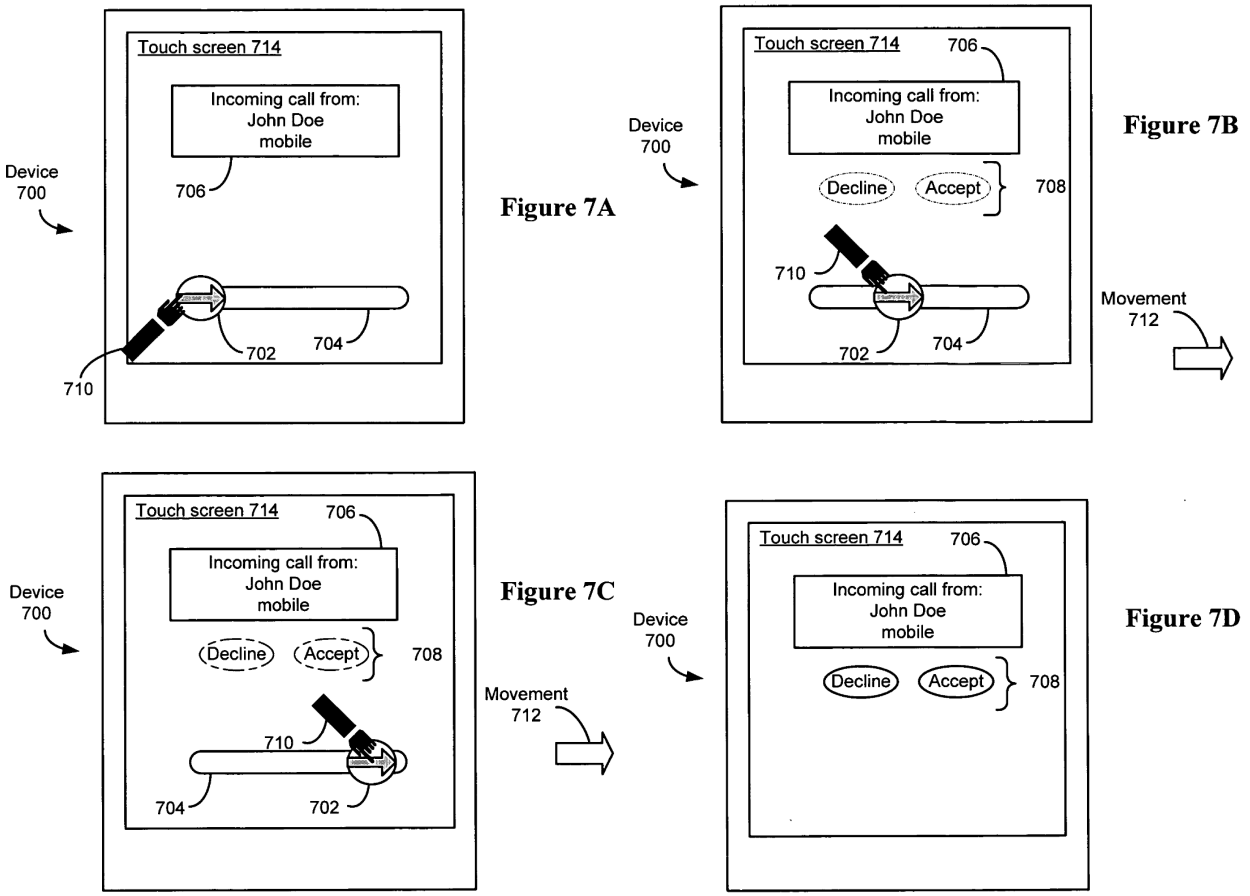
To illustrate, Petitioner contends it would have been obvious to implement its modification—alleged "blurring" of the clock widget during the touch and drag

operation—"to provide ***visual feedback*** regarding the ***progress*** of a transition between user interface states." Pet., 36-37. According to Petitioner, this would (1) "provid[e] a visual indication to the user of their progress in completing the gesture" and (2) "help differentiate between the" menu list and the clock widget. Pet., 40. But a POSITA would not have expected either purported motivation to be present in Petitioner's proposed Ahn-Chaudhri-842 combination.

(1) *Petitioner's modification does not provide visual feedback of the progress of a user's gesture*

The alleged "blurring" of Ahn's clock widget during Ahn's "touch and drag operation" would not provide the user with any indication of progress of opening menu 420/1300. EX2001, ¶¶86-87.

Chaudhri-842 shows progress by an indicator 702 moving toward an "end" of a channel 704. EX1005, FIGs. 7A-7D; *see also id.*, [0071] (end of the channel 404 "serves as a predefined location to which the unlock image 402 is to be dragged."). Simultaneously, optical intensity of the virtual buttons 708 *increases* to "their final optical intensity levels, as illustrated by their ***solid outlines***." EX1005, [0093].



Thus, a user is given feedback of the progress of an "unlock action" by the distance the indicator 702 has moved relative to the total length of the channel 704, and by virtual buttons 708—associated with the second user-interface state—*increasing* in optical intensity to an opaque end point with "solid outlines." *Id.*, [0090]-[0093]; *see also id.*, [0087] ("the indication of progress may be defined in terms of the distance between the two edges because the distance remaining objectively measures how much further the user has to move her finger to complete the gesture"). Chaudhri-842's visual feedback is thus provided only because the

selectable virtual buttons 708 of the second user-interface state *increase* in optical intensity. EX2001, ¶89.

A POSITA would have understood that this visual feedback is absent from Petitioner's proposed modification of Ahn. EX2001, ¶90. In Petitioner's modification, the user cannot compare its gesture to some visual end point and, instead, would see only in abstract the alleged "blurring" of the clock widget. *Id.* But that change in appearance of the clock widget offers no indication of progress, at least because it's end state cannot be perceived or predicted based on that alleged change in appearance. *Id.* Nor does it direct a user to a selectable object as in Chaudhri-842, because a user would not be able to interact with Ahn's clock widget once the menu is displayed over the top of that clock widget. EX2001, ¶92.

Petitioner's alleged modification of Ahn[7] is illustrated by the below figures in which a device transitions from a Standby Screen (corresponding to Ahn's FIG. 3A) to a Menu Screen (corresponding to Ahn's FIG. 4B) in response to a touch and drag gesture as described in Ahn. EX2001, ¶¶91-92; *see* Pet., 39-40.

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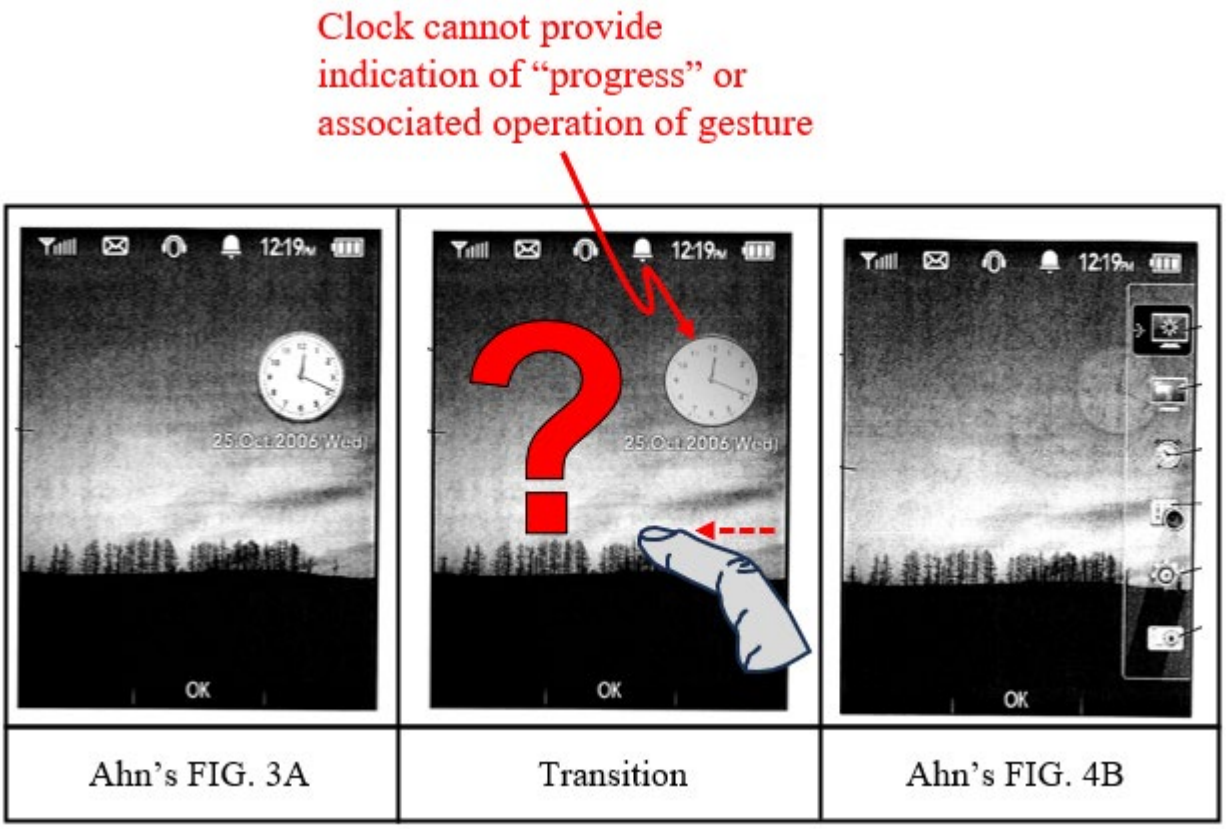
[7] Petitioner's modification relies on functionality that is not suggested in either Ahn or Chaudhri-842 and should fail for this reason alone. *Supra*, §V.A.1, V.A.2.a-b. Nevertheless, the illustration of Petitioner's modification highlights the deficiencies in Petitioner's motivations.



As is apparent in this sequence of figures (and Ahn's FIG. 13B), the clock widget remains visible throughout the transition. This increase in the alleged "blur" of the clock widget, from left to right in the images above, does not suggest to a user *when* or *if* the menu 420 will appear as in Ahn's FIG. 4B. Nor is this end-state (display of the menu) otherwise related to the alteration of the clock widget in any manner that is perceivable by a user. EX2001, ¶92. For example, there is no frame of reference to discern any progress, relative to its required distance, of the gesture based on the changing appearance of the clock widget.

As such, the alleged "blurring" *during* the touch and drag operation would <u>not</u> provide any indication of (1) how much of the gesture is completed, or (2) how much

of the gesture is remaining. *Id*; *contra* EX1005, ¶¶[0088]-[0090] ("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 and ***how much of the gesture is remaining***"); Pet., 39 (quoting same). In other words, a user cannot tell from the alleged "blurring" how much more "blurring" or swiping is needed before the menu will appear. EX2001, ¶92.

Petitioner and its expert fail to provide any actual explanation as to how the asserted change on appearance of the *background* clock widget would allow a user to gauge a "progress" of the left drag gesture in Ahn, and it would not. EX2001, ¶93. Rather, this change in appearance would indicate only that a gesture is happening, but the user *already* knows that much because the user *is performing* that gesture. *Id.* As in Ahn alone, the user would only know the gesture is complete once the menu list 1300/420 appears, ***upon completion of the gesture***. *Id.* Accordingly, a POSITA would have understood that Petitioner's purported modification would not provide any indication of a user's progress in completing Ahn's "touch and drag" gesture because, unlike Chaudhri-842, the Petition's proposed UI shows no indication of progress toward a clearly visible end goal. *Id.* Thus, Petitioner's purported 'progress' motivation would not have led a POSITA to make the asserted modification of Ahn.

(2) Petitioner's modification does not help differentiate between objects

Petitioner's assertion that "utilizing this progressive translucency or 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)" is misguided and is not supported by evidence. Pet., 40.

To start, Ahn's menu is not displayed until ***after*** the gesture is completed. *Supra*, §V.A.1.b. Thus, in Petitioner's modification of Ahn, the menu would not be displayed while the appearance of Ahn's clock widget is progressively changing. EX2001, ¶95. Without the display of the menu there can be no differentiation between the menu and the clock widget, as Petitioner alleges.[8] EX2001, ¶95. And, once the menu is displayed, Ahn already subjects the clock widget to the alleged "blurring." EX1004, FIG. 13(b). Thus, this alleged 'differentiation' motivation offers no change from the 'differentiation' already provided by Ahn. That is, the alleged motivation is a solution without a problem. *See Ex parte Rinkevich*, Appeal No. 2007-1317, slip op. at 8-9 (BPAI May 29, 2007) (noting that "the problem proffered by the Examiner is already solved" by the primary reference, and explaining that "a person of ordinary skill in the art having common sense at the time

[8] Petitioner does not articulate a modification or a motivation to change Ahn's menu 1300 to slide in as the touch and drag gesture is being performed.

of the invention would not have reasonably looked at [a secondary reference] to solve a problem already solved by [the primary reference].”).

Further, a POSITA would understand that the cited portion of Chaudhri-842 teaches that differentiation between a user-interface element and a background is a function of the total difference of optical intensity and not any *progressive change* in optical intensity. EX2001, ¶96; EX1005, ¶[0085] (defining “***the*** optical intensity”—not a progressive change in optical intensity—as “the visual differentiation between the user-interface object and the background”); Pet., 38 (citing EX1005, ¶[0085]). Thus, it is the difference in opacity between the UI element and the background that results in the visual differentiation of Chaudhri-842. EX2001, ¶96; EX1005, ¶[0085]. Accordingly, a POSITA reading Chaudhri-842 would have understood that progressively changing the appearance of Ahn’s background would not improve visual differentiation of Ahn’s menu 1300 because (1) the alleged “blurring” of Ahn’s background is already present when menu 1300 is visible, and (2) progressively “blurring” that background while menu 1300 is *not visible* would not help visually differentiate that menu 1300 from the background. EX2001, ¶96. Thus, Petitioner’s purported ‘differentiation’ motivation would not have led a POSITA to make the asserted modification of Ahn.

(3) Petitioner's generic motivations also fail

Petitioner's mapping of Limitation [2.d] also references Section VI.A.3 of the Petition as support for its assertion that "a POSITA would have found it obvious to apply Chaudhri-842's user interface state transition techniques—particularly the use of transitioning optical intensity to provide visual feedback regarding the progress of a transition between user interface states as a result of detecting a user's input of a predefined gesture—in the context of Ahn's mobile communication terminal 100." Pet., 36-37. Foundationally, this sentence is so broad as to be meaningless and, as explained above, Petitioner's modification does not "provide visual feedback regarding the progress of a transition between user interface states." *Supra*, §V.A.2.c(1)-(2). Petitioner fails to assert that, much less explain why, Chaudhri-842's teachings would be applied in a way that would meet the claims. EX2001, ¶97. Nevertheless, the four motivations alleged in that referenced section also fail to lead a POSITA to Petitioner's alleged combination. *See*, Pet., 19-23.

First, Petitioner asserts generally that "Chaudhri-842 provides one example of implementation details that are lacking for a feature otherwise disclosed in Ahn." Pet., 19. However, for the reasons explained above in Sections V.A.2.a-b, Chaudhri-842 discloses varying the optical intensity of UI elements (not the background), and discloses increasing the optical intensity of UI elements associated with a second user-interface state (not decreasing optical intensity of a background

associated with first user-interface state). EX2001, ¶98. As such, Petitioner's proposed modifications to Ahn do not implement the alleged "implementation details" of Chaudhri-842's. *Id.*

Second, Petitioner asserts generally that "Chaudhri-842 teaches that the 'change in optical intensity of the user-interface objects provides a user with sensory feedback of the progress in transitioning between user interface states.'" Pet., 20. But this is the same motivation parroted specifically for Limitation [2.d], and therefore fails for the same reasons explained in Section V.A.2.c(1) above. EX2001, ¶99.

Third, Petitioner asserts generally that "a POSITA would have known that transparency, translucency/blurring, and other 'focus and context' techniques may be utilized in user interfaces to help draw a user's attention to the most relevant part of a user interface." Pet., 22. This too is the same "visual differentiation" motivation parroted specifically for Limitation [2.d], and therefore fails for the same reasons explained in Section V.A.2.c(2). EX2001, ¶100.

Fourth, Petitioner asserts generally that "POSITA would have known that varying optical intensity for a user interface object (e.g., the blurring of Ahn's clock widget) as a function of the magnitude of the user's touch and drag gesture would have been one of a limited number of ways of implementing the blurring effect that's shown in FIGS. 4B, 10, and 13B of Ahn." Pet., 23. Petitioner continues that

"[e]ither a POSITA could have implemented the blurring effect in a binary fashion (e.g., toggling instantaneously between unblurred and blurred) or progressively varied the blur as a function of the user's gesture, as taught by Chaudhri-842." Pet., 23. Here, Petitioner abandons its first three motivations and, as a last-ditch fallback , constructs a false binary choice of its own by framing the decision as simply either/or. EX2001, ¶101. Not only is this motivation divorced from the teachings of Ahn or Chaudhri-842, but it is also belied by Petitioner's own arguments based on the various reasons and considerations driving a POSITA's decision of whether, when, and how to blur Ahn's background. *See, e.g.*, Pet., 19-23.

As explained in Section V.A.1.b above, Ahn's menu 1300 is not displayed until after the "touch and drag operation" is complete. EX2001, ¶102. As such, varying the optical intensity of Ahn's background *during* the touch and drag operation is pointless because there is simply no menu 1300 displayed to show progress toward or to visually differentiate from the background. EX2001, ¶102. Weighing against doing so is the fact that varying the optical intensity of the background is not without cost. *Id.* In particular, *progressively* varying the optical intensity of the background in a touch input device 10 like Ahn's would require code that would eat into the device's limited storage, as well as the use of limited processing and memory bandwidth, and limited battery power, to execute the function of varying that optical intensity. *Id.* In Petitioner's asserted combination,

progressively varying the optical intensity of the background while the menu 1300 is not displayed would serve no purpose. *Id.* As such, even assuming Petitioner's false binary, a POSITA would have chosen not to expend resources to make that modification to Ahn. EX2001, ¶102.

For the reasons explained above, Petitioner's modification would not achieve any of the purported benefits alleged to motivate Petitioner's modifications of Ahn. As such, "we are left with only hindsight bias that *KSR* warns against." *Metalcraft of Mayville, Inc. v. The Toro Company*, 848 F.3d 1358, 1367 (Fed. Cir. 2017) (Fed. Cir. 2017).

VI. GROUND 1B: THE PETITION FAILS TO ESTABLISH OBVIOUSNESS OF CLAIMS 25, 65, 66, 101, 104, 117, and 122 OVER AHN, CHAUDHRI, AND HINCKLEY

Claims 25, 65, 66, 101, 104, 117, and 122 depend from claim 2. Petitioner's arguments regarding Hinckley and the claims depending from independent claim 2 cannot remedy the deficiencies explained above in Section V.A. Thus, Petitioner's Ground 1B must fail for at least the same reasons as Ground 1A.

VII. CONCLUSION

For the reasons explained above, the Board should deny institution because Petitioner has not established any reasonable likelihood of success on any of its proposed grounds.

Dated: November 14, 2024

Respectfully submitted,

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(a)(i), the undersigned certifies that this Paper—exclusive of the table of contents, table of authorities, certificate of service, and this certificate of word count—includes 8,006 words. The undersigned relies upon the word count generated by Microsoft Word.

/Eagle H. Robinson/
Eagle H. Robinson (Reg. No. 61,361)

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned certifies that on November 14, 2024, complete copies of Patent Owner Preliminary Response and EX2001-EX2005 were served on Petitioner via email (by consent), at the following email address(s):

IPR50095-0166IP5@fr.com

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