

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner

v.

SMITH INTERFACE TECHNOLOGIES, LLC

Patent Owner

IPR2024-01083
Patent 10,642,413

PATENT OWNER 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 <i>Smith Interface Technologies, LLC v. Apple Inc.</i> , 3-23-cv-01187, S.D. Cal (Dkt. No. 127).
2005	Terveen	Transcript of the Deposition of Loren Terveen, Ph.D.
2006	Declaration	Declaration of Craig Rosenberg, Ph.D.
2007	CV	CV of Craig Rosenberg, Ph.D.
2008	918 Provisional	Provisional Patent Application 61/581,918
2009	Jono	Jonathan ("Jono") Xia, <i>Pie in the Sky</i> , Mozilla Labs (Archived July 21, 2011 and available online at https://web.archive.org/web/20110721001737/https://jonoscript.wordpress.com/2008/10/28/pie-in-the-sky/)
2010	Meadowcroft	Ben Meadowcroft, <i>Pie Menus a Brief Examination</i> , (Archived March 8, 2011 and available online at https://web.archive.org/web/20110308003423/https://www.benmeadowcroft.com/reports/piemenu/)
2011	Meadowcroft Bio	Ben Meadowcroft CV (Archived June 17, 2011 and available online at https://web.archive.org/web/20110617040542/http://www.benmeadowcroft.com:80/about/)
2012	Schuderer	Andreas Schuderer, <i>Pie menus on the Web</i> , Experiments (Archived March 3, 2011 and available online at https://web.archive.org/web/20110303221610/http://www.schuderer.net/experiments.shtml#readingmore)

Exhibit	Shorthand	Description
2013	Callahan	J. Callahan, et. al. <i>An empirical comparison of pie vs. linear menus</i> (1988). CHI'88: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, May 1988, ACM, 95-100, (full version available online at https://archive.org/details/humanfactorsinco0000chic_c8g7/page/n1/mode/2up)
2014	Grouchnikov	Kirill Grouchnikov, <i>The usability of radial menus</i> , Pushing Pixels, (Archived July 28, 2012 and available online at https://web.archive.org/web/20120728140221/https://www.pushing-pixels.org/2012/07/25/the-usability-of-radial-menus.html)
2015	Grouchnikov Bio	Kirill Grouchnikov, <i>About me</i> , Pushing Pixels, (Archived July 1, 2011 and available online at https://web.archive.org/web/20110701062127/http://www.pushing-pixels.org/about-me)
2016	Jono Bio	Jonathan (“Jono”) Xia,, <i>About me</i> , Work Press, (Archived July 21, 2011 and available online at https://web.archive.org/web/20110721001007/https://jonoscript.wordpress.com/tag/blogging/)
2017	Ahn EP	European Publication App. No. EP08101835.0 to Hye Sang Ahn et al. (“Ahn EP”)

I. INTRODUCTION

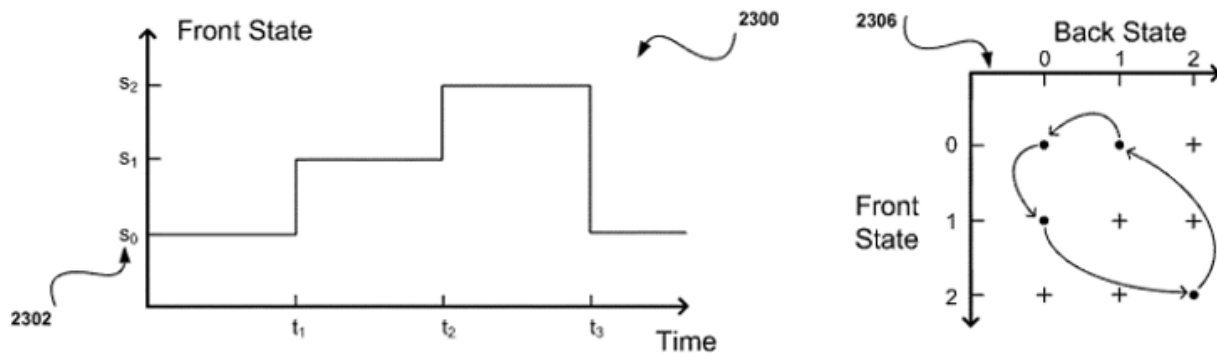
The Petition fails to establish unpatentability of any of the challenged claims based on any of the asserted grounds. The claims recite performing different operations based on a “duration of contact” of a contact on a given menu item, not two different contacts on two different menu items. Beyond that, Petitioner’s alleged motivations are unrelated to its proposed modifications and merely assume interfaces are readily transferable despite a POSITA’s knowledge to the contrary.

II. OVERVIEW OF THE ’413 PATENT

As of August 2011, touch screen mobile devices were become increasingly capable of more complex tasks that required more control than possible with basic input method. EX2006, ¶35. Limited screen real estate meant that input and output techniques used for more complex tasks on desktop computers could not be used. *Id.* The ’413 Patent addresses this shortcoming by enabling users to operate these new mobile devices and their feature-rich applications through implementation of multi-part gestures where users can take successive actions and receive feedback at each stage. *Id.*

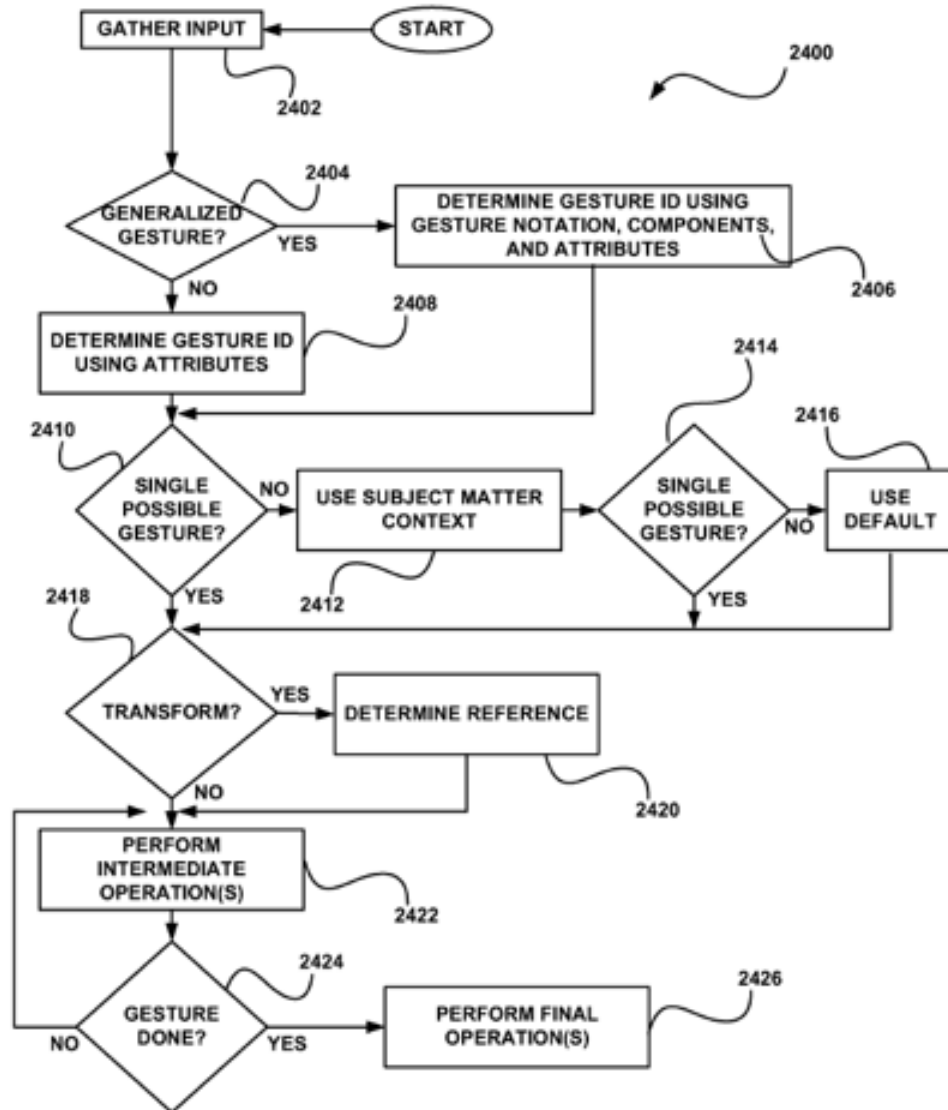
The ’413 Patent describes these multi-part, multi-action gestures as “pattern-based gestures” that “may be recognized in the form of an ordered sequence” by, for example, “using a decision tree.” EX1001, 74:14-16; EX2008, ¶[00581]. In the context of the ’413 Patent, a “phase space” is a conceptual space that captures the

evolving states of user interaction over one or more dimensions. EX2006, ¶36. The patent defines a pattern-based gesture as “a path through a phase space of one or more dimensions” (EX1001, 72:17–19), EX2008, ¶[00564], where each dimension can represent a property of the gesture—such as pressure level, contact location, contact duration, or interaction surface (e.g., front or back of the device). EX2006, ¶¶36-37; EX1001, 72:31-34. Transitions between states may depend on changes in the contact point or the time spent on each leg of the gesture. EX1001, 72:37–64. In effect, gestures are not simply static motions but are modeled dynamically based on their behavioral trajectory through this space. This phase space abstraction allows for the recognition of complex, multi-stage gestures that may follow similar initial paths but diverge into distinct outcomes. Exemplary “pattern-based gesture 2302” is “described by a phase space path which represents the time evolution of the touch state associated with a contact point” on the touch screen. EX1001, 72:31-34; EX2008, ¶[00566].



EX1001, FIG. 23; EX2008, FIG. 28. Each state, and transitions between states, may be defined by factors including “contact point changes” and “the time spent on each leg of the path through phase space.” EX1001, 72:37-64; EX2008, ¶¶[00567]-[00570]. Consistent with the “decision tree” aspect of these pattern-based gestures, multiple patterns may share the same starting (and intermediate) points. EX1001, 75:57-65; EX2008, ¶[00581]; EX2006, ¶38.

To detect these pattern-based gestures, the '918 Provisional, which the '413 Patent incorporates by reference (EX1001, 1:17-19), discloses “gesture differentiation,” which is distinguished from simply detecting a “basic user interaction (*i.e.*, button press, basic application interaction, etc.),” techniques. EX2008, ¶¶[00498], [00502]. The process begins by “determine[ing] whether there is any meaningful user input,” including applying a “threshold above which user interaction may rise before it may be deemed meaningful.” *Id.*, ¶¶[00501]-[00502]. Detecting the gesture may involve “gesture subject matter context,” including “objects displayed at or near the location of the gesture.” *Id.*, ¶[00512]. For example, the starting point may be the beginning of a touch contact at a particular location of a specific object on the touch screen. *Id.*; EX2006, ¶39.



EX2008, FIG. 24.

One example of a context-specific gesture starting at a particular location on the touch screen is a “slide gesture which begins near an edge of a display and then moves inward [that] cause[s] a menu or window to slide in from that edge of the display.” EX1001, 67:32-35. Moreover, “there may be different menus or windows associated with each edge of a display.” EX1001, 67:37-38. Such a menu may include menu items that function as UI control widgets (e.g., buttons, drop down

lists, or any other non-textual UI widget). EX2008, [0164], [0194]; EX2006, ¶40. User selection of a UI control widget may include establishing “one or more primary conditions to establish that the user intends for that particular multi-state widget to be selected, and a secondary condition, to establish the state of that widget.” EX2008, [0178]. “Once the selection establishment conditions have been satisfied, the state of the UI control widget may be set.” *Id.*, [0182]. For example, “a user may make contact with ... an interaction surface, with a contact point near a drop down menu [UI widget] ... [and] may increase contact pressure until the drop down menu is highlighted.” *Id.*, [0183]. Then, “[a]fter maintaining that contact pressure level for a few seconds, the list of menu items becomes visible, after which the user may select an item by varying the contact pressure.” *Id.*

Again, as indicated by FIG. 24, multiple complete patterns may share the same starting (and intermediate) points. EX2006, ¶41. Consistent with the multi-part nature, the device may perform “intermediate operations associated with the identified gesture.” *Id.*, ¶[00521]. “[E]ach execution of intermediate gesture operations may trigger a display update (i.e. rendering, etc.).” *Id.*, ¶[00524]. “The intermediate operations are continuously performed unless it is determined that the gesture has ended.” EX2008, [0525]. One purpose of these intermediate gestures is so “a user may receive feedback on their gesture before terminating the interaction.”

Id., ¶[00522]. “[C]ues to provide feedback to the user ... may include 3D or pseudo-3D effects.” EX2008, [0538]-[0539].

One example of a pseudo-3D effect used to provide feedback to the user is “a 3D layered user interface implemented in a device having a single layer displays [*sic*] through the use of virtual display layers.” EX2008, [0793]. Specifically, “a 3D layered user interface may have a virtual foreground display layer and a virtual background display layer.” *Id.* “[V]irtual display layers may be given the appearance of depth through the use of 3D depth cues ... [such as] a blur operation, such that layers located at successively greater depths may appear blurrier than those closer to the user.” EX2008, [0795]. Additionally, “[a] degree of translucency [e.g., blur] may be a function of a user input.” EX2008, [0848]; EX2006, ¶42.

A “gesture may be ended by ending one or more user inputs” or “by performing a different gesture” at which time “the final operations associated with the identified gesture are performed.” *Id.*, ¶¶[00526]-[00528]. “For example, in one embodiment, a gesture which triggers the display of a pop-up menu and allows a user to cycle through menu items may have as a final operation the selection of the current menu item and removal of the pop-up menu.” *Id.*, ¶[00529].

A. Independent Claims 1 and 101

Claim 1 recites **[1a]** an electronic device, comprising... one or more programs ... stored in the memory and configured to be executed by the one or more processors, the one or more programs including instructions for:

[1b] displaying, utilizing the display, a graphical user interface;

[1c] when the graphical user interface is displayed, detecting, utilizing the touch interface, a first gesture that begins in connection with a first edge of the display and moves inward;

[1.d] in response to the detection of the first gesture that begins in connection with the first edge and moves inward,

[1.d.i] displaying, utilizing the display, a first menu as sliding in and including one or more first menu items, and

[1.d.ii] blurring at least a portion of the graphical user interface such that a magnitude of the blurring of the at least portion of the graphical user interface progressively increases as a function of an increase in a magnitude of the first gesture being detected;

[1.e] when the first menu is displayed including the one or more first menu items:

[1.e.i] detecting, utilizing the touch interface, a first duration of contact on at least one of the one or more first menu items,

[1.e.ii] in response to the first duration of contact on the at least one of the one or more first menu items being detected to not surpass a threshold, performing a first operation, and

[1.e.iii] in response to the first duration of contact on the at least one of the one or more first menu items being detected to surpass the threshold, performing a second operation;

[1f] when the graphical user interface is displayed, detecting, utilizing the touch interface, a second gesture that begins in connection with a second edge of the display and moves inward;

[1g] in response to the detection of the second gesture that begins in connection with the second edge and moves inward, displaying, utilizing the display, a second menu including one or more second menu items;

[1.h] when the second menu is displayed including the one or more second menu items:

[1.h.i] detecting, utilizing the touch interface, a selection contact on at least one of the one or more second menu items, and

[1.h.ii] in response to the selection contact being detected on the at least one of the one or more second menu items, performing a third operation;

[1i] wherein the electronic device is configured such that the graphical user interface is displayed in at least one virtual display layer, and at least one of the first menu or the second menu is displayed in at least one other virtual display layer. EX1001, 95:41-96:33.

Claim 101 is also directed to an electronic device that includes limitations similar to the Limitations [1a]-[1i] of claim 1 and clarifies that [101d] the one or more first menu items include a particular application icon. *Id.*, 112:37-113:29.

Claim 101 also recites [101.e.iv] where the second operation is performed in response to the first duration of contact on the particular application icon being detected to surpass the threshold, and the first duration of contact being detected to include a slide gesture component after the first duration of contact on the particular application icon is detected to surpass the threshold. *Id.*

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 response. Nevertheless, for context, it was well-known to a POSITA that menu usability depended not only on visual layout, but also on context and input modality. EX2006, ¶33. For example, radial menus offered advantages for fixed-location tool selection, but they were generally considered unsuitable for hierarchical, cascading, or multi-state menu structures. EX2006, ¶33; *see* EX2009, 2 (“replacing a rectangular context menu with a pie menu ... introduces a new set of problems that need to be solved.”).

IV. CLAIM CONSTRUCTION

A. “Conditional” Limitations¹ – [1.e]/[101.e]

Independent claims 1 and 101 recite program(s) configured to be executed to perform certain functions on the device. Limitations [1.e] and [101.e] recite “when the first menu is displayed including the one or more first menu items” the programs “detect[], utilizing the touch interface, a first duration of contact on at least one of the one or more first menu items,” and perform certain operations “in response to *the* first duration of contact on *the* at least one of the one or more first menu items.” *Supra*, II.A². Specifically, claim 1 recites that:

[1.e.ii] in response to the first duration of contact on the at least one of the one or more first menu items being detected to not surpass a threshold, performing a first operation, and

[1.e.iii] in response to the first duration of contact on the at least one of the one or more first menu items being detected to surpass the threshold, performing a second operation

Id.; *see also* EX1001, 112:57-113:2 (same for claim 101).

¹ PO uses the term “conditional” limitation to refer to limitations that recite an action to be performed when a precondition is met without conceding such form is sufficient to meet any particular case law.

² All emphasis added unless otherwise noted

Claims 1 and 101 require two scenarios that occur in response to a single contact (“*the* first duration of contact”) on menu item(s) (“*the* at least one ... first menu items”) either “surpass[ing]” or “not surpass[ing]” a recited threshold. EX2006, ¶83. In the first scenario, the programs are executed to “perform[] a first operation” “in response to *the* first duration of contact on *the* at least one of the one or more first menu items being detected to *not surpass a threshold.*” EX1001, 96:4-7, 112:62-65. In the second scenario, the programs are executed to “perform[] a second operation” “in response to *the* first duration of [the same] contact on *the* [same] at least one of the one or more first menu items being detected *to surpass the threshold.*” EX1001, 96:8-11, 112:66-113:2.

These two Limitations collectively describe logical functions/steps to process instances of user input on a touch screen that begin from a common starting point—the start of “a first duration of contact.” EX2006, ¶84. This is consistent with “decision-tree” and detection logic for detecting multi-part pattern-based gestures as described in connection with Figure 23 of the ’758 Patent and Figure 24 of the incorporated-by-reference ’918 Provisional as further discussed in Section II.A, above. EX2006, ¶84. Nothing in the plain language of the independent *device* claims suggests any of the recited conditional Limitations are optional or may be ignored in mapping the prior art. *See Ex parte Schulhauser*, Appeal 2013-007847 (PTAB April 28, 2016) (precedential) (“The [BRI] of a system claim having

structure that performs a function, which only needs to occur if a condition precedent is met, still requires structure for performing the function should the condition occur.”); see also *Ex Parte John Rebstock & Christopher K. Schrichte*, No. APPEAL 2022-003164, 2023 WL 4643799, at *4 (P.T.A.B. June 23, 2023) (“We construe the scope of the computer program product claim 17, as being such that the computer program has the capability of performing operations of both the alternatives”).

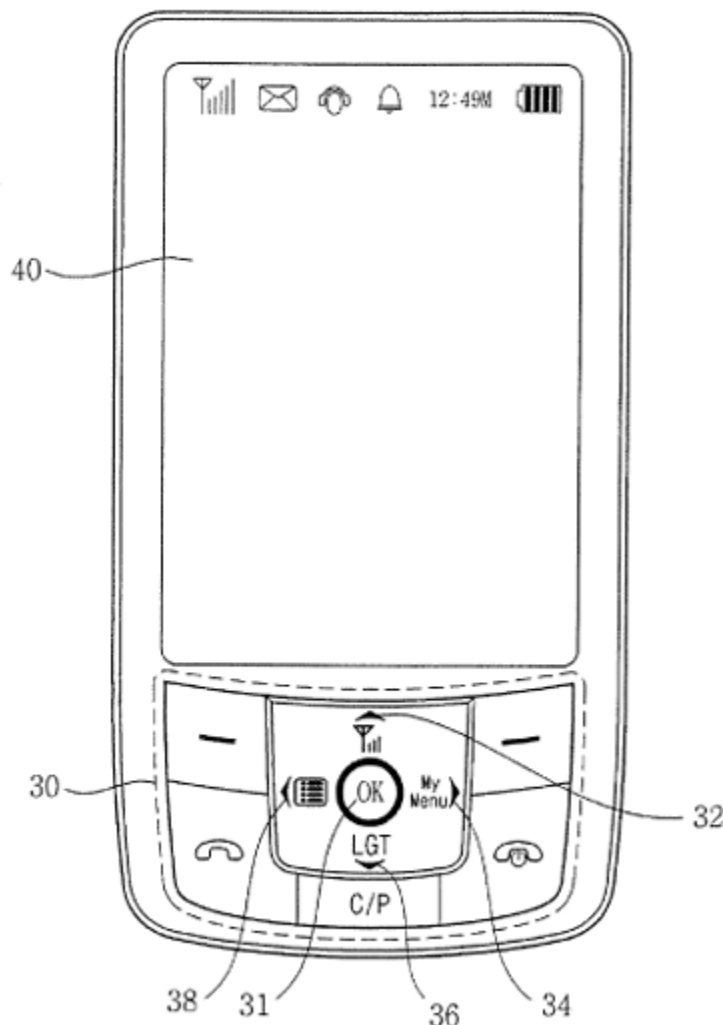
PO acknowledges Limitation [1.e.ii] will not be met during the same instance of a user touch as Limitations [1.e.iii] (and vice versa), but that is not a basis, as a matter of law, to relieve Petitioner from demonstrating the alleged prior art combination includes *logic* meeting each Limitation such that each limitation will be performed when presented with an instance of user input “where their preconditions apply.” See *Seirra Wireless, ULC v. Sisvel S.P.A.*, 130 F.4th 1019, 2025 U.S. App. LEXIS 5458, *5 (Fed. Cir. Mar. 10, 2025) Rather, “the plain and unambiguous language” of the claims requires that “to come within the claim” each element must be performed “where their preconditions apply.” *Id.* Each condition ([1.e.ii] and [1.e.iii]) leads to a different action, and understanding the claim fully requires evaluating all possible conditions and their corresponding actions.

V. 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

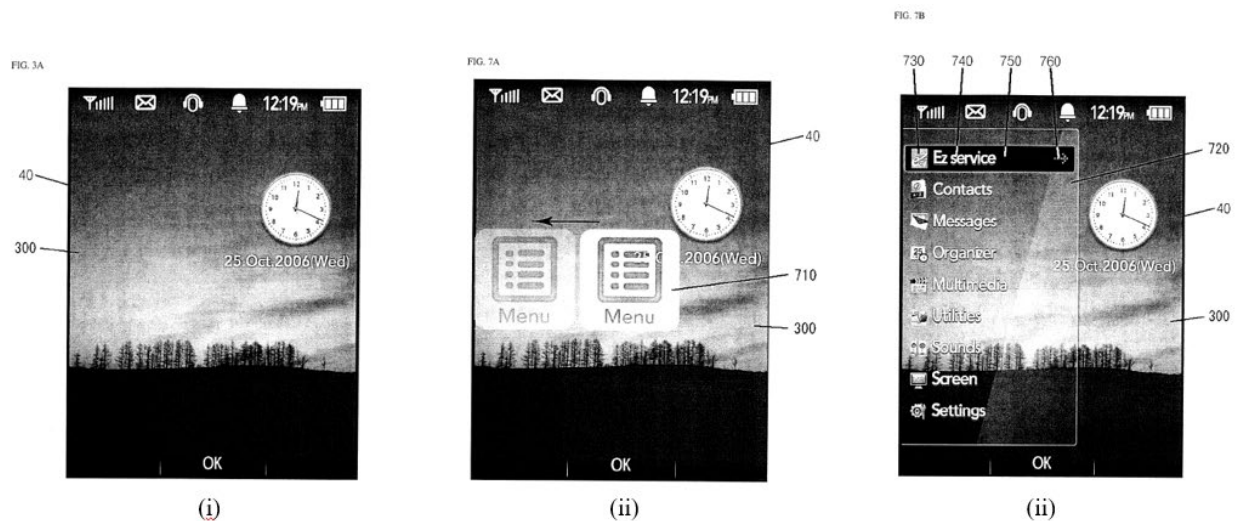


Ahn's proposed operation attempts to solve the problem in which device characteristics are unavailable when a menu list is displayed and proposes displaying

menus that only take up a portion of the display so the standby screen can be displayed concurrently. EX2006, ¶50.

1. *Ahn's Menus are Binary Operations*

Ahn's menus are displayed after an input is recognized by the device. EX2006, ¶51 (the display of the menu is a binary operation—appearing only when the input is satisfied). In a first embodiment, Ahn describes a method of displaying a menu via a selection of a specific direction on a direction key (e.g., keys 32-38). EX1004, ¶¶[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]. “[I]f the user selects the leftward direction key 38 ... *[t]hereafter*, a basic setting menu list 720 ... is displayed.” EX1004, ¶[0063]-[0064]



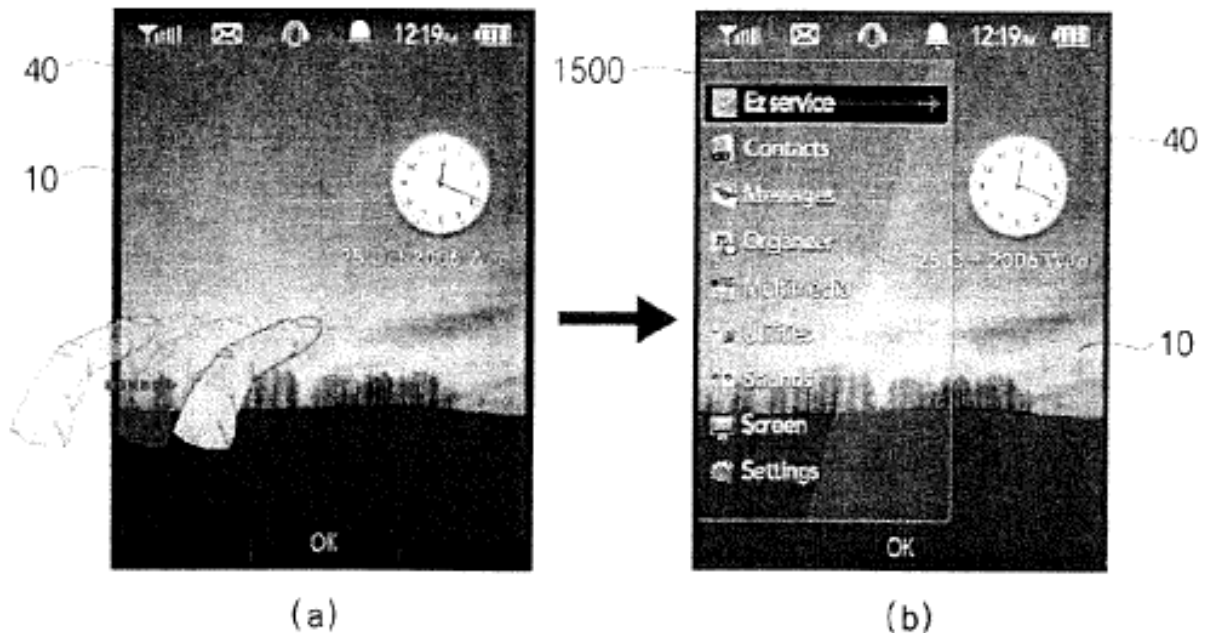
Ahn refers to an input of the its direction keys (e.g., 34, 38) as a “click.” EX1004, ¶¶[0045]-[047]. The direction keys are single input buttons that can only receive one type of input. EX2006, ¶53. A POSITA would have recognized a selection (*i.e.*,

click) of a direction key would initiate display of the menu in a binary manner (e.g., if the direction key is pressed, then the menu is displayed “thereafter,” and if the key is *not* pressed, the menu is *not* displayed). *Id.* Accordingly, the opening of Ahn’s menu is performed in an “all or nothing” or binary manner rather than progressively and would not be displayed “as a function of an increase in a magnitude” of an input, as claimed. EX2006, ¶¶53, 141-145; supra, §II.A.

Ahn also describes a method of displaying a menu via “a touch and drag operation of a specific direction.” *Id.*, See ¶¶[0101]-[0104]. The opening of the menu’s according to Ahn’s touch and drag operation is also performed in a binary manner. EX2006, ¶54.

As shown in FIGs. 15A-15B of Ahn (inset below), “[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 *before* displaying menu at step 1630); FIG. 11 (displaying item list *after* detecting touch and drag operation)³; EX2006, ¶55.

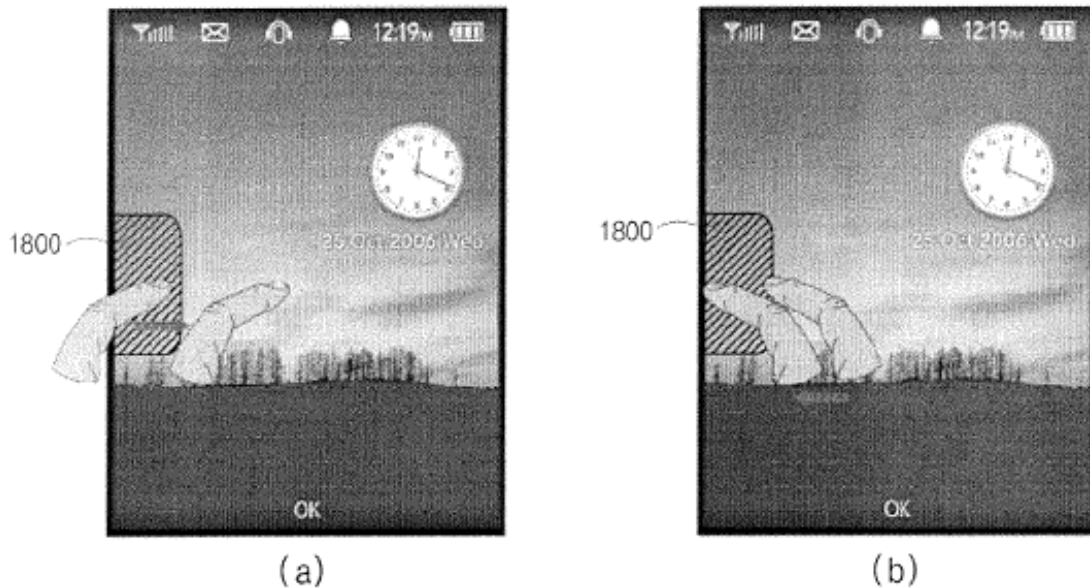


In a further embodiment, Ahn explains this touch and drag operation can be used with “an identifier” such as “a specific icon for notifying a *start position* of the touch and drag operation.” Ahn at ¶[0117]. But that does not diverge from the binary operation described above and simply adds an icon so that a user is notified

³ To the extent the Board is interpreting Ahn’s display of a menu “[a]s the touch and drag operation is detected” to mean the menu is displayed *during* the drag, this is inconsistent with Ahn’s use of the term “as” and the understanding of a POSITA. EX2006, ¶56; EX1004, ¶¶[0016], [0071], [0092], [0094] (using similar language for Directional Key embodiment).

that a corresponding menu is available, as shown in FIGs. 18a-b (inset below).

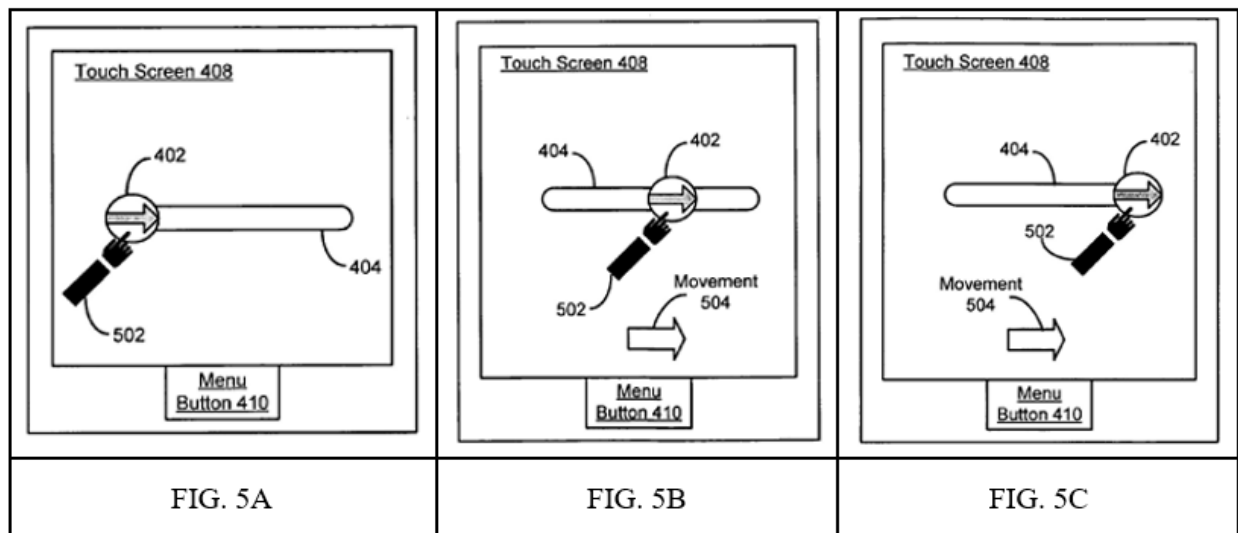
EX2006, ¶57.



As shown in FIG. 18a, the user may perform the same touch and drag operation on the graphical shadow to display a menu 1500 as is done with the touch and drag operation depicted in FIG. 15. Ahn at ¶[0118]. Alternatively, as in FIG. 18b, a user may press graphic 1800 and, in response, “menu list 1500 can be displayed as emerging from the left side of the display 40.” *Id.*, at ¶[0119]. In either scenario, the menu appears after the gesture—a drag operation as in FIG. 18a or a tap operation as in FIG. 18b—is completed. EX2006, ¶58. Ahn does not suggest that its menu (e.g., 1500) will emerge and be displayed in any in-between state where the menu is neither fully open or closed. Thus, all of Ahn’s embodiments operate in a binary manner, opening the menu after completion of the gesture and not as a function of a gesture. *Id.*, ¶58-59.

B. Chaudhri (EX1005)

Chaudhri 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 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. Chaudhri shows progress of such an unlocking gesture by the distance an indicator 402 (shown in FIGs. 5A-5C) moves toward an “end” of a channel 404. EX1005, ¶[0071] (The end of the channel 404 “serves as a predefined location to which the unlock image 402 is to be dragged.”).



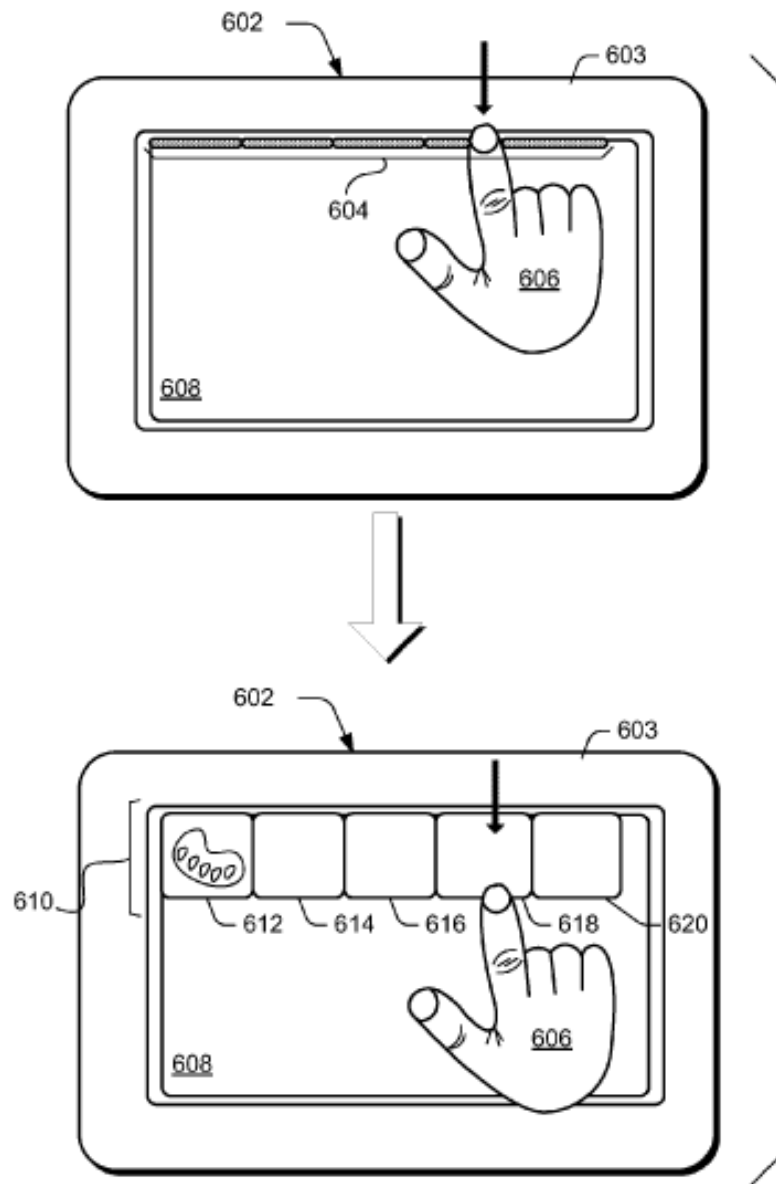
EX1005, FIGs. 5A-5C.

C. Hinckley (EX1006)

1. Bezel Gestures

Hinckley discloses a device including a bezel “used to extend functionality that is accessible through the use of so-called bezel gestures.” EX1006, Abstract. With these bezel gestures, the user can provide inputs to the device by interacting with bezel 303, rather than the touchscreen of display 308. EX1006, FIG. 3, ¶¶[0059]-[0069] (Use of Bezel as an Input Mechanism). Hinckley’s FIGs. 3-44 show examples of this where the device receives an input associated with the bezel, which may be “a variety of different types of recognizable inputs (e.g., taps, tap combinations, tap/hold combinations, slides, etc).” EX1006, ¶[0066].

As shown in Hinckley’s FIG. 6 (inset below), “a bezel menu can be accessed through a bezel gesture in which a finger of a user’s hand 606 ... moves across the bezel and onto the display device 608 ... which allow[s] bezel menu 610 to be dropped down” *Id.*, ¶[0073].



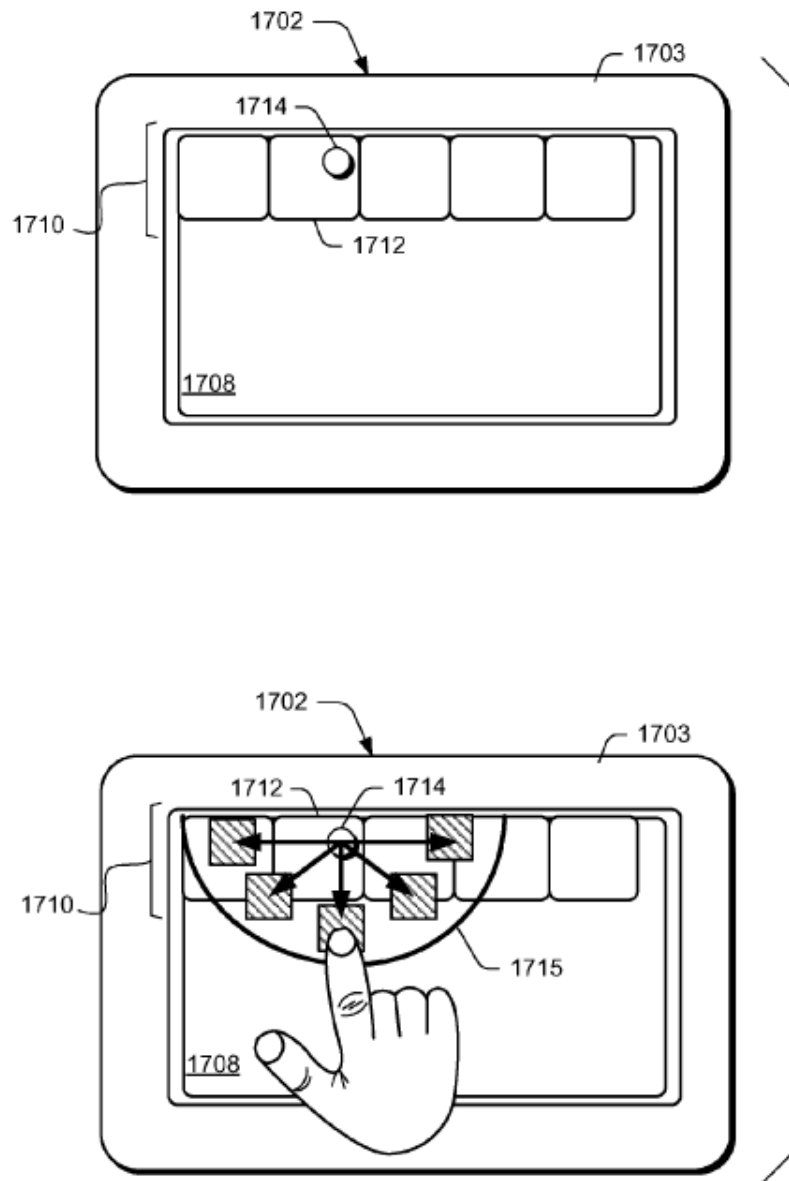
The bezel menu 610 includes selectable icons or slots “associated with [] different functionalit[ies] such as, for example, paint functionality, pen functionality, note functionality, object creation, object editing, and the like.” *Id.*, ¶[0074]. These functionalities can be accessed via two different gestural modes—a novice mode and an expert mode. EX1006, ¶[0076].

In the novice mode, a gesture is used to display bezel menu 610 and the user may then tap on a desired item associated with one of the icons or slots 612, 614, 616, 618, and 620 associated with the bezel menu. *Id.*, ¶[0077]. In this mode, the user can lift their finger after opening bezel menu 610 and the bezel menu will remain open while the user views the icons. *See id.*

The expert mode does not display the bezel menu; instead, it relies on a user to be familiar with the location of the icons in the bezel menu. EX1006, ¶¶[0078]-[0079] (“bezel menu may not necessarily be revealed at all in order to access functionality associated with an icon”). Instead of revealing the bezel menu and tapping on an icon, the user can perform a continuous finger-drag that crosses through the slot or icon to access the function in a single transaction. EX2006, ¶68; EX1006, ¶[0078]. “Hence, once users are familiar with a particular operation on the bezel menu, they can rapidly drag through it to create and position an object without ever having to be distracted by the opening of the visual menu itself.” *Id.*, ¶[0079].

2. *Hinckley’s Radial Menu*

Independent from its bezel gestures, Hinckley describes “radial menus [that] can be used in connection with menus such as bezel menus.” *Id.*, ¶[0105].



EX1006, FIG. 17.

As shown in FIG. 17 (above), a bezel menu 1710 may include bezel menu icons or slots (e.g., icon or slot 1712) that further include an additional radial menu icon object (e.g., radial menu icon 1714). *See id.*, ¶[0107]. Hinckley describes that a radial menu 1715 can be accessed via gestures on radial menu icon 1714. *See id.*

Gestures for accessing radial menu 1715 may include “hovering a pen over or near the radial menu icon 1714[,] ... pull[ing] down the radial menu 1715[,] ... [or] a tap-and-hold of the pen or finger on or near the radial menu icon 1714.” *Id.* When “radial menu 1715 is exposed, the user can access various functionalities or commands by touching down on or near radial menu icon 1714.” *Id.*, ¶[0108]. Similar to the operation described above for bezel menu 610, the radial menu 1715 can be displayed in the novice mode; however, in the expert mode “the radial menu might not be exposed at all.” EX1006, ¶[0110].

D. Radial Menus Generally

Radial menus (also called pie menus) were known prior to 2011 but were rarely implemented outside of certain contexts (e.g., video games) because they did were not generally applicable to all functionalities or interfaces. EX2006, ¶¶71-72; EX2012, 4/9 (“Applications for pie menus are rare”); EX2009, 1-2/37 (experimentation with pie menus has not led to implementation into any core browser features), 4-5 (warning pie menus don’t make all applications better and trying to implement pie menu for an application but finding no good solution).

Possible applications for radial menus included interactive interface such as video games, CAD programs, or specific web applications (e.g., drawing applications). EX2006, ¶72 (citing EX2012, 4/9 EX1006, ¶[0106], FIG. 17). The difficulty implementing radial menus can be highlighted by their known

disadvantages, which included that these menus were limited in the amount of options they could display and would take up greater space as compared to conventional menus. EX2006, ¶73-74; EX2010, 2/4 (full radial menu limited to eight choices and radial menus take up more screen space); EX2009, 4/37 (problems arise when there are too many items in a pie menu); EX2013 at 2/6 (“pie menus consume greater screen area and become polynomially larger than linear menus in both height and width with increased item size and number of items”). Even the use of radial menus in very well thought-out interfaces encountered issues. *See* EX2012, 4/9 (describing “well thought-out” application where pie menu options “are relatively hard to hit and interfere with dismissing the menu”).

Thus, a POSITA was well-aware that substituting an established menu for a radial one was *not* simple or predictable as radial menus were notoriously difficult to implement. EX2006, ¶72-75. Further, it was known that implementing radial menus in ill-suited applications would eliminate the benefits typically associated with radial menus. EX2006, ¶74-79. The same holds true for the use of only portions of radial menus, such as half-radial menus and quarter radial menus. EX2006, ¶79.

VI. GROUND 1: THE PETITION FAILS TO ESTABLISH OBVIOUSNESS OF CLAIMS 1-3, 7, 9, 10, AND 101 OVER AHN, CHAUDHRI, AND HINCKLEY

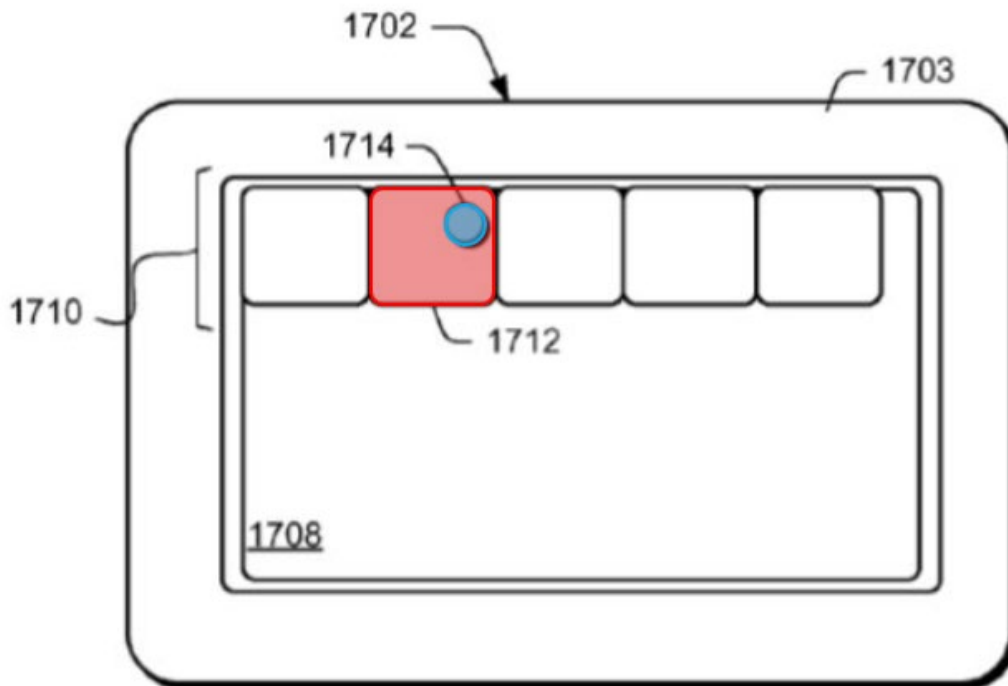
Petitioner fails to show its combination of Ahn, Chaudhri, and Hinckley would arrive at each of the claimed limitations. Petitioner contends that claims 1 and 101 are obvious over Ahn, Chaudhri, and Hinckley. Pet., 1. Independent claims 1 and 101 include similar limitations. *See* §II.A. The Petition analyzes the limitations of claim 1 and then simply incorporates this analysis for almost all the limitations of claim 101). *See* Pet., 76-82. The only additional analysis provided for claim 101 is with respect to Limitations [101.d] and [101.e.iv]. Thus, Petitioner’s analysis of claims 1 and 101 can be treated as identical for all other Limitations, and the Petition’s deficiencies with respect to claim 1 must also apply to claim 101. For the reasons explained below, Petitioner fails to show the Ahn-Chaudhri-Hinckley combination would render obvious either of claims 1 and 101.

A. [1.e.i-iii], [101.e.i-iii]: Detecting A First Duration Of Contact On At Least One Of The One Or More First Menu Items

1. Petitioner’s mapping does not perform different operations in response to a duration of contact on a menu item surpassing or not surpassing a threshold

Hinckley describes a bezel menu 1710 that includes “multiple selectable icons or slots 1712”, each of which “is associated with a different functionality.” EX1006, ¶[0106]. Hinckley also describes a separate icon—a radial menu icon 1714—that can be selected to give a user access to a radial menu that is not activated by

interaction with the bezel menu icon 1712. EX2006, ¶85; *see* EX1006, ¶[0107] (“radial menus 1715 can be accessed through a tap-and-hold of the pen or finger on or near the radial menu icon 1714.”). Thus, as shown in the annotated version of Hinckley’s FIG. 17 (below), a POSITA would have understood that the bezel menu icon (1712 – shown in red) is a different object than the radial menu icon (1714 – shown in blue). EX2006, ¶85.



EX1006, FIG. 17 (annotated)

As discussed in Section IV.A, the plain language and structure of each claim mandates that: (1) each of the references to “*the* first duration of contact” must refer to a single contact and (2) each of the references to “*the* at least one ... first menu items ” must refer to the same menu item(s). In other words, a given contact with a

single menu item must be capable of doing either of the two functions depending on whether its duration surpasses a threshold. EX2006, ¶86. The Petition’s mapping, which is the same for claims 1 and 101, fails to meet this plain language requirement.

Instead, Petitioner maps to *two different* contacts on two different icons. The Petition unequivocally states “tapping *the icon 1712* would have triggered one action, while a tap-and-hold gesture on the *radial menu icon 1714* portion of icon 1712 would have triggered a different action” Pet., 51.

First, the Petition clearly maps to a user’s tap on the bezel menu icons (612-620 of FIG. 6; 1712 of FIG. 17) as the contact corresponding to the claimed “first duration of contact.” Pet., 49, 51. In analyzing Limitation [1.e.i], the Petition quotes paragraph [0077] of Hinckley, which states “[t]he user may then tap on a desired item associated with one of the icons or slots 612, 614, 616, 618, and 620,” which causes “the functionality associated with a particular icon or slot can be accessed.” Pet., 49 (citing EX1006, ¶[0077]) (emphasis in original). The Petition continues that, “[t]hrough its teaching of this tap [on icons 612, 614, 616, 618, and 620], Hinckley describes ... detecting, utilizing the touch interface, a first duration of contact on at least one of the one or more first menu items, as in [1.e.i].” Pet., 49. Petitioner identifies the same contact—a tap on the bezel menu icon—for Hinckley’s FIG. 17, explaining “bezel menu 1710 includes multiple selectable icons or slots,”

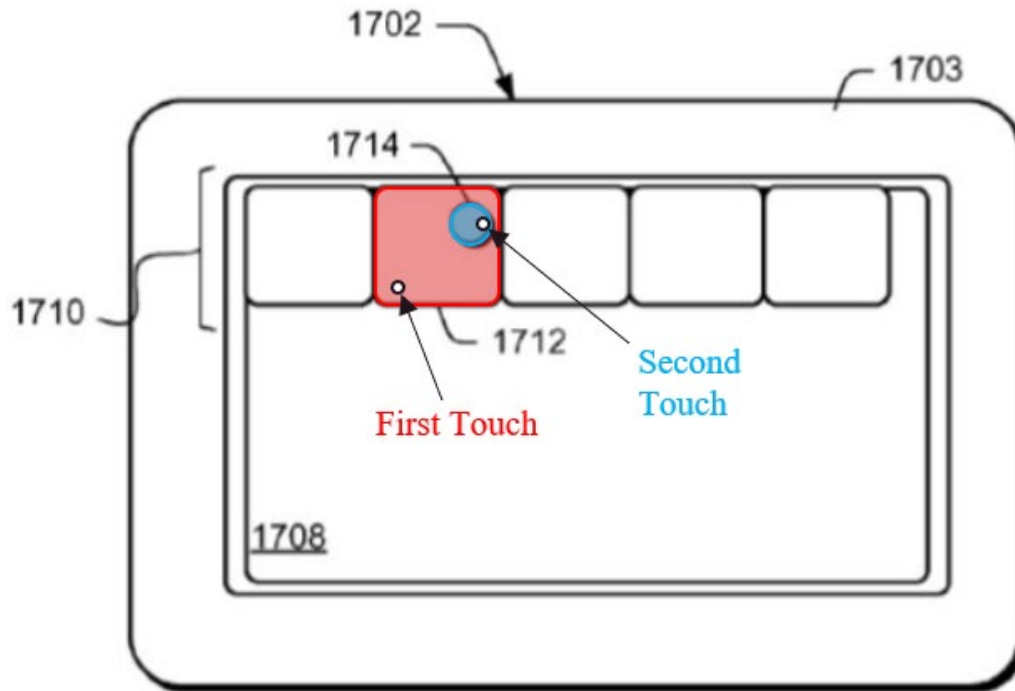
and ‘[e]ach of the icons or slots is associated with a different functionality,’ like in FIG. 6.” Pet., 49-50 (quoting EX1006, ¶[0106]).

Thus, the Petition equates “tapping the icon 1712” as being the contact associated with the claimed “first duration of contact.” Pet., 50-51. Similarly, the Petition cites to the functions described in paragraphs [0077] and [0106] of Hinckley for the functionality associated with this contact. Pet., 49 (citing EX1007, ¶[0106] (describing “multiple selectable icons or slots, one of which is designated at **1712**”). Accordingly, the contact identified for the claimed “first duration of contact” occurs on the bezel menu icon (e.g., 1712). EX2006, ¶88.

Second, Petitioner then identifies a different (*i.e.*, second) contact—“a tap-and-hold gesture on the radial menu icon 1714,”—for triggering a different action than the action associated with the tap on icon 1712. *See* Pet., 51. Thus, Petitioner’s mapping identifies “tapping the icon [1712]” (a first contact) and then the separate action of “tapping and holding the radial menu icon portion of that same icon” (a second contact). Pet., 52-54; EX2006, ¶89.

In Petitioner’s mapping, the tap on menu icon 1712 is the first contact on the first menu item, and the tap-and-hold on radial menu icon 1714 is the second contact on a second menu item (illustrated in the below annotated FIG. 17 of Hinckley). EX2006, ¶90. *see* Pet., 53-54 (“***tapping the icon*** would have triggered one action,

while a *tap-and-hold on the radial menu icon portion* of that same icon would have triggered a different action”).



Petitioner asserts these inputs are on the “same icon.” *See id.* But Petitioner is plainly wrong. *See* EX2006, ¶¶91-92. One input is to bezel menu icon 1712. The other input is to radial menu icon 1714. Two different inputs on two different icons fails to meet the claims. *Id.* Petitioner’s mapping performs different actions based on receiving different inputs on different icons—*not* in response to “the first *duration* of contact” surpassing or not surpassing a threshold, as required by the claim. *Id.*

Petitioner attempts to read too much into Hinckley’s statement that “icon or slot 1712 includes a radial menu icon 1714.” EX1006, ¶[0107]. Regardless of

whether icon 1712 surrounds and therefore “includes” radial menu icon 1714, the Petition’s mapping clearly identifies two different points of contact on two functionally different elements—icon 1712 and radial menu icon 1714. This does **not** perform different operations “in response to the first duration of contact” being detected to surpass or/ not surpass a threshold, as claimed. EX2006, ¶92. To illustrate, “tapping the icon 1712” as identified in the Petition does not perform a different function if the user continues to maintain contact on the *same* portion of icon 1712 that was tapped. Pet., 51. In other words, a tap on icon 1712 would not perform a different function than a tap-and-hold on the *same* portion of icon 1712. EX2006, ¶92. Only by selecting a *different* portion of the icon (e.g., 1714) does Petitioner allege that its combination performs another function. Pet., 51.

For at least this reason, the Petition’s modification fails to arrive at Limitations [1.e.i]-[1.e.iii]. Petitioner’s mapping of claim 1 is incorporated into Limitations [101.e.i]-[101.e.iii] without further analysis or explanation. Pet., 79. Thus, the Petition’s Ground 1 fails to establish obviousness for claims 1 or 101 or any of their respective dependents.

2. *The Board’s mapping is incorrect*

a. The Board’s theory was not advanced in the Petition

The Board preliminary stated that “Petitioner contends that Hinckley discloses tapping the radial menu icon [1714] would have triggered one action different than

an action triggered from tapping and holding the icon [1714].” D.I., 31 (citing Pet. 53–54, EX1003 ¶¶111–113).” This mischaracterizes Petitioner’s mapping.

Petitioner states “it would have at least been obvious to implement Ahn’s mobile communication terminal 100 such that *tapping the icon* would have triggered one action, while *a tap-and-hold on the radial menu icon portion of that same icon* would have triggered a different action.” Pet. 53–54 (quoting EX1003 ¶111); see Pet., 53 (“the icon 1712”). Thus, as explained in detail in Section VI.A.1 above, Petitioner unequivocally (1) identifies “tapping *the icon*” as triggering one action; (2) identifies “the icon” as being Hinckley’s “icon 1712”; and (3) distinguishes “the icon” from the “radial menu icon portion *of that same icon.*” Pet. 53–54. Petitioner and Dr. Terveen clearly map the “first operation”—which must be performed by the tapping in Petitioner’s theory—to “*performing a function associated with icon 1712*”⁴ that is “different” than opening the radial menu 1715 that results from tapping

⁴ “performing a function associated with icon 1712” cannot occur from tapping on the radial menu icon 1714—which triggers a different action than “the [function] associated with tapping on the bezel menu [icon 1712].” Pet. 50–51. Thus, performing a function associated with icon 1712 must necessarily result from tapping icon 1712, not radial menu icon 1714 according to Petitioner’s theory. EX2006, ¶95 n.8.

and holding the radial menu icon 1714).” Pet., 54 (quoting EX1003, ¶112). This same mapping—tapping icon 1712—is clearly advanced throughout the Petition. Pet., 51 (referencing “tapping the icon 1712” for one action and “a tap-and-hold gesture on the radial menu icon 1714” for another action) (quoting EX1003, ¶107); Pet., 53 (identifying the first menu item as “the icon 1712”); Pet., 50 (emphasizing the “*tapping*” is “on the bezel menu slot [1712].”) (emphasis in Petition) (quoting EX1006, ¶[0107]).

In fact, Petitioner and Dr. Terveen specifically clarified that they were not mapping to a tap of radial menu icon 1714. As shown in the table below, Dr. Terveen replaces the term “tapping” with “selecting” in the portion of Hinckley relied upon by the Board so as to not confuse the two. *See* D.I., 31-32.

Pet., 50-51 (quoting EX1003, ¶107)	EX1006, ¶[0107]
“ selecting ‘the radial menu icon [1714] triggers a default action which may ... be <u>different</u> than the action associated with <u>tapping</u> on the bezel menu slot [1712]” (quoting EX1006, ¶[0107])	“ tapping on the radial menu icon triggers a default action which may or may not be different than the action associated with tapping on the bezel menu slot.”

At no point in the record does the Petition (or Dr. Terveen) allege a tap on radial menu icon 1714 and, in fact, both went out of their way to remove such a suggestion from the record. Pet., 50-51; EX1003, ¶¶107, 114, 161.

Nor does the Board have the legal authority to create its own mapping that differ from the Petition's. *Koninklijke Philips N.V. v. Google LLC*, 948 F.3d 1330, 1336 (Fed. Cir. 2020) ("it is the petition, not the Board's 'discretion,' that defines the metes and bounds of an inter partes review") (quoting *SAS Inst. Inc. v. Iancu*, 138 S. Ct. at 1355–56); *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (finding "no support for the PTO's position that the Board is free to adopt arguments on behalf of petitioners that could have been, but were not, raised by the petitioner during an IPR."); *Oren Techs., LLC v. Proppant Express Invs. LLC*, No. 2019-1778, 2021 WL 3120819, at *4 (Fed. Cir. July 23, 2021) ("We have held that the Board erred when it relied on a prior art reference that was unasserted for meeting a particular limitation, even though the passage from the reference that the Board relied on for disclosing the limitation had been block quoted in the petition ... in a different context.") (quotations omitted).

b. The Board's Theory Does Meet the Claimed Operation

Hinckley's description of "tapping on the radial menu icon " in paragraph [0107] describes an operation after the radial menu 1715 is open. EX2006, ¶97.

Hinckley's paragraph [0107] explains "the radial menu 1715 can be accessed in any suitable way," and then provides three illustrative methods of access: hovering a pen, pulling down, and tap-and-hold. EX1006, ¶[0107]. After describing

how the radial menu 1715 can be opened, Hinckley states that users can tap the radial menu icon to trigger a default action. EX2006, ¶98.

A POSITA would have understood this passage to disclose that tapping on radial menu icon occurs after radial menu 1715 has been accessed. *Id.* Stated another way, a POSITA would have appreciated that because Hinckley's icon 1712 accepted tap inputs, and because radial menu icon 1714 is small—smaller than the user's depicted finger—and surrounded by icon 1712, accepting taps on radial menu icon 1714 before radial menu 1715 is deployed would have lead to accidentally presses of icon 1712 when trying to press radial menu icon 1714. EX2006, ¶99.

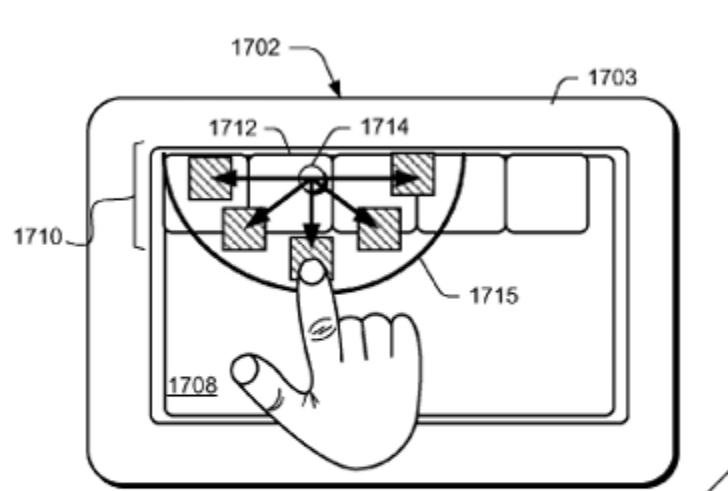


Fig. 17

Thus, a POSITA would have understood Hinckley's disclosure of a press-and-hold input on radial menu icon 1714 to deploy radial menu 1715, and disclosure of a tap input on the radial menu icon only after accessing radial menu 1715, to logically

mean that different inputs are only accepted on radial menu icon 1714 under different circumstances. EX2006, ¶99. In contrast, a POSITA would understand that assigning functions to both a tap on icon 1712 and a tap on radial menu icon 1714, when the radial menu 1715 is not deployed, would lead to a relatively high error rate due to the small size and close proximity of the two objects. EX2006, ¶100.

A POSITA therefore would have understood from Hinckley’s disclosure that a tap on radial menu icon 1714 would have no effect before the radial menu 1715 is deployed. EX2006, ¶100. This is further supported by Hinckley’s description of tapping on its menu icons (e.g., 1712) to access their assigned functionalities (EX1006, ¶[0077]), but describes three *different* gestures that are *not tapping* (e.g., hovering, sliding, holding) on icon 1714 before radial menu 1715 is deployed (*Id.*, ¶[0107]). EX2006, ¶100. Further, this tapping distinction would not be an issue when radial menu 1715 is open because the underlying icon 1712 is covered by the radial menu 1715 and would not be selectable (meaning the potential for error is no longer present when the radial menu is open). EX2005 80:8-89:22. Thus, a POSITA would understand the “tapping on the radial menu icon” in Hinckley’s paragraph [0107] refers to a tap after radial menu 1715 is opened. *See id.*; EX2006, 100.

The operation of radial menu icon 1714 therefore involves two different user contacts: first a tap-and-hold on icon 1714 to open the menu, and then a second tap—after the radial menu 1715 is deployed. EX2006, ¶101. But this is not the claimed

optionality responsive to duration of a single touch. *Id.* As such, even under the Board's theory, the functionality of Hinckley's radial menu icon 1714 does not satisfy Limitations [1.e.i]-[1.e.iii]. *See* §IV.A; EX2006, ¶101.

B. Petitioner's Motivations are Deficient

The Petition provides two modifications based on Hinckley. Petitioner's First Modification is that it was obvious "to implement Ahn's mobile communication terminal 100 such that Ahn's menus would include the multiple selectable icons or slots described by Hinkley and that at least one of the selectable icons or slots would be associated with a radial menu icon as described by Hinkley." Pet., 52; *see id.*, at 23 (result of combination is a device that implements bezel menus and radial menus). Petitioner's Second Modification is that it was obvious "to implement Ahn's mobile communication terminal 100 such that tapping the icon would have triggered one action, while tapping and holding the radial menu icon portion of that same icon would have triggered a different action." Pet., 52-53. Thus, the Petition requires a two-part modification to allegedly arrive at Limitations [1.e.i-iii].

Petitioner provides two motivations to support its two-part modification: (1) "techniques described in Hinkley with respect to its bezel menus would have been equally beneficial in the context of Ahn's side menus" (Pet., 24) and (2) "the implementation and operation of the bezel menus and radial menus[] would have been a simple substitution of one known element for another to obtain predictable

results” (*id.*, 26). However, Petitioner never ties either motivation to its Second Modification, rendering it a conclusory assertion that is insufficient to show obviousness. Further, both motivations are so generic as to be meaningless.

The first purported motivation is facially deficient because it simply *assumes* that because radial menus were disclosed by Hinckley for its particular device that these radial menus would have also been desirable to a POSITA in the context of Ahn. But nowhere does this “equally beneficial” assertion explain *why* a radial menu was beneficial in the context of Ahn. EX2006, ¶103. Indeed, contrary to Petitioner’s assumption of benefit, a POSITA would have understood that benefits of radial menus in one application are not generally transferable to other applications and the substitution of a rectangular context menu (like Ahn’s) with a radial menu (like Hinckley’s) would have resulted in diminished functionality. *Id.*; EX2009, 4 (“*replacing a rectangular context menu with a pie menu ... introduces a new set of problems* that need to be solved.”); EX2012, 4/9 (“Applications for pie menus are rare”). This same inapplicability between applications also renders the second purported motivation false, as Petitioner provides no explanation that the substitution of Ahn’s menus for radial one would be simple or yield predictable results. *See* EX2006, ¶¶72-75.

1. *Hinckley’s identified ‘techniques’ are not related to its radial menu*

Although Petitioner vaguely contends “the techniques described in Hinkley with respect to its bezel menus would have been equally beneficial” to Ahn, the Petition identifies only two such techniques: (1) gestural modes and (2) bezel gestures. Pet., 24-26. Neither technique relates to the opening of the radial menu that Petitioner’s combination relies upon. EX2006, ¶104.

a. Gestural modes

The Petition identifies Hinckley’s “different gestural modes” (i.e., novice and expert modes) and asserts that implementing Hinkley’s different user interaction modes in Ahn’s device would have created a more intuitive, efficient, and pleasing experience for a user. Pet., 24-25. However, Petitioner’s modification does not actually implement Hinckley’s novice or expert mode. Pet., 30-55. And doing so would have prevented the modification from meeting the claims. *Infra*, §VI.C.1.b.

As explained in Section V.C, Hinckley’s novice mode displays visual guidance showing the user how to perform the gestures so the user can memorize the gesture and associated functionality. Once the user is familiar, they may perform the desired gestures without receiving any visual guidance (i.e., the expert mode)—resulting in the more “intuitive, efficient, and pleasing experience for a user.” (EX1003, ¶64). EX2006, ¶106.

Yet, the novice and expert modes of displaying the bezel menu are irrelevant to the opening and operation of the radial menu. In fact, Hinckley only describes the gestural modes for a bezel menu in an embodiment that does not include a radial menu. EX1006, ¶¶[0070]-[0080] (describing novice and expert modes for bezel menu without an associated radial menu). Thus, any benefits associated with the different gestural modes of a bezel menu would not result from Petitioner's modification to include a radial menu or allegedly operate the radial menu to perform different functions based on different gestures. EX2006, ¶107.

The gestural modes associated with the radial menu are also unrelated to Petitioner's modifications in Limitations [1.e.i-iii]. Pet., 46-55; EX2006, ¶108. In the novice mode, the user would *tap-and-hold* icon 1714 to access radial menu 1715 and then remove their finger to assess the menu. EX2006, ¶108 (citing EX1006, ¶¶[0080], [0110]). And, in the expert mode, the user would *tap-and-hold* on icon 1714 and then drag in the direction associated with the target function before the radial menu opens. EX1006, ¶[0110]. This functionality (or associated benefits) would not result from the a *tap* of icon 1712 as asserted in the Petition or a *tap* of icon 1714 as asserted by the Board. EX2006, ¶108. Further, as explained in Section VI.B.2, the benefits associated with the gestural modes of Hinckley's radial menu would be lost when implemented to replace Ahn's menu.

Accordingly, the benefits of Hinckley's gestural modes cannot explain why a POSITA would have been motivated to arrive at Petitioner's two-part modification and, specifically, "to implement Ahn's mobile communication terminal 100 such that tapping the icon would have triggered one action, while tapping and holding the radial menu icon portion of that same icon would have triggered a different action" (Pet., 52-53). EX2006, ¶110.

b. Bezel gestures

Next, Petitioner identifies Hinckley's "bezel gestures" and asserts that implementing Hinkley's specific gesture recognition techniques would have yielded these same general benefits in gesture distinction described by Hinkley. Pet., 25-26; EX1003, ¶¶65-66 (citing EX1006, ¶¶[0001], [0040], [0046]). Petitioner points to "Hinckley's specific gesture recognition techniques" of distinguishing "gestures that start from the bezel and enter onto the screen" (i.e., bezel gestures) from other similar on-screen gestures. Pet., 25 (citing EX1006, ¶[0046]). For example, Hinckley can distinguish a right swipe gesture starting on the bezel and entering into the screen from a right swipe gesture that starts on the screen so that the bezel gesture "do not interfere with" traditional gestures. EX2006, ¶111 (quoting EX1006, ¶[0046]).

However, these bezel gestures are distinct from the design of Hinckley's menus and are not utilized at all with respect to Hinckley's radial menu. EX2005, 72:7-12. Accordingly, the benefits associated with Hinckley's bezel gestures or

distinguishing between bezel and non-bezel gestures cannot explain why a POSITA would have been motivated to make Petitioner's First Modification (including the multiple selectable icons associated with a radial menu icon) or Petitioner's Second Modification (implementing menu such that tapping the icon would have triggered one action, while tapping and holding the radial menu icon would have triggered a different action). Pet., 52-53; EX2006, ¶112.

2. *Hinckley's radial menu is not a simple substitute for Ahn's list menus*

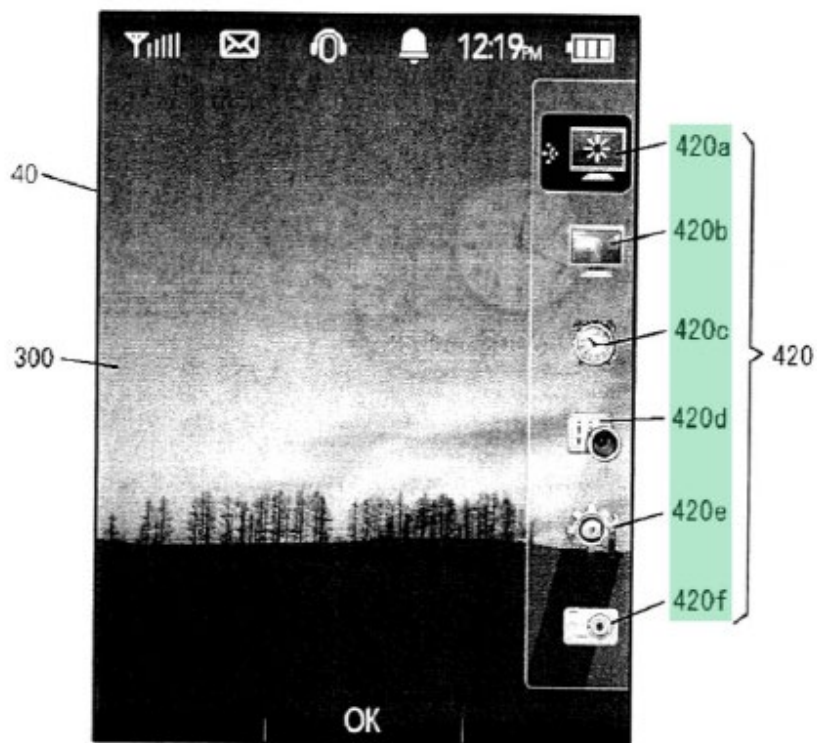
A POSITA would have understood that merely substituting Hinckley's bezel and radial menu for Ahn's menu would not yield predictable results as this substitution would yield further problems that are not addressed by the art or Petitioner. EX2006, ¶113; EX2009, 4 ("Just replacing a rectangular context menu with a pie menu doesn't magically make everything better, though. In fact, it *introduces a new set of problems* that need to be solved."). In fact, a POSITA would have understood that implementing a radial menu into Ahn's menus would have eliminated or severely diminished the functionality of Ahn. EX2006, ¶113.

a. A POSITA would not have used radial menus to perform the functions of Ahn's alleged "first menu"

Claim 1 requires two functions to occur "in response to the detection of the first gesture:" (1) "displaying ... *a first menu* as sliding in and including one or more first menu items" and (2) "blurring at least a portion of the graphical user

interface.” *Supra*, §II.A ([1.d]). The Petition maps Ahn’s right menu 1300/420 as corresponding the claimed first menu as this is the only menu in Ahn that ‘blurs’ the clock widget. *See* Pet., 35-47; EX2006, ¶114; EX1004, FIGs. 3A-3E, 6B, 7B-7C, 9A-9B, and 17 (depicted top, bottom, and left menus being opened without ‘blurring’ the clock). Claim 1 further requires “detecting, utilizing the touch interface, a first duration of contact on at least one of the one or more first menu items [*of the first menu*]” and performing two operations based on the duration of the contact in Limitations [1.e.ii-iii]. *Supra*, §§II.A. Petitioner identifies sub-menus 420a-420f of Ahn’s right menu 1300/420 as the first menu items of the first menu.

FIG. 4B

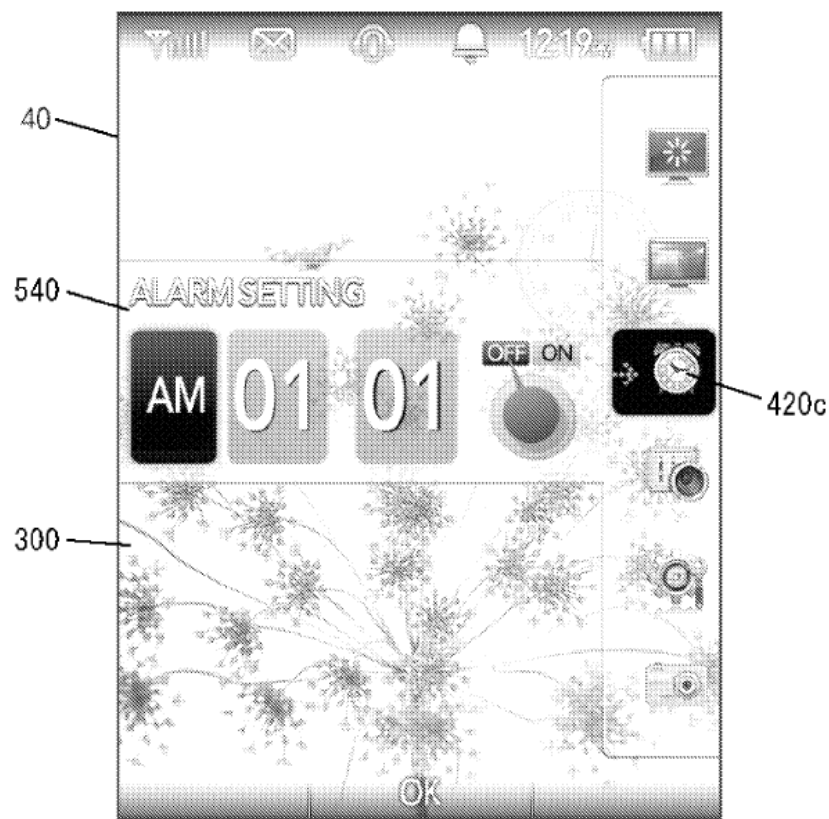


EX1004, FIG. 4B (highlighted)

Pet., 46.

However, a POSITA would have understood that the functionality described for Ahn's sub-menus 420a-420f cannot be implemented by a radial menu. EX2006, ¶115. For example, Ahn's FIG. 5D illustrates that "when the user selects the alarm setting menu 420c, an alarm setting window 540 for setting an alarm is displayed in a transparent window." EX1004, ¶[0057].

FIG. 5D



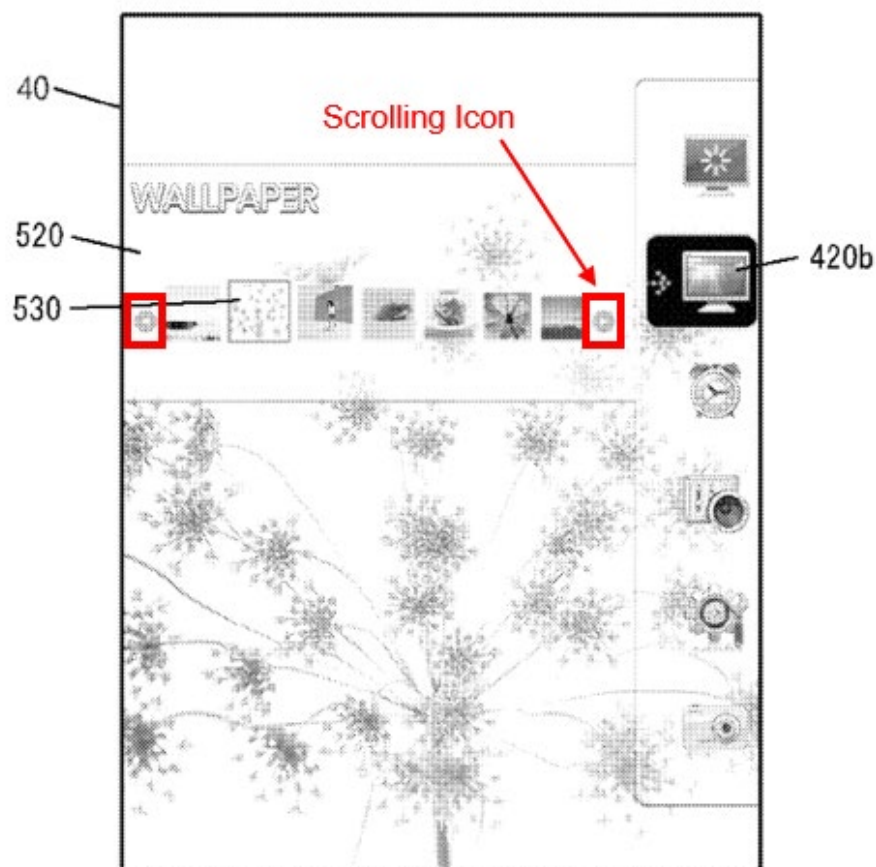
EX2017, 56⁵; E1004, FIG. 5D. The alarm setting window includes two binary toggles (AM/PM and ON/OFF) and two numerical inputs (01-12 and 01-59) that the

⁵ This image is from Ahn's European counterpart that displays Ahn's identical images in higher quality. EX2006, ¶115 n.10.

user can interact with to set the alarm. EX2006, ¶115. This functionality represented in this window cannot be reasonably implemented into a radial menu. *Id.*

Likewise, Ahn's standby screen setting menu 420b opens up a standby screen setting window 520 for selecting a wallpaper that could not be reasonably implemented as a radial menu. EX1004, ¶[0054], EX2006, ¶116. Referring to Ahn's FIG. 5B (annotated and reproduced below), standby screen setting window 520 includes 7 icons that are displayed between two scrolling icons. EX2006, ¶116.

FIG. 5B



EX2017, 54; EX1004, FIG. 5B. This scrolling functionality is not something that would have been reasonably implemented into a radial menu. EX2006, ¶116;

EX2005, 92:14-94:6 (explaining scrolling work for linear menus but not for radial menus). Further, a POSITA would have understood the number of options—at least eight—would be too numerous to be displayed in a *half or quarter* radial menu, as described by Hinkley, without introducing usability problems. EX2006, ¶116 (citing EX1006, ¶[0114], FIG. 17; EX2009, 4); *see also* EX2006, ¶¶74-78. The slider bar functionality in brightness setting window 510 of sub-menu 420a (FIG. 5A) would also not be easily implemented as a radial menu. EX2006, ¶116 (citing EX1006, ¶[0114], FIG. 17).

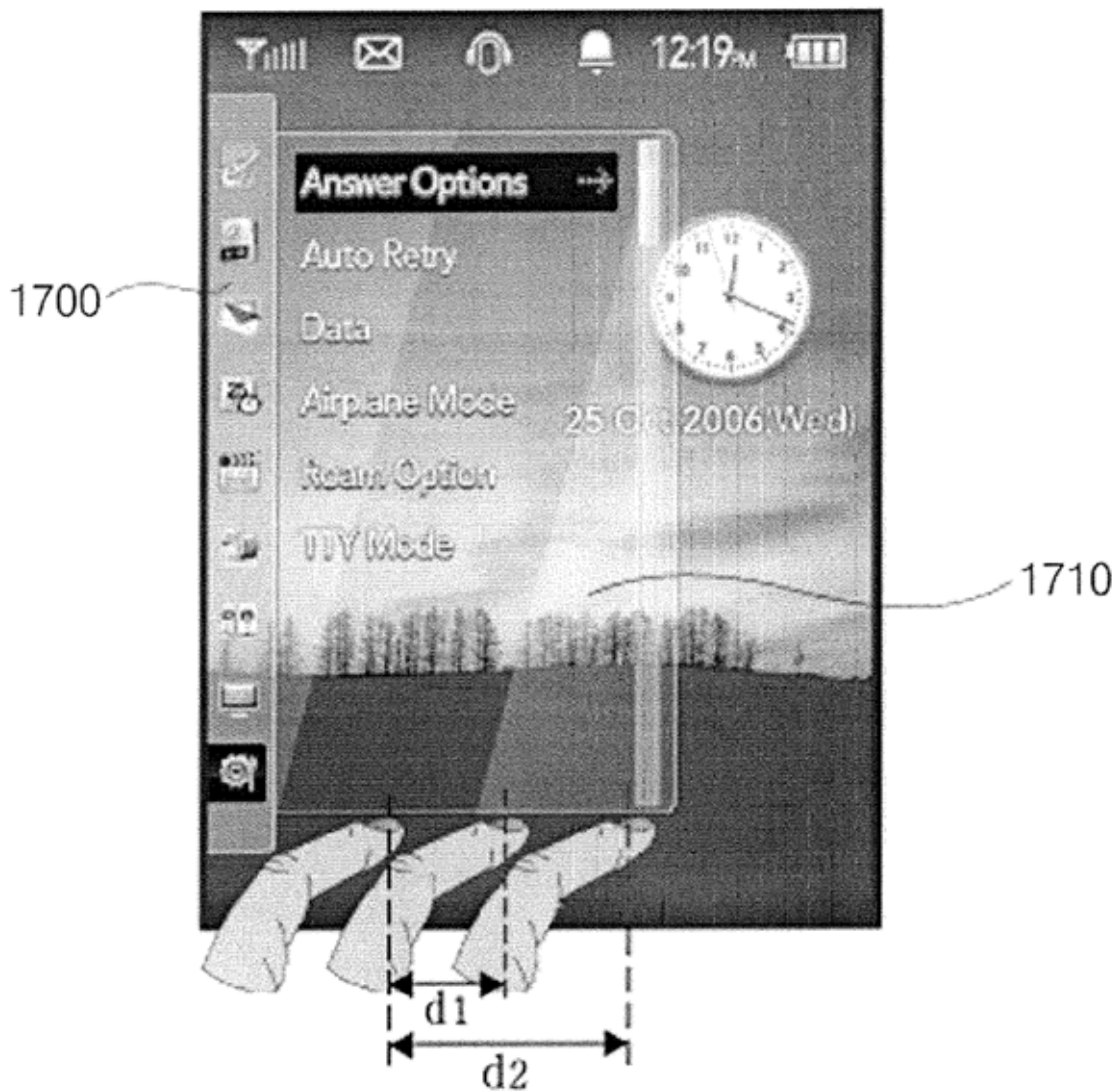
A POSITA would have understood that radial menus are not simply interchangeable with other types of menus and that “replacing a rectangular context menu with a [radial] menu ... introduces a new set of problems that need to be solved.” EX2009, 4; EX2006, ¶117. Indeed, a POSITA would have appreciated that all of the sub-menus 420a-420f that Ahn explicitly describes (e.g., FIGs. 5A-5D) were not suitable for radial menus because they would have resulted in severely diminished functionality and user experience. EX2006, ¶117. Accordingly, the implementation and operation of Hinkley’s bezel menus and radial menus would not have been “a simple substitution.” *Id.*, n.11

b. Radial menus would have undesirably limited the functionality of Ahn's "second" menu

Recognizing that radial menus would not naturally implement the functionality described for Ahn's right side menu 1300/420, Petitioner attempts to draw a parallel between Ahn's left side menu 1700 and sub-menu 1710 and Hinkley's bezel menu 1710 and radial menu 1715. *See* Pet., 52. However, as explained in Section VI.C.1, Ahn's left side menus 1700 and 1710 cannot meet the requirements for the claimed first menu and, therefore, are irrelevant to Petitioner's explanation of the operations of "the one or more first menu items" of the first menu. EX2006, ¶118.

Nevertheless, a POSITA would have understood that using a radial menu "as ... an alternative" (Pet., 52) to Ahn's second menu list 1710 was undesirable because it would have decreased the functionality of Ahn's device. EX2006, ¶119. Second menu list 1710, depicted in Ahn's FIG. 17, is a result of the selection of a setting menu. EX1004, ¶[0082], FIGs. 9A-9B (depicting identical sub-menu as a result of the cursor selecting the settings item); FIG. 17 (illustrating setting icon of 1700 as being highlighted); EX2006, ¶119. The second menu list 1710 displays six options with one of those options indicating the presence of a further sub-menu. EX1003, ¶109 (arrow icon identifies the presence of a sub-menu); EX2006, ¶119.

FIG. 17



EX1004, FIG. 17.

A POSITA would not have implemented menu 1710 as a radial menu. EX2006, ¶120. First, the radial menu described in Hinckley lacks the functionality to cohesively display further sub-menus as indicated by the arrow next to the “Answer Options” items. *Id.*; EX1003, ¶109. Further, a POSITA would have understood that the additional functions associated with the “Answer Options” sub-

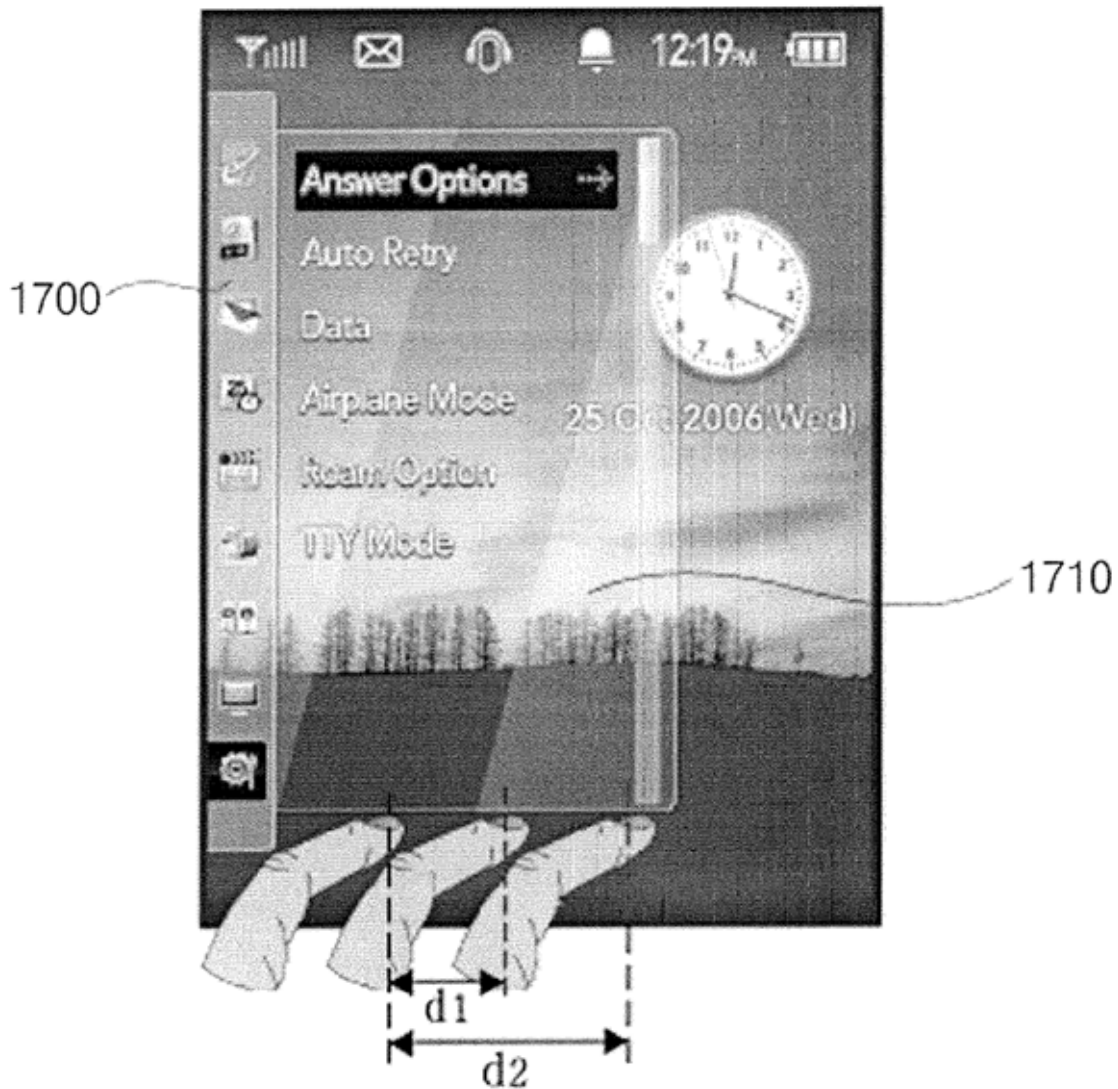
menu would not have been able to be inserted into the implemented radial menu as the six existing options were already too numerous for a partial radial menu like Hinckley's. EX2006, ¶¶74-79, 120; EX2010, 2/4; EX2009, 4/37. This cramped spacing was exacerbated given that Ahn's text options would take up greater space and could not have easily been conveyed as pictorial icons, like Hinckley's. EX2006, ¶120 (citing EX2014, 2; EX1006, ¶[0074], FIGs. 6, 17). And this implementation would be even more untenable given the position of the setting icon in menu 1700—depicted at the end)—which would necessitate a quarter-circle menu. EX1004, FIG. 17; EX2005, 90:19-92:11; EX2006, ¶¶120-121. Even Hinckley warned against such a configuration. EX1006, ¶[0109] (stating the semi-circle radial menu includes “five options” but that “[r]adial menus associated with slots or icons that appear at the ends of the bezel menu 1710 may have *fewer options due to spacing constraints*). Thus, a POSITA would have known the six-plus options of Ahn's second menu list 1710 would not have been suitably implemented into a radial menu without losing the benefits associated with radial menus. EX2006, ¶¶73-78, 120-121 (implementation would not include the benefits of Hinckley's gestural modes).

Ahn does not describe the functionality of its remaining options in menu 1700 (shown as menu 820 in FIG. 9A). However, Petitioner asserts that selecting some such items (e.g., “Contacts” and “Messages”) would have launched an application

associated with that functionality. EX1003, ¶157. A POSITA would understand that a radial menu would be inappropriate for such operations. EX2006, ¶122. Unlike Hinckley's icon 1712—which is associated with five separate functions/commands (EX1006, FIG. 17)—Ahn's application-launching icons would be associated with only a *single* command: launching an application. Because of its association with *multiple* commands, Hinckley's radial menu allows a user to change the function that occurs when selecting its icon 1712 so that one icon can perform each of these multiple commands. EX2006, ¶122 (citing EX1006, ¶[0109]). Yet, in Petitioner's theory, one icon (e.g., "Messages") would be associated with a *single* command (e.g., launching the Messages application). Thus, as explained in Section VI.B.2.c, where there is only one function (i.e., opening the application) that is associated with an icon—as opposed to the plurality of functions associated with Hinckley's icon 1712—a POSITA would not have included a radial menu as there are no auxiliary functionalities to be accessed. EX2006, ¶122.

Further, including an icon "associated with a radial menu icon as described by Hinkley" (Pet., 52) would have prevented a user from accessing the functionality of the menu when one of the sub-menus is open. EX2006, ¶123. As depicted in Ahn's FIG. 17, the icons of menu 1700 remain displayed when the sub-menu 1710 is shown indicating that they remain selectable when viewing the sub-menu. EX2006, ¶123.

FIG. 17



EX1004, FIG. 17. Thus, a user can switch between sub-menus by selecting another of the eight icons displayed in menu 1700. EX2006, ¶124. However, in substituting the slots and associated radial menus of Hinckley, the radial menu would prevent the user from interacting with the majority of the icons in menu 1700. *Id*; EX2005, 77:2-8, 80:8-22; EX1016, FIG. 17 (depicting 80% of the icons being obscured). Because the radial menu (e.g., 1715 of Hinckley's FIG. 17) overlies the icons, the user cannot

select the covered icons without first removing the radial menu; whereas Ahn's interface allows a user to quickly select between options while viewing the sub-menus. EX2006, ¶124, EX2005, 77:2-8 ("not possible to access the underlying icons"). Petitioner's modification undermines this usability. EX2006, ¶124.

Because radial menus are not simply interchangeable with other types of menus, as explained above, Petitioner's modification would significantly diminish Ahn's menu interface and would not achieve any of the purported motivations on which Petitioner relies. EX2006, ¶125. Indeed, all of the sub-menus 1700 that Ahn explicitly describes and the menus 820 identified in the Petition would not have been implemented as including radial menus. *Id.* Thus, the implementation and operation of the bezel menus and radial menus would not have been "a simple substitution."

c. Petitioner's attempt to analogize Ahn's and Hinckley's menus is mistaken and unsupported

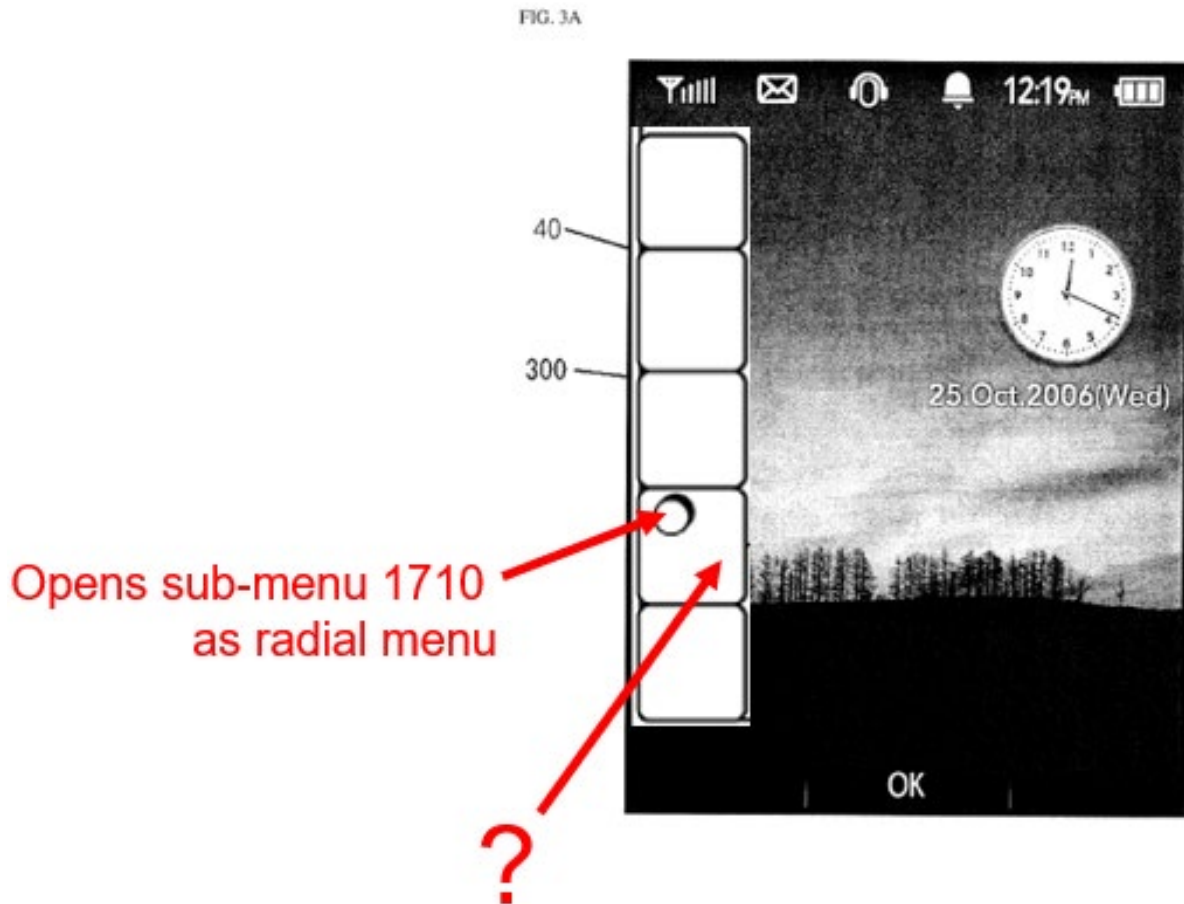
As explained above, the radial menus would not be suitable for any of Ahn's menus. This incompatibility stems from Petitioner's false analogy between Ahn's menu and Hinckley's bezel menu. However, a POSITA would have understood that all menus are not compatible or interchangeable and that menus with similar appearances can vary drastically according to their underlying functionality. EX2006, ¶126. Specifically, a POSITA would understand Ahn's list menus were not interchangeable with Hickley's bezel menu despite sharing some similarities (e.g., both had icons arranged linearly). EX2006, ¶126.

Ahn's menus are cascading menus, with the parent options functioning to reveal sub-options or sub-menus. EX2006, ¶127. In other words, selection of Ahn's menu options only performed a single function—revealing other menus. EX2006, ¶127 (citing EX1004, FIGs. 5A-5D, 7B-7C, 9A-9C). To illustrate, each menu option 420a-420f of Ahn's right menu 1300/420 reveals a window when it is selected (EX1004, ¶¶[0052]-[0057]), the only described menu option (e.g. a setting menu) of Ahn's left menu 1700/820 reveals a sub-menu 870 when it is selected (EX1004, ¶¶[0079]-[0082]), and the Petitioner-alleged operation of the menu options of Ahn's left menu 1700/820 launch an application when it is selected (Pet., 78). EX2006, ¶127. Thus, Ahn's menu items perform a single occurrence function (e.g., to open or reveal other options).

On the other hand, Hinckley's bezel menu includes a single icon 1712 that can perform several different continuously interactive functions, such as “such as, for example, paint functionality, pen functionality, note functionality, object creation, object editing, and the like.” EX1006, ¶[0106]. Selecting icon 1712 accesses only a portion of the programmed functionality (e.g., triggering one of five functions). EX2006, ¶128; EX1006, ¶[0077]. There is, therefore, a need in Hinckley to be able to access the remaining untriggered functionalities, which can be done via a radial menu 1715. EX2006, ¶128. The radial menu 1715 enables a user to change the function of icon 1712. EX1006, ¶[0109]; EX2005, 82:2-84:4. For example, a

user can select icon 1712 to use a paint function on display 1708. EX1006, ¶[0106]. Once finished with the paint function/command, the user can then open radial menu 1715 and select a different functionality (e.g., pen, eraser, editor) to assign to icon 1712 that the user can subsequently use to interact with the display 1708. EX2006, ¶128. Thus, Hinckley's bezel menu has a single icon 1712 that can be selected to perform multiple continuous interactive functions. EX2006, ¶128 (citing EX1006, ¶¶[0106], [0109]).

Petitioner ignores these differences in functionality and contends Ahn and Hinckley's menus can simply be substituted for one another; but a POSITA would understand that this was not the case. EX2006, ¶129 (citing EX2009, 4-5; EX2012, 4 ("Applications for pie menus are rare")). Ahn's single icon is assigned a single function (e.g., opening a sub-menu) and, thus, there are no untriggered functionality that needs to be accessed. For example, as shown in the annotation of Petitioner's combination below, Petitioner contends tapping-and-holding on radial menu icon 1714 opens the radial menu 1715 (Pet., 55) that would correspond to Ahn's second menu list 1710 (Pet., 52) and that tapping icon 1712 would perform a function associated with icon 1712 that is "different" than opening the radial menu (Pet., 54).



But the only function associated with “the icon” is opening the sub-menu, which is now deployed as a radial menu in Petitioner’s modification. EX2006, ¶130. Thus, there is no ‘different’ action to be performed in Ahn. Both the icon and radial menu icon would only open the sub-menu (the same function) and the proposed combination would not meet Limitations [1.e.i-iii].

Further, a POSITA would understand that the functionality associated with Hinckley’s icons is different from the sub-menu’s associated with Ahn’s menus. EX2006, ¶131. Ahn’s menu icons (e.g., 420a-f, 830) open up sub-menus or windows, whereas Hinckley’s icons are used to implement continuously interactive

functions (e.g., interact with the display by painting, drawing with a pen, creating or editing interactive objects). EX2006, ¶131 (Hinckley describes paint, pen, note, and object editing functions for icon 1712 that would be used in a drawing or image processing application, not a standby screen). Although radial menus were applicable for heavily interactive applications, such as Hinckley's drawing or image processing application, a POSITA understood that radial menus would not have been used in less-interactive, single occurrence interfaces like Ahn's standby screen. EX2006, ¶131 (citing EX2012, 4). Petitioner merely assumes that substituting Hinckley's radial menu for Ahn's contextual menu while providing the same benefits, but a POSITA understood that is not the case. EX2006, ¶131 (citing EX2009, 4).

C. Petitioner's Mapping to Claim 1's Blurring Limitation is Deficient

Claim 1 recites "blurring at least a portion of the graphical user interface such that a magnitude of the blurring of the at least portion of the graphical user interface progressively increases as a function of an increase in a magnitude of the first gesture being detected." EX1001, 95:57-65. Petitioner provides two theories when mapping to Limitation [1.d.ii], each of which fail.

1. Ahn Theory

Petitioner asserts that Ahn's menu moves with the user's finger as the user drags their finger across the display. *See* Pet., 40; EX2006, ¶142. Petitioner must

show this assertion to be true in order for its mapping of Ahn to meet element [1.d.ii]. Unless Ahn's menu follows the user's finger across the display, the overlap of Ahn's menu onto the standby screen does not "increase[the blurring] as a function of an increase in magnitude of the first gesture[,]" as required by element [1.d.ii].

a. "Drag" does not mean move

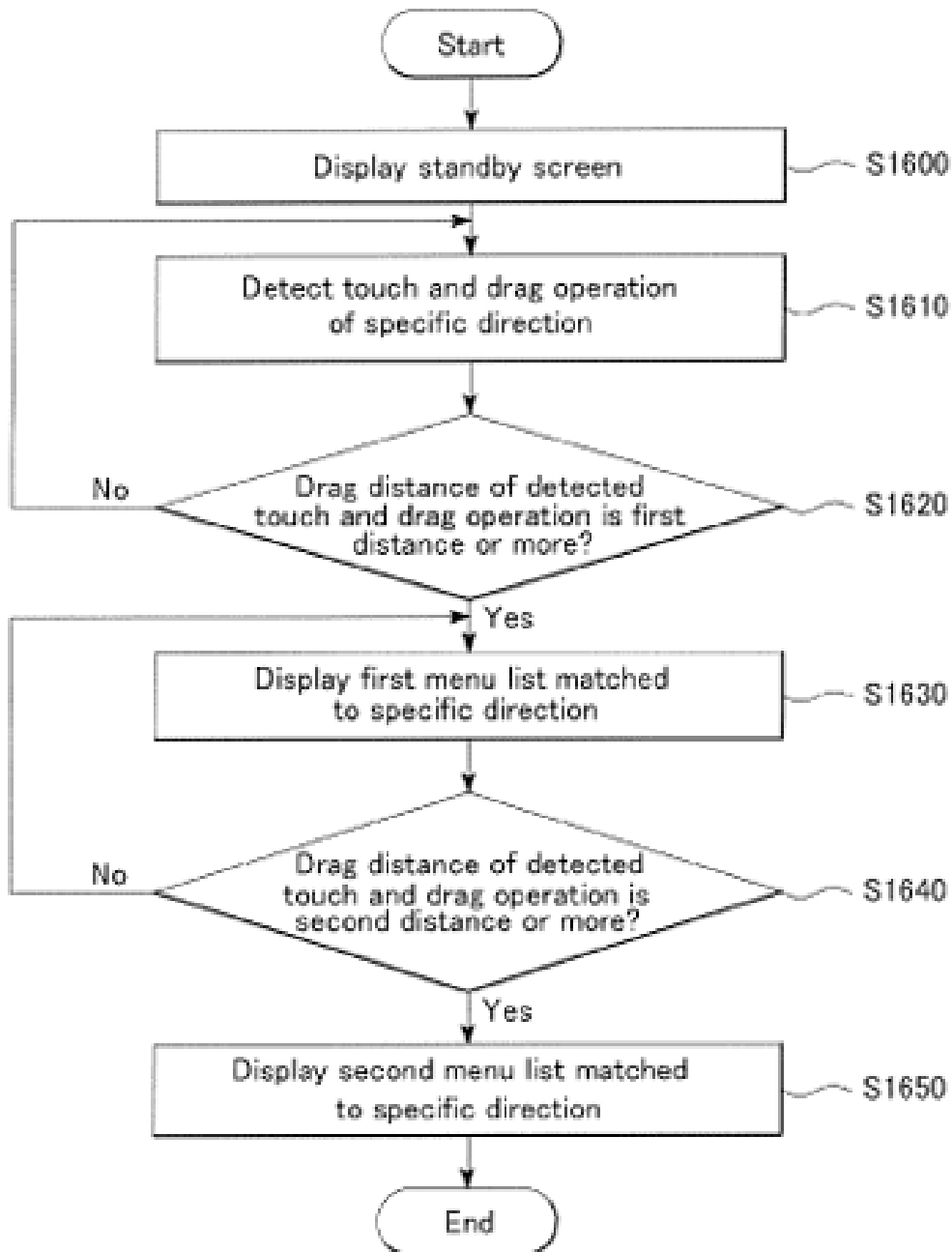
To establish Ahn's menu progressively slides with the user's finger, Petitioner relies on one sentence in Ahn's paragraph [0118]: "as the user drags the graphic shadow 1800, the menu list 1500 can be displayed along the dragged graphic 1800." Pet., 37. The crux of Petitioner's theory is that "drags the graphic shadow" means that the showed is depicted as *moving with* the user's finger when it performs a touch and drag operation. But this is inconsistent with Ahn's use of the term "drag." EX2006, ¶143.

Ahn unambiguously uses "drag" to describe the input—*not* any responsive movement of graphic 1800. In Ahn, "drag" "indicates movement of an *external object* on the touch screen 10." EX1004, ¶[0098]. In other words, "drag" means an external object (e.g., finger, stylus, etc.) is acting on the screen or part of the screen, not that a graphic is moving. EX2006, ¶144. For example, where Ahn states that "if the user *touches a specific position* of the touch screen 10 and *drags the touch* in a left direction a menu list 1300 ... is displayed[,]" (EX1004, ¶[0102]) the user is dragging a finger across the touch screen. EX2006, ¶144. Similarly, Ahn states that

“if the user *drags the touch screen 10* by a distance longer than or equal to the distance d1 and shorter than the distance d2, the first menu list 1700 is displayed.” EX1004, ¶[0116]. Of course, the user is not moving the touch screen 10 itself, but is merely performing a *drag gesture that starts on the touch screen*, in response to which the first menu list is displayed. EX2006, ¶144; *see also* EX1004, ¶[0111] (describing touch operation as “dragged”). Likewise, when “the user drags the graphic shadow 1800” (EX1004, ¶[0118]), the user is merely performing a drag gesture that *starts* on the graphic shadow, in response to which the menu list 1500 is displayed. EX2006, ¶144.

Ahn’s description of its other operations confirm this interpretation. EX2006, ¶¶54-56. As explained in Section V.A.1, a POSITA would understand Ahn’s menu operations are binary and would open after a corresponding input is received. EX2006, ¶145. Ahn’s “Touch and Drag” embodiments are described as binary—not progressive—and only displays its menu *after* determining a drag distance exceeds a first distance as opposed to displaying the menu during the gesture.

FIG. 16



EX1004, FIG. 16 (step S1630 only occurs after S1620 is met); EX1004, ¶[0109]
 (“controller 50 determines whether a drag distance of the detected touch and drag
 operation is a first distance or more (S1620). *If a drag distance of the detected touch*

and drag operation is a first distance or more, the controller 50 controls to display a first menu list.”); EX2006, ¶¶56, 145 (explaining Ahn’s FIGs. 11-15 operate in the same manner by displayed the menu when the action is completed)

Ahn’s disclosure to add “an identifier” for “notifying a start position of the touch and drag operation” (EX1004, ¶[0117]) does not change the described binary menu opening operation to a progressive one. EX2006, ¶146. In other words, paragraph [0117] of Ahn merely describes adding a start position identifier to the binary “Touch and Drag” menu embodiments already described elsewhere in Ahn’s disclosure and does not describe differences in the process through which the menus are displayed. EX2006, ¶146; *see* D.I., 26-27 (finding Figures 18a-18b and Figures 15a-15b the same embodiments). In fact, Ahn illustrates the user’s finger moving along the display while the graphic 1800 remains stationary. EX1004, FIG. 18a. If Ahn wanted to display the graphic 1800 as moving with the finger, it knew how to display such a movement. EX2006, ¶146 (Ahn depicts other objects as moving in response to an input) (citing EX1004, FIGs. 3B, 4A, 6A, 7A, 8B). There is nothing to establish that Ahn’s paragraph [0118] intends to use the term “drag” inconsistently with the rest of the specification or operate the menu in a manner contrary to the described touch and drag operation. EX2006, ¶¶54-56, 146.

**b. Hinckley confirms Ahn's non-progressive operation of
Petitioner's combination**

When implementing the first menu, Petitioner relies on the alleged “parallel between the first menu list 1700 and second menu list 1710 described by Ahn’s FIG. 17 and the bezel menu 1710 and radial menu 1715 described by Hinkley’s FIG. 17.” Pet., 52. Like Ahn, Hinkley’s menu are non-progressive when sliding in⁶ and are displayed only after an input is recognized. EX2006, ¶147. For example, when utilizing the “different gestural modes ... to access functionality associated with the bezel menu” (Pet., 24 (quoting EX1006, ¶[0076])), Hinckley’s menu would not follow the user’s finger as it slides in from the edge. EX2006, ¶147. In Hinckley’s expert mode, the menu would never be displayed. EX2006, ¶147 (citing EX1006, ¶¶[0079], [0110]); EX1003, ¶64 (without visual guides); EX2005, 96:10-97:13, 98:14-99:10. And in Hinckley’s novice mode, the menu is only displayed “when the timer expires” and the user’s finger is still in the region occupied by the bezel

⁶ Petitioner’s citation to Hinkley’s menu sliding “off of the screen” is irrelevant to show why a POSITA would have displayed a menu “as sliding in,” which Hinkley teaches as non-progressive to achieve the advantages of its ‘gestural modes.’ EX2006, ¶¶147 n.13.

menu. EX2006, ¶147 (citing EX1006, ¶¶[0080]⁷). Thus, like Ahn, Hinckley’s menu is not displayed until after the corresponding input (e.g., distance of slide or timer) is detected.

Accordingly, implementing Hinkley’s bezel menu in the “different gestural modes” necessitates the menu to operate contrary to that alleged in Petitioner’s modification. EX2006, ¶148; Pet., 24-25 (“implementing Hinkley’s different user interaction modes”). To be able to implement these different gestural modes, Hinkley’s bezel menu must not initially move with the user’s finger as the system must first determine (via a “timer”) whether the user intends to operate in the novice or exert mode. EX2006, ¶148. But this functionality cannot coexist with Petitioner’s reliance of Ahn’s menu sliding out as a user drag’s graphical shadow 1800 for Limitation [1.d].

⁷ Hinckley’s statement that the menu “tracks with the user’s finger” is distinct from its description of an object “following the user’s finger” indicating that tracking (*i.e.*, monitoring) is distinct from moving the object with (*i.e.*, following) a finger. EX2006, ¶147 n.14 (quoting EX1006, ¶[0080])

Although the Board found that that “dragging a finger inwards from an edge of a display screen to ‘slide in’⁸ a menu onto the display screen was within the level of ordinary skill in the art,” this is not the obvious inquiry. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (“Obviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.”) (emphasis in original). Instead, Petitioner must show why a POSITA would have made the alleged combination. *See KSR*, 550 U.S. 398, 418 (“a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art”). As explained above, a POSITA would not have arrived at an operation to have Ahn’s menu follow a user’s finger as this is contrary to the operations in both Ahn and Hinckley and would eliminate the functionality of the gestural modes that Petitioner relies on for its motivation. EX2006, ¶148.

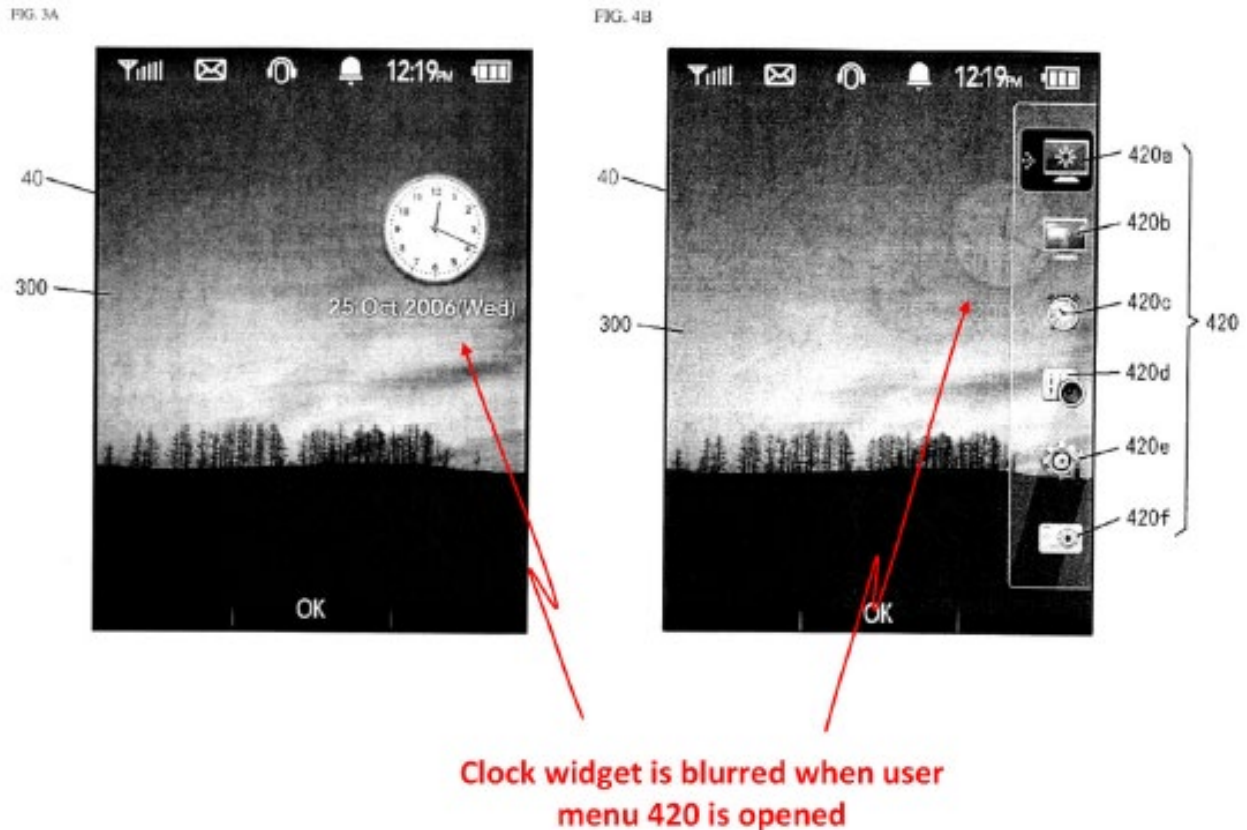
⁸ ‘Sliding’ the menu (e.g., “off of the screen” as in Hinckley) as the Board alleges does not indicate that this is performed as a function of an increase in a magnitude of the first gesture. EX2006, ¶149 (sliding animation would not meet the claimed dynamic functionality); EX1003, ¶88 (acknowledging object follows finger “in other contexts”).

2. *Ahn-Chaudhri Theory*

Petitioner’s modification of Ahn with Chaudhri is premised on the combination providing a user with an indication of or feedback on the progress of Ahn’s gesture. Pet., 19 (“Ahn-Chaudhri combination is a mobile device that changes an optical intensity of one or more user interface objects as a function of progress towards satisfaction of a user’s gesture input”). Specifically, Petitioner asserts that a POSITA viewing Chaudhri-842 would have found it obvious to vary the optical intensity of the clock widget as a visual indication of a user’s progress in completing Ahn’s “touch and drag” gesture. Pet., 45; *see id.*, 42 (“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”). But this is logically incorrect.

a. **Modification does not show progress**

Petitioner’s 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 the corresponding menu list. EX2006, ¶¶151. In Petitioner’s modification, the “clock widget is blurred when the user menu 420 is opened,” as illustrated by Ahn’s FIGs. 3A and 4B.

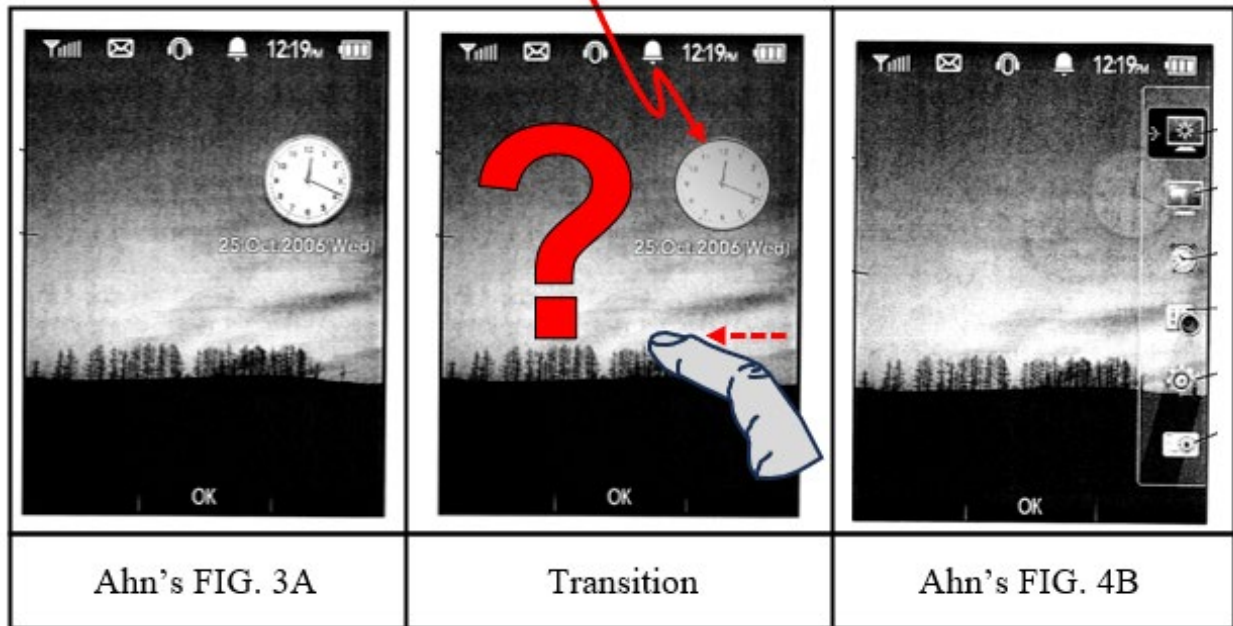


EX1004, FIGS. 3A and 4B

Pet., 42.

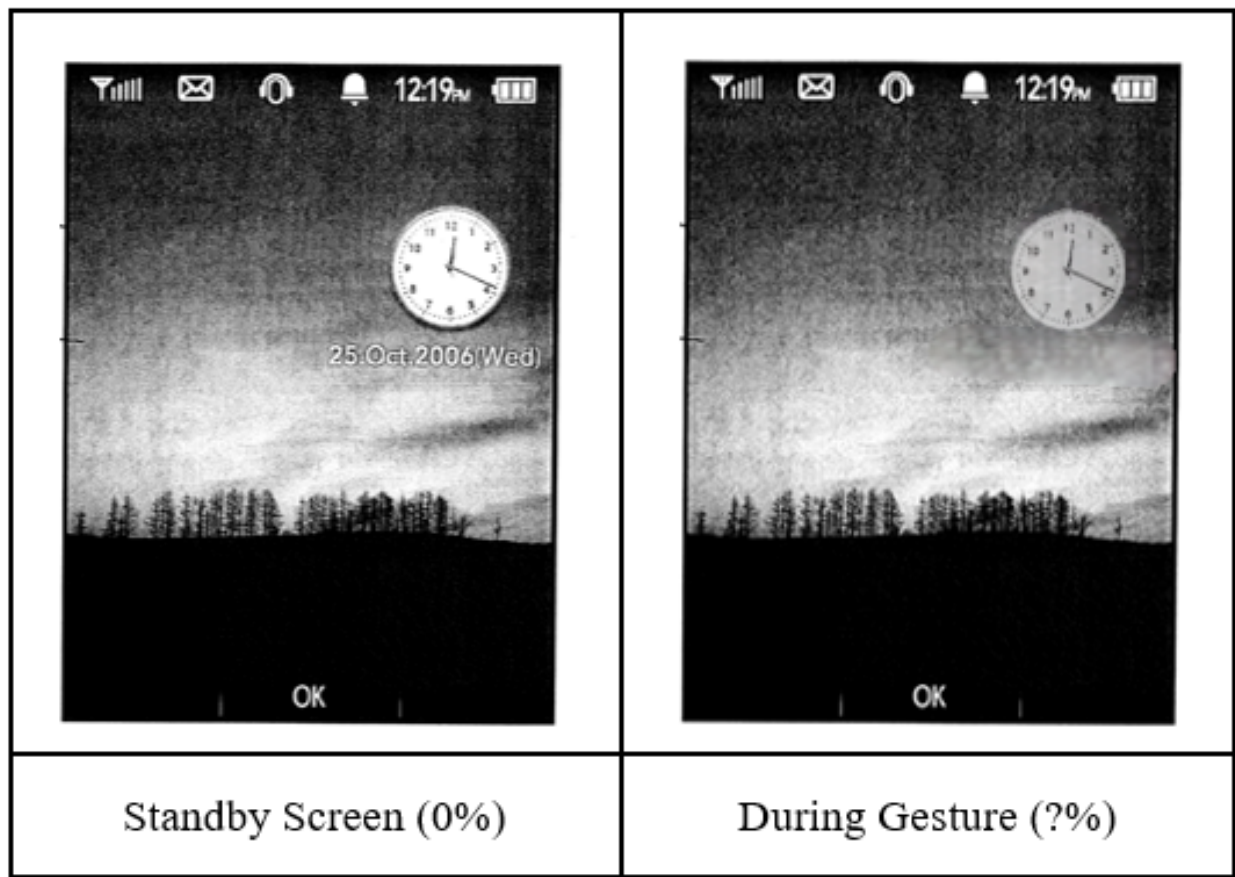
Petitioner's alleged modification of Ahn is illustrated by the below progression which transitions from a Standby Screen (corresponding to Ahn's FIG. 3A) to a Menu Screen (corresponding to Ahn's FIG. 4B) in response to a touch and drag gesture as described in Ahn. EX2006, ¶¶152; *see* Pet., 44-45 ("obvious to vary ... the optical intensity of the standby screen or at least portions thereof (e.g., the blurring of the clock widget, as shown in FIGS. 4B, 10, and 13b) as a visual indication of a user's progress in completing Ahn's 'touch and drag' gesture").

Clock cannot provide
indication of “progress” or
associated operation of gesture



As is apparent in this sequence of figures (and Ahn's FIG. 13B), the clock widget remains visible throughout the transition. EX1004, FIG. 4B (depicting clock widget after menu is displayed). EX2006, ¶153 This optical transition 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. EX2006, ¶153. 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 change in optical intensity *during* the touch and drag operation would not 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., 32 (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. EX2006, ¶154. This can be illustrated in the below figure:



Unless a user can accurately determine the amount of progress for Ahn's touch and drag gesture based on the variation in the clock widget in the above image, then it cannot indicate progress. EX2006, ¶154; *cf* EX1005, FIG. 5B (depicting progress of gesture)

A POSITA would understand that this change in appearance merely indicates that a gesture is happening, but the user *already* knows that much because the user *is performing* that gesture. EX2006, ¶155. 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.

Further, as explained in Section VI.C.1, the alleged variation in optical intensity would not 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) because the menu is not shown until ***after*** the gesture is completed. EX2006, ¶156. Because the menu is not displayed during the gesture, there can be no differentiation until the menu appears, which is ***after the gesture is completed***. *Id.*

Thus, differentiation cannot provide a logical motivation for why a POSITA would vary the optical intensity of the clock during Ahn's "touch and drag" gesture.

b. Modification operates contrary to Chaudhri

Petitioner contends it obvious to decrease the optical intensity of the standby screen or portions thereof (e.g., clock widget), which Petitioner identifies as Ahn's background. Pet., 45. Thus, Petitioner's modification decreases the optical intensity of Ahn's background. EX2006, ¶157. Chaudhri-842 teaches the opposite of Petitioner's modification.

Chaudhri-842 does not vary the optical intensity of a background. EX2006, ¶158. 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*"); EX2006, ¶158. Thus, Chaudhri-842 teaches varying the optical intensity of foreground UI elements. EX2006, ¶158.

Unlike Chaudhri-842's foreground UI elements, Ahn's clock widget is part of the background, as conceded by Petitioner. *See* Pet., 41 ("that a clock widget is part of the background standby screen 300"), 45 ("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. EX2006, ¶159. And neither the Petition nor Petitioner’s expert explain this gap in logic.

Further, the relied upon portion of Chaudhri-842 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], FIG. 6 (reproduced and annotated below).

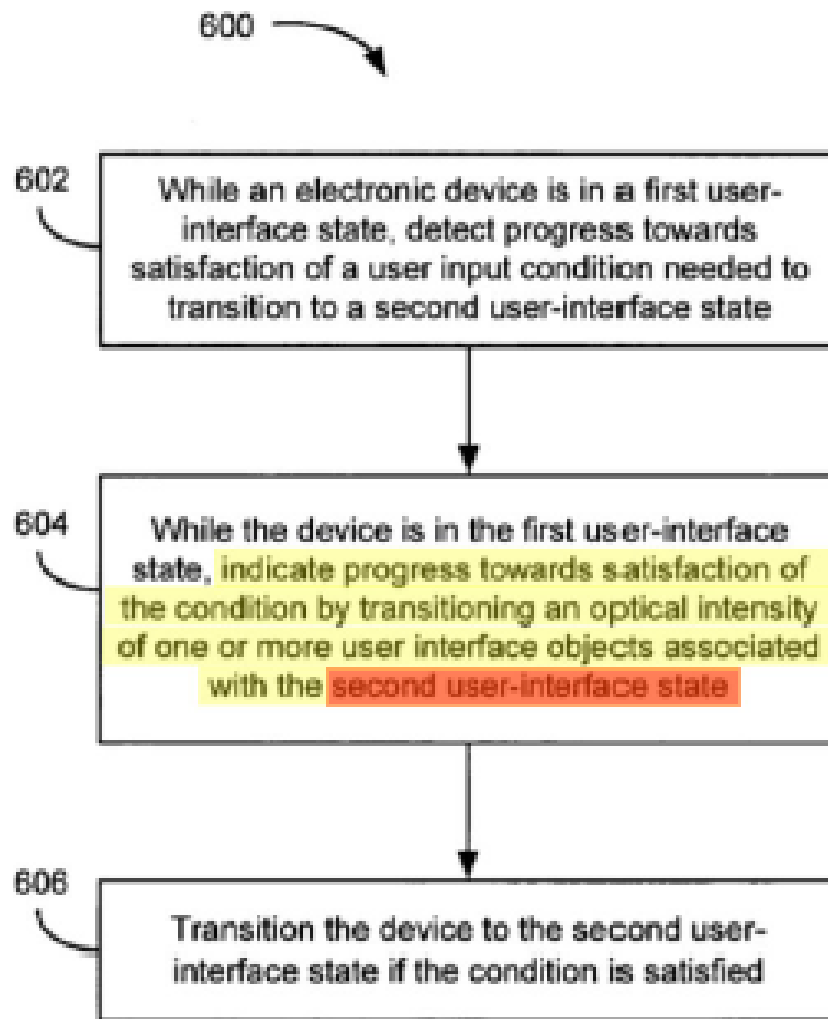
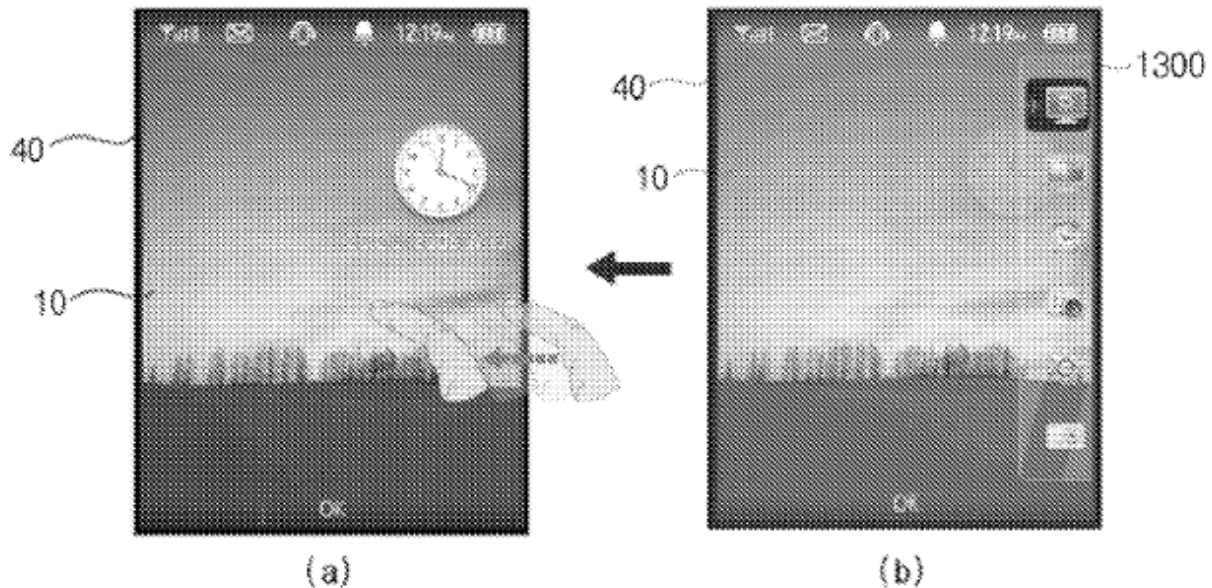


Figure 6

EX1005, FIG. 6

In contrast, Petitioner’s Ahn-Chaudhri combination relies on *reducing* optical intensity of Ahn’s background (the alleged *first* user interface state). EX2006, ¶161. Specifically, Petitioner identifies Ahn’s standby screen (FIG. 13A – below left) as

corresponding to the first user-interface state and “state where a menu list 1300 is displayed” (FIG. 13B – below right) as the second user-interface state. Pet., 44-45.



EX2006, ¶161.

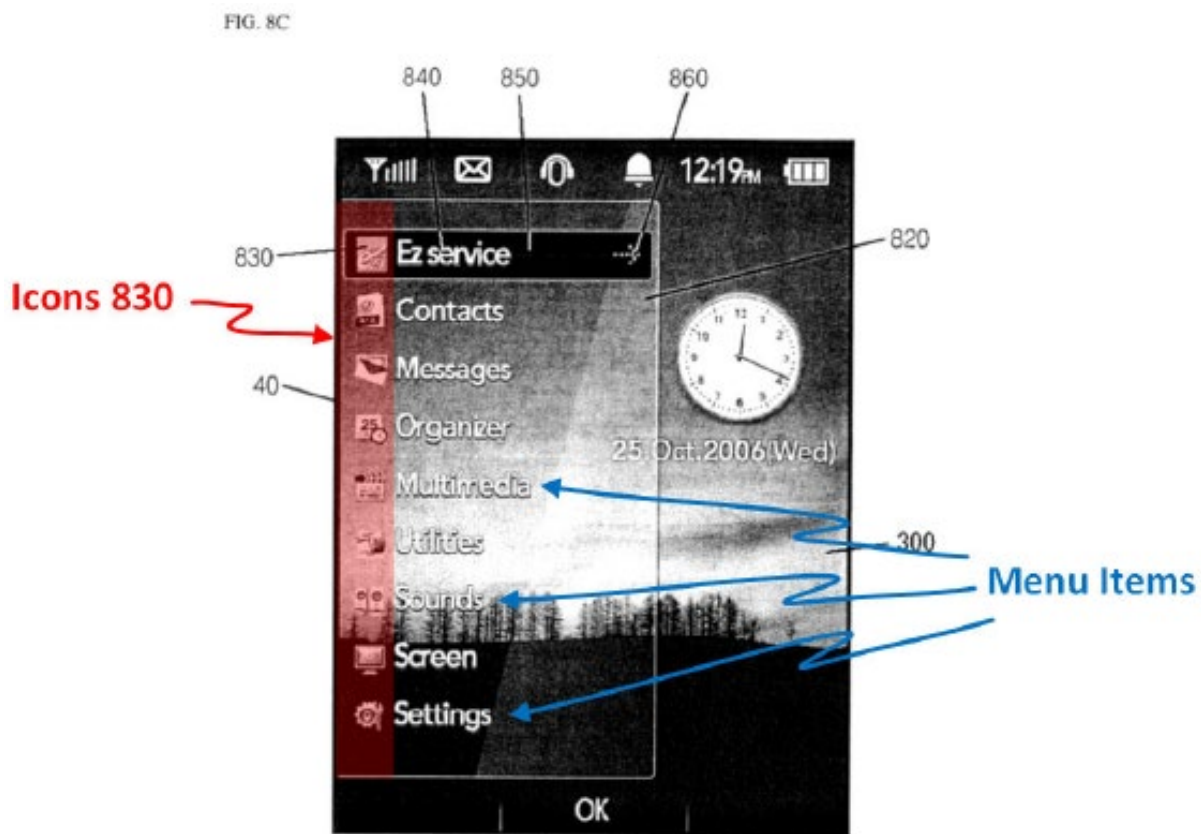
In Petitioner’s Ahn mapping, the clock widget is displayed in (e.g., associated with) the *first* user-interface state. EX2006, ¶162. But Chaudhri-842 does not teach adjusting the optical intensity of an object associated with the *first* user-interface state. *Id.* Thus, Petitioner’s modification to 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; EX2006, ¶162. As such, here too, Petitioner’s alleged modification does the opposite of what Chaudhri teaches, and a POSITA would not have made this conflicting modification—especially not without an articulable reason, which the Petition does not provide.

D. The Petition Fails to show Claim 101 is Unpatentable

1. Petitioner's Mapping of Claim 101 is Internally Inconsistent

Claim 101 recites “displaying ... a first menu as sliding in and including one or more first menu items including a particular application icon” ([101d]) and “displaying, utilizing the display, a second menu including one or more second menu items” ([101g]). EX1001, 95:57-65, 96:12-20.

In mapping to the claimed first menu and the particular application icon, Petitioner identifies Ahn's basic setting menu list 820 and icon 830, as illustrated in the annotated FIG. 8C of Ahn (inset below). Pet., 77.

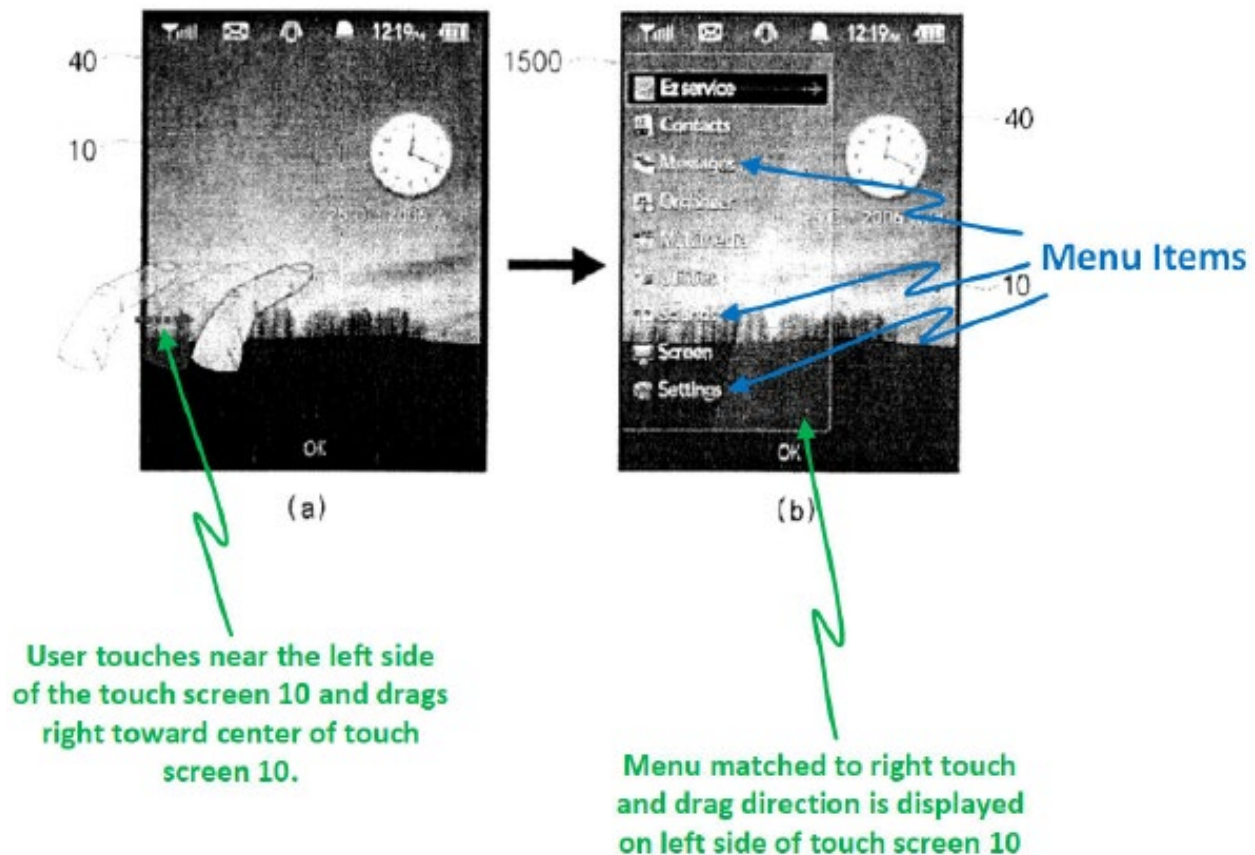


EX1004, FIG. 8C

Petitioner explains that some of these menus (e.g., “Contacts” and “Messages”) “would have launched an application associated with that functionality.” Pet., 78. Thus, the Petition identifies the Contacts or the Messages icon as corresponding to the claimed particular application icon.

For the claimed second menu, the Petition incorporates its mapping of Limitation [1.g]. Pet., 82; EX1003, ¶165 (“Element [101.g] [is obvious] for at least the same reasons described above with respect to Element [1.g].”). For Limitation [1.g], the Petition identifies Ahn’s menu list 1500 as corresponding to the claimed second menu, as shown in the annotated FIG. 15 of Ahn (inset below). Pet., 58-59.

FIG. 15



As explained in Section V.A, basic setting menu list 820 corresponds to the left menu in Ahn’s directional key embodiment and menu list 1500 corresponds to the same left menu in Ahn’s touch and drag embodiment. EX1004, ¶¶[0073]-[0076], [0103]; EX2006, ¶135. Thus, the first and second menus (menu list 820 and 1500) identified in the Petition are the *same* menus. *Compare* EX1004, FIG. 8C (Menu 820 listing Ez service, Contacts, Messages, Organizer, Multimedia, Utilities, Sounds, Screen, and Settings options); *with* FIG. 15 (Menu 1500 listing same options). Thus, Petitioner’s mapping to the same menu as corresponding to both the first and second menu is deficient. *See Becton, Dickinson and Co. v. Tyco Healthcare Gr., LP*, 616 F.3d 1249 (Fed. Cir. 2010)

2. The Board’s preliminary finding was mistaken

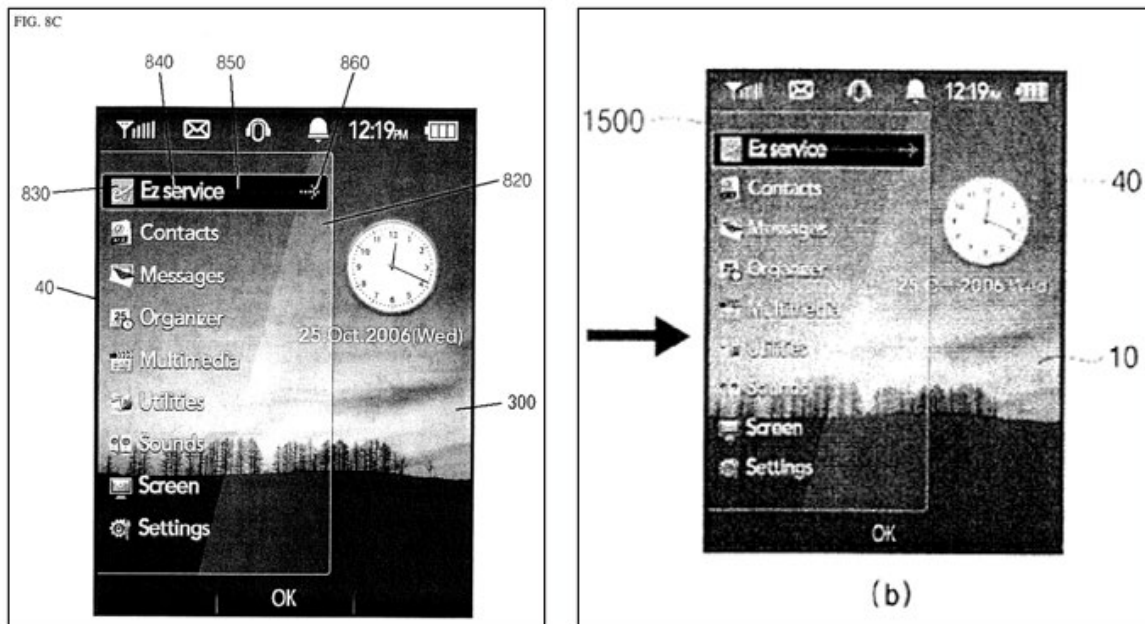
As explained above, Petitioner maps to the same menu—Ahn’s left menu—for the first and second menus. The Board contends otherwise because pages 59-60 of “the Petition further identifies Paragraphs 102 through 104 of Ahn as describing the claimed second menu.” D.I., 40. The Board notes “Paragraph 102 in particular discusses only Figures 13a and 13b” and, therefore, Petitioner must contend that “the menu list shown in Figure 13b [right menu], as well as the menu list shown in Figure 14b [bottom menu], teach[es] the claimed second menu recited in limitation [1.g]” that is incorporated into Limitation [101g]. *Id.*

However, the only citation to Ahn's paragraph 102 is found in a typo that is quoting language from Ahn's paragraph 99. EX2005, 89:12-18; *Compare* Pet., 59 *with* EX1004, ¶¶[0099], [0102]. Of course, a misattributing typo cannot form the basis of Petitioner's theory. While the Petition also cites to paragraphs 103-104, these citations support the quotations that explicitly call out "menu list 1500" and "FIG. 15(b)." Pet., 59. Dr. Terveen further confirms that in Limitation [1g] "I am using figure 15(a) and (b) as illustration of a menu coming in from a second edge namely the left edge." EX2005, 110:14-111:1. Thus, neither the Petition nor Dr. Terveen map to the menu list shown in Figure 13b or the menu list shown in Figure 14b for any of the Limitations associated with the second menu. *See* Pet., 58-65 (repeatedly identifying Ahn's left menus 820/1500).

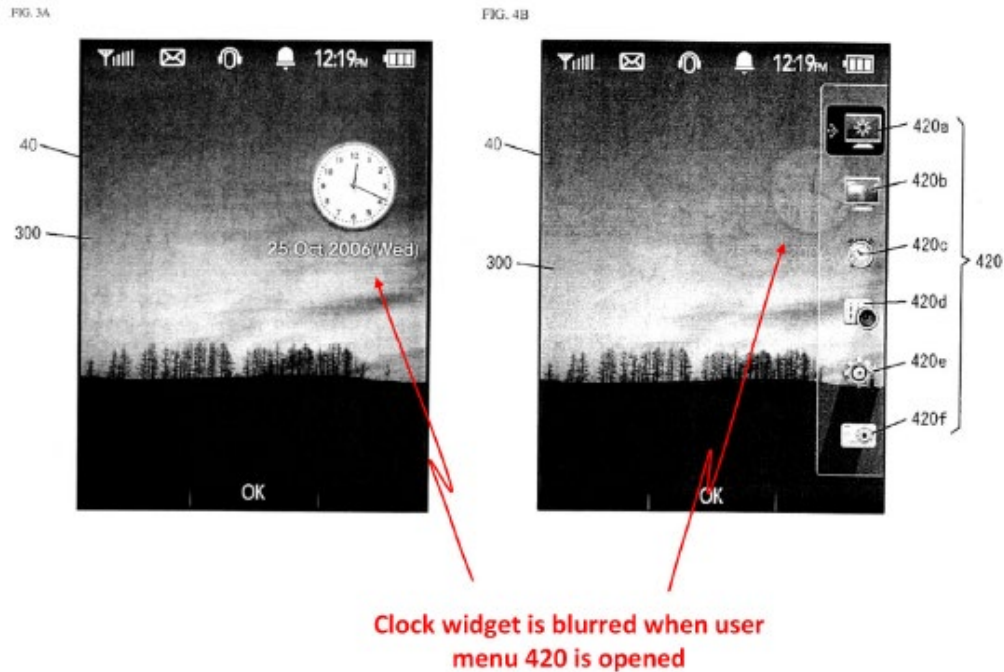
And, even if Petitioner maps to Ahn's right menu (Figure 13b) or bottom menu (Figure 14b) for the second menu in Limitation [1g], it does not show these menus disclosure the other aspects of the claimed second menu in Limitations [1.h.i-ii]. Pet., 60-65 (identifying second menu items as "the icons and icon names listed with respect to *menu 820 or 1500*" and third operation as "a function associated with ... *menu 820 or 1500*" and failing to cite to Paragraphs 102 through 104 of Ahn); *id.*, 82 (incorporating [1.h.i-ii] into [101.h.i-ii]).

a. The Board’s interpretation would destroy Petitioner’s claim 1 mapping

According to the Board, “Petitioner contends[that] the menu list shown in Figures 8c and 15b of Ahn teaches the claimed first menu recited in limitation [1.d]” As seen in Ahn’s FIGs. 8c and 15b (inset below), menu 820 or 1500 refer to Ahn’s left hand menu that does not blur the clock widget. EX2005, 111:3-14; EX2006, ¶140.



Accordingly, if Petitioner contends that Ahn’s left menu list 820/1500 teaches the claimed first menu recited in limitation [1.d], then Petitioner’s theory must fail as the associated gestures (“first gesture”) would not blur the clock widget that Petitioner maps to the graphical user interface, illustrated below:



EX1004, FIGS. 3A and 4B

Pet., 42. Thus, the Board's preliminary understanding of Petitioner's contentions also fail to meet the claimed feature of Limitation [1.d].

VII. CONCLUSION

For the foregoing reasons, the Petition should be denied in its entirety..

Dated: April 23, 2025

Respectfully submitted,

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Lead Counsel for Patent Owner

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 13764 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 April 23, 2024, complete copies of this Patent Owner Response and EX2005-EX2017 were served on Petitioner via email (by consent), at the following email address(s):

IPR50095-0163IP1@fr.com

/Eagle H. Robinson/

Eagle H. Robinson, Reg. No. 61,361