

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Michael S. Smith
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Title: DEVICES AND METHODS FOR NAVIGATING
BETWEEN USER INTERFACES

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**PETITION FOR *INTER PARTES* REVIEW OF UNITED STATES PATENT
NO. 10,656,754 PURSUANT TO 35 U.S.C. §§ 311–319, 37 C.F.R. § 42**

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LIST OF EXHIBITS

EX1001	U.S. Patent No. 10,656,754
EX1002	U.S. Patent No. 10,656,754 File History
EX1003	Declaration of Dr. Loren Terveen
EX1004	U.S. Publication No. 2008/0207188 to Hye Sang Ahn <i>et al.</i> ("Ahn")
EX1005	U.S. Publication No. 2007/0150842 to Imran Chaudhri <i>et al.</i> ("Chaudhri-842")
EX1006	U.S. Publication No. 2011/0209093 to Kenneth P. Hinckley and Koji Yatani ("Hinkley")
EX1007	U.S. Publication No. 2006/0015818 to Imran A. Chaudhri <i>et al.</i> ("Chaudhri '818")
EX1008	Robert Kosara <i>et al.</i> , "Semantic Depth of Field," IEEE Symposium on Information Visualization 2001, pp. 97-104 (2001)
EX1009	New Oxford American Dictionary (3 rd Ed. 2010)
EX1010	U.S. Publication No. 2012/0304133 to Jennifer Nan <i>et al.</i> ("Nan")
EX1011	Certified translation of JP Published Patent Application No. 2002-55750 ("Hisatomi"), published February 20, 2002
EX1012	Internet Archive Capture of https://en.wikipedia.org/wiki/Acutance from Nov. 2, 2010 (available at

<https://web.archive.org/web/20101102045925/https://en.wikipedia.org/wiki/Acutance>)

- EX1013 U.S. Publication No. 2010/0095240 to Daniel Marc Gatan Shiplacoff *et al.* (“Shiplacoff”)
- EX1014-1019 RESERVED
- EX1020 United States District Courts — National Judicial Caseload Profile (Dec. 31, 2023) | United States Courts (uscourts.gov), https://www.uscourts.gov/sites/default/files/fcms_na_distprofile1231.2023_0.pdf (last visited June 25, 2024)
- EX1021 Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (USPTO June 21, 2022) (“Guidance”)
- EX1022 Case Management Order, Smith Interface Technologies, LLC v. Apple Inc., 3-23-cv-01187, S.D. Cal. (June 20, 2024)

LISTING OF CLAIMS

Claim 1	
[1.a]	An electronic device, comprising: a display; one or more processors; memory; and one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the one or more programs including instructions for:
[1.b]	displaying a plurality of user interface elements on the display including a first user interface element and a second user interface element;
[1.c]	detecting a first contact moving across the display; and,
[1.d]	while the first contact is detected moving across the display: moving the first user interface element in a first direction on the display at a first speed;
[1.e]	moving the second user interface element on the display at a second speed greater than the first speed;
[1.f]	displaying an object and at least one other object;
[1.g]	detecting at least part of a gesture on the display; and
[1.h]	during detection of at least a portion of the gesture before a completion thereof is detected, blur, based on a change in a magnitude of the gesture being detected on the display, at least a portion of the at least one other object.
Claim 2	
[2.a]	An apparatus, comprising: at least one non-transitory memory; a touch screen; and one or more processors in communication with the at least one non-transitory memory, and the touch screen, wherein the one or more processors execute instructions in the at least one non-transitory memory to cause the apparatus to . . .
[2.b]	display an object and at least one other object;

[2.c]	detect at least part of a gesture on the touch screen; and
[2.d]	during detection of at least a portion of the gesture before a completion thereof is detected, blur, based on a change in a magnitude of the gesture being detected on the touch screen, at least a portion of the at least one other object.
Claim 208	
[208.a]	The apparatus of claim 2, wherein the apparatus is configured such that: the at least part of the gesture on the touch screen is detected when the object is displayed;
[208.b]	the at least part of the gesture on the touch screen is detected when a particular application interface of a particular application is displayed;
[208.c]	the gesture includes a swipe gesture;
[208.d]	the at least part of the gesture on the touch screen is detected on the object;
[208.e]	the at least part of the gesture on the touch screen is detected at or adjacent to an edge of the touch screen;
[208.f]	when the magnitude, including a distance magnitude, of the gesture detected on the touch screen is not detected to increase above a distance threshold, a home screen for choosing among a plurality of application is displayed; and
[208.g]	when the magnitude, including the distance magnitude, of the gesture detected on the touch screen is detected to increase above the distance threshold, a multitasking interface for choosing among a plurality of active applications is displayed, such that:
[208.h]	the multitasking interface is displayed in at least one first virtual display layer that appears above a second virtual display layer including the at least portion of the at least one other object that is blurred, and
[208.i]	the multitasking interface remains displayed after the completion of the gesture.

Claim 209	
[209]	The apparatus of claim 208, wherein the apparatus is configured such that the second virtual display layer includes the home screen for choosing among the plurality of applications.
Claim 210	
[210]	The apparatus of claim 209, wherein the apparatus is configured such that a third virtual display layer is displayed between the first virtual display layer and the second virtual display layer.
Claim 211	
[211]	The apparatus of claim 209, wherein the apparatus is configured such that the home screen, including the at least portion of the at least one other object, is blurred, when the magnitude, including the distance magnitude, of the gesture detected on the touch screen is detected to increase above the distance threshold.
Claim 212	
[212]	The apparatus of claim 208, wherein the apparatus is configured such that the home screen for choosing among the plurality of applications is displayed, by replacing the particular application interface with the home screen.
Claim 213	
[213]	The apparatus of claim 208, wherein the apparatus is configured such that at least a portion of the multitasking interface includes a scaled version of the particular application interface.
Claim 214	
[214]	The apparatus of claim 208, wherein the apparatus is configured such that the at least one other object is displayed when the at least part of the gesture is detected on the touch screen.

Claim 215	
[215]	The apparatus of claim 208, wherein the apparatus is configured such that the at least one other object is not displayed when the at least part of the gesture is detected on the touch screen.
Claim 216	
[216]	The apparatus of claim 208, wherein the apparatus is configured such that the object is moved during the at least part of the gesture.

Apple Inc. (“Petitioner”) petitions for IPR of the Challenged Claims of U.S. Patent No. 10,656,754 (“the ’754 patent”).

I. CONVENTIONS OF THE PETITION

- All emphasis is added unless noted otherwise;
- Bold-italic emphasis correlates to claim language;
- Quotations are generally from exhibits, not claim language; and
- The phrase “as discussed” and equivalent phrases incorporate fully the analysis of the cross-cited portion of the Petition.

II. REQUIREMENTS FOR IPR—37 C.F.R. §42.104

A. Grounds for Standing—37 C.F.R. §42.104(a)

Petitioner certifies that the ’754 patent is available for IPR, and that Petitioner is not barred or estopped from requesting IPR.

B. Challenge and Relief Requested—37 C.F.R. §42.104(b)

Petitioner requests IPR on Grounds 1A-1B listed below, as supported by a declaration from Dr. Loren Terveen (EX1003).

Ground	Challenged Claims	Basis for Rejection
1A	2	§103–Ahn (US 2008/0207188), Chaudhri-842 (US 2007/0150842)
1B	1, 208-216	§103–Ahn (US 2008/0207188), Chaudhri-842 (US 2007/0150842), Shiplacoff (US 2010/0095240)

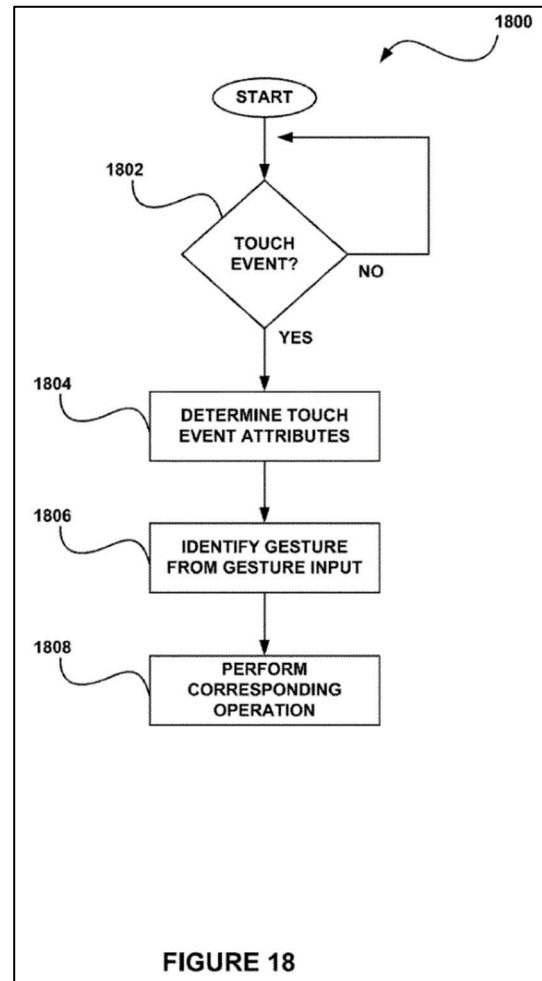
The '754 patent is not entitled to its earliest claimed priority date of August 5, 2011. Still, every art reference advanced in Grounds 1 precedes that date.

Reference	Prior Art Date	Status
Ahn (EX1004)	Published Aug. 28, 2008	§102(b)
Chaudhri-842 (EX1005)	Published Jun. 28, 2007	§102(b)
Shiplacoff (EX1021)	Filed Apr. 1, 2009	§102(e)

III. THE '754 PATENT

A. Pertinent Disclosure

The '754 patent “generally relate[s] to touch screens” and describes embodiments where “a user experience [with a touch screen device] may be altered” based on a “touch signal.” EX1001, 1:35-36, 14:31-15:64, Figure 3; EX1003, [21]. The claims of the '754 Patent generally relate to a hodge podge of touch screen gestures (*e.g.*, swipe and tap gestures) and various display functions on the user interface associated with those gestures (*e.g.*, blurring or moving displayed objects). *See, e.g.*, EX1001, 95:35-53 (Claims 2-4).



However, as explained in detail by Dr. Terveen, the support for these claimed

gestures and claimed user interface functions is scattered throughout the specification of the '754 Patent, often without explanation about any relationship between the disparate teachings or their utilization together in a single embodiment. EX1003, [21]-[25]. Nonetheless, as will be described in Section VI, *infra*, the claimed gestures and user interface functions were well-known well before the '754 Patent. EX1003, [21].

B. Prosecution History

On June 11, 2019, the Applicant (P4TENTS1, LLC) filed the '753 patent as U.S. Appl. No. 16/438,455. EX1002, 937-940.

In the Notice of Allowance, the Examiner identified the following features recited in issued independent claims 1 and 2 as allegedly distinguishing the prior art:

during detection of at least a portion of the gesture before a completion thereof is detected, **blur, based on a change in a magnitude of the gesture** being detected on the display, at least a portion of the at least one other object

EX1002, 365 (emphasis in original). But the Examiner was wrong. These features, and the Challenged Claims as a whole, are demonstrated obvious by the prior art combinations advanced in this Petition.

IV. LEVEL OF ORDINARY SKILL

The range of qualifications for a POSITA would have included a Bachelor of Science degree in computer science, computer engineering, electrical engineering, human-computer interaction, or a comparable field and at least two years of professional experience in the design and development of graphical user interfaces (GUIs), human-computer interfaces, or equivalents thereof. EX1003, [29]-[30]. Additional years of experience could substitute for an advanced-level degree (and vice versa). *Id.*

V. CLAIM CONSTRUCTION—37 C.F.R. §42.104(b)(3)

The claim interpretations on which this Petition depends are incorporated in and apparent from the prior art mapping analysis below. *See* Section VI, *infra*. While, presently, no claim terms need be construed to resolve issues of controversy raised by this Petition, *see Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011), Petitioner reserves the right to address and respond to any construction advanced by Patent Owner or the Board.

VI. THE CHALLENGED CLAIMS ARE UNPATENTABLE

A. GROUND 1A—Claim 2 Is Obvious Over Ahn and Chaudhri-842

1. Ahn (EX1004)

Ahn generally relates to a “method of displaying a menu in a mobile communication terminal.” EX1004, Abstract, [0004]. More specifically, Ahn

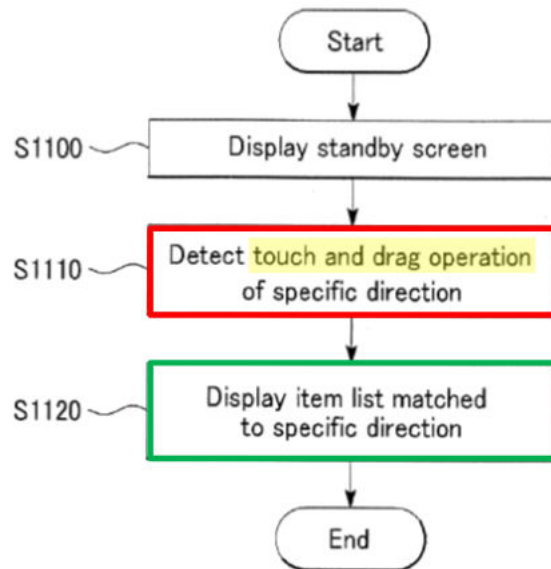
describes a method of displaying different menus on a display of the mobile communication terminal based on a “selected direction” of user input. EX1004, [0032]-[0033]; EX1003, [32].

With respect to FIGS. 3A-10, Ahn describes various methods for displaying menus on the mobile communication terminal including that “the user can select a direction using any input device that can select a direction, such as...a touch screen[.]” EX1004, [0072]. Ahn describes that the mobile communication terminal 100 illustrated in FIG. 1 includes touch input device 10 (e.g., a “touch screen”) through which “a user inputs various information or instruction with a touch method.” EX1004, [0027]-[0028]. And Ahn provides several additional figures that focus on using a touch screen 10 as an input for the display of menus. EX1004, [0095]-[0119], EX1003, [33].

Specifically, with respect to FIGS. 11-18, Ahn describes “a method of displaying a menu in a mobile communication terminal having a touch input device,” in which a menu is displayed in response to a “touch and drag operation.” EX1004, [0095]-[0099]. Initially, a controller 50 of the mobile communication terminal “detects a touch and drag operation of a specific direction on the touch screen 10 (S1110).” EX1004, [0098]. “As the touch and drag operation is detected, the controller 50 controls to display an item list matched to the specific direction in the display 40 (S1120).” EX1004, [0099]. The “item list” may be a menu list or a file

list. EX1004, [0099]. Each different direction of a touch and drag operation may be associated with a different menu or file list. EX1004, [0099]; EX1003, [34].

FIG. 11



EX1004, FIG. 11

In one example illustrated in FIGS. 13a and 13b, “if the user touches a specific position of the touch screen 10 and drags the touch in a left direction a menu list 1300 matched to a left direction is displayed in the display 40.” EX1004, [0102]. As can be seen in FIG. 13a, a user initially touches near the right side or edge of the touch screen 10 and initiates the drag gesture to open the menu. *See* EX1004, FIG. 13a, [0102]; EX1003, [35]. As a result of controller 50 detecting the gesture, “a menu list matched to a left direction is set to be displayed at the right side of the display 40 (FIG. 13(b)).” EX1004, [0104].

FIG. 3A

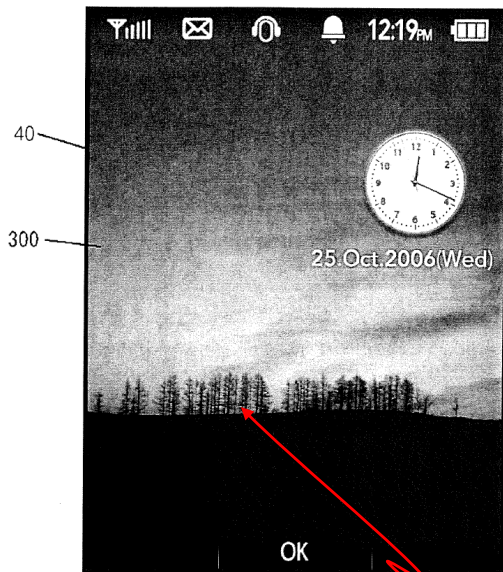
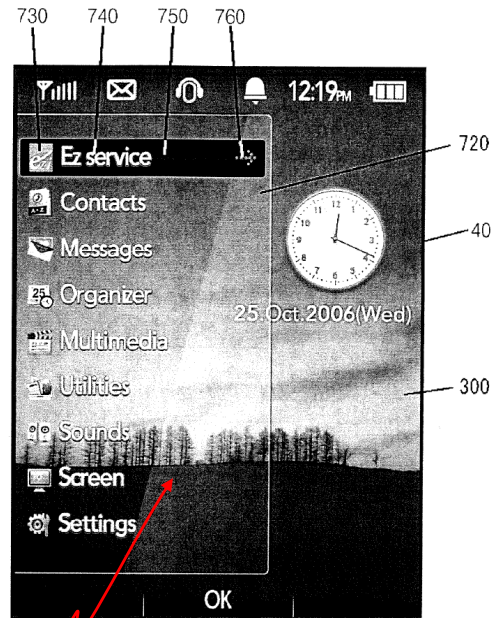


FIG. 7B



**Trees that are part of standby
screen 300 can be seen through the
transparent menu window**

EX1004, FIGS. 3A and 7B

Ahn teaches at least two ways that its user interface may utilize blur. First, Ahn teaches that, instead of a transparent form, its menus “can be embodied in a translucent form or an opaque form, depending on implementation.” EX1004, [0070] (emphasis added). A POSITA would have known and found it obvious that, when differentiated from “transparent” and “opaque” in the manner they are used by Ahn, the word “translucent” means “allowing light, but not detailed images, to pass through; semitransparent.” EX1009, 6. A POSITA would have understood not transmitting detail as a type of blurring, because the word “blur” means to “make or

become unclear or less distinct.” EX1009, 3. In other words, a POSITA would have known and found it obvious that Ahn contemplates that, when embodied in translucent form, its menus would have blurred at least a portion of the background standby screen (*e.g.*, shown in FIG. 12). EX1003, [37].

FIG. 3A

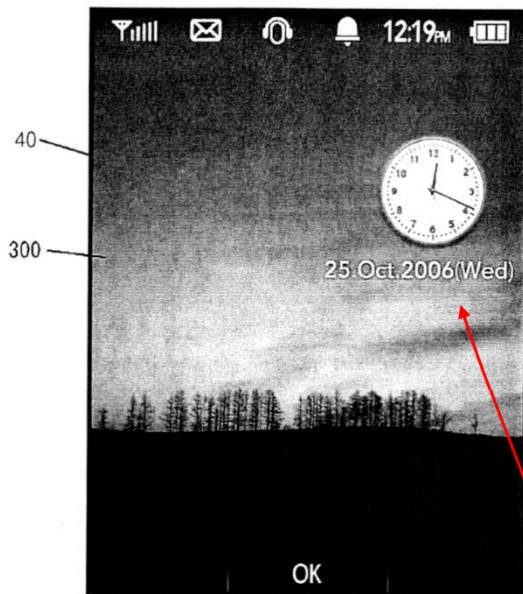
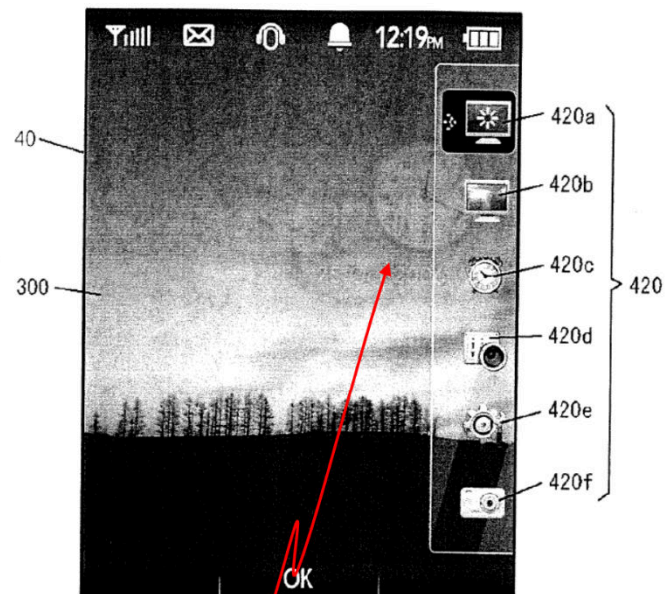


FIG. 4B



**Clock widget is blurred when user
menu 420 is opened**

EX1004, FIGS. 3A and 4B

Second, Ahn shows that opening a menu can blur at least a portion of the standby screen 300. EX1003, [38]. In FIG. 3A “a standby screen 300 set by a user is displayed in the display 40 of the mobile communication terminal 100.” EX1004, [0036]. Ahn illustrates that a clock widget is part of the background standby screen

300. *See* EX1004, [0036], FIG. 3A; EX1003, [38]. A similar clock widget is shown as part of the background standby screen 300 in FIGS. 12 and 13a. *See* EX1004, [0097], [0102], FIGS. 12, 13a; EX1003, [38]. As can be seen in FIG. 4B, when the user menu 420 is opened, Ahn illustrates that the clock widget is blurred, which is pointed out with red arrows in the above annotation of FIGS. 3A and 4B. *See* EX1004, [0102], FIG. 13a; EX1003, [38]. A similar blurring effect of the clock widget can also be seen in FIGS. 10 and 13B. *See* EX1004, FIGS. 10, 13B; EX1003, [38].

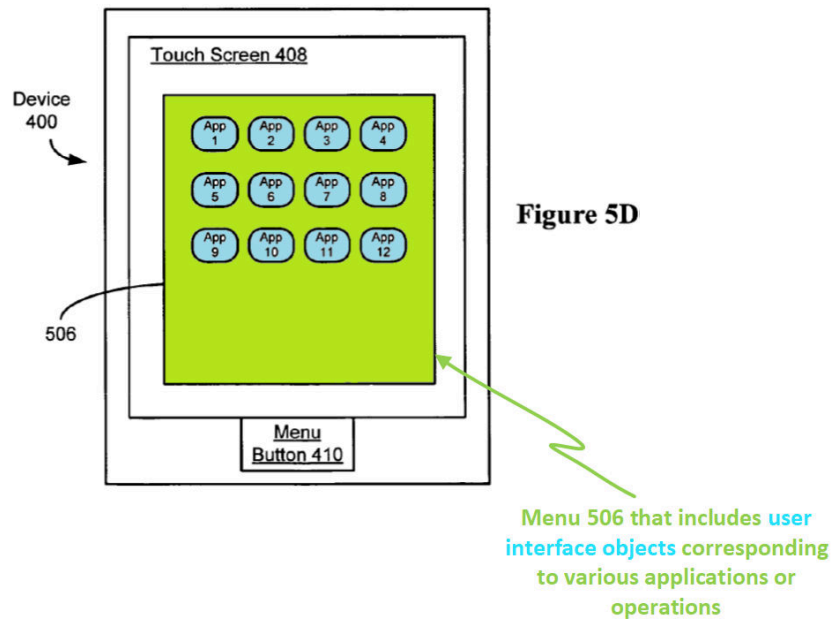
Ahn does not explicitly explain the purpose of blurring the clock widget or otherwise limit the implementation details a POSITA might utilize in providing this effect. EX1003, [39]. Thus, a POSITA would have naturally turned to teachings like those provided by Chaudhri '842 when developing the blurring shown in FIGS. 4B, 10, and 13B. EX1003, [39].

2. Chaudhri-842 (EX1005)

Like the '754 Patent and Ahn, Chaudhri '842 “relate[s] generally to user interfaces that employ touch-sensitive displays.” EX1005, [0002]; EX1003, [40]. Chaudhri '842 recognized that “there is a need for more efficient, user-friendly procedures for transitioning such devices, touch screens, and/or applications between user interface states (e.g., from a user interface state for a first application to a user interface state for a second application, between user interface states in the

same application, or between locked and unlocked states).” EX1005, [0006]. In one embodiment described in greater detail below, Chaudhri ’842 describes supplying visual feedback to a user who is transitioning between user interface states on a touch screen by providing “visual differentiation between the user-interface object and the background,” based on color, hue, color saturation, brightness, contrast, transparency, and any combination thereof.” See EX1005, [0085]; EX1003, [40]. Through this embodiment, Chaudhri ’842 provides at least one possible set of implementation details particularly relevant to the blurring shown in Ahn. EX1003, [40].

Like Ahn’s mobile communication terminal, Chaudhri ’842 describes a portable electronic device 100 that includes a touch screen 126. EX1005, [0026]; EX1003, [41]-[42]. “The device 100 may have a plurality of user interface states.” EX1005, [0048]. While many of the figures in Chaudhri ’842 focus on a transition between a locked and unlocked state, Chaudhri ’842 is clear that its disclosure applies more generally to any transitions between user interface states, such as states of a plurality of applications. See EX1005, [0006], [0048], [0079], [0081]; EX1003, [43]. In at least one example, a user interface state transition described by Chaudhri ’842 involves the display of a menu that “includes interactive user-interface objects corresponding to various applications or operations.” EX1005, [0076], FIG. 5D; EX1003, [43].



EX1005, FIG. 5D

With respect to FIG. 6 (reproduced below), Chaudhri '842 describes “a process 600 for indicating progress towards satisfaction of a user input condition.” EX1005, [0080]. “While an electronic device is in a first user-interface state, progress is detected (602) towards satisfaction of a user input condition needed to transition to a second user-interface state.” EX1005, [0081]. “While the device is in the first user-interface state, 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, [0082].

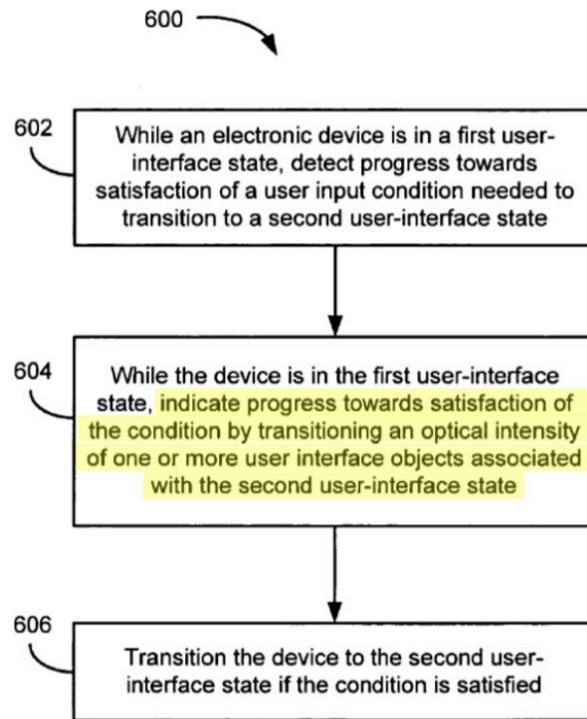


Figure 6

EX1005, FIG. 6

Chaudhri '842 describes that “the optical intensity may be the visual differentiation between the *user-interface object* and the *background*, based on color, hue, color saturation, brightness, contrast, transparency, and any combination thereof.” EX1005, [0085]. Among the various types of user-interface objects contemplated by Chaudhri '842 are, “without limitation, text, images, icons, soft keys (or ‘virtual button’), pull-down menus, radio buttons, check boxes, selectable lists, and so forth.” EX1005, [0060]. Accordingly, Chaudhri '842 describes

differentiating between a menu and a background displayed on the touch screen during its user interface state transition process. EX1003, [45].

The changes “in optical intensity of the user-interface objects provide[] a user with sensory feedback of the progress in transitioning between user interface states.” EX1005, [0082]. As shown above in FIG. 6, the transition between user interface states is dictated by “satisfaction” of a “user input condition.” EX1005, [0081]; *see also* EX1005 [0047]. Chaudhri-842 describes that this user input condition may include “a predefined gesture” and that “progress of the gesture may be defined in terms of how much of the gesture is completed.” EX1005, [0088]. The predefined gesture may include the user “dragging an image to a predefined location.” EX1005, [0089]. In these examples, as the user completes the predefined gesture (e.g., dragging an image), Chaudhri-842 teaches that changing the optical intensity of user interface objects helps the user see and understand that their gesture is causing a transition in user interface states and the progress they are making. EX1005, [0082]; EX1003, [46].

3. The Combination, Reasons to Combine, & Expectation of Success

The Ahn-Chaudhri combination represents the predictable and expected result of applying in the context of Ahn’s touch screen mobile device: the user interface state transition techniques described by Chaudhri-842. EX1003, [61]. From a

POSITA's perspective in 2011, integrating the supplemental teachings of Chaudhri-842 with Ahn's disclosure would have involved nothing more than applying known solutions to known problems in the field of computer interfaces and applications to achieve predictable outcomes. EX1003, [61]. The fundamental aspects of Ahn's disclosure would remain intact, bolstered by the well-known and beneficial teachings of Chaudhri-842 to successfully arrive at the '754 patent's claimed invention. EX1003, [61].

(a) Applying Chaudhri-842's teachings about user interface state transition in the context of Ahn's touch screen mobile device

A POSITA would have been motivated to use interface state transition techniques described by Chaudhri-842 into Ahn's touch screen mobile device. EX1003, [61]. The predictable result of this 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 that transitions the mobile device from one user interface state to another. EX1003, [62]. The following independent reasons support the Ahn-Chaudhri combination.

First, Chaudhri-842 provides one example of implementation details that are lacking for a feature otherwise disclosed in Ahn. EX1003, [63]. As discussed in Section VI.A.1, Ahn already illustrates in FIGS. 3A and 4B that the process of opening the edge menus may cause user interface objects that are displayed as part

of the standby screen 300 (e.g., a clock widget) to be blurred when the edge menu is opened and displayed on the screen. EX1003, [63]. However, Ahn does not provide further details about this blurring process and leaves the implementation details to POSITAs. EX1003, [64].

Chaudhri-842 provides one example of implementation details a POSITA would have found obvious to utilize when implementing the blurring already specifically taught in Ahn. EX1003, [64]. Specifically, as discussed in Section VI.A.2, Chaudhri-842 provides details for utilizing transitions in optical intensity during transitions in user interface state. EX1003, [64]. A POSITA would have found obvious that the opening of the edge menus described in Ahn are a form of transition in user interface state. EX1003, [64]. Furthermore, a POSITA would have recognized that the touch and drag gesture described in Ahn for opening the edge menus is akin to the dragging gestures described in Chaudhri-842 for transitioning between user interface states. *See, e.g.*, EX1004, [0099]; EX1005, [0075]; EX1003, [64]. In the context of these related gestures and transitions, Chaudhri-842 provides additional details about the use of varying optical intensity for user interface objects that a POSITA would have found helpful to implement the optical effects shown but not otherwise described in Ahn (e.g., with respect to the clock widget in FIGS. 3A and 4B). EX1003, [64].

Second, Chaudhri-842 teaches that the “change in optical intensity of the user-interface objects provides a user with sensory feedback of the progress in transitioning between user interface states.” EX1005, [0082]. Based on these teachings a POSITA would have found obvious that, as a user is performing a predefined gesture the changes in optical intensity provide the user a visual indication that they are performing a particular operation (*e.g.*, the optical intensity changes help the user see more clearly that the user interface state is changing), what the operation is doing (*e.g.*, the optical intensity changes help the user visualize what is changing as a result of the gesture), and how far the user is in completing the gesture that will effectuate the change in user interface states. EX1005, [0006], [0082], [0088]-[0089], [0108]; EX1003, [65]. To help direct a user with respect to successfully performing the predefined gesture, Chaudhri-842 teaches that the user interface may additionally include “cues” to help the user know what gesture to utilize and whether they are correctly performing the gesture (*e.g.*, graphics such as movable images that, when combined with the transition in optical intensity help the user visualize the correct gesture and how to complete it successfully). EX1005, Abstract, [0054], [0062], [0073]; EX1003, [65]. Furthermore, Chaudhri-842 teaches that changes in optical intensity help to create “visual differentiation between the user-interface object and the background,” which a POSITA would have found obvious would have been visually helpful to a user both during the predefined

gesture and after it is complete. EX1005, [0085]; EX1003, [65]. A POSITA would have found obvious that these explicit benefits of Chaudhri-842's techniques would have been directly applicable to Ahn's mobile terminal and the opening of its edge menus. EX1003, [65].

Third, a POSITA would have known that transparency, translucency/blurring, and other "focus and context" techniques may be utilized in user interfaces to help draw a user's attention to the most relevant part of a user interface. EX1008, 1-2; EX1003, [66]. Focus and context "techniques enable the user to investigate specific details of the data while at the same time also providing an overview over the embedding of the data under investigation within the entire dataset." EX1008, 1. One type of focus and context (called "cue methods") allows a "user to select objects in terms of their features, not their spatial relations; usually by assigning a certain visual cue to them," which "make it possible to query the data for information which is not immediately visible in the initial visualization, while keeping the original layout, and thus not destroying the user's mental map." EX1008, 1. These focus and context techniques utilize blur, transparency, and/or color saturation to help a user navigate through complex and multi-layer user interfaces by drawing the user's attention to the most relevant layers. EX1008, 1-2; EX1003, [66]. A POSITA would have found obvious that this focusing technique is at least one reason for blurring the clock widget in Ahn's standby screen 300 so as to focus the user's attention on

and not distract from the open edge menu (e.g., menu 1300 in FIG. 13b). EX1003, [66]. By utilizing the optical intensity variation described in Chaudhri-842, a POSITA would have recognized that they would have been better focusing a user's attention on the most relevant object (i.e., the now opened menu). EX1003, [66].

Fourth, a POSITA would have known that varying optical intensity for a user interface object (e.g., the blurring of Ahn's clock widget) as a function of the magnitude of the user's touch and drag gesture would have been one of a limited number of ways of implementing the blurring effect that's shown in FIGS. 4B, 10, and 13B of Ahn. EX1003, [67]; *Uber Technologies, Inc. v. X One, Inc.*, 957 F.3d 1334, 1339-40 (Fed. Cir. 2020). Either a POSITA could have implemented the blurring effect in a binary fashion (e.g., toggling instantaneously between unblurred and blurred) or progressively varied the blur as a function of the user's gesture, as taught by Chaudhri-842. EX1003, [67].

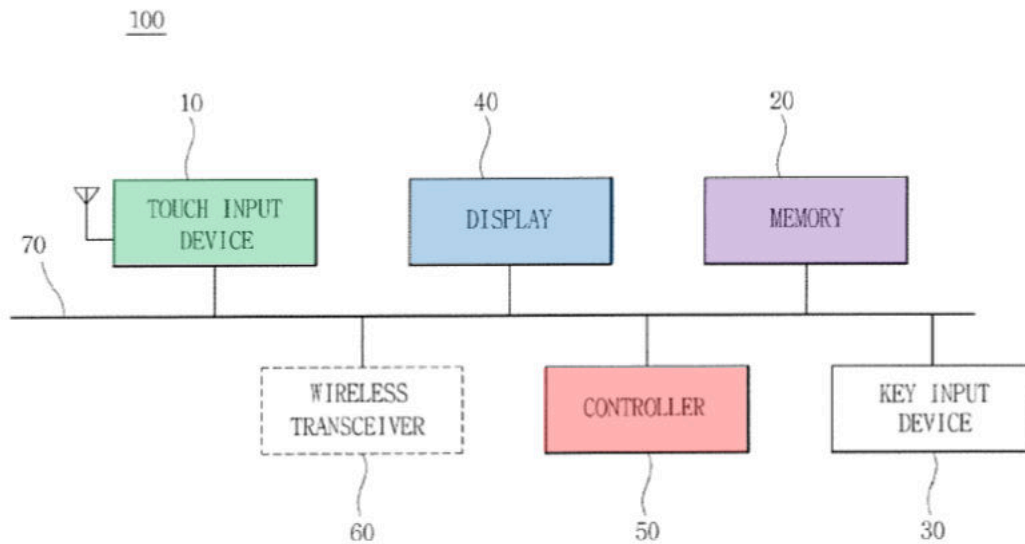
4. Claim Element Analysis

(a) Claim 2

Element [2.a]

The Ahn-Chaudhri combination renders obvious Element [2.a]. *See* EX1003, [78]-[82]. Ahn describes a mobile communication terminal 100 that comprises “a **touch input device 10**, a **memory 20**, a key input device 30, a display 40, a **controller 50**, and a wireless transceiver 60.” EX1004, [0027], FIG. 1.

FIG. 1



EX1004, FIG. 1

“The **memory 20** comprises a program memory and a data memory. Programs for controlling a general operation of the mobile communication terminal 100 are stored in the program memory.” EX1004, [0029]. A POSITA would have understood or found obvious that Ahn’s **memory 20** is *at least one non-transitory memory*, as in [1.a].

“The **touch input device [10]** is a device in which a user inputs various information or instruction with a touch method. The touch input device [10] comprises, for example, a touch screen or a touch pad.” EX1004, [0028]. When described referencing FIGS. 13-15, Ahn explains that the user provides input (*e.g.*, a touch and drag operation) through the touch screen 10, and display 40 is illustrated as being collocated with the touch screen 10 so that it can “match” the display of

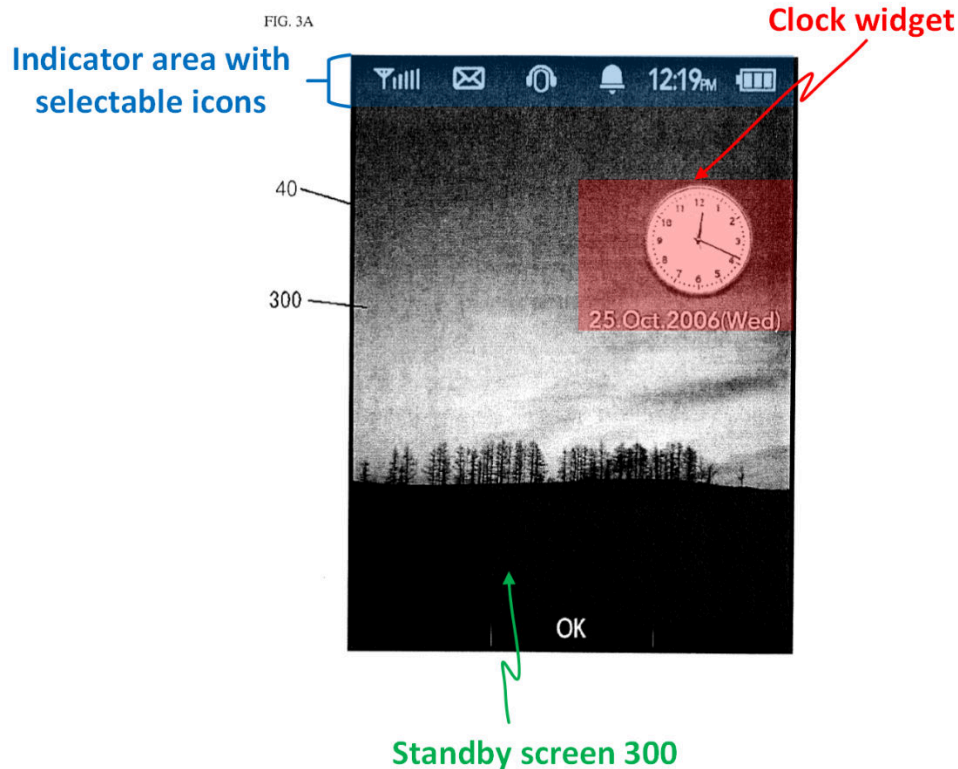
menus with these gestures. EX1004, FIGS. 13-15, [0101]-[0104]. Though Ahn describes the touch screen 10 and **display 40** as separate elements, a POSITA would have found obvious that these elements may be the same physical device, consistent with the description of FIGS. 13-15. *See also* EX1005, [0033]. A POSITA would have understood or found obvious that Ahn's **touch input device 10** provides a *touch screen*, as in [2.a].

“The **controller 50** controls a general operation of the mobile communication terminal 100.” EX1004, [0032]. Ahn does not describe hardware implementation details for controller 50. However, **controller 50** is described as interfacing with **memory 20** (*see* EX1004, [0099]-[0100]), controlling the **display 40** (*see* EX1004, [0099], [0106]. [0108]), and detecting a touch and drag operation input via **touch input device 10** (*see* EX1004, [0099], [0107], [0109]). A POSITA would have found obvious that Ahn's description of controller 50 is indicative that at least one known hardware implementation for controller 50 would have been *one or more processors*, as in [1.a]. *See also* EX1005, [0026]. Furthermore, Ahn describes that each of the **memory 20**, **touch input device 100**, and **controller 50** “may be connected by a bus 70.” EX1004, [0027]. Thus, a POSITA would have found obvious that Ahn's **controller 50** is *one or more processors in communication with the at least one non-transitory memory, and the touch screen*, as in [2.a].

Furthermore, a POSITA would have understood or found obvious that Ahn's "programs for controlling a general operation of the mobile communication terminal [] stored in the program memory" of **memory 20** are *instructions in the at least one non-transitory memory*, as in [2.a]. EX1004, [0029]; *see also* EX1005, [0028].

Element [2.b]

The Ahn-Chaudhri combination renders obvious Element [2.b]. *See* EX1003, [83]-[87]. Referencing FIG. 3A, Ahn describes that "a standby screen 300 set by a user is displayed in the display 40 of the mobile communication terminal 100." EX1004, [0036]. Ahn illustrates a clock widget as part of this standby screen 300. EX1004, FIGS. 3A, 12 and 13a. Ahn also illustrates that several menu items are displayed at the top of the standby screen 300. EX1004, FIGS. 3A, 3C, 12 and 13a, [0040]. Ahn describes these menu items are part of an "indicator area 320 [that] comprises a signal intensity icon 330a, a message notification icon 330b, a background music setting icon 330c, a reception mode setting icon 330d, a watch icon 330e, and a battery residual quantity display icon 300f[.]" EX1004, [0040]. And, unlike other menus that are only displayed after a specific gesture, "various icons can be displayed in the indicator area 320 on the standby screen 300." EX1004, [0040].



EX1004, FIG. 3A

Indeed, for the touch interface embodiments described referencing FIGS. 11-18, Ahn does not include a separate discussion of opening the indicator area 320, as it does with regard to the menus associated with the bottom and right and left sides of the display. EX1004, [0095]-[0119]. Thus, a POSITA would have thus understood and found obvious that the standby screen 300 includes indicator area 320 and that a user would have been able to directly activate and interact with its various icons directly from the standby screen 300.

A POSITA would have found obvious that at least one of the icons in the indicator area 320 and the clock widget displayed on display 40 of Ahn's mobile

communication terminal 100 are *an object and at least one other object*, respectively, as in [2.b]. Indeed, Chaudhri-842 describes menus and the background screen as “objects.” EX1005, [0003] (“A device may display one or more soft keys, menus, and other user-interface objects on the touch screen”), [0041] (“Note that the term ‘graphics’ includes any object that can be displayed to a user[.]”), [0060] (“The user-interface objects are objects that make up the user interface of the device and may include, without limitation, text, images, icons, soft keys (or ‘virtual buttons’), pull-down menus...and so forth.”), [0076] (“The menu 506 includes interactive user-interface objects[.]”).

From at least these teachings, a POSITA would have found obvious that the mobile device of the Ahn-Chaudhri would have *display[ed] an object* (e.g., icons displayed as part of standby screen 300) *and at least one other object* (e.g., the clock widget of standby screen 300), as in [2.b].

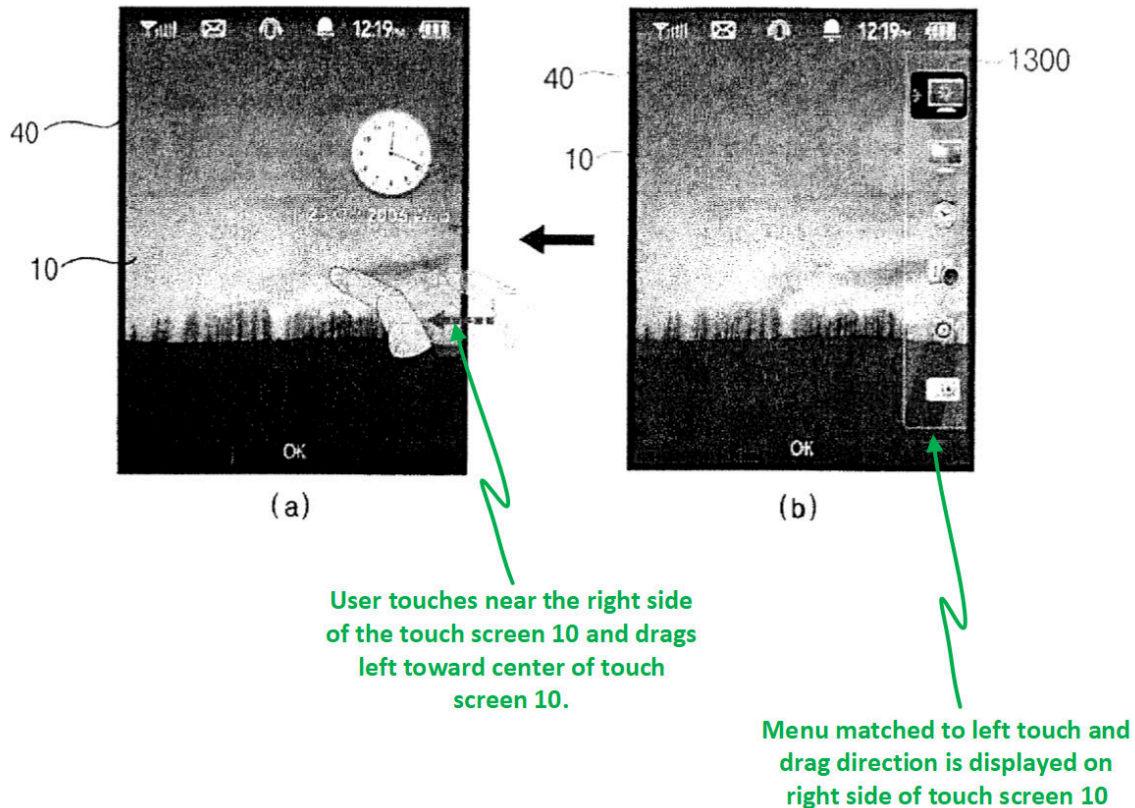
Element [2.c]

The Ahn-Chaudhri combination renders obvious Element [2.b]. *See* EX1003, [88]-[91]. As discussed in Section VI.A.1, Ahn describes “a method of displaying a menu in a mobile communication terminal having a touch input device,” in which a menu is displayed in response to a “touch and drag operation.” EX1004, [0095]-[0099]. Initially, a controller 50 of the mobile communication terminal “detects a

touch and drag operation of a specific direction on the touch screen 10 (S1110).”

EX1004, [0098].

FIG. 13



EX1004, FIGS. 13a and 13b

In one example illustrated in FIGS. 13a and 13b, “if the user touches a specific position of the touch screen 10 and drags the touch in a left direction a menu list 1300 matched to a left direction is displayed in the display 40.” EX1004, [0102]. As can be seen in FIG. 13a, a user initially touches near the right side or edge of the touch screen 10 and initiates the drag gesture that moves inward toward the center of the display. EX1004, FIG. 13a, [0102]. A POSITA would have found obvious

that Ahn’s “touch and drag operation” is a gesture. EX1005, [0055] (“As used herein, a gesture is a motion of the object/appendage making contact with the touch screen.”).

Thus, as shown in at least FIGS. 13a and 13b and described with respect thereto, Ahn teaches, *detect[ing] at least part of a gesture on the touch screen*, as in [2.c].

Element [2.d]

The Ahn-Chaudhri combination renders obvious Element [2.d]. *See* EX1003, [92]-[102].

As discussed in Section VI.A.1, Ahn describes the use of blurring in at least two ways. First, Ahn describes that the displayed menus may be “displayed on the standby screen 300...in a translucent form[.]” EX1004, [0070] (emphasis added). A POSITA would have known and found it obvious that, when differentiated from “transparent” and “opaque” in the manner they are used by Ahn, the word “translucent” means “allowing light, but not detailed images, to pass through; semitransparent.” EX1009, 6. A POSITA would have understood not transmitting detail as a type of blurring, because the word “blur” means to “make or become unclear or less distinct.” EX1009, 3. This is consistent with the ’754 Patent’s use of the word “blur” in its claims, because dependent claim 61, for example, recites

that “the blur includes changing a translucency of the at least portion of the at least one other object.” EX1001, 99:51-53. In other words, a POSITA would have known and found it obvious that Ahn contemplates that, when embodied in translucent form, its menus would have blurred at least a portion of the background standby screen (*e.g.*, shown in FIG. 12) by rendering the portion under which it is displayed as unclear or less distinct.

A POSITA would have found obvious that, as a user utilizes the dragging gesture to open a given translucent menu, the translucent menu would progressively slide onto the display as a function of the magnitude of the user’s dragging gesture. Referencing FIG. 18, Ahn describes that the display 40 may utilize “a graphical display for notifying a start position of a touch and drag operation to a user,” and clearly shows “a graphical shadow 1800” displayed at a first edge of the display (*e.g.*, the left edge in this example) that indicates the start position of the touch is along the first edge. EX1004, [0118]-[0119]. Ahn explains that “as the user drags the graphic shadow 1800, the menu list 1500 can be displayed along the dragged graphic 1800.” EX1004, EX1004, [0118]. Similarly, Chaudhri-842 describes moving displayed graphics in correspondence with the magnitude of gestures associated with those graphics in order to provide the user who is performing the gesture a visual confirmation of the gesture and help direct them on how to complete the gesture. EX1005, [0054] (describing the display of “visual cue(s)” to provide

“hints or reminders” regarding the action necessary to transition between user interface states), [0060] (describing that the “user may interact with the user-interface objects by making contact with the touch screen at one or more touch screen locations corresponding to the interactive objects with which she wishes to interact” and the “device detects the contact and responds to the detected contact by performing the operation(s) corresponding to the interaction with the interactive object(s)”), [0062] (describing that a visual cue, such as an image, may move along with the gesture as the gesture is detected). A POSITA would have found obvious from these teachings that, in at least implementations like those described referencing FIG. 18, Ahn’s menu list would have been graphically displayed as sliding onto the display based on a change in a magnitude of the “touch and drag” gesture being detected on the touch screen.

A POSITA would have found obvious that, as a translucent menu slides onto the screen in correspondence with the magnitude of the touch and drage gesture, the translucent menu would correspondingly progressively blur the portion of the background over which the menu is displayed (including, *e.g.*, the clock widget) as it slides onto the screen. Accordingly, when displayed as a translucent window (as opposed to a transparent window), Ahn’s menu would have, ***during detection of at least a portion of the gesture before a completion thereof is detected, blur[red],***

based on a change in a magnitude of the gesture being detected on the touch screen, at least a portion of the at least one other object, as in [2.d].

Second, Ahn additionally illustrates blurring at least a portion of background standby screen 300 (e.g., a clock widget) as a result of a user opening one of the menus. EX1004, FIGS. 4B, 10, 13B. In FIG. 3A, Ahn illustrates that a clock widget is part of the background standby screen 300. EX1004, [0036], FIG. 3A. A similar clock widget is shown as part of the background standby screen 300 in FIGS. 12 and 13a. EX1004, [0097], [0102], FIGS. 12, 13a. As can be seen in FIG. 4B, when the user menu 420 is opened, Ahn illustrates that the clock widget becomes blurred, which is pointed out with red arrows in the below annotation of FIGS. 3A and 4B. EX1004, [0036], FIGS. 3A, 4B. A similar blurring effect of the clock widget can also be seen in FIGS. 10 and 13B. EX1004, FIGS. 4B, 10. As above, a POSITA would have understood the illustration of the clock widget in FIGS. 4B, 10, and 13B as “blurred,” consistent with the usage of that word in at least dependent claim 61 of the ’754 Patent. EX1001, 99:51-53 (“the blur includes changing a translucency of the at least portion of the at least one other object”); EX1009, 3 (“blur” means “make or become unclear or less distinct”), 6 (“translucence” means “allowing light, but not detailed images, to pass through; semitransparent”).

FIG. 3A

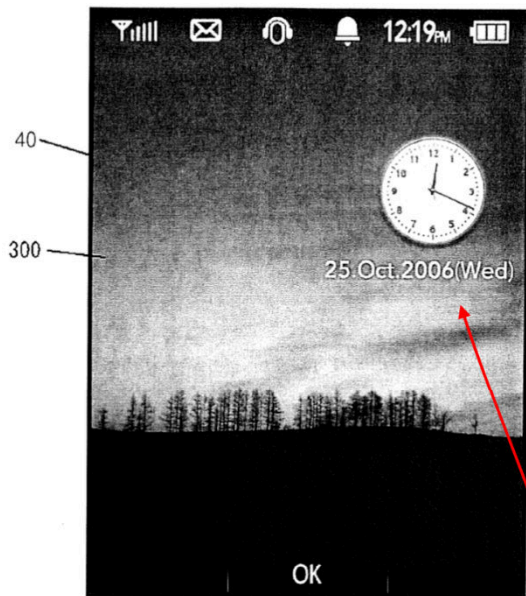
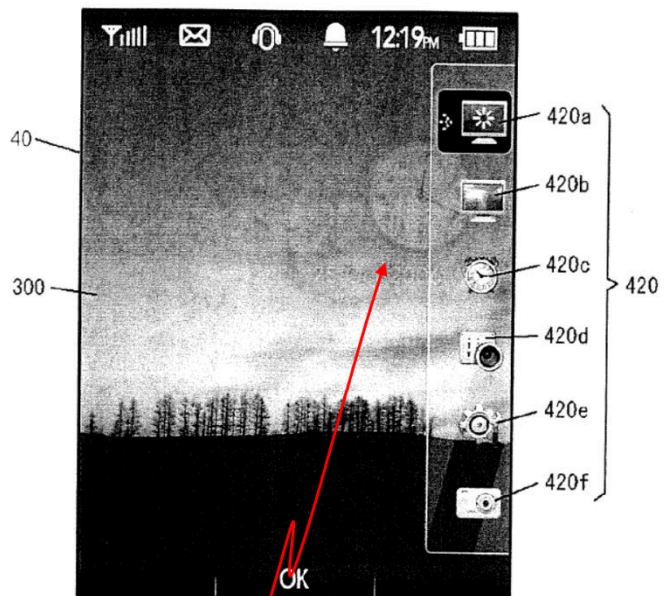


FIG. 4B



**Clock widget is blurred when user
menu 420 is opened**

EX1004, FIGS. 3A and 4B

Ahn does not specify or otherwise limit the manner in which a POSITA would have implemented the above-described blurring of its clock widget. For the reasons described in Section VI.A.3, *supra*, a POSITA would have found it obvious to apply Chaudhri-842's user interface state transition techniques—particularly the use of transitioning optical intensity to provide visual feedback regarding the progress of a transition between user interface states as a result of detecting a user's input of a predefined gesture—in the context of Ahn's mobile communication terminal 100.

As discussed in Section VI.A.2, Chaudhri-842 describes “a process 600 for indicating progress towards satisfaction of a user input condition.” EX1005, [0080]. “While an electronic device is in a first user-interface state, progress is detected (602) towards satisfaction of a user input condition needed to transition to a second user-interface state,” and “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].

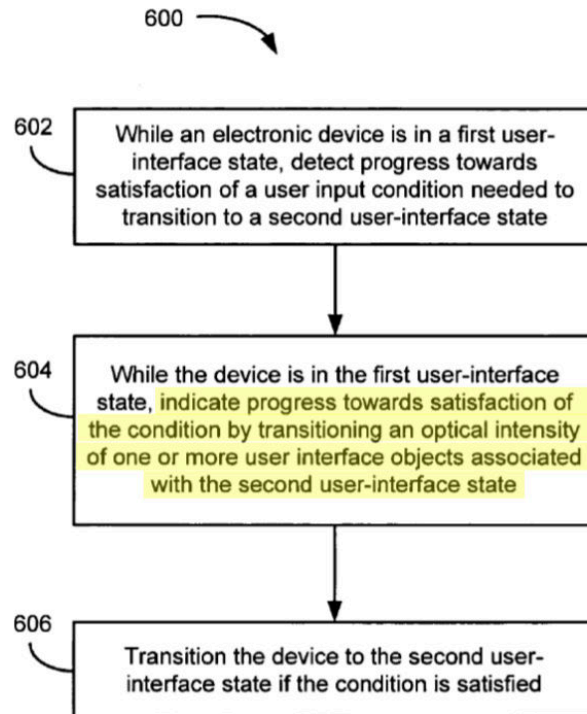


Figure 6

EX1005, FIG. 6

Chaudhri-842 describes that “the optical intensity may be the visual differentiation between the *user-interface object* and the *background*, based on color, hue, color saturation, brightness, contrast, transparency, and any combination thereof.” EX1005, [0085]. Among the various types of user-interface objects contemplated by Chaudhri-842 are, “without limitation, text, images, icons, soft keys (or ‘virtual button’), pull-down menus, radio buttons, check boxes, selectable lists, and so forth.” EX1005, [0060]. Accordingly, Chaudhri-842 describes differentiating between a menu and a background displayed on the touch screen during its user interface state transition process.

Chaudhri-842 describes that the optical intensity, and thus “the indication of progress towards completion of the user input condition[,] is a function of the user’s satisfaction of the condition.” EX1005, [0087]. “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.” EX1005, [0088]. As the user input condition (*e.g.*, a gesture) progresses, the optical intensity can correspondingly vary in magnitude based on the magnitude of the progress toward gesture completion according to both linear and non-linear functions, such as those illustrated in FIGS. 8A-8C. EX1005, [0087]-[0088].

Applying at least the above teachings of Chaudhri-842 in the context of Ahn's "touch and drag" gesture and Ahn's corresponding transition between a user interface state where the standby screen is displayed (*see, e.g.*, EX1004, FIG. 13a) and a user interface state where a menu list 1300 is displayed above or on top of the standby screen (*see, e.g.*, EX1004, FIG. 4B, 10, and 13b), a POSITA would have at least found it obvious to vary, according to the teachings of Chaudhri-842, 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. EX1005, [0080]-[0089]. In addition to providing a visual indication to the user of their progress in completing the gesture, utilizing this progressive translucency or blurring effect would have helped differentiate between the user-interface object (*e.g.*, the menu list 1300) and the background (*e.g.*, the standby screen and/or clock widget). EX1005, [0085].

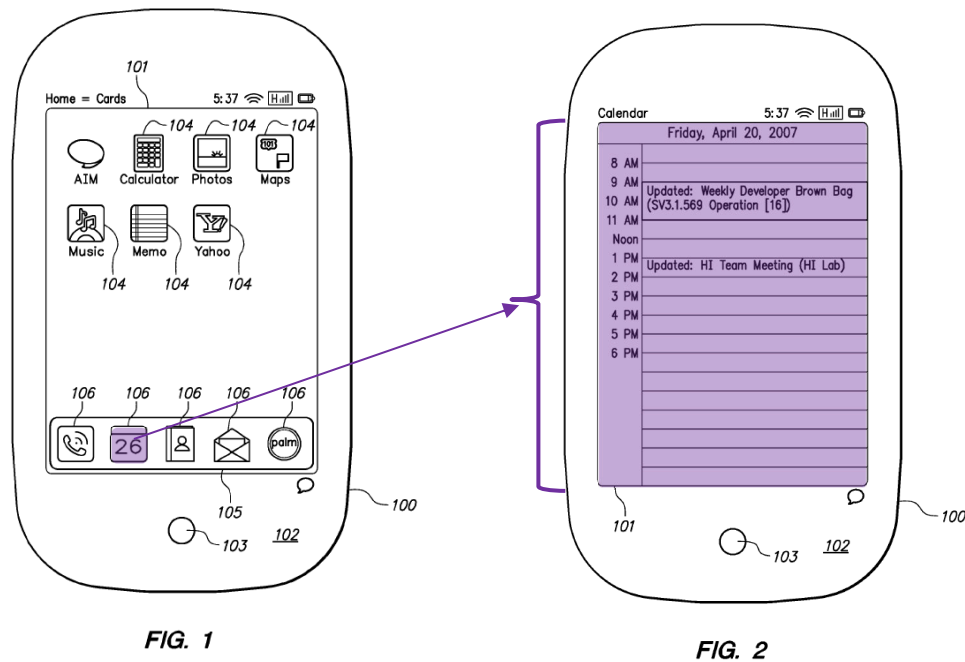
Implemented in this or a similarly obvious way, a POSITA would have thus found it obvious based on these combined teachings that the mobile device of the Ahn-Chaudhri combination would have, *during detection of at least a portion of the gesture before a completion thereof is detected, blur[red], based on a change in a magnitude of the gesture being detected on the touch screen, at least a portion of the at least one other object*, as in [2.d].

B. Ground 1B—Claims 1, 208-216 Are Obvious Over Ahn, Chaudhri-842, and Shiplacoff

1. Shiplacoff (EX1006)

Like the '754 Patent, Ahn, and Chaudhri-842, Shiplacoff relates to a device 100 with a touch-sensitive screen 101 that accepts “gesture-based commands” so that “so that a user can activate an application or function.” EX1013, [0064]. Shiplacoff teaches that “[m]any currently available computing devices run operating systems that offer users the opportunity to run several applications at the same time, and even to perform several activities simultaneously, within a single application and/or among two or more applications.” EX1013, [0005]. These computing devices include “[m]obile devices such as smartphones, personal digital assistants, music players, handheld computers, and the like.” EX1013, [0010]. Managing and navigating between multiple active applications was “accomplished by the use of multiple overlapping windows within a graphical user interface,” but the conventional windows-based techniques did “not function very well on mobile devices” due to “insufficient screen space to display multiple overlapping windows.” EX1013, [0006]-[0010]; EX1003, [55]. To solve this problem, Shiplacoff teaches user interface structures called “cards” that provide a visualization of active applications and that allow a user to better “navigate among activities” on a mobile device. EX1013, [0010], [0012]-[0013], [0060]; EX1003, [55].

Like standby screen 300 of Ahn (*see* EX1004, [0036], FIG. 3A) and the home menu of Chaudhri-842 (*see* EX1005, [0047], [0076], FIG. 5D), Shiplacoff teaches a launch screen (illustrated in FIG. 1, which is reproduced below), which includes “several icons 104 representing applications that can be opened by the user.” EX1013, [0063], [0099]. “[S]creen 101 is touch-sensitive, so that a user can activate an application or function by touching a displayed icon 104, 106.” EX1013, [0064]. By selecting the calendar icon 106, a card corresponding to a calendar application can be displayed in full screen, as shown in FIG. 2. EX1013, [0077]-[0078]; EX1003, [56].

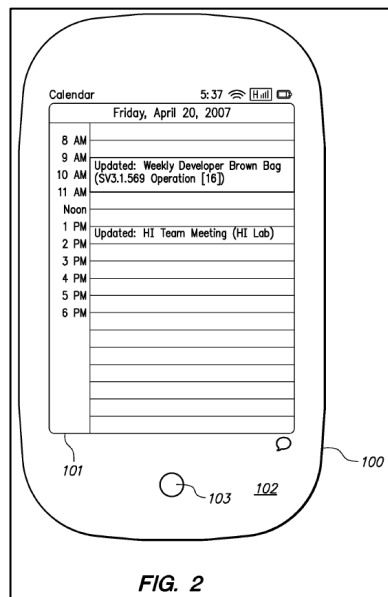


EX1013, FIGS. 1 (left), 2 (right)

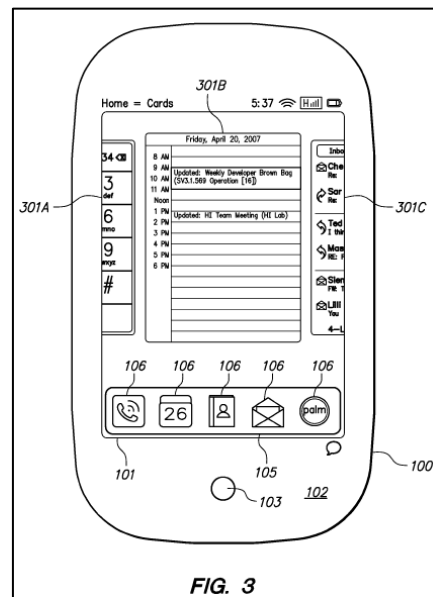
Shiplacoff “provides techniques for displaying and manipulating representations of activities on an electronic device using a card metaphor.”

EX1013, [0060]. “Cards” refer to “areas of the screen that can be moved and manipulated by the user.” EX1013, [0060]. “Users interact with cards to launch, terminate, and reorder activities, as well as to navigate among activities and perform other operations.” EX1013, [0060]; EX1003, [57].

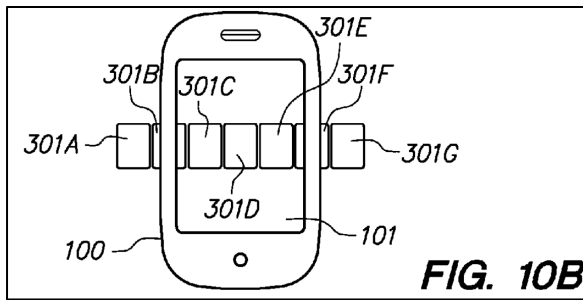
Shiplacoff also implements several display modes for navigating among the cards including a full-screen mode, a card mode, a shuffle mode, and a grid mode. EX1013, [0068]-[0073]. Examples of a full-screen mode are shown in FIG. 2, a card mode in FIG. 3, a shuffle mode in FIG. 10B, and a grid mode in FIG. 10G. EX1003, [58].



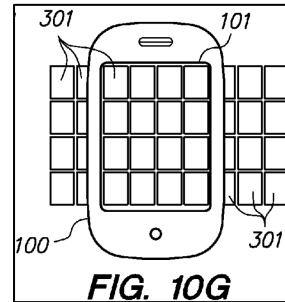
Full screen mode



Card Mode



Shuffle Mode



Grid Mode

EX1013, FIGS. 2 (top left), 3 (top right), 10B (bottom left), 10G (bottom right)

The “full-screen mode is optimized for maximum use of screen space for interacting with a single activity; [and the] card mode is optimized for easily switching focus from one activity to another and for easily initiating and terminating activities.” EX1013, [0074]; EX1003, [59]. In other words, the card mode is a multitasking interface, as it allows a user to navigate between multiple activities. EX1003, [59].

In one or more of the modes (*e.g.*, the card mode), the device “can receive input from the user ... to switch from one display mode to another, and/or to reposition displayed cards in response to user input specifying a switch to another card.” EX1013, [0073], [0077]. In one example, a user can perform a “swipe up” gesture to “switch[] from full-screen mode to card mode, or from card mode to a launcher screen.” EX1013, [0127]. This allows the user to easily use gestures to navigate between different interfaces. EX1003, [60]. For example, “the user can

launch additional activities by returning to the launch screen as shown in FIG. 1.”
EX1013, [0099]; EX1003, [60].

2. The Combination, Reasons to Combine, & Expectation of Success

A POSITA would have found it obvious and been motivated to integrate Shiplacoff’s teachings about its card metaphor in conjunction with the Ahn-Chaudhri touch screen mobile device. EX1003, [73]. The predictable result of this Ahn-Chaudhri-Shiplacoff combination is a mobile device that utilizes gestures on a touchscreen for launching and navigating between multiple active activities. EX1003, [73]; *see also* EX1013, [0175]-[0184] (describing Shiplacoff’s teachings “are not inherently related to any particular computer, virtualized system, or other apparatus”). The fundamental aspects of Ahn’s disclosure would remain intact, bolstered by the well-known, beneficial, and complementary teachings of Chaudhri-842 (*e.g.*, transitions in optical intensity during transitions in under interface states to provide visual cues and feedback to the user) and Shiplacoff (*e.g.*, for launching and navigating between multiple active applications/functions/activities). EX1003, [73].

A POSITA would have been motivated to incorporate the teachings of Shiplacoff into the Ahn-Chaudhri touch screen mobile device, because Shiplacoff provides one example of implementation details that are lacking for a feature

otherwise disclosed in Ahn. EX1003, [74]. Generally, Ahn describes “displaying a standby screen in a display of the mobile communication terminal, selecting one of a plurality of specific directions through an input device of the mobile communication terminal, and displaying each menu corresponding to the selected specific direction on the standby screen.” EX1004, Abstract. However, Ahn does not provide many details about or otherwise limit how its mobile device handles selection of various of its menu items and activation of their associated function. EX1003, [74]. For example, referencing user menu 420, Ahn describes that selection of the brightness setting menu 420a causes the display of a corresponding window (EX1004, [0053], FIG. 5A), but Ahn does not illustrate similar windows for more complex functions or applications, such as the “Messages” menu item illustrated in FIG. 7B. EX1004, [0062]-[0072]; EX1003, [74]. Nor does Ahn describe or otherwise limit the manner in which a user would activate multiple tasks simultaneously or navigate between them. EX1003, [74].

A POSITA would have found obvious that implementing Shiplacoff’s card metaphor in the context of Ahn’s mobile terminal would have provided a user interface paradigm that would have allowed Ahn’s mobile terminal to more easily and efficiently “offer users the opportunity to run several applications at the same time, and even to perform several activities simultaneously,” as was common in mobile devices available before the Critical Date. EX1013, [0005]-[0010], [0060];

EX1003, [75]. A POSITA would have been motivated to make the Ahn-Chaudhri-Shiplacoff combination based on these express benefits. EX1003, [75].

A POSITA would have found it obvious that at least one way to implement the Ahn-Chaudhri-Shiplacoff combination would have been to associate one of the directions of Ahn's touch-and-drag gesture with the navigation between the different card navigation "modes," consistent with the teachings of Shiplacoff. EX1013, [0127]-[0128], EX1003, [76]. For example, in one obvious implementation of the Ahn-Chaudhri-Shiplacoff combination, a POSITA would have found it obvious that activities/applications/functions would have been selected/launched from Ahn's menus (e.g., the "Organizer" activity/application/function illustrated in FIG. 7B) and/or from icons displayed on the standby screen 300, consistent with the teachings of Chaudhri-842 (*see* EX1005, [0047], [0076], FIG. 5D) and Shiplacoff (*see* EX1013, [0063], [0099], FIG. 1). EX1003, [76]. The selected/launched activity would have been displayed in a full screen card, as taught by Shiplacoff. EX1013, [0077]-[0078]; EX1003, [76]. When a user performs a touch-and-drag gesture in the upward direction (akin to the "swipe-up" gesture described by Shiplacoff), instead of displaying the service provider additional service menu 620 shown in FIG. 6B, the mobile terminal would "switch[] from full-screen mode to card mode, or from card mode to a launcher screen." EX1013, [0127]; EX1003, [76].

3. Claim Element Analysis

(a) Claim 1

Element [1.a]

Element [1.a] is substantially the same as Element [2.a]. EX1003, [347]-[351]. The Ahn-Chaudhri combination renders obvious Element [1.a] for the same reasons described above at Element [2.a]. Element [2.a], *supra*; [347]-[351].

Element [1.b]

The Ahn-Chaudhri-Shiplacoff combination renders obvious Element [1.b]. *See* EX1003, [352]-[354].

As discussed in Section VI.B.2, a POSITA would have found it obvious and been motivated to integrate Shiplacoff's teachings about its card metaphor in conjunction with the Ahn-Chaudhri touch screen mobile device. Shiplacoff teaches that "card mode is optimized for easily switching focus from one activity to another and for easily initiating and terminating activities." EX1013, [0074]. "As can be seen in FIG. 3, in one embodiment in card mode, card 301B having focus is fully visible. Other cards 301A, 301C are only partially visible and do not have focus." EX1013, [0078]. Shiplacoff describes that "partially displayed cards 301A, 301C provide a positional context for card 301B, and provide a mechanism for navigating to other activities." EX1013, [0079].

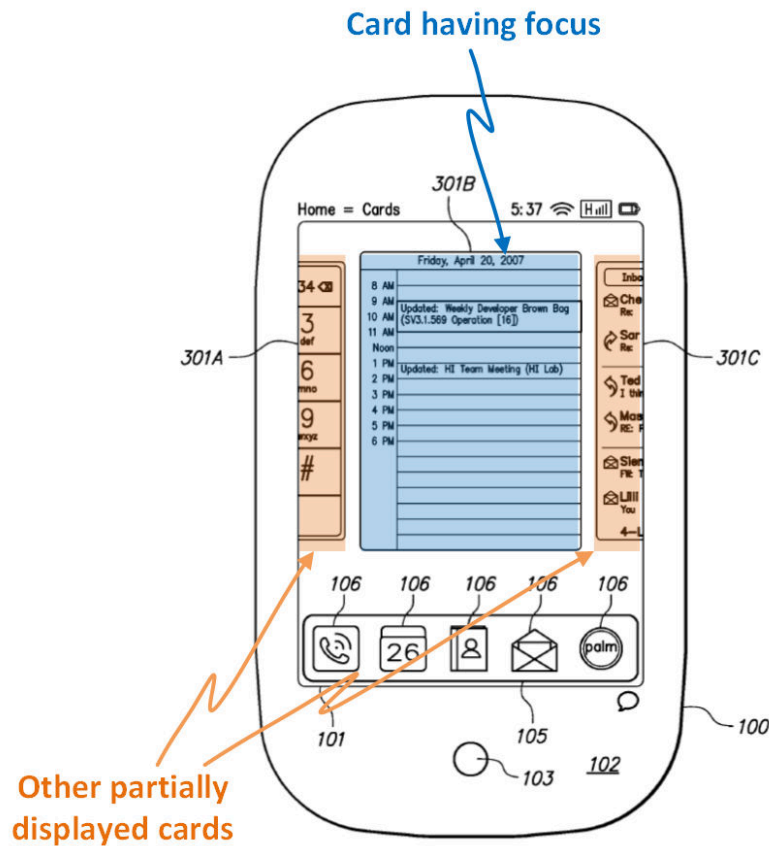


FIG. 3

EX1013, FIG. 3

A POSITA would have recognized that each of the cards is a user interface element, because they are parts of the overall card mode user interface. EX1013, [0060] (“Users interact with cards to launch, terminate, and reorder activities, as well as to navigate among activities and perform other operations”). Further, Shiplacoff teaches that each of the cards themselves is a collection of user interface elements. EX1013, [0019] (“the user can interact with cards regardless of display mode, so that user interface elements within cards are active regardless of the display mode”).

Based on these teachings, a POSITA would have found obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have *display[ed] a plurality of user interface elements on the display including a first user interface element* (e.g., card 301B having focus) *and a second user interface element* (e.g., partially displayed cards 301C), as recited in Element [1.b].

Element [1.c]

The Ahn-Chaudhri-Shiplacoff combination renders obvious Element [1.c].
See EX1003, [356]-[357]

Shiplacoff describes “touch-sensitive screen 101 and gesture area 102 can be implemented using any technology that is capable of detecting a location of contact and/or user motion proximate to the surface.” EX1013, [0066]. For example, in the card mode discussed at Element [1.b], *supra*, “the user can [] rearrange cards 301 while in card mode, by tapping and holding a card 301 for a period of time (such as, for example, 500 milliseconds), and then dragging a card 301 from one position to another.” EX1013, [0104].

From these teachings, a POSITA would have found obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have *detect[ed] a first contact moving across the display* (e.g., the dragging of card 301 from one position to another in card mode), as in Element [1.c].

Element [1.d]

The Ahn-Chaudhri-Shiplacoff combination renders obvious Element [1.d].
See EX1003, [358]-[362].

As discussed at Element [1.c], “the user can [] rearrange cards 301 while in card mode, by tapping and holding a card 301 for a period of time (such as, for example, 500 milliseconds), and then dragging a card 301 from one position to another.” EX1013, [0104]. “Once the movement action has been initiated, the user can continue to drag card 301 in any direction in order to place card 301 at the desired position within the sequence of cards 301.” EX1013, [0106]. The dragging gesture and resulting movement of card 301B causes the other cards in the sequence to “scroll[] left or right in response to the dragging operation; for example, if the user drags card 301 near the right edge of the screen, the sequence scrolls to the left to cause additional cards 301 in the sequence to be shown while others scroll off the screen.” EX1013, [0106].

In the example shown in FIGS. 9A-9D, “[t]he user taps and holds his or her finger on card 301B, then drags card 301B upward, causing cards 301C and 301D to move to fill the gap.” EX1013, [0104]. Without lifting his/her finger from the surface and continuing to hold card 301B, the user “moves card 301B into a position between cards 301C and 301D, as shown in FIG. 9C.” EX1013, [0104]. “As the user moves the dragged card 301B between two other cards 301C and 301D, the two

cards 301C and 301D separate to allow placement of the dragged card 301B.”

EX1013, [0104].

“[U]ser taps and holds his or her finger on card 301B, then drags card 301B upward”

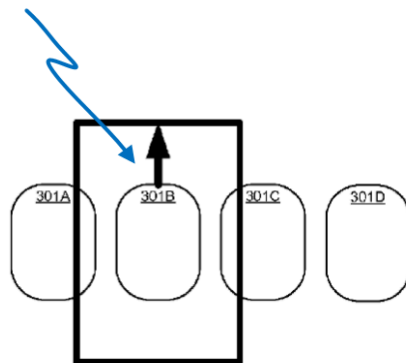


FIG. 9A

Card 301B being dragged upward
“caus[es] cards 301C and 301D to
move to fill the gap”

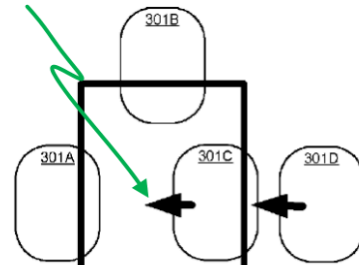


FIG. 9B

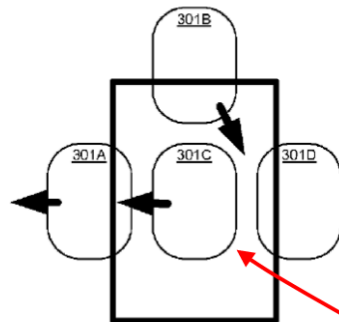


FIG. 9C

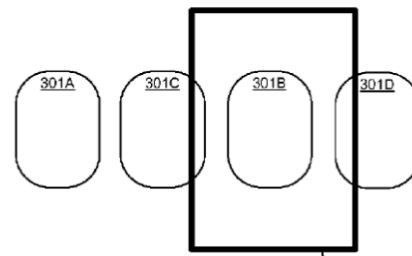


FIG. 9D

While continuing to hold card 301B, “the user moves the dragged card 301B between two other cards 301C and 301D, [and] the two cards 301C and 301D separate to allow placement of the dragged card 301B”

EX1013, FIGS. 9A-D

In the context of Shiplacoff, a POSITA would have found obvious that the term “drag” means that the card remains under or “stuck to” the user’s finger as the user moves his/her finger along the display. *See, e.g.*, EX1006, [0080] (describing a user interface object “following the user’s finger”); EX1010, 7:4-8 (permitting “user experience of dragging out the user interface from the edge as the gesture is performed with the user interface appearing to ‘stick’ to the gesture (e.g., to a mouse point or person’s finger making the gesture).”); EX1011, [0051] (describing updating a display location of a user interface object in accordance with the touch input). Implemented in this fashion, as the touch-sensitive screen 101 detects movement of the user’s finger across the display, the display location of the card 301B would have been updated such that the speed of the card 301B moving across the display would have matched the speed of the user’s finger moving across the touch-sensitive screen. In the example shown in FIGS. 9A-9D, a POSITA would have found obvious that the dragging speed—and thus the speed of the card 301B—would naturally vary throughout the gesture, including coming to or nearly to a stop at the top of the upward drag shown in FIG. 9B to allow cards 301C and 301D to move to fill in the gap. EX1013, [0104]-[0106].

Based on these teachings, a POSITA would have found obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have, *while the first contact is detected moving across the display: mov[ed] the first user interface*

element (e.g., the card 301B) *in a first direction on the display at a first speed* (e.g., moving at the same speed as the user's finger as it is dragging across the touchscreen), as in Element [1.d], *supra*.

Element [1.e]

The Ahn-Chaudhri-Shiplacoff combination renders obvious Element [1.e].
See EX1003, [363]-[368].

In the example shown in FIGS. 9A-9D, Shiplacoff teaches that “[t]he user taps and holds his or her finger on card 301B, then drags card 301B upward, causing cards 301C and 301D to move to fill the gap.” EX1013, [0104]. As discussed at Element [1.e], a POSITA would have found obvious that the describing “dragging” would have been implemented by the touch-sensitive screen 101 detecting movement of the user's finger across the display and updating the display location of the card 301B such that the speed of the card 301B moving across the display would have matched the speed of the user's finger moving across the touch-sensitive screen. *See, e.g.*, EX1006, [0080]; EX1010, 7:4-8; EX1011, [0051].

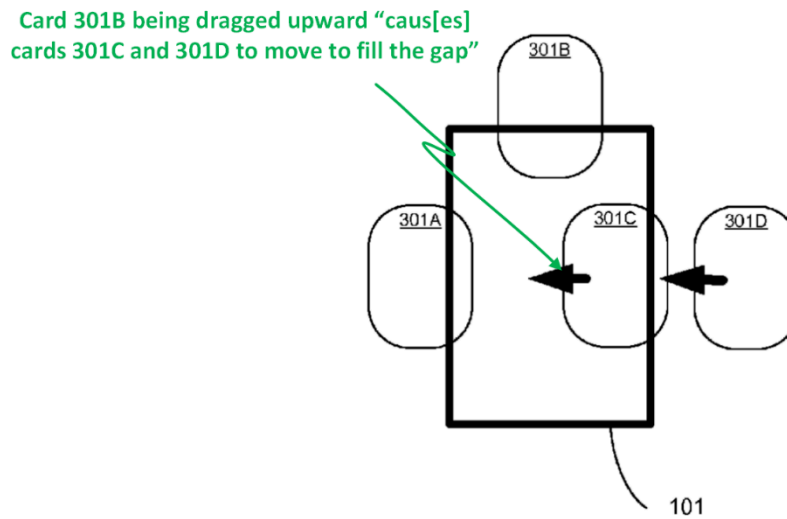


FIG. 9B

EX1013, FIG. 9B

As shown in FIG. 9B, Shiplacoff further describes that “cards 301C and 301D [] move to fill the gap” created when card 301B is dragged upward. EX1013, [0104]. Further, Shiplacoff teaches that “the user can continue to drag card 301 in any direction in order to place card 301 at the desired position.” EX1013, [0106]. This continued dragging causes the other cards in the sequence to “scroll[] left or right in response to the dragging operation; for example, if the user drags card 301 near the right edge of the screen, the sequence scrolls to the left to cause additional cards 301 in the sequence to be shown while others scroll off the screen.” EX1013, [0106].

A POSITA would have found obvious that, in filling the gap, cards 301C and 301D move with a particular speed in the direction of the arrow shown in FIG. 9B. Shiplacoff does not specify or otherwise limit the speed at which cards 301C and 301D move when fillings the gap, leaving the speed as a design choice to the

POSITA. EX1013, [0104]. Notably, though, Shiplacoff describes that “a transition effect is performed to enhance the smoothness of the transition as cards 301 move and/or snap into place.” EX1014, [0094]. Based on the use of the word “snap,” a POSITA would have at least found obvious that the cards 301C and 301D could move quickly on the display.

As discussed at Element [1.e], the speed of card 301B is dictated by the speed at which the user’s finger moves across the touchscreen, which would naturally vary throughout the gesture and would, in some instances, slow substantially while the other cards in the sequence shift. In such instances, the speed of card 301B would have been slower than cards 301C and 301D as they “snap” to fill the gap. EX1013, [0094], [0104].

Based on these teachings, a POSITA would have found obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have *mov[ed] the second user interface element (e.g., card 301C) on the display at a second speed greater than the first speed (e.g., snapping card 301C to fill the gap while a user slowly drags card 301 upward)*, as in Element [1.e], *supra*.

Element [1.f]

Element [1.f] is substantially the same as Element [2.b]. *See* EX1003, [369]. The Ahn-Chaudhri combination renders obvious Element [1.f] for the same reasons described above at Element [2.b]. Element [2.b], *supra*.

Element [1.g]

Element [1.g] is substantially the same as Element [2.c]. *See* EX1003, [370]. The Ahn-Chaudhri combination renders obvious Element [1.g] for the same reasons described above at Element [2.c]. Element [2.c], *supra*.

Element [1.h]

Element [1.h] is substantially the same as Element [2.d]. *See* EX1003, [371]. The Ahn-Chaudhri combination renders obvious Element [1.h] for the same reasons described above at Element [2.d]. Element [2.d], *supra*.

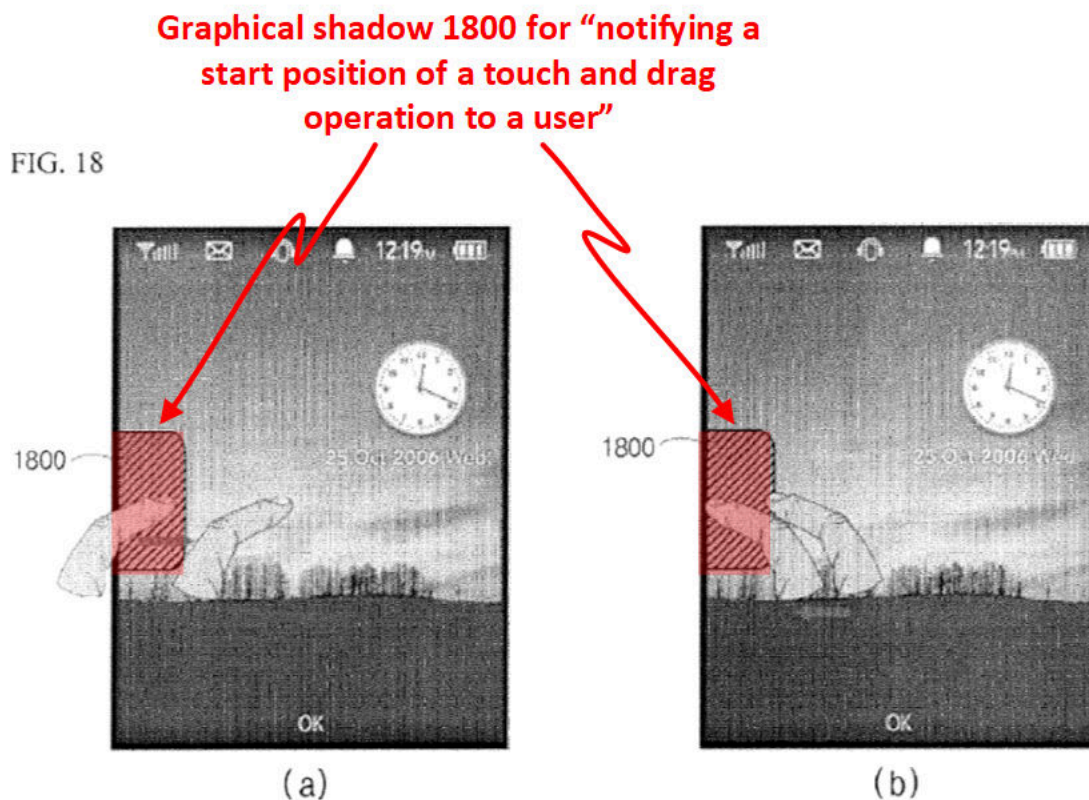
(b) Claim 208

Element [208.a]

The Ahn-Chaudhri-Shiplacoff combination renders obvious Claim [208.a]. *See* EX1003, [381]-[384].

Referencing FIG. 18, Ahn describes that the display 40 may utilize “a graphical display for notifying a start position of a touch and drag operation to a user,” and illustrates “a graphical shadow 1800” displayed at an edge of the display. EX1004, [0118]-[0119]. Ahn explains that “as the user drags the graphic shadow

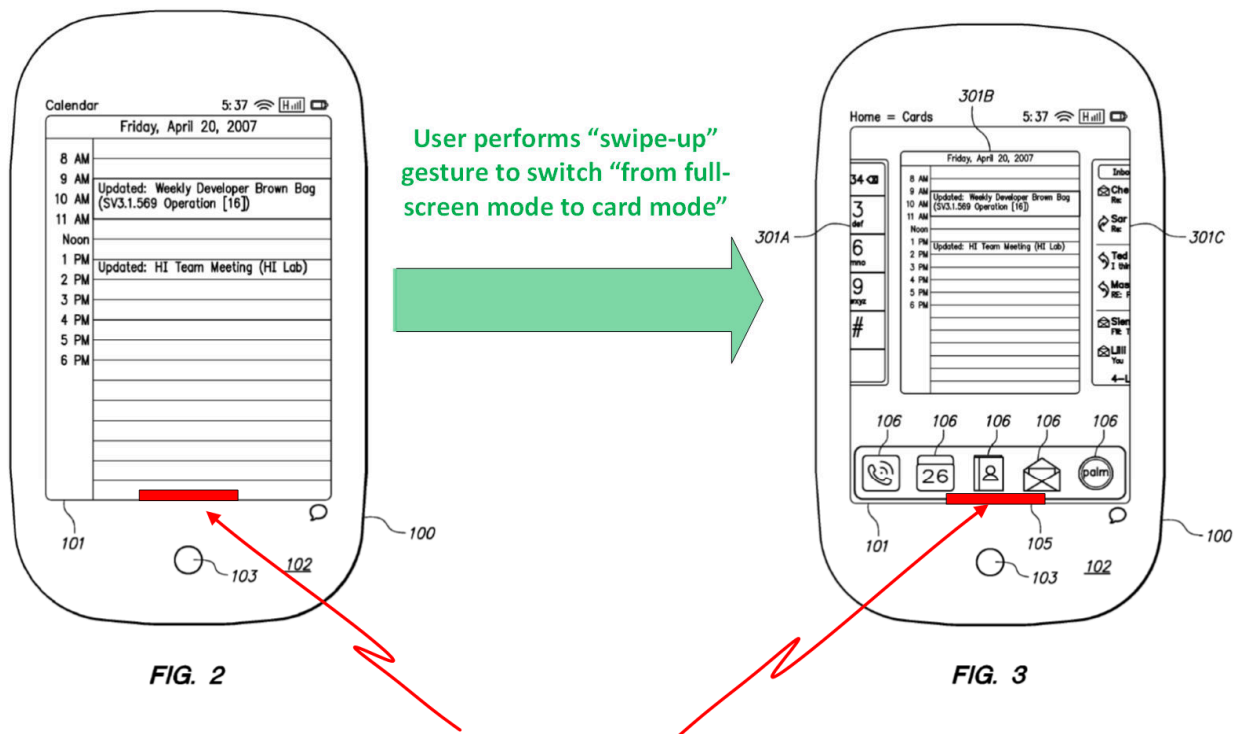
1800, the menu list 1500 can be displayed along the dragged graphic 1800.”
EX1004, EX1004, [0118]. A POSITA would have found obvious that in those implementations that include a graphic shadow 1800, it is also an *object*, as in Element [2.b]. Element [2.b], *supra* (describing a POSITA’s understanding of the term “object”).



EX1004, FIG. 18

A POSITA would have found obvious that Shiplacoff’s card mode is a type of menu, because it provides the user with a list of options (*e.g.*, various active applications/activities) from which they may select. EX1001, 31:46-49, 33:34-37, 35:20-23, 55:57-61 (describing various menus that as lists of options from which a

user may select). When integrated into Ahn's mobile terminal in the manner discussed in Section VI.B.2, *supra*, a POSITA would have found obvious that "a specific icon for notifying a start position of the touch and drag operation," such as graphic 1800, would have been useful in guiding the user on how to perform the gesture that switches between Shiplacoff's modes. EX1004, [0117]-[0119]. In at least one example implementation, a POSITA would have at least found it obvious to include an icon, like graphic 1800, at the bottom edge of the display regardless of which Shiplacoff mode was currently being used, as it would notify the user in each of the modes that a "swipe up" gesture, like the one described in Shilacoff, would have always been available to switch between modes. EX1004, [0117]; EX1013, [0126]-[0128].



An icon like Ahn's graphic 1800 that notifies the user that the "swipe up" gesture is available to "switch[] from full-screen mode to card mode, or from card mode to a launcher screen," as taught by Shiplacoff

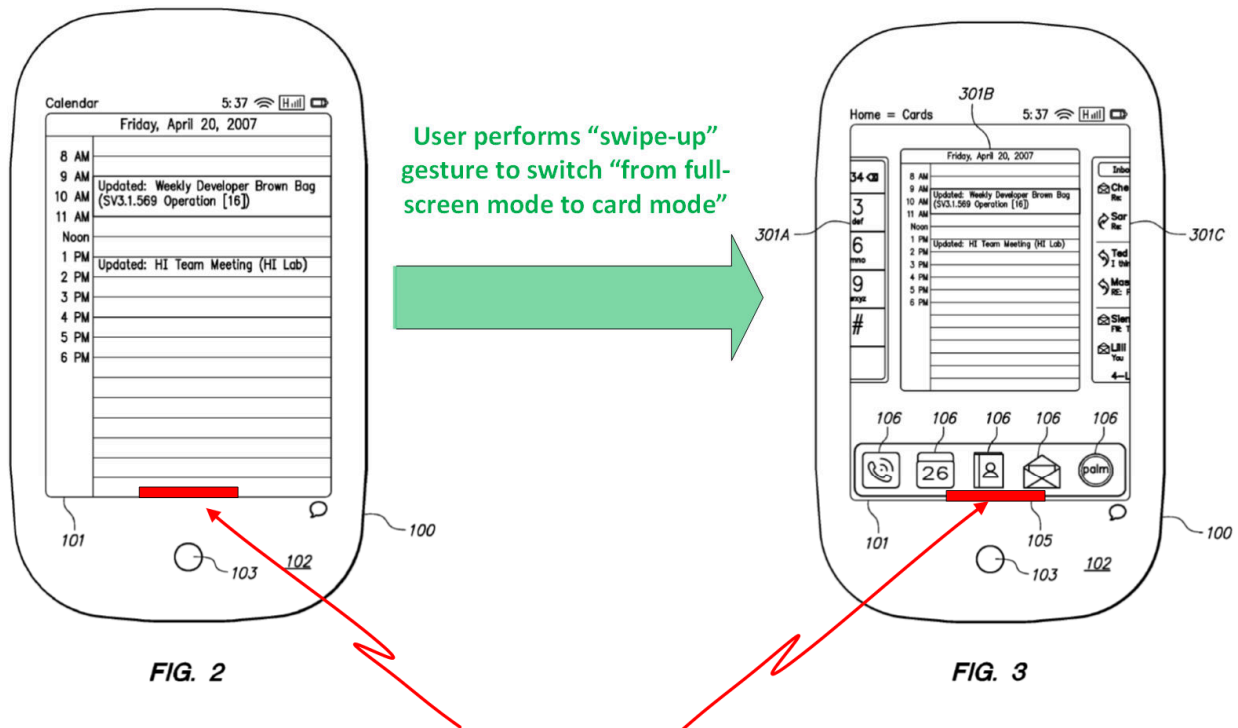
EX1004, FIGS. 2 and 3 (modified)

Accordingly, a POSITA would have found it obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have been *configured such that the at least part of the gesture on the touch screen is detected when the object is displayed*, as in Element [208.a].

Element [208.b]

The Ahn-Chaudhri-Shiplacoff combination renders obvious Element [208.b]. See EX1003, [385]-[387]. As discussed at Element [208.a], a POSITA would have

at least found it obvious to include an icon, like graphic 1800, at the bottom edge of the display regardless of which Shiplacoff mode was currently being used, as it would notify the user in each of the modes that a “swipe up” gesture, like the one described in Shilacoff, would have always been available to switch between modes. EX1004, [0117]; EX1013, [0126]-[0128].



An icon like Ahn's graphic 1800 that notifies the user that the "swipe up" gesture is available to "switch[] from full-screen mode to card mode, or from card mode to a launcher screen," as taught by Shiplacoff

EX1004, FIGS. 2 and 3 (modified)

Shiplacoff explains that the “full-screen mode” is where the “user interacts with the active activity (such as the calendar application shown in FIG. 2) by

conventional user interface methods, including manipulating on-screen elements, entering text, and the like.” EX1013, [0076]. Accordingly, because Shiplacoff teaches that the gesture “switches from full-screen mode to card mode, or from card mode to a launcher screen” (see EX1031, [0127]), a POSITA would have found obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have been configured such that *the at least part of the gesture on the touch screen is detected when a particular application interface of a particular application is displayed*, as in Element [186.b].

Element [208.c]

The Ahn-Chaudhri combination renders obvious Element [208.c]. See EX1003, [388].

As discussed at Element [208.a], in at least one example implementation, a POSITA would have at least found it obvious to include an icon, like graphic 1800, at the bottom edge of the display regardless of which Shiplacoff mode was currently being used, as it would notify the user in each of the modes that a “swipe up” gesture, like the one described in Shilacoff, would have always been available to switch between modes. EX1004, [0117]; EX1013, [0126]-[0128]. Thus, a POSITA would have found obvious that, in the Ahn-Chaudhri-Shiplacoff combination, *the gesture includes a swipe gesture*.

Element [208.d]

The Ahn-Chaudhri combination renders obvious Element [208.d]. *See* EX1003, [389].

As discussed at Element [208.a], in at least one example implementation, a POSITA would have at least found it obvious to include an icon, like graphic 1800, at the bottom edge of the display regardless of which Shiplacoff mode was currently being used, as it would notify the user in each of the modes that a “swipe up” gesture, like the one described in Shilacoff, would have always been available to switch between modes. EX1004, [0117]; EX1013, [0126]-[0128]. Ahn explains that “as the user drags the graphic shadow 1800, the menu list 1500 can be displayed along the dragged graphic 1800.” EX1004, EX1004, [0118]. Thus, a POSITA would have found obvious that, in the Ahn-Chaudhri-Shiplacoff combination, ***the at least part of the gesture on the touch screen is detected on the object*** (e.g., graphic 1800).

Element [208.e]

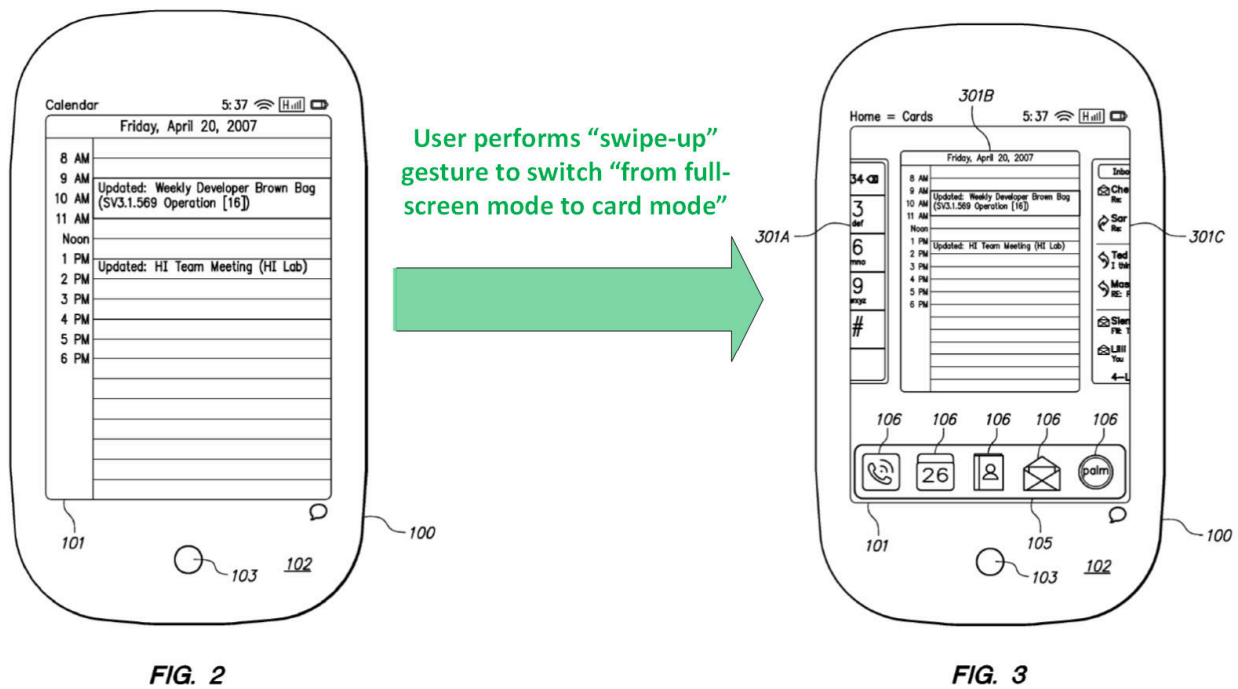
The Ahn-Chaudhri combination renders obvious Element [208.e]. *See* EX1003, [390]. Referencing FIG. 18, Ahn describes that the display 40 may utilize “a graphical display for notifying a start position of a touch and drag operation to a user,” and illustrates “a graphical shadow 1800” displayed at an edge of the display. EX1004, [0118]-[0119]. Thus, a POSITA would have found obvious that, in the

Ahn-Chaudhri-Shiplacoff combination, *the at least part of the gesture on the touch screen is detected at or adjacent to an edge of the touch screen.*

Element [208.f]

The Ahn-Chaudhri-Shiplacoff combination renders obvious Element [208.f].
See EX1003, [391]-[395].

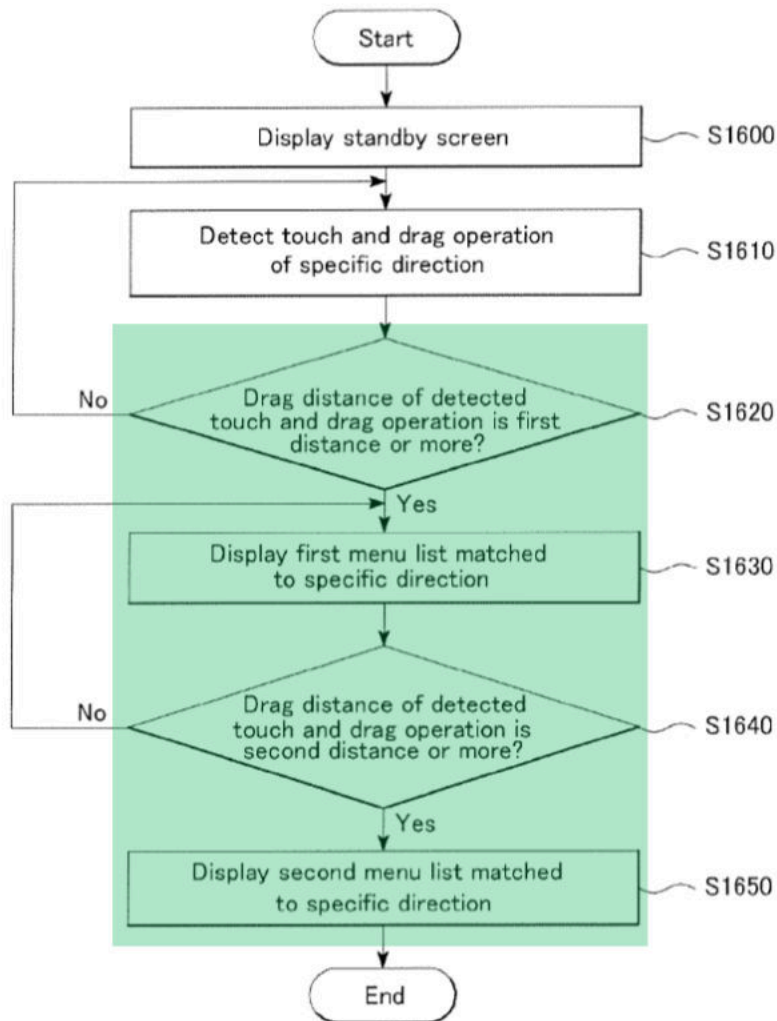
In one obvious implementation of the Ahn-Chaudhri-Shiplacoff combination, a POSITA would have found it obvious that activities/applications/functions would have been selected/launched from Ahn's menus (*e.g.*, the "Organizer" activity/application/function illustrated in FIG. 7B) and/or from icons displayed on the standby screen 300, consistent with the teachings of Chaudhri-842 (*see* EX1005, [0047], [0076], FIG. 5D) and Shiplacoff (*see* EX1013, [0063], [0099], FIG. 1). The selected/launched activity would have been displayed in a full screen card, as taught by Shiplacoff. EX1013, [0077]-[0078]. When a user performs a touch-and-drag gesture in the upward direction (*i.e.*, the "swipe-up" gesture described by Shilacoff), instead of displaying the service provider additional service menu 620 shown in FIG. 6B, the mobile terminal would "switch[] from full-screen mode to card mode, or from card mode to a launcher screen." EX1013, [0127].



EX1013, FIGS. 2 and 3

In one embodiment, Ahn describes that “controller 50 controls to sequentially display a plurality of specific menu lists according to a distance of the detected touch and drag operation.” EX1004, [0108]. Specifically, if “[c]ontroller 50 determines [that] a drag distance of the detected touch and drag operation is a first distance or more (S1620),” then “controller 50 controls to display a first menu list matched to the specific direction (S1630).” EX1004, [0109]. On the other hand, if “controller 50 determines [that] a drag distance of the detected touch and drag operation is a second distance or more (S1640),” then “controller 50 controls to display a second menu list matched to the specific direction (S1650).” EX1004, [0110].

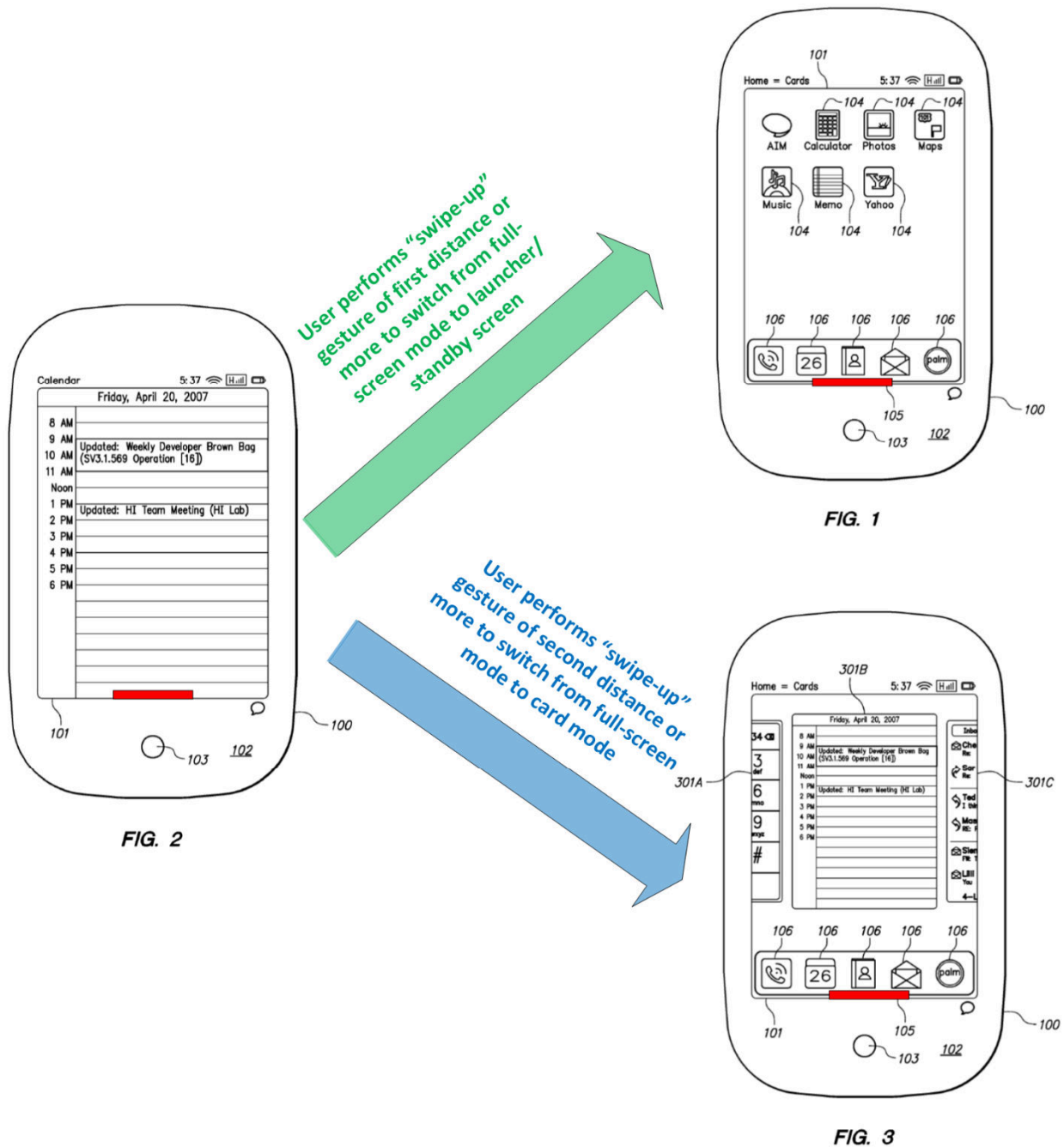
FIG. 16



EX1004, FIG. 16

Applying Ahn's teachings in the context of the Ahn-Chaudhri-Shiplacoff combination, a POSITA would have found it obvious to utilize Ahn's teachings regarding FIG. 16 in order to utilize a distance of the "swipe up" gesture to determine to which Shiplacoff mode to transition the display. For example, if controller 50 determines that a drag distance of the detected swipe up gesture is a first distance or more, then controller 50 controls to display to transition from a full screen mode to

a launcher screen. EX1004, [0109]; EX1013, [0127]. On the other hand, if controller 50 determines that a drag distance of the detected swipe up gesture is a second distance or more, then controller 50 controls to display to transition from a full screen mode to a card mode. EX1004, [0109]; EX1013, [0127].



EX1013, FIGS. 1-3 (modified)

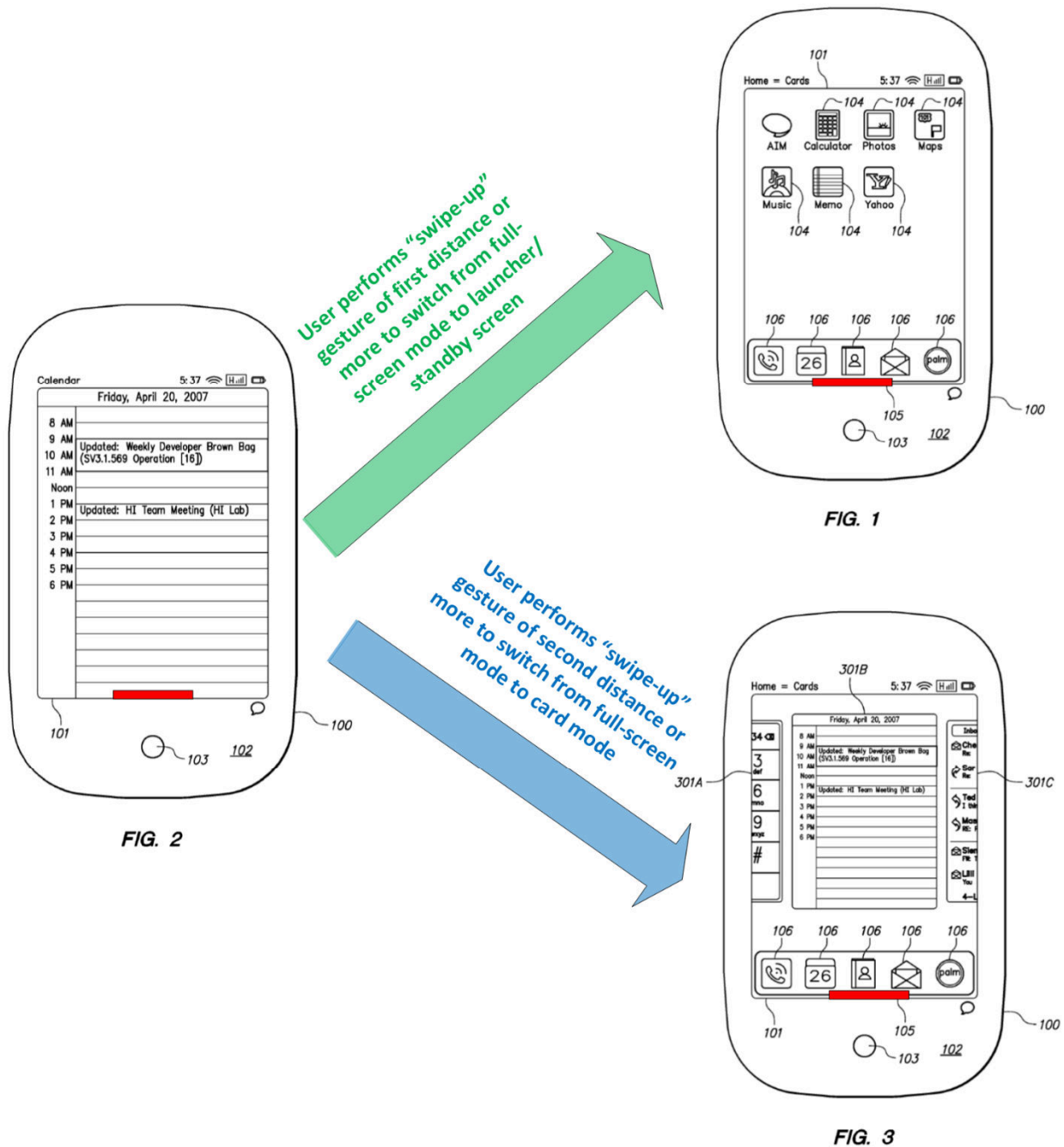
Based on these teachings, a POSITA would have found it obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have been configured such that, *when the magnitude, including a distance magnitude, of the*

gesture detected on the touch screen (e.g., the swipe up gesture to switch between Shiplacoff's modes) *is not detected to increase above a distance threshold* (e.g., the swipe up is a first distance or more and less than a second distance), *a home screen for choosing among a plurality of application is displayed* (e.g., Ahn's standby screen 300 implemented to include the launcher functionality described by Shiplacoff), as in Element [208.f].

Element [208.g]

The Ahn-Chaudhri-Shiplacoff combination renders obvious Element [208.g].
See EX1003, [396]-[398].

As discussed at Element [208.f], a POSITA would have found it obvious to utilize Ahn's teachings regarding FIG. 16 in order to utilize a distance of the "swipe up" gesture to determine to which Shiplacoff mode to transition the display. For example, if controller 50 determines that a drag distance of the detected swipe up gesture is a first distance or more, then controller 50 controls to display to transition from a full screen mode to a launcher screen. EX1004, [0109]; EX1013, [0127]. On the other hand, if controller 50 determines that a drag distance of the detected swipe up gesture is a second distance or more, then controller 50 controls to display to transition from a full screen mode to a card mode. EX1004, [0109]; EX1013, [0127].



EX1013, FIGS. 1-3 (modified)

Based on these teachings, a POSITA would have found it obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have been configured such that, *when the magnitude, including the distance magnitude, of*

the gesture detected on the touch screen (e.g., the swipe up gesture to switch between Shiplacoff's modes) *is detected to increase above the distance threshold* (e.g., the swipe up is a second distance or more), *a multitasking interface for choosing among a plurality of active applications is displayed* (e.g., Shiplacoff's card mode), as in Element [208.g].

Element [208.h]

The Ahn-Chaudhri-Shiplacoff combination renders obvious Element [208.f].
See EX1003, [399]-[405].

A POSITA would have found obvious that Shiplacoff's card mode is a type of menu, because it provides the user with a list of options (e.g., various active applications/activities) from which they may select. EX1001, 31:46-49, 33:34-37, 35:20-23, 55:57-61 (describing various menus that as lists of options from which a user may select).

Ahn describes that the menus that are opened through a touch and drag gesture are displayed as a window "on" the standby screen 300. EX1004, [0039], [0070]. Further, Ahn describes that the "menus displayed on the standby screen 300 can be embodied in a translucent form or an opaque form, depending on implementation." EX1004, [0070]. As discussed at Element [2.d], a POSITA would have known and found it obvious that, when differentiated from "transparent" and "opaque" in the

manner they are used by Ahn, the word “translucent” means “allowing light, but not detailed images, to pass through; semitransparent.” EX1009, 6. A POSITA would have understood not transmitting detail as a type of blurring, because the word “blur” means to “make or become unclear or less distinct.” EX1009, 3.

Implemented in the manner of Ahn’s translucent menus, described above, a POSITA would have at least found it obvious that Shiplacoff’s card mode would be displayed “on” the standby screen 300 in a translucent form, such that the area between the displayed cards would show a blurred standby screen 300.

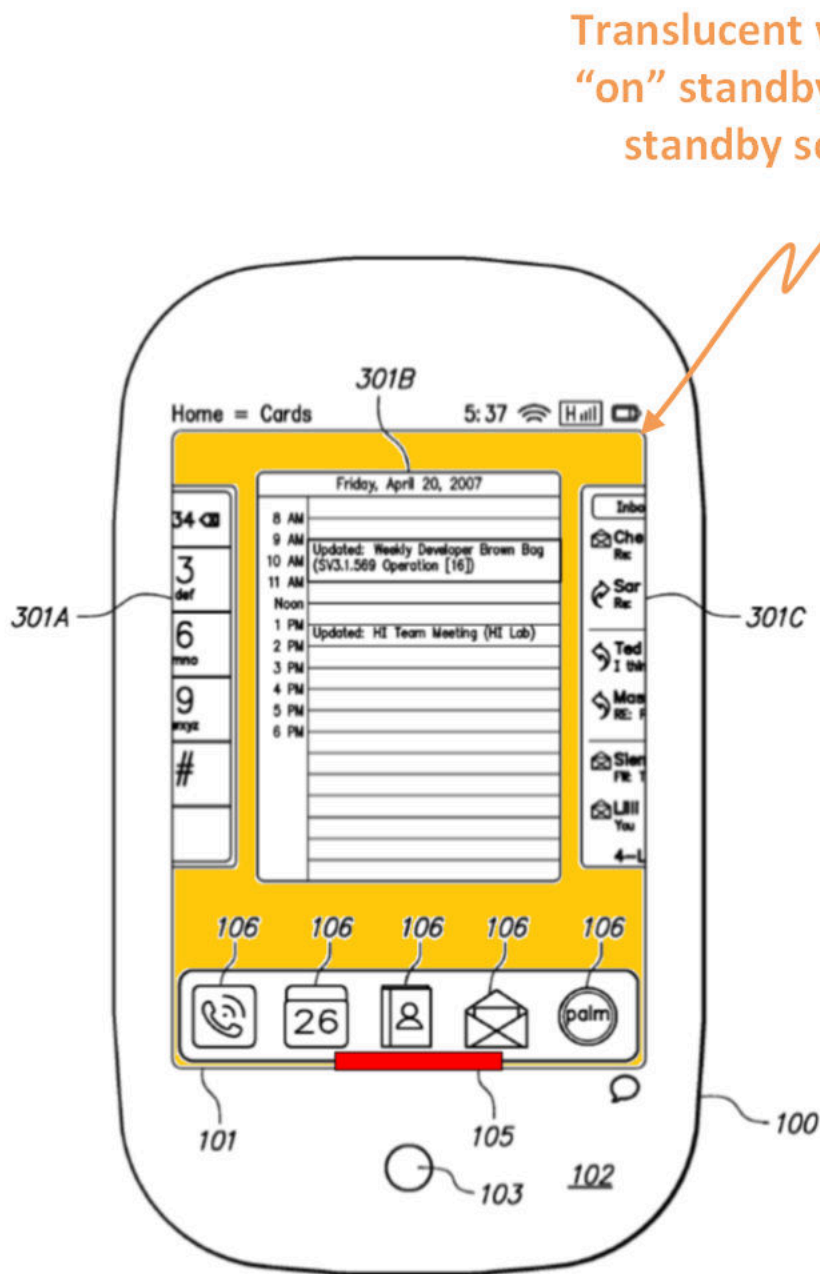


FIG. 3

EX1013, FIG. 1 (modified)

A POSITA would have understood a “virtual display layer,” in the context of the ’754 Patent, to be present whenever one or more display elements appear at “the

same apparent depth” of display, regardless of the software and/or hardware mechanisms used to achieve this visual appearance. “For example, in one embodiment, a 3D layered user interface may have a virtual foreground display layer and a virtual background display layer.” EX1001, 68:44-47.

In order to display the menus “on” the standby screen 300 using “window forms,” a POSITA would have found obvious that the menu window (*e.g.*, Shiplacoff’s card mode) would be displayed in a “virtual display layer,” as that term is broadly used in the ’754 Patent, and that the virtual display layer containing the menu is displayed “on” one or more other virtual display layers that contain elements of the standby screen 300 (including, *e.g.*, the background thumbnail and the clock widget). EX1004, FIGS. 3A, 4B, [0064], [0070].

Based at least on the above teachings of Ahn and Shiplacoff, a POSITA would have at least found it obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have been configured such that *the multitasking interface is displayed in at least one first virtual display layer (e.g., a virtual display layer containing the card mode interface) that appears above a second virtual display layer including the at least portion of the at least one other object that is blurred (e.g., a virtual display layer containing one or more elements of standby screen 300), as in Element [208.h].*

Element [208.i]

In order to navigate through the card mode interface that is displayed as a result of this “swipe-up” gesture, Shiplacoff describes additional independent gestures (e.g., “rearrang[ing] cards 301 while in card mode, by tapping and holding a card 301 for a period of time (such as, for example, 500 milliseconds), and then dragging a card 301 from one position to another”). EX1013, [0104]; *see also id.* [0077]-[0106]; EX1003, [406]. Therefore, a POSITA would have found obvious that, in the Ahn-Chaudhri-Shiplacoff combination, the multitasking interface ***remains displayed after detection of the completion of the gesture*** (e.g., the swipe-up gesture that switches to card mode), as in [208.i]. EX1003, [406].

(c) Claim 209

The Ahn-Chaudhri-Shiplacoff combination renders obvious Claim [209]. *See* EX1003, [407]-[410].

As further discussed at Element [208.h], *supra*, in order to display the menus “on” the standby screen 300 using “window forms,” a POSITA would have found obvious that the menu window (e.g., Shiplacoff’s card mode) would be displayed in a “virtual display layer,” as that term is broadly used in the ’754 Patent, and that the virtual display layer containing the menu is displayed “on” one or more other virtual display layers that contain elements of the standby screen 300 (including, e.g., icons

for launching activities, as taught regarding Shiplacoff's launcher screen). EX1004, FIGS. 3A, 4B, [0064], [0070].

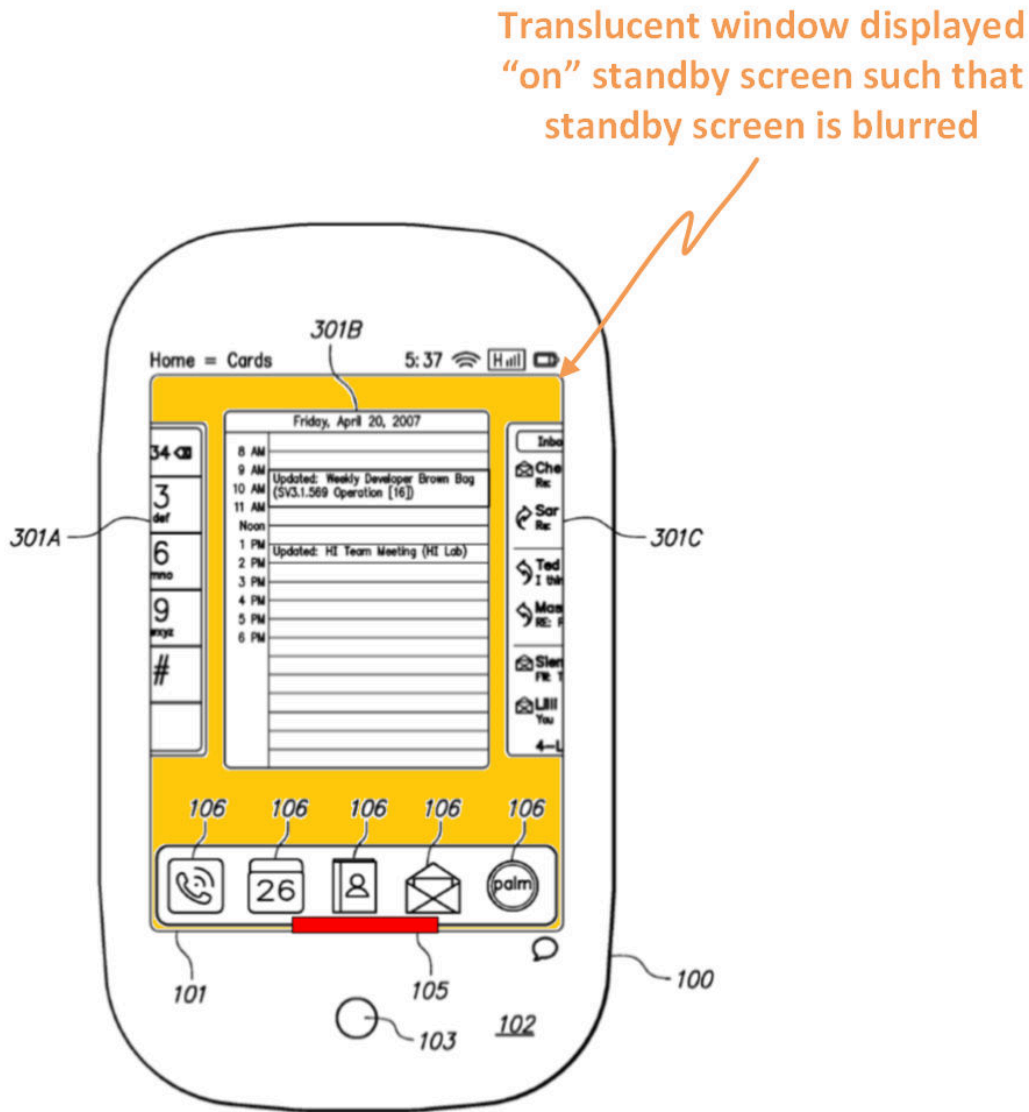


FIG. 3

EX1013, FIG. 1 (modified)

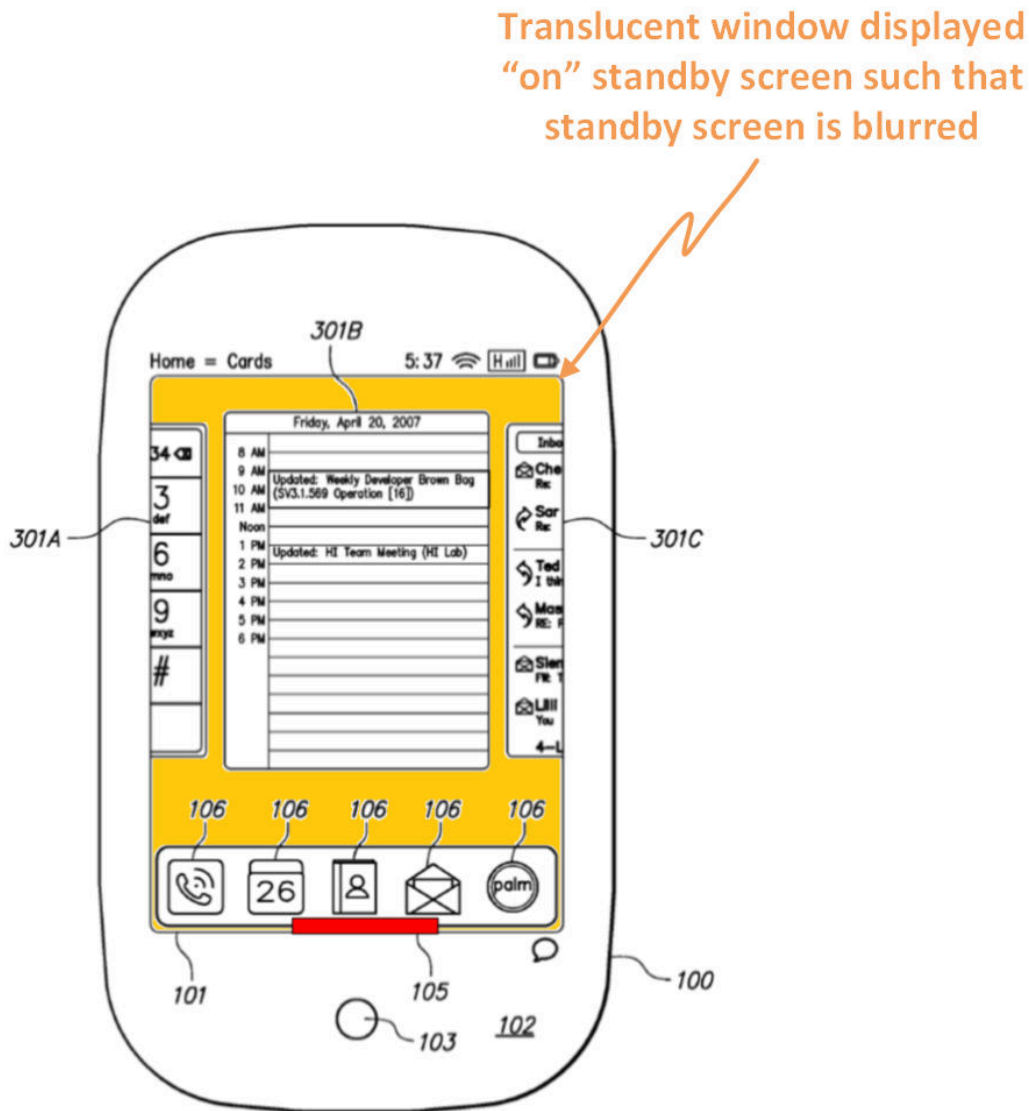
Based at least on the above teachings of Ahn and Shiplacoff, a POSITA would have at least found it obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff

combination would have been *configured such that the second virtual display layer includes the home screen for choosing among the plurality of applications* (e.g., one or more portions of standby screen 300 including the icons for launching activities, as taught regarding Shiplacoff's launcher screen), as in Claim [209].

(d) Claim 210

The Ahn-Chaudhri-Shiplacoff combination renders obvious Claim [209]. *See* EX1003, [411]-[417].

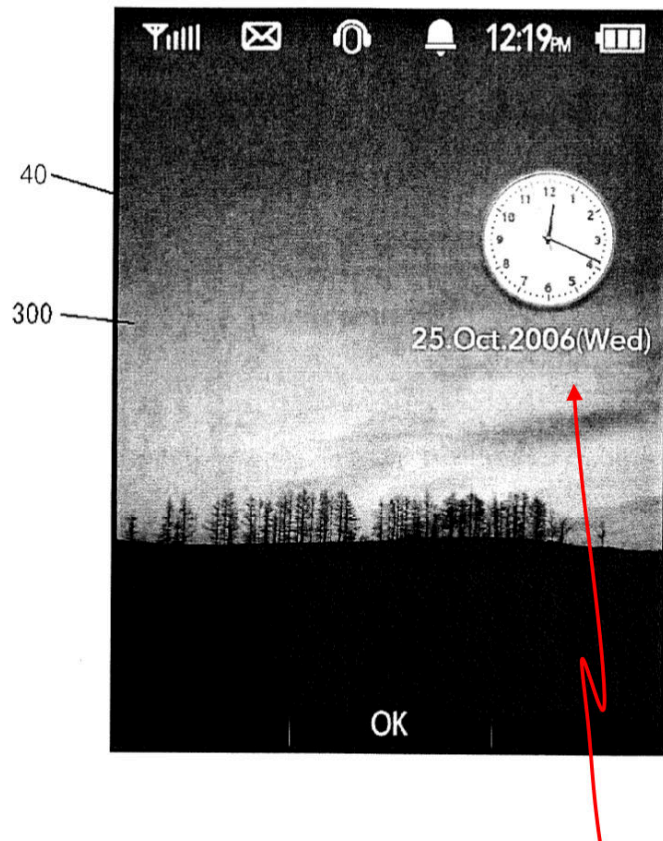
As further discussed at Element [208.h], *supra*, in order to display the menus “on” the standby screen 300 using “window forms,” a POSITA would have found obvious that the menu window (e.g., Shiplacoff's card mode) would be displayed in a “virtual display layer,” as that term is broadly used in the '754 Patent, and that the virtual display layer containing the menu is displayed “on” one or more other virtual display layers that contain elements of the standby screen 300 (including, e.g., the clock widget shown in Ahn and icons for launching activities, as taught regarding Shiplacoff's launcher screen). EX1004, FIGS. 3A, 4B, [0064], [0070].



EX1013, FIG. 1 (modified)

As shown in FIG. 3A, Ahn illustrates that the clock widget portion of standby screen 300 appears to be displayed over a background thumbnail image selected by the user. EX1004, [0036], [0054]-[0055], FIG. 3A.

FIG. 3A



**Clock widget appearing to be
displayed "on" thumbnail image
selected by user in standby screen
setting window 520**

EX1004, FIG. 3A

Based on the display shown in FIG. 3A, a POSITA would have at least found it obvious that the standby screen 300 could be implemented such that a one "virtual displayer layer" (as that term is used broadly in the '754 Patent) contains the background thumbnail image and another virtual displayer layer on top of it contains the clock widget.

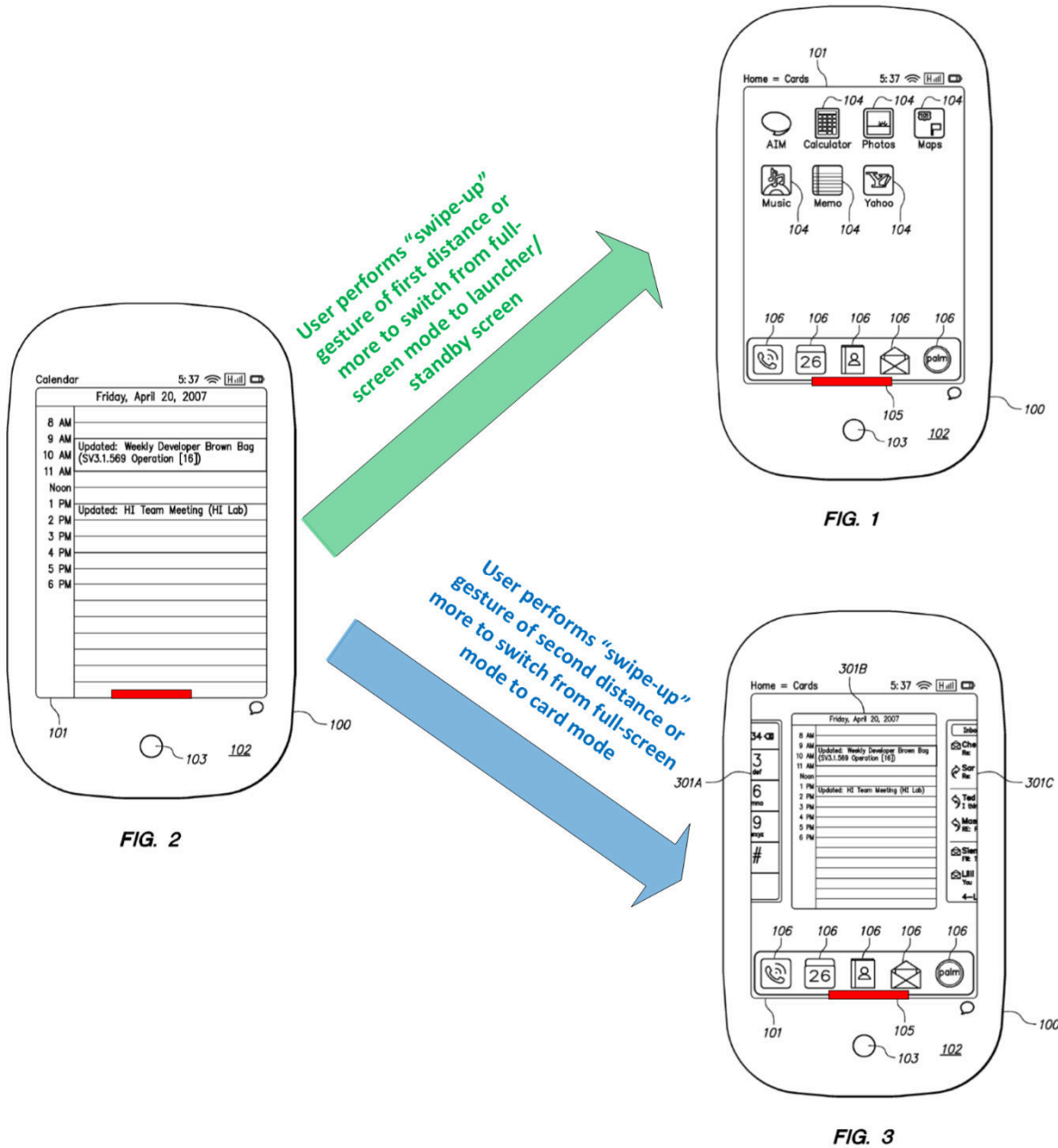
Taking the above teachings of Ahn and Shiplacoff together, a POSITA would have at least found it obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have been *configured such that a third virtual display layer* (e.g., a virtual display layer containing the clock widget) *is displayed between the first virtual display layer* (e.g., a virtual display layer containing the card mode interface) *and the second virtual display layer* (e.g., a virtual display layer containing one or more elements of standby screen 300, such as the thumbnail image displayed under the clock widget), as in Claim [209].

(e) **Claim 211**

The Ahn-Chaudhri-Shiplacoff combination renders obvious Claim [211]. *See* EX1003, [418]-[421].

As discussed at Element [208.g], a POSITA would have found it obvious to utilize Ahn's teachings regarding FIG. 16 in order to utilize a distance of the "swipe up" gesture to determine to which Shiplacoff mode to transition the display. For example, if controller 50 determines that a drag distance of the detected swipe up gesture is a second distance or more, then controller 50 controls to display to transition from a full screen mode to a card mode. EX1004, [0109]; EX1013, [0127]. Thus, *when the magnitude, including the distance magnitude, of the gesture detected on the touch screen is detected to increase above the distance threshold*

(e.g., above the second distance), as in Claim 211, a POSITA would have at least found it obvious to display the card mode.



EX1013, FIGS. 1-3 (modified)

As discussed at Element [208.h], implemented in the manner of Ahn's translucent menus, a POSITA would have at least found it obvious that Shiplacoff's card mode would be displayed "on" the standby screen 300 in a translucent form, such that the area between the displayed cards would show a blurred standby screen 300.

Translucent window displayed
“on” standby screen such that
standby screen is blurred

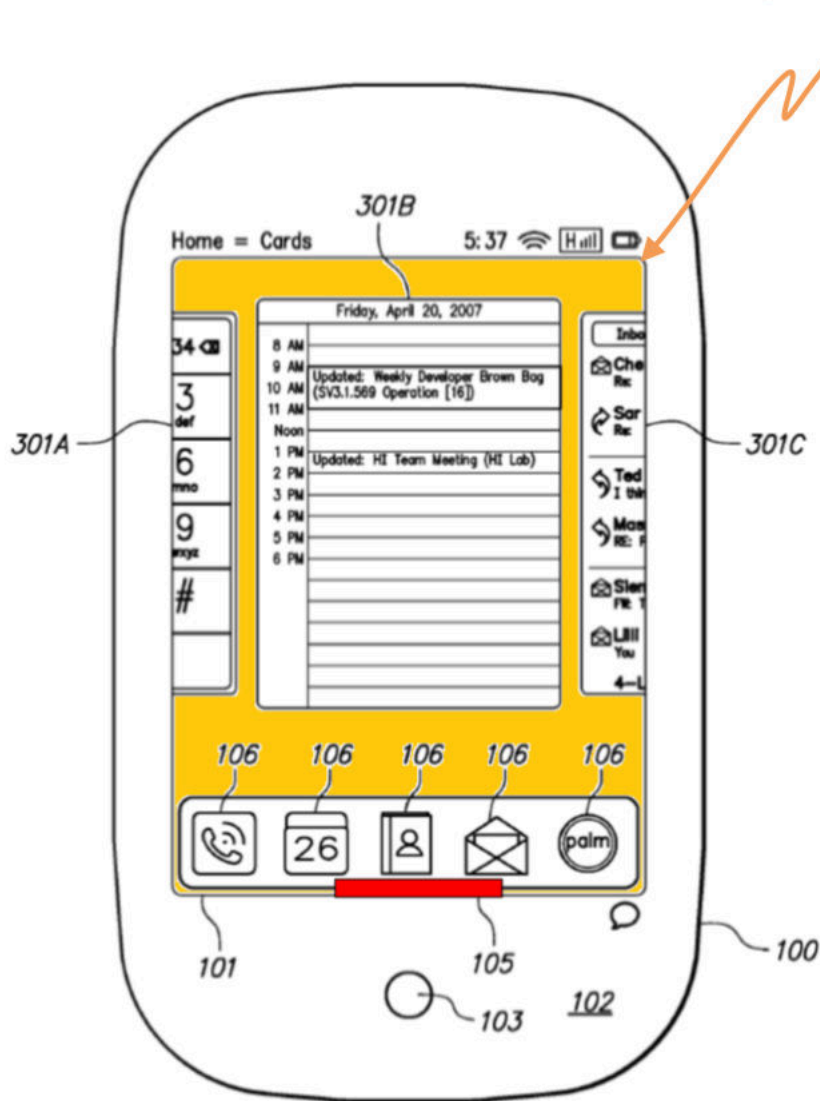


FIG. 3

EX1013, FIG. 1 (modified)

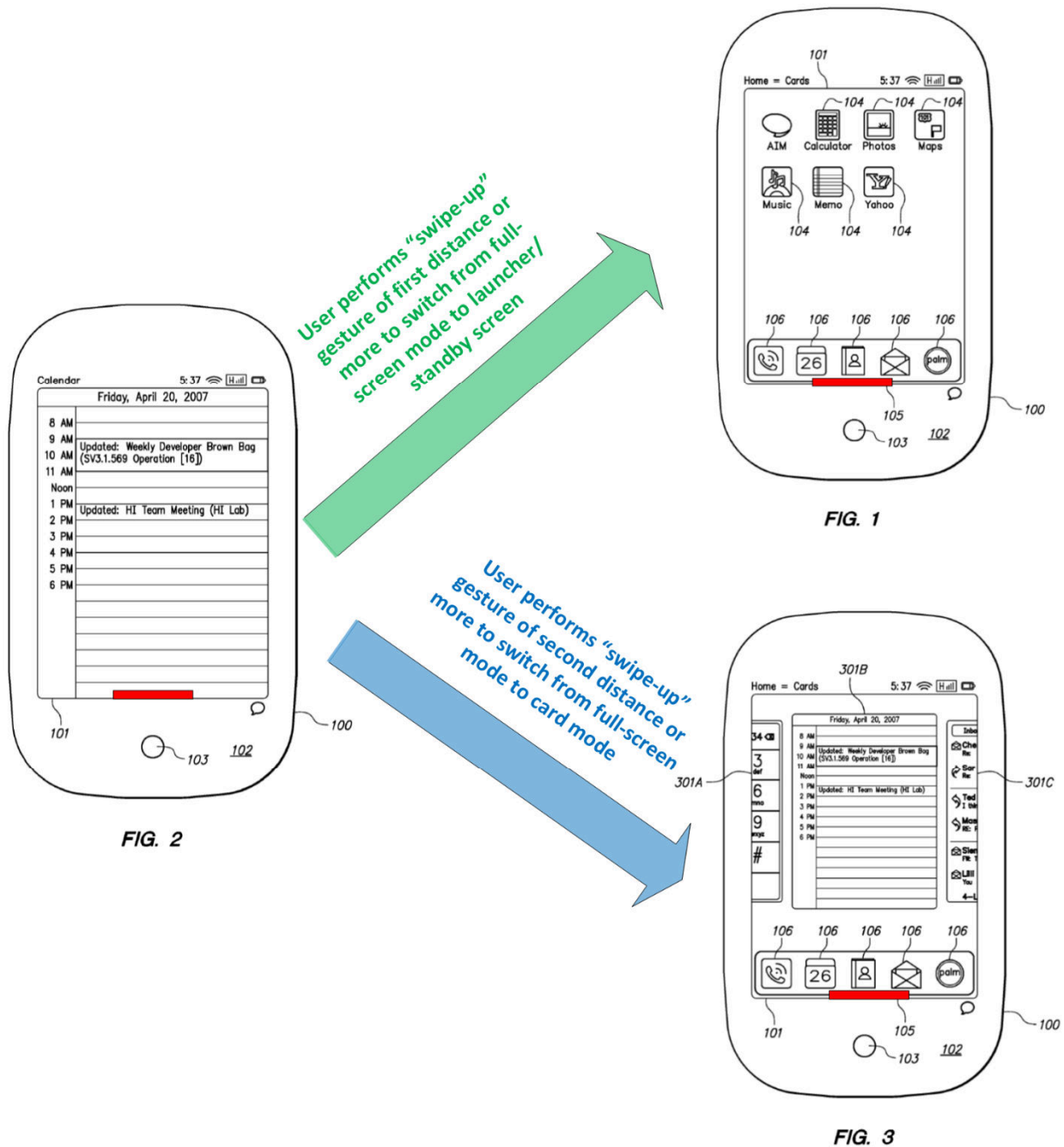
Based on these teachings, a POSITA would have found it obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have been

configured such that the home screen (e.g., Ahn's standby screen 300), including the at least portion of the at least one other object (e.g., the clock widget portion of standby screen 300), is blurred, when the magnitude, including the distance magnitude, of the gesture detected on the touch screen is detected to increase above the distance threshold, as in Claim [211].

(f) Claim 212

The Ahn-Chaudhri-Shiplacoff combination renders obvious Claim [212]. *See* EX1003, [422]-[].

As discussed at Element [208.f], a POSITA would have found it obvious to utilize Ahn's teachings regarding FIG. 16 in order to utilize a distance of the "swipe up" gesture to determine to which Shiplacoff mode to transition the display. For example, if controller 50 determines that a drag distance of the detected swipe up gesture is a first distance or more, then controller 50 controls to display to transition from a full screen mode to a launcher screen. EX1004, [0109]; EX1013, [0127].



EX1013, FIGS. 1-3 (modified)

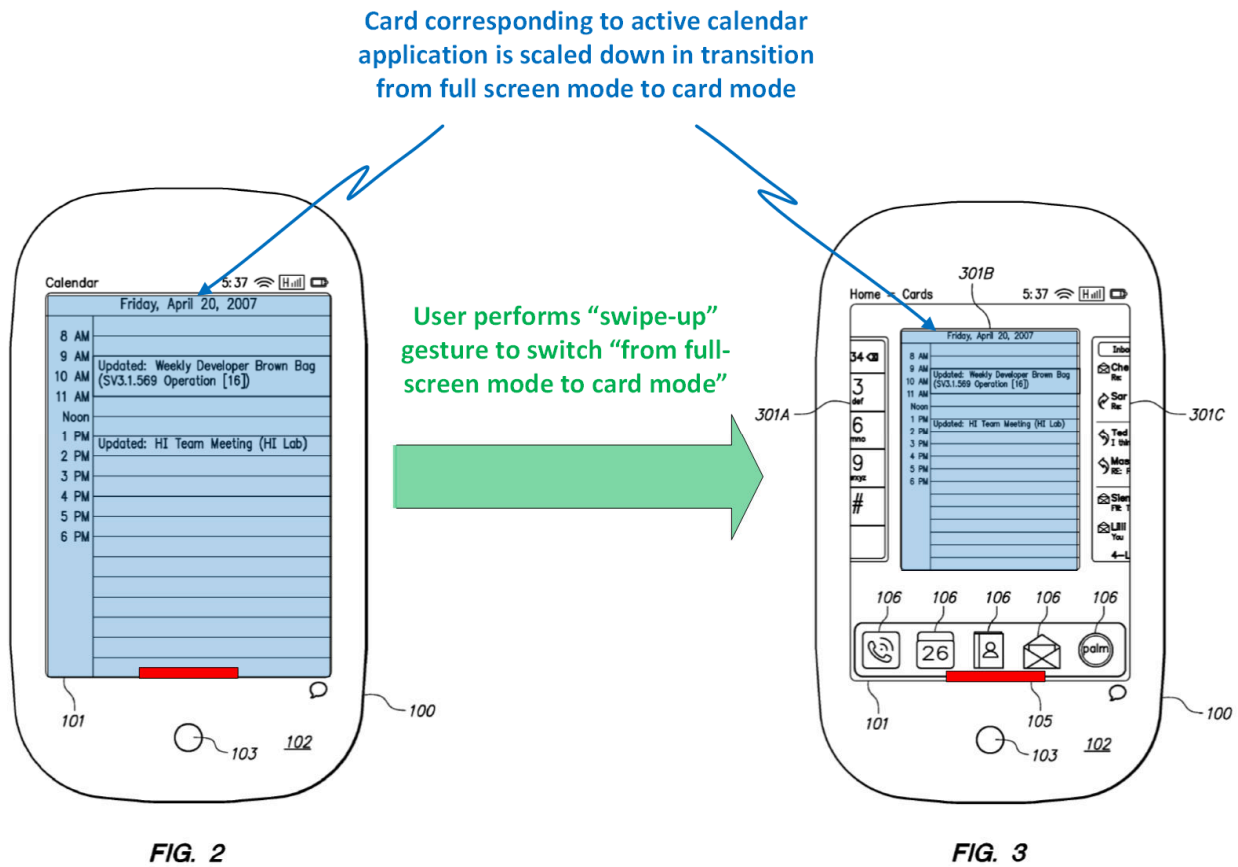
Based on these teachings, a POSITA would have found it obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have been *configured such that the home screen for choosing among the plurality of*

applications (e.g., Ahn’s standby screen 300 implemented to include the launcher functionality described by Shiplacoff) ***is displayed, by replacing the particular application interface*** (e.g., Shiplacoff’s full screen mode, where a user interacts with the active activity, such as the calendar application shown in FIG. 2) ***with the home screen.***

(g) **Claim 213**

The Ahn-Chaudhri-Shiplacoff combination renders obvious Claim [213]. *See* EX1003, [425]-[427].

As discussed at Element [208.g], the ***multitasking interface*** is Shiplacoff’s card mode. Shiplacoff teaches that, “[i]n card mode, one activity is visible within a card, and a portion of at least one other card is also visible.” EX1013, [0015]. As shown in FIG. 3, “[u]sually, card 301B having focus represents the same activity that was displayed in full-screen mode immediately before the switch to card mode.” EX1013, [0078]. By comparing FIGS 2 and 3, it is clear that card 301B in card mode is a scaled version of the card as it was displayed in full screen mode.



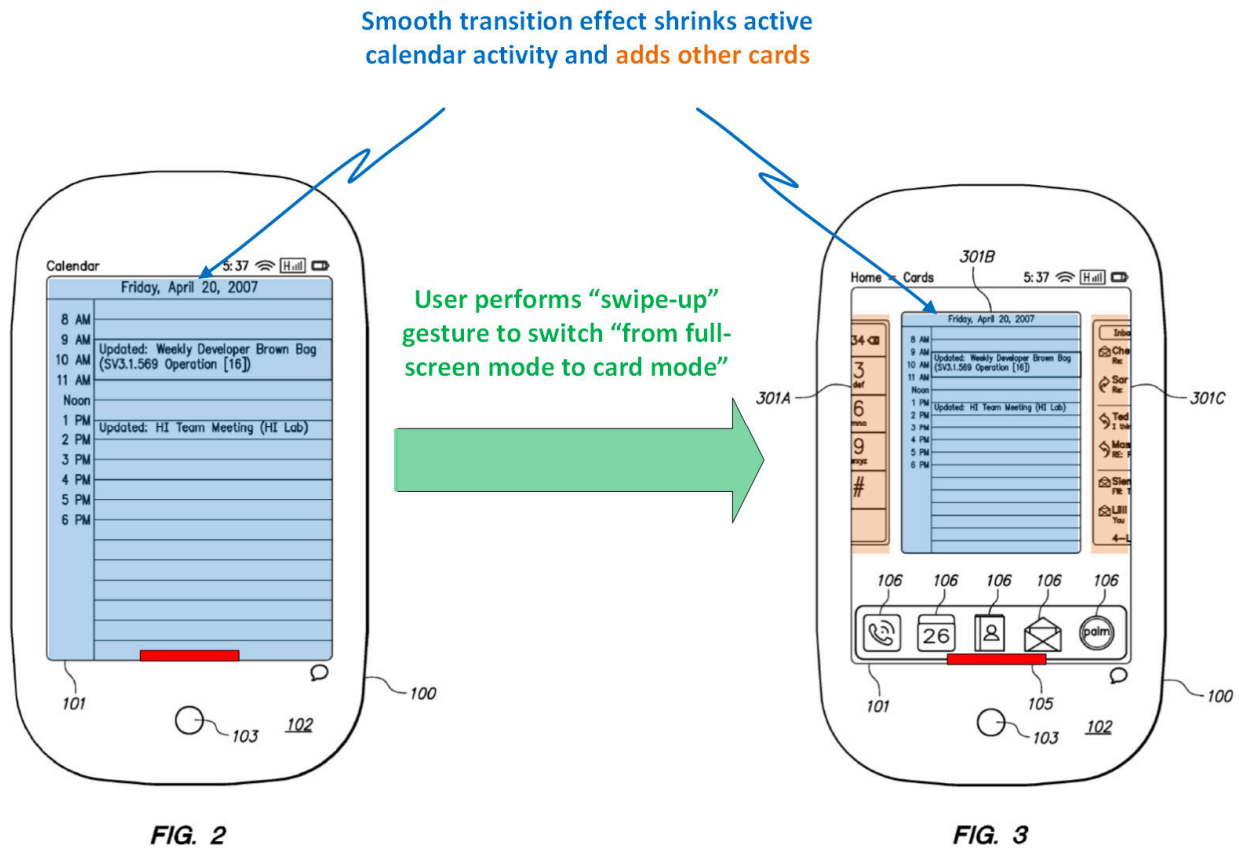
EX1013, FIGS 2 and 3 (modified)

Accordingly, a POSITA would have found it obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have been *configured such that at least a portion of the multitasking interface includes a scaled version of the particular application interface*, as in Claim 213.

(h) Claim 214

The Ahn-Chaudhri-Shiplacoff combination renders obvious Claim [214]. See EX1003, [428]-[413].

Shiplacoff teaches that “a transition effect is performed when switching from one mode to another.” EX1013, [0124]. One possible transition effect “enhance[s] the smoothness of the transition as cards 301 move and/or snap into place.” EX1013, [0094]. Based on these teachings, a POSITA would have found obvious that in transitioning from full screen mode to card mode, the active card (*e.g.*, the calendar activity shown in FIG. 2) is smoothly shrunk in size while the other cards shown in card mode (*e.g.*, cards 301A and 301C in FIG. 3) are smoothly added to the screen. In order to provide visual feedback to the user consistent with the teachings of Chaudhri-842, a POSITA would have at least found it obvious that these smooth transitions would be performed simultaneous with a user’s gestures in order to show the user the effects of their gesture and progress toward completion of the gesture. EX1005, [0080]-[0084].



EX1013, FIGS. 2 and 3 (modified)

As discussed at Element [208.h], a POSITA would have at least found it obvious that Shiplacoff's card mode would be displayed "on" the standby screen 300 in a translucent form, such that the area between the displayed cards would show a blurred standby screen 300. A POSITA would have further understood and found obvious that the menu window (*e.g.*, Shiplacoff's card mode) would be displayed in a "virtual display layer," as that term is broadly used in the '754 Patent, and that the virtual display layer containing the menu is displayed "on" one or more other virtual display layers that contain elements of the standby screen 300 (including, *e.g.*, the

background thumbnail and the clock widget). EX1004, FIGS. 3A, 4B, [0064], [0070].

Translucent window displayed
“on” standby screen such that
standby screen is blurred

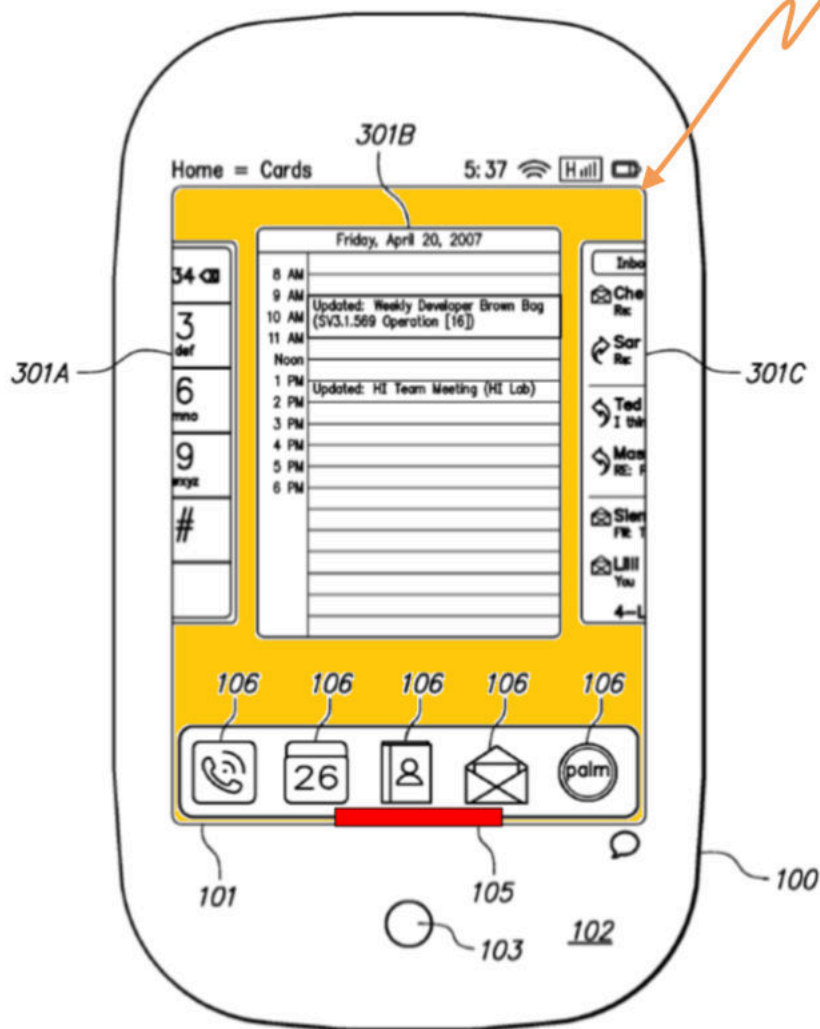


FIG. 3

EX1013, FIG. 1 (modified)

Because the smooth transition would occur simultaneous with the user's swipe up gesture, as discussed above, one or more other virtual display layers that contain elements of the standby screen 300 (including, *e.g.*, the background thumbnail and the clock widget) would have begun to be displayed through the translucent card mode window while the user is still providing the swipe-up gesture. Accordingly, in at least the above-discussed implementation, a POSITA would have found it obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have been *configured such that the at least one other object is displayed when the at least part of the gesture is detected on the touch screen*, as in Claim [214].

(i) **Claim 215**

The Ahn-Chaudhri-Shiplacoff combination renders obvious Claim [215]. *See* EX1003, [432]-[434].

Shiplacoff describes that the transition effect discussed at Claim 214, *supra*, is just one potential embodiment. EX1013, [0124]. In other embodiments, a POSITA would have found obvious that switching between Shiplacoff's modes is performed after the controller 50 detects completion of the swipe up gesture. EX1013, [0124], [0127]. In these alternative implementations, a POSITA would have at least found it obvious to provide visual feedback to the user consistent with the teachings of Chaudhri-842 through other mechanisms, such as through

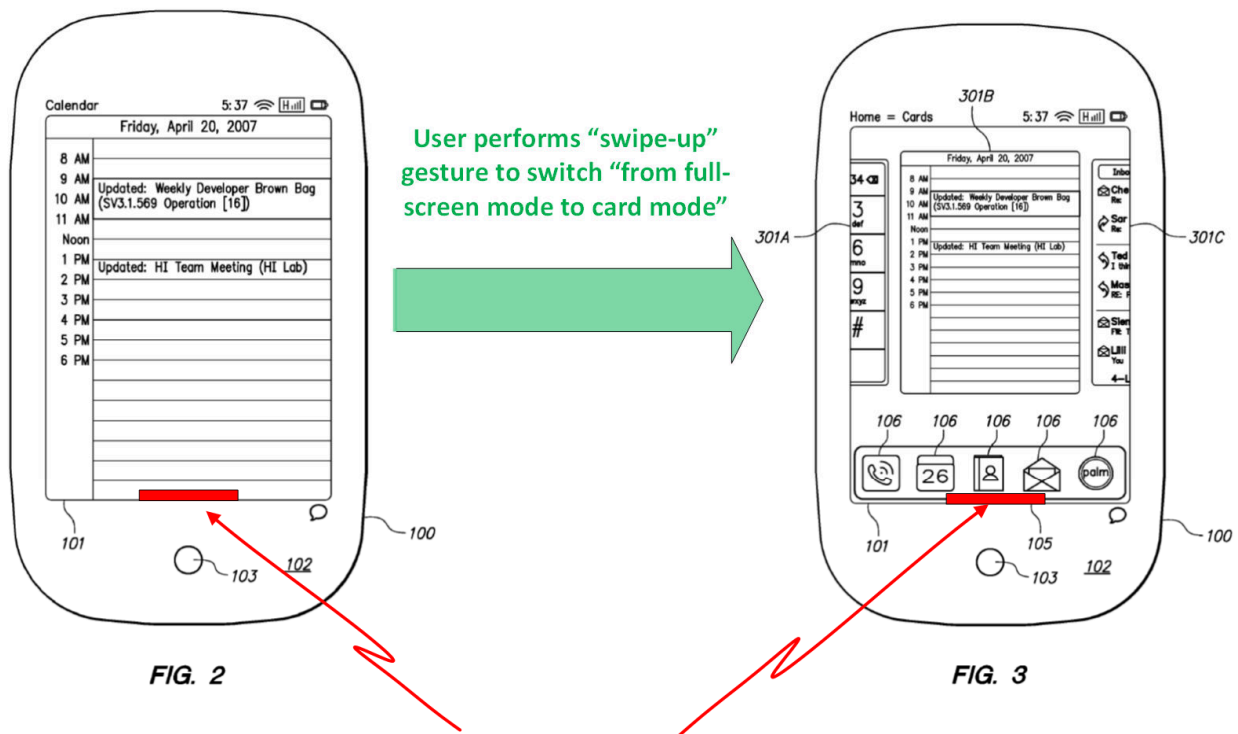
movement and/or fading of the graphic 1800, as disclosed in Ahn. EX1004, [0117]-[0119]; EX1005, [0080]-[0084].

Because in the above-discussed implementations the card mode would not be shown until after completion of the swipe up gesture, a POSITA would have found it obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have been *configured such that the at least one other object is not displayed when the at least part of the gesture is detected on the touch screen*, as in Claim [215].

(j) **Claim 216**

The Ahn-Chaudhri-Shiplacoff combination renders obvious Claim [216]. *See* EX1003, [435]-[438].

As discussed at Element [208.a], a POSITA would have at least found it obvious to include an icon, like graphic 1800, at the bottom edge of the display regardless of which Shiplacoff mode was currently being used, as it would notify the user in each of the modes that a “swipe up” gesture, like the one described in Shilacoff, would have always been available to switch between modes. EX1004, [0117]; EX1013, [0126]-[0128].



An icon like Ahn's graphic 1800 that notifies the user that the "swipe up" gesture is available to "switch[] from full-screen mode to card mode, or from card mode to a launcher screen," as taught by Shiplacoff

EX1004, FIGS. 2 and 3 (modified)

Ahn describes that "as the user drags the graphic shadow 1800, the menu list 1500 can be displayed along the dragged graphic 1800." EX1004, [0118]. In other words, Ahn describes that the graphic 1800 moves (*i.e.*, is "dragged") in response to and along with a user's touch and drag gesture on the touch screen. EX1004, [0118]. A POSITA would have found obvious that movement of the graphic 1800 would have provided a visual cue and feedback to the user that the touch and drag gesture is being detected by the controller 50 and will lead to the display of a menu. EX1004,

[0118]; *see also* EX1005, Abstract, [0054], [0062], [0073] (describing benefits of visual cues and feedback).

Based on these teachings, a POSITA would have found it obvious that the mobile device of the Ahn-Chaudhri-Shiplacoff combination would have been *configured such that the object is moved during the at least part of the gesture*, as in Claim [216].

VII. ANALYSIS ON DISCRETION

A. 35 U.S.C. §325(d)—*Advanced Bionics*

The *Advanced Bionics* framework strongly favors institution. Ahn was never cited in the hundreds of references disclosed by the Applicant and/or cited by the Examiner. Nor did the Applicant or Examiner discuss or consider the combination of Ahn and Chaudhri-842. Further, the record shows that the Challenged Claims were allowed based on a material error. As discussed throughout this Petition, Ahn and Chaudhri-842 teach and render obvious the very “blur” features that the Examiner erroneously thought were missing from the art. *See* §§III.B, VI.

B. 35 U.S.C. §314(a)—*Fintiv*

No *Fintiv* factor favors discretionary denial.

Factor 1 weighs against discretionary denial or is neutral. Apple intends to file a motion to stay the parallel litigation.

Factor 2 weighs against discretionary denial. According to the latest published district court statistics, the median time to trial in the Southern District of California (SDCal) is 40.2 months, predicting a trial in November 2027—significantly later than a Final Written Decision would be issued in this case. EX1020, 69; EX1021, 3, 8. Though a pre-trial conference of October 23, 2025 has been scheduled in the co-pending litigation, no trial date has been set, and it is uncertain whether the schedule will stick, particularly if Apple’s motion to stay is granted. EX1022, p. 6.

Factor 3 also weighs against discretionary denial because Petitioner diligently filed this Petition while the co-pending litigation is still in its early stages. Beyond serving preliminary infringement contentions, the parties and the District Court have yet to expend significant resources.

Factor 4 weighs against discretionary denial. As noted above, no trial date has been scheduled. Indeed, no stipulation has been offered given the lack of a trial date, and it otherwise remains too early to assess the suitability of a stipulation with invalidity contentions still not exchanged.

Factor 5: The parties in the parallel co-pending litigation are the same.

Factor 6 favors institution because the merits of this Petition are compelling.

VIII. PAYMENT OF FEES—37 C.F.R. §42.103

Petitioner authorizes the Patent and Trademark Office to charge any fees to Deposit Account No. 06-1050.

IX. MANDATORY NOTICES—37 C.F.R §42.8(a)(1)

A. Real Party-In-Interest—37 C.F.R. § 42.8(b)(1)

Apple Inc. is the petitioner and the real party-in-interest.

B. Related Matters—37 C.F.R. § 42.8(b)(2)

Petitioner is not aware of any disclaimers, reexamination certificates, or petitions for *inter partes* review for the '754 Patent. The '754 patent is the subject of a number of civil actions including: *Smith Interface Technologies, LLC v. Samsung Electronics Co., Ltd. et al.*, 2-22-cv-00290 (EDTX) (terminated), and *Smith Interface Technologies, LLC v. Apple Inc.*, 3-23-cv-01187 (SDCA) (pending).

C. Lead and Back-Up Counsel Under 37 C.F.R. § 42.8(b)(3)

Petitioner provides the following designation of counsel.

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D. Service Information

Please address all correspondence and service to the address listed above.

Petitioner consents to electronic service by email at IPR50095-0166IP7@fr.com.

Respectfully submitted,

Dated: June 28, 2024

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CERTIFICATION UNDER 37 CFR § 42.24

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petition for *Inter Partes* Review totals 13,463 words, which is less than the 14,000 allowed under 37 CFR § 42.24.

Dated: June 28, 2024

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(4)(i) *et seq.* and 42.105(b), the undersigned certifies that on June 28, 2024, a complete and entire copy of this Petition for *Inter Partes* Review and all supporting exhibits were provided via USPS Priority Express Mail, to the Patent Owner by serving the correspondence address of record as follows:

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