

Filed on behalf of:

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MASIMO CORPORATION
Petitioner,

v.

APPLE INC.
Patent Owner.

Case No. IPR2023-00664
U.S. Patent No. 11,106,352

**PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 11,106,352**

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EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 11,106,352 (“the ’352 patent”)
1002	File History of the ’352 patent
1003	Declaration of Craig Rosenberg, Ph.D.
1004	<i>Curriculum Vitae</i> of Craig Rosenberg, Ph.D.
1005	U.S. Patent Appl. Publication No. US 2012/0129495 A1 (“Chae”)
1006	U.S. Patent Appl. Publication No. US 2013/0305351 A1 (“Narendra”)
1007	<i>Android 4.2 lock screen widgets</i> (MP4 copy of November 12, 2012 YouTube video) (“Android”)
1008	U.S. Patent Appl. Publication No. US 2014/0189577 A1 (“Shuttleworth”)
1009	U.S. Patent Appl. Publication No. US 2013/0227418 A1 (“de Sa”)
1010	U.S. Patent Appl. Publication No. US 2015/0095819 A1 (“Hong”)
1011	U.S. Patent Appl. Publication No. US 2015/0346976 A1 (“Karunamuni”)
1012	Excerpts from <i>The Design of Everyday Things</i> , Norman, Donald A., Doubleday, 1988 (“Norman”)
1013	“Do Interface Standards Stifle Design Creativity,” archive copy of “ http://www.useit.com/alertbox/990822.html ” from August 22, 1999, Nielsen, Jakob (“Nielsen 1”)
1014	“Enhancing the Explanatory Power of Usability Heuristics,” <i>Human Factors in Computing Systems</i> , 1994, Nielsen, Jakob, (“Nielsen 2”)

Exhibit No.	Description
1015	“Could I have the Menu Please? An Eye Tracking Study of Design Conventions,” <i>People and Computers XVII – Designing for Society</i> , 2004, pp. 401-414, McCarthy, John D. <i>et al</i> , (“McCarthy”)
1016	“The effects of link format and screen location on visual search of web pages,” <i>Ergonomics</i> , Vol. 47, No. 8, June 22, 2004, pp. 907-921, Ling, Jonathan and van Schaik, Paul (“Ling”)
1017	“The effect of violating visual conventions of a website on user performance and disorientation. How bad can it be?,” <i>SIGDOC’08</i> , September 22-24, 2008, Santa-Maria, Luis and Dyson, Mary C. (“Santa-Maria”)
1018	U.S. Patent No. 10,466,889
1019	U.S. Patent No. 8,311,514 (“Bandyopadhyay”)
1020	Reserved
1021	Declaration of Sylvia D. Hall-Ellis, Ph.D.
1022	<i>Curriculum Vitae</i> of Sylvia D. Hall-Ellis, Ph.D.
1023-1030	Reserved
1031	Declaration of Kate Talbot
1032	Résumé of Kate Talbot
1033	U.S. District Court – Judicial Caseload Profile – Delaware
1034-1040	Reserved
1041	Declaration of Nathaniel E. Frank-White

GROUND LISTING

Ground No.	Ground Description
1	Claims 1, 2, 6, 9, 10, 14, 17, 18, and 22 would have been obvious in view of Chae alone or in view of Chae and Narendra.
2	Claims 3-5, 11-13, and 19-22 would have been obvious in view of Chae, Narendra, and Shuttleworth.
3	Claims 7, 8, 15, 16, 23, and 24 would have been obvious in view of Chae, Narendra, and Karunamuni.
4	Claims 1, 2, 6, 9, 10, 14, 17, 18, and 22 would have been obvious in view of Chae and Narendra and in further view of Hong and/or Android.
5	Claims 3-5, 11-13, and 19-22 would have been obvious in view of Chae, Narendra, and Shuttleworth and in further view of Hong and/or Android.
6	Claims 7, 8, 15, 16, 23, and 24 would have been obvious in view of Chae, Narendra, and Karunamuni and in further view of Hong and/or Android.

CLAIM LISTING

Limitation	Claim Language
1a	A method, comprising:
1b	at computer system that is in communication with a display generation component and one or more input devices:
1c	while the computer system is in a power saving state, detecting an input that meets display-waking criteria;
1d	in response to detecting the input that meets the display-waking criteria, displaying, via the display generation component, a wake screen user interface;
1e	while displaying the wake screen user interface, detecting a first input that is directed to a portion of the wake screen user interface and includes first movement; and
1f	in response to detecting the first input that is directed to the portion of the wake screen user interface: in accordance with a determination that the first input meets first criteria, wherein the first criteria require the first movement to be in a first direction in order for the first criteria to be met: displaying of a home screen user interface that is different from the wake screen user interface, wherein the home screen user interface includes a plurality of application icons corresponding to different applications, and wherein a respective application icon of the plurality of application icons, when selected, causes display of an application corresponding to the respective application icon; and

Limitation	Claim Language
1g	in accordance with a determination that the first input meets second criteria different from the first criteria, wherein the second criteria require the first movement to be in a second direction that is different from the first direction in order for the second criteria to be met: displaying a widget screen user interface that is different from the wake screen user interface and the home screen user interface, wherein the widget screen user interface includes a plurality of user interface objects corresponding to different applications, wherein a respective user interface object of the plurality of user interface objects contains application content from an application corresponding to the respective user interface object, and when selected, causes display of an application corresponding to the respective user interface object.
2	The method of claim 1, wherein the wake screen user interface is a user interface that has a first state that corresponds to an authenticated state of the computer system and a second state that corresponds to an unauthenticated state of the computer system.
3	The method of claim 1, including: while displaying the widget screen user interface, detecting a second input that is directed to a portion of the widget screen user interface and includes second movement; and in response to detecting the second input that is directed to the portion of the widget screen user interface: in accordance with a determination that the second input meets third criteria, wherein the third criteria require the second movement to be in the first direction in order for the second criteria to be met, displaying the home screen user interface.

Limitation	Claim Language
4	The method of claim 3, including: while the home screen user interface is displayed in response to detection of the second input, detecting a third input that is directed to a portion of the home screen user interface and includes third movement; and in response to detecting the third input that is directed to the portion of the home screen user interface: in accordance with a determination that the third input meets fourth criteria, wherein the fourth criteria require the third movement to be in a third direction that is different from the first direction and the second direction in order for the fourth criteria to be met, redisplaying the widget screen user interface.
5	The method of claim 3, including: while the home screen user interface is displayed in response to detection of the second input, detecting a fourth input that is directed to a portion of the home screen user interface and includes fourth movement; and in response to detecting the fourth input that is directed to the portion of the home screen user interface: in accordance with a determination that the fourth input meets fifth criteria, wherein the fifth criteria require the fourth movement to be in a third direction that is different from the first direction and the second direction in order for the fifth criteria to be met, redisplaying the wake screen user interface.

Limitation	Claim Language
6	The method of claim 1, including: while the home screen user interface is displayed in response to detection of the first input, detecting a fifth input that is directed to a portion of the home screen user interface and includes fifth movement; and in response to detecting the fifth input that is directed to the portion of the home screen user interface: in accordance with a determination that the fifth input meets sixth criteria, wherein the sixth criteria require the fifth movement to be in a fourth direction that is different from the first direction and the second direction in order for the sixth criteria to be met, redisplaying the wake screen user interface.
7	The method of claim 1, including: in response to detecting the first input that is directed to the portion of the wake screen user interface: in accordance with a determination that the first input meets seventh criteria, wherein the seventh criteria require the first movement to be in a fifth direction that is different from the first direction and the second direction in order for the seventh criteria to be met: displaying of a control panel user interface that is different from the wake screen user interface and the widget screen user interface, wherein the control panel user interface includes a plurality of controls for controlling one or more device functions of the computer system.

Limitation	Claim Language
8	The method of claim 7, including: while the control panel user interface is displayed in response to detection of the first input, detecting a sixth input that is directed to a portion of the control panel user interface and includes sixth movement; and in response to detecting the sixth input that is directed to the portion of the control panel user interface: in accordance with a determination that the sixth input meets eighth criteria, wherein the eighth criteria require the sixth movement to be in a sixth direction (e.g., rightward swipe) that is opposite the fifth direction in order for the eighth criteria to be met, redisplaying the wake screen user interface.
9a	A computer system, comprising:
9b1	one or more processors that are in communication with a display generation component and one or more input devices; and
9b2	memory storing instructions, the instructions, when executed by the one or more processors, cause the processors to perform operations comprising:
9c	while the computer system is in a power saving state, detecting an input that meets display-waking criteria;
9d	in response to detecting the input that meets the display-waking criteria, displaying, via the display generation component, a wake screen user interface;
9e	while displaying the wake screen user interface, detecting a first input that is directed to a portion of the wake screen user interface and includes first movement; and

Limitation	Claim Language
9f	in response to detecting the first input that is directed to the portion of the wake screen user interface: in accordance with a determination that the first input meets first criteria, wherein the first criteria require the first movement to be in a first direction in order for the first criteria to be met: displaying of a home screen user interface that is different from the wake screen user interface, wherein the home screen user interface includes a plurality of application icons corresponding to different applications, and wherein a respective application icon of the plurality of application icons, when selected, causes display of an application corresponding to the respective application icon; and
9g	in accordance with a determination that the first input meets second criteria different from the first criteria, wherein the second criteria require the first movement to be in a second direction that is different from the first direction in order for the second criteria to be met: displaying a widget screen user interface that is different from the wake screen user interface and the home screen user interface, wherein the widget screen user interface includes a plurality of user interface objects corresponding to different applications, wherein a respective user interface object of the plurality of user interface objects contains application content from an application corresponding to the respective user interface object, and when selected, causes display of an application corresponding to the respective user interface object.
10	The computer system of claim 9, wherein the wake screen user interface is a user interface that has a first state that corresponds to an authenticated state of the computer system and a second state that corresponds to an unauthenticated state of the computer system.

Limitation	Claim Language
11	The computer system of claim 9, wherein the operations include: while displaying the widget screen user interface, detecting a second input that is directed to a portion of the widget screen user interface and includes second movement; and in response to detecting the second input that is directed to the portion of the widget screen user interface: in accordance with a determination that the second input meets third criteria, wherein the third criteria require the second movement to be in the first direction in order for the second criteria to be met, displaying the home screen user interface.
12	The computer system of claim 11, wherein the operations include: while the home screen user interface is displayed in response to detection of the second input, detecting a third input that is directed to a portion of the home screen user interface and includes third movement; and in response to detecting the third input that is directed to the portion of the home screen user interface: in accordance with a determination that the third input meets fourth criteria, wherein the fourth criteria require the third movement to be in a third direction that is different from the first direction and the second direction in order for the fourth criteria to be met, redisplaying the widget screen user interface.

Limitation	Claim Language
13	The computer system of claim 11, wherein the operations include: while the home screen user interface is displayed in response to detection of the second input, detecting a fourth input that is directed to a portion of the home screen user interface and includes fourth movement; and in response to detecting the fourth input that is directed to the portion of the home screen user interface: in accordance with a determination that the fourth input meets fifth criteria, wherein the fifth criteria require the fourth movement to be in a third direction that is different from the first direction and the second direction in order for the fifth criteria to be met, redisplaying the wake screen user interface.
14	The computer system of claim 9, wherein the operations include: while the home screen user interface is displayed in response to detection of the first input, detecting a fifth input that is directed to a portion of the home screen user interface and includes fifth movement; and in response to detecting the fifth input that is directed to the portion of the home screen user interface: in accordance with a determination that the fifth input meets sixth criteria, wherein the sixth criteria require the fifth movement to be in a fourth direction that is different from the first direction and the second direction in order for the sixth criteria to be met, redisplaying the wake screen user interface.

Limitation	Claim Language
15	The computer system of claim 9, wherein the operations include: in response to detecting the first input that is directed to the portion of the wake screen user interface: in accordance with a determination that the first input meets seventh criteria, wherein the seventh criteria require the first movement to be in a fifth direction that is different from the first direction and the second direction in order for the seventh criteria to be met: displaying of a control panel user interface that is different from the wake screen user interface and the widget screen user interface, wherein the control panel user interface includes a plurality of controls for controlling one or more device functions of the computer system.
16	The computer system of claim 15, wherein the operations include while the control panel user interface is displayed in response to detection of the first input, detecting a sixth input that is directed to a portion of the control panel user interface and includes sixth movement; and in response to detecting the sixth input that is directed to the portion of the control panel user interface: in accordance with a determination that the sixth input meets eighth criteria, wherein the eighth criteria require the sixth movement to be in a sixth direction (e.g., rightward swipe) that is opposite the fifth direction in order for the eighth criteria to be met, redisplaying the wake screen user interface.
17a	A computer-readable storage medium comprising

Limitation	Claim Language
17b	instructions, the instructions when executed by one or more processors of a computer system that is in communication with a display generation component and one or more input devices, cause the processors to perform operations comprising:
17c	while the computer system is in a power saving state, detecting an input that meets display-waking criteria;
17d	in response to detecting the input that meets the display-waking criteria, displaying, via the display generation component, a wake screen user interface;
17e	while displaying the wake screen user interface, detecting a first input that is directed to a portion of the wake screen user interface and includes first movement; and
17f	in response to detecting the first input that is directed to the portion of the wake screen user interface: in accordance with a determination that the first input meets first criteria, wherein the first criteria require the first movement to be in a first direction in order for the first criteria to be met: displaying of a home screen user interface that is different from the wake screen user interface, wherein the home screen user interface includes a plurality of application icons corresponding to different applications, and wherein a respective application icon of the plurality of application icons, when selected, causes display of an application corresponding to the respective application icon; and

Limitation	Claim Language
17g	in accordance with a determination that the first input meets second criteria different from the first criteria, wherein the second criteria require the first movement to be in a second direction that is different from the first direction in order for the second criteria to be met: displaying a widget screen user interface that is different from the wake screen user interface and the home screen user interface, wherein the widget screen user interface includes a plurality of user interface objects corresponding to different applications, wherein a respective user interface object of the plurality of user interface objects contains application content from an application corresponding to the respective user interface object, and when selected, causes display of an application corresponding to the respective user interface object.
18	The computer-readable storage medium of claim 17, wherein the wake screen user interface is a user interface that has a first state that corresponds to an authenticated state of the computer system and a second state that corresponds to an unauthenticated state of the computer system.
19	The computer-readable storage medium of claim 17, wherein the operations include: while displaying the widget screen user interface, detecting a second input that is directed to a portion of the widget screen user interface and includes second movement; and in response to detecting the second input that is directed to the portion of the widget screen user interface: in accordance with a determination that the second input meets third criteria, wherein the third criteria require the second movement to be in the first direction in order for the second criteria to be met, displaying the home screen user interface.

Limitation	Claim Language
20	The computer-readable storage medium of claim 19, wherein the operations include: while the home screen user interface is displayed in response to detection of the second input, detecting a third input that is directed to a portion of the home screen user interface and includes third movement; and in response to detecting the third input that is directed to the portion of the home screen user interface: in accordance with a determination that the third input meets fourth criteria, wherein the fourth criteria require the third movement to be in a third direction that is different from the first direction and the second direction in order for the fourth criteria to be met, redisplaying the widget screen user interface.
21	The computer-readable storage medium of claim 19, wherein the operations include: while the home screen user interface is displayed in response to detection of the second input, detecting a fourth input that is directed to a portion of the home screen user interface and includes fourth movement; and in response to detecting the fourth input that is directed to the portion of the home screen user interface: in accordance with a determination that the fourth input meets fifth criteria, wherein the fifth criteria require the fourth movement to be in a third direction that is different from the first direction and the second direction in order for the fifth criteria to be met, redisplaying the wake screen user interface.

Limitation	Claim Language
22	The computer-readable storage medium of claim 17, wherein the operations include: while the home screen user interface is displayed in response to detection of the first input, detecting a fifth input that is directed to a portion of the home screen user interface and includes fifth movement; and in response to detecting the fifth input that is directed to the portion of the home screen user interface: in accordance with a determination that the fifth input meets sixth criteria, wherein the sixth criteria require the fifth movement to be in a fourth direction that is different from the first direction and the second direction in order for the sixth criteria to be met, redisplaying the wake screen user interface.
23	The computer-readable storage medium of claim 17, wherein the operations include: in response to detecting the first input that is directed to the portion of the wake screen user interface: in accordance with a determination that the first input meets seventh criteria, wherein the seventh criteria require the first movement to be in a fifth direction that is different from the first direction and the second direction in order for the seventh criteria to be met: displaying of a control panel user interface that is different from the wake screen user interface and the widget screen user interface, wherein the control panel user interface includes a plurality of controls for controlling one or more device functions of the computer system.

Limitation	Claim Language
24	The computer-readable storage medium of claim 23, wherein the operations include while the control panel user interface is displayed in response to detection of the first input, detecting a sixth input that is directed to a portion of the control panel user interface and includes sixth movement; and in response to detecting the sixth input that is directed to the portion of the control panel user interface: in accordance with a determination that the sixth input meets eighth criteria, wherein the eighth criteria require the sixth movement to be in a sixth direction (e.g., rightward swipe) that is opposite the fifth direction in order for the eighth criteria to be met, redisplaying the wake screen user interface.

Masimo Corporation (“Petitioner”) requests *inter partes* review of claims 1-24 of U.S. Patent No. 11,106,352 (“the ’352 patent”).

I. MANDATORY NOTICES; FEES; STANDING

A. Mandatory Notices

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

Masimo Corporation is the real party-in-interest.

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

Apple has asserted the ’352 patent against Petitioner in *Apple Inc. v. Masimo Corporation and Sound United, LLC*, U.S. District Court for the District of Delaware, Case No. 1:22-cv-01378-MN (“the Delaware Litigation”).

3. Lead and Backup Counsel (37 C.F.R. § 42.8(b)(3))

Petitioner provides the following designation of counsel:

Lead Counsel	Back-up Counsel
Ted M. Cannon (Reg. No. 55,036) Knobbe, Martens, Olson & Bear, LLP 2tmc@knobbe.com <u>Postal and Hand-Delivery Address:</u> Knobbe, Martens, Olson & Bear, LLP 2040 Main St., 14th Fl. Irvine, CA 92614 Telephone: (949) 760-0404 Facsimile: (949) 760-9502	Jarom D. Kesler (Reg. No. 57,056) Knobbe, Martens, Olson & Bear, LLP 2jzk@knobbe.com <u>Postal and Hand-Delivery Address:</u> Knobbe, Martens, Olson & Bear, LLP 2040 Main St., 14th Fl. Irvine, CA 92614 Telephone: (949) 760-0404 Facsimile: (949) 760-9502 Philip M. Nelson (Reg. No. 62,676) Knobbe, Martens, Olson & Bear, LLP 2pmn@knobbe.com <u>Postal and Hand-Delivery Address:</u> Knobbe, Martens, Olson & Bear, LLP 2040 Main St., 14th Fl. Irvine, CA 92614 Telephone: (949) 760-0404 Facsimile: (949) 760-9502

Pursuant to 37 C.F.R. § 42.10(b), a Power of Attorney accompanies this petition. The above-identified lead and backup counsel are registered practitioners associated with Customer No. 64,735 listed in that Power of Attorney.

4. Service Information (37 C.F.R. § 42.8(b)(4))

Service information above. Petitioner consents to electronic service by email to MasimoIPR-352@knobbe.com.

B. Payment of Fees

The fee set forth in 37 C.F.R. § 42.15(a) has been paid. The undersigned further authorizes payment for any additional fees that may be due in connection with this petition to be charged to Deposit Account 11-1410.

C. Grounds for Standing

Petitioner certifies that the '352 patent is available for IPR and that Petitioner is not barred or estopped from requesting IPR.

II. BACKGROUND

A. Overview of the '352 Patent

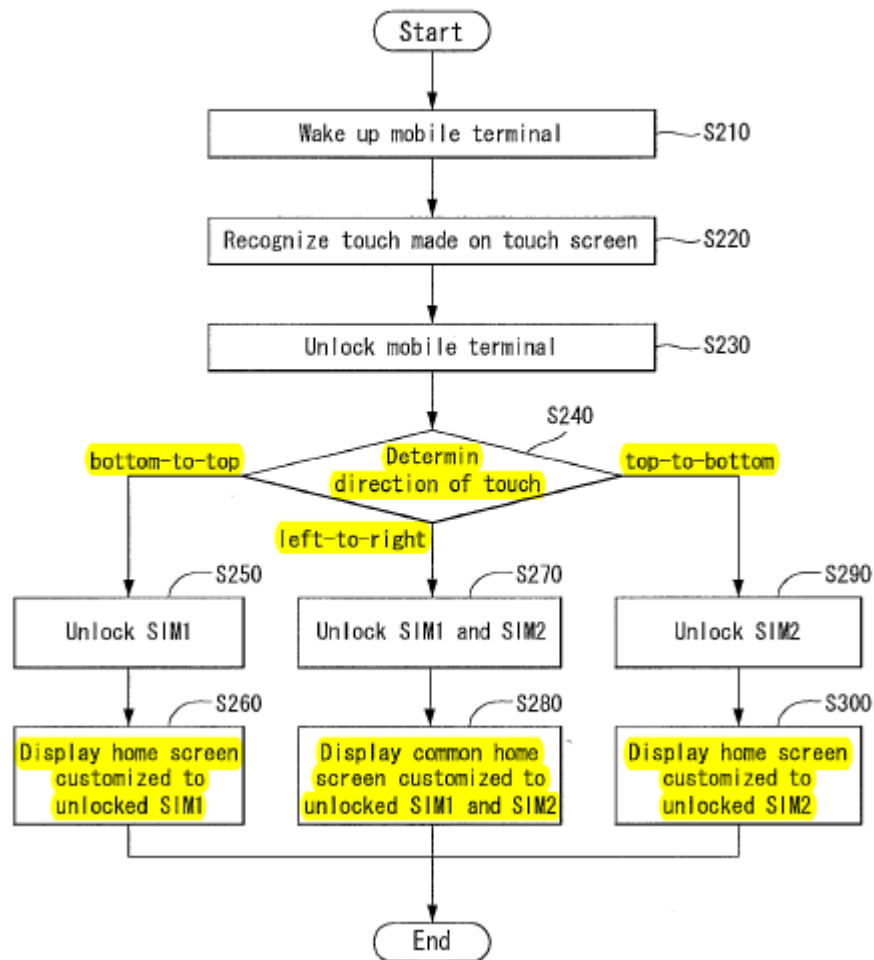
1. Technological Background

The inventor of the '352 patent asserts he invented the familiar method of navigating between user-interface screens of a smartphone by swiping left, right, or some other direction. The prior art belies this assertion, disclosing directional swipe gestures for navigating among user-interface screens years before the '352 patent. The references summarized below disclose every claim limitation.

a. Chae

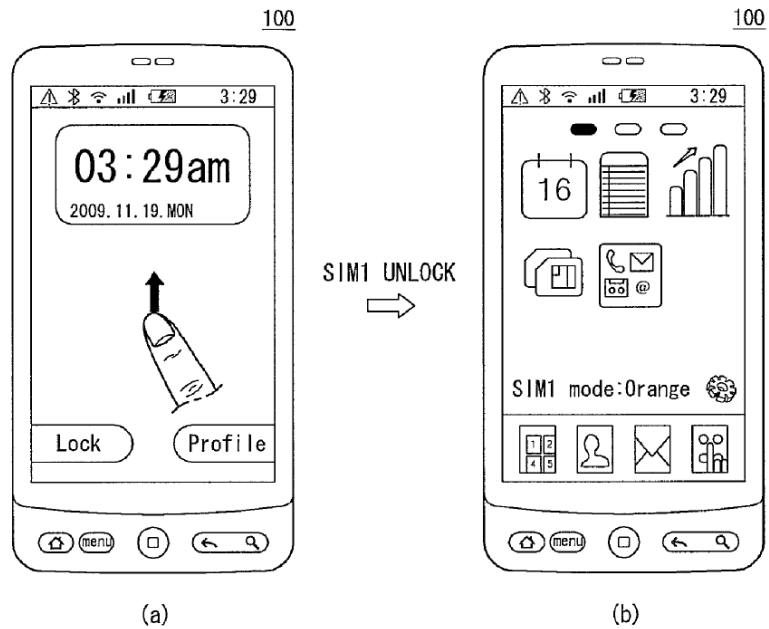
U.S. Patent Application Publication No. US 2012/0129495 A1 (Exhibit 1005 or “Chae”), filed by LG Electronics in 2011 and published in 2012, discloses a dual-SIM smartphone that uses directional swipe gestures to navigate between different user-interface screens:

FIG. 3



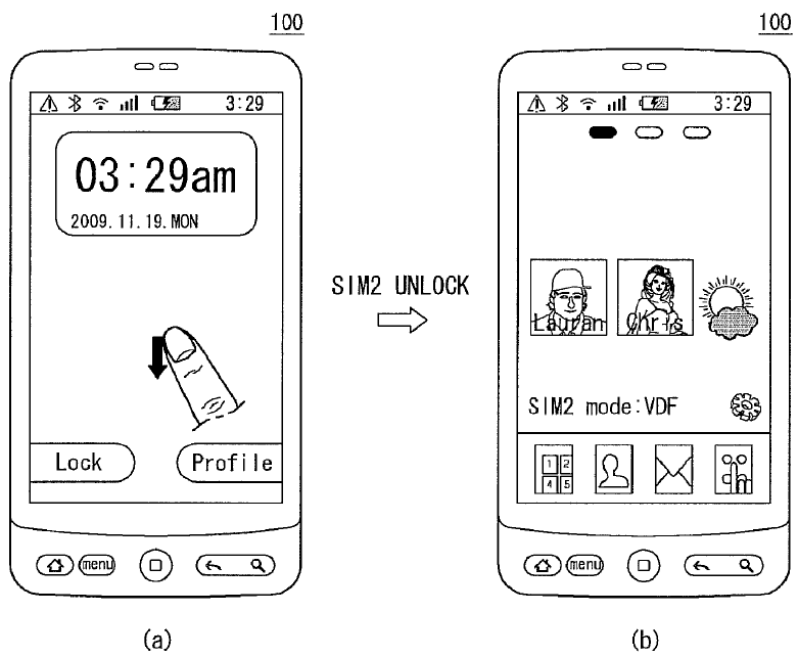
EX1005, Fig. 3. Chae further discloses that the user-interface screens include multiple application “icons and widgets.” *Id.* ¶100. For example, Chae’s Figure 4 illustrates a user swiping in a bottom-to-top direction to display a screen including multiple application icons:

FIG. 4



Id., Fig. 4. And Chae's Figure 6 illustrates a user swiping in a top-to-bottom direction to display a screen including multiple widgets:

FIG. 6



Id., Fig. 6; EX1003 ¶56.¹

b. Narendra

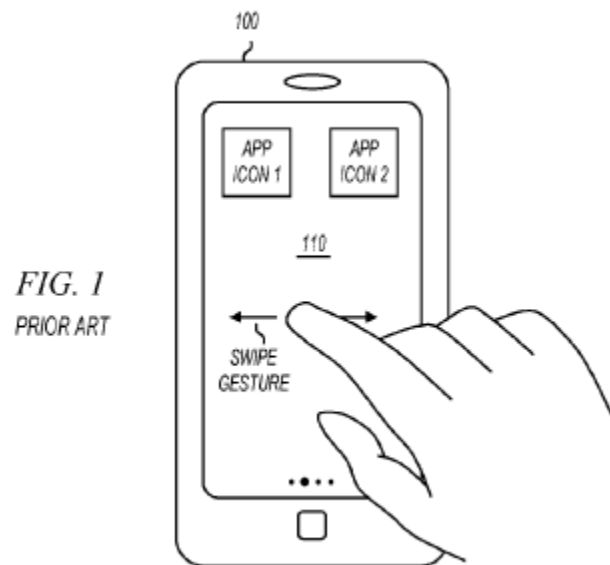
U.S. Patent Application Publication No. US 2013/0305351 A1 (Exhibit 1006 or “Narendra”), filed in 2012 and published in 2013, discloses the use of directional swipe gestures to navigate among multiple user-interface screens of a single-SIM smartphone. Narendra shows that Chae’s dual-SIM structure is not necessary to enable Chae’s navigation among multiple screens using directional swipe gestures. A POSITA would have understood that Chae’s technique of using directional swipe gestures to navigate among multiple screens would work just as well, and would have been just as easy to implement, in a smartphone having a single SIM as in a dual-SIM smartphone. Narendra specifically discloses a single SIM smartphone with “a touch sensitive display that accepts gestures used to navigate between the desktop screens.” EX1006, Abstract. Narendra further discloses that it was well known in the art to use directional swipe gestures to navigate between smartphone screens:

Some prior art mobile devices include multiple desktop screens that can be navigated using gestures on the touch sensitive display. FIG. 1

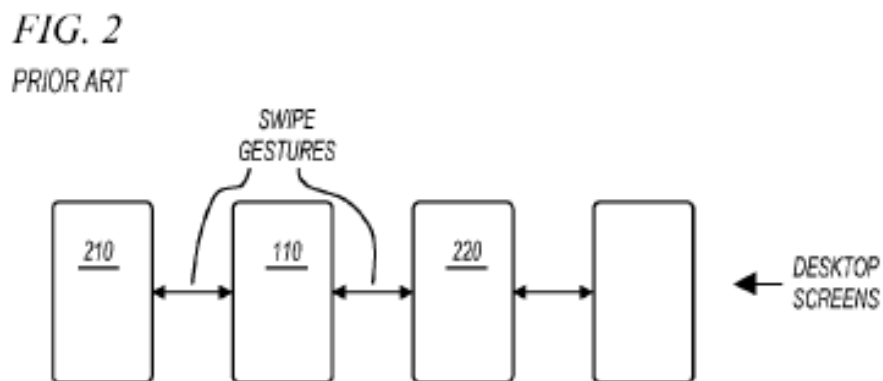
¹ Exhibit 1003 is the expert declaration of Dr. Craig Rosenberg. In general, herein, a single citation to Rosenberg’s declaration is provided at the end of each paragraph supported by Rosenberg’s testimony.

shows one such prior art mobile device 100 displaying one desktop screen 110 with two application icons. A user provides a left-to-right or right-to-left swipe gesture across the touch sensitive display to navigate from one desktop screen to the next.

Id. ¶2. Narendra's Figure 1 illustrates a user making a directional swipe gesture to navigate from one screen to another.



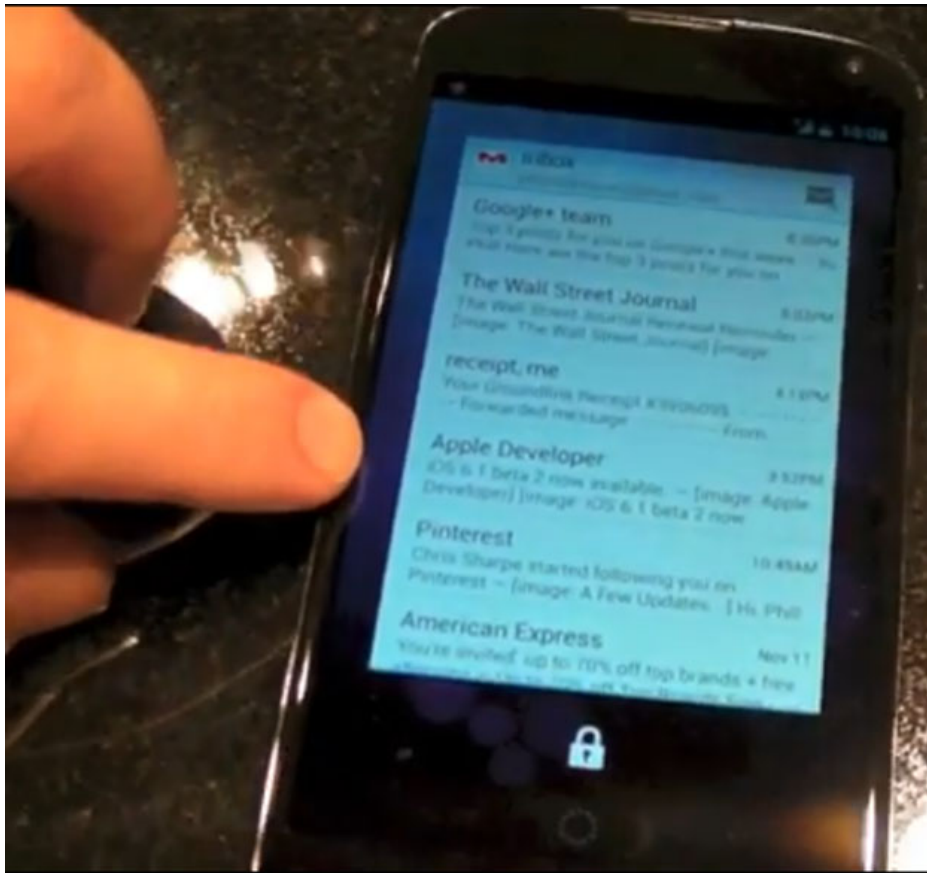
Id., Fig. 1. And Narendra's Figure 2 shows navigational paths between multiple screens that a user can navigate between using directional swipe gestures:



EX1003 ¶57.

c. Android

The video *Android 4.2 lock screen widgets* (Exhibit 1007 or “Android”) is a YouTube² video showing several instances of a typical smartphone entering, and waking up from, a power-saving state. The video also illustrates widgets accessible from the wake screen (also called a lock screen) by using a directional swipe gesture. For example, the still screenshot below shows an electronic mail widget.



EX1007 at 2:06. EX1003 ¶58.

² Accessible at https://www.youtube.com/watch?v=ZpN8Wyu_z6Y. Exhibit 1007 is a true and correct copy of the video in MP4 format.

d. Shuttleworth

U.S. Patent Application Publication No. US 2014/0189577 A1 (Exhibit 1008 or “Shuttleworth”) discloses replacing traditional physical or virtual home buttons with a dedicated directional swipe gesture for accessing the home screen from any other screen. EX1008 ¶358. EX1003 ¶59.

e. Hong

U.S. Patent Application Publication No. US 2015/0095819 A1 (Exhibit 1010 or “Hong”), filed by Samsung Electronics in 2014 and published in 2015, shows that a POSITA would have understood that a “widget” is a user interface object that displays content generated by an associated application without needing to (but being able to) open the application. Specifically, Hong’s background section states:

Recently, application widgets have been provided that enable a user to access contents provided in an application without executing the application, such as a clock, a calendar, a memo, search, a map, news, a real-time camera, and the like.

EX1010 ¶4; Hong Figure 7A depicts several such widgets on a screen:

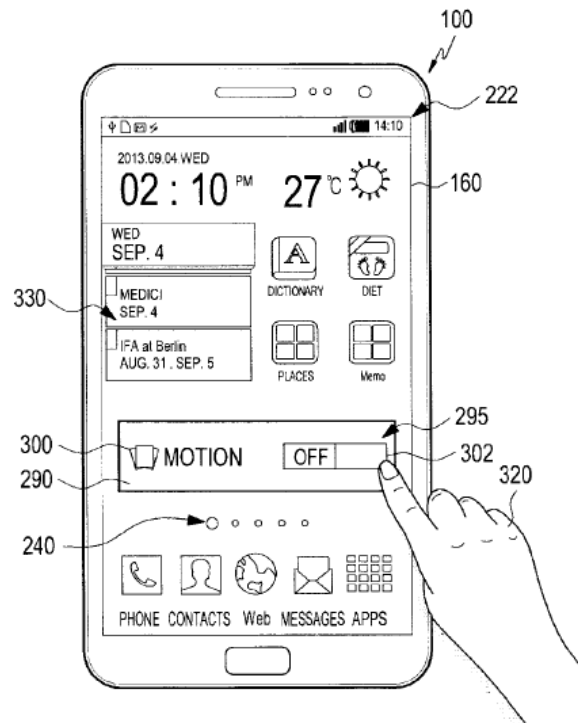


FIG. 7A

EX1010, Fig. 7A. EX1003 ¶60.

f. Karunamuni

U.S. Patent Application Publication No. US 2015/0346976 A1 (Exhibit 1011 or “Karunamuni”), filed by Apple in 2015 and published in 2015, discloses a smartphone control center accessible using a directional swipe gesture:

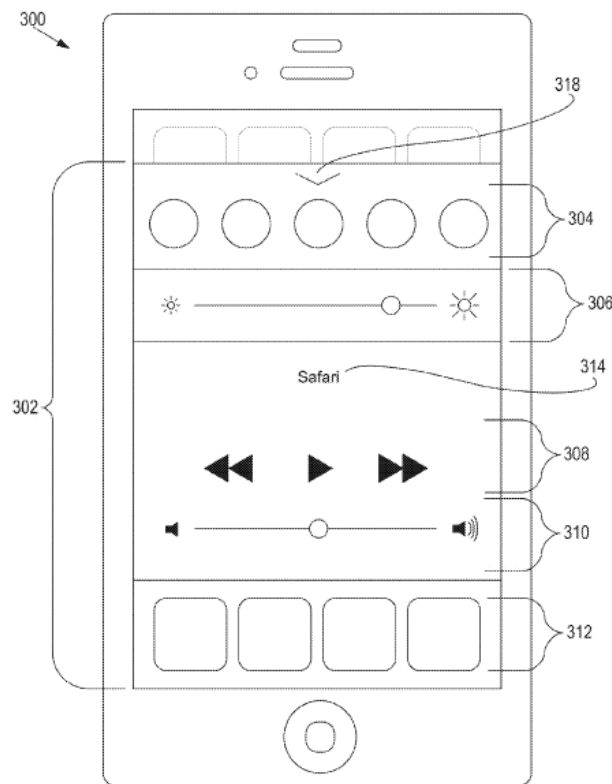


FIG. 3

EX1011, Fig. 3. Karunamuni further describes the controls:

As shown, slider 306 is operable to change the brightness of the display of the mobile device. Slider 310 is operable to change the volume of the sound output of the mobile device.

Id. ¶17. The disclosed control center is a “control panel user interface” as claimed in some of the dependent claims of the ’352 patent. EX1003 ¶61.

2. Technical Field and Level of Ordinary Skill in the Art

The ’352 patent relates to a touchscreen user interface that uses gestures to navigate between different screens on a smartphone or similar electronic device. The ’352 patent states its technical field “relates generally to electronic devices with

touch-sensitive surfaces, including but not limited to electronic devices with touch-sensitive surfaces that include user interfaces for ***displaying notifications***.” EX1001 at 1:16-19 (emphasis added). The claims, however, are not directed specifically to user interfaces for ***displaying notifications***, but instead relate to user interfaces for ***navigating*** among different user-interface screens of touchscreen devices. *See, e.g., id.*, claims 1-24. Accordingly, based on the claims, the art of the invention is user interfaces for navigating among different user-interface screens of touchscreen devices. EX1003 ¶33.

A POSITA of the ’352 patent would have had at least a bachelor’s degree in a discipline related to human-computer interaction, such as Human Factors, Computer Science, Computer Engineering, or an equivalent discipline, and at least two years of experience working with touchscreen user interfaces. More education could substitute for less work experience, and vice-versa. EX1003 ¶34.

3. Apple first sought to patent efficient handling of notifications.

It is apparent from the Background and Summary sections of the ’352 patent that Apple initially pursued an invention different than that claimed in the ’352 patent. Specifically, the patent asserts that “user interfaces for accessing notifications, and methods of navigating to and from such interfaces, are cumbersome and inefficient” and may be “confusing” and “take longer than necessary, thereby wasting energy.” EX1001 at 1:44-51. Thus, the ’352 patent

further asserts “there is a need for electronic devices with faster, more efficient methods and interfaces for accessing notifications” that have “a more efficient human-machine interface.” *Id.* at 1:55-63. The ’352 patent’s parent expressly claimed user-interface elements related to notifications. EX1018 (independent claims 1, 16, and 17).

4. Apple later pursued the ’352 patent claims, more broadly relating to navigating between user-interface screens using swipe gestures.

The claims of the ’352 patent do not mention notifications but relate more generally to navigation between user-interface screens. Specifically, the claims cover navigating between a wake screen, a home screen, a widget screen, and a control panel screen using familiar swipe gestures commonly used in touch-screen user interfaces. The claims do not recite any new functionality for wake screens, home screens, widget screens, and control panel screens. Thus, the alleged patentability of the claims of the ’352 patent rests on claiming a particular navigation path from one user-interface screen to another in response to a swipe gesture in a particular direction. For example, claim 1 recites navigating from a wake screen to a home screen when the user swipes in one direction and navigating from the wake screen to a widget screen when the user swipes in a different direction. The other claims add similarly trivial swipe-navigation limitations. EX1003 ¶35.

B. Prosecution History

Apple filed the challenged claims in a preliminary amendment “prior to examination on the merits.” EX1002 at 41-54. Just ten days later, the Examiner found the prior art does not disclose the claimed combination of limitations and allowed all claims. *Id.* at 8-15. But Apple did not submit, and the Examiner did not consider, any of the prior art presented in this Petition. *See generally id.*

C. Priority

The '352 patent claims priority to May 16, 2017. All references presented herein are prior art even assuming the claims are entitled to that date. Thus, Masimo does not contest that priority date here but reserves the right to contest it in a different proceeding.

D. Claim Construction

1. “wake screen user interface,” “home screen user interface,” “widget screen user interface,” and “control panel user interface”

The claims relate to navigation among various user-interface screens, including a “wake screen user interface,” a “home screen user interface,” a “widget screen user interface,” and a “control panel user interface.” The labels “wake,” “home,” “widget,” and “control panel” are shorthand terms to identify and distinguish the different user-interface screens. As explained in subsections (a) through (d) below, additional claim language associated with these shorthand terms defines the full scope of the user-interface limitations. For example, claims 1, 9, and

17 define the “home screen user interface” by reciting that it is “different from the wake screen user interface” and “includes a plurality of application icons corresponding to different applications.” The specification supports construing the user-interface limitations in accordance with their associated claim language. EX1003 ¶¶37-38.

a. “wake screen user interface”

Claims 1, 9, and 17 recite a “wake screen user interface.” In view of the associated claim language, the “wake screen user interface” is a user interface displayed when the device wakes up. Specifically, each of claims 1, 9, and 17 recites “detecting an input that meets display-waking criteria” and “in response to detecting the input that meets the display-waking criteria, displaying ... a wake screen user interface.” The claims do not recite any specific content that needs to be displayed on the wake screen user interface. EX1003 ¶39.

Consistent with the claim language, the specification describes “waking the device from the screen-off state to the screen-on state” and then “displaying a wake screen user interface.” EX1001 at 2:31-34, 3:63-66. The specification further indicates that, “[i]n some embodiments, wake screen user interface 504 is a user interface that is displayed when the device transitions from a screen-off state to a screen-on state.” *Id.* at 38:18-20; *see also id.* at 48:24-29. The specification further states that “a wake screen user interface 504 is displayed on waking the device.” *Id.*

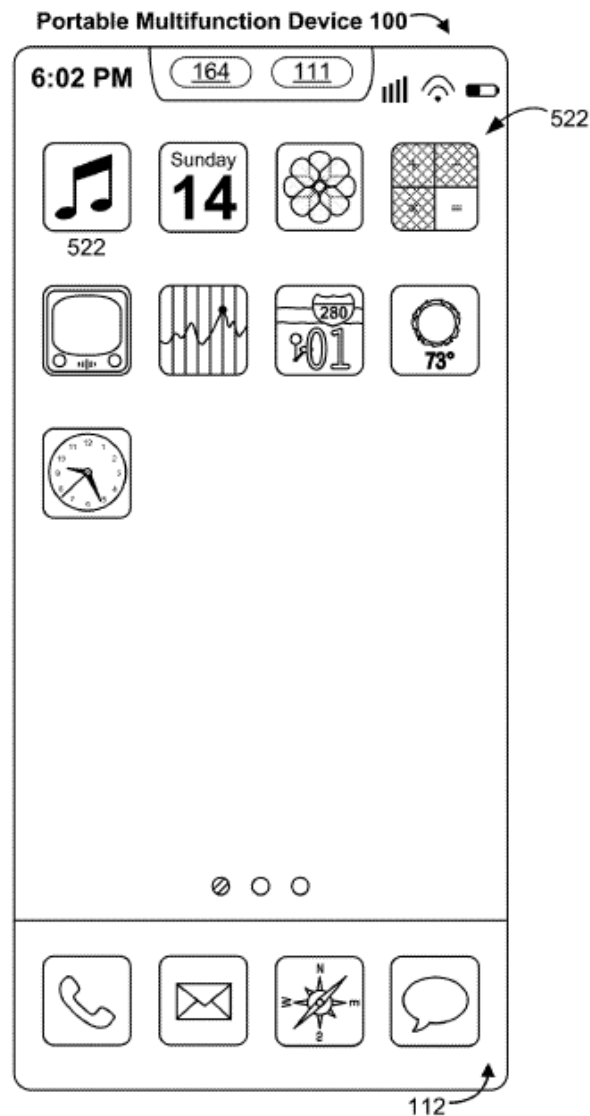
at 50:32-33. The specification describes various types of content that can be displayed on embodiments of the wake screen. But nothing in the claims or specification suggests that such content is mandatory. EX1003 ¶¶40-41.

Accordingly, “wake screen user interface” means a user interface displayed when the device wakes up. This does not imply that the wake screen is displayed *only* when the device wakes up. Indeed, claim 5 allows the user to navigate directly from the home screen to the wake screen. EX1003 ¶¶42-43.

b. “home screen user interface”

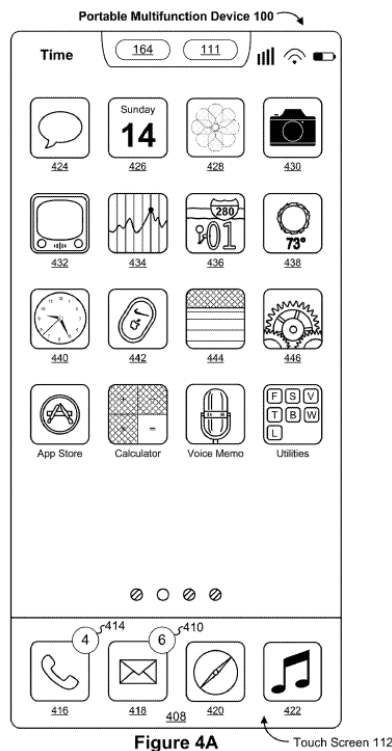
Claims 1, 9, and 17 recite a “home screen user interface.” The associated claim language defines the “home screen user interface” to be a screen “different from the wake screen user interface” and that “includes a plurality of application icons corresponding to different applications.” EX1003 ¶44.

The specification repeatedly refers to various figures that depict “home screen user interface 522,” shown below, for example, in Figure 5H:



EX1001, Fig. 5H; *see e.g., id.* at 39:20-22 (Fig. 5H), 39:27-32 (Fig. 5K), 40:61-64 (Figs. 5AG-5AH), 44:16-21 (Figs. 5CC-5CQ), 46:44-50 (Figs. 5DJ-5DS), 52:8-24 (Fig. 5FU). The figures depicting “home screen user interface 522” consistently show a screen having multiple application icons corresponding to different applications.” Moreover, the specification describes the “home screen user interface 522” as “a user interface for a menu of application as described with regard to FIG.

4A).” *Id.* at 39:20-22. The specification states, “FIG. 4A illustrates an example user interface for a menu of applications on portable multifunction device 100 in accordance with some embodiments.” *Id.* at 30:24-26. Figure 4A is shown below.



Id., Fig. 4A. As shown in Figure 4A, an “interface for a menu of applications” is simply multiple application icons on a user-interface screen. EX1003 ¶45.

Accordingly, the “home screen user interface” of claims 1, 9, and 17 is a screen “different from the wake screen user interface” and that “includes a plurality of application icons corresponding to different applications.” A POSITA would have understood that the claim language indicating the home screen “includes a plurality of application icons” does not restrict the home screen to *only* including

application icons. A POSITA would have understood that a “home screen user interface” may also include widgets, controls, or other objects. EX1003 ¶46.

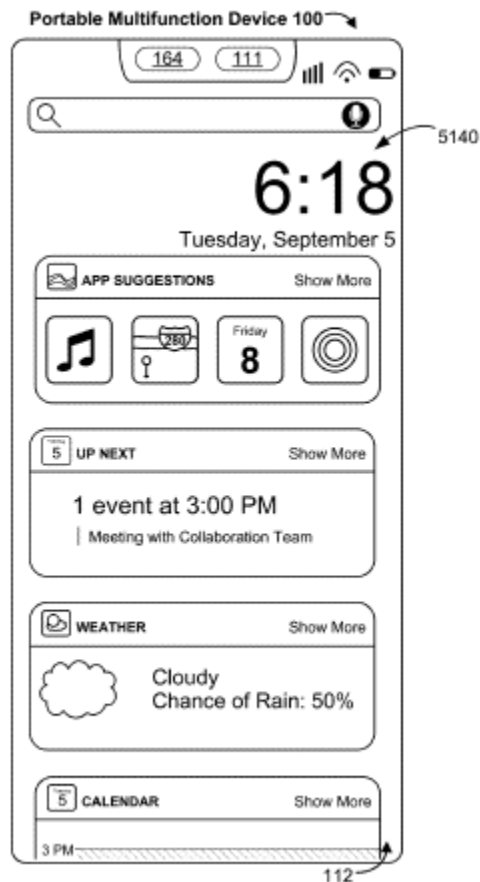
c. “widget screen user interface”

Claims 1, 9, and 17 recite a “widget screen user interface.” The associated claim language defines the “widget screen user interface” to be a screen “different from the wake screen user interface and the home screen user interface” and that “includes a plurality of user interface objects corresponding to different applications, *wherein a respective user interface object of the plurality of user interface objects contains application content from an application corresponding to the respective user interface object, and when selected, causes display of an application corresponding to the respective user interface object.*” EX1001, claims 1, 9, 17 (emphasis added). A POSITA would have understood the emphasized language distinguishes the “user interface objects” included on the “widget screen user interface” from the “application icons” included on the “home screen user interface.” EX1003 ¶47.

The specification is consistent with this construction. The claim language emphasized above does not appear in the specification filed with the parent application. Apple added the emphasized language to the Abstract on June 29, 2020. EX1002 at 200. Thus, the Abstract disclosure does not entitle the claims to the parent application’s May 16, 2017 filing date. Rather, the claims may be entitled to

the parent’s filing date only if the May 16, 2017 specification supports the claim language. Two ways in which the specification may support the claim language are (1) the term “widget” used in the parent specification was understood by a POSITA to mean a user interface object containing application content from an application corresponding to the respective user interface object, and when selected, causes display of an application corresponding to the user interface object and/or (2) the drawings or description of the widget user interface would indicate that meaning of the term “widget” to a POSITA. For purposes of this Petition, Masimo assumes the claims are supported by the May 16, 2017 specification for one or both of these reasons. But Masimo reserves the right to challenge the claims for lack of written description in another forum.

Outside of the Abstract, the specification does not use the phrase “widget screen user interface” but references a “widget user interface 5140.” *See, e.g.*, EX1001 at 48:64, 49:2-3, 52:8-35. Several figures depict the widget user interface 5140, including Figure 5CK:



EX1001, Fig. 5CK. As shown, the widget user interface 5140 appears to display a calendar reminder showing a reminder for a meeting at 3:00 pm and weather information indicating a 50% chance of rain. Assuming that the drawings and specification provide written description for the claim language, they support construing “widget screen user interface” to mean a screen “different from the wake screen user interface and the home screen user interface” and that “includes a plurality of user interface objects corresponding to different applications, wherein a respective user interface object of the plurality of user interface objects contains application content from an application corresponding to the respective user

interface object, and when selected, causes display of an application corresponding to the respective user interface object.” A POSITA would have understood that the claim language indicating the widget screen “includes a plurality of user interface objects” does not restrict the home screen to **only** including such user interface objects. A POSITA would have understood that a “widget screen user interface” may also include application icons, controls, or other objects. EX1003 ¶¶48-49.

d. “control panel user interface”

Claims 7, 8, 15, 16, 23, and 24 recite a “control panel user interface.” The associated claim language defines “control panel user interface” to be a screen “different from the wake screen user interface and the widget screen user interface” and that “includes a plurality of controls for controlling one or more device functions of the computer system.” EX1003 ¶50.

The specification states “the displayed first user interface is a control panel user interface, wherein the control panel user interface includes one or more device controls for controlling one or more device functions of the device.” EX1001 at 4:15-18, 80:15-22. Further, several drawings depict the control panel user interface 5138, including Figure 5CE:



A POSITA would have understood the above as depicting several “controls for controlling one or more device functions,” including a brightness control, a volume control, a toggle control for airplane mode, and other controls. However, nothing in the claims or specification suggests that these specific controls are mandatory. Thus, a POSITA would have understood the “control panel user interface” limitation has at least two controls but is not limited to a specific type of controls. EX1003 ¶51.

Accordingly, the “control panel user interface” limitation means a screen “different from the wake screen user interface and the widget screen user interface” and that “includes a plurality of controls for controlling one or more device functions

of the computer system.” A POSITA would have understood that the claim language indicating the control panel user interface “includes a plurality of controls for controlling one or more device functions of the computer system” does not restrict the control panel to ***only*** including controls. A POSITA would have understood that a “control panel user interface” may also include application icons, widgets, or other objects. EX1003 ¶52.

2. “input that is directed to a portion of” a user interface

Numerous claims recite navigational actions invoked by “input that is directed to a portion of” the current screen. This claim language means the input is directed to part of the screen, rather than a physical button, keyboard, or other input device external to the screen. The claim language does not require the input to be directed to a ***predefined*** location on the screen, such as a location marked by a virtual home button or other indicator. EX1003 ¶53.

The specification supports this construction. The specification describes a first embodiment in which a user navigates from a wake screen to a home screen by an upward swipe “at location that corresponds to home affordance 552, as indicated by focus selector 5244.” EX1001 at 53:4-10; *see also id.*, Fig. 5GC. But the claim language is not limited to this first embodiment. The specification also describes a second embodiment in which screen-to-screen navigation involves swipe gestures having no specified starting location:

While displaying the wake screen user interface, the device detects (906) a first swipe gesture In accordance with a determination that the first swipe gesture is in a first direction (e.g., rightward ...), the displayed first user interface is a mini-application-object user interface 5140. ... In accordance with a determination that the first swipe gesture is in a second direction (e.g., leftward ...), that is opposite the first direction, the displayed first user interface is a control panel user interface 5138.

EX1001 at 79:64-80:22. In this second embodiment, the swipe gestures are directed to part of the screen but are not required to start at any predefined location. Nothing in the claim language limits the claims to just the narrower first embodiment. Rather, a POSITA would interpret the claim language “input directed to a portion of” a screen broadly enough to cover **both** the first and second embodiments. As such, “input is directed to a portion of” the screen means user input is directed to part of the screen (but not at a **predefined** location) rather than a physical button, keyboard, or other input device external to the screen. EX1003 ¶54.

3. “first,” “second,” “third,” etc.

The claims use ordinal numbers merely as labels to identify instances of “input,” “criteria,” “movement,” and “direction.” Beyond serving this identification function, the ordinal numbers do not convey any additional meaning or otherwise limit the claims. For example, the ordinal numbers do not imply any ordering or prioritization (e.g., the “first input” need not happen before the “second input”).

They also do not imply the existence of unclaimed instances (*e.g.*, claim 7’s recitation of “seventh criteria” does not imply that claim 7 also has “third criteria,” “fourth criteria,” “fifth criteria,” and “sixth criteria”). And while some claims expressly recite a relationship between the claimed instances (*e.g.*, claim 1 recites “second criteria *different from* the first criteria”), the mere usage of different ordinal numbers does not imply such a relationship. EX1003 ¶55.

III. STATEMENT OF PRECISE RELIEF REQUESTED

A. Statutory Cancellation Ground

Petitioner requests that the Board cancel claims 1-24 because they would have been obvious under post-AIA 35 U.S.C. § 103 in view of the prior art identified below.

B. Prior-Art Status

The following references are prior art for the following reasons:

Exhibit No.	Short Description	Prior Art Basis
1005	Chae	102(a)(2) ³ patent application published May 24, 2012.
1006	Narendra	102(a)(2) patent application published November 14, 2013.

³ All statutory sectional references in this table are to post-AIA 35 U.S.C. § 102.

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Exhibit No.	Short Description	Prior Art Basis
1007	Android	102(a)(1) printed publication publicly accessible on YouTube by November 19, 2012. EX1041 at 1 (¶5), 4-5; EX1003 ¶58; EX1031 ¶¶13-26; <i>Jazz Pharms., Inc. v. Amneal Pharms., LLC</i> , 895 F.3d 1347, 1352, 1358–60 (Fed. Cir. 2018) (affirming finding that a video posted online was a printed publication).
1008	Shuttleworth	102(a)(2) patent application published July 3, 2014.
1009	de Sa	102(a)(2) patent application published August 29, 2013.
1010	Hong	102(a)(2) patent application published April 2, 2015.
1011	Karunamuni	102(a)(2) patent application published December 3, 2015.
1012	Norman	102(a)(1) printed publication publicly accessible by March 1, 1990. EX1021 ¶¶35-42.
1013	Nielsen 1	102(a)(1) printed publication publicly accessible by August 22, 1999. EX1041 at 1 (¶5), 7-9; EX1015 at 413 (prior-art publication referencing EX1013); EX1016 at 920 (same); EX1017 at 54 (same).
1014	Nielsen 2	102(a)(1) printed publication publicly accessible by April 24, 1995. EX1021 ¶¶43-50.
1015	McCarthy	102(a)(1) printed publication publicly accessible by February 17, 2004. EX1021 ¶¶51-57.
1016	Ling	102(a)(1) printed publication publicly accessible by June 22, 2004. EX1021 ¶¶58-64.

Exhibit No.	Short Description	Prior Art Basis
1017	Santa-Maria	102(a)(1) printed publication publicly accessible by September 22, 2008. EX1021 ¶¶65-69.
1019	Bandyopadhyay	102(a)(2) patent issued November 13, 2012.

These references constitute analogous art because they are from the same field of endeavor as the '352 patent, *e.g.*, GUIs for electronic devices with touchscreens. *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1000 (Fed. Cir. 2016). They are also reasonably pertinent to a particular problem with which the inventor was involved, *e.g.*, efficiently switching between different user-interface screens. As these references are analogous art, a POSITA is presumed to have been aware of them. *In re Nilssen*, 851 F.2d 1401, 1403 (Fed. Cir. 1988).

IV. GENERAL MOTIVATION TO COMBINE AND REASONABLE EXPECTATION OF SUCCESS

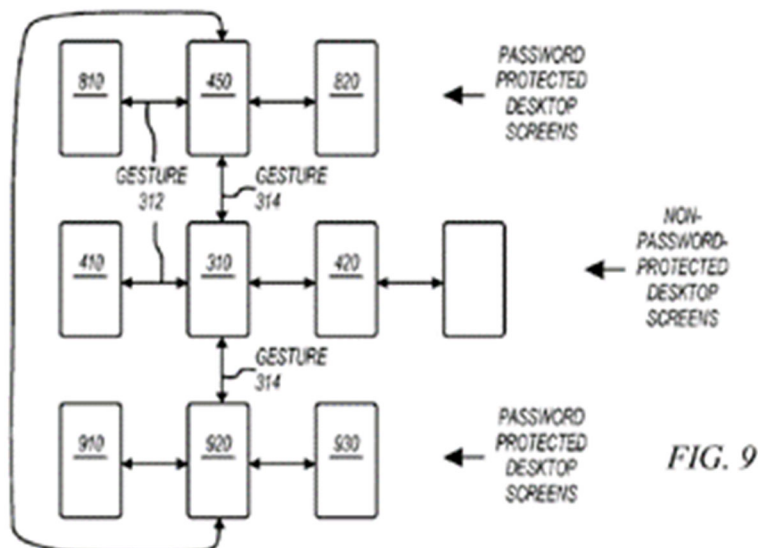
A. Principles of User-Interface Design

In addition to the prior art summarized above, a POSITA would have understood basic principles of user-interface design that were well known before the '352 patent. Rosenberg explains these principles, and his explanation is supported by prior-art documents. *See* EX1003 ¶¶62-70 (citing EX1012-EX1014).

For example, a user interface should be consistent with a good *mental model* (also known as a *conceptual model*) that tracks users' understanding of how the user

interface should work and, thus, helps users anticipate the effects and outcomes of their interactions with the user interface. When using software, people develop mental models largely based on their past experiences gained from using similar software or similar user interfaces. These mental models help inform users how they think the software should work and what is expected from the software and the users as they operate it. These mental models aid users in determining what inputs they should provide to the system to accomplish their goals. EX1003 ¶¶62-64 (citing EX1012 at 13, 14, 17).

Narendra discloses a user-interface design with a good mental model consistent with how most users understand navigating among user-interface screens. Narendra discloses a smartphone user interface in which the user can view just one screen at a time but can navigate among a large collection of screens, as shown below in Figure 9.



EX1006, Fig. 9. Figure 9 also shows that the user can navigate among the screens by using directional swipe gestures to move horizontally from one screen to another by swiping left or right or to move vertically by swiping up or down. EX1003 ¶65.

Narendra’s navigational system of using four directional swipe gestures (up, down, left, right) would make sense to users because it is consistent with a familiar mental model in which users think of the current screen as one part of a larger “map” in which additional screens are located to the left, right, up, or down. In this mental model, it makes sense to users to swipe left, right, up, or down to pan the display to the screen located to the left, right, up, or down of the current screen. Users would be familiar with this user-interface paradigm from using mobile operating systems (*e.g.*, Android and iOS) that support horizontally moving between screens as well as moving back and forth using digital map software that supports panning to view territory to the North, South, East, and West. EX1003 ¶66.

Narendra’s navigational system makes particular sense for a user interface that supports a large number of screens, such as the ten screens shown in Narendra Figure 9. If Narendra were designed to have a unique directional swipe gesture for each of the ten screens of Figure 9, the user would have to memorize ten different directional swipe gestures, one for each screen. But Narendra’s design allows the user to use just four directional swipe gestures (up, down, left, and right) to easily navigate between all screens. EX1003 ¶67.

Consistency is another basic principle of good user-interface design that was well known before the '352 patent. A well-known researcher in user interface design, Dr. Jakob Nielsen, has listed “consistency” as one among ten usability heuristics, explaining: “Users should not have to wonder whether different words, situations, or actions mean the same thing.” EX1014. EX1003 ¶68 (citing EX1013-EX1014).

One way to promote consistency, as illustrated by Narendra’s navigational system, is to have four directional swipe gestures, each of which always results in navigating in a particular direction from one screen to another. Specifically, (1) swiping left always navigates to the screen to the left of the current screen, (2) swiping right always navigates to the screen to the right of the current screen, (3) swiping up always navigates to the screen above the current screen, and (4) swiping down always navigates to the screen below the current screen. EX1003 ¶69.

Another way to promote consistency, for which Shuttleworth provides an example, is to provide a unique directional swipe gesture that always navigates to the home screen from any other screen. A POSITA would have understood this approach would have been easy to implement in combination with Narendra’s approach, such that a user can always navigate to the home screen using a single unique directional swipe gesture while using Narendra’s four directional swipe gestures to navigate between a spatial arrangement of numerous non-home screens,

as described above. A POSITA would have understood that such a combination would provide the advantages of both systems, allowing the user to easily navigate among a large number of screens without memorizing a unique directional swipe gesture for every screen while also easily navigating to the home screen from anywhere using a single unique directional swipe gesture. EX1003 ¶70.

B. A POSITA would have been motivated to combine, and would reasonably have expected success in combining, any two or more of Chae, Narendra, Android, Shuttleworth, Hong, and Karunamuni.

Chae, Narendra, Android, Shuttleworth, Hong, and Karunamuni are all in the same field of touchscreen user interfaces for smartphones. Further, each of these prior-art references discloses one or more user-interface features that would enhance the ease-of-use and user-friendliness of a touchscreen user interface for a smartphone. A POSITA would have understood that the advantages of the disclosed features are compatible with and additive of each other, such that providing a combination of the disclosed features in a single smartphone user interface would further enhance ease-of-use and user-friendliness beyond providing just one of the disclosed features. A POSITA would have been motivated, by the enhancement to the ease-of-use and user-friendliness of the user interface that each feature would have provided, to combine any two or more of the disclosed features to maximize the ease-of-use and user-friendliness of the user interface. Moreover, each of these features would have been easy to implement in software without needing to

overcome any technical barrier or to make any changes to the hardware configuration of any smartphone. Thus, a POSITA would have reasonably expected success in combining the features to achieve the additive advantages of the combined features. A POSITA would have understood such a combination to be a simple combination of familiar user-interface features to perform their established functions to achieve the predictable result of additional ease-of-use and user-friendliness. EX1003 ¶71.

The general motivation to combine discussed above is applicable to all grounds of unpatentability set forth below. In addition to this general motivation to combine, a POSITA would also have been motivated to combine the prior art for specific reasons set forth in the analysis below. EX1003 ¶72.

V. SPECIFIC PROPOSED GROUNDS FOR UNPATENTABILITY

Claims 1-24 of the '352 patent would have been obvious.

A. Ground 1: Claims 1, 2, 6, 9, 10, 14, 17, 18, and 22 would have been obvious in view of Chae alone or in view of Chae and Narendra.

1. Claim 1

Chae discloses the preamble and every limitation of claim 1, and, thus, anticipates or renders obvious claim 1. Moreover, if Chae is interpreted as lacking any limitation of claim 1, it would have been obvious to add such limitation to Chae in view of Narendra.

a. Limitation 1a (preamble)

Limitation 1a recites a “method.” Chae discloses “one example of the *method* for operating a mobile terminal.” EX1005 ¶101 (emphasis added); EX1003 ¶73.

b. Limitation 1b

Chae discloses a method performed “at computer system that is in communication with a display generation component and one or more input devices,” as required by limitation 1b. Chae discloses a “mobile terminal” that “can include ... a smart phone, a laptop computer,” or other devices. EX1005 ¶¶10, 43. A POSITA would have understood that a “smart phone” or a “laptop computer” is a “computer system,” and, thus, the disclosed mobile terminal is a “computer system.” EX1003 ¶74.

Chae also discloses its mobile terminal “comprises a *touch screen*” and can be unlocked “*in response to a touch made on the touch screen.*” EX1005 ¶10 (emphases added). Figure 4(a) illustrates such unlocking:

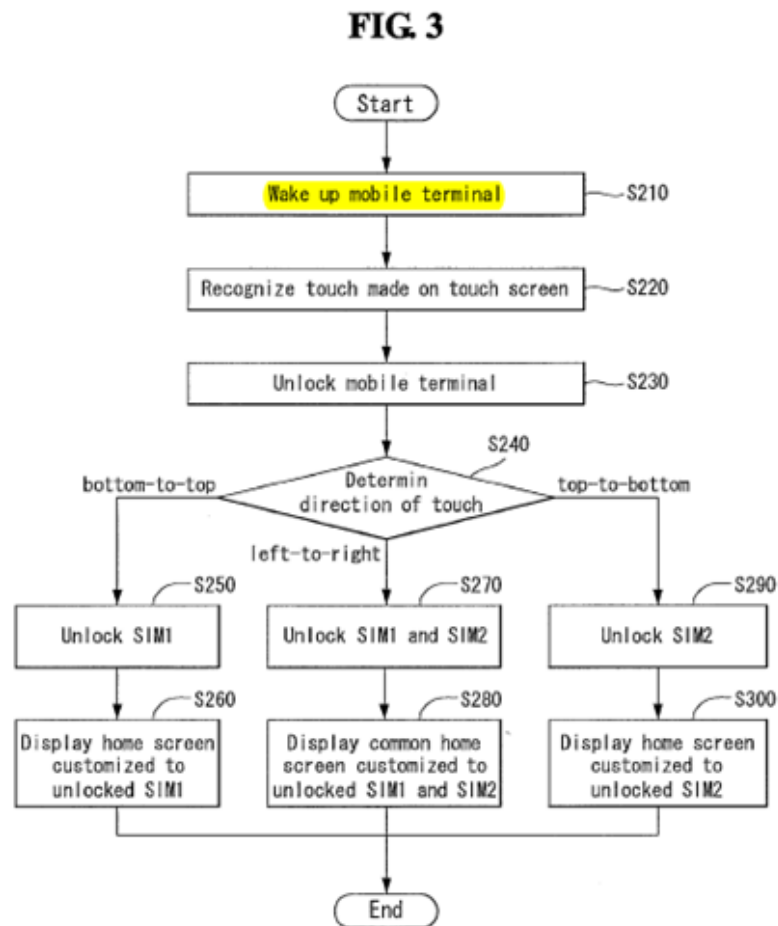


EX1005, Fig. 4(a), ¶104. Figure 4(a) illustrates that the touchscreen is a “display generation component” that, in the example, displays a digital clock. Further, a swipe in a “bottom-to-top direction ... unlocks the first SIM.” EX1005, Fig. 4(a), ¶104. A “touch made on the touch screen” is an input that causes such unlocking. EX1005 ¶10. Thus, the touchscreen is an “input device.” EX1003 ¶75.

c. Limitation 1c

Chae discloses “while the computer system is in a power saving state, detecting an input that meets display-waking criteria,” as required by limitation 1c.

Figure 3 illustrates waking up the mobile terminal in step S210:



EX1005, Fig. 3 (annotated). The specification indicates that, because “steps S210 to S230 of FIG. 3 are identical to the steps S110 to S130, the detailed descriptions thereof are omitted herein.” *Id.* ¶102. Accordingly, a POSITA would have understood that the specification’s descriptions of steps S110 to S130 (which are

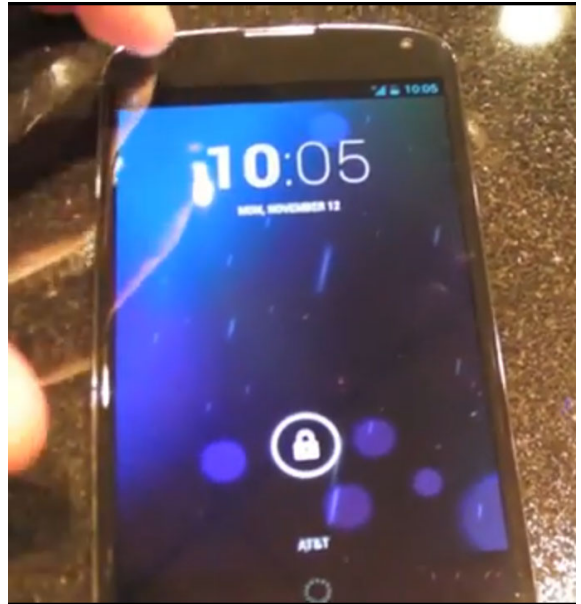
illustrated in Figure 2) also describe the identical steps S210 to S230 of Figure 3.

With respect to step S110 (identical to step S210), the specification teaches:

At step S110, the controller 180 of the mobile terminal 100 wakes up the mobile terminal 100 in response to a control signal that is generated based on a user's action such as clicking a button (not shown).

Id. ¶94. Waking up a smartphone was a well-known process years before the '352 patent. During periods of inactivity, mobile devices commonly went into a “sleep” or power-saving mode in which the display was turned off so the device would use less power. *See, e.g.*, EX1019 at 4:39-65. A POSITA would have understood that the process of waking up a mobile device includes turning on the previously sleeping display so the device can be operated. *Id.* EX1003 ¶76.

Android (Exhibit 1007) shows a typical smartphone entering, and waking up from, a power-saving state. The following still screenshots show a button push causing a smartphone to enter and wake up from a power-saving state (including its display turning on and off):



EX1007 at 0:24-0:28; *see also id.* at 0:40, 1:07, 2:30, 2:59, 3:20, 3:46.⁴ EX1003 ¶77.

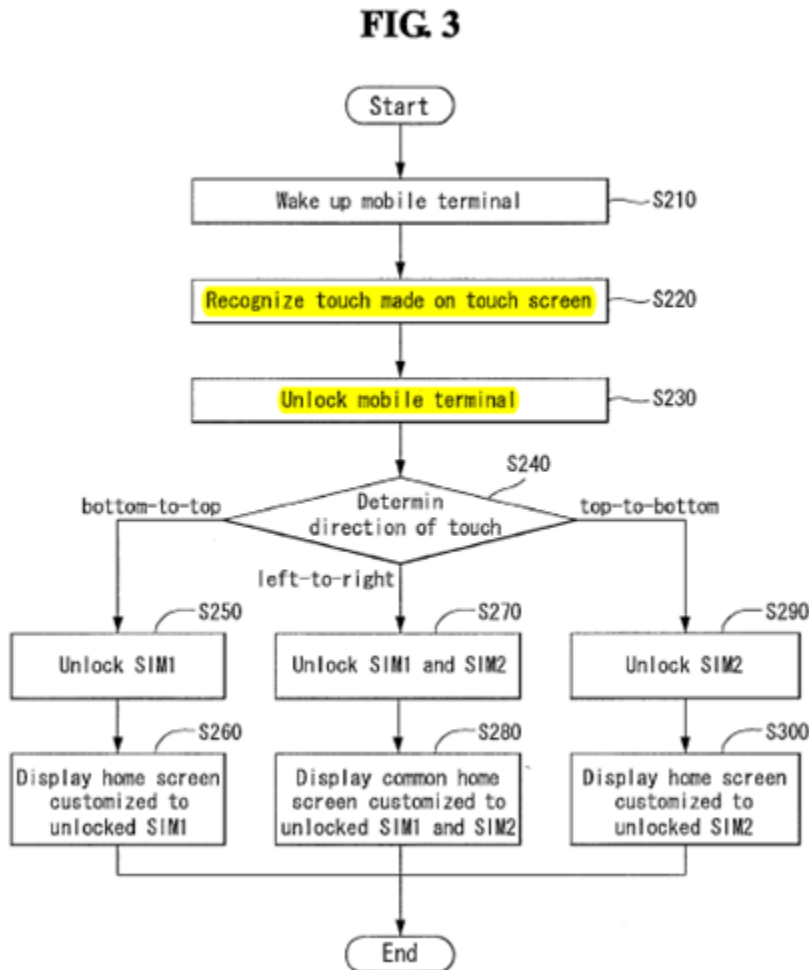
A POSITA would have understood Chae’s disclosure that the mobile terminal “wakes up” to refer to the typical wake-up process that was well-known and

⁴ Android is cited here as background to illustrate the well-known wake-up process that a POSITA would understand Chae discloses.

commonly implemented in smartphones. Specifically, a POSITA would have understood that the mobile terminal was in “a power saving state” prior to waking up. A POSITA would have understood Paragraph 94’s reference to a “user’s action such as clicking a button” to be an “input that meets display-waking criteria.” Indeed, Chae discloses that the user’s action does, in fact, cause the mobile terminal (including its display) to wake up. EX1003 ¶78.

d. Limitation 1d

Chae discloses “in response to detecting the input that meets the display-waking criteria, displaying, via the display generation component, a wake screen user interface,” as required by limitation 1d. As explained above, a “wake screen user interface” is a user interface displayed when the device wakes up. *See supra* II.E.1.a. In steps S220 and S230, a user touch of the touchscreen unlocks the mobile terminal:

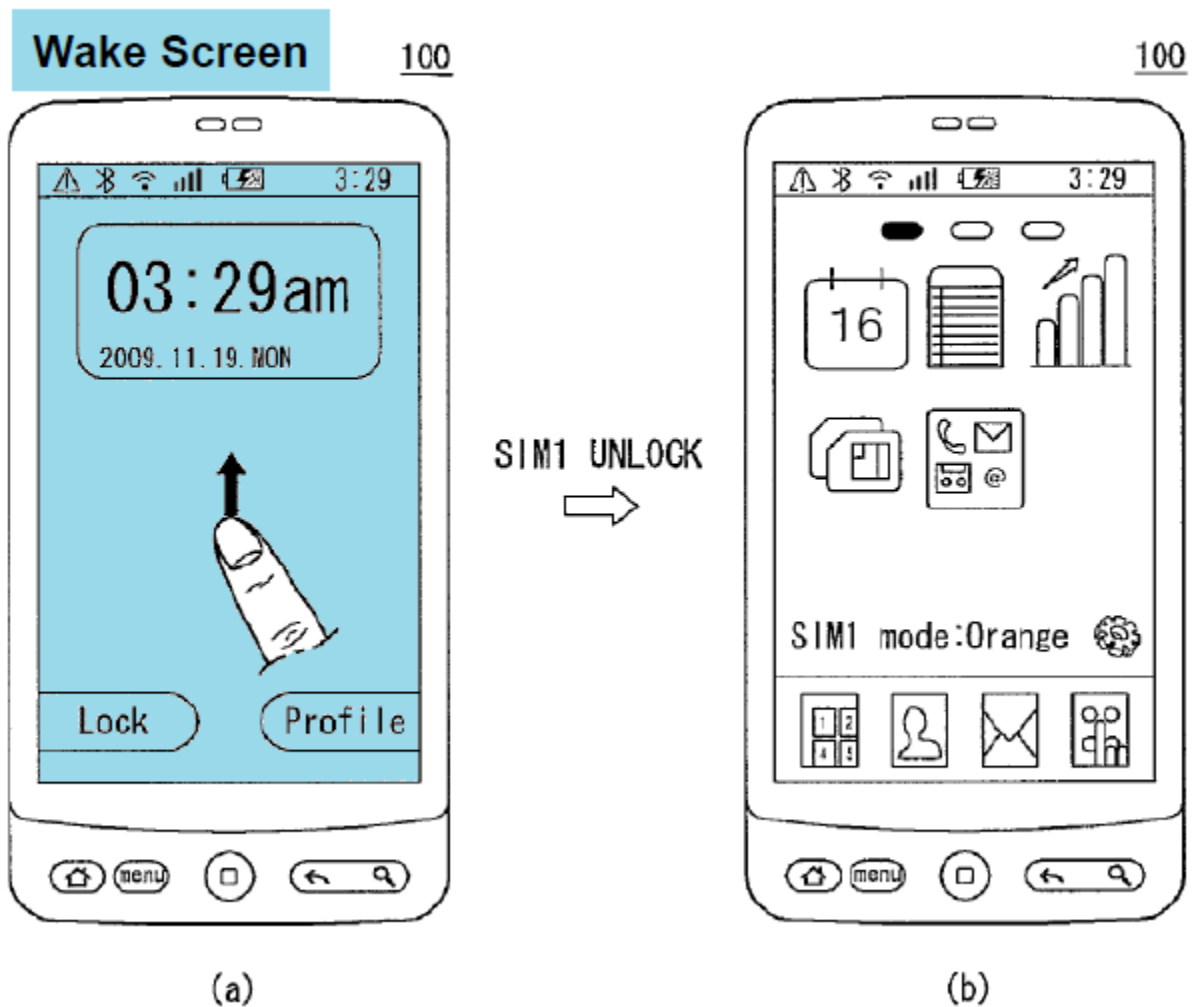


EX1005, Fig. 3. As explained in Paragraph 102, steps S220 and S230 are identical to steps S120 and S130, described in Paragraph 95:

When the user touches the touch screen of the mobile terminal 100 at step S120 the controller 180 unlocks the mobile terminal 100 in response to the touch at step S130.

Id. ¶95. Figure 4(a) illustrates the user touching the touchscreen when it is displaying a wake screen:

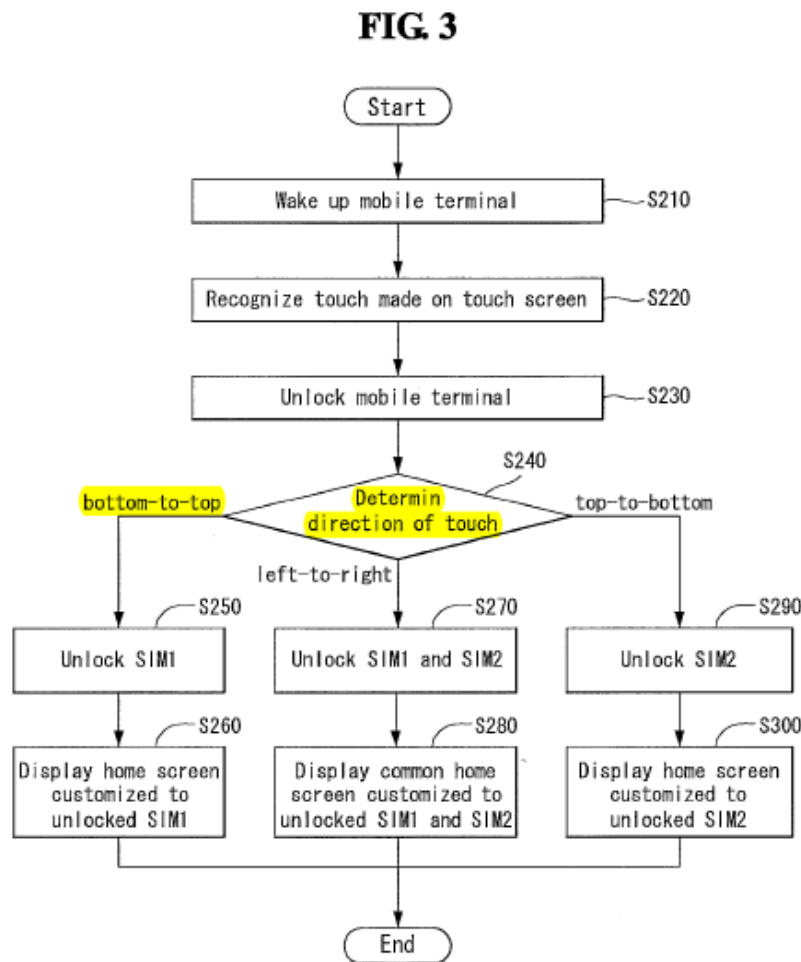
FIG 4



EX1005, Figs. 4(a) (annotated) & 4(b). A POSITA would have understood that the screen shown in Figure 4(a) is a “wake screen user interface.” Specifically, the screen is displayed after the device wakes up and, in step S220, it receives user input for unlocking the mobile terminal in step S230. Similar to common prior-art wake screens, the Figure 4(a) wake screen displays some useful information, including, for example, a digital clock and various indicators such as battery and Wi-Fi status. *See, e.g.*, EX1007 at 0:25, 0:40, 1:07, 2:30, 2:59, 3:20, 3:46. EX1003 ¶79.

e. Limitation 1e

Chae discloses “while displaying the wake screen user interface, detecting a first input that is directed to a portion of the wake screen user interface and includes first movement,” as required by limitation 1e. Figure 3 illustrates a decision block S240 that determines a “direction of touch.”

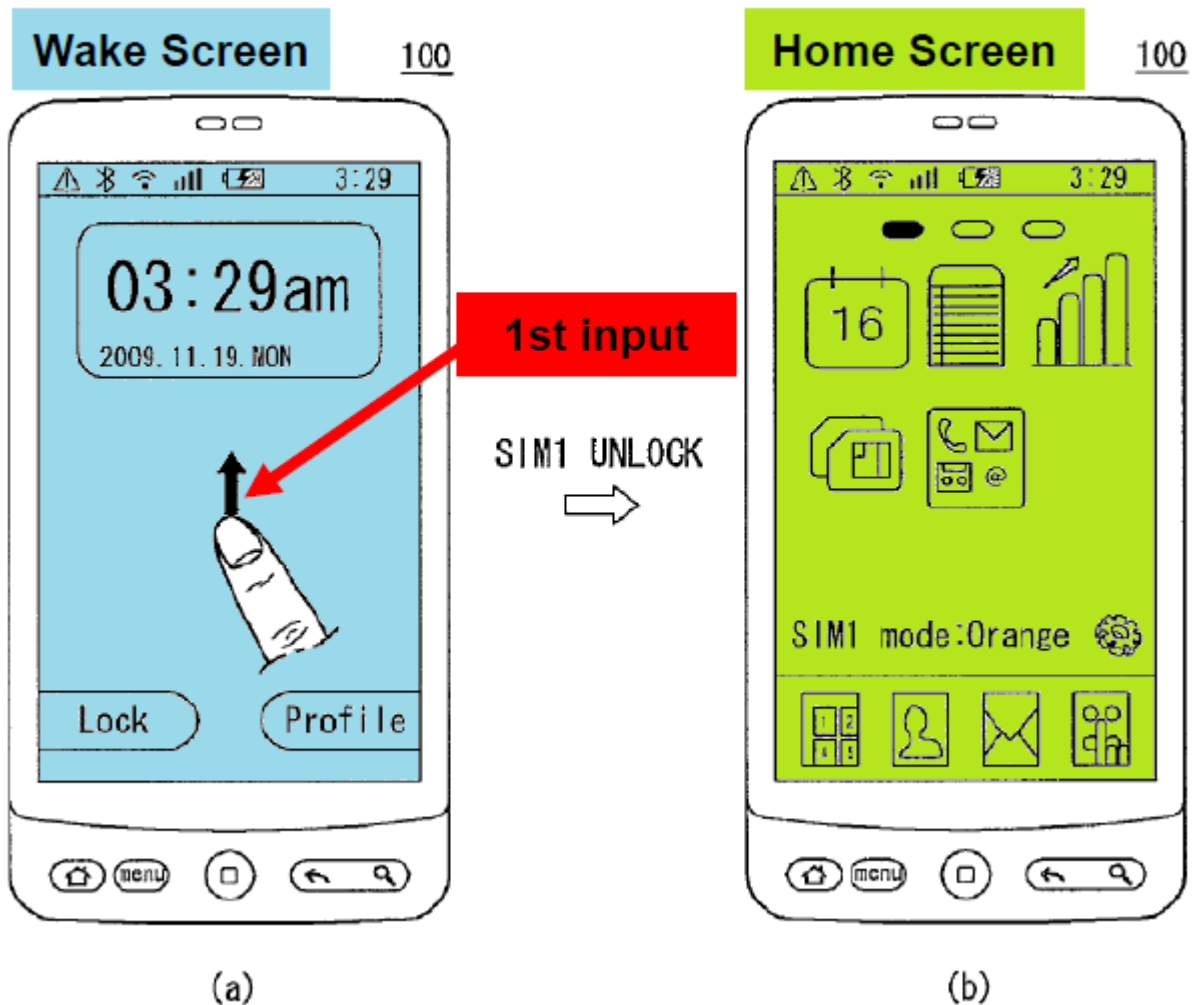


EX1005, Fig. 3 (annotated). As shown by the left branch out of decision block S240, the “direction of touch” may be a “bottom-to-top” movement. *Id.* As shown below by Figure 4, the specification further explains that the “bottom-to-top” swipe

“unlocks the first SIM” and “displays a home screen customized to the first SIM.”

Id. ¶¶103-104.

FIG. 4

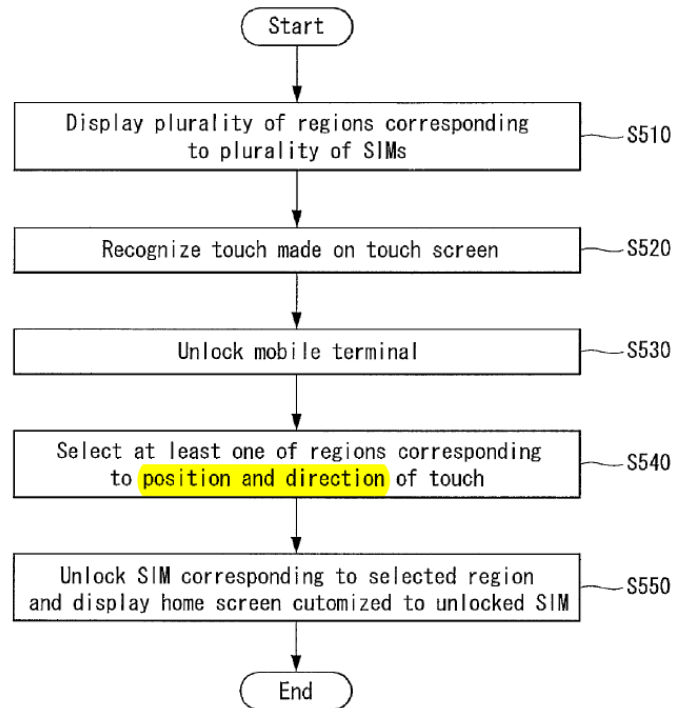


Id., Figs. 4(a) & 4(b) (both annotated). A POSITA would have understood that step S240 of Figure 3 “detect[s] a first input that is directed to a portion of the wake screen user interface and includes first movement.” As shown by the text of Figure 3 (“bottom-to-top”), Figure 4, and Paragraph 104, the “first movement” is a swipe in a “bottom-to-top direction.” EX1003 ¶80.

A POSITA would have understood that the user makes the bottom-to-top swipe on a “portion of the wake screen user interface.” The swipe necessarily must be initiated at a portion of the wake screen located below the top edge of the screen so that the device will be able to detect the upward movement. Therefore, the first input is “directed to a portion of the wake screen user interface.” EX1003 ¶81.

The “directed to a portion of the wake screen user interface” claim language does not require the bottom-to-top swipe to occur at a *predefined* location on the wake screen. *See supra* II.E.2. But even if the claim language required the bottom-to-top swipe to start at a predefined location on the wake screen, Chae discloses or makes obvious a bottom-to-top swipe at a predefined location on the wake screen. Figure 17 of Chae discloses accessing the home screen based on both the “position and direction” of a gesture:

FIG. 17



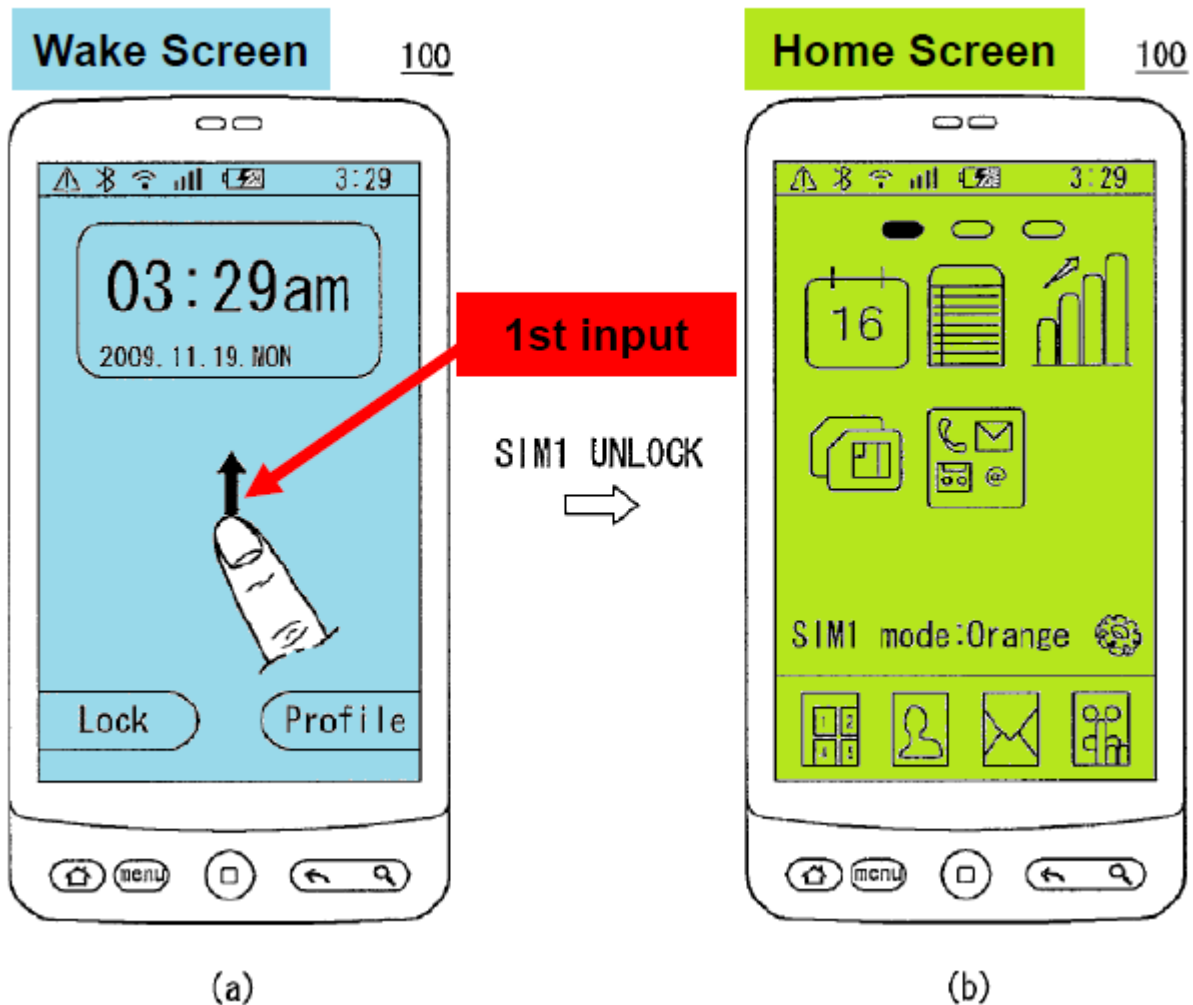
EX1005, Fig. 17 (annotated). A POSITA would have understood that the “position” of the touch refers to a predefined location on the touchscreen associated with the home screen being unlocked. This disclosure is consistent with a well-known and common prior-art user-interface design practice of requiring a gesture to start at a predefined screen location to reduce the likelihood of inadvertent actions. The desire to prevent inadvertent access of the home screen would have motivated a POSITA to design Chae’s user interface to require the bottom-to-top swipe to start at or near a predefined location on the wake screen. EX1003 ¶82.

f. Limitation 1f

Chae discloses limitation 1f, which requires, in response to detecting the “first movement” meeting “first criteria” of being in the “first direction,” displaying a

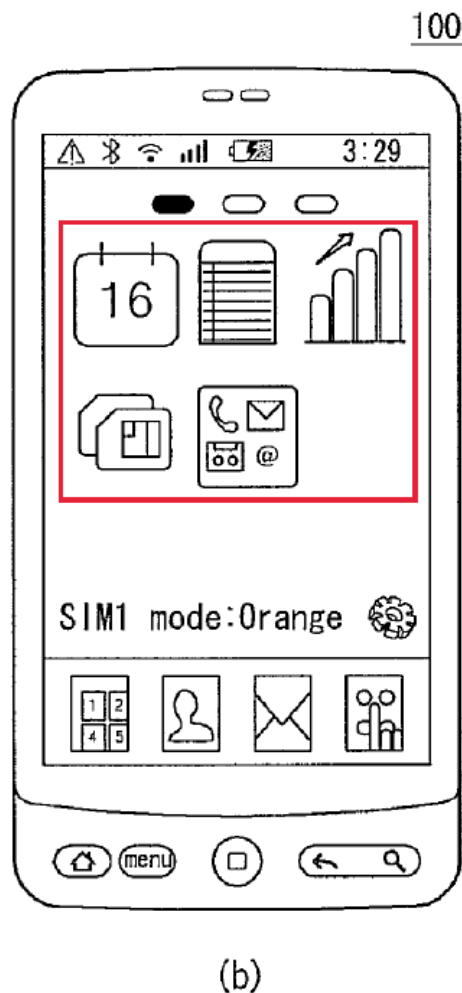
“home screen user interface” with multiple application icons. Figures 4(a) and 4(b) illustrate a bottom-to-top swipe for displaying a home screen:

FIG. 4



EX1005, Figs. 4(a) & 4(b) (both annotated), ¶104. Because, as explained above, the first movement is in a “bottom-to-top direction,” the first movement is “in a first direction.” Further, as described in Paragraph 104 and shown in Figure 4(b), the first movement causes display of a “home screen user interface that is different from the wake screen user interface, wherein the home screen user interface includes a

plurality of application icons corresponding to different applications.” A comparison of Figures 4(a) and 4(b) shows the Figure 4(b) home screen differs from the Figure 4(a) wake screen. And Figure 4(b) depicts a home screen with multiple application icons.



EX1005, Fig. 4(b) (annotated). Chae discloses that each screen may display “items includ[ing] *icons* and widgets.” *Id.* ¶100 (emphasis added). Icons and widgets were common and well-understood prior-art GUI features. A POSITA would have understood that “icons,” as disclosed by Chae, are “application icons” as claimed

and that GUIs depicted application icons as small, square graphical tiles. A POSITA would immediately recognize the square graphical tiles shown in the red box of annotated figure 4(b) above as application icons. EX1003 ¶83.

Several basic GUI functions were well-known prior-art functions that a POSITA would have understood in view of Chae’s disclosure. For example, a POSITA would have understood that each application icon displayed on a GUI screen corresponds to a different application and that selection of the icon causes display of the corresponding application. Therefore, a POSITA would have understood that Chae’s disclosure of multiple application icons displayed on Figure 4(b) discloses application icons “corresponding to different applications, and wherein a respective application icon of the plurality of application icons, when selected, causes display of an application corresponding to the respective application icon.” EX1003 ¶84.

Narendra further supports that a POSITA would have understood Chae’s Figure 4(b) “icons” to be “application icons” as claimed in limitation 1f. Narendra expressly discloses: “Mobile devices with touch sensitive displays typically include a desktop screen that shows icons used to launch applications.” EX1006 ¶2. Narendra further discloses that each icon is used to launch a different application:

Application icons ... are used to launch applications. For example, a user might launch a music player application by tapping on icon 330 [or] the user might launch an email application by tapping on icon 332.

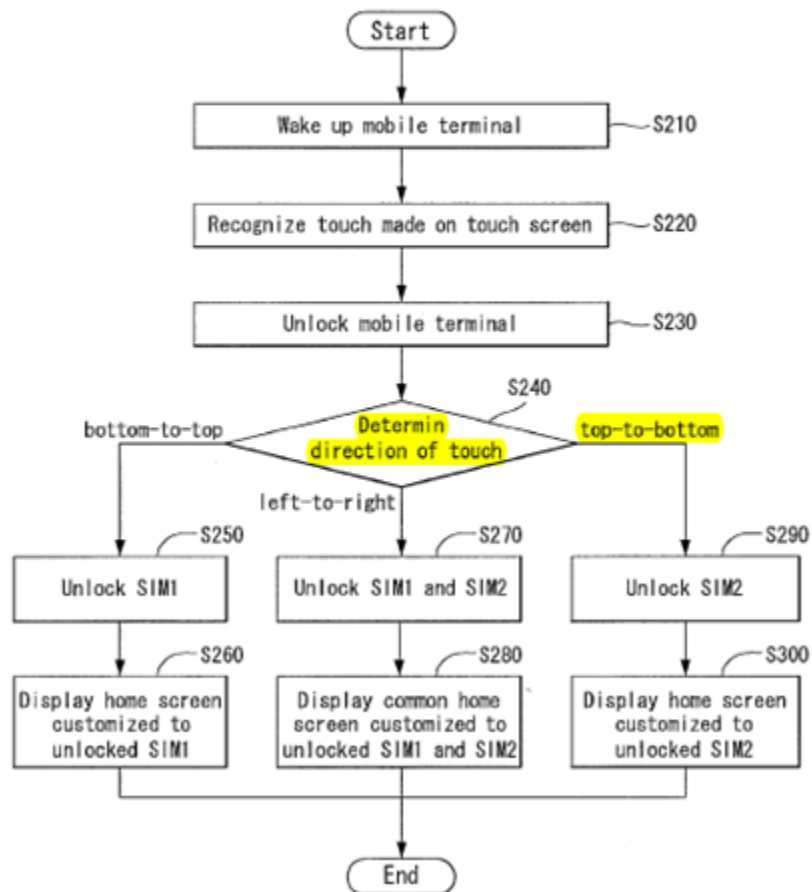
Id. ¶25. This disclosure is not unique to Narendra; it is basic and well-known GUI functionality that selecting an application icon launches a corresponding application. A POSITA would have understood that Chae’s icons have this basic functionality of limitation 1f. EX1003 ¶85.

If Chae were somehow interpreted as *not* disclosing such basic GUI functionality, it would have been obvious to add it in view of Narendra. Basic GUI design principles and Narendra’s teachings would have motivated this modification to ensure that Chae’s GUI was fully functional and able to perform the basic functionality of launching a corresponding application when a user selects an icon. EX1003 ¶86.

g. Limitation 1g

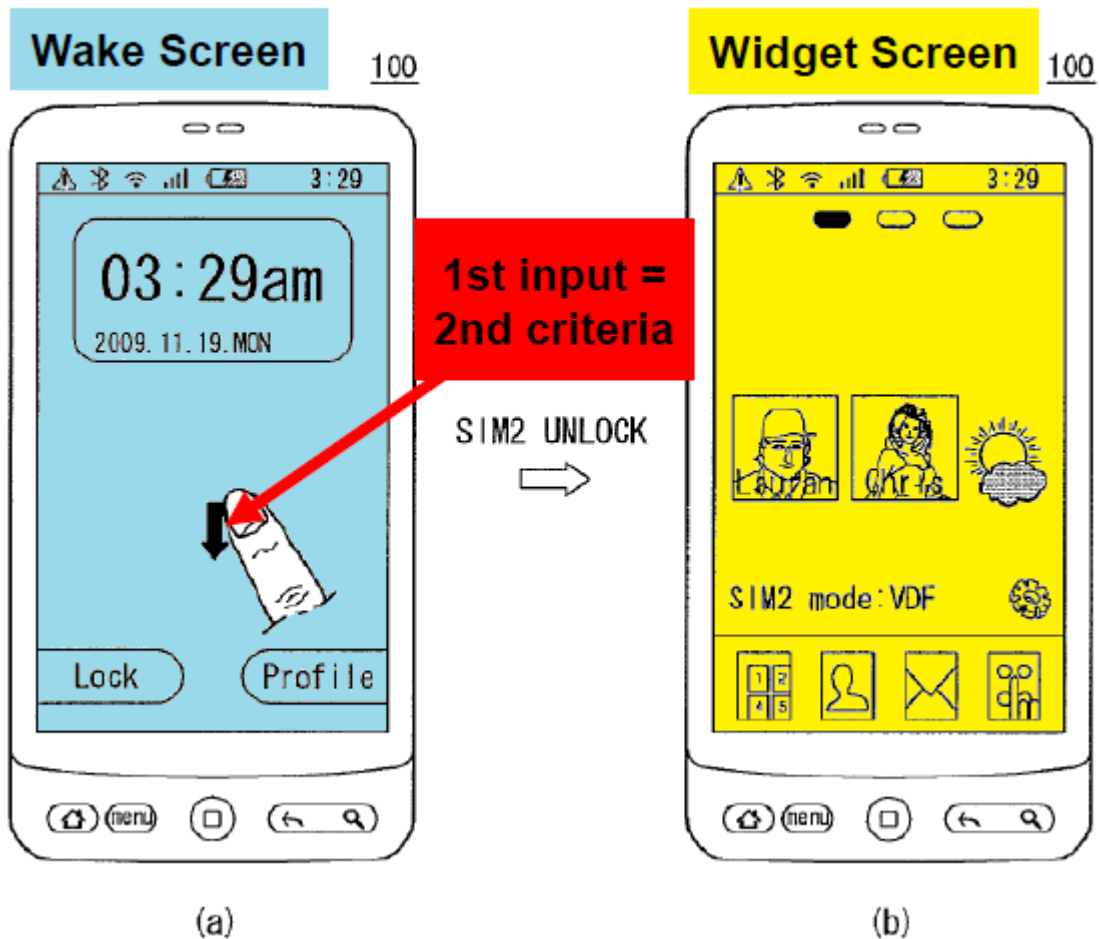
Chae discloses limitation 1g, which requires, in response to detecting the “first movement” in a “second direction that is different from the first direction,” displaying a “widget screen user interface” with multiple “user interface objects” containing “application content” from a corresponding application. Figure 3 illustrates a decision block S240 that determines a “direction of touch.”

FIG 3



EX1005, Fig. 3 (annotated). As shown by the right branch out of decision block S240, the “direction of touch” may be a “top-to-bottom” movement. *Id.* As shown by Figure 6 below, the specification further explains that the “top-to-bottom” swipe “unlocks the second SIM” and “displays a home screen customized to the second SIM.” *Id.* ¶108.

FIG. 6

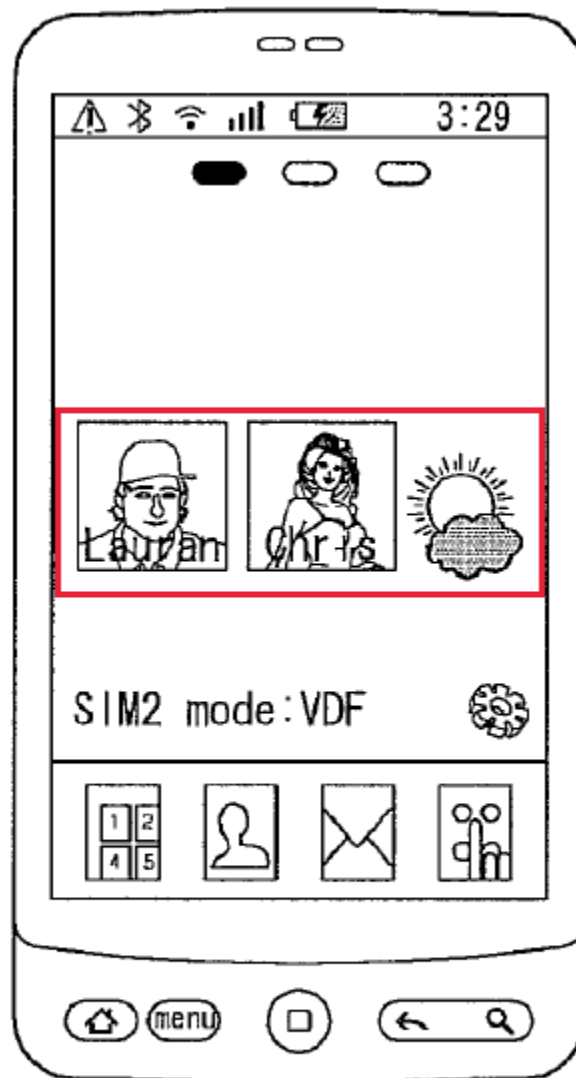


EX1005, Figs. 6(a) & 6(b) (both annotated). A POSITA would have understood that a swipe in a “top-to-bottom direction,” as described or shown in Paragraphs 108-109, Figure 6(a), and the text of Figure 3, meets a “second criteria different from the first criteria” where the “first movement” is “in a second direction that is different from the first direction.” EX1003 ¶87.

A POSITA would have understood that the Figure 6(b) screen is a “widget screen user interface” as claimed. A “widget screen user interface” is a screen “different from the wake screen user interface and the home screen user interface”

and that “includes a plurality of user interface objects corresponding to different applications, wherein a respective user interface object of the plurality of user interface objects contains application content from an application corresponding to the respective user interface object, and when selected, causes display of an application corresponding to the respective user interface object.” *See supra* II.E.1.c. The Figure 6(b) screen meets this definition. A comparison of Figures 4(a), 4(b), (6a), and 6(b) establishes that the Figure 6(b) screen is “different from” **both** (1) “the wake screen user interface” (shown in Figures 4(a) and 6(a)) **and** (2) the “home screen user interface” (shown in Figure 4(b)). Indeed, Paragraph 109 expressly states the screens are different: “In comparison to the diagram (b) of FIG. 4, the home screen of diagram (b) of FIG. 6 displays different items when the SIM is unlocked.” EX1005 ¶109. EX1003 ¶88.

A POSITA would have understood that two or more of the objects on the Figure 6(b) screen are “user interface objects” in which each “contains application content from an application corresponding to the respective user interface object.” For example, a POSITA would have understood the three objects shown in the red box below to be “user interface objects” as claimed:

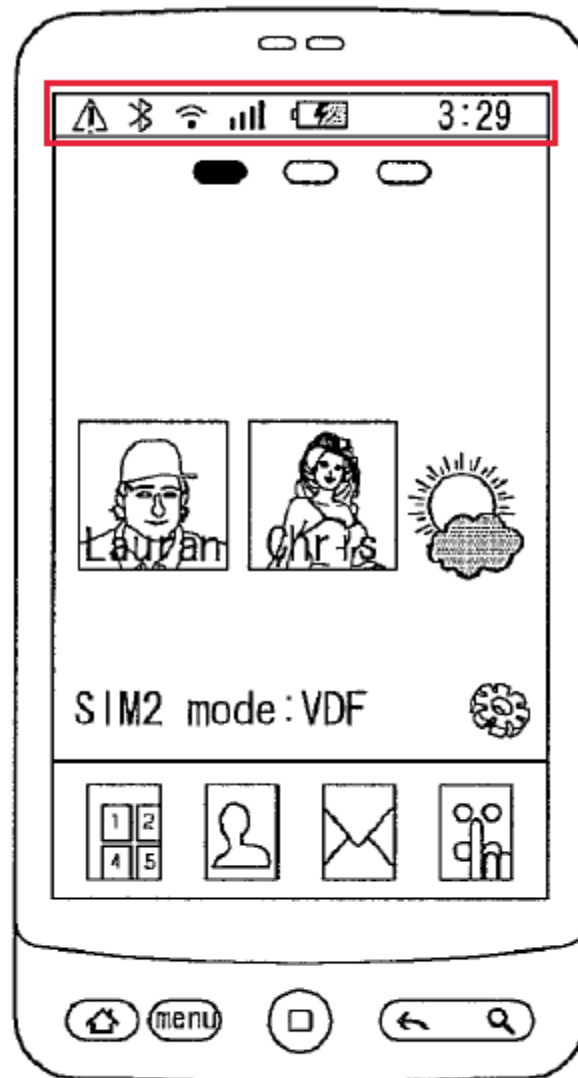


(b)

Id., Fig. 6(b) (annotated). Specifically, the left-most and center objects include images and names of people (Lauran and Chris) and the right-most object includes a graphical depiction of weather conditions (partly cloudy). A POSITA would have understood this information to be “application content from an application corresponding to the respective user interface object.” Displaying the images and names of Lauran and Chris would involve retrieving that content from a

corresponding application, such as an image-editing application or an application for managing contacts or profiles. And displaying a graphical depiction of weather conditions would involve retrieving information indicating those conditions from a weather application. EX1003 ¶89.

It also would have been obvious to implement Figure 6(b)'s status bar (shown below in a red box) as multiple widgets.



(b)

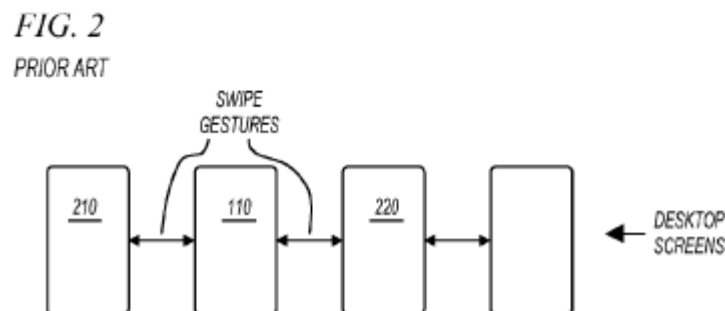
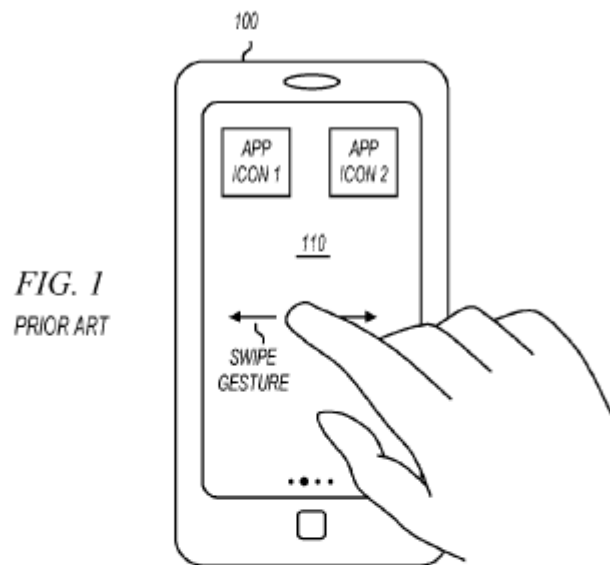
Id., Fig. 6(b) (annotated). The status bar shows, from left to right, a warning notification indicator, a Bluetooth indicator, a Wi-Fi indicator, a cellular signal indicator, a battery-level indicator, and a digital clock. A POSITA would have understood that each of these status-bar items provides “application content” (such as, for example, cellular signal strength or time of day) that would need to be retrieved “from an application corresponding to the respective user interface object.” EX1003 ¶90.

Similar to icons, widgets were common and well-known elements of prior-art GUIs. One well-known functionality of widgets was displaying “an application corresponding to the respective user interface object” upon selecting a widget. In view of a POSITA’s knowledge of this well-known widget functionality, Chae’s disclosure, including Figure 6(b), would have conveyed to a POSITA that selecting one of the objects shown in the center of the screen (such as the weather object) or one of the objects on the status bar (such as the digital clock) would cause display of a corresponding application (such as a weather application or a digital clock application). Therefore, a POSITA would have understood that the screen shown in Figure 6(b) is a “widget screen user interface.” EX1003 ¶91.

Further, even if Chae did not expressly disclose that the Figure 6(b) screen is a widget screen user interface, it would have been obvious to include widgets on the Figure 6(b) screen, as taught by Paragraph 100:

Here, the home screen customized to the SIM has items displayed on the home screen different from those on a general home screen. These items include icons and *widgets*.

EX1005 ¶100 (emphasis added). In addition, Narendra also discloses “[d]esktop screens on mobile device 300 display content such as application icons, *widgets*, and the like.” EX1006 ¶25 (emphasis added). Moreover, Narendra discloses using directional swipe gestures to navigate between different GUI screens, as shown by prior-art Figures 1 and 2:



Id., Figs. 1, 2, ¶2 (“Some prior art mobile devices include multiple desktop screens that can be navigated using gestures on the touch sensitive display.”) Therefore, in the field of multi-screen GUIs for touchscreen devices, customizing one or more of the GUI screens to include multiple “widgets” was well known. EX1003 ¶92.

A POSITA would have understood, in view of Chae’s and Narendra’s disclosures, that those references used the term “widget” to refer to a user interface object that displays content generated by an associated application without needing to (but being able to) open the application. Hong, which was filed in 2014 and published in 2015, supports this understanding. Specifically, Hong states:

Recently, application widgets have been provided that enable a user to access contents provided in an application without executing the application, such as a clock, a calendar, a memo, search, a map, news, a real-time camera, and the like.

EX1010 ¶4.⁵ Figure 7A depicts several such widgets on a screen:

⁵ Hong is cited here as background of how a POSITA would have interpreted the term “widget.”

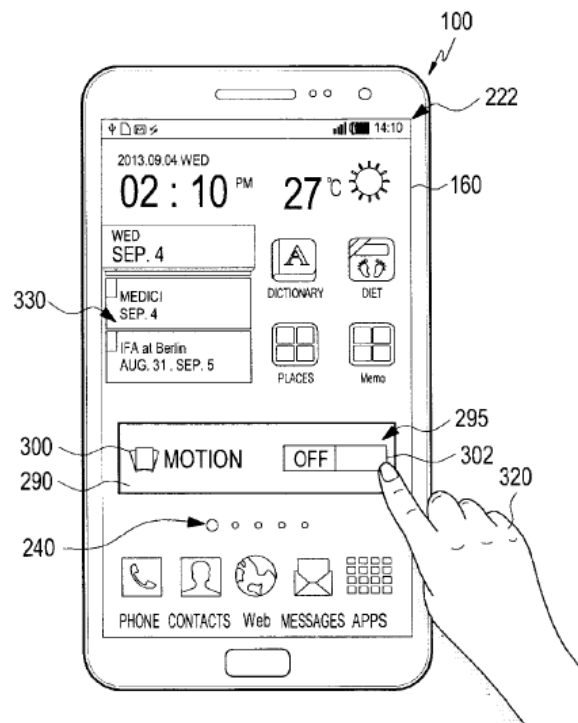
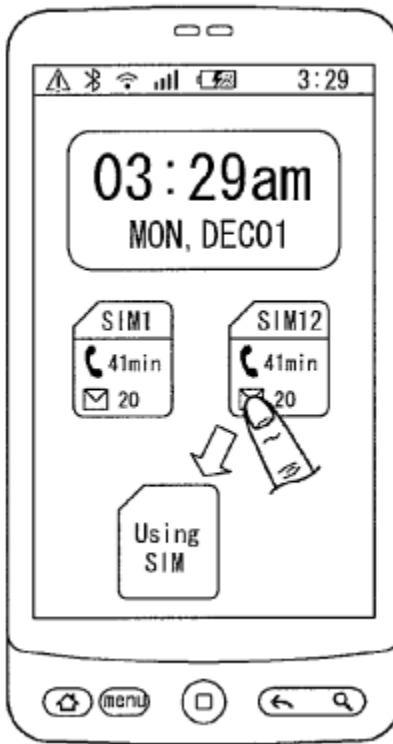


FIG. 7A

EX1010, Fig. 7A. Consistent with this description in the prior art, a POSITA would have understood that Chae's and Narendra's disclosures of user-interface screens with multiple "widgets" meet the "widget screen user interface" limitation of claim 1. EX1003 ¶93.

Chae's description related to its Figure 22 embodiment supports that Chae uses the term "widget" to refer to a user interface object that displays content generated by an associated application without needing to (but being able to) open the application. Figure 22 depicts "widgets that show use-state information of the first and second SIMs." EX1005 ¶152.

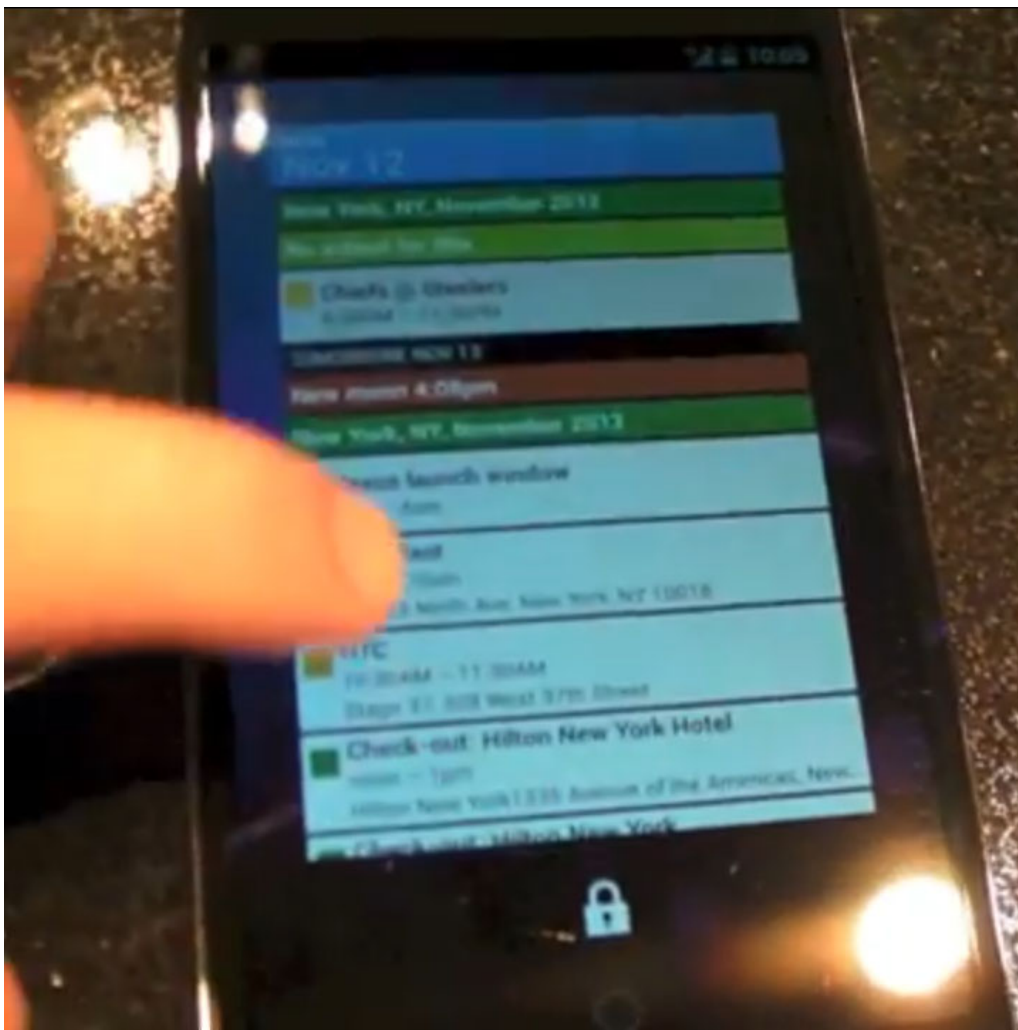


EX1005, Fig. 22. A POSITA would have understood that the referenced “use-state information” includes minutes of talk time associated with each SIM (41 minutes in the illustrated example) and messages associated with each SIM (20 messages in the illustrated example). Thus, the use-state information displayed on each widget is “application content from an application corresponding to the respective user interface object,” as recited by claim 1. The illustrated widgets of Figure 22 further support that Chae’s disclosure of a screen including multiple widgets satisfies the “widget screen user interface” limitation of claim 1. EX1003 ¶94.

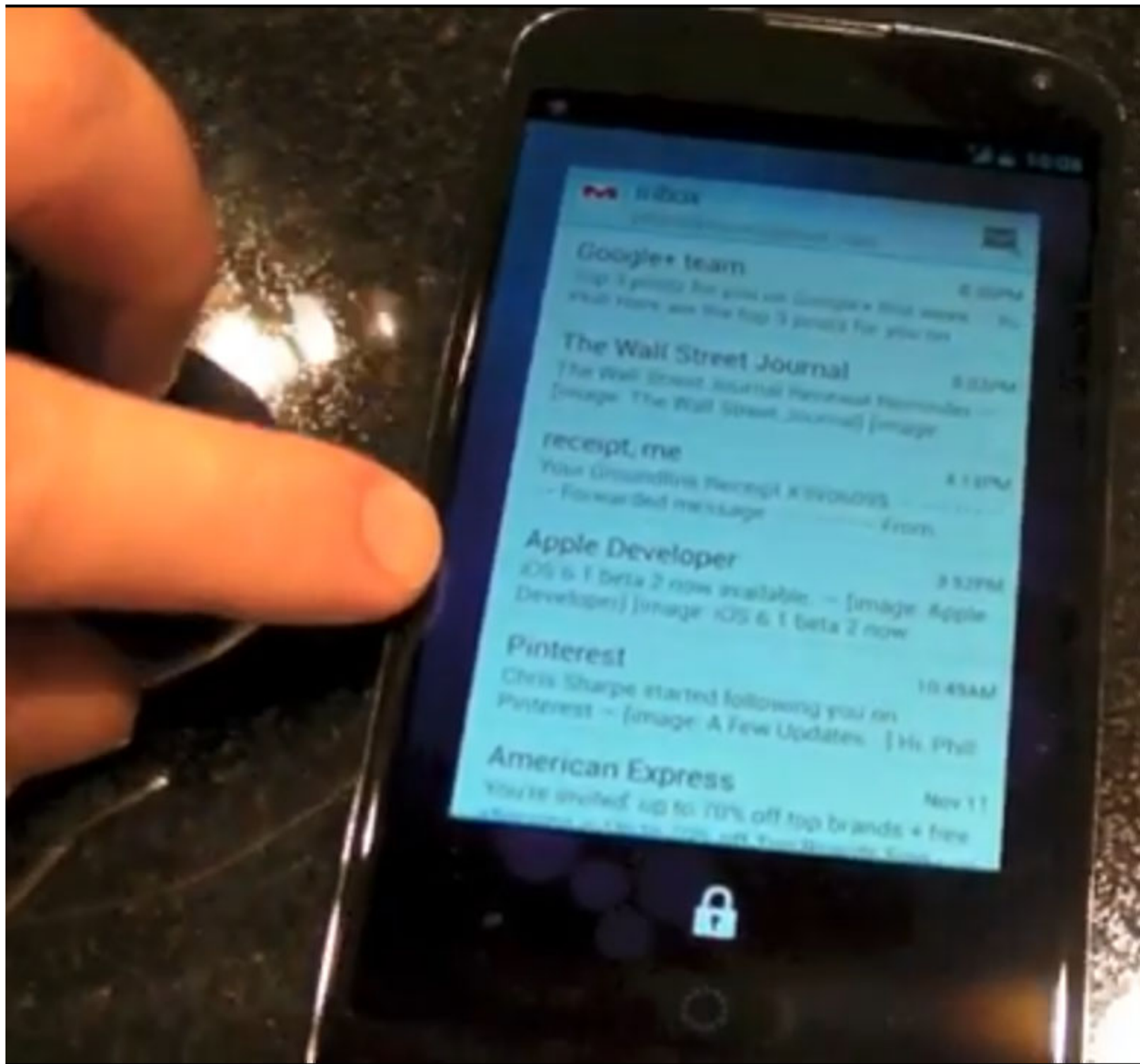
Android further supports that a POSITA would have understood a “widget” to be a user interface object containing application content from an application corresponding to the user interface object. The video repeatedly refers to “widgets”

such as a calendar widget, digital clock widget, email widget, or messaging widget.

See generally EX1007. The referenced widgets are user interface objects containing content from an application corresponding to the user interface object. The screenshot below shows the calendar widget containing content summarizing scheduled events from a calendar application:



Id. at 1:11. The screenshot below shows an email widget containing content summarizing email messages:



Id. at 2:06. Other examples are shown throughout the video. *See generally id.*⁶ EX1003 ¶95.

Alternatively, if Chae is interpreted as not disclosing multiple widgets on its Figure 6(b) screen, a POSITA would have been motivated to add multiple widgets

⁶ Android is cited here as further evidence of the meaning of “widget.”

to that screen, thereby making it a “widget screen user interface” as claimed. It was well known before the ’352 patent that widgets advantageously display useful information generated by applications running in the background, without requiring the user to open the applications. For example, common widgets displayed the date and time of day, weather information such as the local temperature, and financial information such as stock quotes, without requiring the user to open a clock application, weather application, or financial application. The efficiency and convenience of using widgets to view such useful information without needing to open applications would have motivated a POSITA to include multiple widgets on Chae’s Figure 6(b) screen. A POSITA would have been motivated specifically to include **multiple** widgets (not just one) on a single screen so that as much useful information as possible could be viewed on a single screen without needing to switch between screens. Including multiple widgets on a single screen was a well-known technique of user-interface design to improve the user experience by reducing switching between screens. EX1003 ¶96.

That Chae calls the screen shown in Figure 6(b) a customized home screen does not mean it is not a “widget screen user interface.” Chae is not required to use the exact claim phrase “widget screen user interface” for a POSITA to determine that the disclosed Figure 6(b) screen includes multiple widgets, and, thus, satisfies the claim language defining a “widget screen user interface.” *See, e.g., In re Bond,*

910 F.2d 831, 832 (Fed. Cir. 1990) (disclosure need not be *ipsissimis verbis*).
EX1003 ¶97.

Further, it is irrelevant that Chae implements the functionality depicted by Figure 3 on a smartphone with two SIM cards. The '352 patent claims are not limited to single-SIM devices and do not exclude multi-SIM devices. Thus, Apple cannot distinguish the claims from Chae on the basis that Chae uses two SIM cards instead of one. *See In re Roslin Inst. (Edinburgh)*, 750 F.3d 1333, 1338 (Fed. Cir. 2014) (unclaimed differences do not support patentability). In any event, Narendra discloses using directional swipe gestures to navigate between multiple GUI screens on a single-SIM smartphone. EX1006, Fig. 16 (single SIM card 1610), ¶25 (application icons and widgets), Figs. 1-3 (navigation using directional swipe gestures). Convenience, efficiency, and ease of use would have motivated a POSITA to implement directional-swipe-gesture navigation, as taught by Chae and Narendra, on either single-SIM or multi-SIM touchscreen devices. EX1003 ¶98.

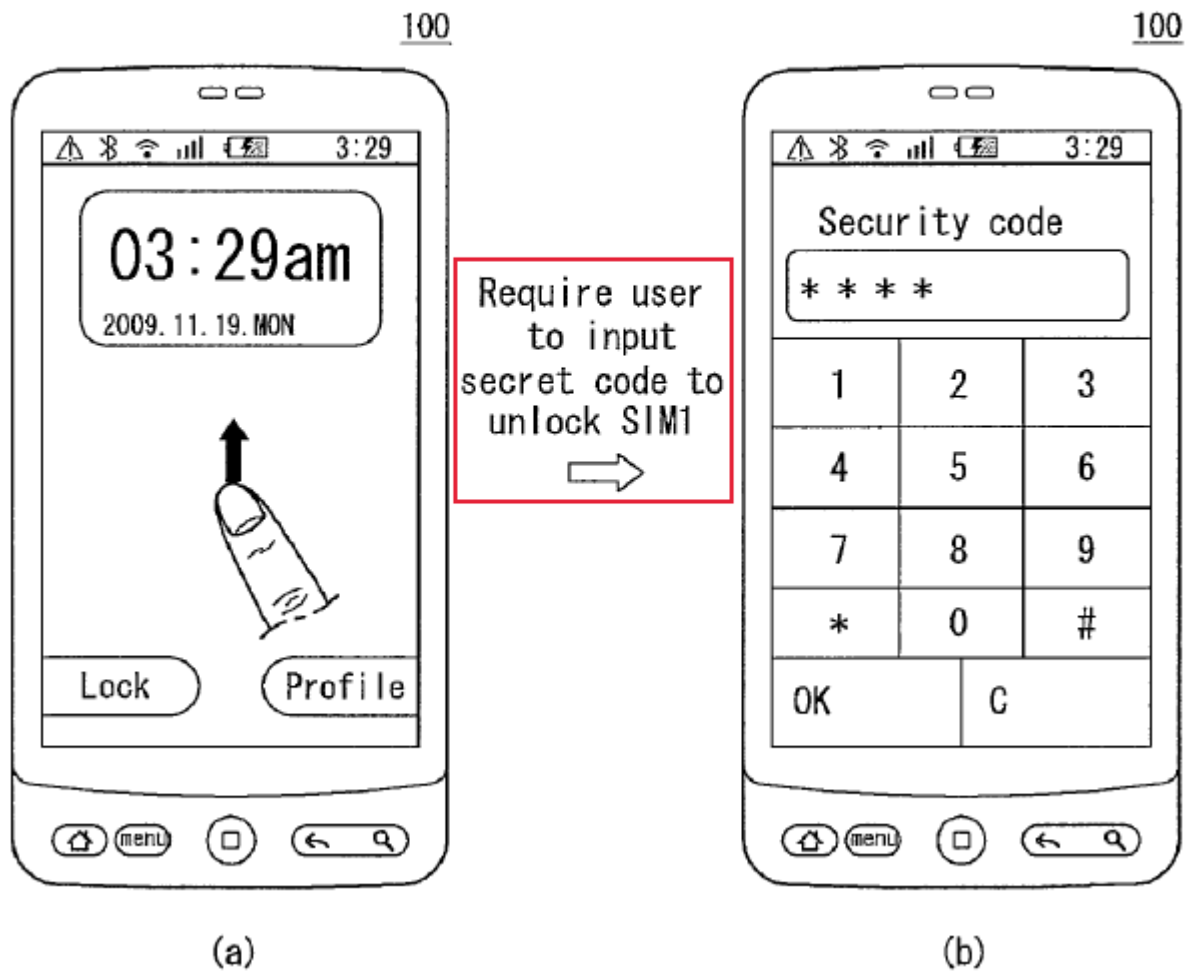
Accordingly, Chae's Figure 6(b) screen is or makes obvious a "widget screen user interface" as recited in limitation 1g. EX1003 ¶99.

For the foregoing reasons, claim 1 would have been obvious in view of Chae and Narendra. EX1003 ¶100.

2. Claim 2

Claim 2 depends on claim 1 and further recites that the wake screen user interface “has a first state that corresponds to an authenticated state of the computer system and a second state that corresponds to an unauthenticated state of the computer system.” Chae discloses this limitation. Specifically, Figure 4 illustrates the “first ... authenticated state” and Figure 5 illustrates the “second ... unauthenticated state.” Both Figures 4 and 5 illustrate a bottom-to-top swipe for unlocking the first SIM. EX1005 ¶¶104-105. Figure 4 does not require additional authentication, showing that the device is already authenticated. *Id.* But Figure 5 requires “inputting a secret code,” as shown below.

FIG. 5



Id., Fig. 5 (annotated); *see also id.* ¶106. A POSITA would have understood that inputting a secret code is a form of authentication. EX1003 ¶¶101-102.

Therefore, Figure 4 illustrates the Figure 4(a) wake screen starts out in a “first ... authenticated state,” while Figure 5 illustrates the Figure 5(a) wake screen starts out in a “second ... unauthenticated state.” Accordingly, claim 2 would have been obvious. EX1003 ¶¶101-103.

3. Claim 6

Claims 3-6 are dependent claims that merely recite different navigation paths for moving among the same wake, home, and widget screens recited in claim 1 in response to a swipe gesture in a particular direction.⁷ A POSITA would have understood these claims' added limitations are trivial and obvious variations of the basic concept of navigating from one user-interface screen to another using directional swipe gestures that both Chae and Narendra disclose. In view of Chae's and Narendra's disclosures, a POSITA would have recognized that directional swipe gestures are an efficient and convenient mechanism for accessing any user-interface screen from any other screen. EX1003 ¶104.

Once a POSITA understood the basic prior-art concept of navigating between screens using directional swipe gestures, the POSITA would have understood that choosing a particular navigational path for moving among the user-interface screens and associating a particular directional swipe gesture with each movement is a simple matter of choosing from a finite number of design choices. For example, for each navigational path (such as from the wake screen to the home screen, from the home screen to the widget screen, etc.) the POSITA would simply need to choose

⁷ Claims 3-5 are addressed in Ground 3 below.

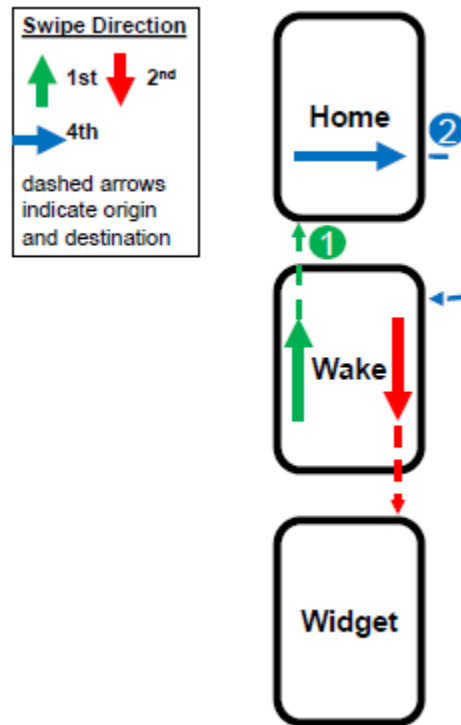
from a finite set of directional swipe gestures (such as swipe left, swipe right, swipe up, swipe down, etc.) to associate with that navigational path. EX1003 ¶105.

A POSITA would have also understood the benefit of permanently associating a specific directional swipe gesture with a particular screen (such as the home screen) such that a user can always use the specific gesture to navigate to the particular screen regardless of the user's origin screen. In addition, a POSITA would have understood the benefit of a context-sensitive navigational system in which the destination screen to which the user navigates in response to a particular directional swipe gesture depends on the origin screen. A POSITA would not have had difficulty combining these approaches by permanently associating a specific directional swipe gesture with the home screen but using a context-sensitive navigational system to navigate among non-home screens. EX1003 ¶106.

Accordingly, it would have been obvious to choose among the finite design choices described above to yield any of the specific navigational paths and associated directional swipe gestures recited by claims 3-6. EX1003 ¶107.

With respect to claim 6, specifically, claim 6 depends on claim 1 and further allows the user to return to the wake screen after navigating to the home screen from the wake screen. Claim 6 recites that the user returns to the wake screen from the home screen by swiping in a different direction than the user swipes to access either

the home screen or the widget screen from the wake screen. Below is a graphical representation of the two-step navigational path of claim 6.⁸

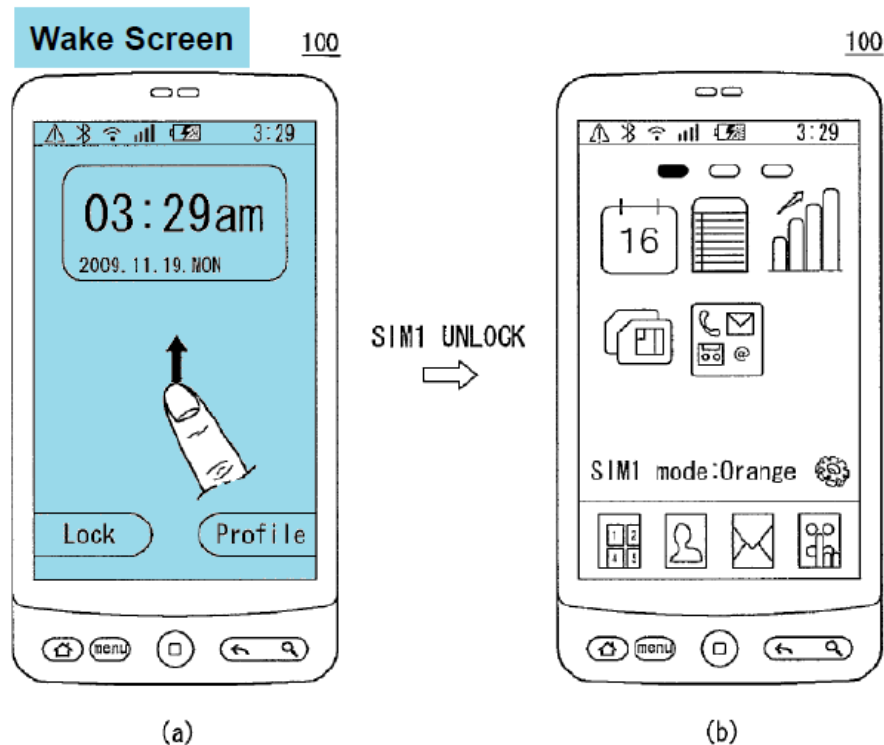


EX1003 ¶108.

⁸ The illustrative graphics for claims 3-8 focus on illustrating available navigational paths between various user-interface screens and do not illustrate other claim limitations, which are addressed elsewhere in this Petition. Further, the graphics illustrate *general* concepts, not a *precise* navigational map required by the claims. For example, the solid arrows in the graphic above are meant to illustrate that the first, second, and fourth directions are *different* from each other, *not* that they must be a bottom-to-top swipe, a top-to-bottom swipe, and a left-to-right swipe.

It would have been obvious to allow the user to return to the wake screen to lock the smartphone. As shown by Chae's Figure 4(a), the smartphone is or may be locked while on the wake screen.

FIG. 4



EX1005, Figs. 4(a) (annotated) & 4(b). The enhanced security of locking the smartphone would have motivated a POSITA to allow the user to return to the wake screen. However, because a wake screen generally has much more limited functionality than a home screen or widget screen, a POSITA would have been motivated to provide, and would reasonably have expected success in providing, a *different* directional swipe gesture for returning to the wake screen than used to access the home screen or widget screen, to reduce the likelihood of user confusion

or inadvertent access of the wake screen. This directional swipe gesture satisfies the claim language of a “fifth input that is directed to a portion of the home screen” and includes “fifth movement” in a “fourth direction” meeting “sixth criteria” of being “different from the first direction and the second direction.” EX1003 ¶109.

4. Claim 9

Claim 9 is essentially the same as claim 1 in the form of a computer system with a processor that executes instructions stored in memory to perform the method of claim 1. Claim 9 would have been obvious in view of Chae and Narendra. EX1003 ¶111.

a. Limitation 9a (preamble)

The preamble recites a “computer system.” Chae discloses that its invention “can be implemented in a computer or similar device readable recording medium using software, hardware or a combination thereof.” EX1005 ¶89. EX1003 ¶112.

b. Limitation 9b1

Chae discloses the claimed “display generating component and one or more input devices.” *See supra* V.A.1.b. EX1003 ¶113.

Limitation 9b1 also recites “one or more processors.” Chae discloses that its invention “can be implemented using ... ASICs, ... DSPs,” or other types of “processors.” EX1005 ¶90. Chae generally calls the processor “the controller 180.” *Id.* EX1003 ¶114.

Accordingly, Chae discloses limitation 9b1. EX1003 ¶115.

c. Limitation 9b2

Chae discloses that its “procedures or functions can be implemented” using “software codes” that can be “stored in the memory 160 and executed by the controller 180.” EX1005 ¶91. A POSITA would have understood that the disclosed “software codes” are “instructions” as claimed. EX1003 ¶116.

Accordingly, Chae discloses limitation 9b2. EX1003 ¶117.

d. Limitations 9c-9g

Limitations 9c through 9g are identical to limitations 1c through 1g, which Chae and Narendra disclose. *See supra* V.A.1.c-V.A.1.g. EX1003 ¶118.

5. Claim 17

Claim 17 is essentially the same as claim 1 in the form of a computer-readable storage medium comprising instructions that, when executed by a processor, perform the method of claim 1. Claim 17 would have been obvious in view of Chae and Narendra. EX1003 ¶120.

a. Limitation 17a (preamble)

The preamble recites a “computer-readable storage medium.” Chae discloses that its invention “can be implemented in a computer or similar device readable recording medium using software, hardware or a combination thereof.” EX1005 ¶89. EX1003 ¶121.

b. Limitation 17b

Chae discloses the claimed “display generating component and one or more input devices.” *See supra* V.A.1.b. EX1003 ¶122.

Limitation 17b also recites “instructions, the instructions, when executed by one or more processors ... cause the processors to perform the operations.” Chae discloses that its invention “can be implemented using ... ASICs, ... DSPs,” or other types of “processors.” EX1005 ¶90. Chae generally calls the processor “the controller 180.” *Id.* Chae discloses that its “procedures or functions can be implemented” using “software codes” that can be “stored in the memory 160 and executed by the controller 180.” EX1005 ¶91. A POSITA would have understood that the disclosed “software codes” are “instructions” as claimed. EX1003 ¶123.

Accordingly, Chae discloses limitation 17b. EX1003 ¶124.

c. Limitations 17c-17g

Limitations 17c through 17g are identical to limitations 1c through 1g, which Chae and Narendra disclose. *See supra* V.A.1.c-V.A.1.g. EX1003 ¶125.

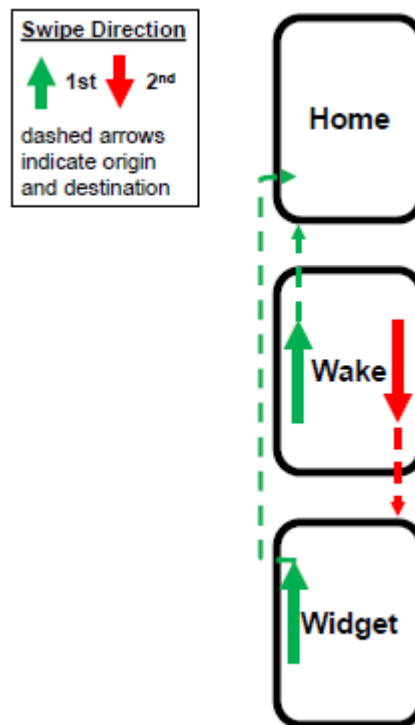
6. Claims 10, 14, 18, and 22

Claims 10 and 14 and 18 and 22 are identical to claims 2 and 6 except they depend directly or indirectly on claims 9 or 17 instead of claim 1. Therefore, for the same reasons as claims 1, 2, 6, 9, and 17, claims 10, 14, 18, and 22 would have been obvious. *See supra* V.A.1-V.A.5. EX1003 ¶127.

B. Ground 2: Claims 3-5, 11-13, and 19-22 would have been obvious in view of Chae, Narendra, and Shuttleworth.

1. Claim 3

Claim 3 depends on claim 1 and further recites navigating to the home screen from the widget screen by swiping in the same direction that the user swipes to access the home screen from the wake screen. Below is a graphical representation of the available navigational paths for claim 3.



As explained above, claim 1 would have been obvious in view of Chae and Narendra. In addition, it would have been obvious in further view of Shuttleworth to allow the user to access the home screen from the widget screen *using the same directional swipe gesture that the user would use to access the home screen from the wake screen*. EX1003 ¶128.

Shuttleworth discloses using a consistent directional swipe gesture to access the home screen from any other screen, thereby replacing hardware or virtual home buttons:

Because the Home screen can be reached so readily by a swipe from the left edge of the phone, there is no need for a dedicated hardware Home button, unlike iOS, or soft button as in Android.

EX1008 ¶353. Shuttleworth further explains:

In one implementation, the swipe is a long swipe in from the left edge; a commit gesture (e.g. a release) after the home screen appears causes the home screen to be displayed after the commit.

Id. ¶359.⁹ And Shuttleworth does not limit the swipe as necessarily coming from the left edge, also disclosing that “a swipe in from *an* edge brings up a home screen.”

Id. ¶358 (emphasis added). EX1003 ¶129.

Consistent with Shuttleworth’s teaching, a POSITA would have understood that providing the user a consistent mechanism to access the home screen from any other screen was a well-known and accepted user-interface design practice for

⁹ That the swipe is followed by a “commit gesture (e.g. a release)” does not differentiate the swipe from the “second input” of claim 3. Claim 3’s open-ended recitation that the “second input ... *includes* second movement” allows the input to also include a commit gesture.

enhancing efficiency and ease of use. Consistent with this well-known practice and Shuttleworth's disclosure, a POSITA would have known that prior-art smartphones typically included a binary, dedicated mechanism, such as a physical or virtual home button, for accessing the home screen from any other screen. Using a consistent directional swipe gesture to access the home screen, whether from the wake screen or a widget screen, would have been an obvious substitute for a physical or virtual home button. A POSITA would have understood that using a consistent directional swipe gesture to access the home screen enhances ease of use, efficiency, and convenience by allowing the user to learn a single gesture for accessing the home screen. Therefore, a POSITA would have been motivated to allow the user to access the home screen from the widget screen using the same directional swipe gesture that the user would use to access the home screen from the wake screen, as recited by claim 3. EX1003 ¶130.

Further, a POSITA would have reasonably expected success in making such modification. There would have been no technical obstacle to configuring Chae or Narendra to allow the user to access the home screen from the widget screen using the same directional swipe gesture that the user would use to access the home screen from the wake screen. Indeed, a POSITA would have understood that all gestures, including directional swipe gestures, are easily configurable to be associated with any action, such as navigating between different screens, that can be triggered by a

gesture. For example, a prior-art patent application discloses allowing users “to define and modify mappings between (1) gestures and (2) actions performed by one or more computing devices in response to a device detecting performance of a gesture.” EX1009, Abstract. This disclosure of user-modifiable mappings between gestures and actions demonstrates the technical ease of configuring Chae or Narendra to allow the user to access the home screen from the widget screen using the same directional swipe gesture that the user would use to access the home screen from the wake screen.¹⁰ This directional swipe gesture satisfies the claim language of a “second input that is directed to a portion of the widget screen” and includes “second movement” meeting “third criteria” of being “in the first direction.” EX1003 ¶131.

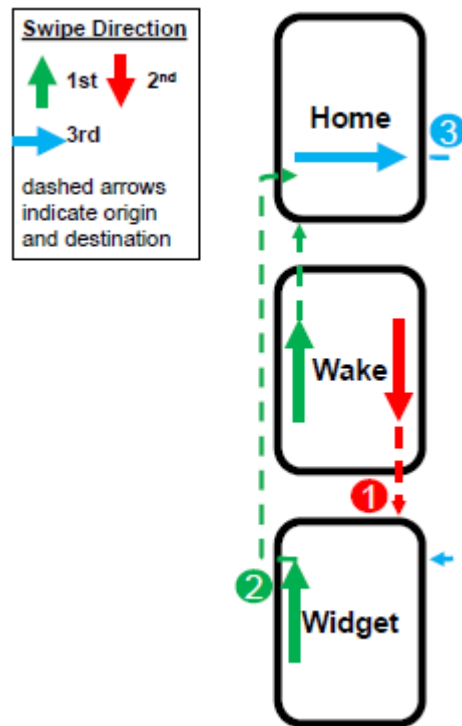
Accordingly, claim 3 would have been obvious in view of Chae, Narendra, and Shuttleworth. EX1003 ¶132.

2. Claim 4

Claim 4 depends on claim 3 and further recites returning to the widget screen from the home screen (after navigating to the home screen from the widget screen per claim 3) by swiping in a different direction than the user swipes to access either

¹⁰ The de Sa publication is cited herein to support motivation to combine and reasonable expectation of success.

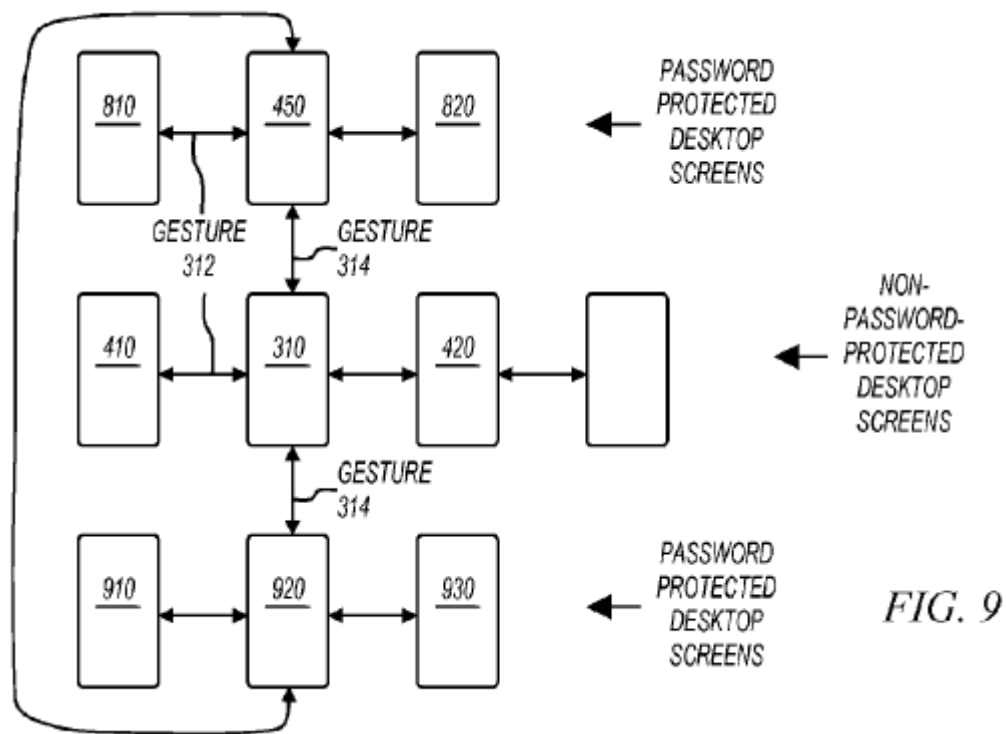
the home screen or the widget screen from the wake screen. Below is a graphical representation of the three-step navigational path of claim 4.



EX1003 ¶133.

Claim 4 would have been obvious in view of Chae and Narendra. For the same reasons explained above, a POSITA would have been motivated by efficiency and convenience to allow a user to return to the widget screen after accessing the home screen using a directional swipe gesture. *See supra* V.A.3, V.B.1. In addition, a POSITA would have been motivated to allow the user to return to the widget screen from the home screen *using a different directional swipe gesture than the user would use to access either the home screen or the widget screen from the wake screen*. EX1003 ¶¶134-135.

As explained above, it was common to provide a dedicated directional swipe gesture, as a substitute for a physical or virtual home button, for navigation to the *home* screen. However, for *non-home* screens, it was common to provide a context-sensitive navigational system, in which the destination screen to which the user navigates in response to a particular directional swipe gesture depends on the origin screen. Narendra illustrates such a navigational system in Figure 9:



EX1006, Fig. 9. As shown, a user would swipe right from screen 410 to navigate to screen 310, but would swipe left from screen 420, down from screen 450, or up from screen 920 to navigate to the same screen 310. Therefore, before the '352 patent, smartphone users would have been familiar with navigating to a non-home

destination screen by swiping in one direction from one origin screen but swiping in a different direction from a different origin screen. A POSITA would have understood that such a navigational system is easy to learn and use because, as explained above, it is consistent with a familiar mental model of the current screen being part of a larger “map” with additional screens located to the left, right, up, or down. A POSITA would have also understood that this navigational system would scale easily to provide quick, efficient, and easy access to as many screens as desired because it does not require assigning a dedicated directional swipe gesture to every screen. Providing a familiar user experience for quickly, efficiently, and easily accessing multiple screens would have motivated a POSITA to configure Chae or Narendra to allow a user to navigate to the widget screen from the wake screen by swiping in one direction but to navigate to the widget screen from the home screen by swiping in a different direction, as recited by claim 4. EX1003 ¶136.

This motivation for claim 4 is consistent with the POSITA’s motivation to configure Chae and Narendra to provide access to the home screen using a consistent directional swipe gesture per claim 3. While recognizing the efficiency of providing direct access to a commonly accessed home screen using a dedicated directional swipe gesture (as a replacement for a home button), a POSITA would have understood that providing such direct access to multiple screens would be

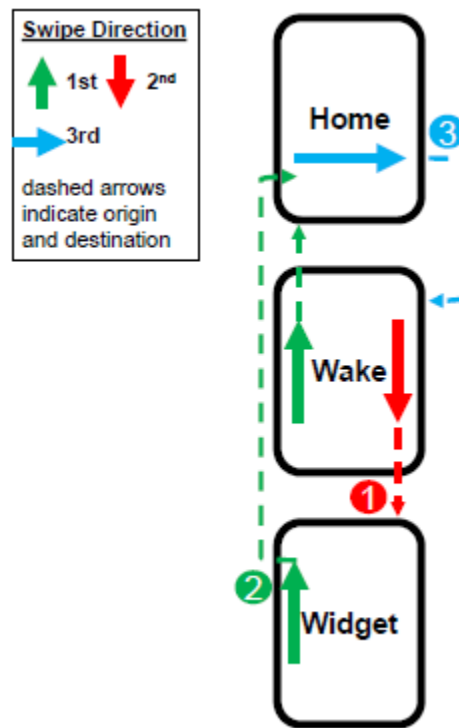
logistically difficult and would not scale well because each directly accessible screen would require its own dedicated directional swipe gesture. EX1003 ¶137.

Further, as discussed for claim 3, there would have been no technical obstacle to, and a POSITA would have reasonably expected success in, configuring Chae or Narendra in accordance with claim 4. *See supra* V.B.1.¹¹ The directional swipe gesture in such configuration satisfies the claim language of a “third input that is directed to a portion of the home screen” and includes a “third movement” in a “third direction” meeting “fourth criteria” of being “different from the first direction and the second direction.” Thus, claim 4 would have been obvious. EX1003 ¶¶138-139.

3. Claim 5

Claim 5 depends on claim 3 and further recites navigating to the wake screen from the home screen (after navigating to the home screen from the widget screen per claim 3) by swiping in a different direction than the user swipes to access either the home screen or the widget screen from the wake screen. Below is a graphical representation of the three-step navigational path of claim 5.

¹¹ *See* footnote 10.



EX1003 ¶140.

Claim 5 is essentially the same as claim 4 except the user navigates from the home screen to the wake screen instead of to the widget screen. Simply navigating to a different screen is not a patentable distinction. Thus, as discussed for claims 3 and 4, claim 5 would have been obvious. *See supra* V.B.1-V.B.2. The directional swipe gesture in this configuration satisfies the claim language of a “fourth input that is directed to a portion of the home screen” and includes “fourth movement” in a “third direction” meeting “fifth criteria” of being “different from the first direction and the second direction.” EX1003 ¶¶141-142.

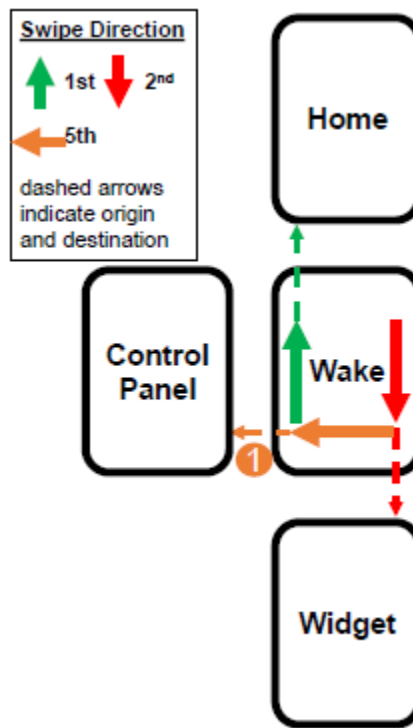
4. Claims 11-13 and 19-21

Claims 11-13 and 19-21 are identical to claims 3-5 except they depend directly or indirectly on claims 9 or 17 instead of claim 1. Therefore, as with claims 3-5, claims 11-13 and 19-21 would have been obvious in view of Chae, Narendra, and Shuttleworth. *See supra* V.B.1-V.B.3. EX1003 ¶¶143.

C. Ground 3: Claims 7, 8, 15, 16, 23, and 24 would have been obvious in view of Chae, Narendra, and Karunamuni.

1. Claim 7

Claim 7 depends on claim 1 and further recites navigating from the wake screen to a control panel by swiping in a different direction than the user swipes to access either the home screen or the widget screen from the wake screen. Below is a graphical representation of the navigational path of claim 7.



EX1003 ¶144.

Karunamuni discloses a smartphone control center that is a “control panel” as claimed.

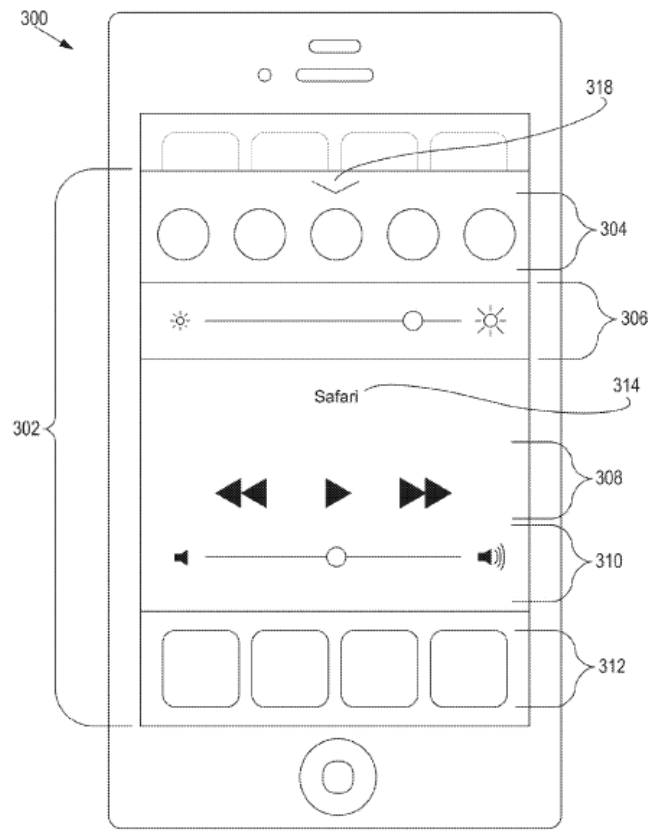


FIG. 3

EX1011, Fig. 3. Karunamuni describes the controls:

As shown, slider 306 is operable to change the brightness of the display of the mobile device. Slider 310 is operable to change the volume of the sound output of the mobile device.

Id. ¶17. Thus, a POSITA would have understood that the disclosed control center is a “control panel user interface that is different from the wake screen user interface and the widget screen user interface” and “includes a plurality of controls for controlling one or more device functions of the computer system.” EX1003 ¶145.

Figure 13 discloses accessing the control center from “the lock screen” using a directional swipe gesture.

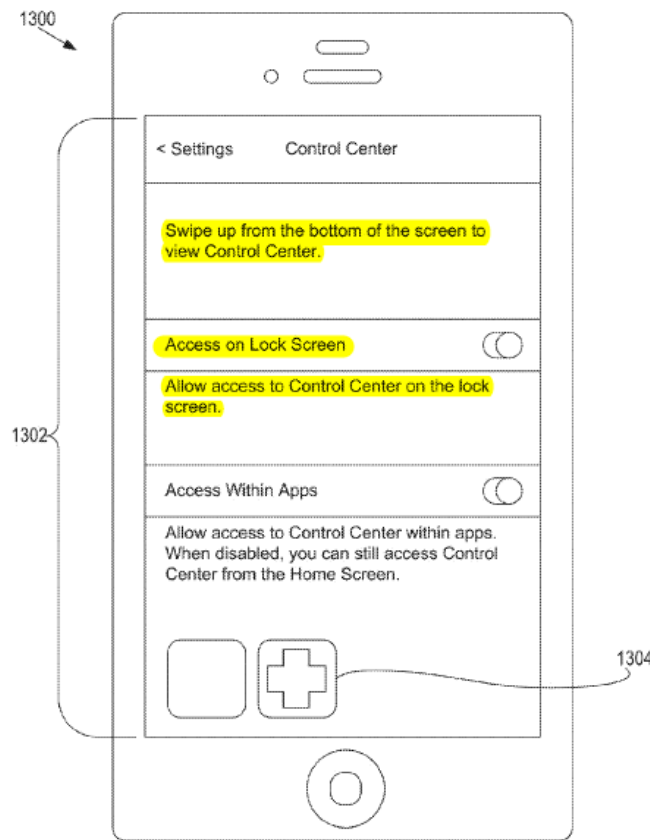
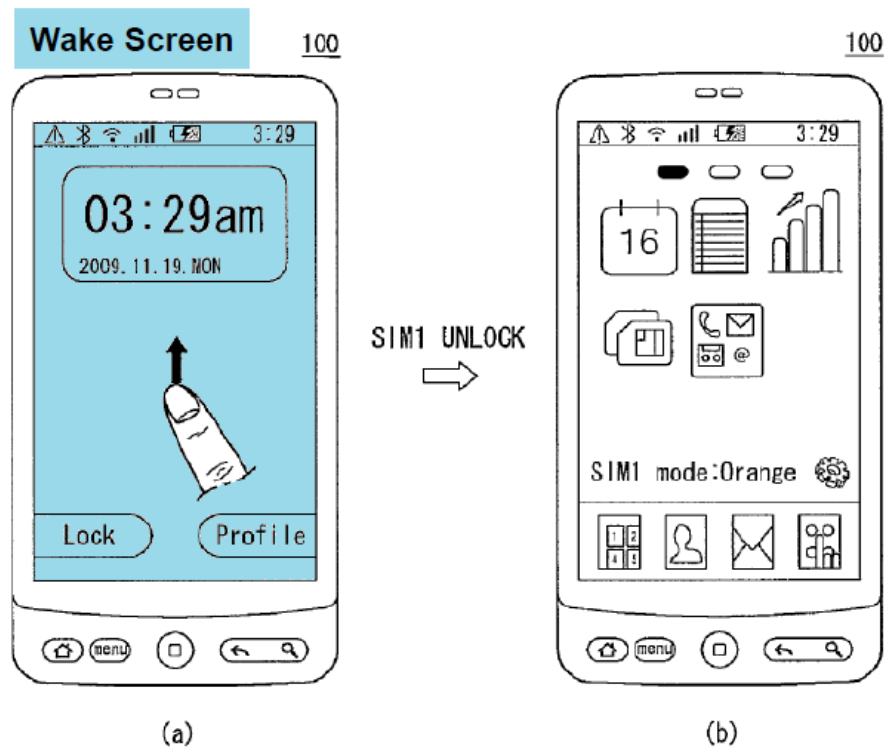


FIG. 13

Id., Fig. 13 (annotated). A POSITA would have understood that a “lock screen,” as disclosed by Karunamuni, was typically also a “wake screen,” as claimed, because, typically, a device is in a locked state upon waking up, and, thus, the wake screen the user interacts with upon the device waking up is the lock screen. Indeed, as explained above and illustrated below, Chae’s wake screen is a lock screen upon

which the user may perform a swipe gesture to unlock a SIM and navigate to a different screen.

FIG. 4



EX1005, Figs. 4(a) (annotated) & 4(b). Accordingly, Karunamuni either discloses, or at least makes obvious, accessing the control center from the wake screen using a directional swipe gesture. EX1003 ¶146.

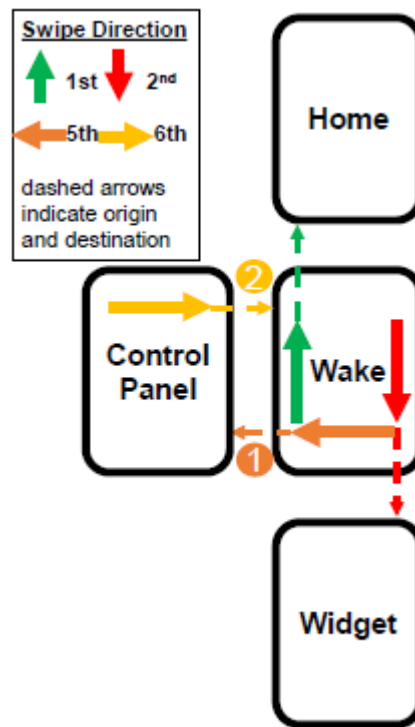
Figure 13 specifically discloses swiping “up from the bottom of the screen to view Control Center.” EX1011, Fig. 13. As explained above, Chae discloses swiping in the same “bottom-to-top” direction to navigate from the wake screen to the home screen. However, a POSITA would have understood that a properly functioning GUI would unambiguously associate each gesture-invokable GUI action

with a unique gesture. A POSITA would have also understood that associating gestures that are too similar to each other with different GUI actions should be avoided to reduce the risks of user confusion and unintentional invocation of GUI actions. Accordingly, to enhance ease of use and reduce the possibility of unintentional invocation of GUI actions, a POSITA would have been motivated to allow the user to navigate to the control center from the wake screen by swiping in a direction different from those used to navigate to the home screen or the widget screen from the wake screen. Such directional swipe gesture satisfies the claim language of a “first input that is directed to the portion of the wake screen” and includes “first movement” in a “fifth direction” meeting “seventh criteria” of being “different from the first direction and the second direction.” EX1003 ¶147.

Therefore, claim 7 would have been obvious in view of Chae, Narendra, and Karunamuni. EX1003 ¶148.

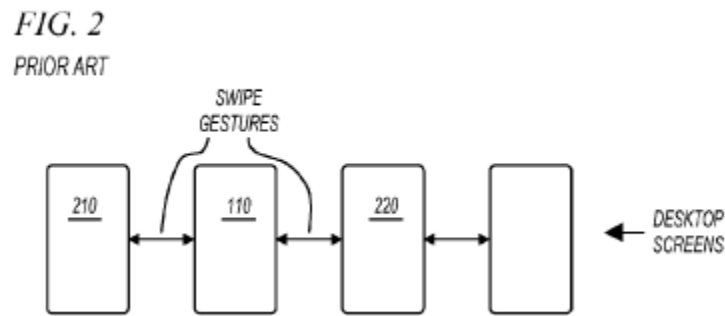
2. Claim 8

Claim 8 depends on claim 7 and further recites returning to the wake screen from the control panel by swiping in the opposite direction from that used to navigate from the wake screen to the control panel. Below is a graphical representation of the two-step navigational path of claim 8.



EX1003 ¶149.

Claim 8 would have been obvious in view of Chae, Narendra, and Karunamuni. It would have been intuitive to a POSITA (and to smartphone users generally) that, if swiping in one direction results in moving from an origin screen to a destination screen, then swiping in the opposite direction should result in moving from the destination screen back to the origin screen. Indeed, the traditional navigational path illustrated by Narendra's prior-art Figure 2 behaves in this intuitive manner.



EX1006, Fig. 2. As shown, a user starting at screen 110 would swipe right to navigate to screen 220 and would then swipe left (the opposite direction) to navigate back to screen 110. EX1003 ¶150.

Accordingly, to enhance ease of use and provide an intuitive user experience, a POSITA would have been motivated to allow the user to return to the wake screen from the control panel by swiping in the opposite direction from that used to navigate from the wake screen to the control panel, as recited by claim 8. Such directional swipe gesture satisfies the claim language of a “sixth input that is directed to a portion of the control panel” and includes “sixth movement” in a “sixth direction” meeting “eighth criteria” of being “opposite the fifth direction.” Claim 8, therefore, would have been obvious in view of Chae, Narendra, and Karunamuni. EX1003 ¶151.

3. Claims 15, 16, 23, and 24

Claims 15, 16, 23, and 24 are identical to claims 7 and 8 except that they depend directly or indirectly on claims 9 or 17 instead of claim 1. Therefore, as with

claims 1, 7, 8, 9, and 17, claims 15, 16, 23, and 24 would have been obvious. *See supra* V.A.1, V.A.4-V.A.5, V.C.1-V.C.2. EX1003 ¶152.

D. Ground 4: Claims 1, 2, 6, 9, 10, 14, 17, 18, and 22 would have been obvious in view of Chae and Narendra and further in view of Hong and/or Android.

Ground 1 relies on Chae and Narendra in the obviousness combination, with Hong and Android merely providing background knowledge of a POSITA. In the alternative, claims 1, 2, 6, 9, 10, 14, 17, and 22 would have been obvious in view of Chae and Narendra, and further in view of Hong and/or Android. EX1003 ¶¶153-157.

1. Ground 4.1

Claims 1, 2, 6, 9, 10, 14, 17, 18, and 22 would have been obvious in view of Chae, Narendra, and Hong. Chae and Narendra disclose user-interface screens with multiple “widgets.” *See supra* V.A.1.g. If such disclosure does not alone meet the “widget screen user interface” limitation of claim 1, it would have been obvious to modify Chae and Narendra to implement the specific widgets disclosed by Hong, such as “a clock, a calendar, a memo, search, a map, news,” etc. *See* EX1010 ¶¶4-5, Fig. 7A. Chae’s and Narendra’s general disclosure of screens with multiple widgets would have motivated a POSITA to search within the prior art for known details for implementing widgets and the POSITA would have easily located Hong and its detailed disclosure of widgets. EX1003 ¶154.

2. Ground 4.2

Claims 1, 2, 6, 9, 10, 14, 17, 18, and 22 would have been obvious in view of Chae, Narendra, and Android. Chae discloses waking up a smartphone from a power-saving state, as recited by limitation 1g. *See supra* V.A.1.c. If such disclosure is deemed insufficient, it would have been obvious to modify Chae to implement the detailed wake-up process disclosed by Android. *See* EX1007 at 0:24-0:28; *see also id.* at 0:40, 1:07, 2:30, 2:59, 3:20, 3:46. Chae’s general disclosure of waking up a smartphone would have motivated a POSITA to search within the prior art for known wake-up processes for smartphones and the POSITA would have easily located Android and its detailed disclosure of a wake-up process. EX1003 ¶155.

Chae and Narendra also disclose user-interface screens with multiple “widgets.” *See supra* V.A.1.g. If such disclosure does not alone meet the “widget screen user interface” limitation of claim 1, it would have been obvious to modify Chae and Narendra to implement the specific widgets disclosed by Android, such as the calendar and email widgets. *See* EX1007 at 1:11, 2:06. Chae’s and Narendra’s general disclosure of screens with multiple widgets would have motivated a POSITA to search within the prior art for known details for implementing widgets and the POSITA would have easily located Android and its detailed disclosure of widgets. EX1003 ¶156.

3. Ground 4.3

Claims 1, 2, 6, 9, 10, 14, 17, 18, and 22 would have been obvious in view of Chae, Narendra, Hong, and Android. A POSITA would have been motivated to combine both Hong and Android with Chae and Narendra in the manner and for the reasons set forth above with respect to Grounds 4.1 and 4.2. *See supra* V.C.1-V.C.2. EX1003 ¶157.

E. Ground 5: Claims 3-5, 11-13, and 19-22 would have been obvious in view of Chae, Narendra, and Shuttleworth and further in view of Hong and/or Android.

Ground 2 relies on Chae, Narendra, and Shuttleworth in the obviousness combination, with Hong and Android merely providing background knowledge of a POSITA. In the alternative, claims 3-5, 11-13, and 19-22 would have been obvious in view of Chae, Narendra, and Shuttleworth and further in view of Hong and/or Android. If Chae’s and Narendra’s disclosure of (1) waking up a smartphone from a power-saving state, as recited by limitation 1g and (2) the “widget screen user interface” limitation of claim 1 are deemed insufficient, it would have been obvious to modify Chae and Narendra to meet these limitations in the same manner and for the same reasons set forth above in Ground 4. *See supra* V.D. EX1003 ¶¶158-162.

F. Ground 6: Claims 7, 8, 15, 16, 23, and 24 would have been obvious in view of Chae, Narendra, and Karunamuni and further in view of Hong and/or Android.

Ground 3 relies on Chae, Narendra, and Karunamuni in the obviousness combination, with Hong and Android merely providing background knowledge of a POSITA. In the alternative, claims 7, 8, 15, 16, 23, and 24 would have been obvious in view of Chae, Narendra, and Karunamuni and further in view of Hong and/or Android. If Chae’s and Narendra’s disclosure of (1) waking up a smartphone from a power-saving state, as recited by limitation 1g and (2) the “widget screen user interface” limitation of claim 1 are deemed insufficient, it would have been obvious to modify Chae and Narendra to meet these limitations in the same manner and for the same reasons set forth above in Ground 4. *See supra* V.D. EX1003 ¶¶163-167.

VI. SECONDARY CONSIDERATIONS

Known secondary considerations should be considered but do not control an obviousness conclusion, particularly where, as here, a strong *prima facie* showing of obviousness exists. *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007). Petitioner is unaware of evidence of secondary considerations, and any such evidence could not outweigh the strong *prima facie* case of obviousness. Petitioner reserves the right to respond to any evidence of secondary considerations.

VII. DISCRETIONARY FACTORS FAVOR INSTITUTION

With respect to 35 U.S.C. § 314(a), *Fintiv* factors 2, 3, 4, and 6 strongly favor institution of this IPR, and factors 1 and 5 are neutral. With respect to factor 2, the final written decision in this IPR is expected long before trial in the Delaware Litigation. Apple filed its complaint in the Delaware Litigation less than five months ago, on October 20, 2022, and the most recent published statistics indicate that the median time to trial for a civil action in the District of Delaware is almost three years. EX1033.

For factor 3, the parties and the court have made little investment in the Delaware Litigation. No discovery or infringement or invalidity contentions have been exchanged and claim construction briefing has not started.

For factor 4, Petitioner stipulates that, if the Board institutes this IPR, Petitioner will not pursue, in the Delaware Litigation, the specific invalidity grounds for the challenged claims raised in this Petition or that reasonably could have been raised in this Petition. This stipulation “mitigates any concerns of duplicative efforts between the district court and the Board,” and, thus, factor 4 “weighs strongly in favor of not exercising discretion to deny institution.” *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 19 (PTAB Dec. 1, 2020) (precedential as to § II.A).

For factor 6, this Petition presents a compelling case of unpatentability of the challenged claims. For factor 1, Petitioner has not moved for a stay of the Delaware Litigation but may do so upon institution of this IPR. For factor 5, Petitioner Masimo is a defendant in the Delaware Litigation. In view of all circumstances, the judicial and administrative efficiency considerations underlying *Fintiv* are not implicated here. Therefore, the Board should institute this IPR.

With respect to 35 U.S.C. § 325(d), this Petition presents the first *inter partes* challenge to the '352 patent and none of the references the Petition relies on were considered during examination. Further, the references presented herein are materially better than the references considered during examination because, as shown above, they disclose every limitation of the independent claims, including the use of different directional swipe gestures to navigate to a home screen or a widget screen from a wake screen. By contrast, the Examiner found that the references considered during examination did not disclose all limitations of the independent claims. Therefore, this Petition presents new prior art and new patentability arguments that have never previously been before the Office.

VIII. CONCLUSION

Petitioner respectfully requests that the Board institute an IPR and cancel claims 1-24 of the '352 patent because they would have been obvious in view of the prior art referenced above. EX1003 ¶162.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: March 3, 2023

By: /Ted M. Cannon/
Ted M. Cannon (Reg. No. 55,036)
Customer No. 64,735

Attorney for Petitioner
Masimo Corporation

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that foregoing **PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 11,106,352**, exclusive of the parts exempted as provided in 37 C.F.R. § 42.24(a), contains 13,992 words and therefore complies with the type-volume limitations of 37 C.F.R. § 42.24(a).

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: March 3, 2023

By: /Ted M. Cannon/
Ted M. Cannon (Reg. No. 55,036)
Customer No. 64,735

Attorney for Petitioner
Masimo Corporation

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing **PETITION FOR
INTER PARTES REVIEW OF U.S. PATENT NO. 11,106,352** and **EXHIBITS
1001-1019, 1021-1022, 1031-1033, and 1041** are being served on March 3, 2023,
via Federal Express overnight delivery on counsel of record for U.S. Patent No.
11,106,352 as addressed below:

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