

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner

v.

SMITH INTERFACE TECHNOLOGIES, LLC

Patent Owner

Case IPR2024-01083

Patent No. 10,642,413

DECLARATION OF MARC DAVIS, Ph.D.

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I. INTRODUCTION

1. My name is Dr. Marc Davis, Ph.D. I have been retained by Smith Interface Technologies, LLC as an independent expert consultant in this inter partes review (“IPR”) proceeding before the United States Patent and Trademark Office (“PTO”).

II. PROFESSIONAL BACKGROUND

2. All of my opinions stated in this Declaration are based on my own personal knowledge and professional judgment. In forming my opinions, I have relied on my knowledge and experience in designing, developing, researching, and teaching the technology referenced in this Declaration.

3. I am over 18 years of age and, if I am called upon to do so, I would be competent to testify as to the matters set forth herein. I understand that a copy of my current curriculum vitae, which details my education and professional and academic experience, is being submitted as EX2002. The following provides a brief overview of some of my experience that is relevant to the matters set forth in this Declaration.

4. In 1984, I received my Bachelor of Arts degree in College of Letters at Wesleyan University in Middletown, Connecticut. I then received my Master of Arts degree in Literary Science and Philosophy in 1987 at the University of Konstanz in Germany. During my time at the University of Konstanz, I also worked

as a Research Coordinator in the Literary Science department where I initiated and managed computerization of a large scale, multiyear Intertextuality Research Project. Later, in 1990, I pursued my doctorate in Media Arts and Sciences at the Massachusetts Institute of Technology (MIT) Media Laboratory. This program focuses on the invention, study, and creative use of new technologies and draws on a number of other disciplines, including computer science, cognitive sciences, communications, design, and the expressive arts. For 5 years, I also worked as a research assistant in the MIT Media Laboratory, where I worked on various multimedia, user interface, and AI technologies in digital applications with a focus on iconic visual language interfaces and systems for video annotation, retrieval, and repurposing. I received my Doctor of Philosophy in Media Arts and Sciences from MIT in 1995.

5. For 5 years, partially overlapping my PhD program, I served as a Project Coordinator for Interval Research Corporation, a research laboratory created by Paul Allen, the Co-Founder of Microsoft. My role included leading and contributing to the technical and user interface development of digital media technologies, including media automation applications, visual language programming tools, and media interfaces and systems. During this time, my responsibilities also included researching other digital projects, including various

interactive applications. It was at Interval Research where I first began patenting my inventions, leading to over 240 patents in my career.

6. I then served as Chief Technology Officer and Co-Founder of Amova, which focused on the development of media automation and personalization technology. In my role, I was responsible for the technical research and development of innovative personalized media systems and applications. My focus included the design of user interfaces for multimedia websites and location-based live interactive multimedia systems.

7. From 2002 to 2006, I served as Assistant Professor at the UC Berkeley School of Information where I initiated and directed various media related research and development projects that involved user interfaces and user experiences among various technologies, in particular for mobile devices. My mobile research projects pioneered technologies and interfaces for capturing, tagging, and sharing photographs on mobile devices, including using the earliest smartphone with a camera introduced in the United States. The Mobile Media Metadata projects (MMM and MMM2) developed context-aware mobile media technology, applications, and user interfaces that leveraged contextual metadata—spatial, temporal, and social—to infer media content and support media tagging, sharing, and reuse, including breakthrough work in context-aware mobile face and place recognition. In addition, our project collaborated closely with social science and

design research to understand how and why people use mobile media technologies. These Mobile Media Metadata Data projects were sponsored by numerous commercial leaders in mobile and media technologies, including British Telecom, Hewlett-Packard, France Telecom, Nokia, Ricoh Innovations, AT&T, Opera Software, TEKES, and the UC Discovery Grant for Digital Media. Other projects that I directed at the UC Berkeley School of Information included: Media Streams Metadata Exchange (media metadata framework for annotating, retrieving, sharing, and remixing video on the Web); Active Capture (interactive cameras that use signal processing and computer-human interaction to capture high quality, reusable, annotated media assets); and Adaptive Media (adaptive media templates and automatic editing functions to mass customize and personalize media). In my time at UC Berkeley, I also served as Co-Founder and Executive Committee Member of the interdisciplinary UC Berkeley Center for New Media, an Advisory Board Member of the Art, Technology, and Culture Colloquium, and an Affiliated Faculty Member of the Berkeley Institute of Design. In addition to supervising doctoral and master's degree students at the UC Berkeley School of Information, I taught courses in "Information Organization and Retrieval", "Multimedia Information", "Digital Media Design Studio", and "Foundations of New Media", all of which involved teaching and mentoring students in user interface design.

8. In 2005, I founded and co-directed Yahoo! Research Berkeley, a joint research laboratory in partnership between UC Berkeley and Yahoo!, which produced a number of innovative public prototypes in mobile media and social media technology and applications. The development of these prototypes included extensive exploration of user and design interfaces, mobile computing, and media technology. From 2006-2009, I transitioned to the role of Chief Scientist and Vice President of Early Stage Products (ESP) for Yahoo! Connected Life (which included Yahoo!'s mobile and interactive television divisions), and I also served as Social Media Guru at Yahoo!, including working closely with Yahoo! CEO and Co-Founder Jerry Yang. My work at Yahoo! focused in particular on creating the technology, applications, and user interfaces for mobile devices and systems including mobile search, mobile social communications applications, and mobile advertising. In addition, I was very actively involved in patenting my inventions, producing over 100 patents while at Yahoo!.

9. I then served as Chief Scientist for Invention Arts where I focused on new approaches to how people can better control, share, and benefit from their personal data as well as new methods of strategic intellectual property development. At Invention Arts, I worked with the World Economic Forum's Rethinking Personal Data project. After my time at Invention Arts, I worked as a Partner Architect for Microsoft's Online Services Division. I and my team continued to work on early-

stage products and developed technology involving personal data, privacy, social computing, and personalized search. This technology included the development of user interface (UI) and the software architecture underlying the UI. I also worked as an elite inventor at Microsoft including co-inventing with Microsoft Co-Founder and Chairman Bill Gates and current Microsoft CEO Satya Nadella resulting in numerous patents.

10. I am the inventor or coinventor on over two hundred and forty (240) granted patents, involving various computing environments, especially mobile and media systems, applications, and user interfaces. In my time at the MIT Media Laboratory, Interval Research, Amova, UC Berkeley, Yahoo!, Invention Arts, and Microsoft, I worked on innovative technologies, applications, and user interfaces for media automation, context-aware computing, computer vision, mobile computing, social and mobile media, social and mobile search, sociotechnical systems, mobile and social advertising, and personal data technologies and applications. During my time teaching and working with these entities, I was also a member of the Institute of Electrical and Electronics Engineers Computer Society (IEEE), Association for Computing Machinery (ACM), and American Association for Artificial Intelligence (AAAI).

11. My *curriculum vitae* is attached as Attachment A and includes a listing of my research publications and patents on which I am an inventor. To help gauge

the impact of my work, it is important to note that my patents and research publications have earned an h-index of 88, demonstrating significant impact, and an i10-index of 237, reflecting the wide scope of my contributions ([Google Scholar](#)).

III. COMPENSATION

12. My work on this matter is being billed at my customary rate of \$400 an hour. Also, I am being reimbursed for reasonable expenses I incur in relation to my services. I have no pecuniary interest in the outcome of this proceeding. I understand I will be paid regardless of the outcome of any proceeding in which my work is used.

IV. LEGAL CONSIDERATION

13. I am not an attorney. My understanding of the law is based on information provided by counsel for Smith Interface Technologies, LLC.

A. Anticipation

14. I understand that a reference anticipates a claim if it discloses each and every element recited in the claim, arranged as in the claim, so as to enable a person of ordinary skill in the art (POSITA) to make and use the claimed invention without the need for undue experimentation in light of the general knowledge available in the art. I understand that a U.S. Patent document is presumed to have sufficient description to include sufficient detail for a person of ordinary skill in the art to make and use the subject matter that document describes.

15. I also understand that a claim limitation may be present in an alleged prior art reference either expressly or inherently, but inherency may be established only if such limitation is necessarily present in the reference. I understand inherency cannot be established by probabilities or possibilities, and the mere fact that a certain thing may result from a given set of circumstances is not sufficient to establish inherency.

B. Obviousness

16. I understand that a claimed invention is obvious and, therefore, not patentable if the subject matter claimed would have been obvious to a person of ordinary skill in the art at the time that the invention of the '413 Patent (a "POSITA"), which I have been asked to treat as August 5, 2011.

17. I understand that a claim can be obvious in view of a single prior art reference (e.g., via modification of that prior art reference) or multiple prior art references (e.g., via a combination of two or more prior art references), if such a modification or combination was within the skill of a POSITA. I understand that there must be some articulated reasoning with some rational underpinning to support a conclusion of obviousness. I also understand that to establish a finding of obviousness one must show that one of ordinary skill in the art would have had a motivation to combine the prior art references to produce the claimed invention and a reasonable expectation that the combination would be successful.

18. I further understand that exemplary rationales that may support a conclusion of obviousness include: (1) simply arranging old elements in a way in which each element performs the same function it was known to perform, and the arrangement yields expected results, (2) merely substituting one element for another known element in the field, if the substitution yields no more than a predictable result, (3) combining elements in a way that was “obvious to try” because of a design need or market pressure, where there was a finite number of identified, predictable solutions, (4) that design incentives or other market forces in a field would have prompted variations in a work that were predictable to a person of ordinary skill in the art, and (5) that there was some teaching, suggestion, or motivation in the prior art that would have led a POSITA to modify or combine prior art references to arrive at the claimed invention.

C. Claim Interpretation

19. I understand that a claim term is interpreted according to its ordinary and customary meaning as a POSITA would have understood the term in light of the surrounding claim language, other claims, the specification, and the patent’s prosecution history, which are referred to as intrinsic evidence. I also understand that prior art references cited in the patent’s prosecution history are considered intrinsic evidence. I further understand that evidence outside the patent and its prosecution history (e.g., dictionaries and technical articles) may inform the context

in which a POSITA would have understood the claims of a patent. I understand this ordinary and customary meaning applies absent unique circumstances, such as where a patent clearly expresses an intent to set forth a special meaning for a term.

D. Overview of Task & Basis for Opinions

20. I have been asked to review U.S. Patent No. 10,642,413 (referred to as “the ’413 Patent”). I have been asked to provide opinions related to certain issues from the perspective of a person of ordinary skill, having knowledge of the relevant art, as of August 5, 2011, and—except where otherwise noted—the opinions stated in this declaration are from that perspective. The qualifications and abilities of such a person are described in paragraph 24 below.

21. More particularly, I have been informed that this proceeding is currently at a preliminary stage during which the Patent Trial and Appeal Board (the Board) will decide whether the Petition establishes a reasonable likelihood of at least one claim of the ’413 Patent being invalid. At this preliminary stage, I have been asked to focus my analysis on the Petition’s proposed invalidity theories for the ’413 Patent’s independent claims 1 and 42.

22. My opinions are based on my education, training, and experience as well as items that I reviewed to prepare my opinions, including the Petition, the documents listed in the Exhibit List included with the Petition, and any other items that I reference in my below analysis.

23. I understand that other issues may arise that require further explanation, and I will provide that explanation if appropriate. As a result, I respectfully reserve the right to update and supplement this declaration and the information and opinions provided herein.

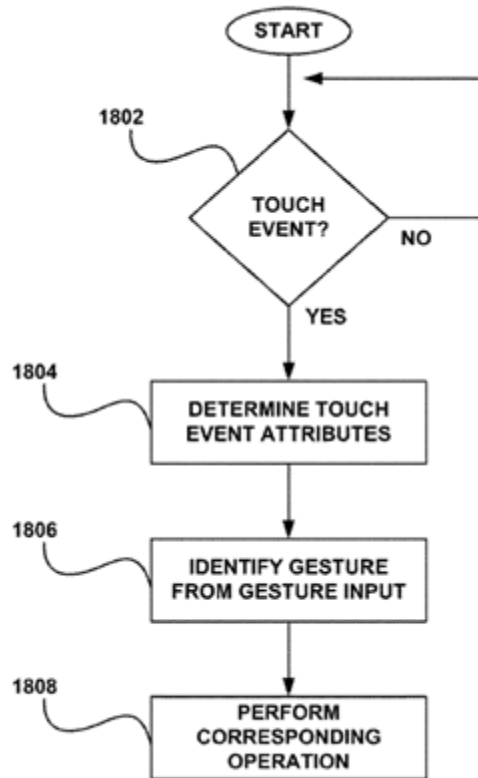
E. Level of Skill in the Relevant Art

24. I understand that a patent must be analyzed from the perspective of a person of ordinary skill in the art (“POSITA”) as of the time of invention of the patent, which is typically considered to be the patent’s earliest filing date. While I do not necessarily agree with every aspect of Dr. Terveen’s explanation of the level of ordinary skill in the art, I do not currently believe the aspects of that explanation I would change or clarify would impact the analysis set forth in this declaration. For purposes of this declaration, my opinions are therefore provided from the perspective of the POSITA described in paragraph 30 of Dr. Terveen’s declaration (EX1003) as of August 5, 2011. This POSITA would have a Bachelor’s degree in computer science, computer engineering, electrical engineering, human-computer interaction, or a comparable field and at least two years of professional experience in the design and development of graphical user interfaces (GUIs), human-computer interfaces, or equivalents thereof. However, additional years of experience could substitute for the advanced-level degree. My education, technical expertise and personal knowledge discussed in Section II shows that I meet the qualifications of a POSITA.

V. OVERVIEW OF THE '413 PATENT

25. The '413 Patent describes devices, methods and graphical user interfaces for manipulating user interface objects. EX1001, Title. For example, the '413 Patent describes a mobile device having various components, including user interface devices such as a touch screen. EX1001, 14:26-43. In operation, signals can be received in association with the touch interface (e.g., touch screen) and can correspond to a signal indicative of a touch interface being touched. Id., 14:63-15:18. The user experience can then be altered utilizing these touch signals. Id., 16:4-16, FIG. 3.

26. An example of these operations can be seen in FIG. 18, where attributes of touch events are detected, and gesture inputs related to these touch event attributes (both initial and over time) can be identified. EX1001, 56:63-57:22.



EX1001, FIG. 18.

27. These attributes can include the duration and/or distance of a gesture because often different gestures will be indistinguishable based on initial contact. EX1001, 56:63-57:22, 61:31-35. Once the gesture is identified, a corresponding operation can be performed (step 1808). EX1001, 57:38-39. Such operations can include the modification of one or more display attributes. EX1001, 57:64-65. Some such operations can involve sliding menus associated with particular edges of the touch screen. EX1001, 67:32-35, 67:37-38. And a user can cause different operations associated with particular menu items (e.g., open a contextual drop down menu associated with a particular menu item) to occur when

selecting the menu item based on a parameter of a gesture (e.g., contact pressure level) being less than or greater than thresholds. EX1001, 16:4-8, 30:35-44.

A. Independent Claims 1 and 101

28. Independent claims 1 and 101 of the '413 Patent are each directed to an “electronic device.” EX1001, 95:42-96:33, 112:37-113:29.

29. Claim 1 recites **[1a]** An electronic device, comprising: a display; a touch interface; one or more processors; memory; and one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the one or more programs including instructions for:

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

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

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

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

[1.d.ii] blurring at least a portion of the graphical user interface such that a magnitude of the blurring of the at least portion of the graphical user

interface progressively increases as a function of an increase in a magnitude of the first gesture being detected;

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

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

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

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

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

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

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

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

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

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

EX1001, 95:41-96:33

30. Claim 101 includes limitations similar to the Limitations [1a]-[1i] of claim 1 and clarifies that [101d] the one or more first menu items include a particular application icon. *Id.*, 112:37-113:29. Claim 101 also recites [101.e.iv] where the second operation is performed in response to the first duration of contact on the particular application icon being detected to surpass the threshold, and the first duration of contact being detected to include a slide gesture component after the first duration of contact on the particular application icon is detected to surpass the threshold. *Id.*

VI. OVERVIEW OF THE PRIOR ART

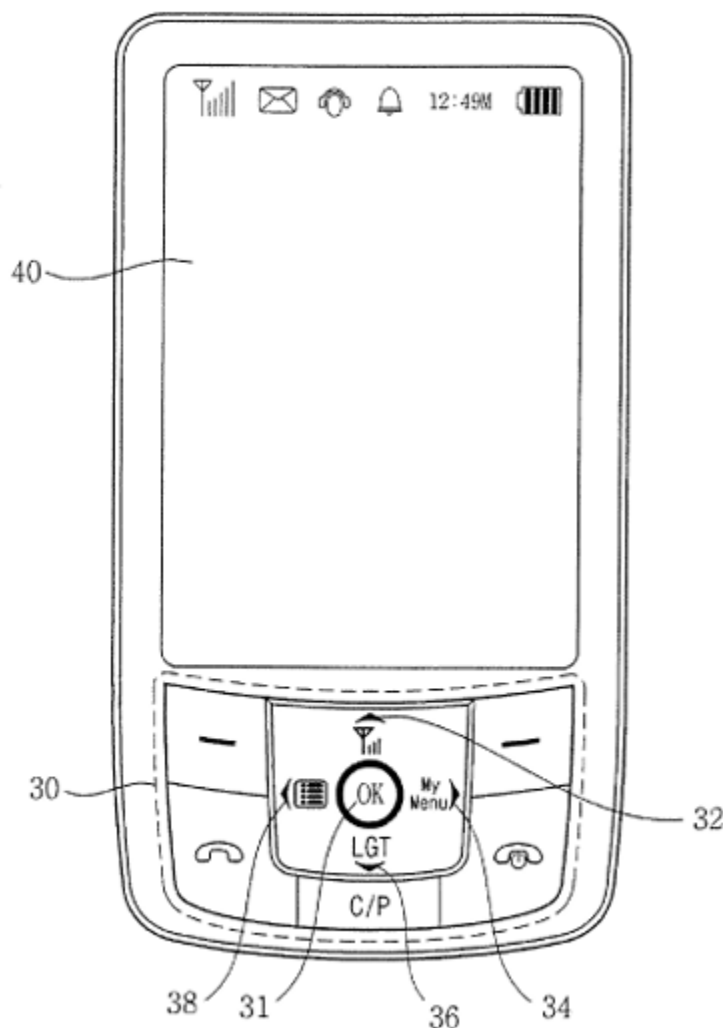
31. Dr. Terveen primarily relies on three cited references for his invalidity analysis. *See* EX1003, ¶56 (the Ahn-Chaudhri-Hinckley combination).

A. U.S. Patent App. No. 2008/0207188 (“Ahn”)

32. U.S. Patent App. No. 2008/0207188 is titled “Method of displaying menu in a mobile communication terminal” and lists as its first inventor Hye Sang Ahn. I will refer to this reference as “Ahn.”

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

FIG. 2



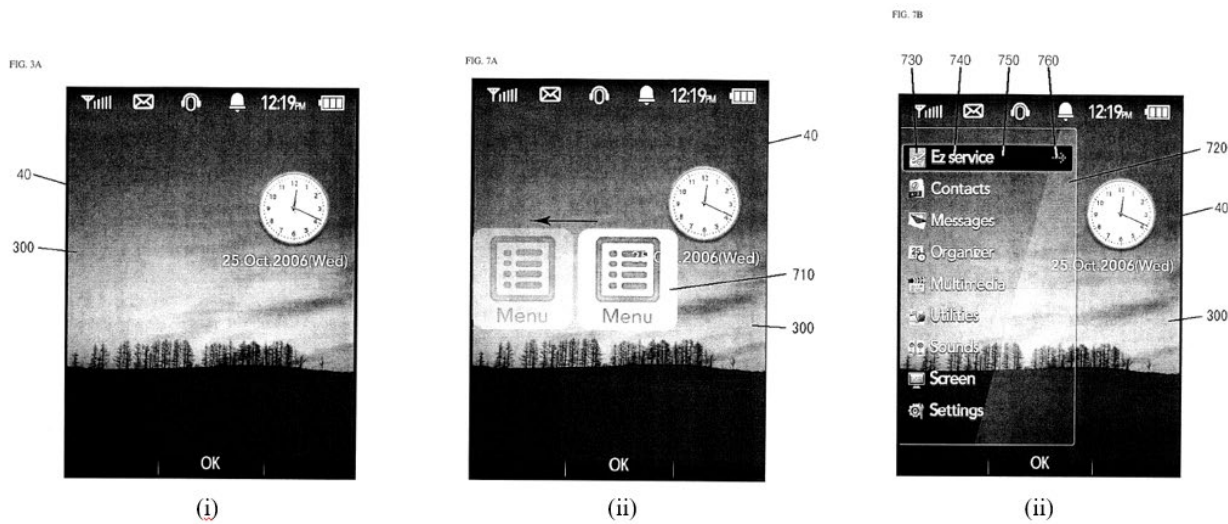
34. Ahn's proposed operation attempts to solve the problem where device characteristics are unavailable when a menu list is displayed. EX1004, ¶¶[0005]-[0006]. In conventional browsers, the standby screen disappears when a menu screen is displayed. Thus, Ahn proposes to provide menus that only take up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

35. Against this backdrop, Ahn discloses a method of displaying menus in a mobile communication terminal, where each menu can correspond with a selection of one of a plurality of specific directions associated with the menus. EX1004, Abstract ("menu corresponding to the selected specific direction on the standby screen"). As described in more detail below, Ahn discloses three separate methods for displaying a menu via the use of directional keys, a simple touch and drag operation, and via a start position operation.

1. Directional Key Operation

36. In a first embodiment, Ahn describes a method of displaying a menu via a selection of a specific direction on a direction key. *See* EX1004, ¶¶[0030], [0034]-[0035]. As shown in FIGs. 7A-7C, a menu (e.g., setting menu list 720; this same setting menu list also appears as setting menu list 820 in FIG 9A) can be accessed "when a leftward direction key is selected." *Id.*, ¶[0062]. This operation starts "when the standby screen 300 is displayed on the display 40." *Id.*, ¶[0063].

When the “user selects the leftward direction key 38,” an icon 710 is “displayed around the center of the standby screen 300” and then “disappears while moving to [the] left” side of the screen. *Id.* This operation is illustrated in greater detail below, in which FIGs. 3A, 7A, and 7B depict various stages of displaying the left side menu.



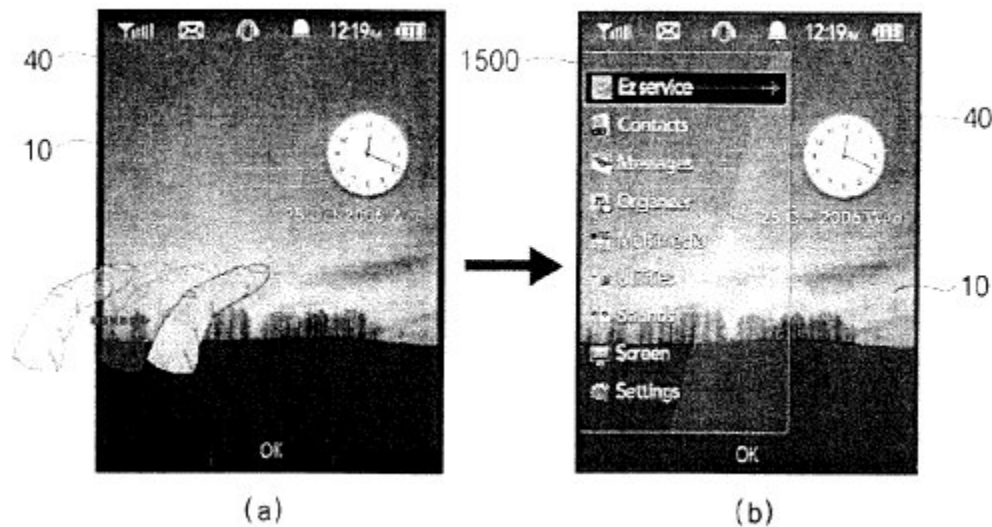
37. First, the standby screen 300 is displayed. EX1004, ¶[0035]. Next, after the left direction key is pressed, the icon 710 is displayed and fades to the lefthand side of the screen to provide the user with feedback as to the operation associated with the left direction key. *Id.*, ¶[0063]. Finally, once the icon 710 disappears, a menu 720 is displayed on the lefthand side of the standby screen 300. *Id.*

2. Touch and Drag Operation

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

touches screen 10 and drags the touch in a rightward direction, a menu list 1500 matched to a right direction is displayed in the display 40.” *Id.*, ¶[0103].

FIG. 15



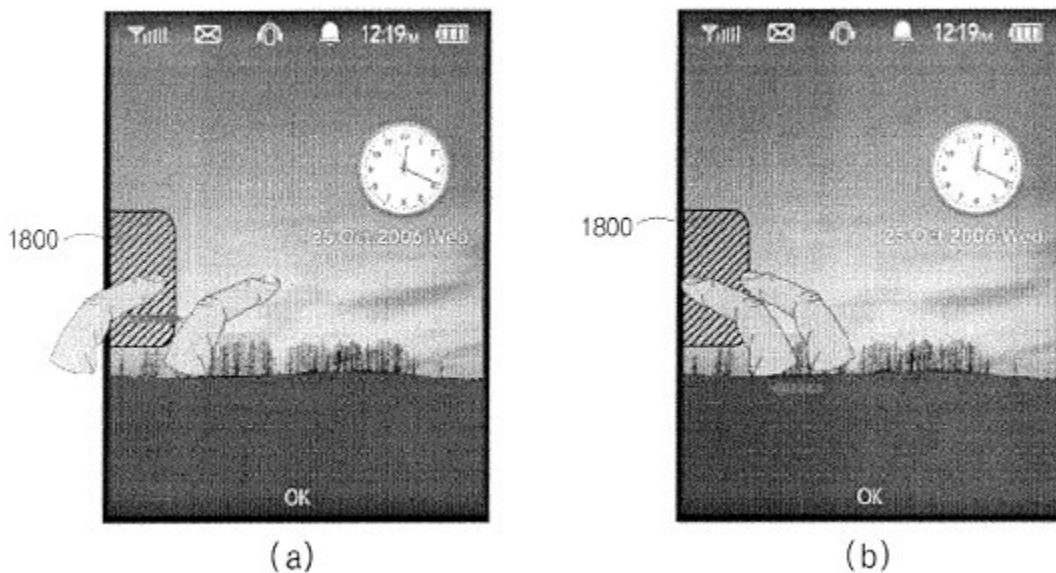
This menu list 1500 is the same menu list 820 that was discussed in Ahn’s directional key operation. *See* EX1004, ¶¶[0075]-[0076], [0104], FIGs. 8C, 15B

39. This operation starts when “[a] controller 50 detects a touch and drag operation of a specific direction in the touch screen 10.” *Id.*, ¶[0107]. Then “controller 50 determines whether a drag distance of the detected touch and drag operation is a first distance or more.” *Id.*, ¶[0109]. **After** the user performs the touch and drag gesture and the controller compares the drag distance to a threshold, the menu can then be displayed. *Id.*; *see also* FIG. 16 (detecting touch at step 1610 and displaying menu at step 1630).

3. *Start Position Operation*

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

FIG. 18



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

42. In a first embodiment, “if the user drags in a right direction after touching the screen, a graphical shadow 1800 is displayed in the display 40.” *Id.*, ¶[0118]. Then, the user may drag the graphic shadow to display menu list 1500, as illustrated in FIG. 18A. In a second embodiment, the menu list 1500 can also be displayed “if the user touch drags to the left.” *Id.*, ¶[0119]. In this operation, the user touch drags to the left to display the graphical shadow 1800 and then the user may press the graphic 1800 with a finger. *Id.* After the user selects the graphical shadow (when activated with a left swipe), the graphic “disappears in the display 40, and the menu list 1500 can be displayed.” Thus, Ahn’s Start Position operation provides an alternative operation based on the detected touch and drag gestures.

B. U.S. Patent App. No. 2007/0150842 (“Chaudhri”)

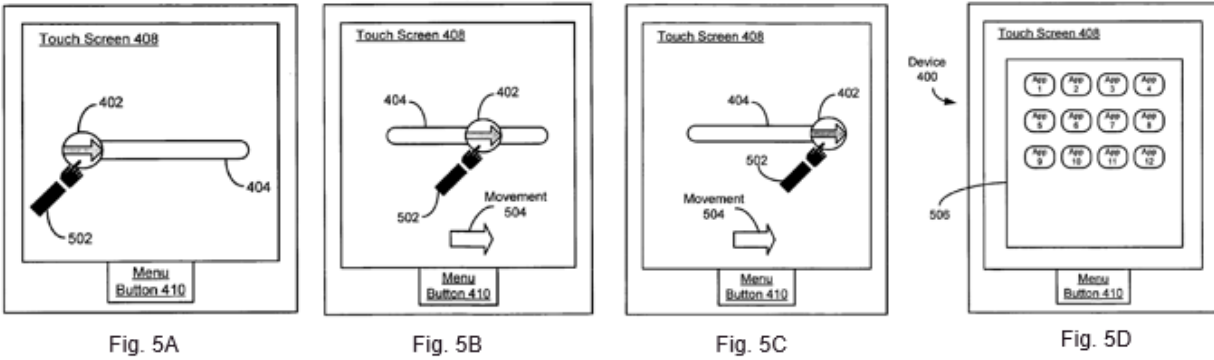
43. U.S. Pat. Pub. No. 2007/0150842 is titled “Unlocking a device by performing gestures on an unlock image” and lists as its first inventor Imran Chaudhri. I will refer to this reference as “Chaudhri.”

44. Chaudhri-842 discloses “[a] device with a touch sensitive display [that] may be unlocked via gestures performed on the touch-sensitive display.” EX1005, Abstract. The primary focus of Chaudhri-842 is a method for “unlocking [a] device” via a “predefined gesture” where the method includes “moving [an] unlock image to a predefined location and/or moving the unlock image along a predefined path.” EX1005, Abstract. As described in more detail below, Chaudhri-842 discloses two

separate methods for unlocking a device: via transitioning from a lock screen to a separate interface and via displaying additional interface objects on the lock screen.

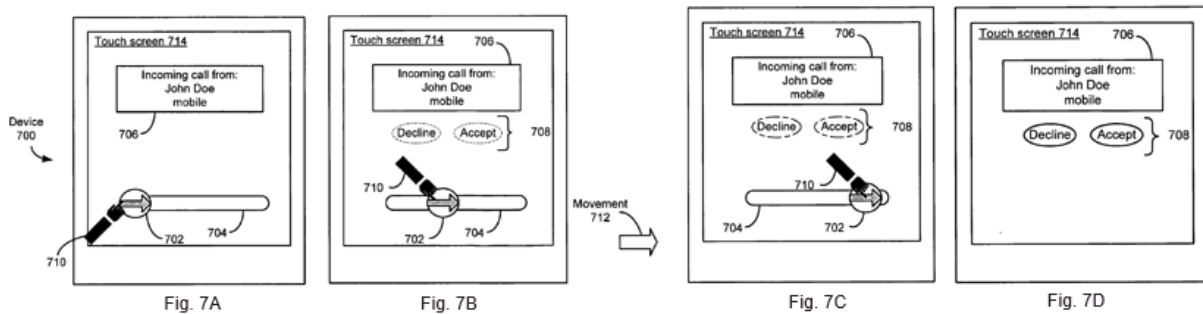
1. Transition From Lock Screen to Separate Interface

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



2. *Display Additional Interface Objects on Lock Screen*

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



C. U.S. Patent App. No. 2011/0209093 (“Hinckley”)

47. U.S. Pat. Pub. No. 2011/0209093 is titled “Radial menus with bezel gestures” and lists as its first inventor Kenneth P. Hinckley. I will refer to this reference as “Hinckley.”¹

48. Hinckley aims to provide enhanced functionality for users, without necessarily permanently manifesting the functionality as part of the “chrome” of a device’s user interface. EX1006, ¶[0001]. To solve this, Hinckley discloses a device including a bezel “used to extend functionality that is accessible through the use of

¹ While Apple’s Petition and Dr. Terveen’s Declaration (EX1003) both in their references to EX1006 incorrectly spell the name of the first inventor Kenneth P. Hinckley as “Hinkley”, we use the correct spelling here and intend our correctly spelled references to “Hinckley” to map to the incorrectly spelled references to “Hinkley” in Apple’s Petition and Dr. Terveen’s Declaration.

so-called bezel gestures.” EX1006, Abstract. As depicted in FIG. 3 (inset below), the device 301 includes a bezel 303 and a display 308 and a user can provide inputs to the device by interacting with bezel 303, rather than the touchscreen of display 308. EX1006, ¶[0061] (“By tapping on the bezel, the user’s input is sensed and an associated functionality that is mapped to the input can be provided”).

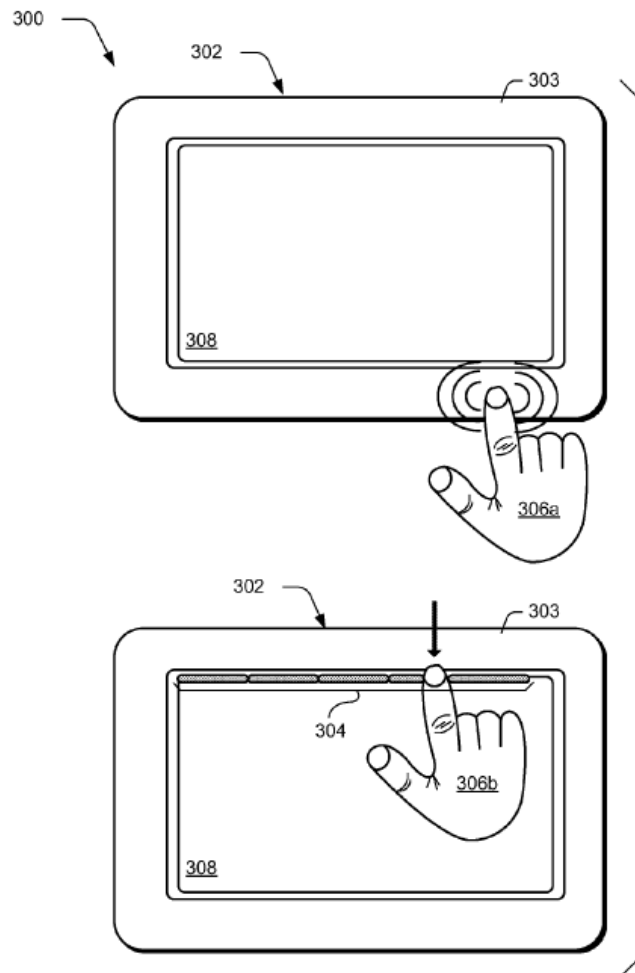


Fig. 3

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

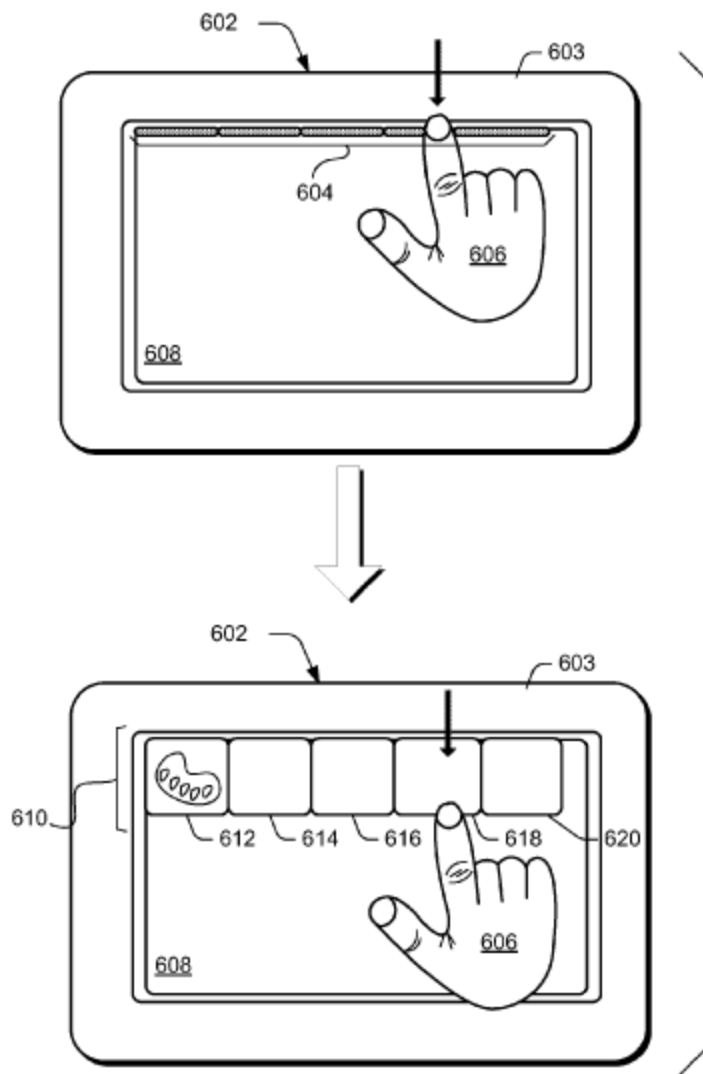


Fig. 6

50. The bezel menu 610 includes selectable icons or slots “associated with [] different functionalit[ies] such as, for example, paint functionality, pen functionality, note functionality, object creation, object editing, and the like.” *Id.*,

¶[0074]. These functionalities can be accessed via two different gestural modes—a novice mode and an expert mode. EX1006, ¶[0076].

51. The novice mode utilizes the bezel menu 610, shown in FIG. 6 above. In this mode, a gesture is used to reveal the bezel menu 610 and the user may then tap on a desired item associated with one of the icons or slots 612, 614, 616, 618, and 620 associated with the bezel menu. *Id.*, ¶[0077]. In this mode, the user can lift their finger after opening the bezel menu 610 and the bezel menu will remain open while the user decides which icon to select. *See id.*

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

53. As shown in FIG. 17 (inset below), Hinckley further describes “radial menus [that] can be used in connection with menus such as bezel menus.” *Id.*, ¶[0105].

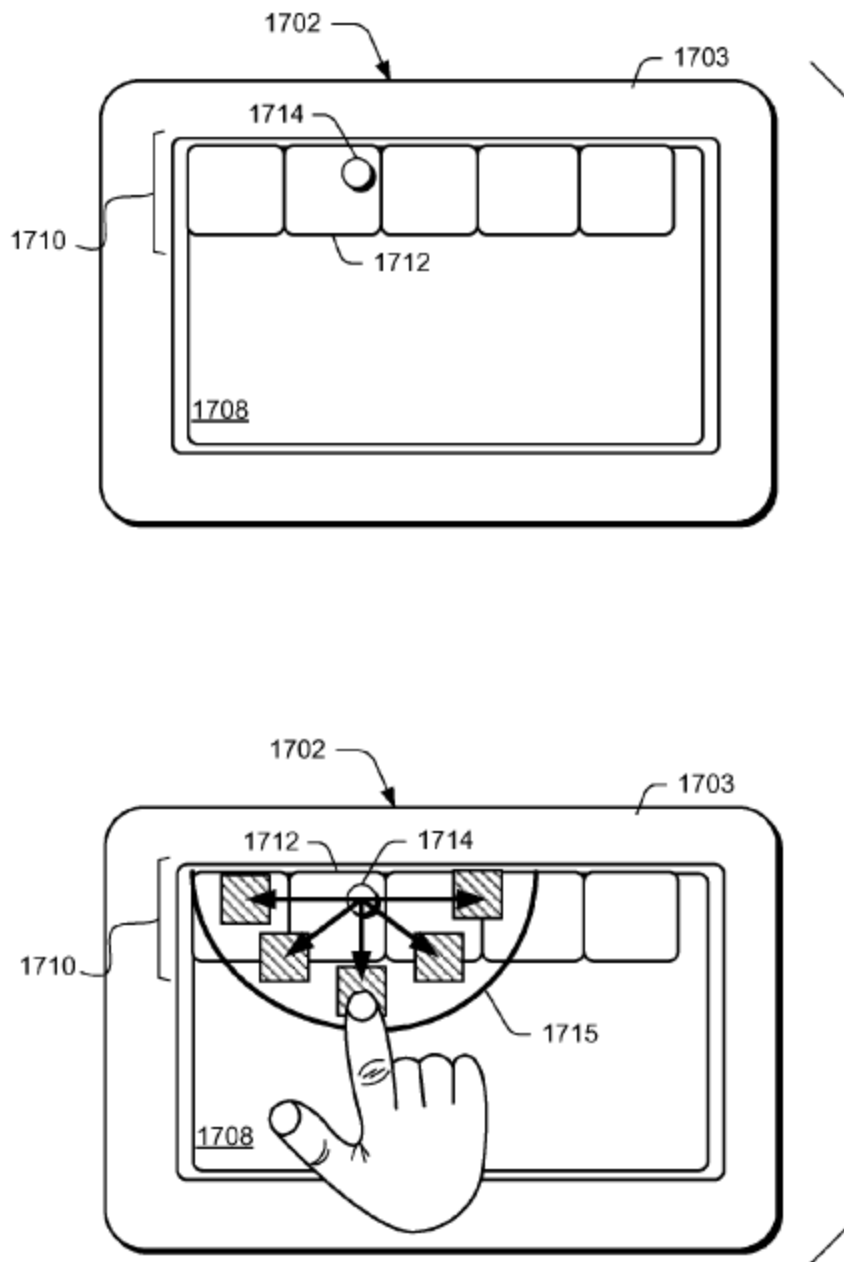


Fig. 17

54. As an example, Hinckley describes embodiments in which a bezel menu may include bezel menu icons or slots (e.g., icon or slot 1712) that further

include an additional radial menu icon object (e.g., radial menu icon 1714). *See id.*, ¶[0107]. Further, Hinckley describes that a radial menu 1715 can be accessed via gestures on radial menu icon 1714. *See id.* Specifically, gestures for accessing radial menu 1715 may include “hovering a pen over or near the radial menu icon 1714[,] [...] pull[ing] down the radial menu 1715[,] [...] [or] a tap-and-hold of the pen or finger on or near the radial menu icon 1714.” *Id.* When “radial menu 1715 is exposed, the user can access various functionalities or commands by touching down on or near radial menu icon 1714 and stroking in a particular direction.” *Id.*, ¶[0108]. Similar to the operation described above with reference to bezel menu 610, the menu 1710 along with icons 1712 and radial menu icons 1714 can be tapped when in the novice mode; however, in the expert mode “the radial menu might not be exposed at all.” EX1006, ¶[0110].

VII. GROUND 1: DR. TERVEEN’S ANALYSIS FAILS TO SHOW OBVIOUSNESS OF CLAIMS 1-3, 7, 9, 10, AND 101 BY AHN, CHAUDHRI, AND HINCKLEY

55. Dr. Terveen’s analysis of Ahn, Chaudhri, and Hinckley fails to establish that Petitioner’s proposed combination would arrive at each of the claimed limitations.

A. Claims 1 and 101 are Not Obvious in view of Ahn, Chaudhri, and Hinckley

56. Independent claims 1 and 101 include similar limitations. *See Section V.A.* Dr. Terveen analyzes the limitations of claim 1 (Limitations [1a]-[1i]) and then

incorporates this analysis for almost all the limitations of claim 101 (except for [101.d] and [101.e.iv]). EX1003, ¶¶151-168. The only additional analysis provided for claim 101 is with respect to Limitations [101.d] and [101.e.iv]. Therefore, while I only explicitly address the deficiencies of Dr. Terveen’s analysis of claim 1, these deficiencies must also apply to claim 101 with respect to all of the limitations of claim 101 except for [101.d] and [101.e.iv].

1. [1.e.i-iii], [101.e.i-iii]: detecting a first duration of contact on at least one of the one or more first menu items and in response [...]

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

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

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

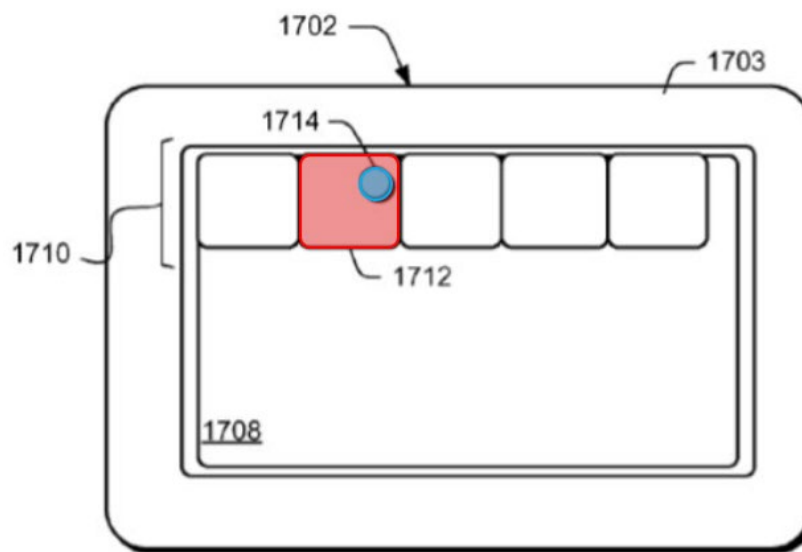
Supra, §V.A (Limitation [1e.i-iii]); *see also* EX1001, 112:57-113:2 (same for independent claim 101).

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

a) Dr. Terveen’s Mapping to Hinckley Does Not Perform Different Operations in Response to a Duration of Contact

59. Hinckley describes a bezel menu 1710 that includes “multiple selectable icons or slots 1712”, each of which “is associated with a different functionality.” EX1006, ¶[0106]. Hinckley also describes a separate icon—“a radial menu icon 1714 that gives a clue to the user that one or more radial menus [...] is associated with this particular icon or slot.” EX1006, ¶[0107]. Selecting this separate radial menu icon 1714 can give a user access to a radial menu that is not

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



The selection of one object (e.g., icon 1712) will perform a different function than selection of the other object (e.g., icon 1714). EX1006, ¶[0106]-[0107].

60. As discussed in Section VII.A.1, the plain language and structure of each claim mandates that: (1) each of the references to “*the* first duration of contact” must refer to the same contact and (2) each of the references to “*the* at least one [...] first menu items” must refer to the same menu item(s). In other words, a given contact must be capable of doing either of the two functions depending on whether

its duration surpasses a threshold. Dr. Terveen’s mapping, which is the same for claims 1 and 101, fails to meet this limitation. Instead, Dr. Terveen cites to portions of Hinckley taking *different* actions in response to two *different* contacts made on two *different* menu items. This does not meet the plain language of the claims.

61. Here, Dr. Terveen maps to *two different* contacts on two different icons. EX1003, ¶¶107-108 (“tapping[] *the icon 1712* would have triggered one action, while a tap-and-hold gesture on the *radial menu icon 1714* portion of icon 1712 would have triggered a different action [...]” (bold and italic emphasis added)).

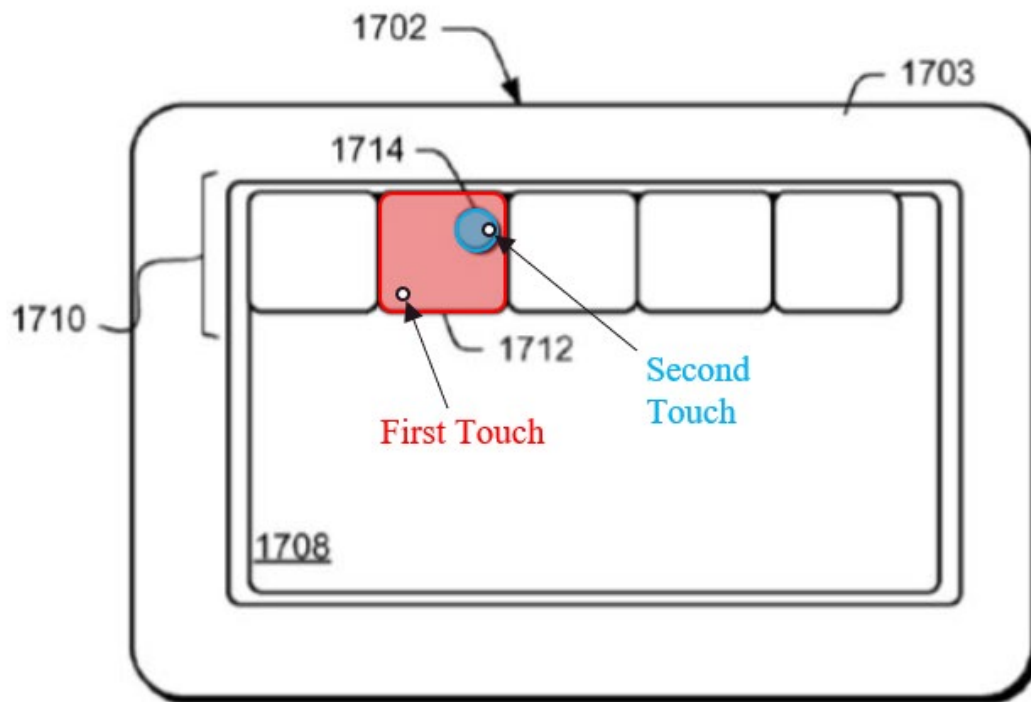
62. First, Dr. Terveen clearly maps to a user’s tap on the bezel menu icons (612-620 of FIG. 6; 1712 of FIG. 17 of Hinckley) as the contact for the claimed “first duration of contact.” EX1003, ¶¶105-108. In analyzing Limitation [1.e.i], Dr. Terveen quotes paragraph [0077] of Hinckley, which states “[t]he user may then tap on a desired item associated with one of the icons or slots 612, 614, 616, 618, and 620,’ which causes ‘the functionality associated with a particular icon or slot can be accessed.’” EX1003, ¶105 (citing EX1006, ¶[0077]) (emphasis added in EX1003). Dr. Terveen continues that, “[t]hrough its teaching of this tap [on icons 612, 614, 616, 618, and 620], Hinckley describes [...] *detecting, utilizing the touch interface, a first duration of contact on at least one of the one or more first menu items*, as in [1.e.i].” EX1003, ¶¶105-106 (emphasis added to “[t]hrough its teaching

of this tap”). Dr. Terveen identifies the same contact—a tap on the bezel menu icon—for Hinckley’s FIG. 17, explaining “‘bezel menu 1710 includes multiple selectable icons or slots,’ and ‘[e]ach of the icons or slots is associated with a different functionality,’ [like in] FIG. 6.” EX1003, ¶¶105-107 (quoting EX1006, ¶[0106]). Thus, Dr. Terveen clearly maps “tapping the icon 1712” as being the contact associated with the claimed “first duration of contact.” EX1003, ¶¶107-108; *see also id.*, ¶¶105-106. Similarly, Dr. Terveen cites to the functions described in paragraphs [0077] and [0106] of Hinckley for the functionality associated with this contact. EX1003, ¶¶105-108. Accordingly, the contact identified for the claimed “first duration of contact” occurs on the bezel menu icon (e.g., 1712).

63. Second, Dr. Terveen then identifies a different (i.e., second) contact—“a tap-and-hold gesture on the radial menu icon 1714,” for triggering a different action than the action associated with the tap on the bezel icons (e.g., 1712, 612-620). *See* EX1003, ¶¶107-108. Thus, Dr. Terveen’s mapping identifies “tapping the icon” (a first contact) and then the separate action of “tapping and holding the radial menu icon portion of that same icon” (a second contact). EX1003, ¶¶108-114.

64. In Dr. Terveen’s mapping, the tap on bezel menu icon 1712 (first menu item) would be a first contact on a first object and the tap and hold on the radial menu icon 1714 (second menu item) would be a second contact on a second object. An example of Dr. Terveen’s mapping is illustrated in the below annotated FIG. 17

of Hinckley. See EX1003, ¶¶110-113 (“*tapping the icon* would have triggered one action, while a *tap-and-hold on the radial menu icon portion* of that same icon would have triggered a different action” (bold and italic emphasis added)).



65. But the fact that a first contact on bezel menu icon 1712 results in a different action than a *second* contact on radial menu icon 1714 (i.e., a different contact on a different icon at a different point in time) fails to meet the claimed operation. In other words, Dr. Terveen’s mapping performs different actions based on where a contact occurs on the icon (e.g., the main portion of the icon or the radial menu icon portion of the icon). Two different inputs on two different icons (one input to icon 1712 and the other input to icon 1714) fails to meet the claims. This

does not perform different actions in response to “the first duration of contact” surpassing or not surpassing a threshold, as required by the claim.

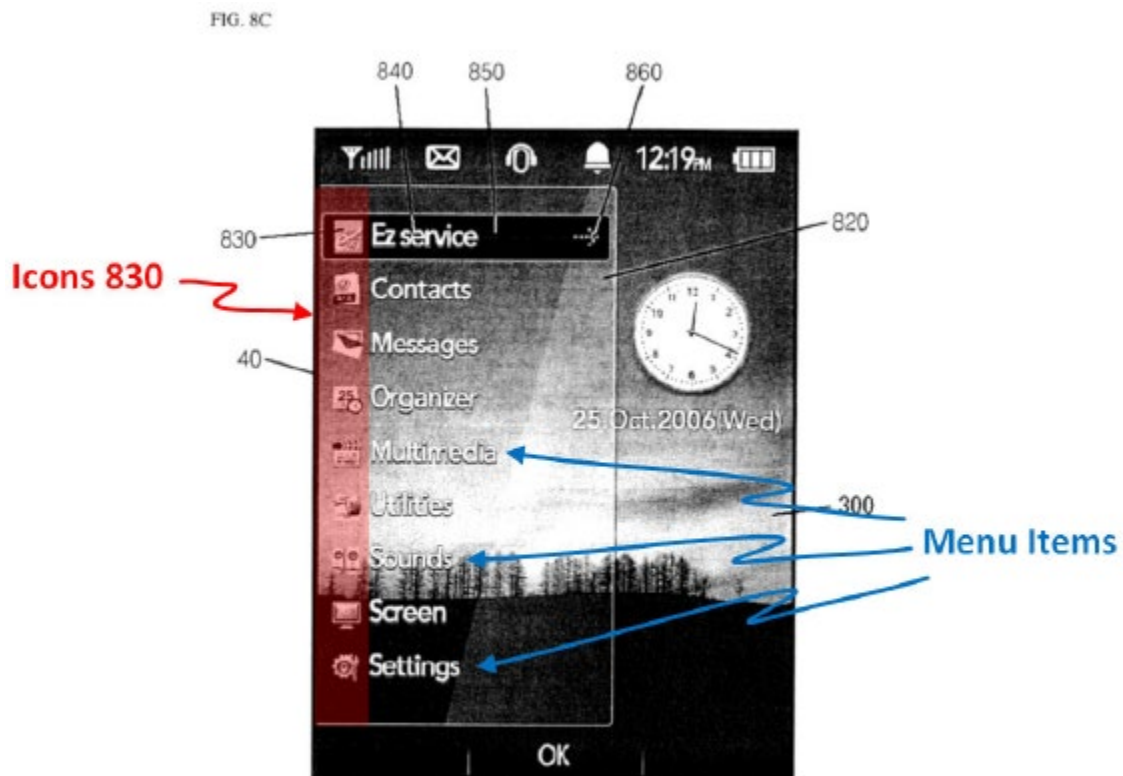
66. That Dr. Terveen interprets the radial menu icon 1714 as “a portion of that same [bezel menu] icon [1712]” is irrelevant. Regardless of whether radial menu icon 1714 is a portion of icon 1712 or separate than icon 1712, Dr. Terveen’s mapping clearly identifies two different points of contact on two *different portions* of icon 1712. This does **not** perform operations “in response to the first duration of contact” being detected to surpass / not surpass a threshold, as claimed. To illustrate, “tapping the icon 1712” as identified by Dr. Terveen does not perform a different function if the user continues to maintain contact on the *same* portion of icon 1712 that was tapped. In other words, a tap on icon 1712 would not perform a different function than a tap-and-hold on the *same* portion of icon 1712. Only by selecting a *different* portion of the icon (e.g., 1714) does the combination offered by Dr. Terveen perform another function.

67. For at least this reason, the modification advanced by Dr. Terveen fails to arrive at Limitations [1.e.i]-[1.e.iii]. Dr. Terveen’s mapping of claim 1 is incorporated into Limitations [101.e.i]-[101.e.iii] without further analysis or explanation. EX1003, ¶¶158-160.

B. Dr. Terveen's Mapping of Claim 101 is Internally Inconsistent

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

69. In mapping to the claimed first menu and the particular application icon, Dr. Terveen identifies Ahn's basic setting menu list 820 and icon 830, as illustrated in the annotated FIG. 8C of Ahn (inset below). EX1003, ¶¶155-156.

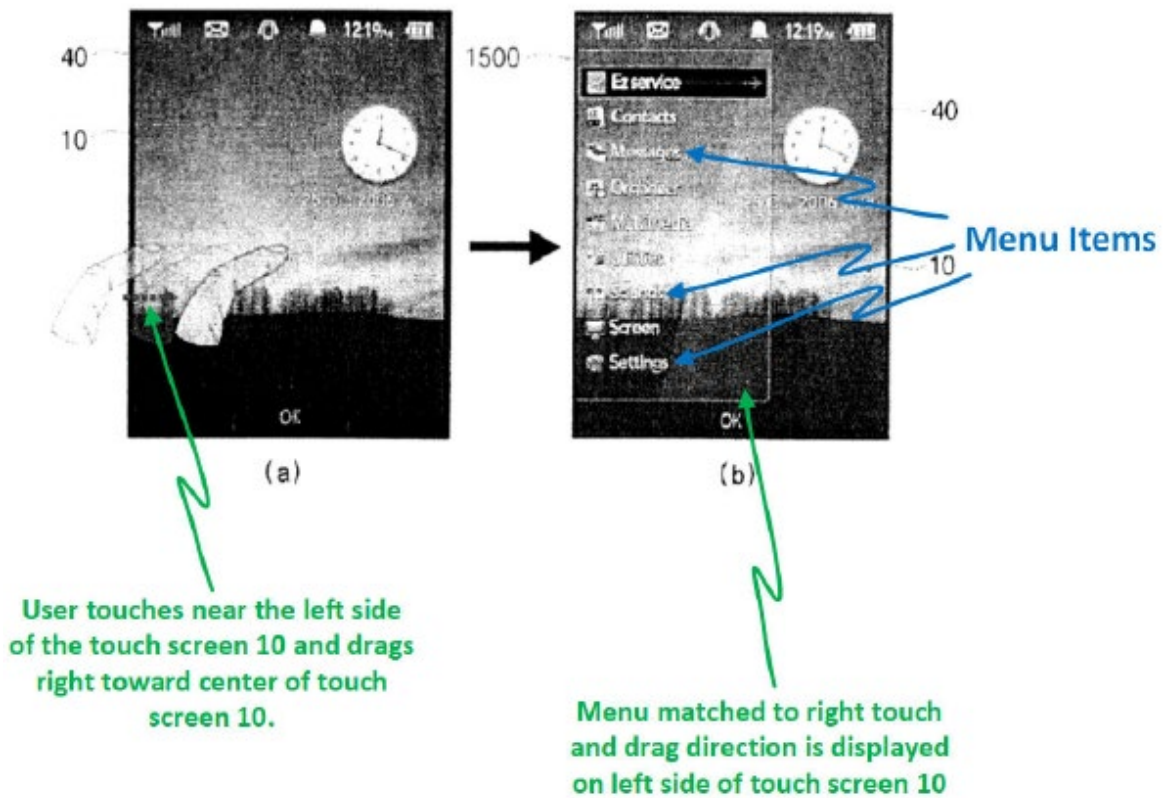


EX1004, FIG. 8C

Dr. Terveen explains that some of these menus (e.g., “Contacts” and “Messages”) “would have launched an application associated with that functionality.” EX1003, ¶157. Thus, Dr. Terveen identifies the Contacts or the Messages icon as corresponding to the claimed particular application icon.

70. In mapping to the claimed second menu, Dr. Terveen incorporates his discussion of Limitation [1.g]. EX1003, ¶165 (“Element [101.g] [is obvious] for at least the same reasons described above with respect to Element [1.g].”). For Limitation [1.g], Dr. Terveen identifies Ahn’s menu list 1500 as corresponding to the claimed second menu, as illustrated in the annotated FIG. 15 of Ahn (inset below). EX1003, ¶¶121-122.

FIG. 15



EX1004, FIGS. 15a and 15b

71. As explained in Section VI.A, basic setting menu list 820 corresponds to the left menu in Ahn's directional key embodiment and menu list 1500 corresponds to the same left menu in Ahn's touch and drag embodiment. EX1004, ¶¶[0073]-[0076], [0103]. Thus, the first and second menus (menu list 820 and 1500) identified by Dr. Terveen are the *same* menus. Compare EX1004, FIG. 8C (Menu 820 listing Ez service, Contacts, Messages, Organizer, Multimedia, Utilities, Sounds, Screen, and Settings options); with FIG. 15 (Menu 1500 listing same

options). Thus, Dr. Terveen's mapping to the same menu as corresponding to both the first and second menu is erroneous.

72. Even if Dr. Terveen interprets the menus as different because they are from different embodiments of Ahn, this interpretation would only introduce further deficiencies into Dr. Terveen's mapping. Both the claimed first and second menus are displayed in response to the detection of first and second gestures ([101d], [101g]), respectively, that are detected utilizing the *touch interface* ([101c], [101f]). Thus, even if menus 820 and 1500 are determined to be different because they are from different embodiments, the menu 820 associated with the directional key operation would fail to be displayed in response to the detection of a gesture via the touch interface. *Supra*, §VI.A.1; EX1004, ¶¶[0073]-[0076] ("If the user selects the leftward direction key 38 of four direction keys provided in the key input device 30 [...]").

C. Dr. Terveen's Mapping to the Blurring Limitation of Claim 1 is Deficient

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

1. Ahn Theory

74. Dr. Terveen's first theory relies solely on the teachings from Ahn. EX1003, ¶¶91-93. In this theory, Dr. Terveen opines that Ahn's menu can be displayed in a translucent state and that "when embodied in translucent form, its menus would have blurred at least a portion of the background standby screen (e.g., shown in FIG. 12) by rendering the portion under which it is displayed as vague or less distinct." EX1003, ¶91. According to Dr. Terveen, "as the translucent menu slides in, the menu would progressively overlap more of the standby screen and, thus, progressively blur more over the standby screen." EX1003, ¶92.

75. Dr. Terveen's theory is incorrect for at least two reasons. First, the amount of surface area that a translucent menu is displayed over a screen is not a magnitude of the blurring.² Dr. Terveen identifies "blur" as corresponding to the translucency of the menu. EX1003, ¶91. However, Dr. Terveen's mapping does not change a magnitude of the translucency. Instead, Dr. Terveen's modification simply increases an area that a translucent menu is displayed on the screen. Dr. Terveen's modification does not alter the magnitude of the translucency.

² I do not agree with Dr. Terveen's proposed interpretation of blurring. Nevertheless, for brevity, the term blurring is used herein to refer to Dr. Terveen's mapping and no use of the term blurring in this declaration should be considered a concession.

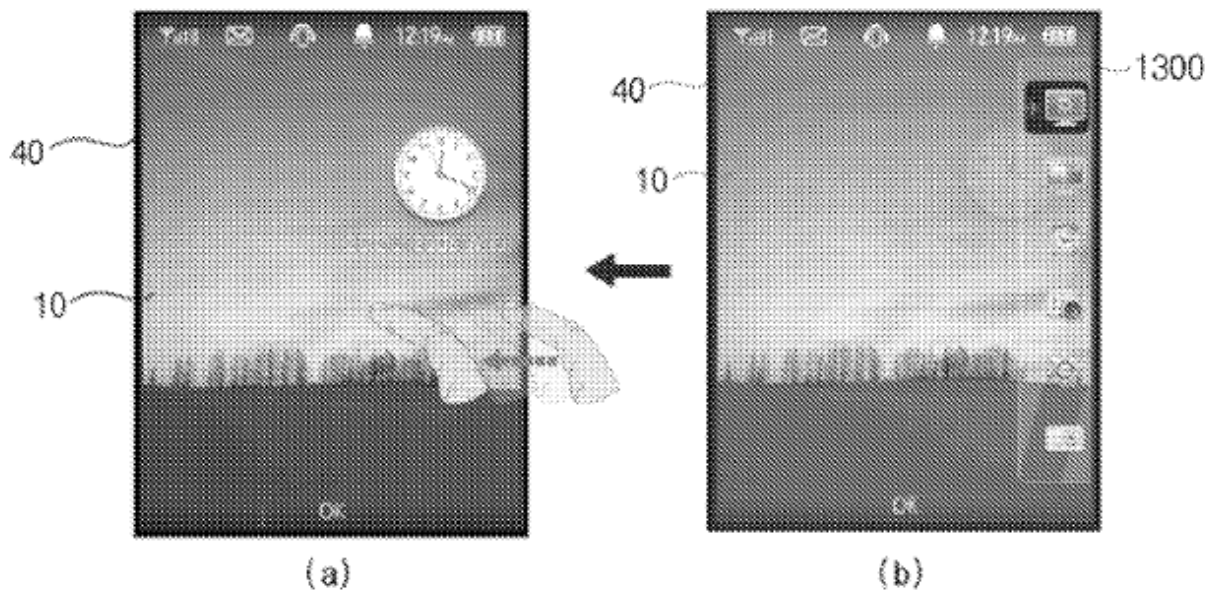
76. Second, and independently, Dr. Terveen fails to show that Ahn’s menu would progressively increase as a function of an increase in a magnitude of the first gesture being detected. Dr. Terveen provides no citation to Ahn or other explicit analysis on the claimed “progressive[] increase[]” outside of the conclusory statement that a POSITA would have found obvious that “the translucent menu would progressively slide onto the display as a function of the magnitude of the user’s dragging gesture.” EX1003, ¶92. Instead, Dr. Terveen assumes that his *purported* showing that Ahn displays its menu “as sliding in” ([1.d.i]) is sufficient to show that the menu “progressively increases as a function of an increase in a magnitude of the first gesture being detected.” *See id.* But this assumption is unsupported and is inconsistent with the teachings of Ahn.

77. Dr. Terveen’s analysis of Limitation [1.d.i]—which relies on the opening of menu 1300 (EX1003, ¶¶83-85)—fails to establish the claimed “progressive[] increase[].” Referring to FIGs. 4A-4B, Ahn describes the operation of opening its user menu 420 where: “the user selects the rightward direction key 34,” an icon is displayed and shown moving to the right, and a user menu is displayed thereafter. EX1004, ¶¶[0049]-[0051]. Thus, based on a single user input—selection of right direction key—the user menu 420 is displayed. Ahn’s touch and drag operation (FIG. 13) follows a similar operation where: a user touches the screen and “drags the touch in a left direction” and afterwards a menu list 1300 matched to a

left direction is displayed. EX1004, ¶¶[0102]. Thus, a POSITA would understand that Ahn's menu display is a binary operation—the full menu will open if a user enters an input (right direction on arrow key (¶[0050]) or left slide on touchscreen (¶[0102])), and the menu will stay closed otherwise. EX1004, ¶¶[0106]-[0109], FIG. 16.

78. This operation is confirmed by Ahn's FIG. 13 (inset below).

FIG. 13



As shown in FIG. 13(a), a user touches the screen with their finger and then “drags the touch in a left direction.” EX1004, ¶[0102]. As illustrated in FIG. 13(a), *after* the user drags its finger in the left direction, the display is not changed. *See id.*; Thus, a POSITA would understand that the drawings of Ahn suggest that its menu 1300 does not move with the user's finger, but is displayed after the gesture is

detected to be completed. EX1004, ¶¶[0102], [0108]-[0109]; FIG. 13(b) (showing the finger as being removed from the screen when menu 1300 is displayed); FIG. 16 (display menu only after drag distance exceeds a threshold). Similar to the operation in FIGs. 4A-4B, the menu 1300 does not move *during* the gesture; but is displayed *after* the gesture is completed. EX1004, ¶[0109], FIG. 16. Thus, regardless of whether the menu “slides in” or not, Dr. Terveen fails to show that the menu “progressively increases as a function of an increase in a magnitude of the first gesture.”

79. Nothing in Dr. Terveen’s analysis of Limitation [1.d.i] remedies this deficiency. Dr. Terveen’s discussion of “Ahn’s FIG. 18” is irrelevant to the operation of menu 1300 in his mapping. EX1003, ¶86. To start, the operation of FIG. 18 is a different embodiment that can display a different menu (menu list 1500), which Dr. Terveen maps to the claimed second menu that is displayed in response to a second gesture. EX1003, ¶¶121-122 (mapping menu list 1500 to displaying a *second* menu); EX1004, ¶¶[0118]-[0119] (FIG. 18 describing menu list 1500 can be displayed). Thus, Dr. Terveen’s reliance on the operation of FIG. 18—which is only disclosed as opening menu list 1500—renders his mappings internally inconsistent (identifying the same menu as corresponding to both the first and second menu).

80. Further, Dr. Terveen’s indication that Hinckley’s “bezel gesture ‘can allow bezel menu 610 to be dropped down’” (EX1003, ¶88 (quoting EX1006,

¶[0073])) fails to show the claimed progressive increase. Dr. Terveen cites only to Hinckley’s paragraph [0073], which states:

In one or more embodiments, the bezel menu can be accessed through a bezel gesture in which a finger of user’s hand 606 touches the bezel and then moves across the bezel and onto the display device 608 in the direction of the illustrated arrow. This can allow bezel menu 610 to be dropped down at which time it can become fully opaque.

EX1006, ¶[0073]. But, the quoted disclosure from Hinckley is, at best, ambiguous regarding the claimed progressive increase of the menu and a POSITA would not have appreciated that it discloses the claimed feature.

81. Dr. Terveen confirms this—alleging “*in other contexts*, Hinckley describes user interface objects ‘following the user’s finger.’” EX1003, ¶88 (citing EX1006, [0080]). But these other contexts are not in the modification advanced by Dr. Terveen and also fail to meet the claimed feature. For example, Hinckley’s paragraph [0080] (which is the other context Dr. Terveen cites to) discloses the “expert mode” that does not show the bezel menu. In this expert mode, there “the bezel menu may not necessarily be revealed at all.” *Supra*, §VI.C; EX1006, ¶[0079] (functions performed without ever “opening the visual menu itself”); *see also* ¶[0110] (In the expert mode, “the radial menu might not be exposed at all”). As the bezel menu is not shown, the commands associated with the bezel menu icons must be activated in a different manner than tapping on the icons (EX1006, ¶[0079])—

which is required for Dr. Terveen's mapping to Limitation [1.e]. *Supra*, §VII.A.1.a). Thus, incorporating the "expert mode" of operation (as described in Hinckley [0080]) into Dr. Terveen's mapping would be incompatible with Dr. Terveen's mapping to Limitation [1.e]. EX1006, ¶¶[0079]-[0080]; *supra*, §§VI.C and §VII.A.1.a).

82. Regardless, the cited portion of Hinckley, confirms that the menu does not follow the user's finger. Instead, "a timer is started" when the user's finger crosses into a slot of the bezel menu. EX1006, ¶[0080]. "If the finger has slid past a threshold distance or region, then *the bezel menu remains closed*, but the function indicated by the slot that was crossed is activated, e.g. *a post-it is created and starts following the user's finger*" (expert mode). EX1006, ¶[0080]. The post-it is not a menu. Further, in the novice mode Hinckley's menu is displayed only "when the timer expires" and the user's finger is still in the region occupied by the bezel menu. EX1006, ¶[0080]. At this point, the menu will slide out underneath the user's finger and track the user's finger to determine when the user lifts their finger. EX1006, ¶[0080]. When the user's finger lifts inside the bezel menu area, the bezel menu remains in place. *See id.* Thus, for Petitioner's modification, the menu will open *after* the left drag operation has already occurred and will not "progressively increase[] as a function of an increase in a magnitude of the first gesture."

83. Accordingly, regarding the modification advanced by Dr. Terveen modification, it is my opinion that the menu will open after the left drag operation occurs and will not “progressively increase[] as a function of an increase in a magnitude of the first gesture.”

2. *Ahn-Chaudhri Theory*

84. Dr. Terveen’s second theory relies on the *alleged* blurring of the clock widget in Ahn’s background. EX1003, ¶93. Dr. Terveen opines that a POSITA viewing Chaudhri would have found it obvious to vary the optical intensity of the clock widget as a visual indication of a user’s progress in completing Ahn’s “touch and drag” gesture. EX1003, ¶94. But there are several fundamental issues with Dr. Terveen’s opinion as it is inconsistent with the teachings of Chaudhri and fails to achieve the functionality alleged by the modification advanced by Dr. Terveen.

85. First, Chaudhri teaches the opposite of the modification advanced by Dr. Terveen. Chaudhri detects progress between a first user-interface state and a second user-interface state and the “progress is indicated (604) towards satisfaction of the condition by transitioning an optical intensity of one or more user interface objects *associated with the second user-interface state.*” (emphasis added) EX1005, [0081]-[0082].

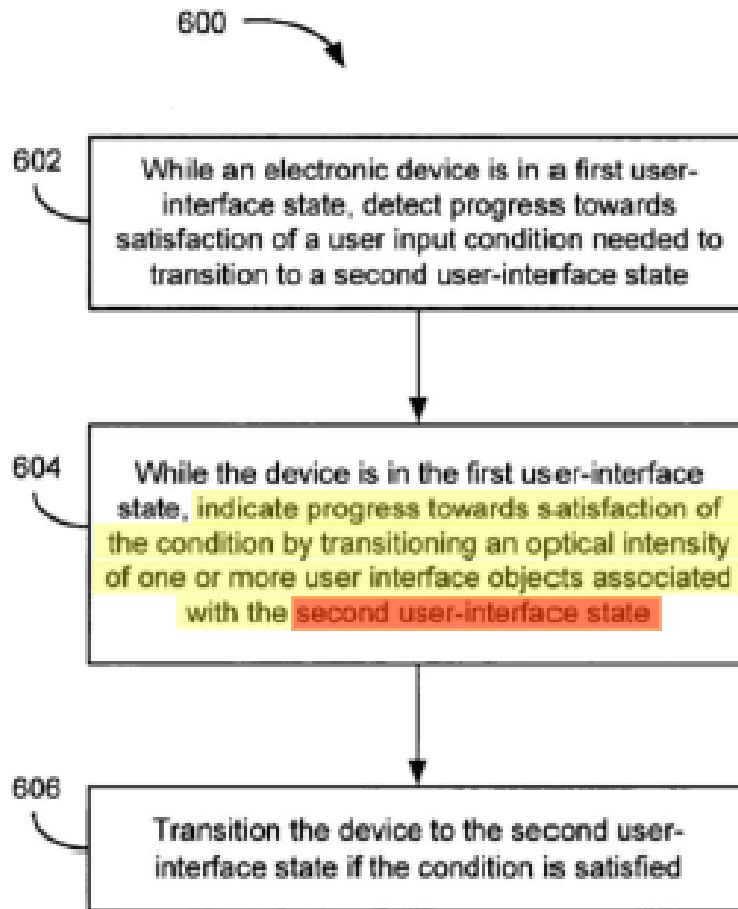
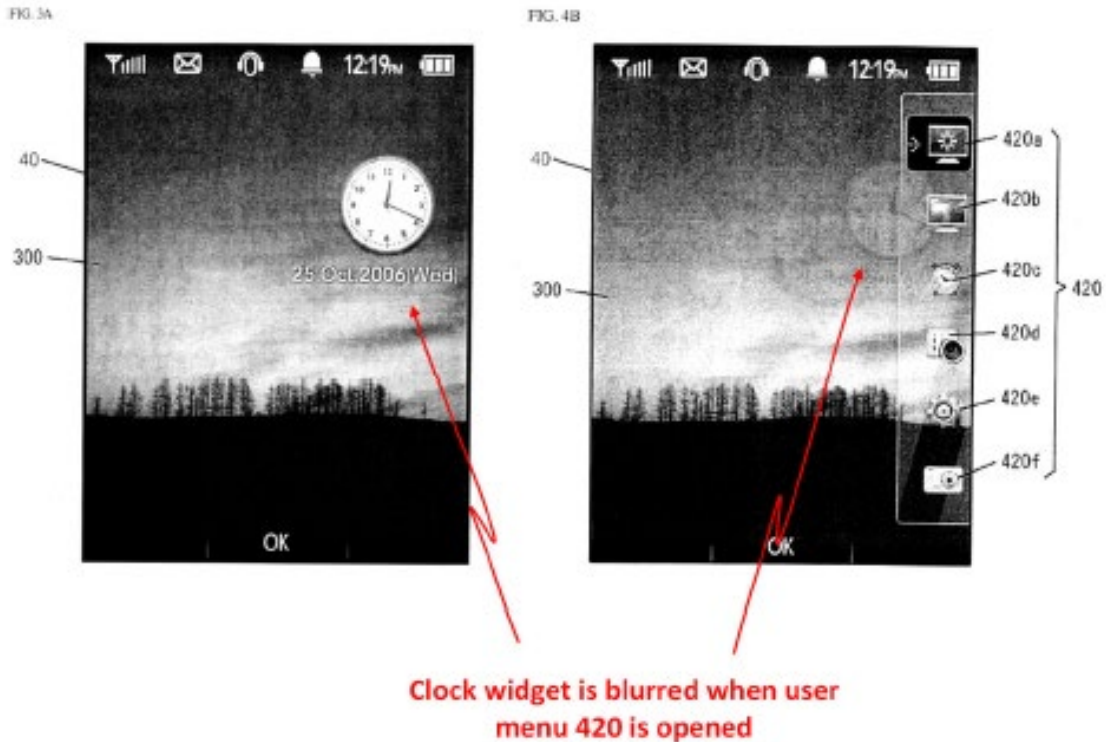


Figure 6

EX1005, FIG. 6

86. As shown in annotated FIGs. 3A and 4B of Ahn included in Dr. Terveen's declaration (inset below), Dr. Terveen identifies the standby screen of Ahn (FIG. 3A) as corresponding to the first user-interface state and the display of menu 420 (FIG. 4B) as the second user-interface state. EX1003, ¶¶93-94, ¶59.



EX1004, FIGS. 3A and 4B

That is, the clock widget is associated with the first user-interface state. The modification advanced by Dr. Terveen does **not** “transition[] an optical intensity of one or more user interface objects associated with the *second user-interface state*” (i.e., menu 420) as Chaudhri teaches; instead, it varies the optical intensity of the clock widget of the first user-interface state. Thus, the modification advanced by Dr. Terveen does the exact opposite of Chaudhri’s process, and a POSITA would not have made such a conflicting modification absent some explanation or reasoning—which is absent from Dr. Terveen’s opinion.

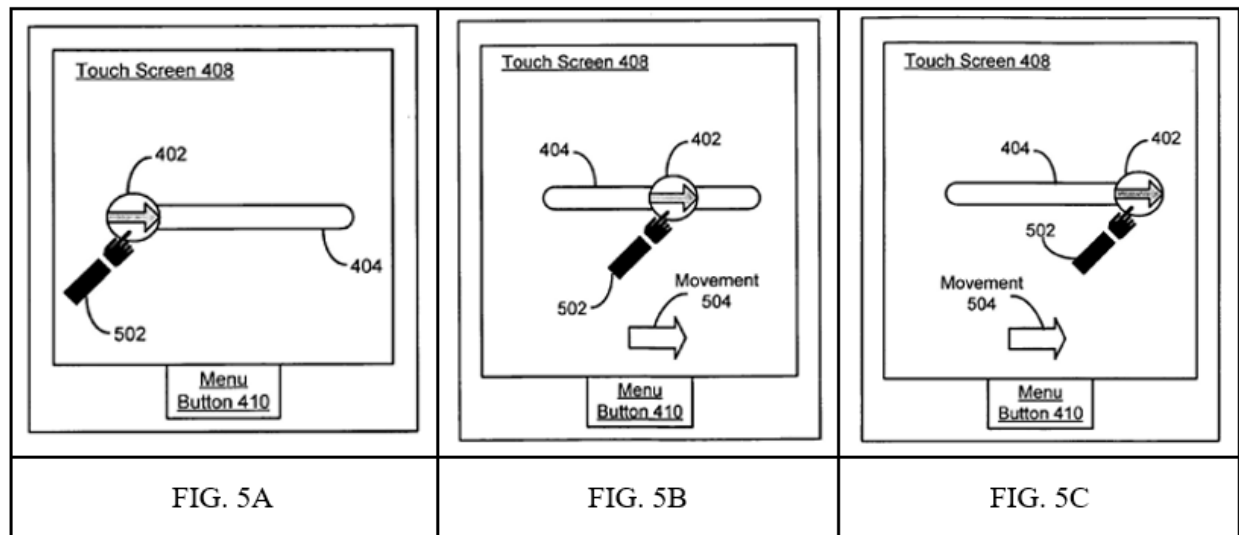
87. Dr. Terveen’s misapplication of Chaudhri’s process also results in the ‘advantages’ identified by Chaudhri being absent from the modification advanced

by Dr. Terveen. To illustrate, Dr. Terveen's modification does not "provide visual feedback regarding the progress of a transition between user interface states as a result of detecting a user's input of a predefined gesture" as described in Dr. Terveen's declaration. EX1003, ¶94. The "blurring" of the clock widget would provide the user with no information on progress (i.e., how close they are to completing the gesture) of opening menu 420.

88. Looking to the teachings of Chaudhri, progress is shown by the distance an indicator 402 (shown in FIGs. 5A-5C) moves toward an "end" of a channel 404. EX1005, ¶[0071] (The end of the channel 404 "serves as a predefined location to which the unlock image 402 is to be dragged."). Thus, "the indication of progress is 10% complete when the unlock action is 10% complete"—(i.e., the image 402 is 10% of the total distance to the end of the channel)—and "the indication of progress is 50% complete when the unlock action is 50% complete, and so forth." EX1005, ¶[0087]. However, these indicators are absent from the modification and there is no way for a user to gauge a "progress" of the left drag gesture by the partial "blurring" of the clock widget.

89. Progress requires an end point (i.e., 100%) (see FIGs 8A-8C of Chaudhri), which is indicated in Chaudhri by the end of channel 404. EX1005, ¶[0087]. For example, a user can see their progress as image 402 moves through

channel 404—from 0% complete (FIG. 5A) to 60% complete (FIG. 5B) to 100% complete (FIG. 5C). *Id.* (figures reproduced below)



90. However, there is no end point or indication of progress in the combination advanced by Dr. Terveen. The user, once touching the screen and moving leftward has no indication of when the UI condition is complete, how much of the gesture is completed, and how much is remaining. EX1005, ¶¶[0088]-[0090] (“If the user input condition includes a predefined gesture then the indication of progress of the gesture may be defined in terms of how much of the gesture is completed and *how much of the gesture is remaining*” (emphasis added)). The “blurring” of the clock cannot provide this information to the user. Thus, a POSITA would have understood that the modification advanced by Dr. Terveen would not provide an indication of a user’s progress in completing Ahn’s “touch and drag” gesture.

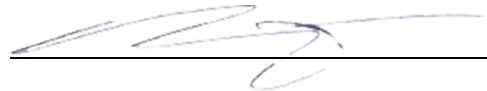
91. Further, Dr. Terveen's opinion that "utilizing this progressive translucency or blurring effect would have helped differentiate between the user-interface object (e.g., the menu list 1300) and the background (e.g., the standby screen and/or clock widget)" is misguided. EX1003, ¶98. First, there is nothing in Chaudhri that describes using optical intensity to provide a distinction between overlapping UI objects. Further, a POSITA would understand the ability to differentiate between the menu and the clock widget is solely a function of the amount of (total percentage of) opacity not the progressiveness of the change in opacity. For example, utilizing a progressive translucency to change the clock widget from 100% opacity to 95% opacity would not help differentiate between the objects when compared to utilizing an instantaneous translucency change to the clock widget from 100% opacity to 10% opacity or by removing the display of the clock widget completely. Accordingly, it is my opinion that Dr. Terveen's misapplication of Chaudhri's teachings render the benefits of Chaudhri absent from the modification that Dr. Terveen advances.

VIII. CONCLUSION

92. All statements made herein of my own knowledge are true, all statements made herein on information and belief are believed to be true, and these statements were made with the knowledge that willful false statement and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001.

Respectfully submitted,

Dated: October 30, 2024

A handwritten signature in blue ink, appearing to read 'Marc Davis', is written over a horizontal line.

Marc Davis, Ph.D.