UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,

Petitioner

v.

SMITH INTERFACE TECHNOLOGIES, LLC

Patent Owner

_____

Case: IPR2024-01119
IPR2024-01116
IPR2024-01115

Patent 10,656,754

_____

DECLARATION OF CRAIG ROSENBERG, Ph.D.

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I. INTRODUCTION

1. My name is Craig Rosenberg. 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 EX2007. The following provides a brief overview of some of my experiences that are relevant to the matters set forth in this Declaration.

4. My qualifications to testify about the patents in this case and the relevant technology are set forth in my curriculum vitae ("CV"), which I have included as Exhibit A. Additionally, a brief summary of my qualifications is provided below.

5. I hold a Bachelor of Science in Industrial Engineering, a Master of Science in Human Factors, and a Ph.D in Human Factors from the University of Washington School of Engineering. For 30 years, I have worked in various areas, including human factors, user interface design, software development, software architecture, systems engineering, and modeling and simulation, across a wide range of application areas, such as aerospace, communications, entertainment, and healthcare.

6. I graduated from the University of Washington in 1988 with a Bachelor of Science degree in Industrial Engineering. After graduation, I continued my studies at the University of Washington College of Engineering. In 1990, I obtained an M.S. in Human Factors. Human Factors is an engineering discipline that studies the design of products, processes, equipment, and systems to enhance their efficiency in interaction with humans. The goal of human factors is to reduce human error, increase productivity and efficiency, and enhance safety and comfort, with a specific focus on the interaction and interfaces between humans and the products, processes, or systems with which they interact. In 1994, I earned a Ph.D. in Human Factors, with a focus on advanced interface design. My B.S., M.S., and Ph.D. were all taught at the University of Washington College of Engineering.

7. During my doctoral studies, I worked as an Associate Assistant Professor of Human Factors at the University of Washington's Industrial

Engineering Department. My duties included teaching, writing research proposals, designing and conducting funded human factors experiments for the National Science Foundation, and hiring and supervising students. While studying at the University of Washington, I also worked as a human factors researcher, designing and conducting advanced human factors experiments related to virtual environments, interface design, stereoscopic displays, and advanced visualization research, which the National Science Foundation funded. My duties included user interface design, system design, software development, graphics programming, experimental design, and interfacing between hardware and software.

8. I have published twenty-one research papers in professional journals and proceedings in the areas of user interface design, computer graphics, and the design of spatial, stereographic, and auditory displays. I also authored a book chapter on augmented reality displays in the book "Virtual Environments and Advanced Interface Design" (Oxford University Press, 1995). In addition, I created one of the first virtual spatial musical instruments called the MIDIBIRD that utilized the MIDI protocol, two six-dimensional spatial trackers, a music synthesizer, and a computer graphics workstation to create an advanced and novel musical instrument.

9. For the past 21 years, I have served as a consultant for Global Technica, Sunny Day Software, Stanley Associates, Techrizon, CDI Corporation, and the Barr

Group. In this capacity, I have provided advanced engineering services for many companies.

10. I consulted for the Boeing Company for over 16 years as a senior human factors engineer, user interface designer, and software architect for a wide range of advanced commercial and military programs. Many of the projects that I was involved with at Boeing involved advanced software development, user interface design, agent-based software, and modeling and simulations in the areas of missile defense, homeland security, battle command management, computer-aided design, networking and communications, air traffic control, location-based services, and Unmanned Aerial Vehicle ("UAV") command and control. Additionally, I served as the lead system architect, developing advanced air traffic controller workstations and air traffic control analysis applications, toolsets, and trade study simulations for Boeing Air Traffic Management.

11. I was also the architect of the Boeing Human Agent Model. The Boeing Human Agent Model is an advanced model for simulating human sensory, cognitive, and motor performance as applied to the roles of air traffic controllers, pilots, and UAV operators. In another project, I served as the lead human factors engineer and user interface designer for Boeing's primary vector and raster computer-aided drafting and editing system, which produces maintenance manuals, shop floor illustrations, and service bulletins for aircraft manufactured by the Boeing

Commercial Aircraft Company. Additional responsibilities during my time as a consultant include system engineering, requirements analysis, functional specification, use case development, user stories, application prototyping, modeling and simulation, object-oriented software architecture, graphical user interface analysis, and design, as well as software development using UML, C++, C#, and Java.

12. In 1995 and 1996, I was hired as the lead human factors engineer and user interface designer for the first two-way pager produced by AT&T. Prior to this technology, individuals could receive pages but had no way to respond using their pager. This new technology enabled users to use a small, handheld device to receive and send canned or custom text messages, access and update their address book, and view and update their personal calendar. This high-profile project involved designing the entire feature set, user interface/user interaction design and specification, as well as all graphical design standards.

13. From 1999–2001, I was the lead human factors engineer and user interface designer for a company called Eyematic Interfaces, where I was responsible for all user interface design and development activities associated with real-time mobile handheld 3D facial tracking, animation, avatar creation, and editing software for a product for Mattel. My work involved user interface design, human factors analysis, requirements gathering and analysis, and functional specifications.

14. I was the lead user interface designer for a company called ObjectSpeed, which developed a portable handheld telephone for use in homes and businesses that had many of the same capabilities that we take for granted in mobile cellular phones. This portable multifunction device supports voice, email, chat, video conferencing, internet radio, streaming media, Microsoft Outlook integration, photo taking and sharing, etc. The ObjectSpeed device was specifically designed and developed as a portable handheld device.

15. I was the lead UI designer for Ahaza, a company that builds IPv6 routers. I designed the user interfaces for configuring and controlling these advanced network hardware devices. My responsibilities included requirements analysis, functional specification, user interface design, user experience design, and human factors analysis.

16. I am the founder, inventor, user interface designer, and software architect of WhereWuz. WhereWuz is a company that develops advanced mobile software for GPS-enabled smartphones and handheld devices. WhereWuz allows users to record exactly where they have been and query this data in unique ways for subsequent retrieval based on time or location. WhereWuz was specifically designed and developed to run on small handheld devices.

17. I am the co-founder of a medical technology company called Healium. Healium developed advanced wearable and handheld user interface technology, enabling physicians to interact more effectively with electronic medical records.

18. I am the co-founder of StratoScientific, a medical technology company. StratoScientific is developing an innovative case for a smartphone that transforms a standard handheld device into a full-featured digital stethoscope, incorporating visualization and machine learning for telemedicine and automated diagnosis.

19. I designed and developed a large software project for Disney World, called xVR, which enabled operational employees to use a handheld device to view the current and historical status of all guests within multiple attractions and one of their restaurants. The application could run in a real-time/live mode, displaying data collected from sensors that show the location and status of all guests within the attraction. The application could also be run in a fast time/simulated mode. The application was developed on a laptop computer and was specifically designed to run on various devices, including laptops, PCs, smartphones, and tablets.

20. I have received several awards for my engineering work relating to interface design, computer graphics, and the design of spatial, stereographic, and auditory displays, including a $10,000 scholarship from the I/ITSEC for advancing the field of interactive computer graphics for flight simulation and a Link Foundation award for furthering the field of flight simulation and virtual interface design. I have

also created computer graphic illustrations for several popular book covers and animations for a movie produced by MIRAMAR.

III. COMPENSATION

21. My work on this matter is being billed at my customary rate of $650 an hour. Additionally, I am reimbursed for reasonable expenses that may be incurred in relation to my services. I have no financial 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

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

A. Anticipation

23. 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 the document describes.

24. 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 that 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

25. 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 '754 Patent (a "POSITA"), which I have been asked to treat as August 5, 2011.

26. 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.

27. 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

28. 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

29. I have been asked to review U.S. Patent No. 10,656,754 (referred to as "the '754 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 32 below.

30. 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 analysis below.

31. 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

32. 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. Nevertheless, for context, the following reflects the knowledge and capabilities a POSITA would have possessed at the time of the '754 Patent's priority date in August 2011.

33. For purposes of this declaration, my opinions are therefore provided from the perspective of the POSITA described in paragraph 29 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. My education, technical expertise, and personal knowledge discussed in Section II show that I meet the qualifications of a POSITA.

V. OVERVIEW OF THE '754 PATENT

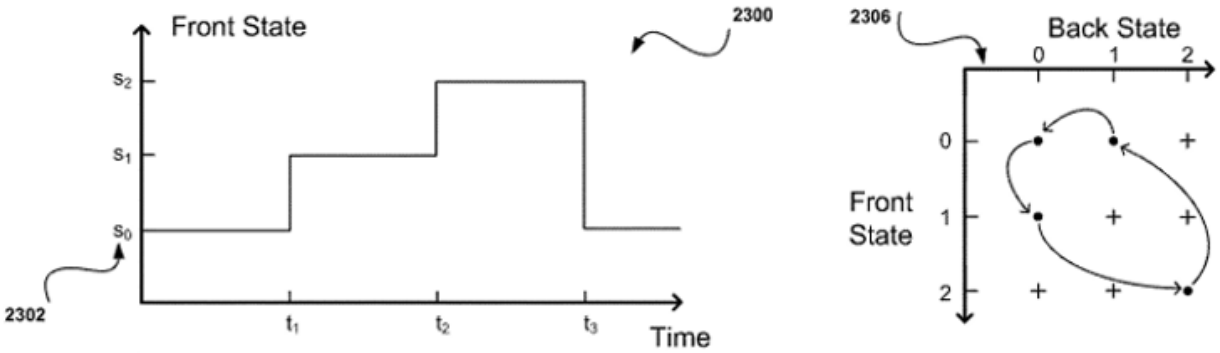
34. The '754 Patent describes devices, methods and graphical user interfaces for manipulating user interface objects. *See generally* EX1001. At the time of the '754 Patent's August 2011 priority date, touch screen mobile devices

were becoming increasingly capable of more complex tasks that required more control than possible with basic input methods. Further, limited screen real estate meant that input and output techniques used for more complex tasks on desktop computers could not be used. The '754 Patent addresses this shortcoming by enabling users to operate these new powerful mobile devices and their feature-rich applications through the implementation of multi-part gestures, where users can take successive actions and receive feedback at each stage.

35. The '754 Patent describes these multi-part, multi-action gestures as "pattern-based gestures" that "may be recognized in the form of an ordered sequence" by, for example, "using a decision tree." EX1001, 73:45-54; EX2015, ¶[00581]. In the context of the '754 Patent, a "phase space" is a conceptual space that captures the evolving states of user interaction over one or more dimensions. The patent defines a pattern-based gesture as "a path through a phase space of one or more dimensions" (EX1001, 71:48–51), EX2015, ¶[00564], where each dimension can represent a property of the gesture—such as pressure level, contact location, contact duration, or the interaction surface (e.g., front or back of the device).

36. As further explained, a gesture may be "described by a phase space path which represents the time evolution of the touch state associated with a contact point" (EX1001, 71:62–65). Transitions between states may depend on changes in

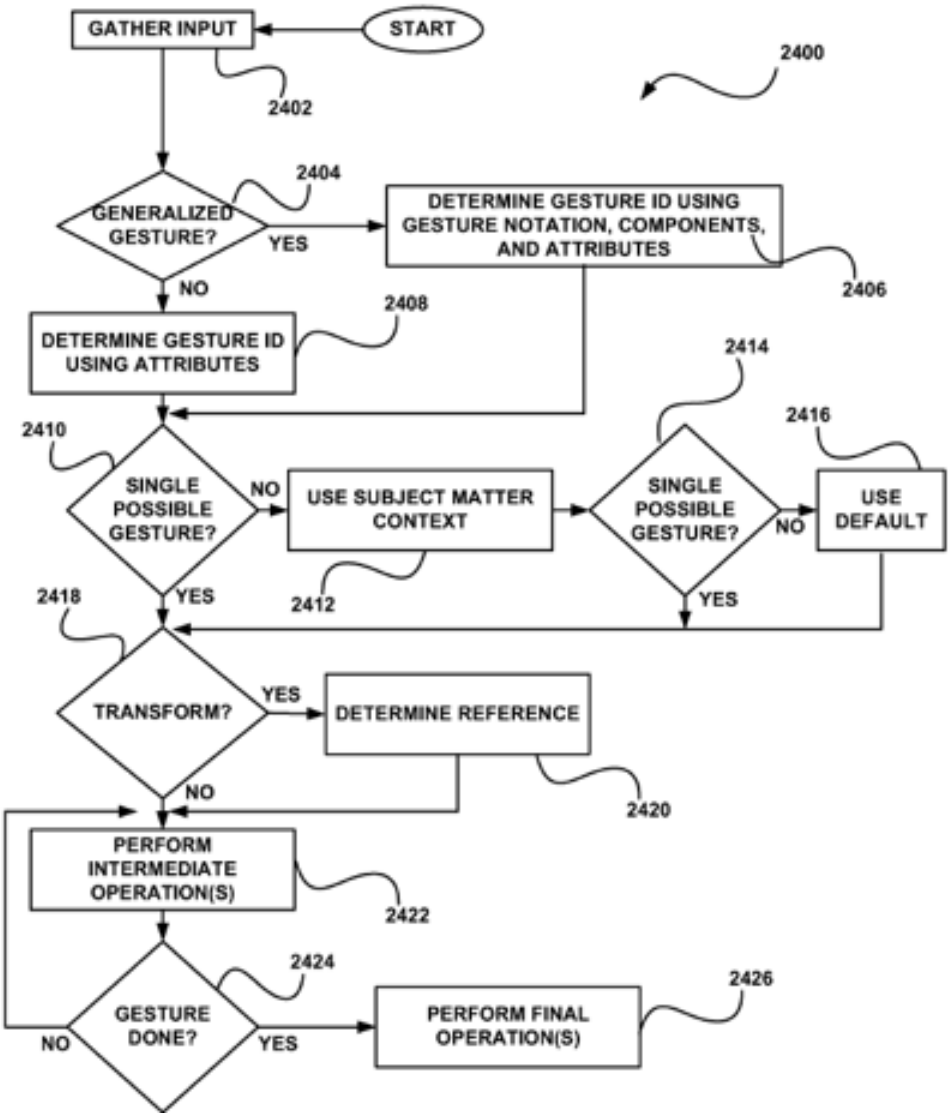
the contact point or the time spent on each leg of the gesture (EX1001, 72:1–28). In effect, gestures are not simply static motions but are modeled dynamically based on their behavioral trajectory through this space. This phase space abstraction allows for the recognition of complex, multi-stage gestures that may follow similar initial paths but diverge into distinct outcomes. Illustrative pattern-based gesture "pattern-based gesture 2302" is "described by a phase space path which represents the time evolution of the touch state associated with a contact point" on the touch screen. EX1001, 71:62-66; EX2015, ¶[00566].



EX1001, FIG. 23; EX2015, FIG. 28.

37. Each state, and transitions between states, may be defined by factors including "contact point changes" and "the time spent on each leg of the path through phase space." EX1001, 72:1–28; EX2015, ¶¶[00567]-[00570]. Consistent with the "decision tree" aspect of these pattern-based gestures, multiple patterns may share the same starting (and intermediate) points. EX1001, 73:45-54, 75:48-76:26; EX2008, ¶[00581].

38. To detect these pattern-based gestures, the ’918 Provisional (EX2015), which the ’754 Patent incorporates by reference (EX1001, 1:19-22), discloses “gesture differentiation,” which is distinguished from simply detecting a “basic user interaction (i.e., button press, basic application interaction, etc.),” techniques. EX2015, ¶¶[00498], [00502]. The process begins by “determine[ing] whether there is any meaningful user input,” including applying a “threshold above which user interaction may rise before it may be deemed meaningful.” *Id.*, ¶¶[00501]-[00502]. Detecting the gesture may involve “gesture subject matter context,” including “objects displayed at or near the location of the gesture.” *Id.*, ¶[00512]. For example, the starting point may be the beginning of a touch contact at a particular location of a specific object on the touch screen. *Id.*



EX2015, FIG. 24.

39. One example of a context-specific gesture starting at a particular location on the touch screen is a "slide gesture which begins near an edge of a display and then moves inward [that] cause[s] a menu or window to slide in from that edge of the display." EX1001, 66:66-67:2. Moreover, "there may be different menus or windows associated with each edge of a display." EX1001, 67:3-5. Such a menu may include menu items that function as UI control widgets (e.g., buttons, drop

down lists, or any other non-textual UI widget). EX2015, [0164], [0194]. User selection of a UI control widget may include establishing "one or more primary conditions to establish that the user intends for that particular multi-state widget to be selected, and a secondary condition, to establish the state of that widget." EX2015, [0178]. "Once the selection establishment conditions have been satisfied, the state of the UI control widget may be set." EX2015, [0182]. For example, "a user may make contact with . . . an interaction surface, with a contact point near a drop down menu [UI widget] . . . [and] may increase contact pressure until the drop down menu is highlighted." EX2015, [0183]. Then, "[a]fter maintaining that contact pressure level for a few seconds, the list of menu items becomes visible, after which the user may select an item by varying the contact pressure." EX2015, [0183].

40. Again, as indicated by FIG. 24, multiple complete full patterns may share the same starting (and intermediate) points. Consistent with the multi-part nature, the device may perform "intermediate operations associated with the identified gesture." *Id.*, ¶[00521]. "[E]ach execution of intermediate gesture operations may trigger a display update (i.e. rendering, etc.)." *Id.*, ¶[00524]. "The intermediate operations are continuously performed unless it is determined that the gesture has ended." EX2015, ¶[0525]. One purpose of these intermediate gestures is so "a user may receive feedback on their gesture before terminating the interaction."

Id., ¶[00522]. "[C]ues to provide feedback to the user . . . may include 3D or pseudo-3D effects." EX2015, [0538]-[0539].

41. One example of a pseudo-3D effect used to provide feedback to the user is "a 3D layered user interface implemented in a device having a single layer displays [*sic*] through the use of virtual display layers." EX2015, [0793]. Specifically, "a 3D layered user interface may have a virtual foreground display layer and a virtual background display layer." *Id.* "[V]irtual display layers may be given the appearance of depth through the use of 3D depth cues . . . [such as] a blur operation, such that layers located at successively greater depths may appear blurrier than those closer to the user." EX2015, [0795]. Additionally, "[a] degree of translucency [e.g., blur] may be a function of a user input." EX2015, [0848].

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

A. Independent Claims 1 and 101

43. Independent claim 1 of the ’754 Patent is directed to an “electronic device” having programs that are executed by one or more processors to perform various functions. EX1001, 95:9-34.

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

> **[1b]** displaying a plurality of user interface elements on the display including a first user interface element and a second user interface element;
>
> **[1c]** detecting a first contact moving across the display; and,
>
> **[1d]** while the first contact is detected moving across the display: moving the first user interface element in a first direction on the display at a first speed;
>
> **[1e]** moving the second user interface element on the display at a second speed greater than the first speed;
>
> **[1f]** displaying an object and at least one other object;
>
> **[1g]** detecting at least part of a gesture on the display; and

[1h] during detection of at least a portion of the gesture before a completion thereof is detected, blur, based on a change in a magnitude of the gesture being detected on the display, at least a portion of the at least one other object.

EX1001, 95:9-34.

45. Independent claim 2 is directed to an "apparatus" having one or more processors that are configured to execute instructions to perform functions at the apparatus. EX1001, 95:35-49. Specifically, claim 2 recites **[2a]** An apparatus, comprising: at least one non-transitory memory; a touch screen; and one or more processors in communication with the at least one non-transitory memory, and the touch screen, wherein the one or more processors execute instructions in the at least one non-transitory memory to cause the apparatus to:

[2b] display an object and at least one other object;

[2c] detect at least part of a gesture on the touch screen; and

[2d] during detection of at least a portion of the gesture before a completion thereof is detected, blur, based on a change in a magnitude of the gesture being detected on the touch screen, at least a portion of the at least one other object.

EX1001, 95:35-49.

46. Independent claim 225 is directed to a "method" performed "at an apparatus" and includes limitations similar to the Limitations [2a]-[2d] of claim 2. *Id.*, 119:44-54.

VI. OVERVIEW OF THE PRIOR ART

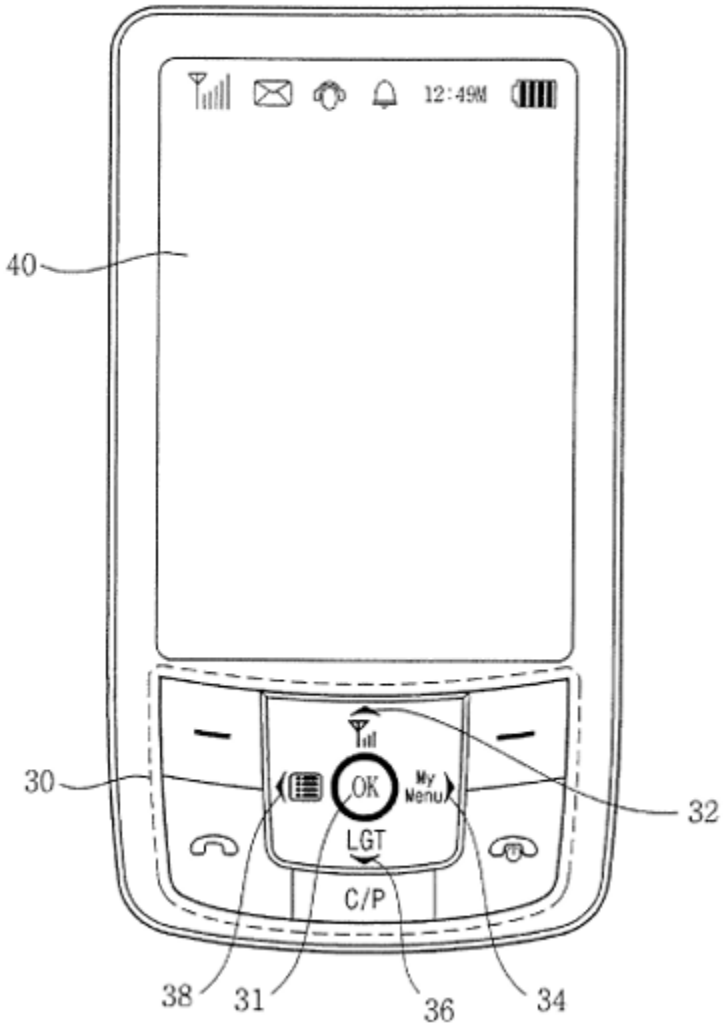
47. Dr. Terveen primarily relies on three cited references for his invalidity analysis: Ahn, Chaudhri, and Shiplacoff. *See* EX1003, §VIII. For purposes of the instituted IPRs, Dr. Terveen relies on two grounds: (1) Ahn and Chaudhri and (2) Ahn, Chaudhri, and Shiplacoff. *See* EX1003, §§IX, XI.

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

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

49. 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



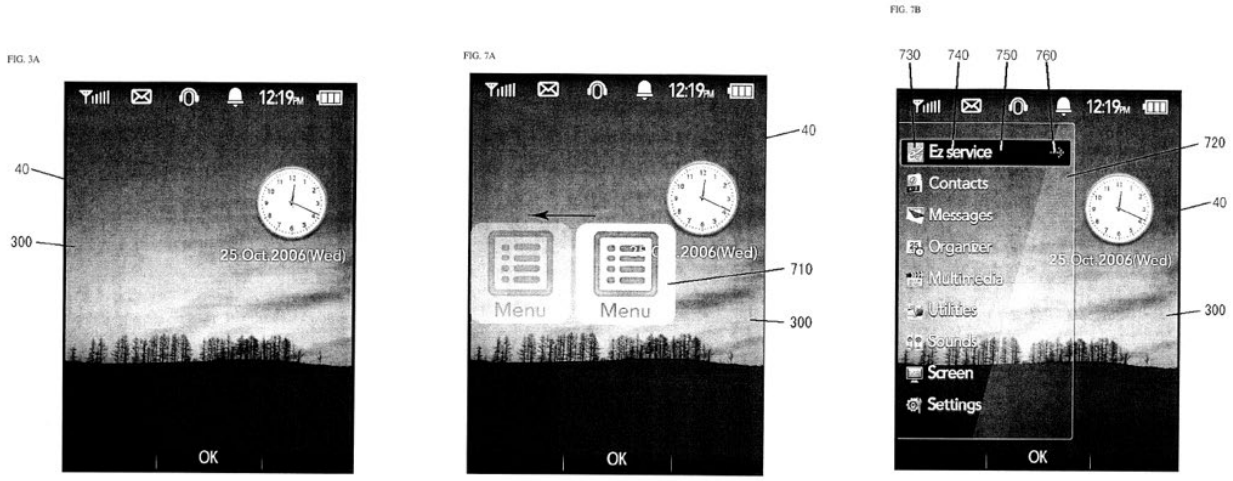
50. Ahn's proposed operation attempts to solve the problem where device characteristics are unavailable when a menu list is displayed. EX1004, ¶¶[0005]-[0006]. In conventional browsers, the standby screen disappears when a menu screen is displayed. EX1004, ¶¶[0005]-[0006]. Thus, Ahn proposes to provide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

51. Against this backdrop, Ahn discloses a method of displaying menus in a mobile communication terminal, where each menu corresponds to 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"). Ahn discloses three separate methods for displaying its menu via the use of (1) directional keys, (2) a simple touch and drag operation, and (3) via a start position operation. In each method, the menu is displayed after a corresponding input (e.g., button click or drag) is completed. That is, the display of the menu is a binary operation—appearing only when the input is satisfied. Some embodiments also include an animation effect that occurs after input is satisfied but before the menu is fully displayed. None of Ahn's menus are described as dynamically following a user's finger.

52. In a first embodiment, Ahn describes a method of displaying a menu via a selection of a specific direction on a direction key (the "Directional Key" embodiment). *See* EX1004, ¶¶[0030], [0034]-[0035]. As shown in FIGs. 7A-7C, a menu (e.g., setting menu 720/820) can be accessed "when a leftward direction key is selected." *Id.*, ¶[0062]. Ahn describes "if the user selects the leftward direction key 38 . . . ***[t]hereafter***, a basic setting menu list 720 . . . is displayed". EX1004, ¶[0063]-[0064],[1] FIG. 2 (showing directional keys). A POSITA would understand

[1] All emphasis added unless otherwise noted.

this operation as an if/then operation where the function only occurs "if" the condition is met. EX1004, ¶[0063] ("***if*** the user selects …"). Referring to FIGs. 7A-7C (below), an input is received corresponding to a left menu (shown at FIG. 7A), an animation effect is displayed after the input (shown at FIG. 7B), and the left menu is depicted after the animation effect (shown at FIG. 7C). EX1004, ¶[0063]-[0064].



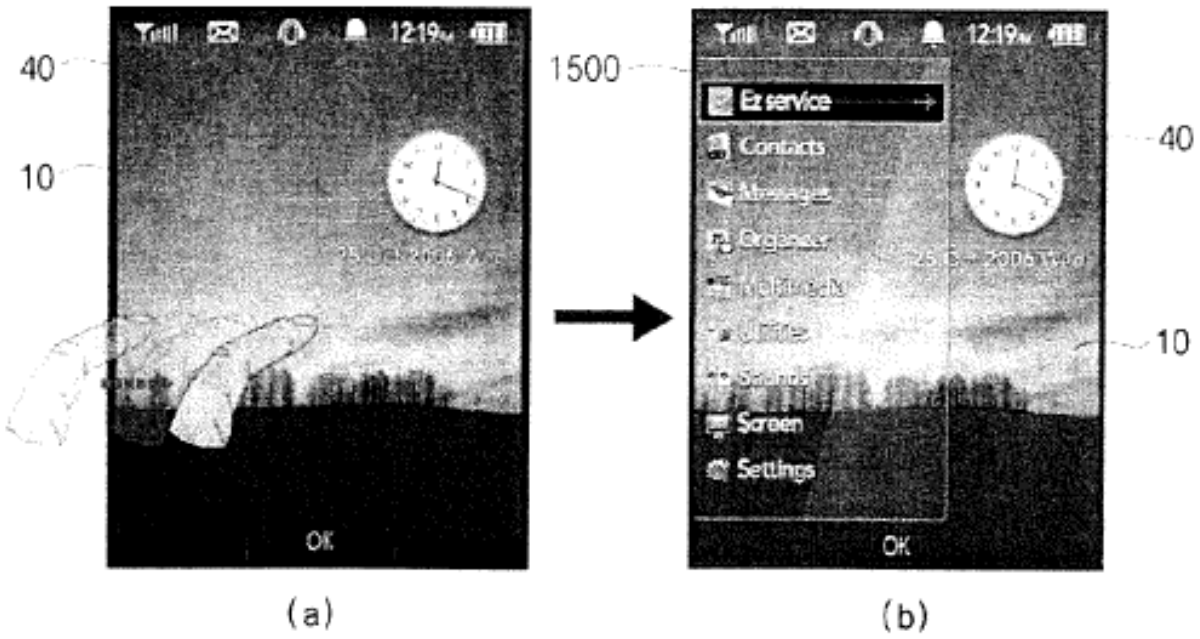
(i) (ii) (ii)

53. Ahn refers to an input of (corresponding to the selection of) its direction keys (e.g., 34, 38) as a "click." EX1004, ¶¶[0045]-[047]. These direction keys are single input buttons that can only receive one type of input, and a POSITA would have recognized a selection (*i.e.*, click) of a direction key as an input used to initiate a binary operation. Accordingly, if the direction key is pressed, then the menu is displayed "thereafter," and if the key is *not* pressed, the menu is *not* displayed. EX1004, ¶¶[0051], [0060], [0064]. Accordingly, the opening of Ahn's menu is performed in an "all or nothing" or binary manner rather than progressively.

54. 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]. The menus of Ahn's "Touch and Drag" embodiments are identical to the menus of Ahn's "Directional Key" embodiments, only differing with regard to the method of initiating their display. *Compare* EX1004, FIGs. 4B, 6B, 7B, *with* FIGs. 13B, 14B, 15B. The opening of the menu's according to Ahn's touch and drag operation is also performed in a binary manner, as explained below.

55. 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." EX1004, ¶[0103].

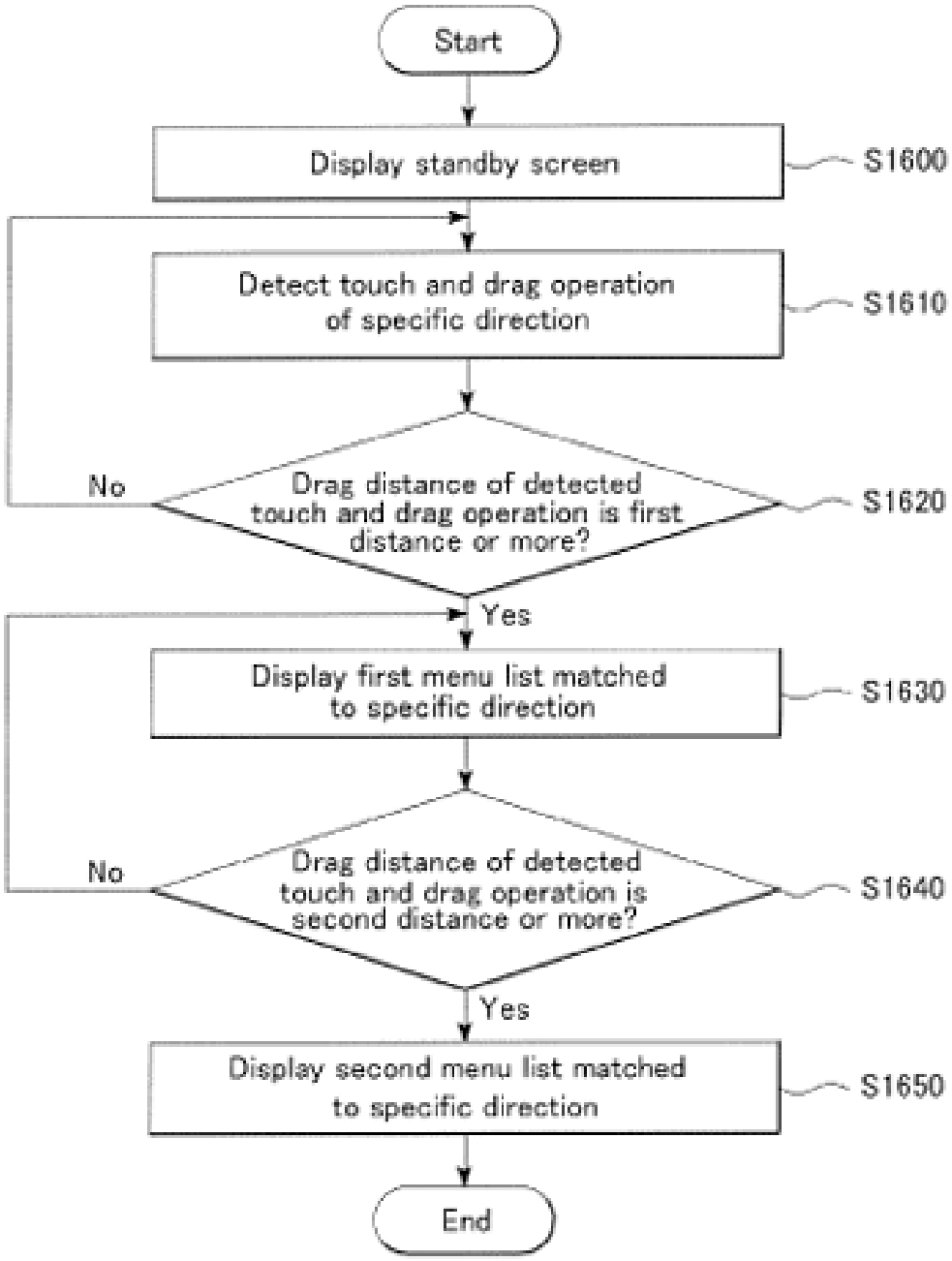
FIG. 15



This is the same if/then operation described for Ahn's "Directional Key" embodiments and a the menu would be displayed in the same manner—only if the condition is met. *Compare* EX1004, ¶[0103] ("***if*** the user touches screen 10 and drags") *with* EX1004, ¶[0063] ("***if*** the user selects …").

56. A flow chart of this operation is shown in FIG. 16, which descries where "[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).

FIG. 16

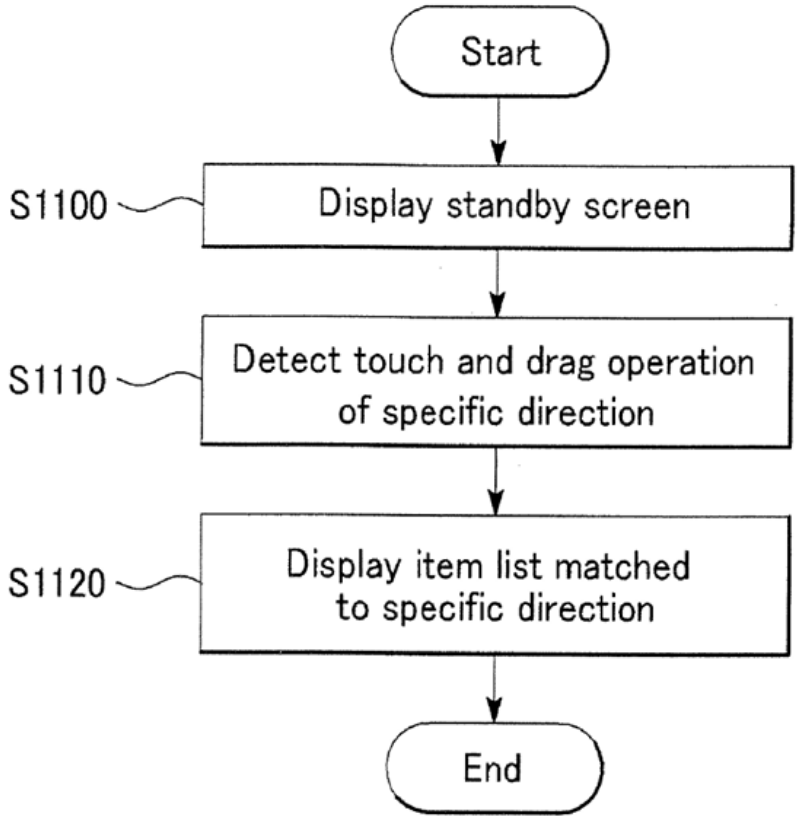


EX1004, FIG. 16. Ahn's descriptions of its "Touch and Drag" embodiments do not include any disclosures that would lead a POSITA to understand the "Touch and Drag" menus to display any more progressively than the "Directional Key" menus.

See EX1004, ¶¶[0102]-[0103] (for example, "if the user . . . drags the touch in a left direction a menu list 1300 matched to a left direction is displayed in the display 40"). Therefore, a POSITA would recognize that, despite being initiated via a different type of user input, Ahn's "Touch and Drag" menus are displayed via the same binary process by which its "Directional Key" menus are displayed.

57. This operation is also depicted in Ahn's FIG. 11, which shows that the display of the item list is after the operation is detected (*i.e.*, completed).

FIG. 11

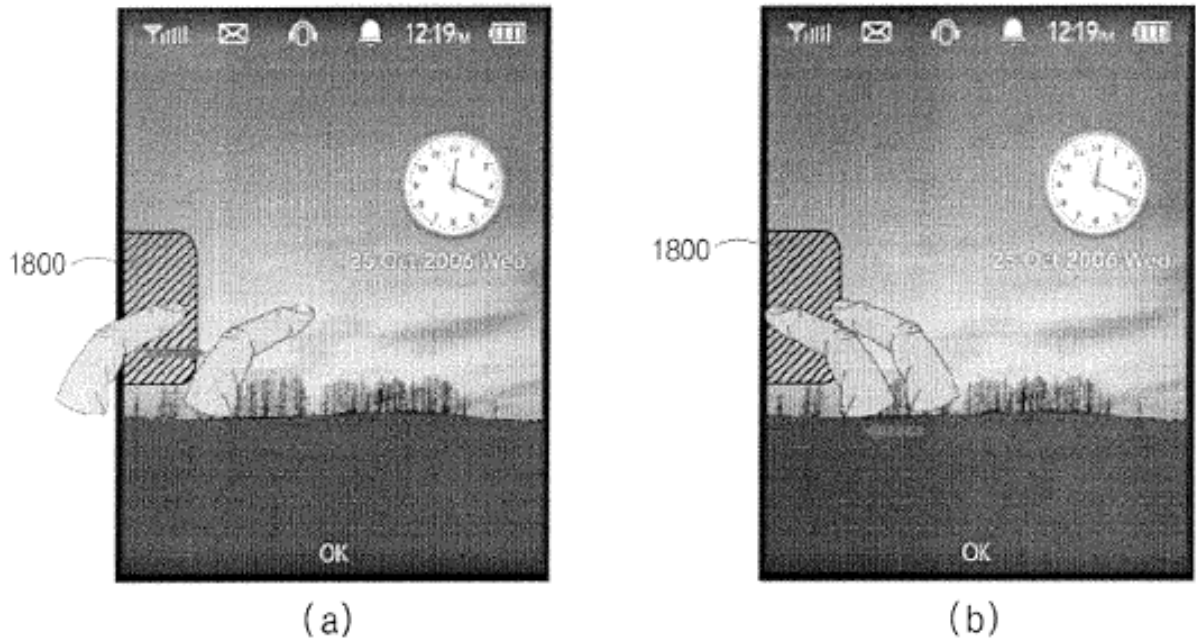


To the extent it is argued that Ahn's FIG. 11 operates differently than FIG. 16 by displaying a menu before the "touch and drag operation" is completed, this is

inconsistent with Ahn. While paragraph [0099] states "[a]s the touch and drag operation is detected, the controller 50 controls to display an item list matched to the specific direction in the display 40 (S1120)," a POSITA would not understand the phrase "[a]s the touch and drag operation is detected" to mean the menu is displayed before the operation is compete. Ahn uses this phrase several other times to mean that the menu is displayed after the operation is completed. *See e.g.,* EX1004, ¶¶[0016], [0071], [0092], [0094]. For example, paragraphs [0094] of Ahn describes the Directional Key embodiment where "the user setting menu 420 is displayed in the right area of the standby screen 300 ***as the user selects*** the rightward direction key 34." Of course, consistent with my paragraphs 52-53 above, Ahn's device is configured such that menu 420 is displayed "after" the selection (EX1004, ¶[0050]-[0051]) even though it may appear fast enough for the user to think this occurs "as" the selection is happening. Similarly, Ahn's FIG. 11 shows displaying the menu ***after*** the touch and drag operation is detected (*i.e.*, completed) even through the menu may be displayed "as" the user is still dragging their finger on the screen. *See* EX1004, ¶¶[0102]-[0103] (using conditional "if" clauses to describe the drag gestures like the clauses used to describe operation of FIG. 16 in Ahn's paragraphs [0109]-[0110]); EX1004, ¶[0119] (using "as the user may press" to refer to an animation effect that happens after a tap input).

58. In a further embodiment, Ahn states that this touch and drag operation can be used with "an identifier" such as "a specific icon for notifying a start position of the touch and drag operation." Ahn at ¶[0117]. This operation does not diverge from the binary operation described above and simply adds an icon so that a user is notified that a corresponding menu is available, as shown in FIGs. 18a-b (inset below). EX1004, ¶[0117] (describing that "[i]n the above-described implementations, if the touch and drag operation of a specific direction is performed . . . an identifier for notifying the user that an item list matched to the specific direction . . . can be displayed in the display 40.")

FIG. 18



EX1004, FIG. 18a-b.

59. As shown in FIG. 18a, the user may perform the same touch and drag operation on the graphical shadow to display a menu 1500 as is done with the touch and drag operation depicted in FIG. 15. Ahn at ¶[0118]. Alternatively, as shown in FIG. 18b, the user may press the graphic 1800 and, in response, "the menu list 1500 can be displayed as emerging from the left side of the display 40." *Id.*, at ¶[0119].

60. In either scenario, the menu will begin to open when the gesture—either after a drag operation in FIG. 18a or a tap operation in FIG. 18b—is completed. At no point does Ahn describe that its menu (e.g., 1500) will emerge and be displayed in some in-between state where the menu is neither fully open or closed. EX1004, ¶¶[0118]-[0119]. Ahn's use of the "as the user" language does not indicate that the menu is displayed for the same reasons as discussed in my paragraph 57. *See e.g.,* EX1004, ¶[0094]. For example, a POSITA would have understood that "as the user may press the graphic 1800 with a finger, the graphic 1800 gradually disappears in the display 40" (EX1004, ¶[0117]) indicates programming logic that triggers an animation after an input (e.g., tap) occurs and does not indicate that the animation relies on the user to progressively hold this "press" for the duration of the animation. This operation follows that of the directional key embodiment in that: an input is received corresponding to a left menu ("press the graphic"), an animation effect is displayed after the input ("the menu list 1500 can be displayed as emerging from the

left side of the display 40 while the graphic 1800 disappears in the display 40"), and the left menu is depicted after the animation effect. EX1004, ¶[0119].

61. Thus, all of Ahn's embodiments operate in a binary manner, opening the menu after completion of the gesture. Because Ahn does not explain that the addition of a start position identifier changes the menu display process, a POSITA would have understood that Ahn's "Touch and Drag" menu embodiments that include start position identifier's display menus via binary operations like the rest of Ahn's "Touch and Drag" embodiments.

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

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

63. Chaudhri-842 discloses "[a] device with a touch sensitive display [that] may be unlocked via gestures performed on the touch-sensitive display." EX1005, Abstract. Chaudhri provides several different sections discussing different aspects of its operations. EX1005, ¶¶[0048]-[0051] (User Interface States), [0052]-[0079] (Unlocking a Device via Gestures), [0080]-[0098] (Indication of Progress Towards Satisfaction of a User Input Condition), [0099]-[0109] (User Interface Active States Corresponding to Events or Applications).

1. Unlocking a Device via Gestures

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

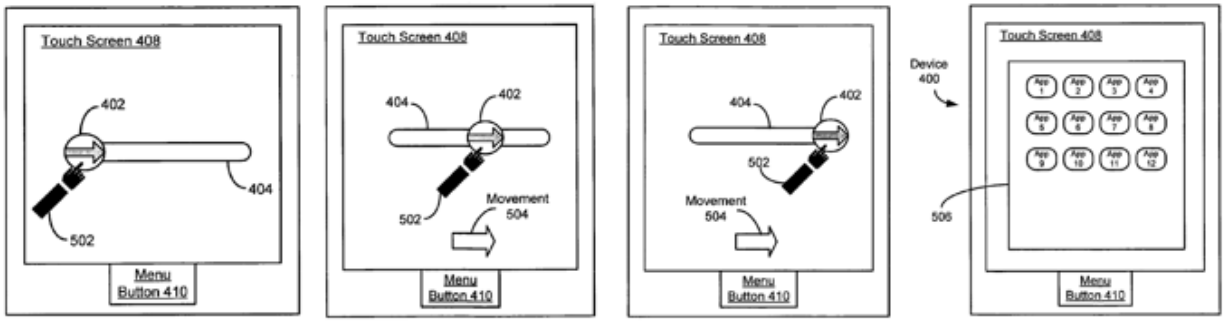


Fig. 5A Fig. 5B Fig. 5C Fig. 5D

EX1005, FIGs. 5A-5D.

65. As shown in FIGs. 5A-5D (above), 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*. Thus, a POSITA would have understood that this transition— from a first interface (FIGS. 5A–5C) to a second interface (FIG. 5D)—is performed after the gesture is completed. EX1005, ¶¶[0076]–[0077] ("Upon completion of the unlock gesture," the device displays the second user interface and failure to complete the gesture results in the device remaining on the lock screen).

66. Chaudhri also describes a second scenario where a user transitions between two different applications (e.g., between "a telephone application to a music player"), as opposed to a lock and unlock state. EX1005, ¶[0079]. This follows the same operation. In this application transition scenario, "as the user transitions from a first application and to a second application, a user interface for the second application may fade in (i.e., increase in intensity) and a user interface for the first application may fade out (i.e., decrease in intensity)." EX1005, ¶[0079]. Similar to the lock/unlock scenario, the transition does not occur until ***after*** the gesture is completed. EX1005, ¶¶[0076]–[0077]. Chaudhri only describes this fade in/fade out operation for the scenario in which a user transitions between two different

applications. EX1005, ¶¶[0052]–[0079]. Thus, Chaudhri discloses two ways to transition between interfaces states, each occurring ***after*** a condition (e.g., gesture) is completed. EX1005, ¶¶[0076]–[0077], FIG. 3

2. Indication of Progress Towards Satisfaction of a User Input Condition

67. In this operation, Chaudhri discloses a process for displaying additional interface objects on the lock screen. Here, Chaudhri 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 (below), this operation starts when "device 700 is locked ... [and] display[s] a prompt 706 to the user, informing the user of [an] incoming call ...." *Id*., ¶[0091]. When the user "drag[s] unlock image 702 along the channel 704 in the direction of movement 712 . . . a set of virtual buttons 708 appears and increases in optical intensity." *Id*., ¶[0092]. When "the user completes the unlock action by dragging the unlock image to the right end of channel 704 . . . [t]he unlock image 702 and the channel 704 disappear from the display and the virtual buttons 708 are at their final optical intensity levels." *Id*., ¶[0093]. Once the virtual buttons are at their final intensity levels, "the user may interact with virtual buttons 708 and accept or decline the incoming call." *Id.*

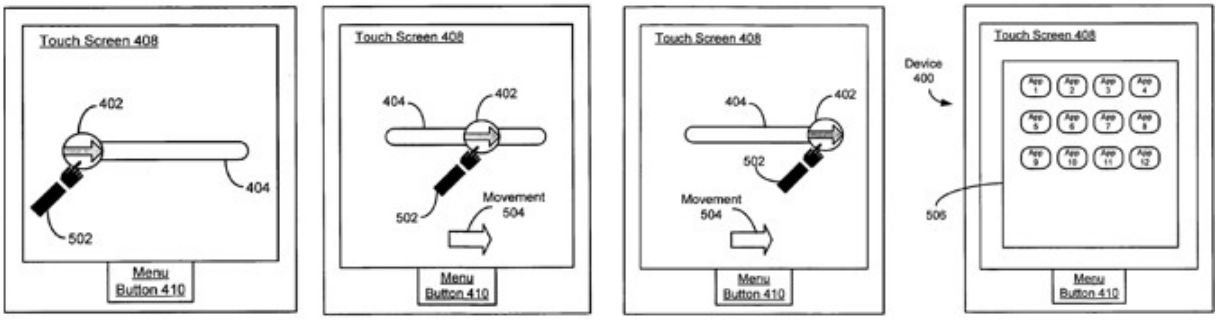


Fig. 5A Fig. 5B Fig. 5C Fig. 5D

EX1005, FIGS. 7A-7D.

68. Similar to the 'unlocking a device via gestures' operation, above, the device only transitions "to the second user-interface state if the condition is satisfied." EX1005, ¶[0084]. That is, the transition occurs only after the gesture is completed. As shown in FIGS. 7C-7D, the indicator (e.g., image 702 and channel 704) do not disappear or fade out until after the gesture is determined to be completed. *Id.*; EX1005, ¶[0093] ("the user completes the unlock action by dragging the unlock image to the right end of the channel 704 and releasing the unlock image 702. The device 700 transitions to the unlock state. The unlock image 702 and the channel 704 disappear from the display and the virtual buttons 708 are at their final optical intensity levels, as illustrated by their solid outlines."). Unlike the 'unlocking a device via gestures' operation, Chaudhri does not describe any fading out of an object for indicating progress. *See* ¶¶[0080]-[0098].

C. U.S. Patent App. No. 2010/0095240 ("Shiplacoff")

69. U.S. Pat. Pub. No. 2010/0095240 is titled "Card Metaphor For Activities In A Computing Device" and lists as its first inventor Daniel Marc Gatan Shiplacoff. I will refer to this reference as "Shiplacoff."

70. Shiplacoff discloses a device in which "two or more [display] modes are available for interacting with [the] device." EX1013, ¶ [0068]. One such mode is "a 'card' mode, in which at least two cards are presented." *Id.*, ¶ [0070]. As Shiplacoff explains, "a card that has focus (i.e., that the user is interacting with) is visible in full, while at least one other card is only partially visible." *Id.*, ¶ [0015]. Shiplacoff's Figure 3 depicts an embodiment of this "card" mode:

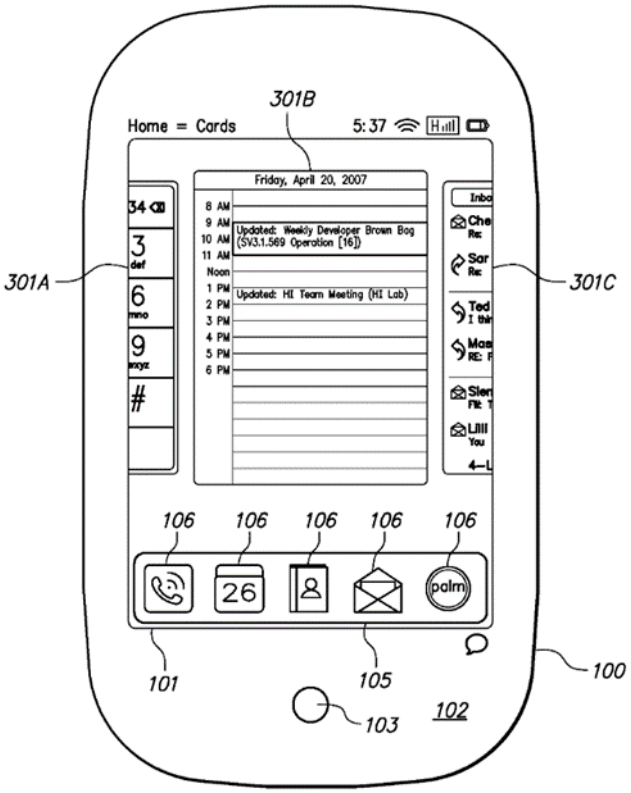


FIG. 3

Id., Fig. 3, ¶ [0077].

71. While in "card" mode, "the user can dismiss activities, for example by closing a card." EX1013, ¶ [0100]. As Shiplacoff teaches, a card can be closed or dismissed "by clicking on a control within a card" or "performing a flicking action in an upward direction." *Id.* "In general, when a card is dismissed, other cards move to fill the gap." *Id.*, ¶ [0101] (item numbering omitted). These other cards thus become the target of the user's "focus." *Id.*, ¶ [0167]. In some instances, closing a card also causes the card's application to either "close" or "remain[] open even when" the card is closed. *Id.*, ¶ [0102].

72. Separately, Shiplacoff teaches that the user may also switch to "card" mode from another mode, such as "a 'full-screen' mode, in which a card representing an application or other activity occupies substantially the entire display screen." *Id.*, ¶¶ [0127], [0069]. Shiplacoff's Figure 2 depicts an embodiment of this "full-screen" mode:

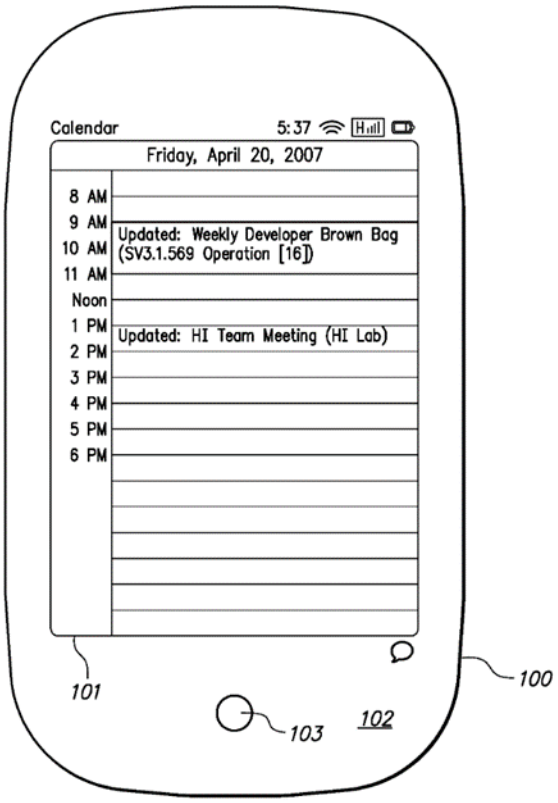


FIG. 2

Id., Fig. 2, ¶ [0075]. As Shiplacoff teaches, "the user can switch among the various modes by performing a gesture." *Id*. That is, after the gesture is performed, a different mode is displayed. One such "gesture" is a "'swipe up' gesture" beginning in an off-screen "gesture area 102 and extending onto screen 101." *Id.*, ¶ [0127].

73. Lastly, Shiplacoff also teaches that "the user can launch additional activities by returning to the launch screen as shown in FIG. 1. In one embodiment, this is performed by performing a gesture or other command." *Id.*, ¶ [0099]. Shiplacoff's Figure 1 is reproduced below:

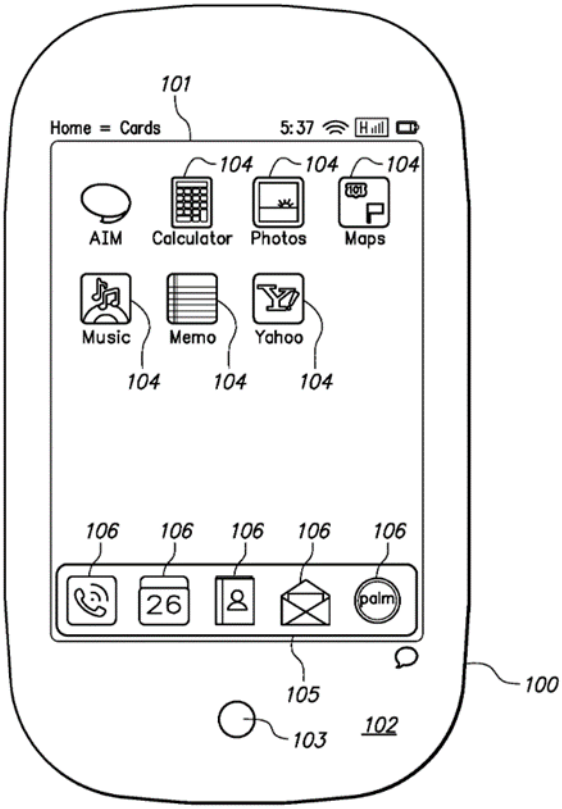


FIG. 1

Id., Fig. 1.

VII. AHN-CHAUDHRI GROUND: DR. TERVEEN'S ANALYSIS FAILS TO SHOW OBVIOUSNESS OF CLAIMS 2, 27, 37, 58, 60-64, 67-79, 186, 187, 189, 191, 192, 197, 199-204, 223, 225 BY AHN AND CHAUDHRI

74. Dr. Terveen's analysis of Ahn and Chaudhri fail to establish that Petitioner's proposed combination would arrive at each of the claimed limitations.

A. Dr. Terveen's Mapping to the Blurring Limitation of Claims 1, 2, and 225 are Deficient

75. Claim 2 recites an apparatus having instructions to cause the apparatus to "detect at least part of a gesture on the touch screen" and "during detection of at least a portion of the gesture before a completion thereof is detected, blur, based on

a change in a magnitude of the gesture being detected on the touch screen, at least a portion of the at least one other object." EX1001, 95:44-49. Thus, claim 2 requires ([***2c***]) "detect[ing] . . . a gesture on [a] touch screen" and ([***2d***]) "blur[ring]" a portion of "the at least one other object" displayed on the touch screen "during detection of" the gesture and "before a completion" of the gesture is detected. Independent claims 1 and 225 recite similar limitations. EX1001, 95:29-34; 119:43-54. Dr. Terveen's analysis of this blurring limitation is inconsistent with the disclosures of the cited art and a POSITA's understanding and, thus, fails for each of independent claims 1, 2, and 225.

76. "[T]he at least one other object" is introduced in Limitation [2b], which recites "display an object and at least one other object." EX1001, 95:43; EX1003, ¶83. For Limitation [2b], Dr. Terveen relies on the "clock widget of [Ahn's] standby screen 300" as the claimed "at least one other object." *See* EX1003, ¶86 ("the clock widget … [is] ***at least one other object***" (emphasis in original)); *see also* EX1003, ¶¶87 (same). Dr. Terveen does <u>not</u> identify any other elements as allegedly corresponding to the claimed "at least one other object." Thus, for Limitation [2d], Dr. Terveen must show that the Ahn-Chaudhri modification would have rendered obvious blurring Ahn's "clock widget" as required by the language of the claim. But Dr. Terveen fails to establish any reasonable chance of success on this point.

77. Dr. Terveen advances two theories when mapping to Limitation [2d], each of which fails to meet the Limitation.

1. Ahn Theory

78. Dr. Terveen asserts that a "POSITA would have understood and found obvious that, as a user utilizes the dragging gesture to open a given translucent menu, the translucent menu would progressively slide onto the display as a function of the magnitude of the user's dragging gesture" EX1003, ¶94. Dr. Terveen continues that a POSITA would have understood that "Ahn's menu list would have been graphically displayed as sliding onto the display based on a change in a magnitude of the "touch and drag" gesture being detected on the touch screen." EX1003, ¶94. Thus, to establish his mapping of Ahn to meet element [2.d], Dr. Terveen must show that "the translucent menu would correspondingly progressively blur the portion of the background over which the menu is displayed (including, e.g., the clock widget) as it slides onto the screen." EX1003, ¶95.

79. There is no discussion of blurring any object in Ahn. *See* EX1004. Instead, Dr. Terveen relies on the change in appearance of clock widget shown in Ahn's FIG. 4B/13b when the right hand menu 420/1300 is displayed. EX1003, ¶93-95. None of Ahn's other menus result in any change in appearance of the clock widget. *see* EX1005, FIGs. 14-15 (no apparent change in appearance of clock widget by menu list 1400 or 1500). This is confirmed by Dr. Terveen. EX2009,

22:17-20 (top menu doesn't blur clock widget), 26:18-27:6 (bottom and left menus don't blur clock widget). Thus, Dr. Terveen theory is that Ahn discloses its right menu 420/1300 as "sliding onto the display based on a change in a magnitude of the 'touch and drag' gesture." EX1003, ¶94. Unless Ahn's menu follows the user's finger across the display, Dr. Terveen's theory fails and Ahn cannot disclose Limitation [2d]. But Ahn teaches otherwise.

a) Ahn's Menus are Not Progressive

80. As explained above in my Section VI.A, Ahn describes its menu display as a binary operation where the process of displaying the menu does not start until the triggering condition (e.g., direction key press or touch and drag of a threshold distance) is met. Referring specifically to the right menus 420/1300 required for Dr. Terveen's theory, neither menu slides onto the display based on a change in a magnitude of the 'touch and drag' gesture.

81. Ahn's menu 420 does not slide onto the display based on a change in a magnitude of the 'touch and drag' gesture. For this embodiment, "if the user selects the rightward direction key 34 … ***[t]hereafter***, a user menu 420 as shown in FIG. 4B is displayed at the right side of the standby screen 300." EX1004, ¶[0050]-[0051]. As illustrated in FIGs. 4A-4B an input is received corresponding to a right menu (selection of rightward direction key 34), an animation effect is displayed after the

input is completed (FIG. 4A), and the right menu is depicted after the animation effect (FIG. 4B). EX1004, ¶[0050]-[0051].

FIG. 4A

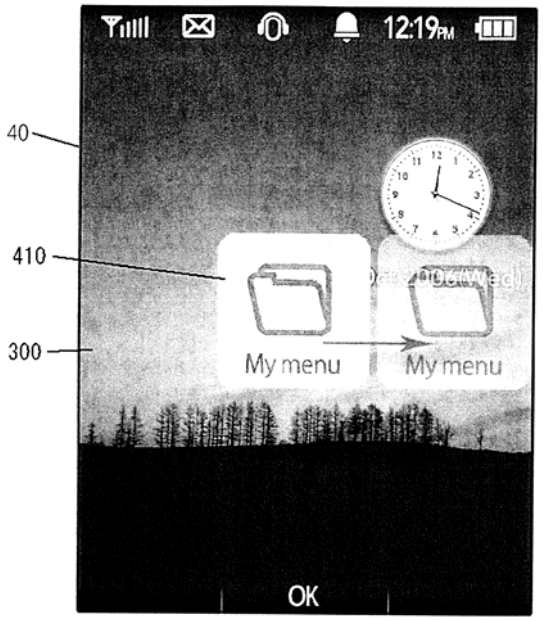
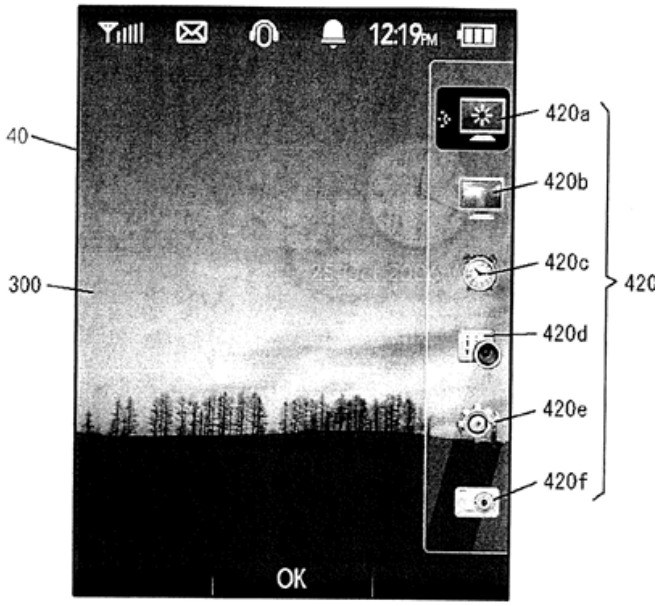


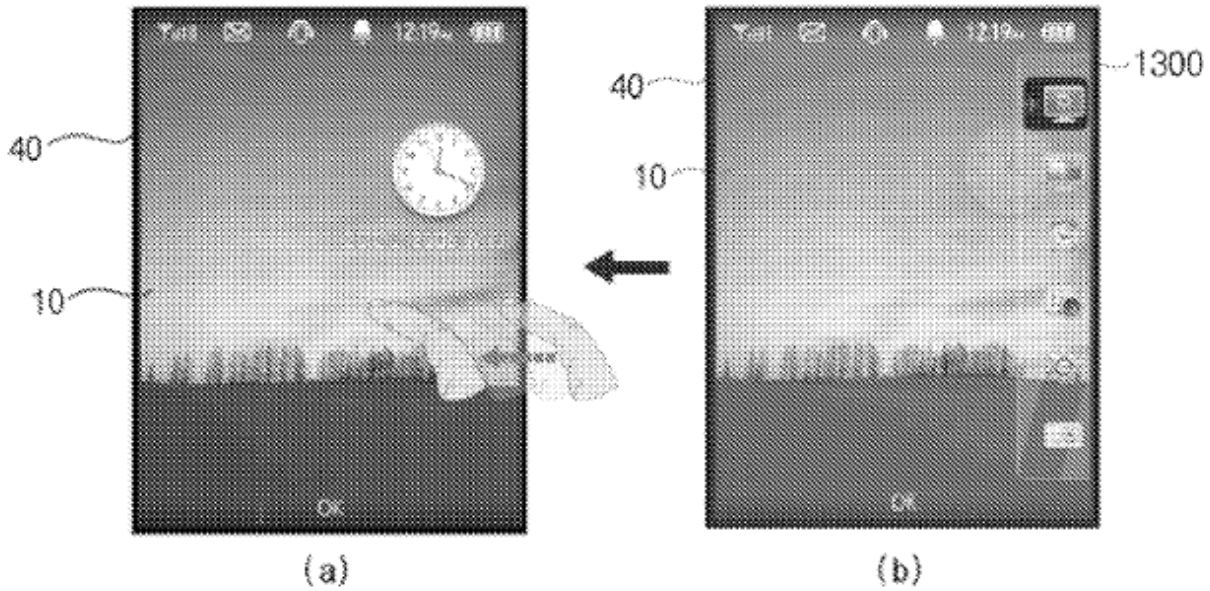
FIG. 4B



The display of all of Ahn's menus using the directional keypad are performed in this way. EX1004, ¶¶[0037]-[0038], [0059]-[0060], [0062]-[0064] and FIGs. 3B-3C, 6A-6B, 7A-7B.

82. Likewise, Ahn's menu 1300 does not slide onto the display based on a change in a magnitude of the 'touch and drag' gesture. Referring to Ahn's FIGs. 13A-B (inset below), "***if*** the user touches a specific position of the touch screen 10 and drags the touch in a left direction a menu list 1300 matched to a left direction is displayed in the display 40." EX1004, ¶[0102].

FIG. 13



EX2005, 71/75.[2]

83. As shown in FIG. 13(a), the user's finger drags from a first point to a second point on the display, while the display does <u>not</u> change as the user's finger "drags the touch in a left direction." *see* EX1004, ¶[0102]. Only ***after*** "the touch and drag operation [i.e., gesture] of the user is completed" is the menu displayed

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

(FIG. 13b). *See* EX1004, ¶[0116]. Thus, ***if*** the user performs the left touch and drag gesture, ***then*** the menu list 1300 is displayed thereafter.

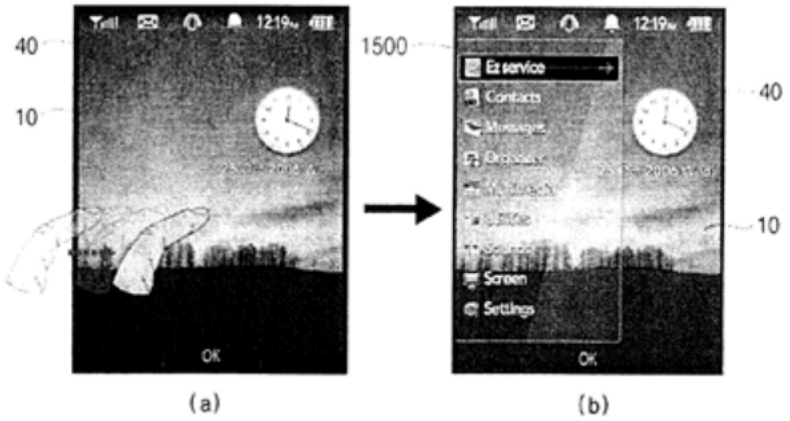
84. As shown in FIG. 13(a), the user's finger drags from a first point to a second point on the display, while the display does <u>not</u> change as the user's finger "drags the touch in a left direction." *see* EX1004, ¶[0102]. That is, the finger is depicted as moving but the menu 1300 is not depicted as moving with the finger. Only ***after*** "the touch and drag operation [i.e., gesture] of the user is completed" is the menu displayed (FIG. 13b). *See* EX1004, ¶[0116]. Thus, ***if*** the user performs the left touch and drag gesture, ***then*** the menu list 1300 is displayed thereafter. A POSITA would understand Ahn's menu list 1300 as an "if/then" operation where the menu would be displayed only 'if' the gesture is detected and would not be displayed before the gesture associated with the menu (e.g., left slide exceeding the distance) is "detected" (i.e., completed). This is consistent with a POSITA's understanding of an if/then operation as confirmed by Dr. Terveen. EX2009, 32:9-33:11; 42:6-16. Thus, this touch and drag operation is consistent with the display of menu 420 where an input is received corresponding to a right menu (left touch and drag) and a menu is displayed after the input is completed (FIG. 13b).

85. The Board appears to contend that display of the menu occurs during a gesture in one implementation of FIG. 17 because "a first menu is displayed during a gesture once a first drag distance has been detected, with a second menu appearing

after a second distance of the same touch operation has been reached." 1119-D.I., 22. In other words, the Board appears to be concluding that the first menu is displayed *during* the gesture because the drag can continue to a second distance associated with another function (display of second menu) and, thus, the gesture is not complete until it reaches the second distance. However, the right hand menu—which is the only menu that allegedly blurs the clock—is only a single menu. Thus, under the Board's interpretation, the menu 1300 would be displayed only "once a first drag distance has been detected," which corresponds to the completion of the gesture. For menu 1300, a POSITA would have understood that the slide gesture is completed when the first drag distance is reached.

86. Dr. Terveen also relies heavily on the embodiment of Ahn's FIG. 18 for establishing Ahn's menu would slide onto the screen while tracking the user's finger. *See* EX1003, ¶94. However, both paragraphs [0118]-[0119] of Ahn only describe opening menu 1500 (shown in FIG. 15 below) which does not blur the clock widget as required to prove Dr. Terveen's theory.

FIG. 15



Rather, paragraphs [0118]-[0119] of Ahn disclose only opening menu 1500 "if the user drags in a right direction" ([0118] and FIG. 18a) or "if the user touch drags to the left" ([0119] and FIG. 18b).

b) Any variation of Ahn does not meet the claimed operation

87. Although not explained in Dr. Terveen's declaration, the Board appears to be suggesting that graphical shadow would also be moved to the right side of the display and used to open menu 1300. 1119-D.I., 21-22. This configuration is not shown or described in Ahn's FIG. 18, which discloses that a swipe in either direction will result in the display of the left menu 1500. EX1004, ¶[0118] (describing using a ***right*** swipe to open ***menu 1500***) [0119] (describing using a ***left*** swipe to open ***menu 1500***). Regardless, any variation of Ahn would not result in menu 1300 progressively sliding in with the user's finger as such an interpretation would be inconsistent with the disclosures of Ahn.

88. To establish Ahn's menu progressively slides with the user's finger, Dr. Terveen relies on one sentence in Ahn's paragraph [0118]: "as the user drags the graphic shadow 1800, the menu list 1500 can be displayed along the dragged graphic 1800." EX1003, ¶94. The crux of Dr. Terveen's theory is that "drags the graphic shadow" means that the showed is depicted as ***moving with*** the user's finger when it performs a touch and drag operation. But this is inconsistent with Ahn's use of the term "drag."

89. Ahn unambiguously uses "drag" to describe the input—***not*** any responsive movement of graphic 1800. In Ahn, "drag" "indicates movement of an ***external object*** on the touch screen 10." EX1004, ¶[0098]. In other words, "drag" means an external object (e.g., finger, stylus, etc.) is acting on the screen or part of the screen, not that a graphic is moving. For example, where Ahn states that "if the user ***touches a specific position*** of the touch screen 10 and ***drags the touch*** in a left direction a menu list 1300 . . . is displayed[,]" (EX1004, ¶[0102]) the user is dragging a finger across the touch screen. Similarly, Ahn states that "if the user ***drags the touch screen*** *10* by a distance longer than or equal to the distance d1 and shorter than the distance d2, the first menu list 1700 is displayed." EX1004, ¶[0116]. Of course, the user is not moving the touch screen 10 (which is depicted in Ahn's FIG. 1) but is merely performing a ***drag gesture that starts on the touch screen***, in response to which the first menu list is displayed. *See* EX1004, ¶[0111] (describing

touch operation as "dragged"). Likewise, when "the user drags the graphic shadow 1800" (EX1004, ¶[0118]), the user is merely performing a drag gesture that ***starts*** on the graphic shadow, in response to which the menu list 1500 is displayed. This interpretation is consistent with Ahn's other FIG. 18 operation where "the user may press the graphic 1800." EX1004, ¶[0119]. Thus, graphic is not actually being "pressed" and a POSITA would understand that this is describing performing an external tap gesture that starts on the graphic.

90. Although Ahn does not disclose its menu as sliding onto the screen, to the extent that this would be disclosed, a POSITA would have understood any sliding to be performed as an animation effect that occurs after the gesture is detected (i.e., completed). This is consistent with every other menu of Ahn. For example, as described in Ahn's directional key embodiments (see my paragraph 52-53), an animation effect (e.g., FIG. 4A, 6A, 7A) is produced as a result of the completion of an operation (e.g., key selection). *See* Section VI.A. The other example of start notification embodiment (Ahn's FIG. 18(b)) is described as an animation in which the user presses (i.e., taps) the graphic 1800 and—as a result of the completion of the press operation—"the graphic 1800 gradually disappears in the display 40, and the menu list 1500 can be displayed as emerging from the left side of the display 40." EX1004, ¶[0119]. A POSITA would not understand Ahn's FIG. 18(a) as from deviating from this operation and any sliding in of Ahn's menu would occur as an

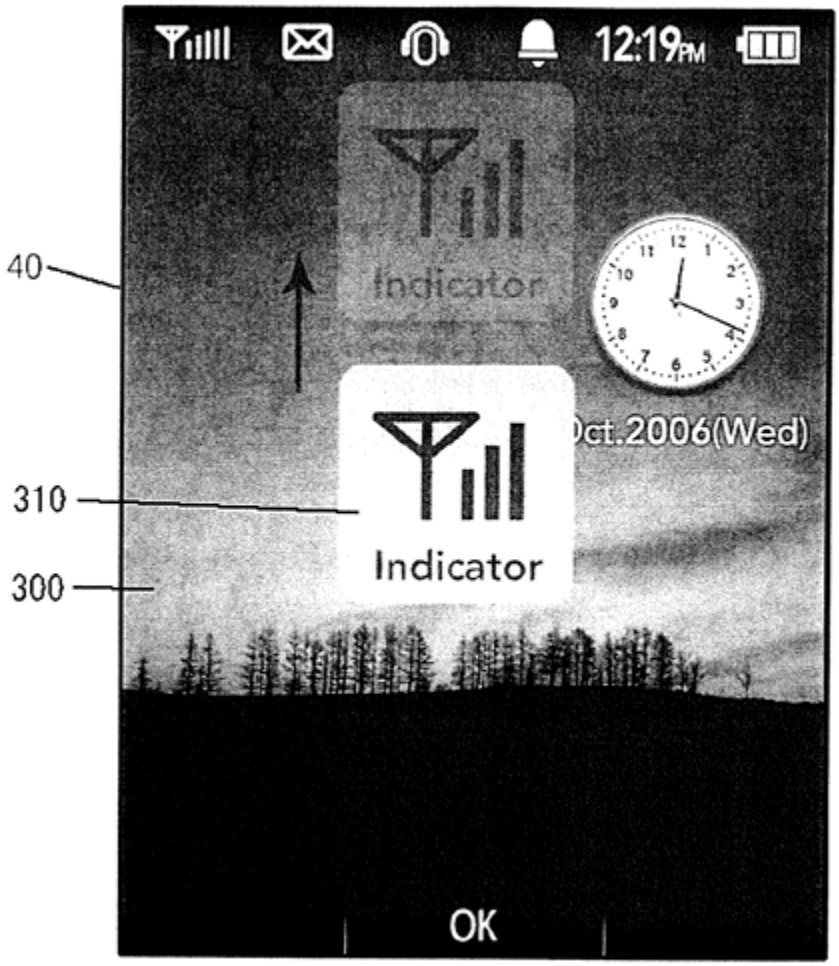
animation effect after the operation is completed, not progressively as a magnitude of a user's gesture.

91. As explained in Section VI.A, a POSITA would understand Ahn's menu operations are binary and would open after a corresponding input is received. Ahn's "Touch and Drag" embodiments are described as binary—not progressive—and only displays its menu ***after*** determining a drag distance exceeds a first distance as opposed to displaying the menu during the gesture. *See* Section VI.A. Paragraphs [0117]-[0118] of Ahn merely describes adding a start position identifier to the binary "Touch and Drag" menu embodiments already described elsewhere in Ahn's disclosure and does not describe differences in the process through which the menus are displayed. This is consistent with the Board's interpretation that "Figure 18 is a variation of the embodiment described in Figures 13 to 15." D.I., 21-22. But nowhere does this 'variation' describe displaying the menu contrary to all the other embodiments—including the embodiment ***in FIG. 18*** which displays the menu as an animation effect after an input (EX1004, ¶[0119]). Instead, Ahn's disclosure merely adds "an identifier" for "notifying a start position of the touch and drag operation" (EX1004, ¶[0117]) does not change the described binary menu opening operation to a progressive one.

92. Additionally, a POSITA would have understood that Ahn's figures show that its menu is not displayed as sliding in with a user's finger. Ahn's figures

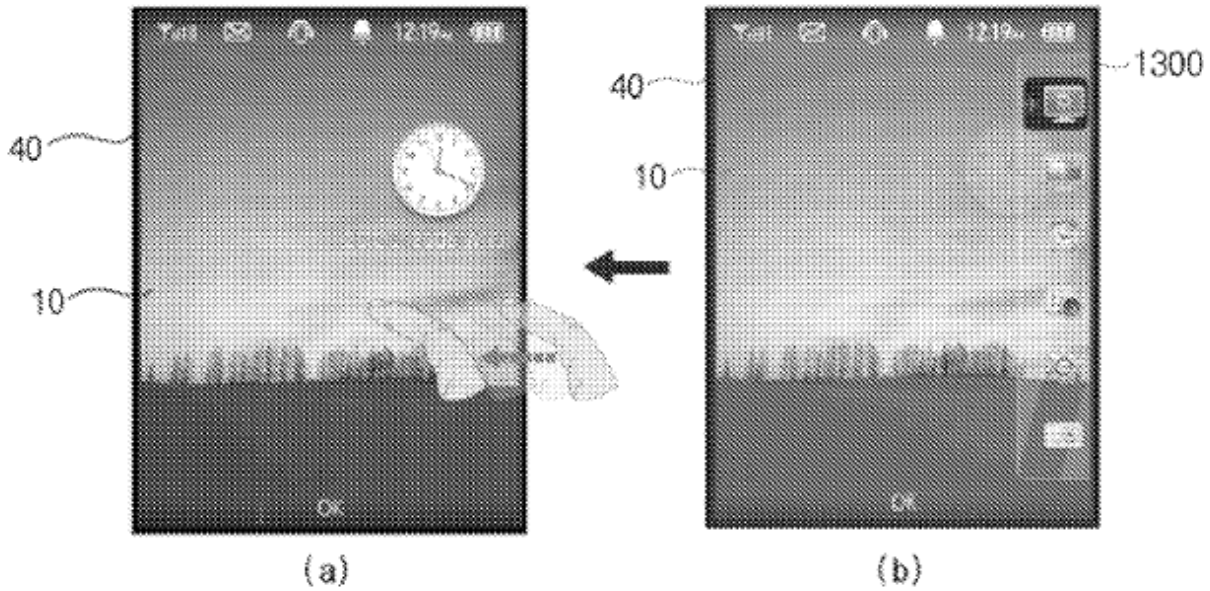
indicate that it knew how to depict movement of both external and internal objects. Referring to FIGs. 3B, 4A, 6A, 7A, 8B, Ahn depicts other objects as moving in response to an input. *See e.g.,* EX1004, ¶[0037] ("icon 310 corresponding to an icon displayed on the upward direction key 32 disappears in the standby screen 300 ***while moving in an upward direction*** after being displayed around the center of the standby screen 300").

FIG. 3B



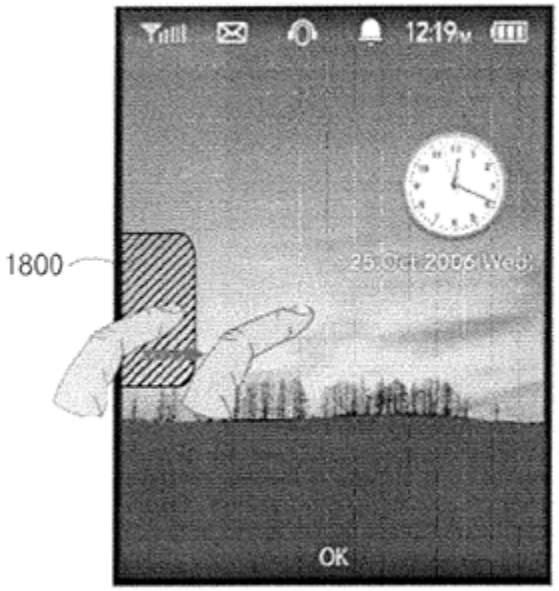
93. Ahn also clearly depicts movement of a finger. EX1004, FIGs. 13-15. EX1004, ¶[0102] ("drags the touch in a left direction").

FIG. 13



EX2005, 71/75. In fact, FIG. 18a of Ahn illustrates the user's finger moving along the display while the graphic 1800 ***remains stationary***. EX1004, ¶[0118] ("if the user drags in a right direction")

FIG. 18



(a)

EX1004, FIG. 18a. Thus, if Ahn wanted to display the graphic 1800 as moving with the finger, it knew how to display such a movement. But Ahn does not depict (or describe) any such movement of graphic 1800 or menu 1300, like it does for its objects 310, 410, 610, 710 which it describes a "moving." EX1004, ¶¶[0037], [0050], [0059], [0063] and FIGs. 3B, 4A, 6A, 7A.

94. For the menu to "progressively slide onto the display as a function of the magnitude of the user's dragging gesture" (EX1003, ¶94), Dr. Terveen must create several internal inconsistencies within Ahn's disclosure. Dr. Terveen must establish that Ahn's paragraph [0118]: (1) uses the term 'drag' inconsistently with the rest of Ahn's disclosure; (2) does not use the animation effects like Ahn's FIG. 18(b) or Ahn's directional key embodiments; (3) displays a menu before the gesture

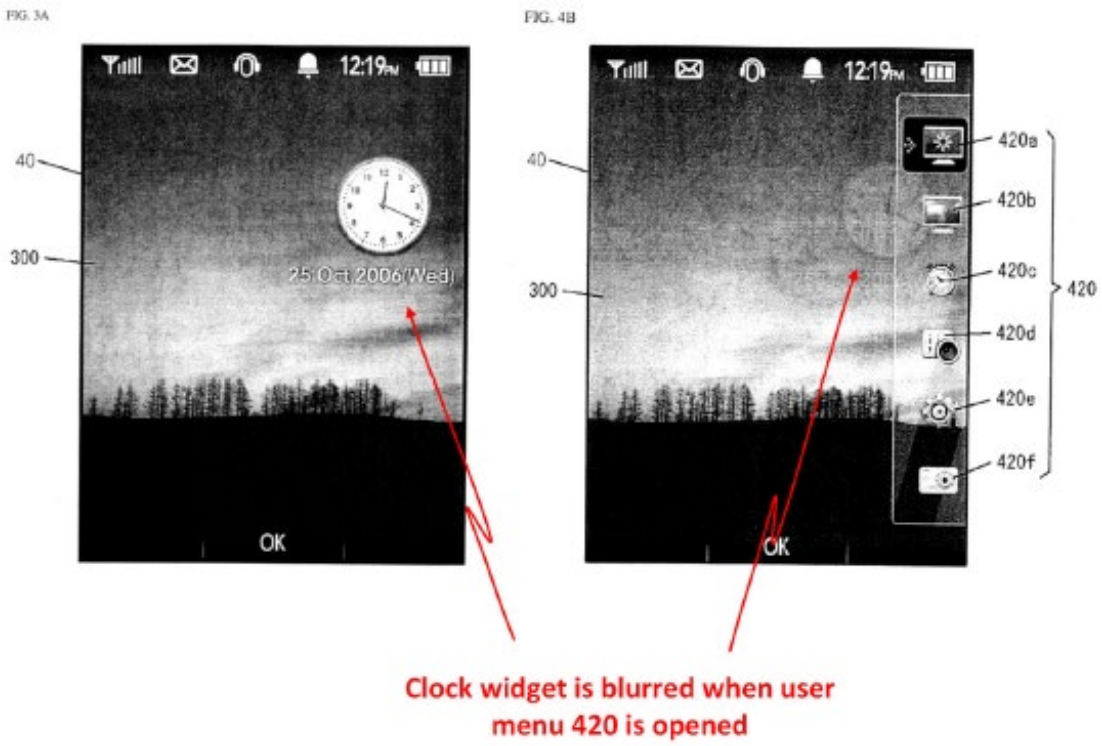
is completed contrary to the described touch and drag operation; and (4) is inconsistent with the Ahn's depiction and description of other objects as "moving" and FIG. 18(a)'s depiction of graphic 1800 as stationary. A POSITA would not have created so many inconsistencies to arrive at such and interpretation and would have understood Ahn's paragraph [0118] to describe displaying a menu after a touch and drag operation—starting on graphic 1800—is detected to be complete as is consistent with Ahn's specification, figures, and other embodiments.

2. Ahn-Chaudhri Theory

95. Dr. Terveen's modification of Ahn with Chaudhri is premised on the combination providing a user with an indication of or feedback on the progress of Ahn's gesture. EX1003, ¶62 ("Ahn-Chaudhri combination is a mobile device that changes an optical intensity of one or more user interface objects as a function of progress towards satisfaction of a user's gesture input"). Specifically, Dr. Terveen asserts that a POSITA viewing Chaudhri-842 would have found it obvious to vary the optical intensity of the clock widget as a visual indication of a user's progress in completing Ahn's "touch and drag" gesture. EX1003, ¶101; *see id.*, ¶97 ("obvious to apply Chaudhri-842's user interface state transition techniques— particularly the use of transitioning optical intensity to provide visual feedback regarding the progress of a transition between user interface states as a result of detecting a user's input of a predefined gesture"). But this is logically incorrect.

a) Modification does not show progress

96. Dr. Terveen's alleged "blurring" of Ahn's clock widget during Ahn's "touch and drag operation" would <u>not</u> provide the user with any indication of progress of opening the corresponding menu list. In Dr. Terveen's modification, the optical intensity of the clock widget is varied as in indication of a user's progress to opening menu 420, as illustrated by Ahn's FIGs. 3A and 4B.

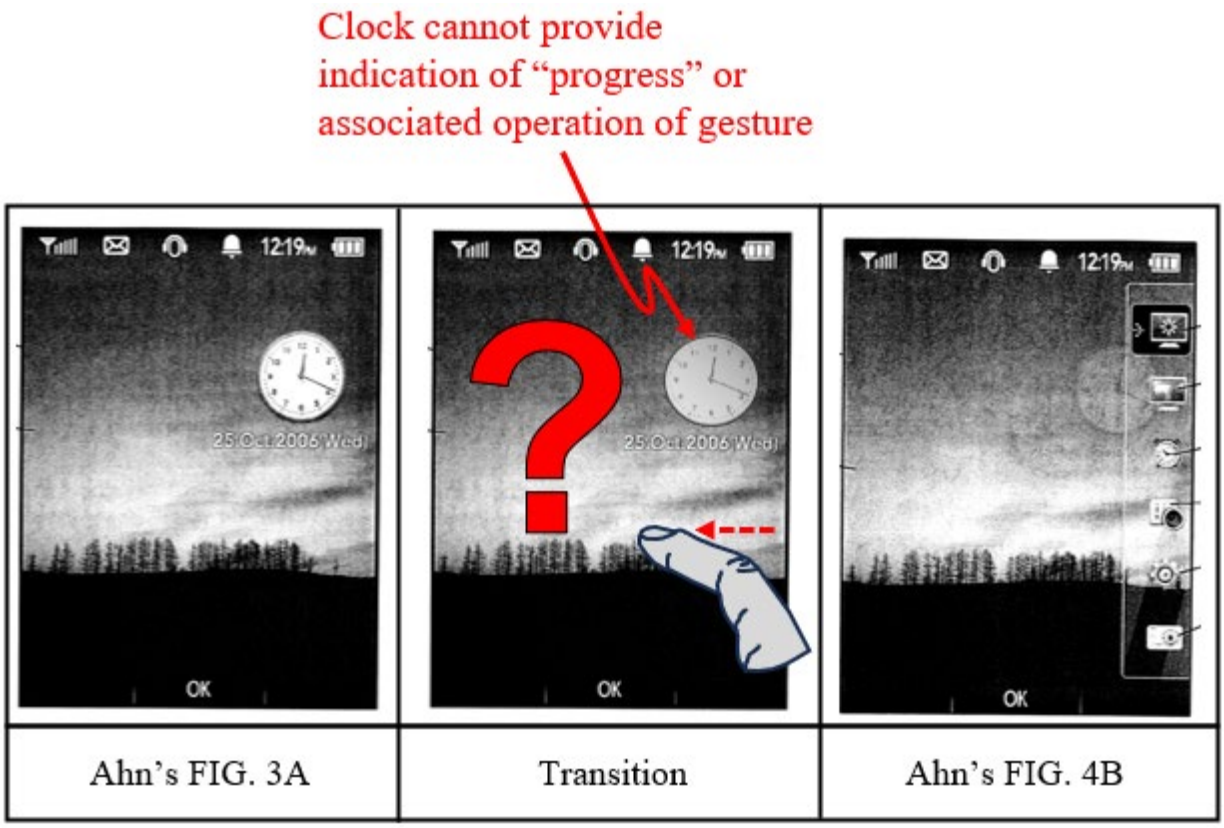


EX1004, FIGS. 3A and 4B

EX1003, ¶96-101.

97. Dr. Terveen's alleged modification of Ahn is illustrated by the below progression which transitions from a Standby Screen (corresponding to Ahn's FIG. 3A) to a Menu Screen (corresponding to Ahn's FIG. 4B) in response to a touch and

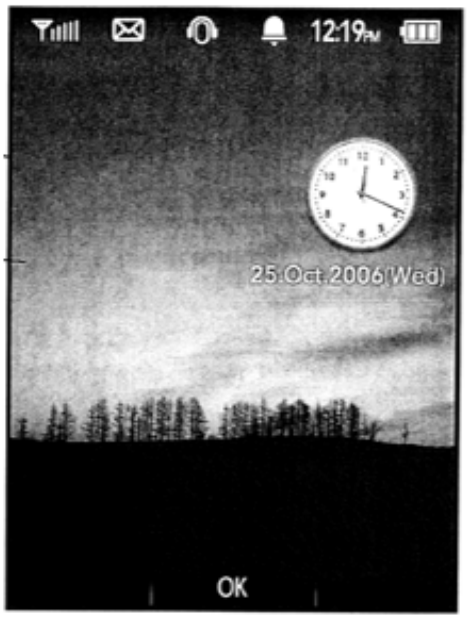
drag gesture as described in Ahn. *see* EX1003, ¶101 ("obvious to vary … the optical intensity of the standby screen or at least portions thereof (e.g., the blurring of the clock widget, as shown in FIGS. 4B, 10, and 13b) as a visual indication of a user's progress in completing Ahn's "touch and drag" gesture).



98. As is apparent in this sequence of figures (and Ahn's FIG. 13B), the clock widget remains visible throughout the transition. EX1004, FIG. 4B (depicting clock widget). This optical transition of the clock widget, from left to right in the images above, does not suggest to a user *when* or *if* the menu 420 will appear as in Ahn's FIG. 4B. Nor is this end-state (display of the menu) otherwise related to the alteration of the clock widget in any manner that is perceivable by a user. For

example, there is no frame of reference to discern any progress, relative to its required distance, of the gesture based on the changing appearance of the clock widget.

99. As such, the change in optical intensity *during* the touch and drag operation would not provide any indication of progress, which Chaudhri defines as (1) how much of the gesture is completed, or (2) how much of the gesture is remaining. *Id*; *contra* EX1005, ¶¶[0088]-[0090] ("If the user input condition includes a predefined gesture, then the indication of progress of the gesture may be defined in terms of how much of the gesture is completed and ***how much of the gesture is remaining***"); EX1003, ¶100 (quoting same). In other words, a user cannot tell from the alleged "blurring" how much more "blurring" or swiping is needed before the menu will appear. This can be illustrated in the below figure:

	
Standby Screen (0%)	During Gesture (?%)

Unless a user can accurately determine the amount of progress for Ahn's touch and drag operation based on the variation in the clock widget in the above image, then it cannot indicate progress. This is inconsistent with Chaudhri's ability to easily convey the progress of the gesture to a user. *See* EX1005, FIGs. 5A-5D. A POSITA therefore would not have been motivated to modify Ahn to progressively blur the clock widget "as a visual indication of a user's progress in completing" the gesture.

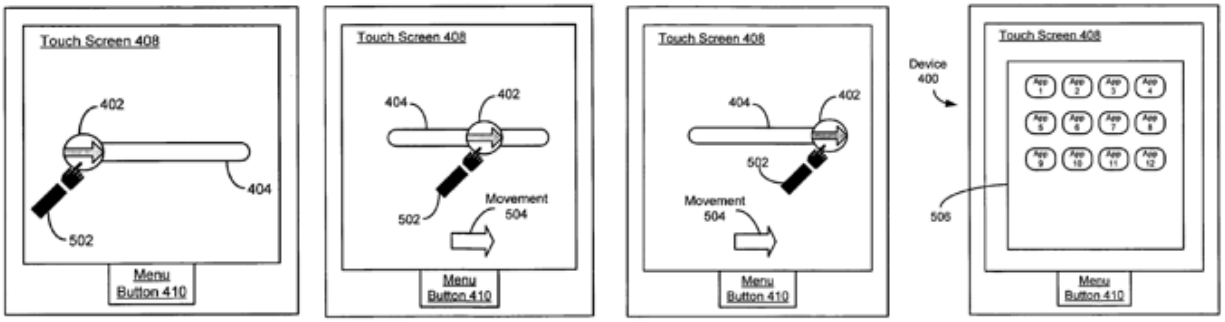


Fig. 5A Fig. 5B Fig. 5C Fig. 5D

100. A POSITA would understand that this change in appearance merely indicates that a gesture is happening, but the user *already* knows that much because the user *is performing* that gesture. As in Ahn alone, the user would only know the gesture is complete once the menu list 1300/420 appears, ***upon completion of the gesture***. Accordingly, a POSITA would have understood that Dr. Terveen's purported modification would not provide any indication of a user's progress in completing Ahn's "touch and drag" gesture because, unlike Chaudhri-842, Dr. Terveen's proposed UI shows no indication of progress toward a clearly visible end goal. Thus, Dr. Terveen's purported 'progress' motivation would not have led a POSITA to make the asserted modification of Ahn.

101. Further, as explained in my Section VII.A.1, the alleged variation in optical intensity would not have helped differentiate between the user-interface object (e.g., the menu list 1300) and the background (e.g., the standby screen and/or clock widget) because the menu is not shown until ***after*** the gesture is completed. For Ahn's menu 1300, the indication that the user wishes to perform the display of

the menu is detected when the slide reaches the threshold distance (e.g., first distance) and the display operation is then initiated. *See* Sections VI.A, VII.A.1. Thus, the gesture is complete when the distance is reached.[3] Because the menu is not displayed during the gesture, there can be no differentiation until the menu appears ***after the gesture is completed***. Thus, differentiation cannot provide a logical motivation for why a POSITA would vary the optical intensity of the clock during Ahn's "touch and drag" gesture.

102. The Board also contends that the appearance of a menu only on completion of a gesture is not commensurate with Petitioner's assertions, which rely on a "progressively ... appearing menu." 1119-D.I., 24. But Ahn does not teach a progressively appearing menu (*see* Sections VI.A, VII.A.1), Dr. Terveen does not propose to modify Ahn's menu to operate in a different way (EX1003, ¶101 (modifying intensity of "the standby screen")), and, in any event, Chaudhri also does not teach a progressively appearing menu; but, a menu that is displayed only after

[3] To the extent that Dr. Terveen or the Board would later argue that a user could continue to drag his finger after the first distance is met, this would not be understood to a continuance of the gesture. Once the distance is met, the gesture (as recognized by Ahn's controller) is complete and any superfluous movement or taps of the finger afterwards would not extend the gesture.

its gesture is complete (EX1005, ¶[0076] (displaying menu 508 "[u]pon completion of the unlock gesture") and FIGs. 5C-5D). Thus, it is Dr. Terveen's assertions that are not commensurate with the cited art.

b) Modification operates contrary to Chaudhri

103. Dr. Terveen contends it would be obvious to decrease the optical intensity of the standby screen or portions thereof (e.g., clock widget), which he identifies as Ahn's background. EX1003, ¶¶96, 101. Thus, Dr. Terveen's modification decreases the optical intensity of Ahn's background. Chaudhri-842 teaches the opposite of Dr. Terveen's modification.

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

105. Unlike Chaudhri-842's foreground UI elements, Ahn's clock widget is part of the background, as conceded by Dr. Terveen. *See* EX1003, ¶96 ("that a clock widget is part of the background standby screen 300"), 101 ("the background (e.g.,

the standby screen and/or clock widget).”). But Chaudhri-842 does not suggest adjusting the optical intensity (or otherwise altering) a background. And neither the Petition nor Dr. Terveen explain this gap in logic.

106. Further, the relied upon portion of Chaudhri-842 explains that “progress is indicated (604) towards satisfaction of the condition by transitioning an optical intensity of one or more user interface objects ***associated with the second user-interface state***.” EX1005, [0081]-[0082], FIG. 6 (reproduced and annotated below).

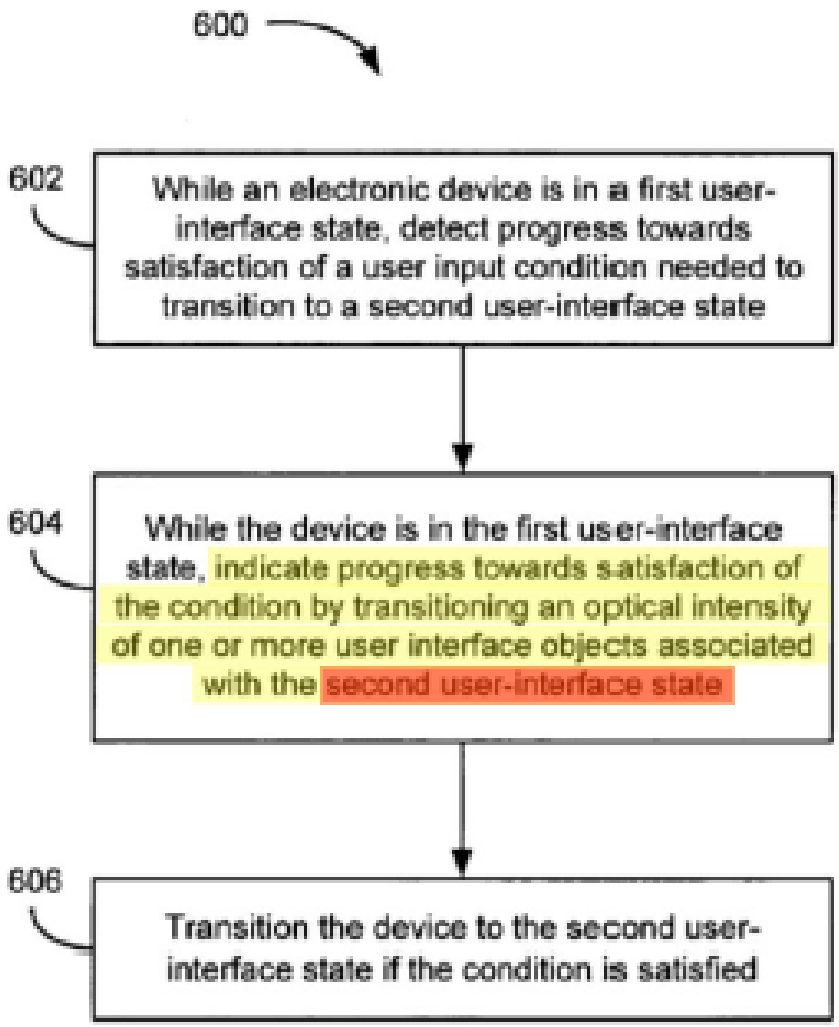


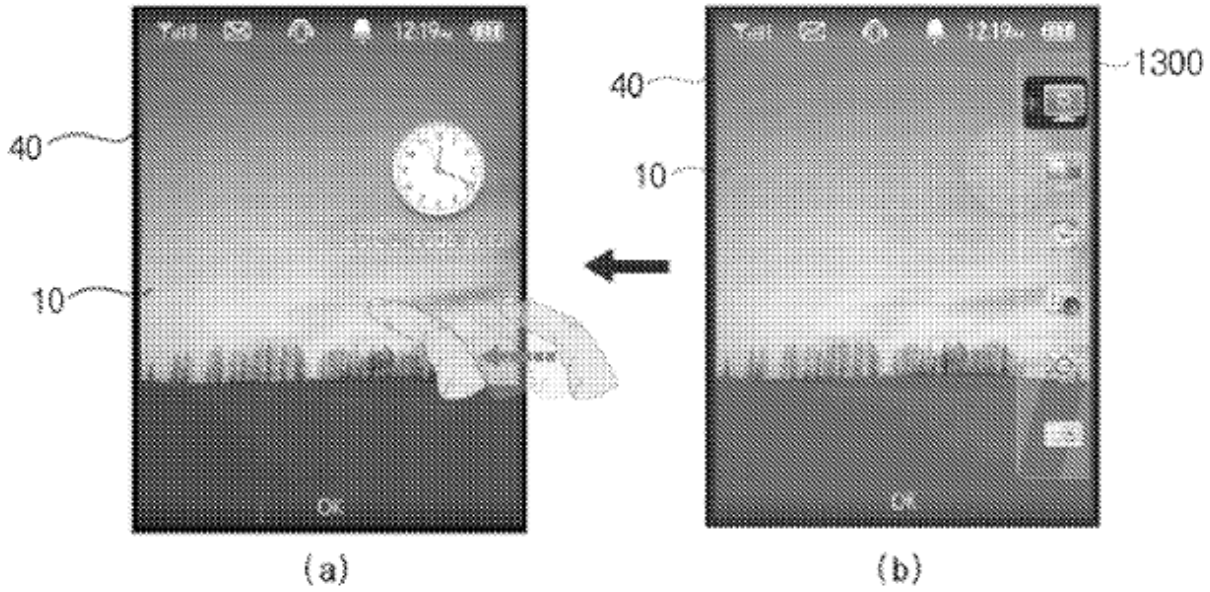
Figure 6

EX1005, FIG. 6

107. In contrast, Dr. Terveen's Ahn-Chaudhri combination relies on *reducing* the optical intensity of Ahn's background (the alleged *first* user interface state). Specifically, Dr. Terveen identifies the standby screen of Ahn (FIG. 13A – below left) as corresponding to the <u>first</u> user-interface state and "state where a menu

list 1300 is displayed" (FIG. 13B – below right) as the <u>second</u> user-interface state. EX1003, ¶101.

FIG. 13

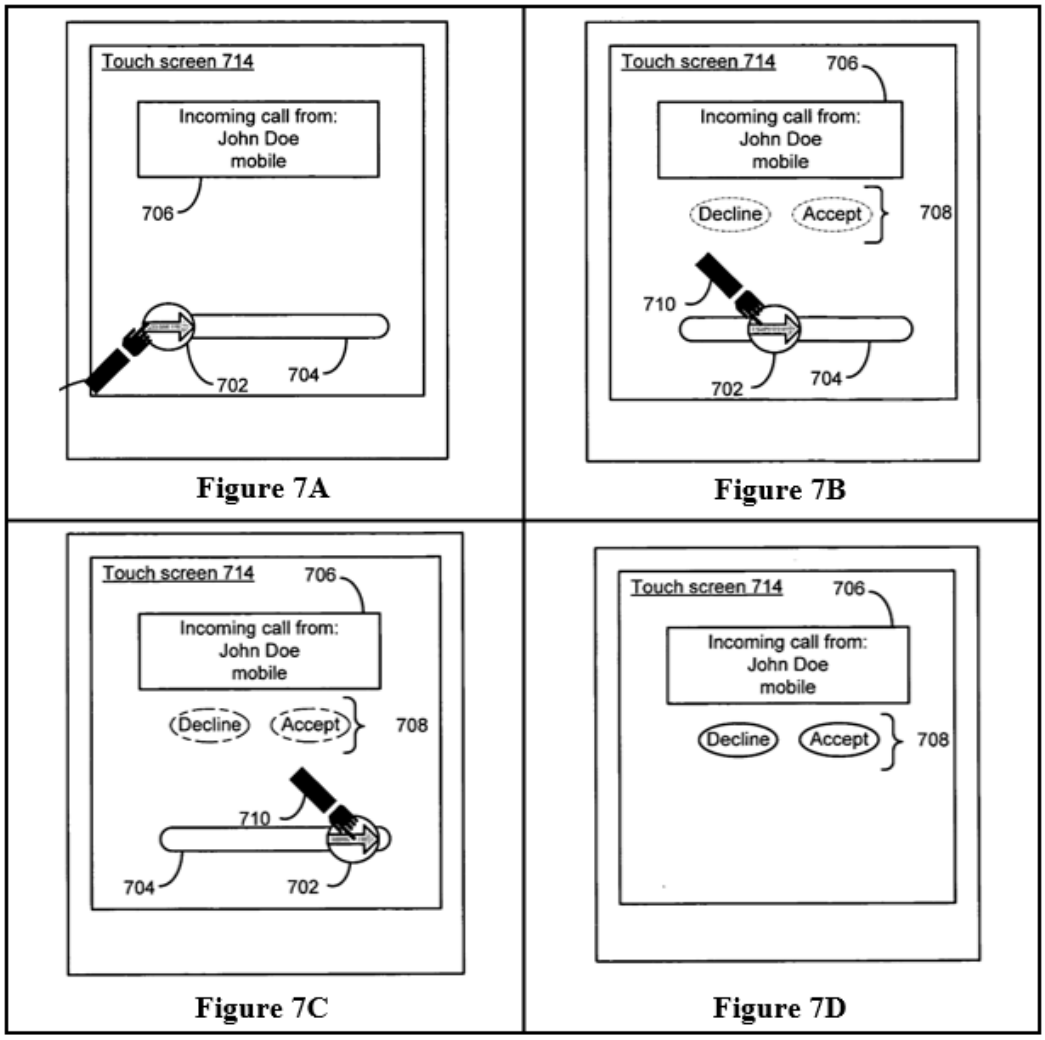


EX1004, FIG. 13.

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

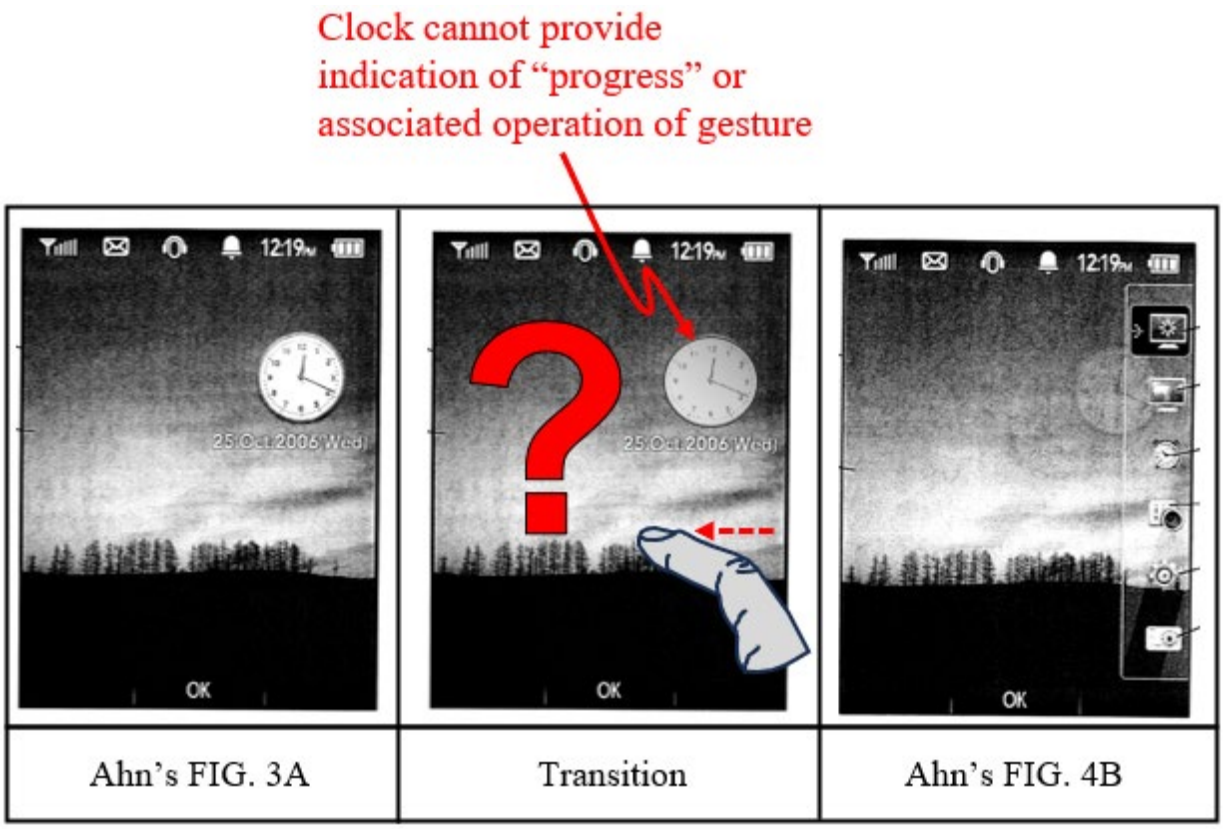
POSITA would not have made such a conflicting modification—especially not without some articulable reason, which Dr. Terveen does not provide.

109. Importantly, Chaudhri-842's teaching of changing the optical intensity of ***foreground*** objects of a ***second user-interface state*** provides its user with an indication of progress. Chaudhri-842 illustrates this concept in its Figures 7A-7D (inset below), where as the user drags arrow 702 to the right, the optical intensity of the virtual buttons 708—associated with the <u>second</u> user interface state—increases. EX1005, [0092]-[0093].



EX1005, FIGs. 7A-7D. Here, the user would realize that the gesture—continuing to slide arrow 702 is related to the appearing foreground icons 708 and that their increasing optical intensity indicates these icons would be selectable when the gesture is completed. *Id.* Thus, the user is provided with a visual indication of a their progress in completing the gesture; both in how much progress of the gesture is left and what functionality this gesture will trigger.

110. In contrast, Petitioner's modification changes the appearance of the *background* clock widget as the user drags their finger towards an undefined end, which would not offer any context to the user on what operation will occur or when. The appearance of the clock widget is unrelated to the menu 420 and the user would not realize that decreasing optical intensity of the clock widget would result in a menu being displayed, as illustrated below.



Thus, a POSITA would understand that reducing optical intensity for a background object (in a first interface state)—as Petitioner proposes—would not result in a visual indication of progress like that taught for Chaudhri's increasing of optical intensity for a foreground object of a second interface state.

111. The Board states that "the blurring in Ahn and Chaudhri each teach a foreground object that covers a background object, and that in each case this results in background objects being displayed with progressively less detail." 1119-D.I., 23-34. But this is not correct. As shown in Chaudhri's FIGs. 7A-7D (above), icons 708 appear above a blank screen (see FIG. 7A) and do not cover any background

object.[4] A POSITA would, thus, understand that Chaudhri does not teach blurring by a foreground object that covers a background object. Additionally, a POSITA would have understood Ahn's background objects are ***not*** being displayed with progressively less detail, as Ahn does not describe its menus as sliding in and Ahn is completely silent to the appearance of its clock widget. *See* Sections VI.A, VII.A.1.

B. Dr. Terveen's Analysis of the 754 Patent's Dependent Claims Contradicts his Sliding Menu Theory for Ahn

112. Petitioner's Ahn theory relies upon the understanding that "the translucent menu would ***progressively slide*** onto the display as a function of the magnitude of the user's dragging gesture." EX1003, ¶94; *see* Section VII.A.1. However, for almost all of his dependent claim theories, Petitioner relies upon embodiments of Ahn that do not ***progressively slide*** onto the display with the user's gesture.[5] For example, Dr. Terveen relies on steps S1620-S1630 for claims 27, 186,

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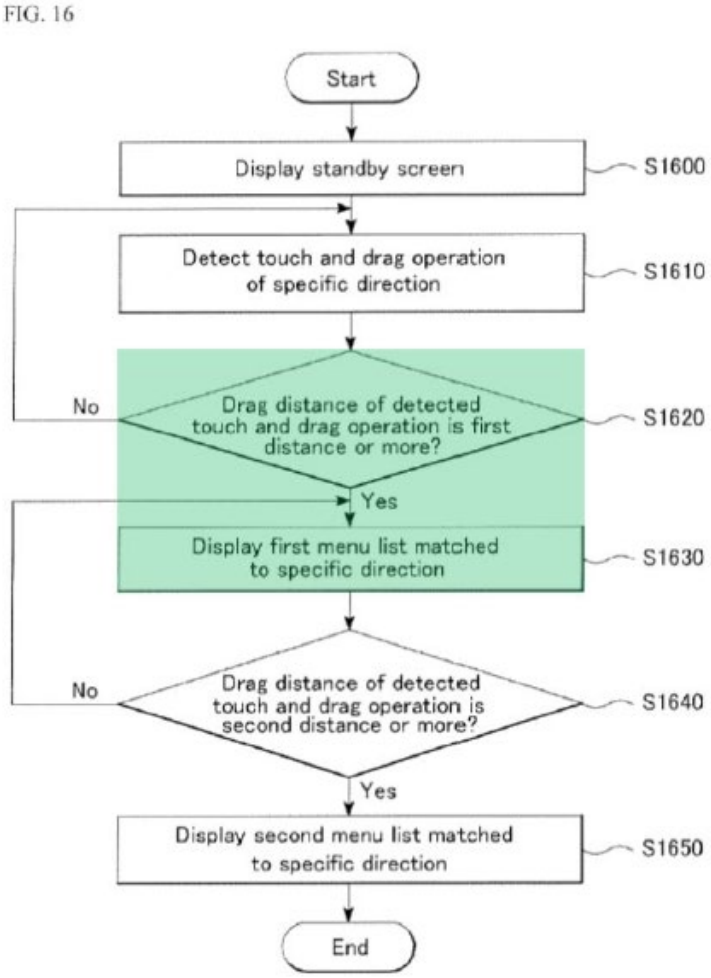
[4] To the extent the Board contends that a background itself is an object, this is inconsistent with a POSITA's understanding as the object would be displayed on the background. EX1005, ¶[0085] (distinguishing "object and background" when describing visual differentiation); see *e.g.,* EX1005, ¶[0041], [0060].

[5] This non-progressive theory applies to all of Dr. Terveen's dependent claim mappings except claim 223.

and 230 in which "the process of displaying the first menu list doesn't happen until the distance traveled has exceeded the first distance." EX2009, 32:14-33:3



EX1004, FIG. 16 (highlighted)

EX1003, ¶¶133-134, 260-261, 305.

113. The menu cannot progressively slide in with the gesture when the process of displaying the menu does not start until the gesture is detected to be complete. *See* EX2009, 32:14-33:3. Thus, any reliance on the menu 420-1300 for blurring would not "before a completion [of the gesture] is detected," as required by

claim 2. Accordingly, Dr. Terveen's reliance on Ahn's FIG. 16 embodiment (e.g., step 1620 for dependent claims 27, 186, 230, and their respective dependents, renders his analysis inconsistent with the progressive sliding theory he advances for disclosing blur in Ahns (*see Section* VII.A.1).

114. Dr. Terveen's dependent claims theory also contradicts the Board's understanding of its Ahn-Chaudhri theory (§VII.A.2) for Limitation [2d]. In its institution decision, the Board stated that they understood "Petitioner's argument to be that the blurring of the widget on the standby screen would occur in a transition between the standby screen user interface state and the menu list display user interface state, progressively to differentiate between an appearing menu and the standby screen clock widget." 1119-D.I., 24. That is, the Board instituted based on the theory that the widget was blurred and the menu progressively slid in at the same time (i.e., during the swipe). Based on this understanding, the Board criticized "Patent Owner's argument that the user would see progressive blurring of a clock widget and then the appearance of a menu only on completion of a gesture" and not being "commensurate with Petitioner's assertions." 1119-D.I., 24. However, as explained above, Dr. Terveen's theory (at least for claims 27, 186, and 230) requires the swipe to be completed before the menu appears—contradicting the Board's understanding. *See* EX1004, FIG. 16; EX2009, 32:14-33:3. For Dr. Terveen's dependent claim analysis, there would be no transition state, in which the menu is

appearing, between (a) the standby screen user interface state and (b) the menu list display user interface state. Further, Ahn would no longer teach "background objects being displayed with progressively less detail" (1116-D.I., 24) when the menu does not progressively slide on the display. Accordingly, Petitioner's Ahn-Chaudhri theory must 'blur' the clock widget without the appearance of the menu—which would not "indicate progress" as explained in my Section VII.A.2.

115. For these reasons, Dr. Terveen's dependent claim analysis is inconsistent with his previously presented theories in his Ahn-only ground and would contradict the motivation relied upon for his Ahn-Chaudhri combination.

C. IPR2024-01116: Claims 186, 187, 189, 191, 192, 197, 199-204

116. For IPR2024-01116, Petitioner challenges several dependent claims that depend from claim 186, which itself depends from claim 2. EX1001, ¶109:64-110:19. Specifically, Petitioner challenges claims 187, 189, 191, 192, 197, 199-204. Dr. Terveen's arguments for these claims fail for the same reasons explained above with respect to claim 2. Independently, Dr. Terveen's analysis of these dependent claims introduces additional deficiencies, as explained below.

1. Claim 187

117. Claim 187 recites: "The apparatus of claim 186, wherein the apparatus is configured such that the object and the at least one other object are displayed via a home screen for choosing among a plurality of applications when the at least part

of the gesture is detected on the touch screen." EX1001, 110:20-24. For claim 187, Dr. Terveen only analyzes the portion "when the at least part of the gesture is detected on the touch screen" and incorporates his analysis of claim 8 (¶¶104-111). EX1003, ¶282-283.

118. For claim 187, Dr. Terveen contends that "[a] POSITA would have understood and found obvious that selecting the 'message notification icon 330b' and/or 'background music setting icon 330c' would have launched an application associated with that functionality." EX1003, ¶107. But Ahn contradicts this assertion as the selection of icons 330 results in the display of "a pop-up menu window 340 related to the icon" (EX1004, ¶[0039]), which displays options for further sub-menus. EX1004, ¶¶[0037]-[0043]. Referring to FIGs. 3C-3D (below), selecting the 'message notification icon 330b' and/or 'background music setting icon 330c' results in the display of a menu (e.g., menu window 340)—consistent with all of Ahn's other described embodiments—not the launching of an application. EX1004, ¶[0039] ("the user can directly enter a menu related to the icon 330 while viewing the standby screen 300 in a standby screen state").

FIG. 3C

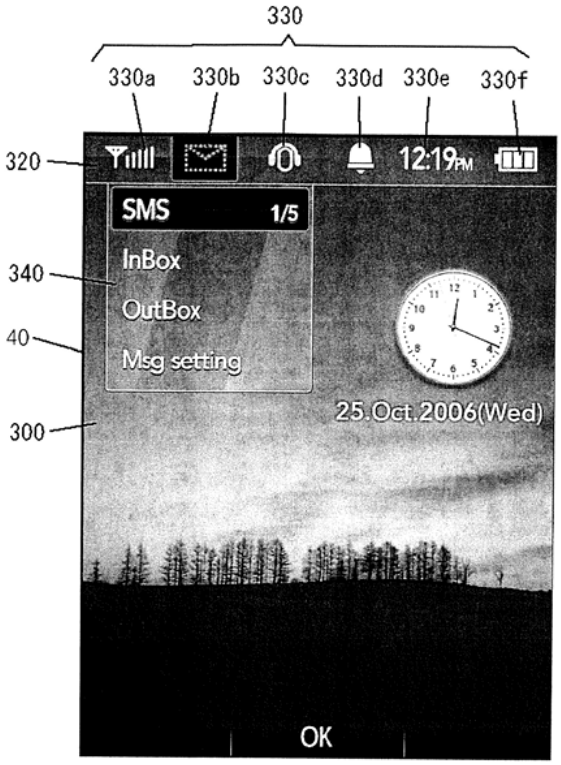
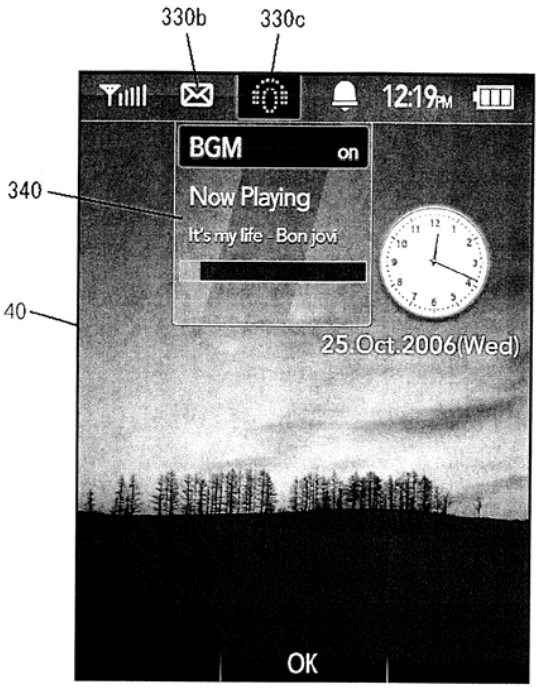


FIG. 3D



119. In FIG. 3C (above), a POSITA would understand that message notification icon 330b is selected because it is highlighted in a different color than the other icons 330 and because the sub-menus associated with its functionality is displayed. EX1004, ¶[0043]. This is consistent with Ahn's description of selecting its other menu. *See* EX1004, ¶[0067] ("the icon 730 corresponding to the ***selected*** menu ***is highlighted***, and thus it can be seen that a corresponding menu item ***is selected***"), [0083] ("the selected setting menu is highlighted")

120. As shown in FIG. 3C (above), with message notification icon 330b selected, the user can scroll through and select the various sub-menus of the window 340. EX1004, ¶¶[0042]-[0043]. The user can then "click[] the rightward direction

key 34" to select the background music setting icon 330c and a "pop-up menu window 340 related to the background music setting icon 330c … is transparently displayed, as shown in FIG. 3D." EX1004, ¶[0045]; *see also* EX1004, ¶[0066] (indicating that pressing the right direction key resulted in display of "the selected menu"). Alternatively, the user can click the leftward direction key 38 (from FIG. 3C) to select the icon 330a that opens another window 340. EX1004, ¶[0047]. Thus, Dr. Terveen's assumption that selection of icon 330b-330c would launch an application is inconsistent with Ahn's disclosure. Further, Dr. Terveen's assumption would run contrary to Ahn's objective of having the standby screen visible during operation. EX1004, ¶[0045] (pop-up menus allow the user to "enter menus related to the icon 330 displayed in the indicator area 320 ***when the standby screen 300 is displayed*** [and] without separate menu manipulation"); *see also id.*, ¶¶[0005]-[0006] (describing problem where "the standby screen disappears" when a menu is displayed).

121. Dr. Terveen's modification to have these icons 330 "displayed throughout the standby screen 300 like the menu of icons shown in FIG. 5D of Chaudhri" (EX1003, ¶108) adds additional deficiencies. For example, a POSITA would have understood that moving icons 330b-330c to the interior of the standby screen would have diminished the functionality of Ahn's device.

122. Icons 330 are visible during other operations, such as navigation of other menus or execution of an application. As shown in Ahn's FIGs. 13-15, icons 330 of indicator area 320 are depicted when the right, bottom, and left menus are displayed. To the extent Ahn would launch an application, these icons 330 would also remain visible. *See e.g.,* EX1013, FIG. 2 (depicting indicators in a full-screen mode). A POSITA would have understood that this visibility allows the user to receive information even if the standby screen is obscured or other operations are occurring. For example, "the message notification icon 330b is displayed in the indicator area 320 if a message arrives" and, thus, the user knows a message has been received if icon 330b is displayed in indicator area 320. EX1004, ¶[0041]. However, if message notification icon 330b were "displayed throughout the standby screen 300" like Chaudhri's applications (shown in FIG. 5D below), then a user would not be aware of the received message when interacting with some menus (e.g., opaque menus) or applications because the icon would be obscured. *See e.g.,* EX1013, FIG. 1 (depicting launcher screen with icons); FIGs. 2-3 (depicting full-screen application mode and card mode, respectively, where icons from launcher screen are not visible)

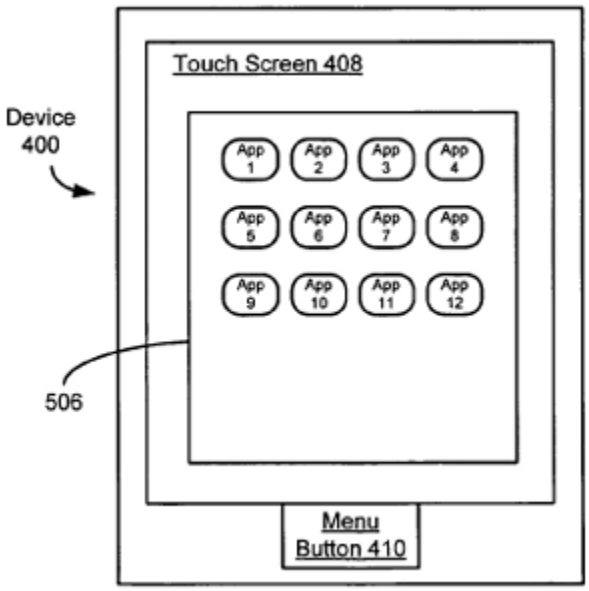


Figure 5D

Thus, the functionality of Ahn's message ***notification*** icon 330b —to quickly indicate a message has been received while the user is otherwise operating the device—would be eliminated in Dr. Terveen's modification.

123. Further, distilling Ahn's message notification icon 330b into launching a single application would reduce usability. In Ahn's embodiment, selection of message notification icon 330b opens a pop-up window 340 having four sub-menus that would allow the user to access both SMS messages, e-mail messages, and settings. EX1004, FIG. 3C. This is confirmed by Dr. Terveen. EX2009, 18:13-19:14. Modifying message notification icon 330b to launch a single application would eliminate at least two options that the user would otherwise be able to select. Removing this optionality would prevent the user effectively managing its messages and require the user to navigate between three or four different applications. Dr. Terveen provides no real benefit to offset the deficiencies that he created and a

POSITA would not have made his proposed modification in the face of these known drawbacks.

2. Claim 189

124. Claim 189 recites: "The apparatus of claim 186, wherein the apparatus is configured such that the gesture includes a swipe down gesture." EX1001, 110:30-32. A POSITA would understand the use of the term "the gesture" means that the claim is limiting the previously described functions to occur when the gesture includes a swipe down gesture. *See* EX1003, ¶285. Thus, Dr. Terveen must show that all limitations related to "the gesture" from claims 2 and 186 (from which claim 189 depends) are met by a gesture that includes a swipe down gesture. Dr. Terveen does not even attempt to make such a showing.

125. Dr. Terveen maps only a left swipe gesture for its mappings of claims 2 and 186. EX1003, ¶89-90. Dr. Terveen can only rely on this left swipe gesture because only Ahn's right menu is even alleged to meet the blurring limitations. Dr. Terveen does not allege that this new, swipe down gesture would meet all the limitations of claims 2 and 186—which claim 189 depends from. A POSITA would understand that Ahn's swipe down gesture would correspond to the opening of pop-up windows 340 (i.e., top menu) associated with indicator area 320. EX1004, ¶[0104] (describing opening other three menus with left, up, and right swipes, leaving open its top menu for a downward swipe). It is undisputed that these

windows 340 do not blur the clock widget, as confirmed by Dr. Terveen. EX2009, 22: 14-20. Further, a POSITA would not have implemented a swipe down gesture to bring in Ahn's right hand menu as Dr. Terveen alleges for claim 2. Dr. Terveen relies on Ahn's paragraph [0118] to allege the user would drag graphic 1800 and the menu would slide in along dragged graphic. EX1003, ¶94. But this theory of dragging a graphic to open a menu is not applicable for a swipe down gesture that would open a right hand menu.

3. Claims 197, 199, 200-204

126. Claim 186 recites "the at least one other object is displayed via a first virtual display layer" and a "menu is displayed in a second virtual display layer." EX1001, 110:16-17. Dr. Terveen's mapping is that the "clock widget of standby screen 300[] is displayed" via the first display layer and the menu 1300 is displayed in a second display layer. EX1003, ¶277. Claims 197, 199, and 200-204 provide further limitations on this second display layer. EX1001, 110:16-17, 113:39-114:18. All of Dr. Terveen's theories for these claims are either deficient or create inconsistencies with Petitioner's previous mappings.

127. Claim 197 recites that the "blur includes decreasing a transparency or a translucency of the second display layer." EX1001, 113:43-46. To meet this limitation, Dr. Terveen asserts that its modification would display "the virtual display layer containing the menu fading in as the menu is opening." EX1003, ¶220,

¶288 (incorporating claim 68 analysis). Thus, for Dr. Terveen's theory, the blur must be performed by the menu opening. However, Dr. Terveen abandoned this theory for his mapping of Limitation [186b]. *See* §VII.B; EX1003, ¶¶260-261. Dr. Terveen now returns to his theory, which creates internal inconsistencies that Ahn's device cannot implement.

128. As Dr. Terveen explains for Petitioner's Limitation [186b] mapping, "the process of displaying the first menu list doesn't happen until the distance traveled has exceeded the first distance." EX2009, 32:14-33:3. And, for Ahn's right menu 1300, the gesture associated with the touch and drag operation is detected to be complete when the distance traveled has exceeded the first distance. *See* Sections VI.A, VII.A.1. Accordingly, the process of displaying the first menu doesn't happen until the gesture is detected to be complete. Consistent with Dr. Terveen's Limitation [186b] mapping, any alleged "fading in … as the menu is opening" (1116-Pet., 61) would not occur before a completion of the gesture is detected, as required by Limitation [2d]. Dr. Terveen's theory cannot satisfy both Limitation [197] and Limitation [2d] and therefore fails.

129. Further, Dr. Terveen's modification to vary the optical intensity of the clock widget in his Ahn-Chaudhri theory also fails to meet the claim. As Dr. Terveen concedes, "the clock widget of standby screen 300[] is displayed via a first virtual display layer." EX1003, ¶277. Thus, any blurring by reducing the optical intensity

of the clock widget would occur in the first display layer and would not blur via "decreasing a transparency or a translucency of the second display layer," as claimed.

130. Claim 199 recites the "blurring is continuously increased, until the at least one other object is completely obscured by the second display layer." EX1001, 113:56-60. To meet this limitation, Dr. Terveen's modification is "to vary the optical intensity (e.g., the blur) of the standby screen 300 or at least the clock widget portion thereof." EX1003, ¶¶223, 289 (incorporating claim 69 analysis). But varying the optical intensity of the clock widget—***in the first layer***—fails to explain how the clock widget is "completely obscured by the second display layer," as claimed. Further, as shown in Ahn's FIG. 13b, menu 1300 only partially overlaps the clock widget and would not "completely obscure" the clock widget. Thus, Dr. Terveen's mapping fails.

131. The 1116-Petition contends its modification would "increase[] the blur until the clock widget is no longer visible, such that it has completely 'faded out'" and cites to Dr. Terveen's ¶226. 1116-Petition at 62. Dr. Terveen's declaration does not include this assertion. EX1003, ¶226. Nor does any other discussion in this section (claim 69) disclose a modification where the clock widget is no longer visible. EX1003, ¶¶222-226. It is unclear if the 1116-Petition is advancing a different theory from Dr. Terveen. Nevertheless, the Petition's theory also fails as

making the clock widget not visible by fading it out would not obscure the clock "by the second layer," as claimed.

132. For claim 200, Dr. Terveen does not analyze its intervening claim 165 and, thus, also fails. 1116-D.I., 29 ("Petitioner has not shown a reasonable likelihood of prevailing with respect to showing claim 200 unpatentable.").

133. Claim 201 recites "wherein the apparatus is configured such that the at least one other object is blurred by continuously decreasing a magnitude of a translucency of the second display layer that overlays the at least one other object as a continuous function of an increase in the change in the magnitude of the gesture being detected on the touch screen." EX1001, 113:61-67. To meet this limitation, Dr. Terveen must show the clock widget "is blurred by continuously decreasing a magnitude of a translucency of the second display layer."

134. For claim 201, Dr. Terveen incorporates his analysis from claim 71 (EX1003, ¶291) without additional analysis and the Petition 1116-Petition cites to various portions of Dr. Terveen's declaration including paragraphs 219 (which relates to claim 68 and is not incorporated into Dr. Terveen's analysis of claim 201) and 233-239 (which relates to claim 71). It is unclear if the Petitions theory differs from Dr. Terveen's, but I will address the theory laid out in the 1116-Petition.

135. Petitioner references its interpretation that a "translucent" menu would "blur" the clock widget and concludes it is "axiomatic that increasing blur decreases

translucency." 1116-Pet., 62-63. Petitioner then references its analysis in [186.d]—that varies "the optical intensity of the standby screen" containing the clock widget—and concludes its modification meets the claim. *Id.* It is unclear how Petitioner is asserting that its modification would show the clock widget "is blurred by continuously decreasing a magnitude of a translucency of the second display layer." Nevertheless, Petitioner's theory fails under both of its blurring theories.

136. If Petitioner is relying on its variation of the clock widget from its Ahn-Chaudhri theory, as discussed in Limitation [186d], this would ***not*** result in any change in "the second display layer." As conceded by Dr. Terveen, the clock widget is in the first layer (EX1003, ¶277), and alteration of its appearance, as taught in Chaudhri, would not change a property of the second display layer (e.g., the menu). Thus, any variation in the optical intensity of the clock widget in the first layer fails to disclose altering the second display layer.

137. Alternatively, if Petitioner is relying on Ahn's menu as blurring the clock widget, as discussed in its Ahn-only theory of Limitation [2d], the menu will not appear until the gesture is detected to be complete. Pursuant to Petitioner's theory in Limitation [186b], the menu does not appear until a distance threshold is met. As Dr. Terveen explains, "the process of displaying the first menu list doesn't happen until the distance traveled has exceeded the first distance." EX2009, 32:14-

33:3. Accordingly, any blur from the menu would not occur until after the gesture is complete.

138. Claim 202 recites "wherein the apparatus is configured such that the at least one other object is blurred, by the second virtual display layer that overlays the at least one other object being displayed to fade-in while the at least one other object is displayed to fade-out." EX1001, 114:1-5. To meet this limitation, Dr. Terveen must show that the clock widget is blurred by the menu when the menu is displayed to fade-in ***while*** the clock widget is displayed to fade-out.

139. As explained above in my paragraphs 132-133, Dr. Terveen's modification would vary the optical intensity of the clock widget during the gesture, and the menu would not be displayed until after the gesture is completed. *See* Section VII.B (menu is not displayed until gesture is complete). Thus, Dr. Terveen's modification would not have the menu fade-in ***while*** the clock widget is displayed to fade-out. Rather, to be consistent with Dr. Terveen's previous mappings, the clock would fade out and, after the gesture is complete and the clock is done fading, the menu would fade in. Section VII.B; *see* EX1005, FIGS. 8A-8C, ¶[0087] (at "100% completion of the [gesture] …the optical intensity is at its final value"). This is consistent with Chaudrhi's paragraph [0079]—which is described under Chaudhri's "Unlocking a Device via Gestures" Section (EX1005, ¶[0052]-[0079])—where the transition occurs after the gesture is completed. EX1005, ¶[0076] ("Upon

completion of the unlock gesture" the device transitions from the lock screen to the lock screen) EX2009, 60:5-14 (Dr. Terveen agreeing transition from FIGs. 5C-5D happens "after the unlock gesture has been completed").

140. Claim 203 recites "wherein the apparatus is configured such that the at least one other object is blurred by continuously decreasing a magnitude of a transparency of the second display layer that overlays the at least one other object as a continuous function of an increase in the change in the magnitude of the gesture being detected on the touch screen." EX1001, 114:6-13. To meet this limitation, Dr. Terveen must show the clock widget "is blurred by continuously decreasing a magnitude of a transparency of the second display layer."

141. Dr. Terveen's theory is deficient for the same reasons discussed above with respect to my paragraphs 132-133. Either the 'blurring' is occurring in the first layer (pursuant to Dr. Terveen's Ahn-Chaudhri theory) or the 'blurring' is occurring after the gesture is complete (pursuant to Dr. Terveen's Ahn theory (§VII.B)). Neither scenario meets all of the claimed features.

142. Claim 204 depends on claim 203, and Dr. Terveen's theory is deficient for at least the same reasons.

D. IPR2024-01115: Claims 27, 37, 58, 60-64, 67-79, and 223

143. For IPR2024-01115, Petitioner challenges several dependent claims that depend from claim 27, which itself depends from claim 2. EX1001, ¶97:34-38.

Specifically, Petitioner challenges claims 27, 37, 58, 60-64, 67-79. Petitioner also challenges claim 223 which depends only on claim 2. Dr. Terveen's arguments for these claims fail for the same reasons explained above with respect to claim 2. Independently, Dr. Terveen's analysis of these dependent claims introduces additional deficiencies, as explained below.

1. Claim 37

144. Claim 37 recites that "the menu is sharpened and magnified when displayed." EX1001, 98:11-13. Neither Ahn nor Chaudhri discloses the magnification of a menu or any other object. To fill the gaps in Ahn and Chaudhri's disclosures, Dr. Terveen contends that it "was well known to combine blur with other 'focus and context' techniques" such as "'distortion oriented or spatial methods' in which "geometry of the display is distorted to allow a magnification of interesting information without losing the (less magnified) context." EX1003, ¶162 (citing EX1008, 1-2). This is inconsistent with a POSITA's understanding of the reference quoted by Dr. Terveen (EX1008 – Kosara) and, in any event, a POSITA would not have magnified Ahn's menu 1300.

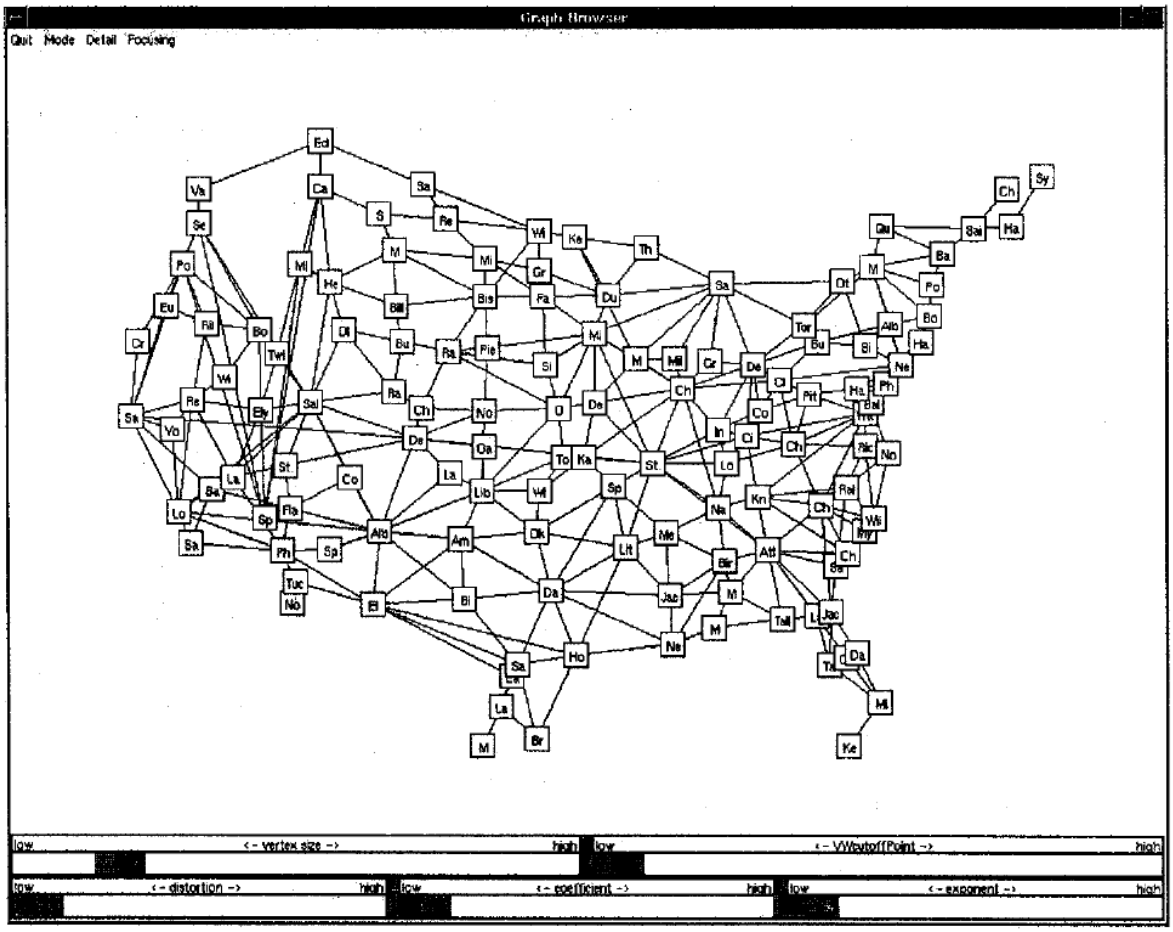
145. Kosara (EX1008) describes a "Semantic Depth of Field (SDOF)" technique that is "an ***alternative approach*** to focus-and context [techniques]." EX1008, Abstract. Kosara then describes an existing Depth of Field (DOF) approach for displaying geographical information that utilizes 26 layers, "each layer

ha[ving] an interest level associated with it that the user can change." EX1008, 2. "The interest level is a combination of blur and transparency, making less interesting layers more blurred and more transparent at the same time." *Id.* This changing of the "combination of blur and transparency" for a DOF approach does not establish it "was well known to combine blur with other 'focus and context' techniques" as Petitioner alleges. There is no evidence that teaches or suggests combining blur with magnification.

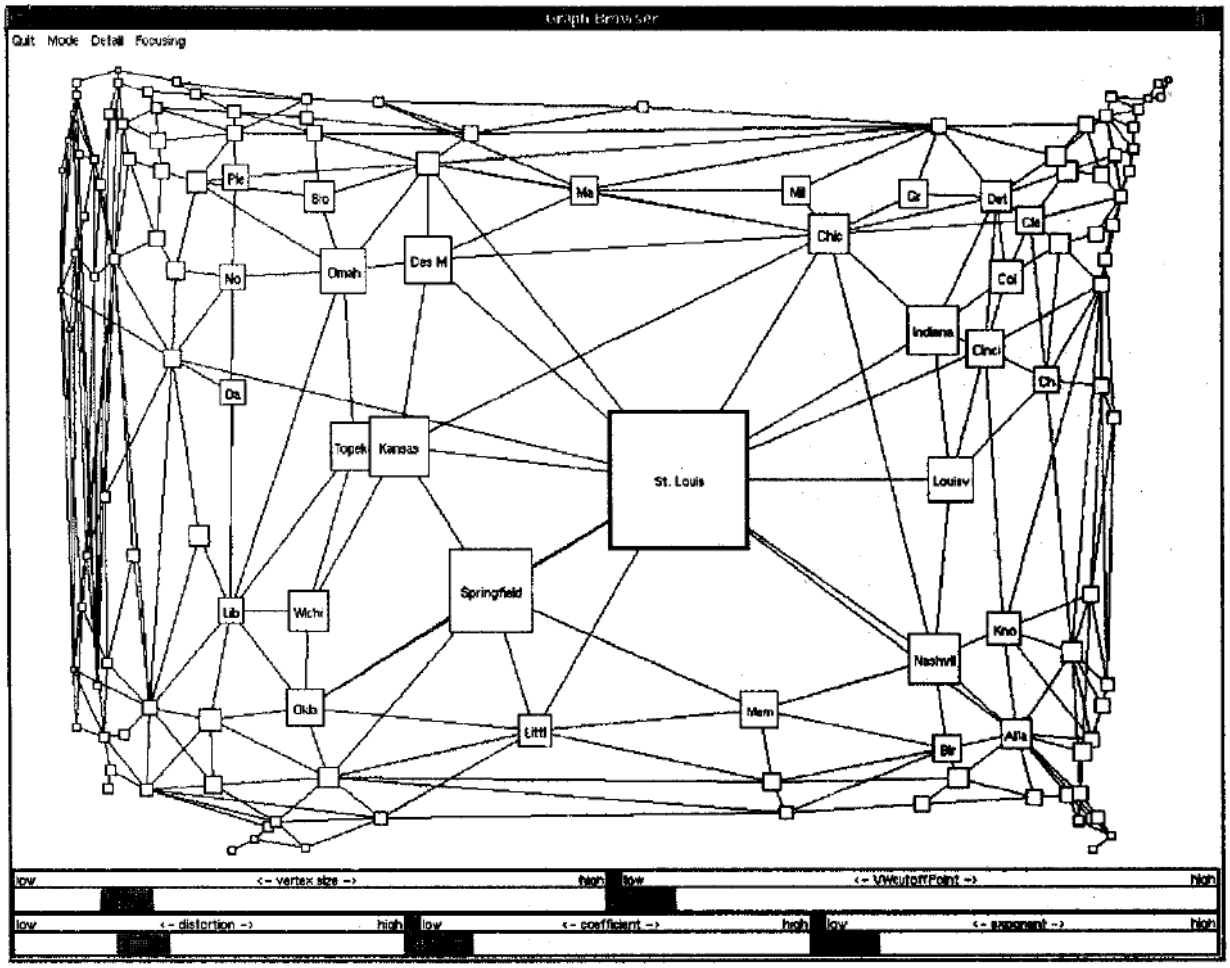
146. In a separate section describing the "different kinds of focus and context" techniques, Kosara discloses "distortion oriented or spatial methods" where the "geometry of the display is distorted to allow a magnification of interesting information without losing the (less magnified) context." EX1008, 1. These methods make it "possible to navigate information spaces that are far too large to be displayed on a screen" and include "fisheye views," "hyperbolic trees," and "stretchable rubber sheets." EX1008, 1 (citing EX2010 (Sarkar I); EX2011 (Sarkar II)). Examples of these techniques can be seen below with reference to the exploration of a map of the United States of America.

147. A fisheye view "shows an area of interest quite large and with detail, and shows the remainder of the graph successively smaller and in less detail" and is used to solve the problem where "[d]isplaying all information" at the same time requires "that details are typically too small to be seen." EX2010, 1. As shown in

FIG. 1, even on a large screen, a user cannot easily make out the details of the interface (e.g., U.S. cities).

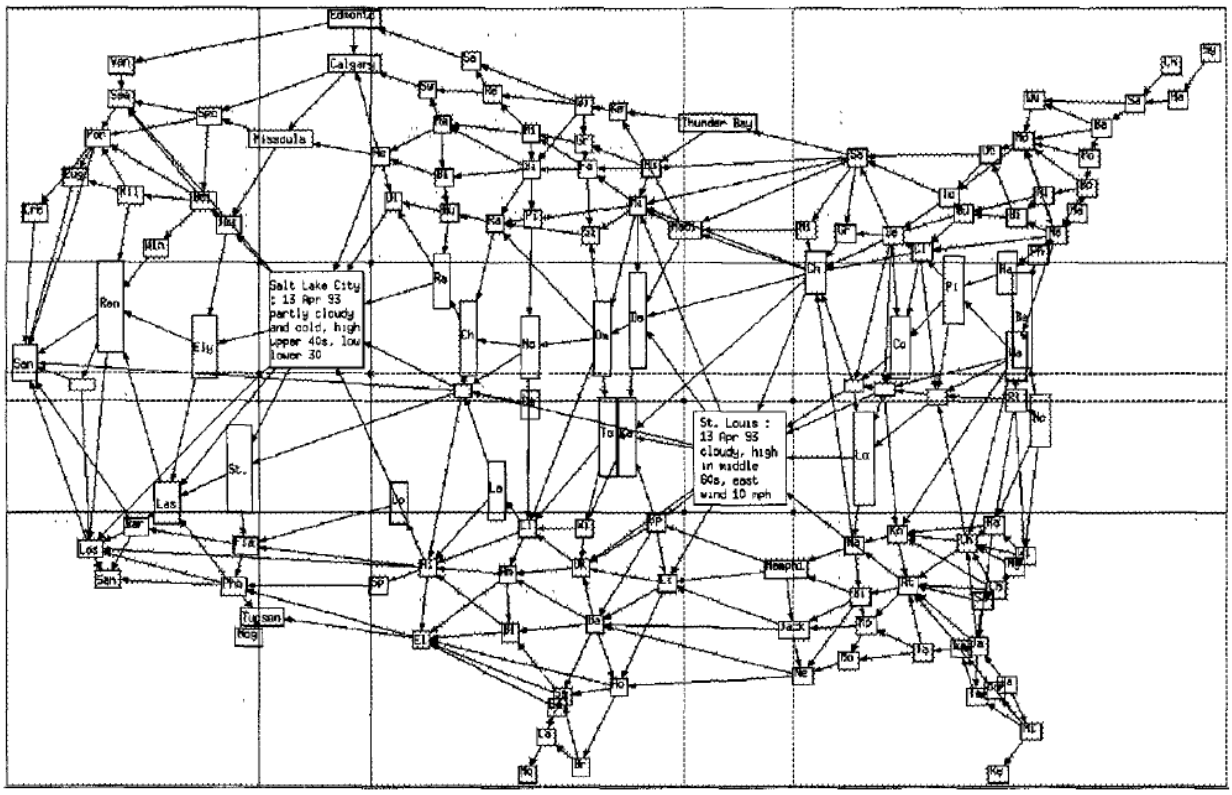


EX2010, 2. However, the fisheye view allows the user to distort the map so that a "point of interest" (i.e., the focus) is magnified and other points are diminished to enable a user to easily see the information associated with the point of interest, while the other information is made even smaller to keep the structure of the interface. EX2010, 1. This is shown in *Sarkar I*'s FIG. 2 (below), where St. Louis is the focus and further cities (e.g., coastal cites are further diminished).



EX2010, 3.

148. A "stretchable rubber sheet" also focuses on the problem associated with "a large and complex layout" that "cannot be displayed in full detail on a typical computer display." EX2011, 1. This technique also distorts the interface to show areas of interest in more detail at the expense of decreasing the detail at other non-focused locations. EX2011, 1 ("As the user stretches an area, a greater level of detail is displayed there"). As shown in *Sarkar* II's FIG. 2, two areas of interest (St. Louis and Salt Lake City) are stretched to provide a greater level of detail.



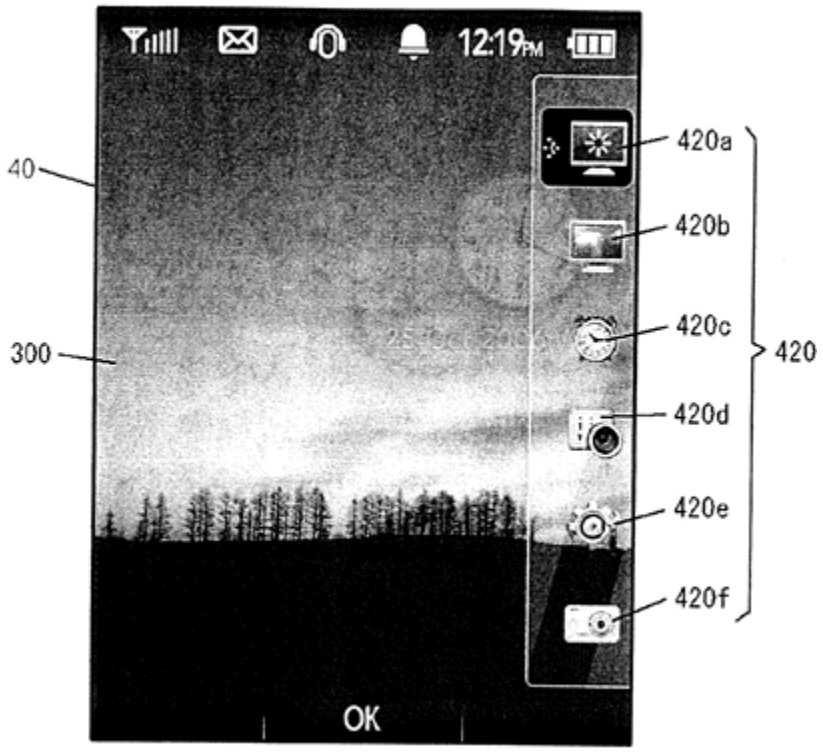
EX2011, 3.

149. The "fisheye" and "stretchable rubber sheet" views provide a technique for exploring very large data-sets in permanent interfaces (i.e., where the data is always displayed) by distorting the display while keeping the relational structure of the interface. In other words, a user can distort an already displayed interface to explore more detailed information that cannot be legibly displayed at all times. EX2010, 1-2; EX2011, 1-2; EX1008, 1 (methods for "exploration and analysis of very large data-sets" that "are far too large to be displayed on a screen.").

150. A POSITA would understand these techniques were inapplicable to Ahn's device, where (1) all information is legibly displayed on the screen (EX1004,

FIG. 4B) and (2) utilizes pop-up menus to selectively display information rather than always displaying the information. EX1008, 1. For Ahn's menu 420, there are six icons that are each easily seen by the user. EX10004, FIG. 4B. Further, the opening of menu 420 does not distort the display—showing previously visible icons in more detail—instead, it opens a pop-up window with icons that were not previously depicted. There is no logical reason to apply magnification effects to Ahn's menu 420 based on the teachings of Kosara's methods for "exploration and analysis of very large data-sets" that "are far too large to be displayed on a screen." EX1008, 1.

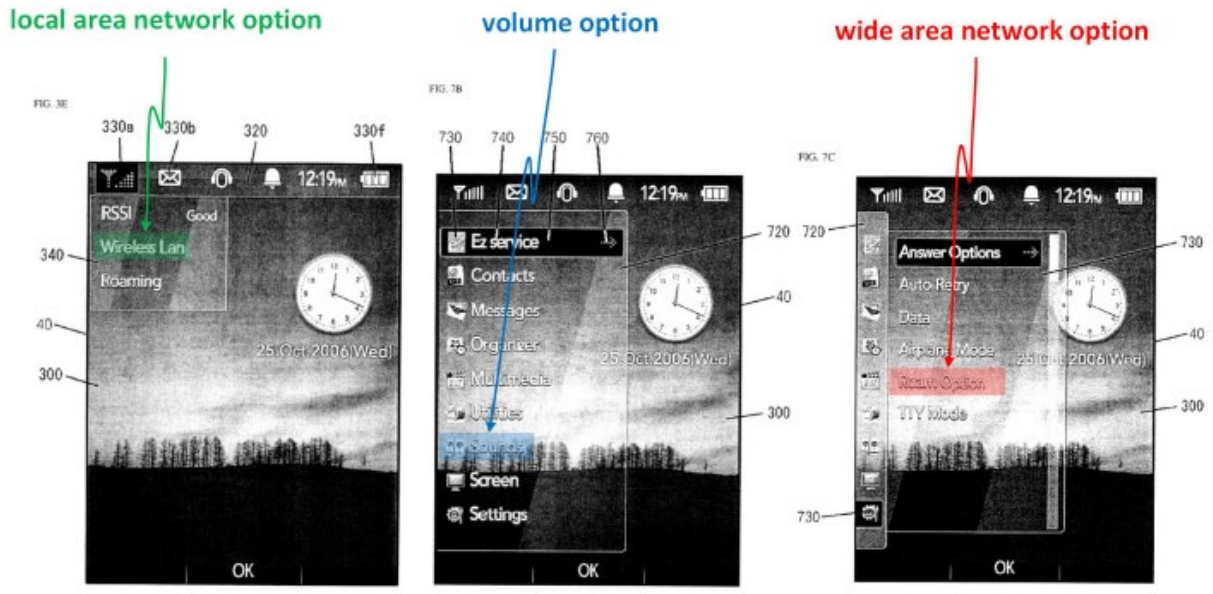
FIG. 4B



151. Further, referring to Ahn's FIG. 4B (above), menu 420 already spans the entire length of the display screen and is clearly displayed; thus, there would be no need to magnify the menu. Dr. Terveen's assertion to magnify the menu also contradicts his theory that the "menu slides onto the screen" (EX1003, ¶95).

2. Claim 64

152. Claim 64 recites that the menu "includes a wide area network option, a local area network option, and a volume option." EX1001, 99:62-65. As seen in Dr. Terveen's illustration (reproduced below), he identifies three icons from three separate menus as corresponding to the claimed options.



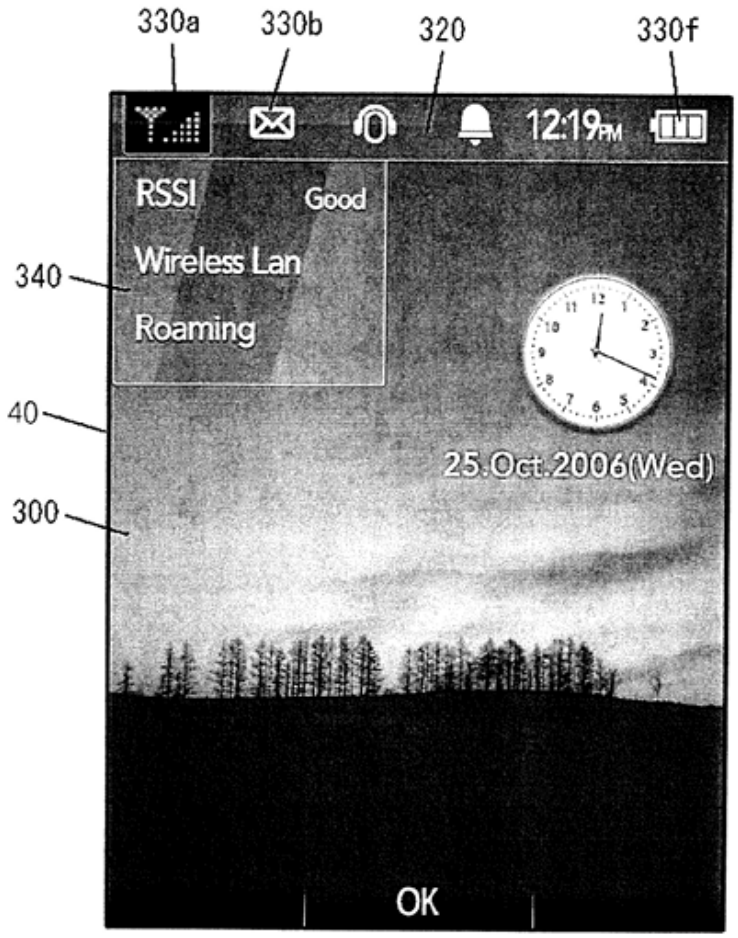
EX1004, FIGS. 3E, 7B, 7C (annotated)

EX1003, ¶210. Petitioner contends that it would be obvious to implement these 'icons' into Ahn's menu 420. *Id.*

153. Dr. Terveen's alleged local area network option is part of the pop-up window 340 that is associated with the signal intensity icon 330 a of FIG. 3E. EX1003, ¶210. However, this 'local area network option' is not selectable and would not be implemented into menu 420, which comprises sub-menus that are related with selectable functions (e.g., adjusting brightness, setting an alarm, etc.). EX1004, ¶[0051] (menu 420 includes sub-menus "for the user to easily enter a menu in which the user frequently uses"); EX1004, FIGs. 5A, 5B, 5D (depicting menus associated with active functions)

154. As shown in FIGs. 3C-3D, a "user may select a sub-menu among sub-menus in the pop-up menu window 340 by moving the cursor" with the direction keys. EX1004, ¶[0043]; *see id*; ¶[0042] (cursor positioned at SMS menu for FIG. 3C). However, some windows 340, such as signal intensity icon 330a or battery residual quantity display icon 300f, are not associated with selectable options. EX1004, ¶[0047]. For example, "as shown in FIG. 3E[,] [a] cursor may not exist in a sub-menu in the pop-up menu window 340 related to the signal intensity icon 330a, and thus the user ***may not be able to select*** corresponding sub-menus." EX1004, ¶[0047].

FIG. 3E



Thus, Ahn discloses the "Wireless Lan" icon identified by Dr. Terveen as being not selectable. A POSITA would not have implemented this non-selectable icon as part of menu 420. To illustrate, Dr. Terveen contends that a designer can include whatever "***functions*** they want within an opened list/menu" (EX1003, ¶210), but the identified icon is not a function. A POSITA would not have implemented these non-selectable icon as part of menu 420.

155. Additionally, even if selectable, a POSITA would not have moved an option associated with indicator area 320—which is always visible—to menu 420, as explained in my Section VII.C.1.

3. Claims 67-68

156. Claim 67 recites "the apparatus is configured such that the blur includes decreasing a translucency of a virtual display layer overlaying the at least one other object." EX1001, 100:19-22. Claim 68 recites "the apparatus is configured such that the blur includes decreasing a transparency of a virtual display layer overlaying the at least one other object." EX1001, 100:23-26. Each of claims 67-68 depend from claim 27 and require Dr. Terveen to show ***the*** blur includes decreasing a translucency/transparency of "a virtual display layer overlaying" the clock widget. EX1003, ¶86 (the clock widget is the at least one other object).

157. Dr. Terveen contends its modification meets the claimed features because "the virtual display layer containing the menu [is] fading in as the menu is opening." EX1003, ¶215. However, as explained above in my Sections VII.B and VII.C.3, Dr. Terveen's modified operation does not display the menu opening until after the gesture is detected to meet the distance threshold associated with displaying the menu. EX1003, ¶133-134 (relying on Ahn's FIG. 16 operation); EX2009, 32:14-33:3 (describing the menu is not displayed until the drag distance is met). Thus, consistent with Dr. Terveen's Limitation [27] mapping, any alleged "fading in … as

the menu is opening" (EX1003, ¶215) would not occur before a completion of the gesture is detected, as required by Limitation [2d]. *see* Sections VII.B and VII.C.3.

4. Claims 69-70

158. Claim 69 recites "the apparatus is configured such that a magnitude of the blurring is continuously increased as a function of a continuous increase in the change in the magnitude of the gesture being detected on the touch screen, until a predetermined amount of an interface including the at least one other object is completely obscured by an overlaying virtual display layer." EX1001, 100:27-33. For Dr. Terveen's modification to meet claim 69, the blurring of the clock widget must continuously increase as a function of the gesture "until a predetermined amount of an interface including the [clock widget] is completely obscured by an overlaying virtual display layer." EX1003, ¶86 (the clock widget is the at least one other object).

159. For claim 69, Dr. Terveen contends that a POSITA would have understood that in "some implementations" of Ahn, "the menu associated with the left direction would be larger to accommodate a larger list of menu items (e.g., menu 720), which would overlap the entire clock widget." EX1003, ¶225. Dr. Terveen provides no explanation or support for this assertion other than a citation to FIG. 7B, which depicts a different menu than the menu relied upon in Dr. Terveen's mapping. EX1003, ¶225. Dr. Terveen does not propose to modify Ahn and his citation to a

different menu cannot explain why menu 1300 would be displayed as larger. The reasoning to "accommodate a larger list of menu items" makes little sense. Ahn's menu 1300 is narrow because it displays only icons instead of text and adding additional icons would not extend the menu in a horizontal direction. Further, Ahn's menu 420/1300 utilizes icons because it is "set by the user" to have menus "which the user frequently uses." EX1004, ¶[0051]. The user does not need any text (see e.g., EX1004, FIG. 7B) to identify the icons for menu 420/1300 because the user is the one who chose these icons to be included in the menu. *See* EX1004, ¶[0051].

160. Nevertheless, any proposed modification to make the menu larger would also fail to disclose the claimed features. As explained in Section VII.B, Petitioner's modified operation does not display the menu until after the gesture exceeds the distance threshold associated with displaying the menu. Thus, the display of the menu cannot meet the claimed "continuous[]" blurring as the menu does not slide with the user's finger. Dr. Terveen's assertion that the menu would be "embodied in an opaque form" (EX1003, ¶225) also prevents the menu from blurring the clock widget. In opaque form, the menu would not allow any visuals to pass through the menu and, thus, the menu would no longer blur any underlying objects as alleged in Dr. Terveen's menu sliding theory. *See* EX1003, ¶93 (alleging blur for translucent menus, but not for transparent or opaque menus)

161. To the extent Dr. Terveen relies on varying the optical intensity of the clock widget (*See e.g.,* §VII.A.2) for the blurring, his proposed operation would not continuously increase the blurring "***until*** a predetermined amount of an interface including the at least one other object is completely obscured by an overlaying virtual display layer." In Petitioner's modification the optical intensity variation must occur before the gesture is complete to "progressively increase[]" (EX1003, ¶223) as a function of the gesture. However, this variation in optical intensity would stop when the user completed the gesture, as is explained in Chaudhri. EX1005, ¶[0087] (at 100% completion of gesture "the optical intensity is at its final value"). This operation can be seen in the graphs of Chaudhri's FIGs. 8A-8C, which depict optical intensity changing until the gesture is complete, but no change in optical intensity after the gesture is completed.

Figure 8A

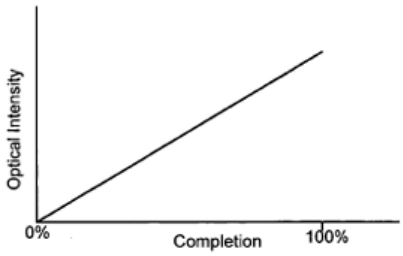


Figure 8B

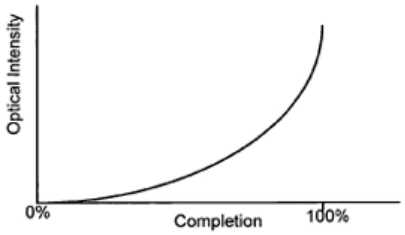
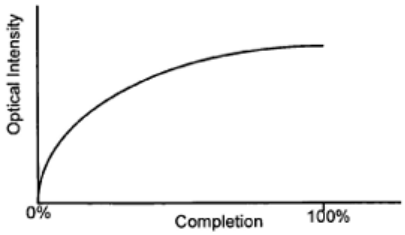


Figure 8C



Thus, Dr. Terveen's modified operation would decrease the clock widget intensity until the gesture is complete. However, the menu would not be displayed until ***after*** the gesture is complete. *See* Section VII.B, EX2009, 32:14-33:3. In Dr. Terveen's operation the widget would finish 'blurring' when the menu is not yet displayed (e.g., no amount of the menu overlies the interface). Such an operation would not continuously increase the blurring "until a predetermined amount of an interface including the at least one other object is completely obscured by an overlaying virtual display layer."

162. Claim 70 recites "the apparatus is configured such that a magnitude of the blurring is continuously increased in a first virtual display layer as a function of a continuous increase in the change in the magnitude of the gesture being detected on the touch screen, until a predetermined amount of an interface including the at least one other object is obscured by an overlaying second virtual display layer." EX1001, 100:34-41. As explained above for claim 69, Petitioner's operation does not continuously blur "until a predetermined amount of an interface including the at least one other object is obscured by an overlaying second virtual display layer." Thus, Dr. Terveen's mapping of claim 70 is deficient for at least the same reasons as its claim 69 mapping.

5. Claims 71-74

163. Claim 71 recites "the apparatus is configured such that the at least one other object is blurred by continuously decreasing a magnitude of a translucency of a virtual display layer overlaying the at least one other object as a continuous function of an increase in the change in the magnitude of the gesture being detected on the touch screen." EX1001, 100:42-47. Claim 73 recites "the apparatus is configured such that the at least one other object is blurred by continuously decreasing a magnitude of a transparency of a virtual display layer overlaying the at least one other object as a continuous function of an increase in the change in the magnitude of the gesture being detected on the touch screen." EX1001, 100:51-56.

Claims 71 and 73 require Petitioner to show that the clock widget "is blurred by continuously decreasing a magnitude of a [translucency/transparency] of a virtual display layer overlaying the at least one other object as a continuous function of an increase in the change in the magnitude of the gesture."

164. Dr. Terveen contends this is met by "a 'fade-in' of the virtual display layer containing the menu that is being opened." EX1003, ¶239. As explained above in Section VII.B, Dr. Terveen's modified operation does not display the menu opening until after the gesture is detected to meet the distance threshold associated with displaying the menu. EX2009, 32:14-33:3. Thus, consistent with Dr. Terveen's Limitation [27] mapping, any alleged fading in as the menu is being opened would not occur before a completion of the gesture is detected, as required by Limitation [2d]. *See* Section VII.C.3. Further, as the menu is not displayed until the gesture is complete, it would not open "as a continuous function of an increase in the change in the magnitude of the gesture," as required by claims 71 and 73.

165. Claims 72 and 74 depend from claims 71 and 73, respectively. Thus, Dr. Terveen's theories are deficient for the same reasons.

6. Claims 75-79

166. Claim 75 recites "the apparatus is configured such that, when the magnitude, including the distance magnitude, of the gesture detected on the touch screen is detected to not increase above the distance threshold, a home screen for

choosing among a plurality of applications is displayed." EX1001, 100:62-67. Claims 76-79 recite similar, although not exactly the same language. EX1001, 101:1-31. Dr. Terveen incorporates his analysis of claim 75 into each of claims 76-79 without further explanation. EX1003, ¶¶245-254.

167. At the outset, Dr. Terveen's modification is based on the faulty assumption that "selecting the 'message notification icon 330b' and/or 'background music setting icon 330c' … would have launched an application." EX1003, ¶246 (incorporating claim 8 (EX1003, ¶[104]-[107])); 1115-Pet., 68. As explained in my Section VII.C.1 and clearly depicted in Ahn's FIGs. 3C-3D, the selection of icons 330b and 330c resulted in the display of pop-up window 340, not the launching of an application. EX1004, ¶¶[0037]-[0043].

168. As explained Section VII.C.1, Dr. Terveen's modification to display icons 320 throughout the standby screen is based on an incorrect interpretation of Ahn and is not something a POSITA would have done. For example, a POSITA would have understood that moving the message notification icon 330b from indicator area 320—where the icon is visible during other operations—would have diminished the functionality of this icon and would have been contrary to Ahn's teachings. *See* Section VII.C.1. Additionally, modifying these icons to launch a single application would decrease the efficiency and optionality these icons provide to a user. *Id.* Thus, a POSITA would not have made this alleged modification.

169. Finally, Petitioner's proposed modification is inconsistent with the operations of both Ahn and Chaudhri. As shown in Chaudhri's FIG. 5D, a menu 506 is displayed [u]pon completion of the unlock gesture." EX1005, ¶[0076].

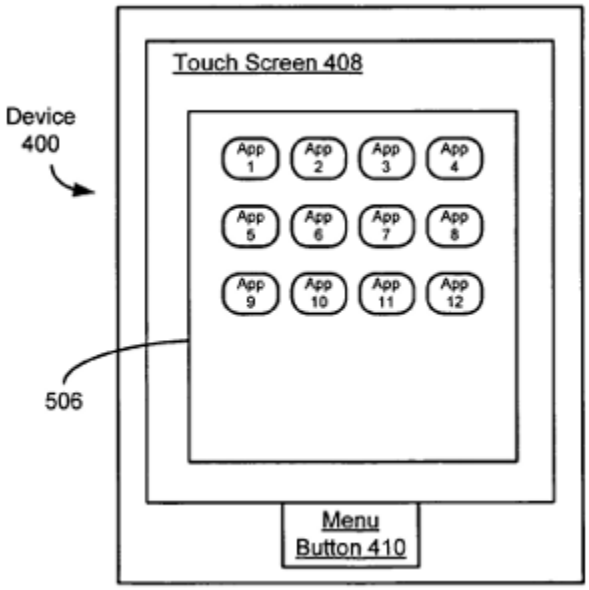
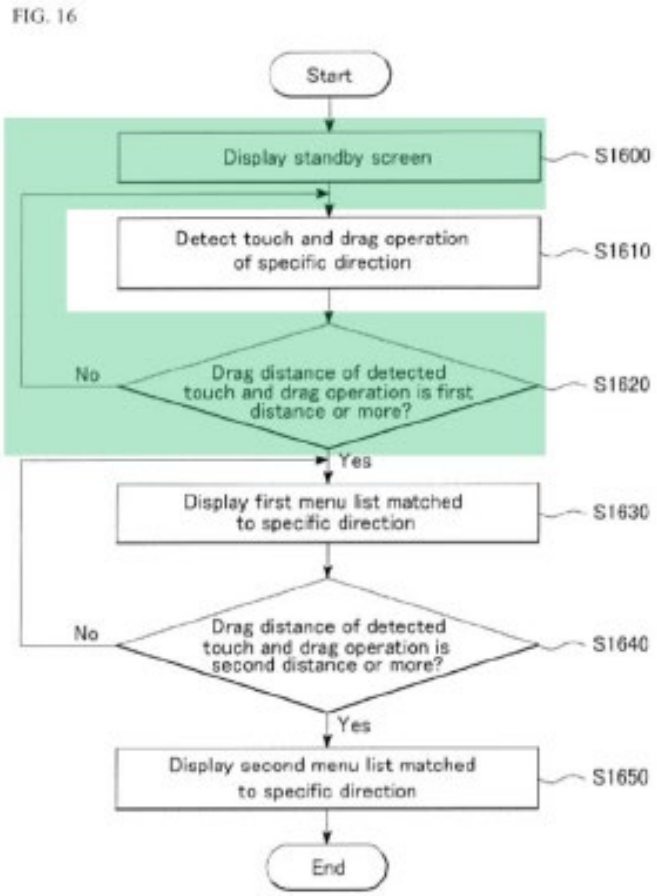


Figure 5D

Ahn also discloses displaying a first menu list matched to a specific direction if a drag distance of the touch and drag operation is a first distance or more. EX1004, ¶[0109], FIG. 16. But, Dr. Terveen's modification performs contrary to both options. Rather than displaying a menu (e.g., 506) that includes objects corresponding to various applications as taught in Chaudhri (EX1005, FIG. 5D, ¶[0076]) when a gesture is incomplete, Dr. Terveen contends that these applications would be displayed when the gesture is not complete. However, the cited portions of both Ahn and Chaudhri relied upon by Dr. Terveen are contrary to such a modification and Petitioner theory is left unsupported.

170. Dr. Terveen attempts to navigate this inconsistency by a misleading reference to Ahn's FIG. 16 (reproduced below).



EX1004, FIG. 16 (highlighted)

Dr. Terveen appears to imply that if step 1620 (determine drag distance is a first distance or more) results in "No," then the device will go back to step S1600 to display the standby screen. This is incorrect. The arrow from the "No" path of 1620 return to the arrow entering into step S1620. Thus, the only function performed by Ahn if the drag distance is detected to be less than the first distance in step S1620 is to continue detecting the touch and drag operation, not to display the standby screen.

That is, Ahn does not perform any noticeable function. A POSITA would not understand that doing nothing would read on the claimed step of displaying a home screen "***when*** the magnitude … of the gesture detected on the touch screen is detected to not increase above the distance threshold."

7. Claim 223

171. Claim 223 recites that "the blur is accompanied by a fading." EX1001, 119:39-40. Dr. Terveen incorporates its analysis of claim 58. EX1003, ¶296. For claim 58, Dr. Terveen relies on Chaudhri's disclosure that the transition in optical intensity can be "based on color, hue, color saturation, brightness, contrast, transparency, and <u>any combination thereof</u>." EX1003, ¶190. Dr. Terveen fails to explain how any of the cited parameters or "combination thereof" would arrive at combination of both blur and fading. The only analysis is Dr. Terveen's mischaracterization of combining blur with "focus and context" visual cues and discussed above with respect to claim 37. Thus, Dr. Terveen's analysis is deficient for the same reasons as explained in my Section VII.D.1.

VIII. AHN-CHAUDHRI-SHIPLACOFF GROUND: DR. TERVEEN'S ANALYSIS FAILS TO SHOW OBVIOUSNESS OF CLAIMS 1 AND 208-216 BY AHN, CHAUDHRI, AND SHIPLACOFF

172. Petitioner contends that independent claim 1 and dependent claim 208 (depending from claim 2) are obvious over Ahn, Chaudhri, and Shiplacoff. 1119-Pet., 34. Claims 209-216 depend from claim 208. EX1001, 115:21-53. For the

reasons below, Dr. Terveen fails to show the Ahn-Chaudhri- Shiplacoff combination would disclose each and every feature of claims 1 or 208 or that a POSITA would have arrived at his proposed modifications.

A. [1.h] during detection of at least a portion of the gesture before a completion thereof is detected, blur, based on a change in a magnitude of the gesture being detected on the display, at least a portion of the at least one other object.

173. Dr. Terveen incorporates its analysis of Limitation [2d] for Limitation [1h] without additional explanation or context. EX1003, ¶371. As explained above in Section VII.A, Dr. Terveen fails to show its combination of Ahn, Chaudhri disclose the claimed features. As Dr. Terveen does not cite to Shiplacoff to remedy his deficiencies, his analysis of claim 1 fails for the same reasons as explained in Section VII.A.

B. [1.d], [1.e]: Moving First and Second UI Elements While the First Contract is Moving Across the Display

174. Limitations [1.d]-[1.e] recite:

> while the first contact is detected moving across the display:
>
> moving the first user interface element in a first direction on the display at a first speed; [and]
>
> moving the second user interface element on the display at a second speed greater than the first speed

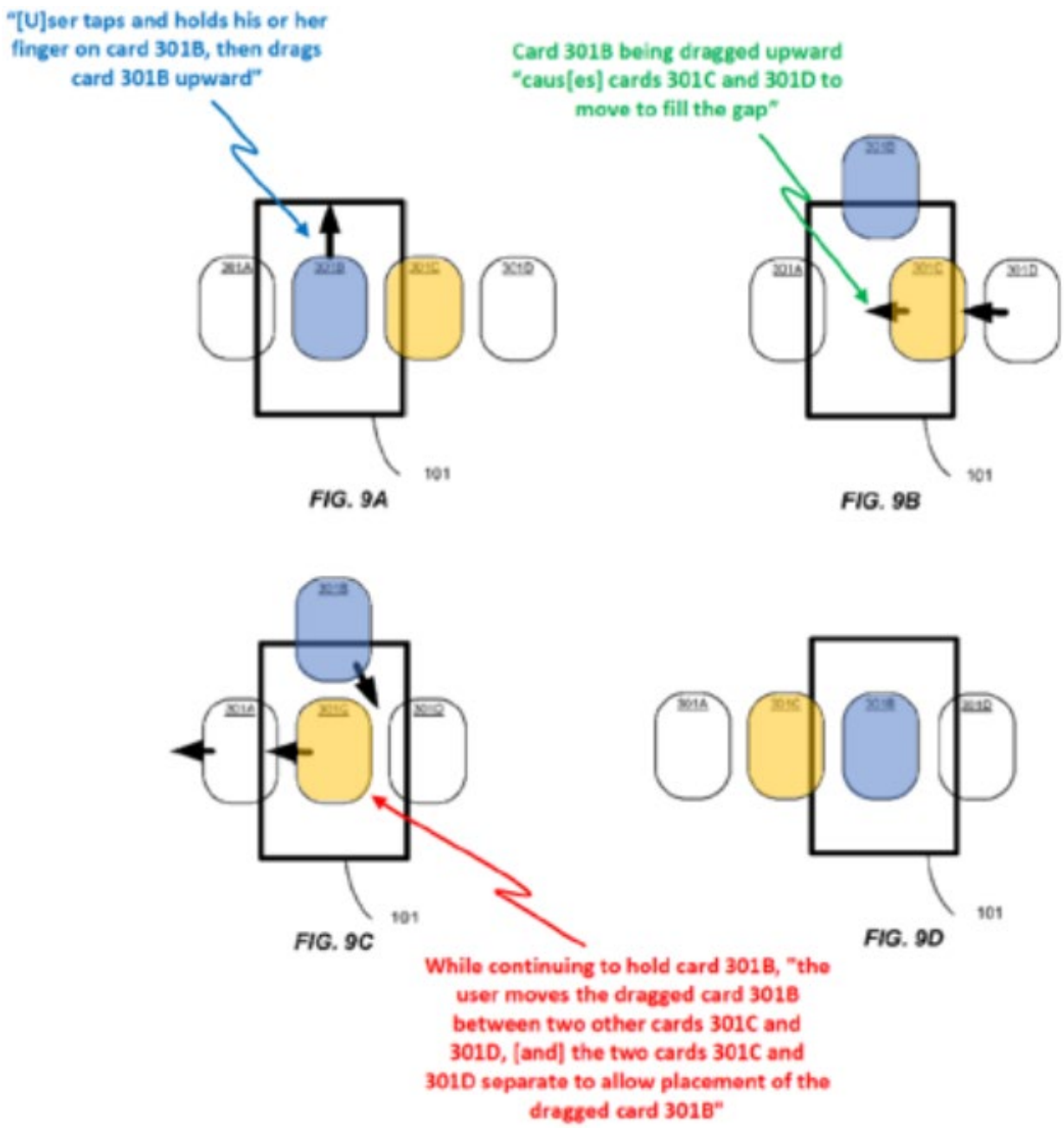
EX1001, 95:21-27.

175. These limitations include three features: (1) a first contact detected moving across the display; (2) moving a first user interface element (UIE) in a first

direction at a first speed; and (3) moving a second user interface element (UIE) at a second speed greater than the first speed. *Id.* As written in the '754 Patent, feature (1) includes a clause ending with a colon that is followed by features (2) and (3), which are indented thereunder. *Id.* Thus, feature (1) modifies both features (2) and (3). That is, moving the first UIE and moving the second UIE must occur "while the first contact is detected moving across the display."

176. To arrive at the claimed feature, Dr. Terveen must establish that its modification (1) detects the first contact moving across the display and (2) while the first contact moving: (2a) moving the first UIE in a first direction on the display at a first speed and (2b) moving the second UIE at a second speed greater than the first speed.

177. Dr. Terveen asserts that the dragging of card 301 from one position to another in card mode corresponds to the first contact. EX1003, ¶357. Referring to Dr. Terveen's annotated version of Shiplacoff's FIGs. 9A-9D (below), Petitioner identifies "card 301B" (highlighted in blue by Patent Owner) as corresponding to the first UIE (EX1003, ¶362) and card "301C" (highlighted in yellow by Patent Owner) as corresponding to the second UIE (EX1003, ¶368).



EX1013, FIGS. 9A-D

178. According to Dr. Terveen, card 301B "mov[es] at the same speed as the user's finger as it is dragging across the touchscreen." EX1003, ¶362. Dr. Terveen concedes that Shiplacoff is silent regarding the speed of cards 301C. EX1003, ¶366

("Shiplacoff does not specify … the speed at which cards 301C and 301D move"). Nevertheless, Dr. Terveen contends the speed of card 301C "could move quickly" "[b]ased on [Shiplacoff's] use of the word 'snap.'" EX1003, ¶366. Specifically, Dr. Terveen alleges that card 301C (second UIE) would move faster than card 301B (first UIE) when "snapping card 301C to fill the gap while a user slowly drags card 301 upward." EX1003, ¶368.

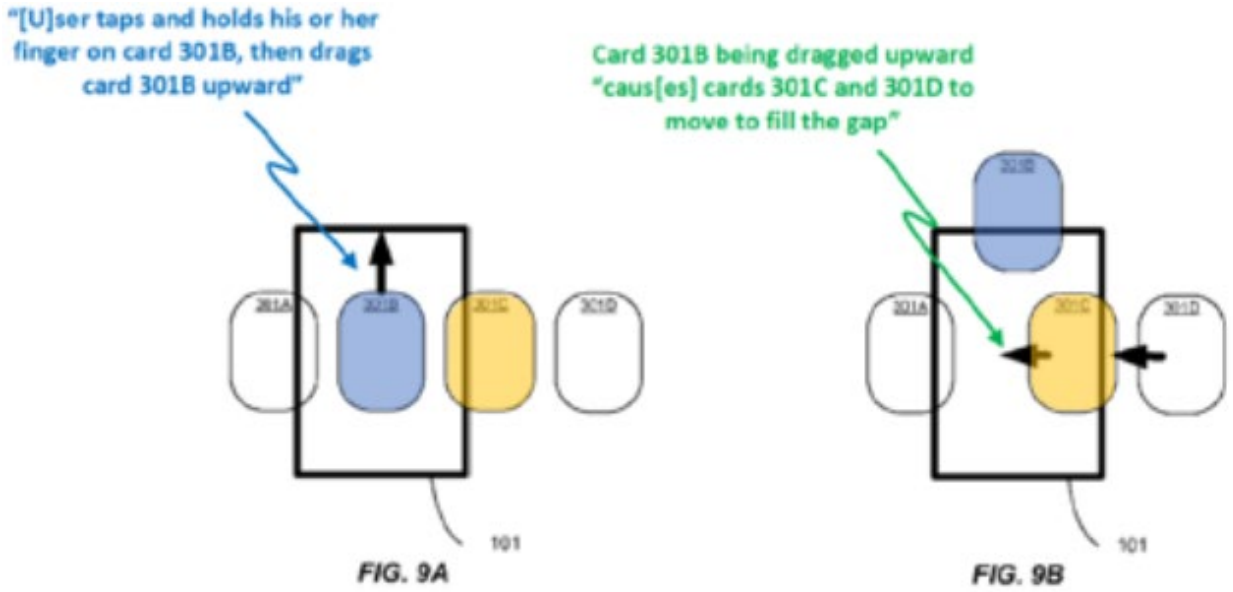


FIG. 9A FIG. 9B

179. Dr. Terveen confuses Shiplacoff's teachings, as a POSITA would have understood that the term 'snap' has nothing to do with the movement speed of an object. As discussed above, Dr. Terveen's theory regarding the speed of the cards is based on the assumption that the term "snap" means moving an object quickly. EX1003, ¶366 ("Based on the use of the word 'snap,' a POSITA would have at least found obvious that the cards 301C and 301D could move quickly on the display.").

Dr. Terveen presents no evidence to support this faulty assumption, and his proposed meaning is contradicted both by Shiplacoff as well as the understanding of a POSITA.

180. Shiplacoff uses the term "snap" in its paragraphs [0086] and [0094] to mean to align an object to a pre-determined position as is consistent with its plain and ordinary meaning. EX1013, ¶[0086]; EX2012, ¶[0227] (align one edge of the user interface object with the first guide); EX2013, 2/8 (Snapping "allows users to align layers, shapes, text, etc., perfectly with other objects, guides, or in our case the grid"). As Shiplacoff explains, "if the user drags cards 301 so as to place a card 301 sufficiently close to the central position to make it clear that the intention is to give the card 301 focus, the card 301 snaps into the central position upon completion of the drag operation." EX1013, ¶[0086]. "Thus, the user need not drag the card 301 all the way to the central position" for the card to end up positioned at the central position. There is no disclosure or teaching in Shiplacoff that would suggest "snap" is related to the speed that an object moves. *See generally*, EX1013.

181. Instead of providing any evidentiary link between "the use of the word 'snap'" and an object "mov[ing] quickly on the display" (EX1003, ¶366), Dr. Terveen seems to be tacitly relying a generalized use of snap in other contexts—outside of graphical user interfaces—that may have connotations to quick movements (e.g., snapping one's fingers). But a POSITA, viewing Shiplacoff' s use

of the term snap in describing its graphical user interface, would have understood that snap has to do with the alignment of the cards and does not imply any movement speed.

182. A POSITA would have understood that "snap" is related to an object's alignment or position on the screen and not the speed at which the object moves. EX2014, ¶¶[0002]-[0003]; EX2012, ¶¶[0171]-[0172], [0227]; EX2013, 2/8; EX2016, 1-3). For example, as illustrated in FIGs. 6F-6H of Rapp (EX2012), "after the first input ends" (as illustrated in FIG. 6G), the device automatically, without user intervention, "align[s] one edge of the user interface object 6002 with the first guide 6082." EX1012, ¶[0227]. As illustrated in FIG. 6G (below), "the user interface object 6002 is not aligned with the first guide 6082, whereas in FIG. 6H, the user interface object 6002 has been aligned with the first guide 6082 by the device." EX1012, ¶[0227].

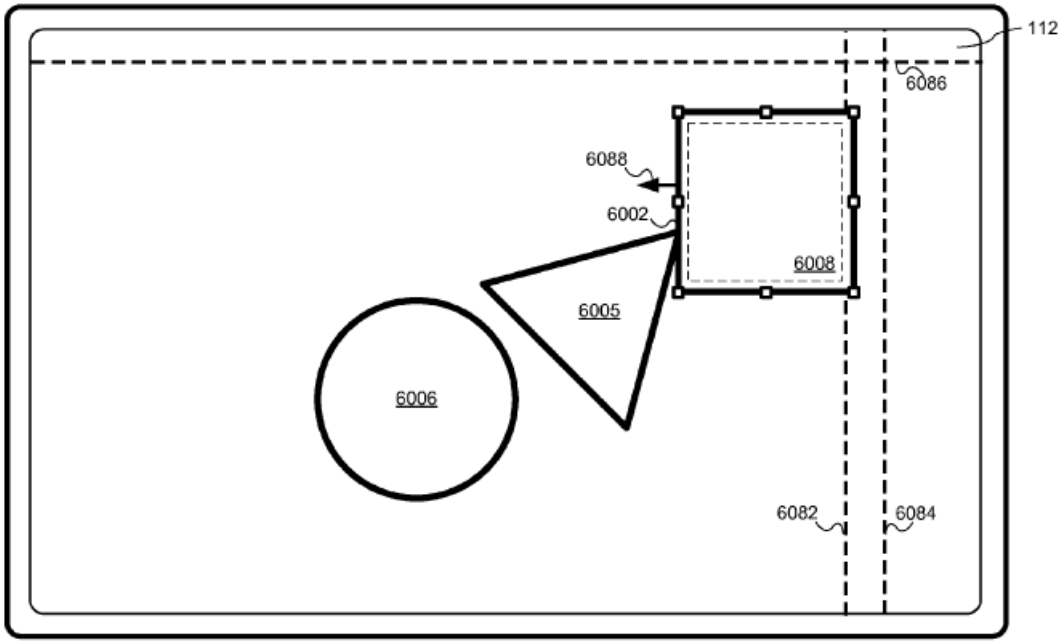


Figure 6G

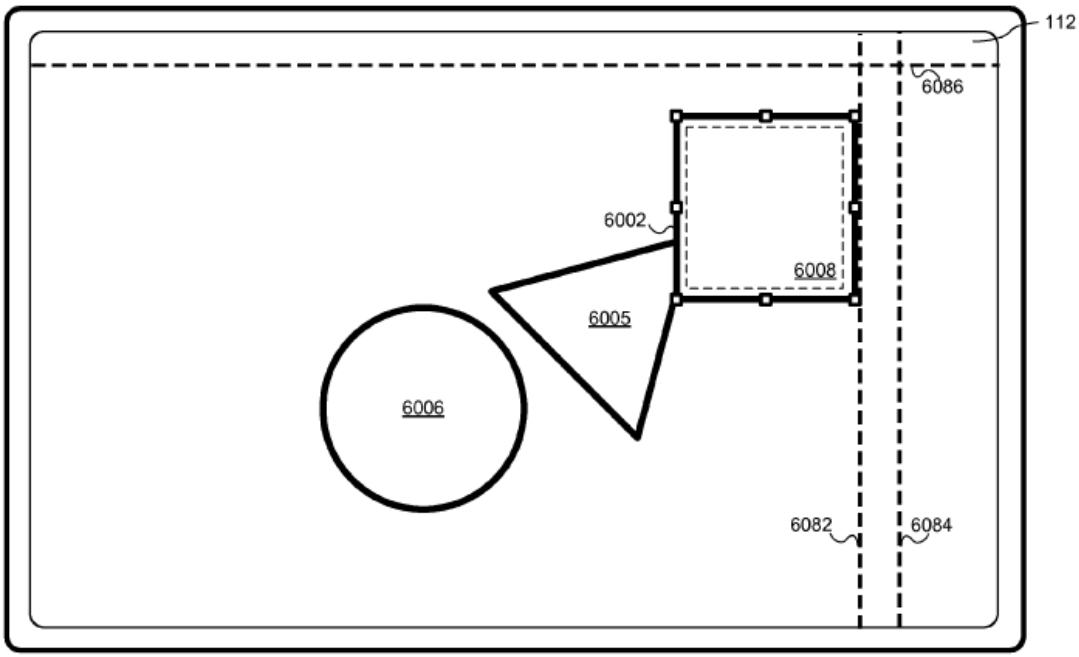


Figure 6H

Thus, a POSITA would understand when the cards "snap[] into the central position upon completion of the drag operation" (EX1013, ¶[0086]), the cards merely align

with a pre-set position that corresponds to the central position. A POSITA would have understood that the cards do ***not*** "move quickly on the display," as Dr. Terveen alleges.

183. Independent from this false assumption, Dr. Terveen's theory also fails because Shiplacoff's 'snap' only occurs "upon completion of the drag operation." EX1013, ¶[0086]. In other words, the snap only occurs after the user lifts their finger from the display. *Id.*; *see* EX1012, ¶[0227] (snap occurs "after the first input ends"). Yet, the claim requires moving the second UIE at the second speed "while the first contact is ***detected moving across the display.***" *See* EX1001, 95:21-27. Thus, even crediting Petitioner's faulty assumption, Shiplacoff's 'snap' would not occur "while a user slowly drags card 301 upward," as Petitioner alleges; instead, it would occur after the user breaks contact with the display. EX1013, ¶[0086]; EX2009, 74:15-75:18 (Dr. Terveen confirming "if you move a particular card close enough, sufficiently close to the central position and then complete the drag operation, that is I guess remove your finger from the screen, then it will snap into place."); EX1012, ¶[0227].

184. Shiplacoff does not disclose moving two objects at different relative speeds while a first contact moving across the display. Referring to FIGs. 9A-9D of Shiplacoff: card 301B is moved in a first direction (upward) from FIG. 9A to FIG. 9B; card 301B is not moved at all from FIG. 9B to FIG. 9C; and card 301B is moved

in a different direction (downward) from FIG. 9C to FIG. 9D. As shown in FIGs. 9B to 9C (below), the user's finger and card 301B are stationary as card 301C fills the gap.

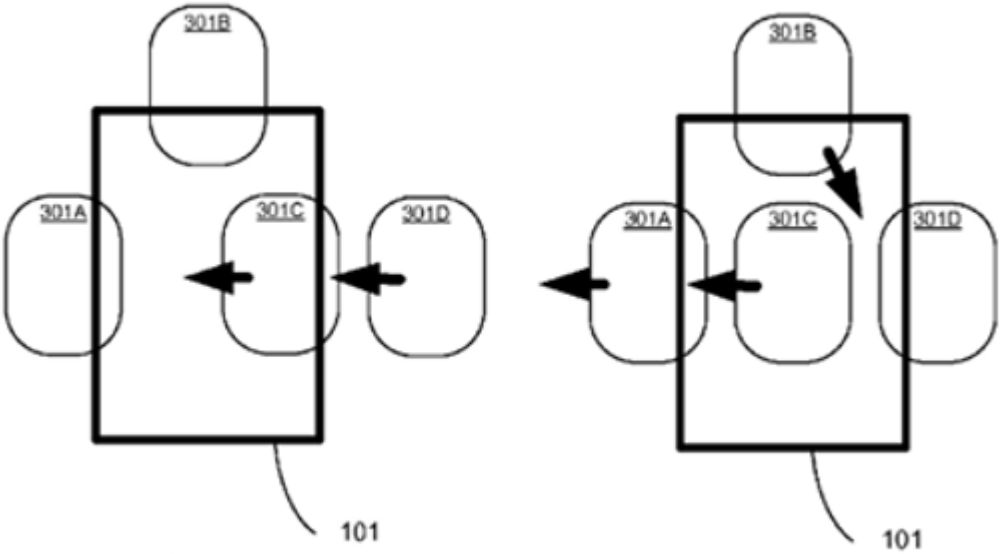


FIG. 9B FIG. 9C

Thus, in the time between the states shown from FIGs. 9B to 9C, the finger would not be moving across the display and card 301B would not be moving in a first direction at a first speed.

185. Referring back to FIGs. 9A and 9B, card 301B is dragged upward from a first position (FIG. 9A) to a second position at which point the card is held stationary from some time (FIGs. 9B-9C).

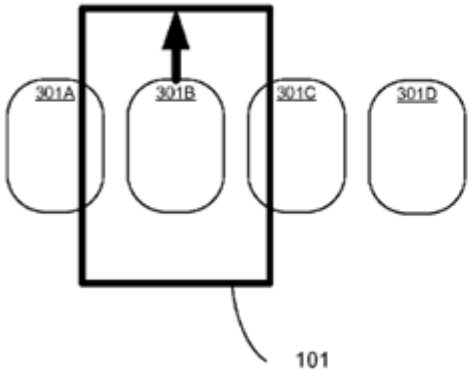


FIG. 9A

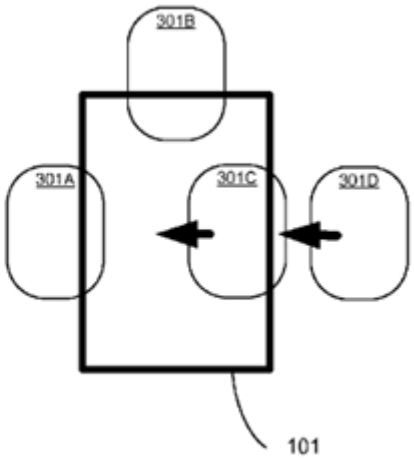


FIG. 9B

Thus, for Shiplacoff to support Dr. Terveen's theory, card 301C must be moving faster than card 301B in the time from Shiplacoff's FIG. 9A to a time before FIG. 9B (at which point card 301B is stationary) and this must occur while the user's finger is moving upward. The only disclosure related to this unpictured time period is that the user "drags card 301B upward, causing cards 301C and 301D to move to fill the gap." EX1013, ¶[0104]. This is insufficient to show the claimed operation. There are any number of ways in which Shiplacoff's operation would not meet the claim. For example, cards 301C might not move until card 301B is high enough on the screen so that the cards would not overlap and, at this point, the user's finger would not be moving across the display and card 301B would not be moving in the first direction. *See e.g.,* EX1013, FIG. 9B-9C. Further, cards 301C and 301B could be programmed to move at the same relative speeds to provide a smooth user experience without irregular movements.

C. Claim 208

186. Claim 208 depends from claim 2 and provides additional context to "the gesture." EX1001, 114:60-115:20 ("The apparatus of claim 2, wherein"). Dr. Terveen fails to analyze or integrate his claim 2 mapping into his theories for the limitations of claim 208. At best, Dr. Terveen can only show that two disparate gestures meet the claimed features, but this fails to show the claimed features, which result from a single gesture ("the gesture").

1. Claim 208 modifies the gesture introduced in claim 2

187. Claim 2 recites to "detect at least part of ***a*** gesture" ([2c]) and blur at least a portion of the at least one other object "during detection of at least a portion of ***the*** gesture" ([2d]).[6] EX1001, 95:44-49; Pet., *vi*. Claim 208 depends from the "apparatus of claim 2" and provides further limitations on "***the*** gesture" of claim 2 in Limitations [208.a]-[208.g]. EX1001, 114:60-115:20; 1119-Pet., *vi*. As explained below, Dr. Terveen fails to explain how the gesture identified for its claim 2 mapping achieves the limitations on "the gesture" in claim 208.

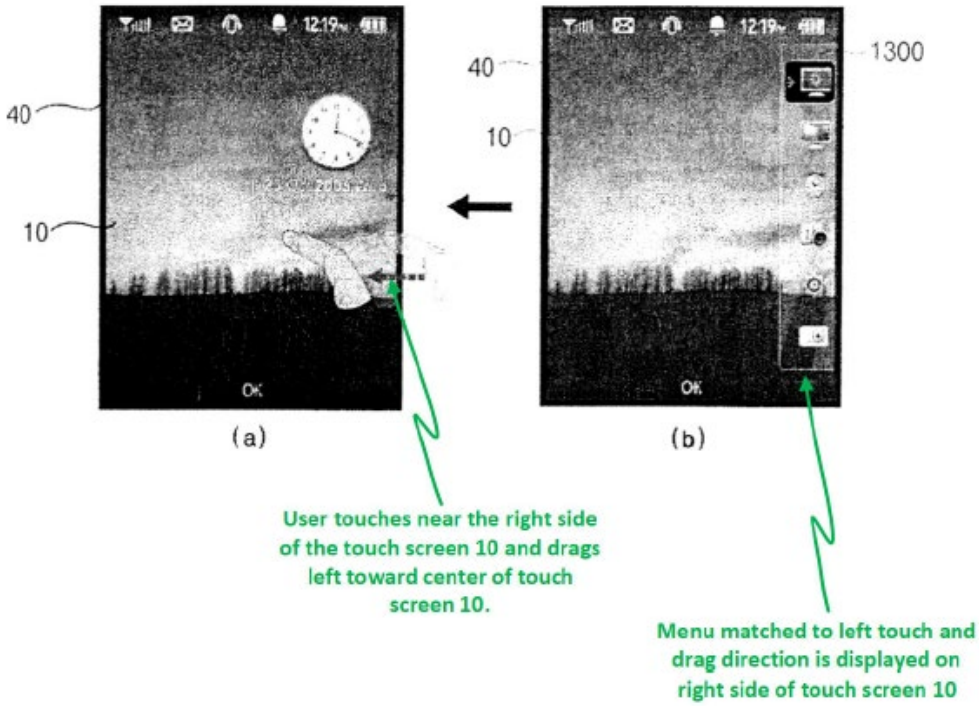
---

[6] Although Limitation [2d] recites "***the*** at least *portion* of the gesture" a POSITA would have found it evident that this language refers back to "at least part of a gesture" as is clearly indicated by its antecedent basis.

2. Petitioner relies on two distinct gestures on two different interfaces

188. In mapping to "at least part of a gesture" for Limitation [2c], Dr. Terveen identifies Ahn's ***left*** touch and drag operation shown in FIG. 13 (below—annotated by Petitioner). EX1003, ¶89-90 ("a user initially touches near the right side or edge of the touch screen 10 and initiates the drag gesture that moves inward toward the center of the display.")

FIG. 13

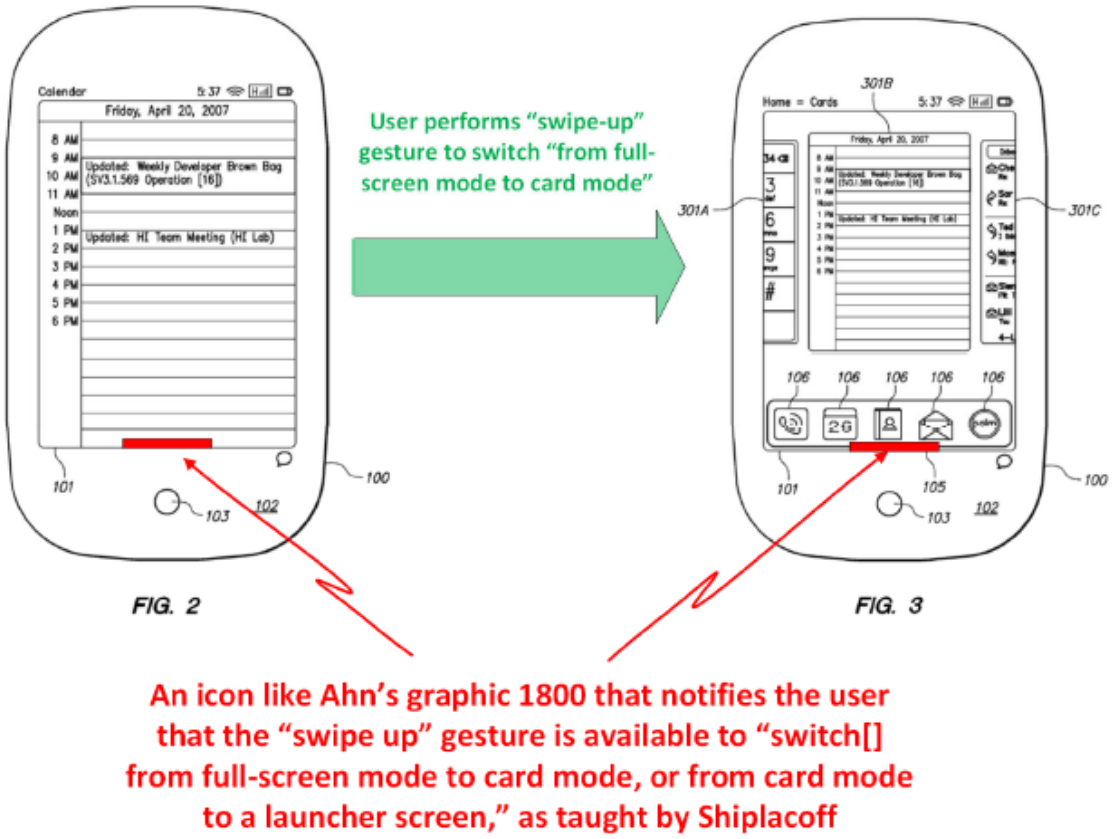


EX1004, FIGS. 13a and 13b

To open Ahn's right menu 1300, this gesture must occur on the standby screen. EX1004, Abstract, ¶¶[0050]-[0051] (operation to open menu 420 starts on standby screen), [0106] (touch operation starts on standby screen). Thus, the identified

gesture starts on Ahn's standby screen moves left to display a right menu 1300, which Petitioner contends blurs the clock widget. EX1003, ¶89-95.

189. In mapping to "***the*** at least part of a gesture" for Limitation [208a]-[208b], Dr. Terveen identifies "a 'swipe up' gesture like the one described in Shi[p]lacoff," which is illustrated in Petitioner's annotated FIGs. 2-3 of Shiplacoff (annotated by Dr. Terveen and reproduced below). EX1003, ¶¶383, 386.



EX1004, FIGS. 2 and 3 (modified)

This gesture starts on an icon (red rectangular bar added by Dr. Terveen for Limitation [208a] (*see* EX1003, ¶382-384)) displayed over Shiplacoff's application (e.g., calendar application) shown in "full-screen mode." EX1003, ¶386. To meet

Limitation [208.b], the 'swipe up' gesture must be detected when the particular application interface (e.g., calendar application) is displayed. EX1003, ¶89-90.

190. That is, to meet Limitations [2c]-[2d], the gesture must be a right swipe that starts on Ahn's standby screen and to meet Limitation [208.b] the gesture must be an upward swipe that starts on Shiplacoff's application, which is not a standby screen. EX1003, ¶¶89-90, 386-387. Of course, a POSITA would have understood that two different gestures that start on two different interfaces cannot be the same gesture. Thus, Dr. Terveen's modification fails to arrive at the claimed features.

3. Petitioner's swipe up gesture does not blur the clock widget, based on a change in a magnitude of the gesture being detected

191. At the outset, Dr. Terveen does not even allege that its "swipe up" gesture would blur the at least one other object (i.e., clock widget) based on a change in a magnitude of the gesture being detected, as required by Limitation [2d]. EX1003, ¶¶381-406.

192. Nevertheless, Dr. Terveen alleged operation would not blur the clock widget. As illustrated by Dr. Terveen's annotated figure below, the swipe-up gesture initiated in the calendar application results in the display of a card mode. EX1003, ¶383-384. The clock widget (or any icon displayed on Shiplacoff's launcher screen) is not depicted at any time during the swipe-up gesture.

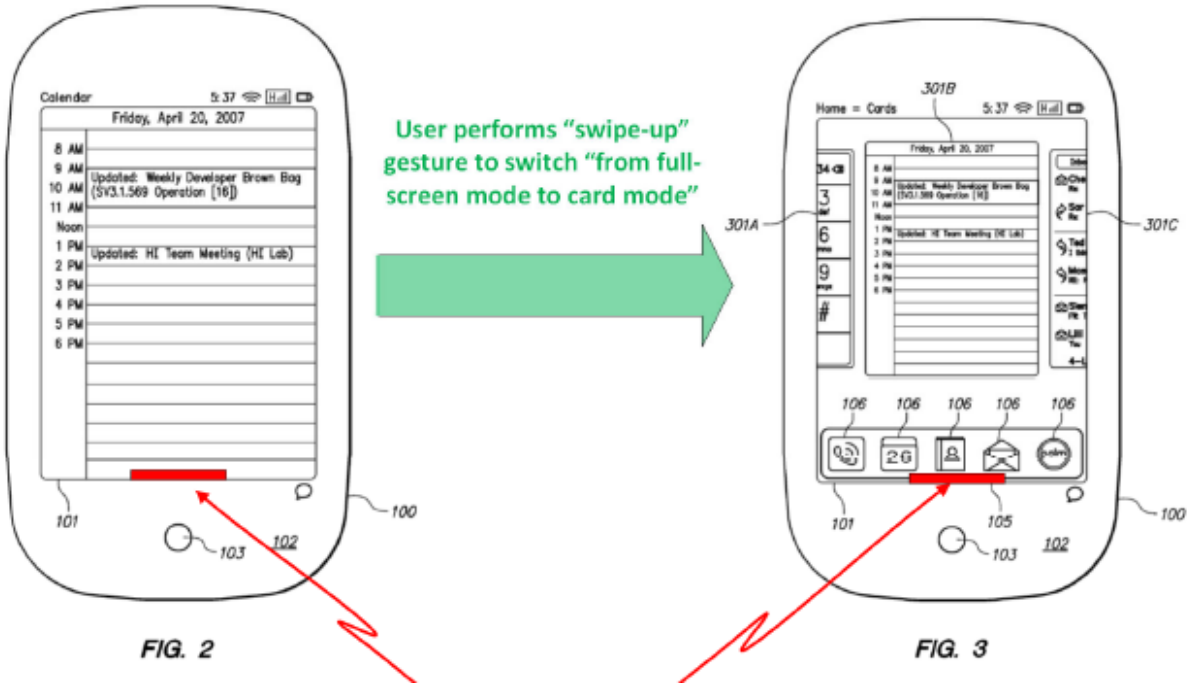


FIG. 2 FIG. 3

Without the "at least one other object" ever being depicted during the gesture, it cannot be blurred. Thus, Petitioner's swipe-up gesture fails to teach all the features required by the claims.

193. The only mention of 'blurring' in the context of Dr. Terveen's swipe-up gesture is the modification that "the area between the displayed cards" would be displayed in a translucent form. EX1003, ¶402. Even accepting Dr. Terveen's unsupported modification, there is no explanation as to how this would result in blurring of the clock widget (1) "***during*** detection of … the gesture ***before a completion*** thereof" and (2) "based on a change in a magnitude of the gesture being detected."

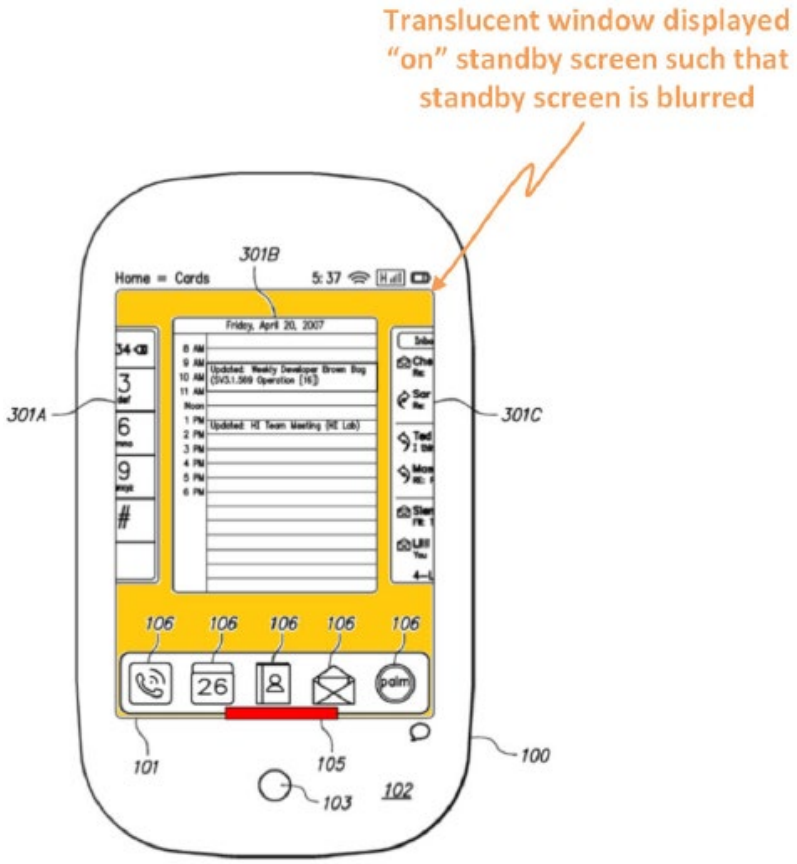


FIG. 3

EX1013, FIG. 1 (modified)

194. As explained by Shiplacoff, "device 100 can receive input from the user" and "such input can cause device 100 to switch from one display mode to another." EX1013, ¶[0073]. For example, FIG. 6A "shows a calendar application in full-screen mode" and "[i]n FIG. 6B, the user has switched to card mode … by pressing button 103." *Id.*, ¶[0097].

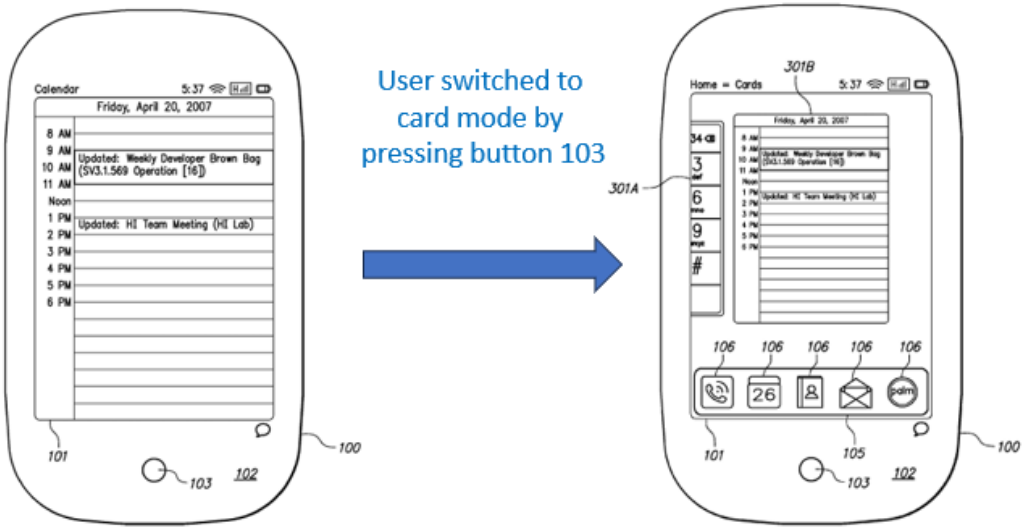


FIG. 6A FIG. 6B

Thus, the card mode is displayed ***after*** the input (e.g., pressing button 103) is received. Shiplacoff describes "another embodiment" where "the user can switch among the various modes by performing a gesture" (e.g., swipe-up). EX1013, ¶[0073]. This embodiment does not alter the timing or operation of the display of the card mode and, therefore, this embodiment would operate in the same manner—displaying the card mode ***after*** the input (e.g., swipe-up gesture) is received. Such an operation cannot blur the clock widget ***during*** detection of … the gesture ***before a completion*** thereof.

195. Additionally, Dr. Terveen contends Shiplacoff's card mode is a type of menu and asserts that, because Ahn's menus can be displayed "in a transparent form or an opaque form," "a POSITA would have at least found it obvious that Shiplacoff's card mode would be displayed 'on' the standby screen 300 in a translucent form, such that the area between the displayed cards would show a

blurred standby screen 300." EX1003, ¶401-402. Dr. Terveen does not explain why the card mode would be displayed on the standby screen. A POSITA would have understood it likely that the card-mode would be its own application that would be executed when a user intends to enter that mode. This card mode is not the same as a standby screen, and it has its own interface that is different from the standby screen (e.g., gestures in the card mode would not perform the same functions as the gestures in the standby screen).

196. Dr. Terveen provides an example of its modification (below), where various portions of the interface remain opaque while other portions (e.g., area between the cards) are selectively translucent.

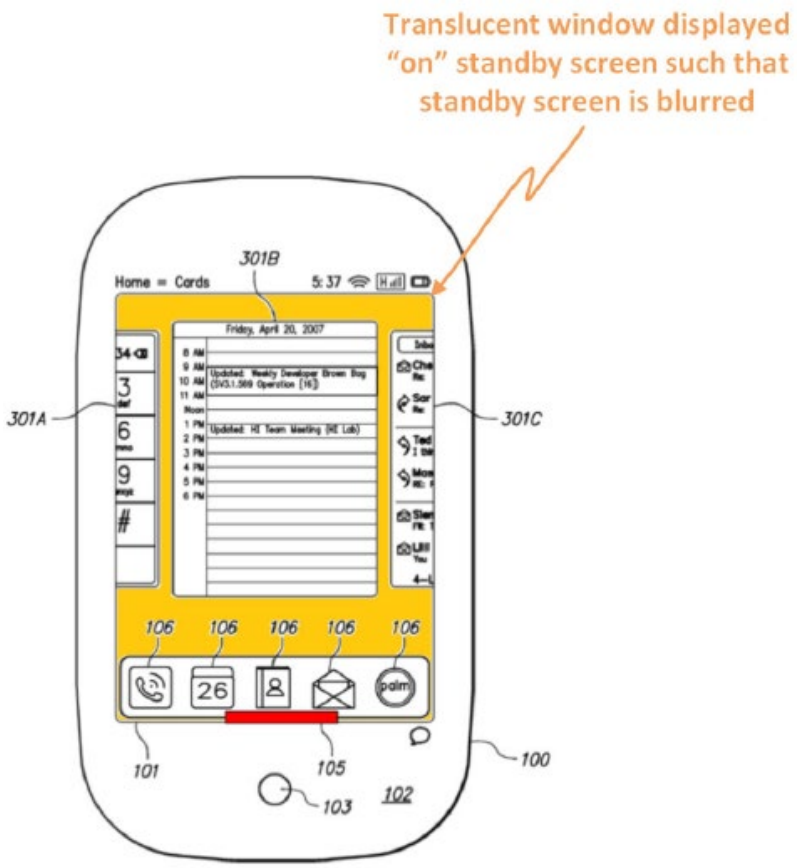


FIG. 3

EX1013, FIG. 1 (modified)

197. Dr. Terveen provides no motivation for its modification to blur the area between the cards and merely concludes a POSITA would arrive at the claimed features. However, Dr. Terveen can only arrive at its modification by mischaracterizing the teachings of the references and combining disparate portions of the references in a manner contrary to their disclosure. First, Dr. Terveen relies on Ahn's teaching that its pop-up menu can be translucent ***or*** opaque to contend that a POSITA would make portions of Shiplacoff's card mode translucent and other portions opaque. EX1003, ¶401; EX1004, ¶[0070] (menu can be "in a translucent

form or an opaque form"). But neither Petitioner nor its expert explain why a POSITA would deviate from Ahn's teachings to make a 'menu' both translucent ***and*** opaque. Ahn's teaching that its entire menu can either be translucent or opaque does not suggest to a POSITA that portions of a menu can be opaque and portions can be translucent.

198. Notably, Dr. Terveen does not allege that the cards themselves would be translucent, as this would have been detrimental to the user experience. For example, having cards be translucent would result in the images that are below the cards being visible through the card. This would reduce the readability and clarity of the card, hindering a user's ability to read and identify the correct card. This would cause confusion and add unnecessary delays, which is inconsistent with Shiplacoff's objective to "allow[] users to ***quickly*** switch among open applications" EX1013, ¶[0009].

199. Further, Petitioner identifies Shiplacoff's card mode as a menu because it "provides the user with a list of options" in the form of the cards that represent active applications. EX1003, ¶383. In other words, Petitioner identifies the cards (i.e., options) as the menu (i.e., list of options). However, Petitioner's modification is not to make the cards translucent; instead, making only "the area between the displayed cards" translucent. EX1003, ¶402. But Ahn does not teach making the area around the menu transparent, and a POSITA would have understood that

displaying the area around the menu as translucent is inconsistent with Ahn's teaching. Dr. Terveen's can only arrive at his modification combination by misconstruing Ahn's disclosure, but that cannot show a POSITA would have made such a modification.

4. [208b], [208d]: the at least part of the gesture on the touch screen is detected on the object

200. Dr. Terveen proposes "to include an icon, like graphic 1800, at the bottom edge of the display" to notify the user "that a 'swipe up' gesture like the one described in Shi[p]lacoff, would have always been available to switch between modes." EX1003, ¶386. However, this is not something a POSITA would have done.

201. Ahn explains its graphic 1800 is "for notifying ***a start position*** of the touch and drag operation." EX1004, ¶¶[0117]-[0118]. Thus, Ahn teaches that its graphic signifies where a user can touch to start a gesture. To the contrary, Shiplacoff's "'swipe-up' gesture ***begin[s] in gesture area 102*** and extend[s] onto screen 101." EX1013, ¶[0127]. As illustrated below, Petitioner's modification does not "notify[] a start position" as taught by Ahn.

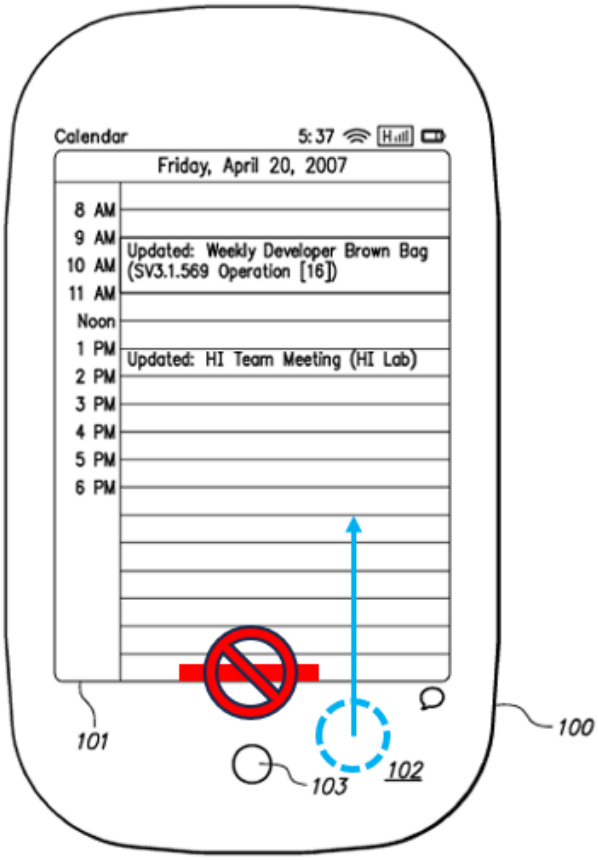


FIG. 2

Nor would a POSITA have Dr. Terveen's added 'object' (illustrated by the red rectangle above and at EX1003, ¶386) be the start position for Shiplacoff's switching operation.

202. A POSITA would have understood that swiping motions occurring on the display 101 during the full screen mode would scroll the application. *See* EX1013, FIG. 5 (depicting calendar application that has content which is cut off and would be accessed by an upward swipe on screen 101); EX2009, 67:22-68:17 (Dr. Terveen confirming the same). A POSITA would have understood this assigned scrolling on screen 101 in full-screen mode is why Shiplacoff's 'swipe-up' gesture

starts in gesture area 102. EX1013, ¶[0127] (a "swipe up" gesture beginning in gesture area 102 and extending onto screen 101); *see also id.* ¶[0128] (describing "swipe down" gesture that extends onto gesture area 102). Any modification to have a swipe starting on screen 101 perform the switching operation (as proposed by Dr. Terveen) would divide this swipe-up gesture between two functions (scrolling the application and switching between modes), which would decrease usability and increases user errors. A POSITA would not have made this modification, which is why Shiplacoff purposely omits swipes on display 101 from its list of actions for switching modes. *See* EX1013, ¶¶[0124]-[0131] (describing several gestures for mode switching, none being a swipe on the screen 101).

203. Aside from Petitioner's unexplained deviation from Ahn's teachings, its modification would also diminish the functionality of the device. In fact, Petitioner concedes that its modification must eliminate one of Ahn's menu's (additional service menu 620 shown in FIG. 6B). EX1003, ¶392. This is not something a POSITA would have done, especially when it was so easily avoidable by using any of the other inputs described in Shiplacoff. For example, a POSITA could have simply implemented the mode change by using the button 103 (EX1003, ¶[0130]), selecting from a menu (EX1003, ¶[0130]), implementing an off-screen gesture area (EX1013, ¶¶[0127]-[0128]) as described in Shiplacoff that wouldn't require eliminating one of the four menus described in Ahn. *See e.g.,* EX1004, FIG.

2 (Ahn has several buttons like Shiplacoff's), FIG. 7B (Ahn has menus as described in Shiplacoff).

204. Further, having this object "always" (EX1003, ¶436) displayed on the screen would be undesirable. It was well-known that cellphone screens had limited display space and a POSITA would not have wasted this space with a permanent object. For example, Petitioner's own illustration (below) shows the object—which is depicted as small as possible, contributing to the difficulty of a user selecting it (EX1004, FIG. 18)—would have interfered with other operations (e.g., selection of interior icons 106).

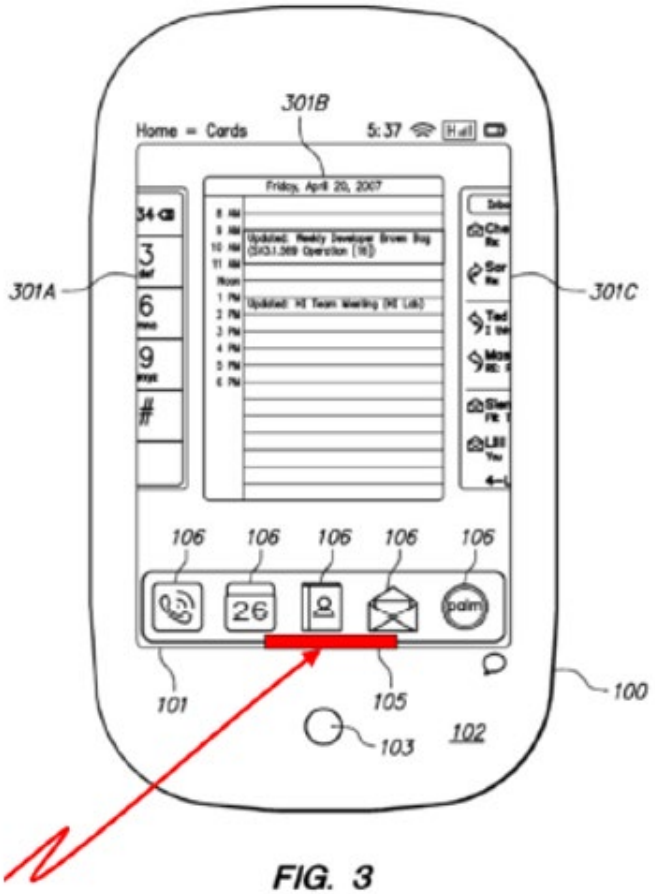


FIG. 3

205. Dr. Terveen's added object would have also diminished readability, as shown when viewing Ahns' mail application (below), where the final message is now obscured by the object.

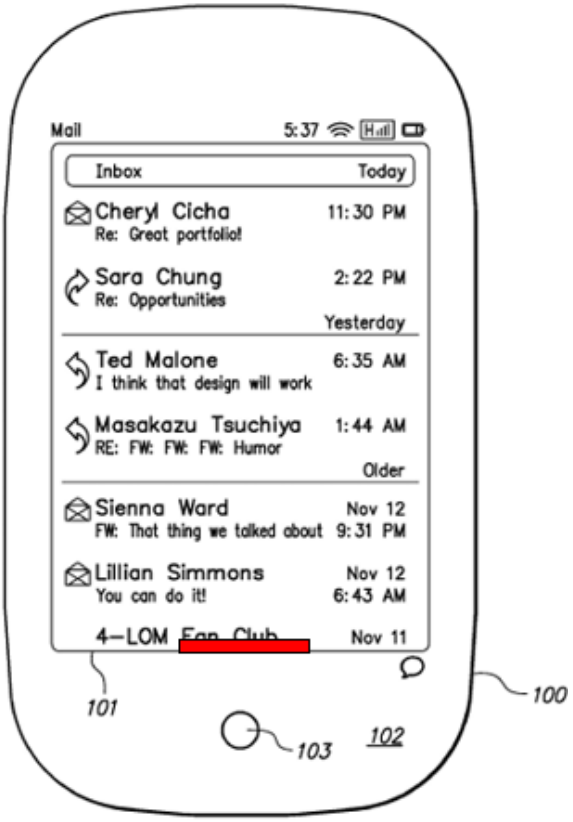


FIG. 5

Dr. Terveen provides no logical reason that a POSITA would have made the alleged modification to eliminate Ahn's menu and diminish the user experience. Accordingly, Dr. Terveen's theory fails.

D. Claims 209-216

206. Each of claims 209-216 depend from claim 208. Thus, the deficiencies in Dr. Terveen's analysis of claim 208 equally apply to claims 209-216. Further, Dr. Terveen's analysis of claims 209-216 is independently deficient.

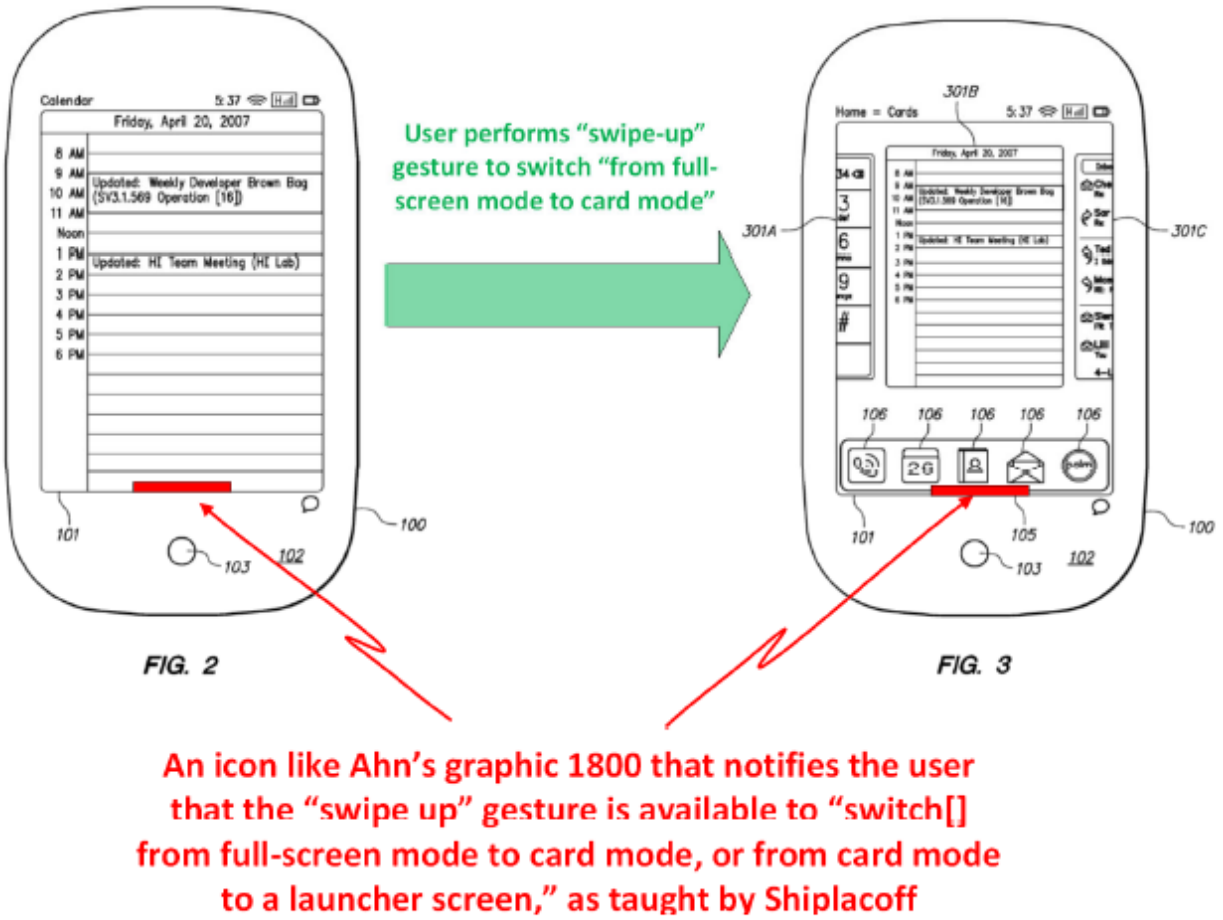
1. Claim 210

207. Claim 210 recites "the apparatus is configured such that a third virtual display layer is displayed between the first virtual display layer and the second virtual display layer." EX1001, 115:25-28. Dr. Terveen contends the third virtual display layer is "a virtual display layer containing the clock widget" and contends "the second virtual display layer" is "virtual display layer containing one or more elements of standby screen 300, such as the thumbnail image displayed under the clock widget." EX1003, ¶417.

208. Claim 210 depends from claim 208 and recites "***the*** second virtual display layer" which refers back to "a second virtual display layer including the at least portion of the at least one other object that is blurred." EX1001, 115:15-18, 25-28. Dr. Terveen identifies the at least one other object that is blurred as "the clock widget of standby screen 300." EX1003, ¶86. Thus, Dr. Terveen's theory is internally inconsistent and requires Ahn's clock widget to be included in both the third and second virtual layers.

2. *Claim 216*

209. Claim 216 recites "the apparatus is configured such that the object is moved during the at least part of the gesture." EX1001, 115:51-53. Dr. Terveen contends its added graphic (in red below) is moved during the at least part of the gesture. EX1003, ¶436-438.



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

EX1004, FIGS. 2 and 3 (modified)

However, this proposed modification is inconsistent with Dr. Terveen's other assertions and the cited evidence.

210. Dr. Terveen asserts its object would move allegedly because Ahn's graphic moves along with a user's touch. EX1003, ¶437. This is incorrect as explained in my Section VII.A.1. Nevertheless, even following Dr. Terveen's interpretation of Ahn, would not result in the proposed operation. The alleged 'dragging' of Ahn would result in a user dragging graphic by starting its drag gesture on the graphic. EX1003, ¶437 ("dragged"); EX1004, [0118]. However, a POSITA implementing the alleged swipe-up gesture from Shiplacoff would not start the gesture on the added graphic; they would start the gesture on the separate gesture area 102. EX1013, ¶[0127]; *see* Section VIII.C.4. Thus, the graphic would not be "dragged" like Ahn's graphic *allegedly* is. A POSITA would not move Dr. Terveen's graphic when switching from a full-screen mode to a card mode based on Ahn's ***alleged*** teaching to drag an object when opening a menu.

211. Further, the alleged movement of this graphic is also inconsistent with Dr. Terveen's assertion that the added graphic would "always" be displayed to indicate to the user that its 'swipe-up' gesture was available to switch between modes. *See* EX1003, ¶436. Thus, Dr. Terveen's theory is inconsistent with his own proposed modification and the teachings of Ahn and Shiplacoff.

IX. CONCLUSION

212. 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: June 30, 2025

Craig Rosenberg, Ph.D.