

APPLE INC. v. SMITH INTERFACE TECHNOLOGIES, LLC

Case IPR2024-01083

Patent Owner's Hearing Demonstratives

November 5, 2025

U.S. Patent No. 10,642,413

Petition (“Pet.”)

Paper 2

Patent Owner Response (“POR”)

Paper 12

**Petitioner’s Reply to Patent Owner’s Response
 (“Reply”)**

Paper 18

Patent Owner sur-Reply (“sur-reply”)

Paper 26

U.S. Patent No. 10,642,413

(12) **United States Patent**
Smith

(10) **Patent No.:** US 10,642,413 B1
(45) **Date of Patent:** *May 5, 2020

(54) **GESTURE-EQUIPPED TOUCH SCREEN SYSTEM, METHOD, AND COMPUTER PROGRAM PRODUCT**

(56) **References Cited**
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(71) Applicant: **P4TENTSI, LLC**, Wilmington, DE (US)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.
This patent is subject to a terminal disclaimer.

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(Continued)

(21) Appl. No.: **16/169,961**

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(22) Filed: **Oct. 24, 2018**

Related U.S. Application Data

(63) Continuation of application No. 15/072,354, filed on Mar. 16, 2016, now Pat. No. 10,133,397, which is a (Continued)

(51) Int. Cl.
G06F 3/041 (2006.01)
G06F 3/0488 (2013.01)

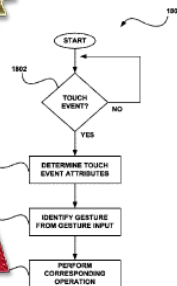
(52) U.S. Cl.
G06F 3/016 (2013.01); **G06F 3/01**; **G06F 3/0488** (2013.01);

(58) CPC Class.
G06F 3/04883 (2013.01); **G06F 3/04883** (2013.01); **G06F 3/04883** (2013.01);

ABSTRACT

Apparatuses, methods, and a computer-readable media are provided to: displaying, utilizing a display, a graphical user interface; while the graphical user interface is displayed, detecting, utilizing a touch interface, a first gesture that begins in connection with a first portion of the at least one edge and moves inward; in response to the detection of the first gesture that begins in connection with the first portion of the at least one edge and moves inward, displaying, utilizing the display, a first menu as sliding in and including a plurality of first menu items; and when the first menu is displayed including the plurality of first menu items: detecting, utilizing the touch interface, a first pressure on at least one of the first menu items, when the first pressure on the at least one of the first menu items surpasses a first threshold, performing a first operation, and when the first pressure on the at least one of the first menu items surpasses a second threshold, performing a second operation.

122 Claims, 24 Drawing Sheets



(12) **United States Patent**
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(54) **GESTURE-EQUIPPED TOUCH SCREEN SYSTEM, METHOD, AND COMPUTER PROGRAM PRODUCT**

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- '413 Patent
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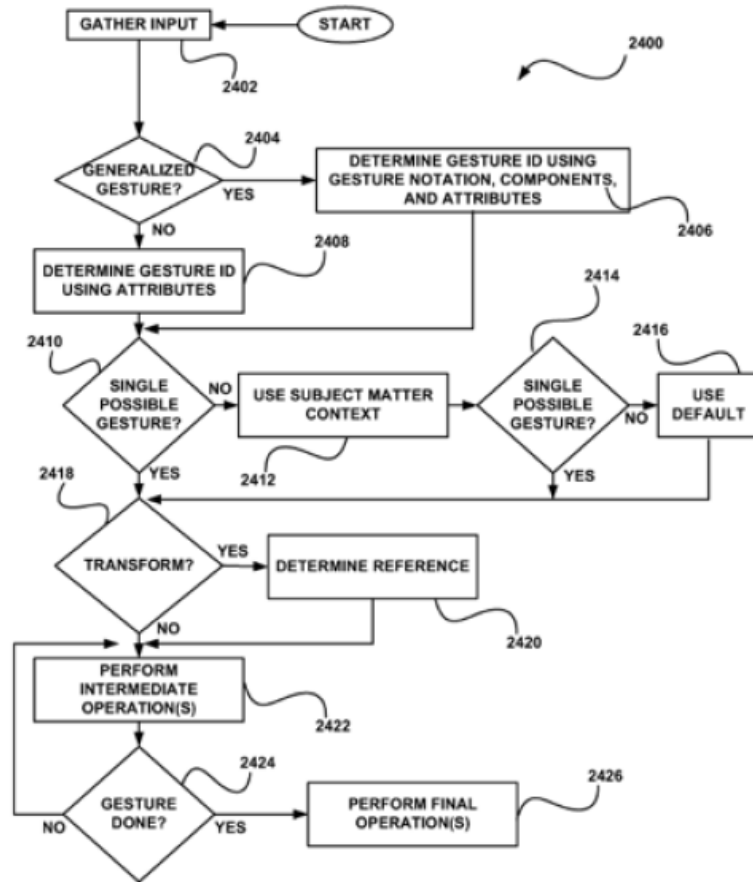
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Multi-Part Pattern Based Gestures



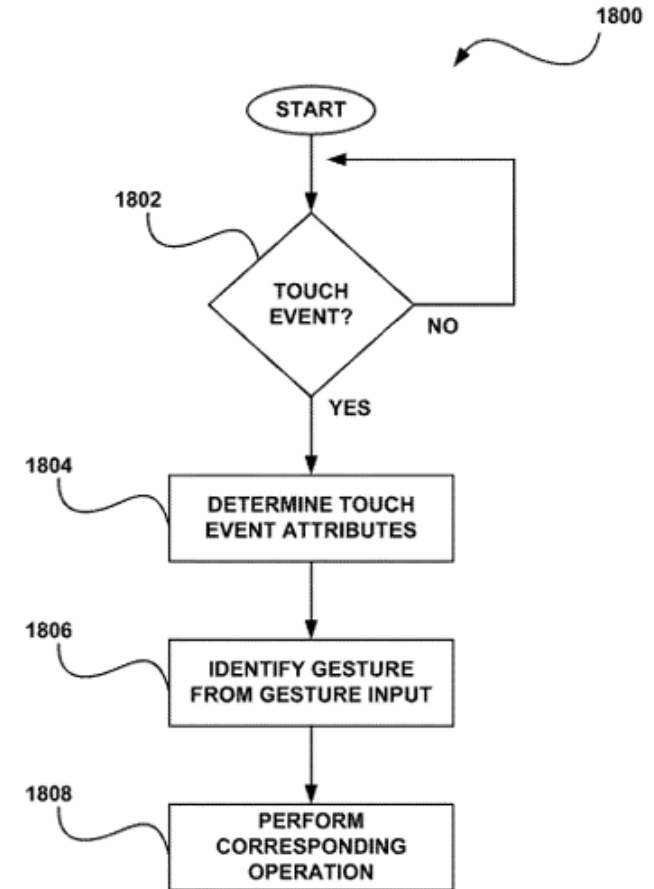
'413 Patent (Provisional)



EX2008 at Fig 24; POR at 4.



'413 Patent

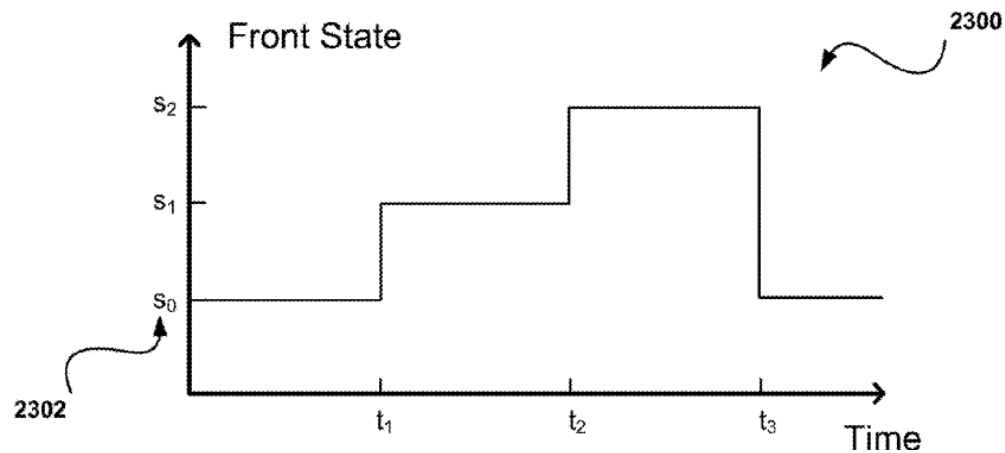


EX1001 at FIG. 18; Sur-reply at 3.

Multi-Part Pattern Based Gestures



'413 Patent



'413 Patent at Fig 23; POR at 2.



'413 Patent

In some embodiments, pattern-based gestures may be recognized in the form of an ordered sequence of tuples using a decision tree. The use of a decision tree, or similar form of logic, has the advantage of being computationally inexpensive. This method may be more appropriate for

Pattern-based gesture 2302 is based upon three touch state transitions. At time t_1 , the contact point changes from touch state s_0 to s_1 . Similar changes of state occur at t_2 and t_3 . In various embodiments, these touch state transitions may be represented by ordered 2-tuples. For example, the first transition may be represented as (s_1, t_1) . The pattern-based gesture itself may be represented as an ordered sequence of state transitions. For example, pattern-based gesture 2302 may be represented as $\{(s_1, t_1), (s_2, t_2), (s_0, t_3)\}$.

EX1001 at 74:14-16, 72:37-45; POR at 2-3.

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Independent Claim 1 (and Claim 101)

Claim 1 – First Duration Operations

1. An electronic device comprising:

...

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

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

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

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

Independent Claim 1 (and Claim 101)

Claim 1 – Blurring Limitation

1. An electronic device comprising:

...

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

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

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

Independent Claim 101

Claim 101 – Sliding Limitation

1. An electronic device comprising:

...

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

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

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

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

Independent Claim 101



Claim 101 – First and Second Menus

1. An electronic device comprising:

...

[101.d] in response to the detection of **the first gesture** that begins in connection with the first edge and moves inward, displaying, utilizing the display, **a first menu** as sliding in and including one or more first menu items including a particular application icon;

...

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

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

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Undisputed “Conditional” Limitations

Institution Decision

Further, we highlight that limitations [1.e.ii] and [1.e.iii] appear to be written in the alternative, such that satisfying only one of these two limitations is sufficient to meet the claim. For example, when “the first duration of contact” does “not surpass a threshold,” then the first operation of limitation [1.e.ii] will be performed and the second operation of limitation [1.e.iii] will not be performed. Similarly, when “the first duration of contact” does “surpass the threshold,” then the second operation of limitation [1.e.iii] will be performed and the first operation of limitation [1.e.ii] will not be performed. Patent Owner appears to propose this interpretation in contending that claim 1 recites “two scenarios that occur in response to a single contact . . . either ‘surpass[ing]’ or ‘not surpass[ing]’ a recited threshold.” Prelim. Resp. 22. We invite the parties to address, in a claim construction section in the subsequent briefings, whether limitations [1.e.ii] and [1.e.iii] are written in the alternative, such that only one of these two limitations needs to be satisfied in order to meet the claim.

D.I. at 9-10.

Patent Owner sur-reply

Petitioner must show the prior art discloses logic programmed to process user input (“a first duration of contact”) and perform **both** recited operations (Limitations [1.e.ii]-[1.e.iii]) when their respective preconditions apply. POR, §IV.A. Petitioner does not dispute that each Limitation must be shown in the art.

Sur-reply at 1-2.

Overview

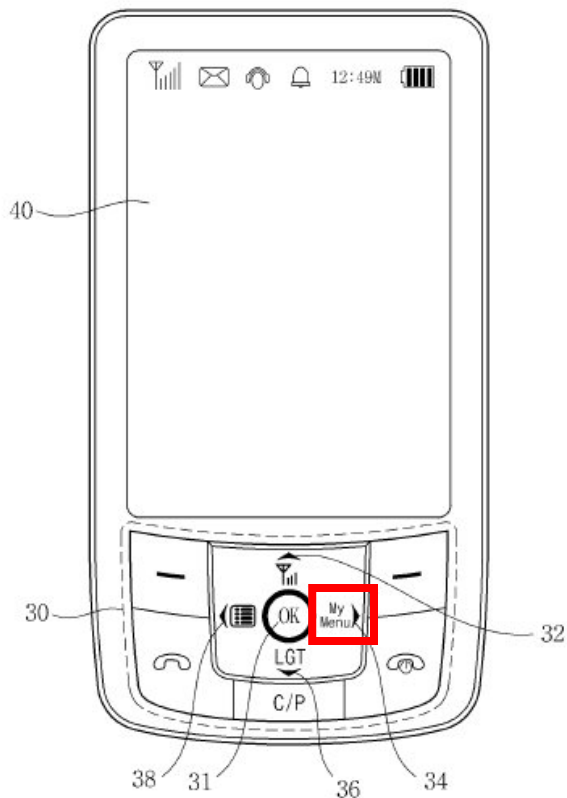
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Ahn's menus are binary



Directional Key Embodiment

FIG. 2



EX1004 at FIG. 2 ; POR at 13.



Ahn

FIG. 3A

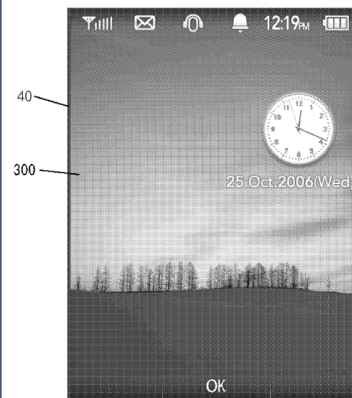


FIG. 4A

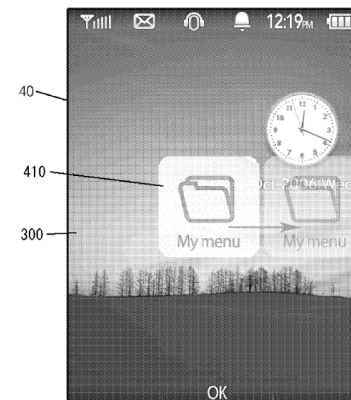
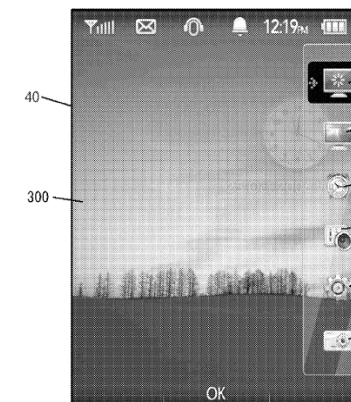


FIG. 4B



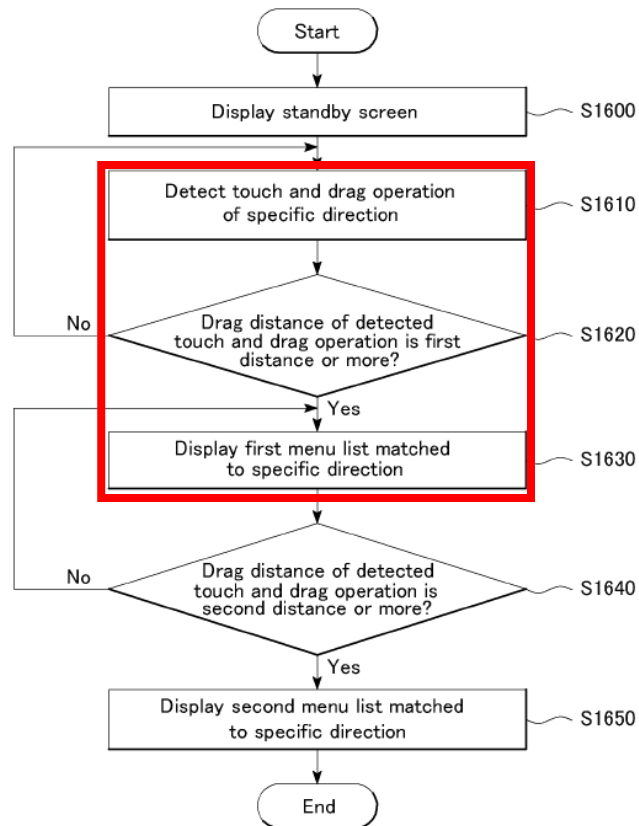
EX1004 at FIGS. 3A, 4A-4B; POR at 14-15.

Ahn's menus are binary



Touch and Drag Embodiment

FIG. 16

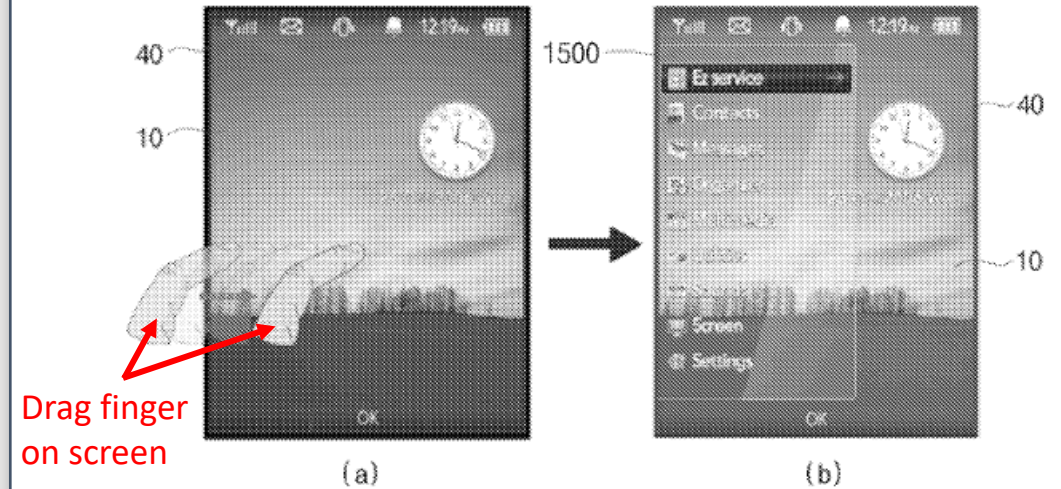


EX1004 at FIG. 16; POR at 15.



Ahn

FIG. 15



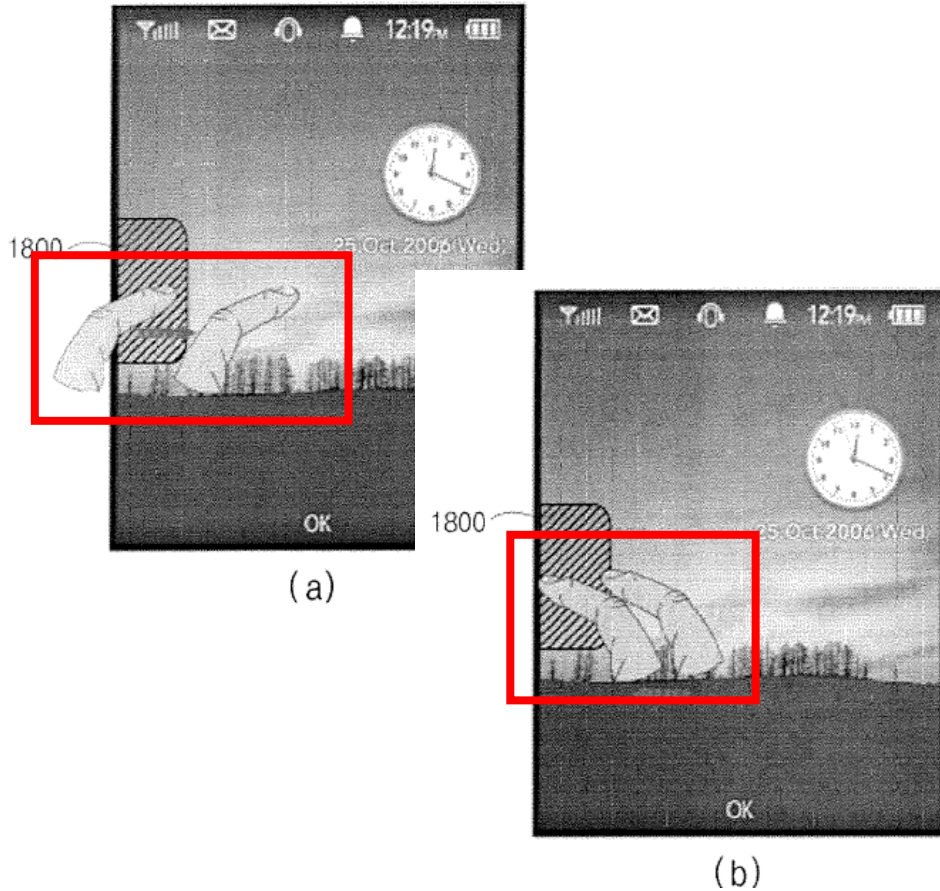
if the user drags the touch screen 10 by a distance longer than or equal to the distance $d1$ and shorter than the distance $d2$, the first menu list 1700 is displayed, and if the user drags the touch screen 10 by a distance longer than or equal to the distance $d2$, the second menu list 1710 is displayed.

EX1004 at [0116], FIG. 15; POR at 15-16, 57.

Ahn's menus are binary



Graphic Shadow Embodiment



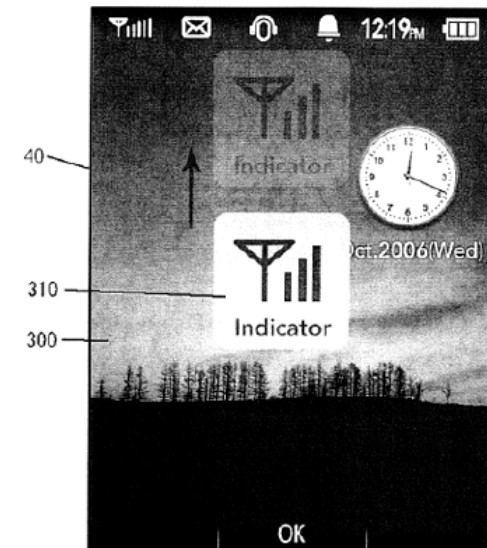
EX1004 at FIG. 18(a)-(b)



Dr. Rosenberg

Ahn illustrates the user's finger moving along the display while the graphic 1800 remains stationary. EX1004, FIG. 18a. If Ahn wanted to display the graphic 1800 as moving with the finger, it knew how to display such a movement. In fact, Ahn's Figures 3B, 4A, 6A, 7A, 8B depict an object as moving in response to an input.

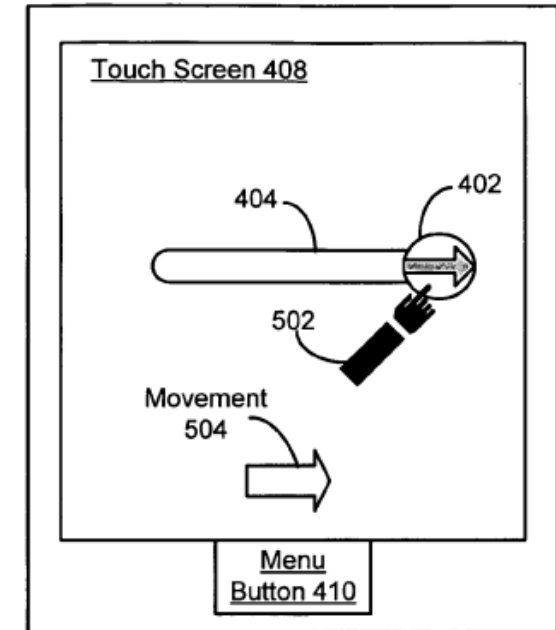
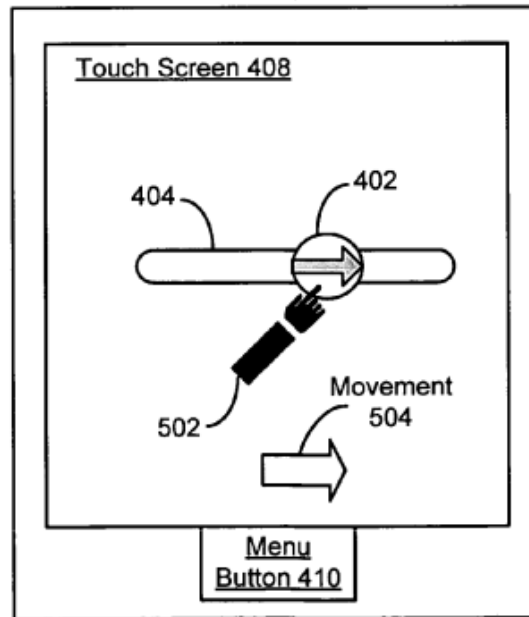
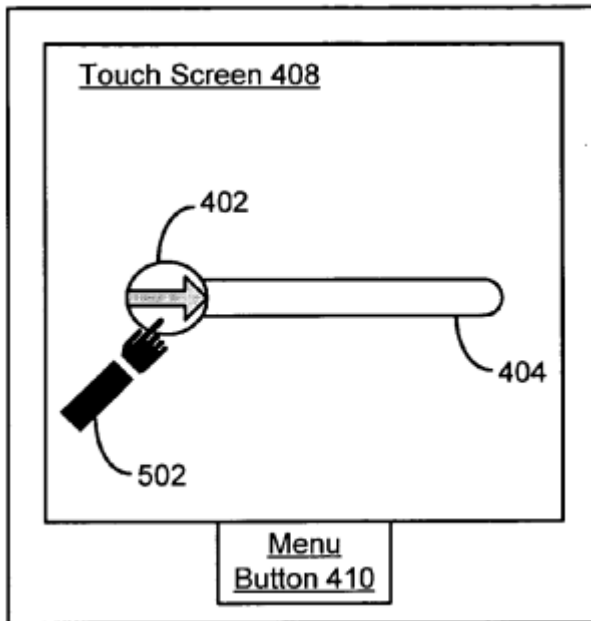
FIG. 3B



EX2006 ¶146, EX1004, FIG. 3B; POR at 59.

Chaudhri discloses an unlocking gesture

 Chaudhri



EX1005, FIGs. 5A-5C; POR at 18.

Chaudhri's transition effect after the gesture is complete

Chaudhri's Transition Effect

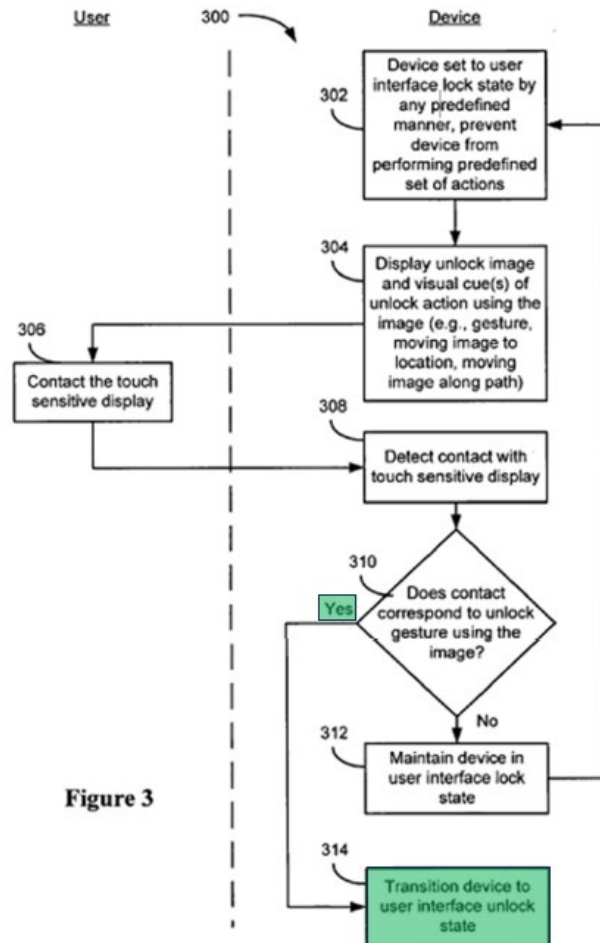


Figure 3

EX1005 at FIG. 3; Sur-Reply at 28.

Chaudhri's fade-in

Unlocking a Device via Gestures ¶¶[0052]-[0079]

...

[0079] In some embodiments, the lock/unlock feature may apply to specific applications that are executing on the device 400 as opposed to the device 400 as a whole. In some embodiments, an unlock gesture transitions from one application to another, for example, from a telephone application to a music player or vice versa. The lock/unlock feature may include a hold or pause feature. In some embodiments, 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). The fade in and fade out may occur smoothly over a pre-determined time interval, such as 0.2 s, 1s or 2s. The

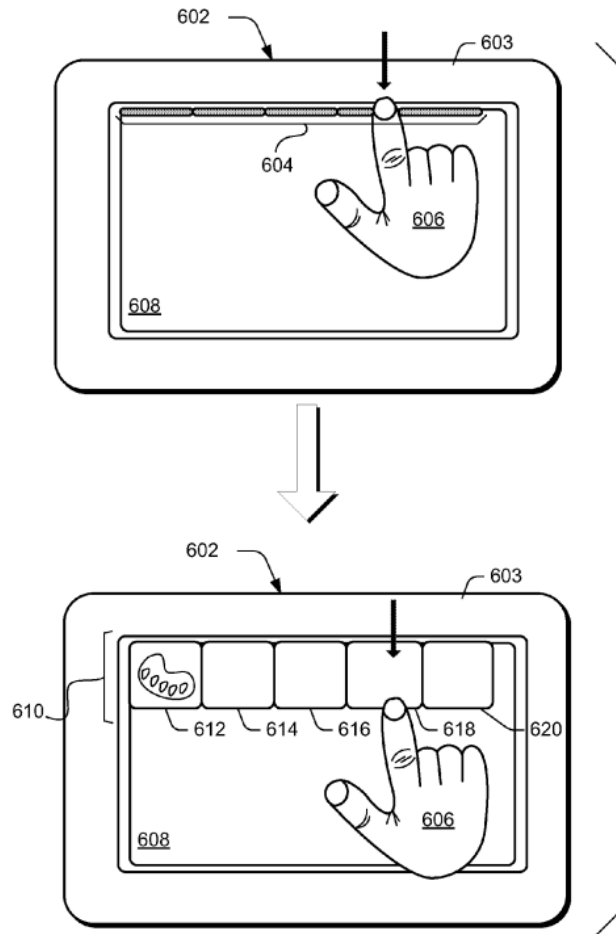
...

Indication of Progress Towards Satisfaction of a User Input Condition ¶¶[0080]-[0096]

EX1005 at [0052], [0079]; Sur-reply at 27-28.

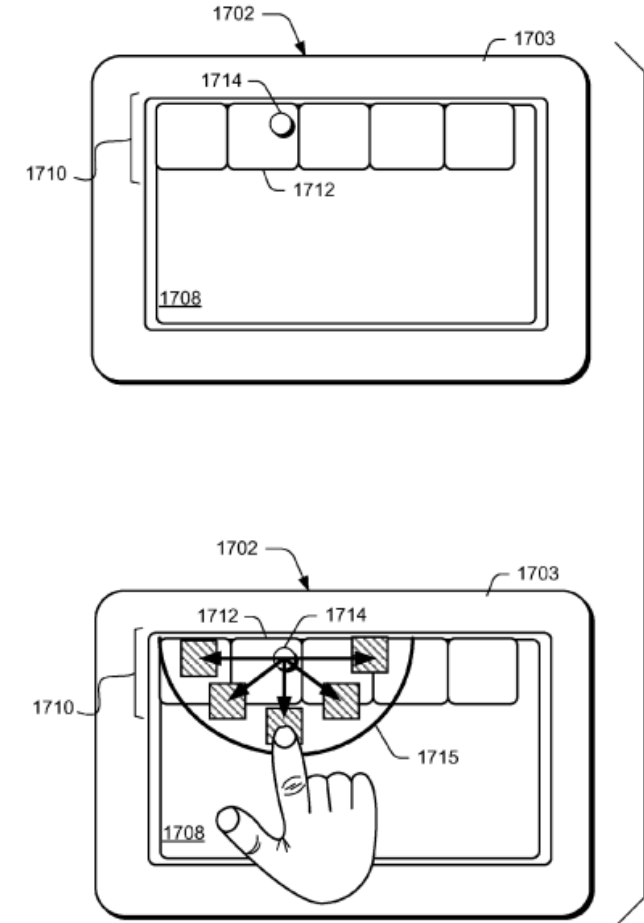
Hinckley discloses a bezel gesture and radial menu

Hinckley's bezel gesture



EX1006 at FIG. 6; POR at 20.

Hinckley's radial menu



EX1006 at FIG. 17; POR at 22.

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Radial menus were unpredictable



Andreas Schuderer

- Applications for pie menus are rare, but rewarding. One shouldn't be tempted to replace ordinary links or navigation with pie menus.
- Pie menus mustn't be used where they cannot be placed around the mouse cursor.
- Don't use pie menus if the set of menu items presented can change.
- Don't use pie menus near the border where a part of the menu may be cut off.
- Possible applications are not on ordinary not-particularly-interactive web sites

EX2012 at 4; POR at 23.



Mozilla Labs

Just replacing a rectangular context menu with a pie menu doesn't magically make everything better, though. In fact, it introduces a new set of problems that need to be solved.

I think hierarchical pie menus will be a big step forward. But another problem still remains. To understand what it is, [here is the third and last interactive demo](#). Give it a try.

Annoying, isn't it?

I don't have a good solution to this yet.

EX2009 at 4-5; POR at 23.



Dr. Rosenberg Declaration

72. Radial menus were rarely implemented outside of certain contexts

Possible applications for radial menus included interactive interface like video games (e.g., The Sims or weapon wheels—where a weapon can be replaced with a different weapon using the controller analog stick), Computer Aided Drafting (CAD) programs, or specific web applications (e.g., Songza or in a mail application). EX2012, 4; *see also* EX1006, ¶[0106], FIG. 17 (disclosing radial menu for interactive drawing or image processing application). But even the use of radial menus in very well thought-out interfaces encountered issues. *See* EX2012, 4 (pie menu options “are relatively hard to hit and interfere with dismissing the menu”). Thus, a POSITA would have been well-aware that substituting an established menu for a radial one was not simple and actually quite unpredictable as radial menus were notoriously difficult to implement.

EX2006 at ¶ 72; POR at 23.

Radial menus had known disadvantages

Pie Menus a Brief Examination

What are its Disadvantages?

This part of the report introduces some of the disadvantages inherent in Pie menu based systems.

1. The number of choices given by pie menus **will not scale well** above eight choices in a set top box system. This is due to the difficulty in associating label data with smaller pie segments as well as the increased difficulty in selecting segments using conventional control devices.
2. **Pie menus may take up more screen space on a display device** due to the expansion over two dimensions.
3. Many users will be unfamiliar with pie menus and may initially resist the concept.

EX2010 at 2; POR at 24.



Dr. Rosenberg Declaration

used where they cannot be placed around the mouse cursor.”). To illustrate, Jack Callahan 1988 study provides **a comparison between linear menus and pie menus** that depicts the significant additional space required to implement a pie menu.

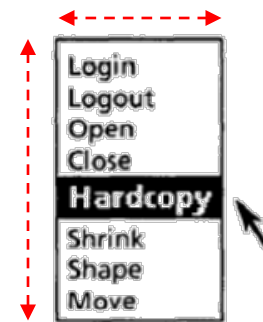


Figure 1: A typical linear menu

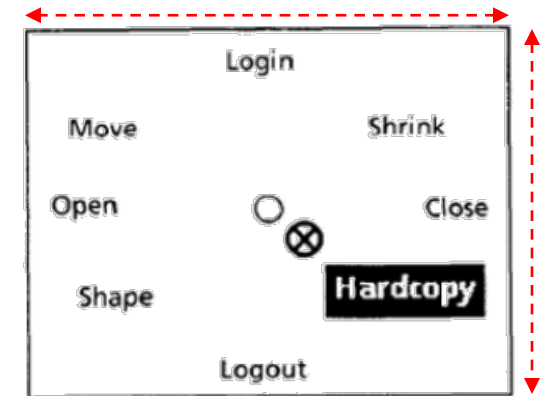


Figure 2: A crude pie menu

EX2013, 1. Thus, a POSITA would have understood that the implementation of radial menus would face more complications on smaller interfaces, like cellphones, where space was limited or in interfaces without external controls.

EX2006 at ¶ 73; POR at 24.

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Independent Claim 1 (and Claim 101)



Claim 1 – First Duration Operations

1. An electronic device comprising: ...

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

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

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

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



Plain Meaning

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

86. As discussed in Section VII.A.1, **the plain language** and structure of each claim mandates that: (1) each of the references to “**the** first duration of contact” must refer to the same contact and (2) each of the references to “**the** at least one [...] first menu items” must refer to the same menu item(s).

EX2006 at ¶ 83, 86; POR at 11, 26; sur-reply at 2-3.

Antecedent basis controls



“The subsequent use of definite articles ‘the’ or ‘said’ in a claim to refer back to the same claim term does not change the general plural rule, but simply reinvokes that non-singular meaning.

...

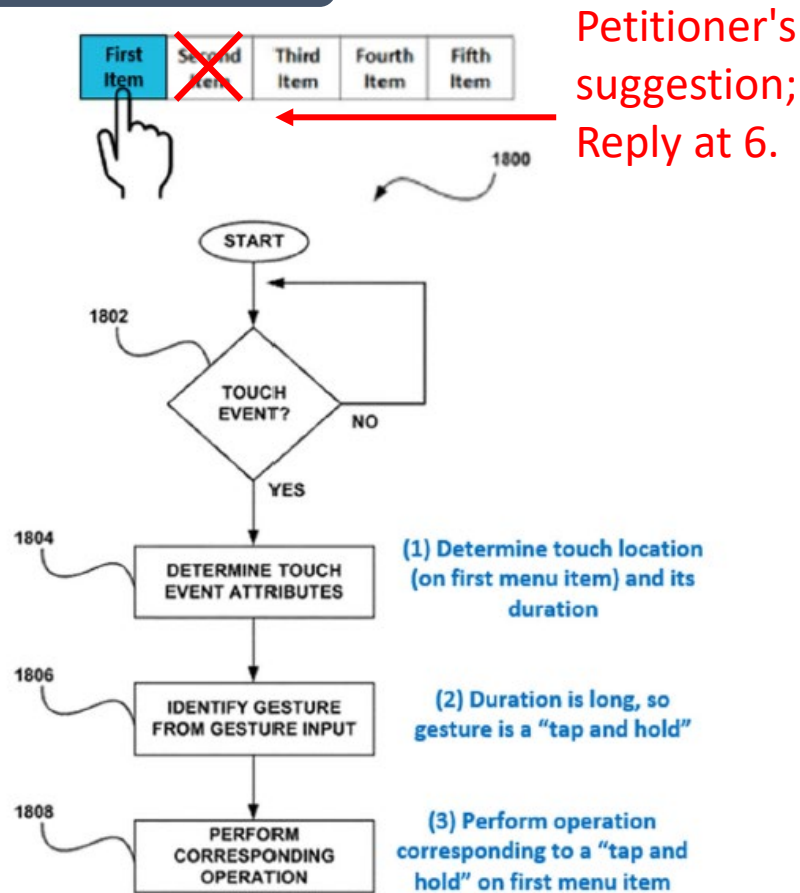
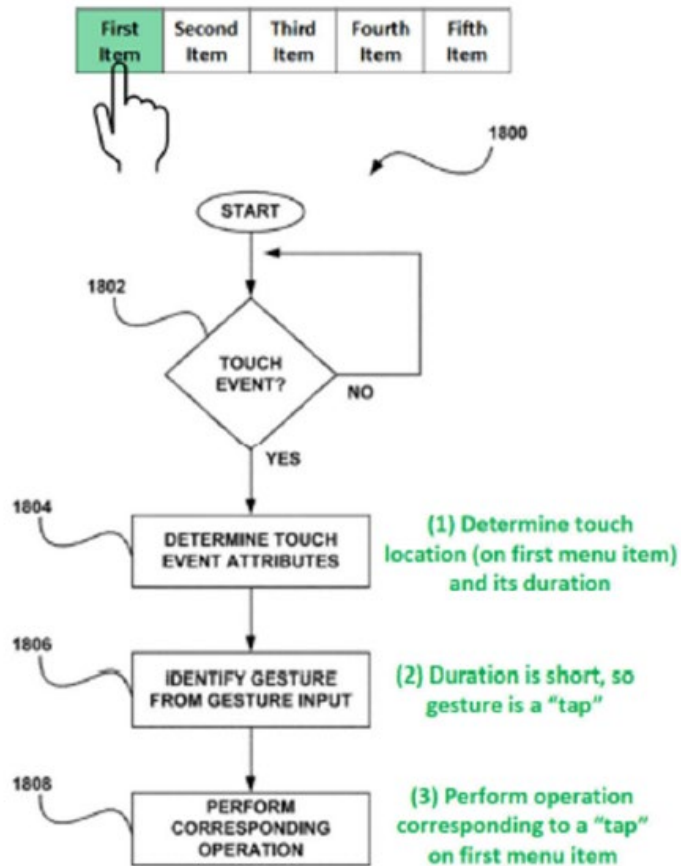
In grammatical terms, the instances of ‘said fabric roll’ in the claim are anaphoric phrases, referring to the initial antecedent phrase. Because the initial phrase carries no definitive numerosity, the anaphoric phrases do not alter that meaning in the slightest.”

Baldwin Graphic Sys., Inc. v. Siebert, Inc., 512 F.3d 1338, 1342–43 (Fed. Cir. 2008); sur-reply at 2.

The specification doesn't override antecedent basis principles



'413 Patent; Figure 18



Dr. Terveen Testimony

- A. So it's not required that ... both of those limitations are satisfied by a contact on the same starting point, the same item. But they could be satisfied by a contact on the same items.

EX2018, 32:20-33:2; sur-reply at 3.

EX1001 (Annotated); Compare reply 6 with sur-reply at 3.

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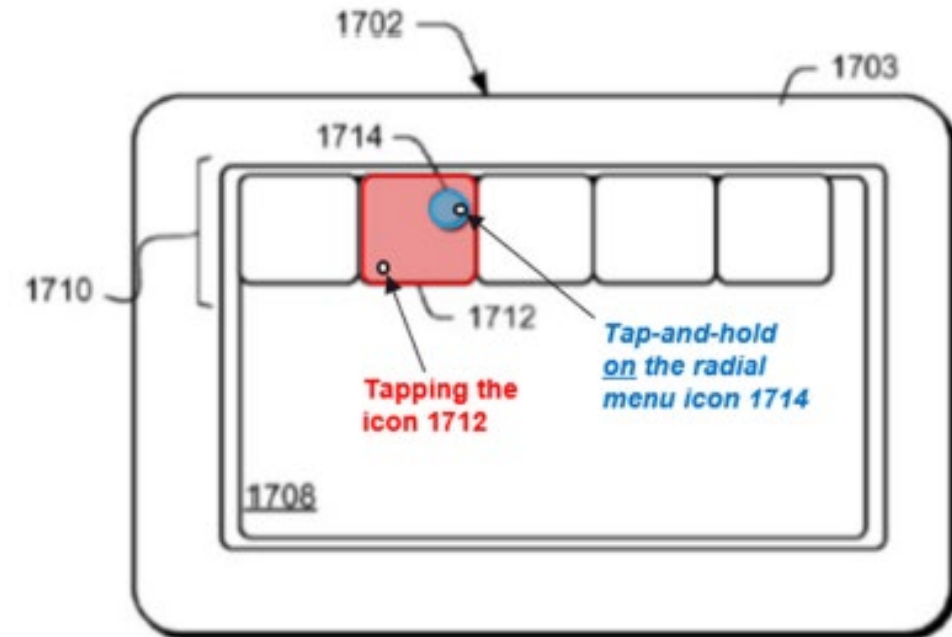
Petition maps to different contacts on different icons

Apple's Petition

EX1006, [0107]. From at least these teachings, a POSITA would have found obvious that, in at least one implementation of Hinkley's menus and gestures, tapping² the icon 1712 would have triggered one action, while a tap-and-hold gesture on the radial menu icon 1714 portion of icon 1712 would have triggered a different action (i.e., opening the radial menu 1715). EX1006, [0107]; EX1003, ¶[107].

Pet. at 51.

Hinkley (Annotated)



EX1006, Fig 17 (annotated); EX2006 at ¶ 85; Reply at 5.

Petition maps to different contacts on different icons



Petition’s Mapping Excluded Tapping on Radial Menu Icon

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

POR, 32

Overview

- '413 Patent
 - Multi-Part Pattern Based Gestures
 - Claims 1 and 101
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 - Ahn / Chaudhri / Hinckley
 - Radial Menus
- **First Duration Limitations**
 - Claim requires performing two operations in response to “the” first duration of contact
 - Petition Theory
 - **Reply Theory is New**
 - Petitioner’s combination is NOT a simple substitution
- Blurring Theory
- Sliding Theories
 - Ahn Theory fails
 - Hinckley Theory fails
- Petition’s Erroneous Mapping of Claim 101

Petition vs. Reply Theory: Two Changes

Apple's Petition

“[I]con or slot 1712 includes a radial menu icon 1714 that gives a clue to the user that one or more radial menus, for example radial menu 1715, is associated with this particular icon or slot.” EX1006, [0107]. In some implementations, “[t]he radial menus 1715 can be accessed through a tap-and-hold of the pen or finger on or near the radial menu icon 1714.” EX1006, [0107]. Additionally, selecting “the radial menu icon [1714] triggers a default action which may...be different than the action associated with tapping on the bezel menu slot [1712].” EX1006, [0107]. From at least these teachings, a POSITA would have found obvious that, in at least one implementation of Hinkley’s menus and gestures, tapping² the icon 1712 would have triggered one action, while a tap-and-hold gesture on the radial menu icon 1714 portion of icon 1712 would have triggered a different action (i.e., opening the radial menu 1715). EX1006, [0107]; EX1003, ¶[107].

Pet. at 50-51.

Apple's Reply

Before the radial menu is open, Hinkley explains that tapping radial menu icon 1714 could have performed the same operation as tapping anywhere else within slot 1712. EX1023, [20]-[21]. Specifically, Hinkley teaches that “the radial menus 1715 can be accessed through a tap and-hold of the pen or finger on or near the radial menu icon 1714,” whereas “tapping on the radial menu icon triggers a default action which...may not be different than the action associated with tapping on the bezel menu slot.” EX1006, [0107]. In other words, tapping anywhere inside menu slot 1712, including radial menu icon 1714, would activate a common default action ([1.e.ii]), whereas tapping and holding on or near the radial menu icon 1714 of menu slot 1712 opens the radial menu 1715 ([1.e.iii]). EX1023, [19]-[20].

Reply at 8.

1 - Hinckley discloses mutually exclusive embodiments

Dr. Terveen Testimony

Q. Q. And are those alternative embodiments? Or alternative ways, you said? I mean, I guess what I'm getting at here is there is -- there is this "may or may not." And so, I guess in your testimony, is it your understanding that there is a kind of one way to build it, or it's the same, and then another way to build it or it's different?

...

A. So then, to answer your question, I think Hinckley is saying, I mean, maybe the language is a little inartful the way it's written, but Hinckley says: "In some embodiments, tapping on the radial menu icon triggers a default action which may or may not be different than the action associated with tapping on the bezel menu slots." It's got to be one or the other. It may or may not be different. It's almost just a logical requirement. It has to be the same or it has to be different. There is no other possibility.

EX1028; 60:1-62:3; sur-reply at 4.

2 – The Petition did not map include “or near”

Apple's Petition

- Pet., 51: “a tap-and-hold gesture **on** the radial menu icon 1714”
- Pet., 53: “tapping and holding **the** radial menu icon portion”
- Pet., 54: “a tap-and-hold **on** the radial menu icon portion”
- Pet., 54: “tapping and holding the radial menu icon 1714”
- Pet., 55: “a tap-and-hold **on** the radial menu icon”

Pet. at 51-55.

Dr. Terveen Testimony

- Q. Does page 74 of your original declaration say “or near?”
- A. Let's see. **That does not say that.** I know that I say -- I give the full quote from Hinckley, other places in my original declaration and in my reply declaration, which does not include the language of a tap and hold on or near the radial icon 1714.

EX2018 at 27:13-20; sur-reply at 7.

Petitioner may not change its mapping in Reply



“‘Respond,’ in the context of 37 C.F.R. § 42.23(b), does not mean embark in a new direction with a new approach as compared to the position originally taken in the Petition. Accepting such belatedly presented new arguments would be unjust to the Patent Owner and we decline to do so.”

Apple Inc. v. eWatch, Inc., IPR2015-00412, Paper 50, 44 (PTAB May 6, 2016); sur-reply at 7.



“Unlike district court litigation—where parties have greater freedom to revise and develop their arguments over time and in response to newly discovered material—the expedited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to institute. While the Board’s requirements are strict ones, they are requirements of which petitioners are aware when they seek to institute an IPR.”

Intelligent Bio-Systems, Inc. v. Illumina Cambridge, Ltd., 821 F.3d 1359, 1369 (Fed. Cir. 2016); sur-reply at 7.

Axonics does not permit Petitioner's change

POPR

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

POPR, 23-24

POR

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

POR, 26

Institution Decision

Petitioner and Patent Owner contend that no claims need to be construed in order to resolve a controversy. Pet. 4–5; Prelim. Resp. 6–7. We agree with the parties that no terms need to be construed expressly for this Decision.

D.I., 9



Axonics

“Axonics ... adopted a ‘one-input’ claim construction”

“Medtronic filed a preliminary response to the petition arguing that Axonics had failed to show ... an input anticipating the ‘wherein’ limitations **under the one-input construction**”

Board, in its institution decision, agreed that “no term requires express construction.”

“Medtronic, in its patent owner response, **for the first time** advanced a claim construction that each of the two ‘wherein’ clauses in the challenged independent claims required a separate input **(what we will refer to as the ‘two-input’ construction).**”

“Unlike the preliminary response, the final response **largely abandoned** the argument that the petition had failed to show the prior art references satisfied the one-input construction.”

Axonics, 75 F.4th at 1378; sur-reply, 8.

Axonics does not permit Petitioner's change



“We hold that where a patent owner in an IPR first proposes a claim construction in a patent owner response, a petitioner must be given the opportunity in its reply to argue and present evidence of anticipation or obviousness under the new construction, at least where it relies on the same embodiments for each invalidity ground as were relied on in the petition.”

Axonics, Inc. v. Medtronic, Inc., 75 F.4th 1374, 1384; Paper 19, at 2.

- Patent Owner addressed the “plain language” of the claims. POR at 26-27.
- The Board noted “no terms need to be construed.” D.I., at 9.



“Petitioner may not submit new evidence or argument in reply that it could have presented earlier, e.g. to make out a prima facie case of unpatentability.”

Consolidated Trial Practice Guide at 73; sur-reply at 8-9.

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Radial menu icon 1714 is not accessible before the radial menu is deployed



Dr. Rosenberg Declaration

97. Hinckley’s description of “tapping on the radial menu icon [no identifier]” in paragraph [0107] describes an operation after the radial menu 1715 is open.⁹ EX1006, ¶[0107].

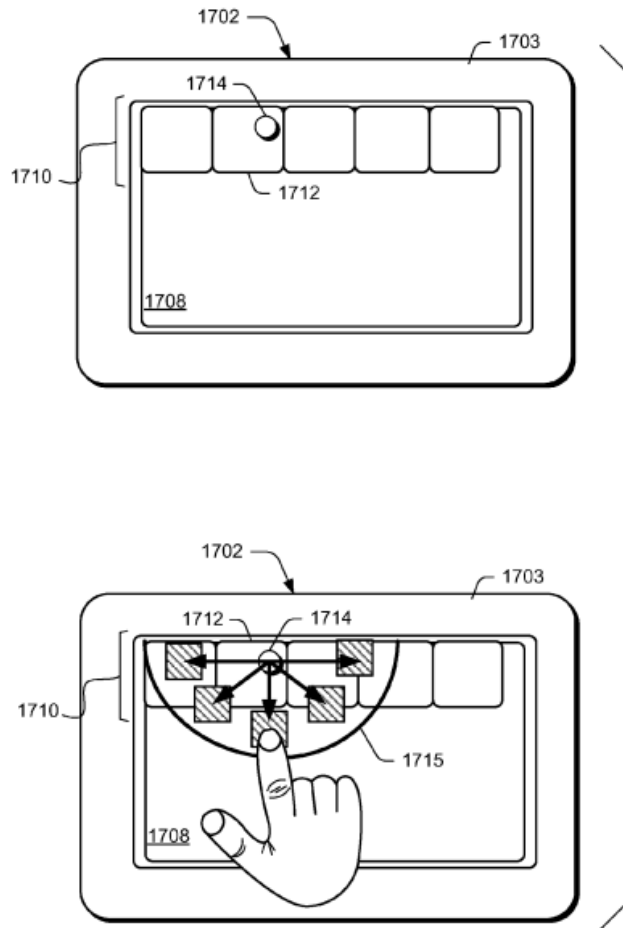
98. Hinckley’s paragraph [0107] explains that “the radial menu 1715 can be accessed in any suitable way,” and then provides three illustrative methods of access: hovering a pen, pulling down, and tap-and-hold. EX1006, ¶[0107]. After describing how the radial menu 1715 can be opened, Hinckley states that users can tap the icons within the radial menu to trigger specific actions. *Id.* A POSITA would have understood this passage to disclose that tapping on the radial menu icon occurs after radial menu 1715 has been accessed.

EX2006 at ¶¶ 97-98; POR at 34; sur-reply at 10.

Petitioner's interpretation would lead to errors



Hinckley's radial menu



EX1006 at FIG. 17; POR at 22.



Dr. Terveen Supplemental Declaration

“[A]ssigning functions to both a tap on icon 1712 and a tap on radial menu icon 1714” only leads to error where the functions are different. As I described in my

EX1023 at ¶22; sur-reply at 10.



Dr. Rosenberg Declaration

100. In contrast, a POSITA would understand that assigning functions to both a tap on icon 1712 and a tap on radial menu icon 1714, when the radial menu 1715 is not deployed, would lead to a relatively high error rate due to the small size and close proximity of the two objects. A POSITA, therefore, would have

EX2006 at ¶¶ 100; POR at 35; sur-reply at 10.

Petitioner's "dead zone" is commensurate with Hinckley's Teachings



Petitioner's Theory

If tapping on radial menu icon 1714 did not result in performance of any function before the radial menu is open, it would **create an unintuitive dead-zone** within slot 1712 corresponding to radial menu icon 1714, leading to increased error rates.

[Reply, 9](#)



Dr. Terveen Testimony

A. ... So what Hinckley is saying there is that a designer – being guided by Hinckley's teaching, in certain contexts, you might decide not to assign, or to make particular parts of a bezel in this case **insensitive to any gestures**, to particular gestures

[EX2018 at 38:9-21; sur-reply at 11, 14.](#)



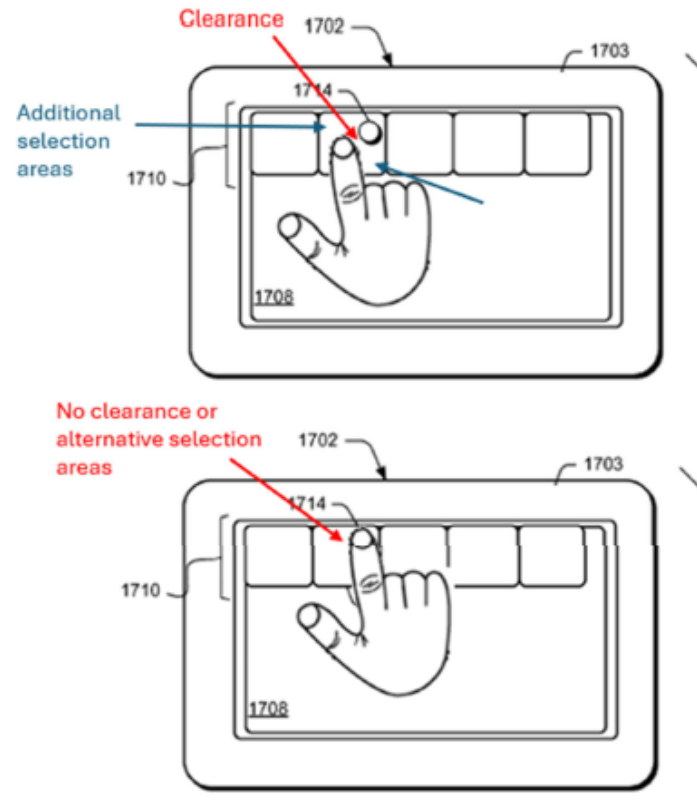
Hinckley

Furthermore, input received in different regions of a bezel side might be mapped to different functionality or to **no functionality at all** depending on the orientation of the device and how the user is holding it. Some bezel edges may be **left unsigned** or may be **insensitive to touch-and-hold**, so that **inadvertent operations will not be triggered**. Thus, any one particular side of the bezel might be utilized to receive input and, accordingly map that input to different functionality depending on what region of the bezel receives the input. It is to be appreciated and understood that input received via the bezel can be received independent of any input received via hardware input devices, such as buttons, track balls, and other instrumentalities that might be located on an associated device. Further, in at least some embodiments, input received via the bezel can be the only user input that is utilized to ascertain and access a particular functionality.

[EX1006 at ¶ 106; sur-reply at 11, 14.](#)

“Dead-zone” would not cause errors

Hinckley (Annotated)



EX1006, FIG. 17 (top half, duplicated and annotated).

EX1006, Fig 17 (annotated); sur-reply at 12.

Radial menu icon 1714 is not accessible before the radial menu is deployed



Hinckley

[0107] As noted above, bezel menu 1710 can enable a user to access and activate commands, tools, and objects. The bezel menu can be configured to respond to both touch input and pen input. Alternately or additionally, the bezel menu can be configured to respond only to touch input. In the illustrated and described embodiment, icon or slot 1712 includes a radial menu icon 1714 that gives a clue to the user that one or more radial menus, for example radial menu 1715, is associated with this particular icon or slot. In the illustrated and described embodiment, the radial menu 1715 can be accessed in any suitable way, e.g. through a pen or touch. For example, in at least some embodiments, the radial menu 1715 can be accessed by hovering a pen over or near radial menu icon 1714. Alternately or additionally, a pen or finger can be used to pull down the radial menu 1715. Alternately or additionally, the radial menus 1715 can be accessed through a tap-and-hold of the pen or finger on or near the radial menu icon 1714. In some embodiments, tapping on the radial menu icon triggers a default action which may or may not be different than the action associated with tapping on the bezel menu slot.

EX1006 at ¶ 107; sur-reply at 12-13.



Hinckley

[0108] Once the radial menu 1715 is exposed, the user can access various functionalities or commands by touching down on or near radial menu icon 1714 and stroking in a particular direction. In the illustrated and described embodi-

EX1006 at ¶ 108; sur-reply at 12-13.

Discussions of opening and interacting with radial menu 1715

Petitioner's contrary suggestion

Petitioner's new “or near” mapping still fails

Apple's Petition

- Pet., 51: “a tap-and-hold gesture **on** the radial menu icon 1714”
- Pet., 53: “tapping and holding **the** radial menu icon portion”
- Pet., 54: “a tap-and-hold **on** the radial menu icon portion”
- Pet., 54: “tapping and holding the radial menu icon 1714”
- Pet., 55: “a tap-and-hold **on** the radial menu icon”

Pet. at 51-55.

Sur-Reply

If Hinckley was programmed to recognize a tap-and-hold **near** radial menu icon 1714 as being equivalent to a tap-and-hold **on** radial menu icon 1714, then it would also treat a tap **near** radial menu icon 1714 as being equivalent to a tap **on** radial menu icon 1714. Petitioner's only support for its position is that “Hinckley does not limit this tapping to portions of menu slot 1712 a certain distance from radial menu icon 1714” (i.e., Hinckley is silent on this operation).

Sur-reply at 14-15.

Petitioner's new “or near” mapping still fails



Hinckley

Silence on tapping icon 1712 a certain distance from icon 1714.

EX1006.



“We see no error in the Board's conclusion. Record evidence suggests that Oselin could use signals of either constant or nonconstant frequency. Oselin is thus ambiguous as to whether it discloses the pertinent features of claim 6. HN7 Ambiguous references do not anticipate a claim.”

Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc., 853 F.3d 1272, 1284; sur-reply at 15.

“Where, as here, the only question presented is whether due consideration of the four *Graham* factors renders a claim or claims obvious, no burden shifts from the patent challenger to the patentee. This is especially true where the only issues to be considered are what the prior art discloses, whether there would have been a motivation to combine the prior art, and whether that combination would render the patented claims obvious..”

In re Magnum Oil Tools Int'l, Ltd., 829 F.3d 1364, 1376 (Fed. Cir. 2016) ; sur-reply at 15.

“Accordingly, ‘a conclusory assertion with no explanation is inadequate to support a finding that there would have been a motivation to combine’ because ‘[t]his type of finding, without more, tracks the *ex post* reasoning *KSR* warned of and fails to identify any actual *reason* why a skilled artisan would have combined the elements in the manner claimed.”

TQ Delta, LLC v. Cisco Sys., 942 F.3d 1352, 1359 (Fed. Cir. 2019) ; sur-reply at 15.

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Petitioner's Ahn-Hinckley combination rests on a “simple substitution”

Apple's Petition

First, a POSITA would have recognized that the side menus described in Ahn and the bezel menus described in Hinkley are similar user interface objects, and therefore that the techniques described in Hinkley with respect to its bezel menus would have been equally beneficial in the context of Ahn's side menus, and would have provided beneficial implementation details otherwise left unspecified in Ahn. EX1003, ¶[64].

Pet. at 24.

Apple's Petition

Moreover, Hinkley's teachings about bezel menus and radial sub-menus are largely consistent with the menus and sub-menus described by Ahn. EX1003, ¶[109]. That is, a POSITA would have recognized the parallel between the first menu list 1700 and second menu list 1710 described by Ahn's FIG. 17, and the bezel menu 1710 and radial menu 1715 described by Hinkley's FIG. 17. *Id.*; see also EX1004, [0085]; EX1006, [0107].

Pet., 52

Apple's Petition

Second, given the similarity of context and the problems being solved in each of Ahn and Hinkley (e.g., intuitively and efficiently displaying user interface elements such as menus on a touch screen computing device), and the similar manner in which each of Ahn and Hinkley describe solving that problem (e.g., touching and dragging/swiping a finger on the touch screen in a particular direction and/or from a particular location), a POSITA would have understood that utilizing the techniques described in Hinkley with respect to the gesture module 104 and bezel gesture module 105 (e.g., the implementation and operation of the bezel menus and radial menus) would have been a simple substitution of one known element for another to obtain predictable results. EX1003, ¶[67]; *In re ICON*

Pet. at 26.

The Ahn-Hinckley combination is NOT a simple substitution



Dr. Rosenberg Declaration

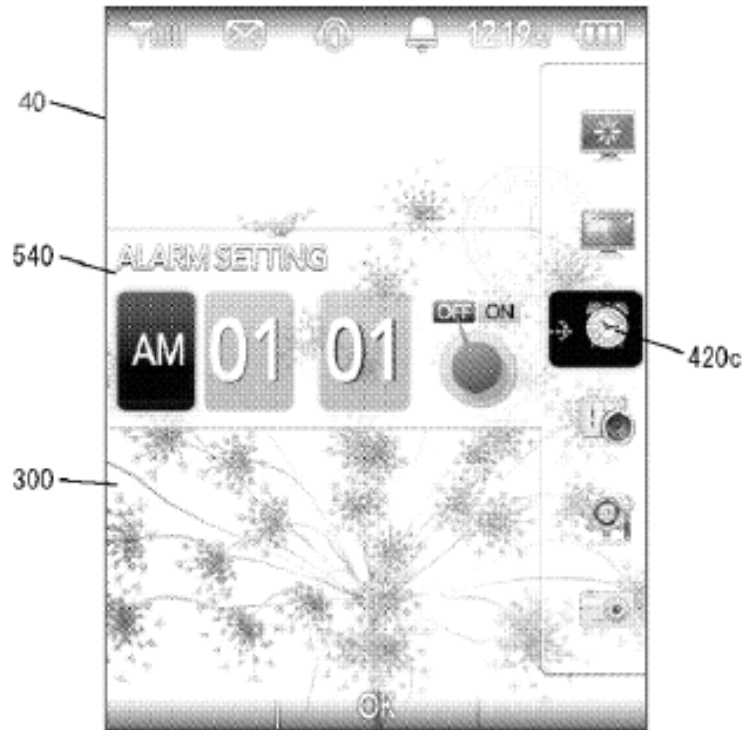
113. A POSITA would have understood that simply substituting Hinckley's bezel and radial menu for Ahn's menu would not yield predictable results as this substitution would yield further problems that are not addressed by the art or Dr. Terveen. EX2009, 4 ("Just replacing a rectangular context menu with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

EX2006 at ¶ 113; POR at 41.

Radial alarm menu?

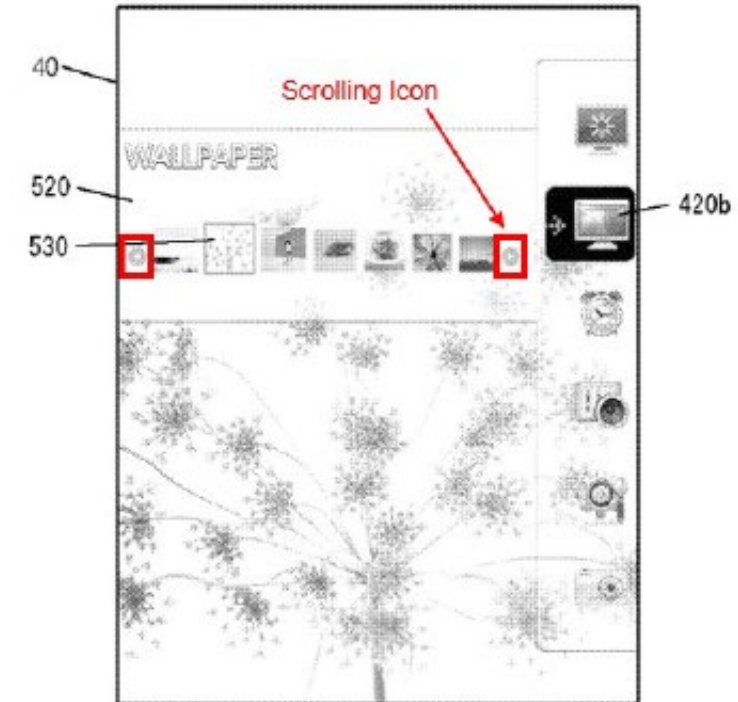
Radial standby screen setting menu?

Ahn – Alarm sub-menu 420c



EX1006 at FIG. 5D; EX2006 at ¶¶ 115-16; POR at 43.

Ahn – Standby screen setting menu 420b



EX1006 at FIG. 5B; EX2006 at ¶¶ 115-16; POR at 44.

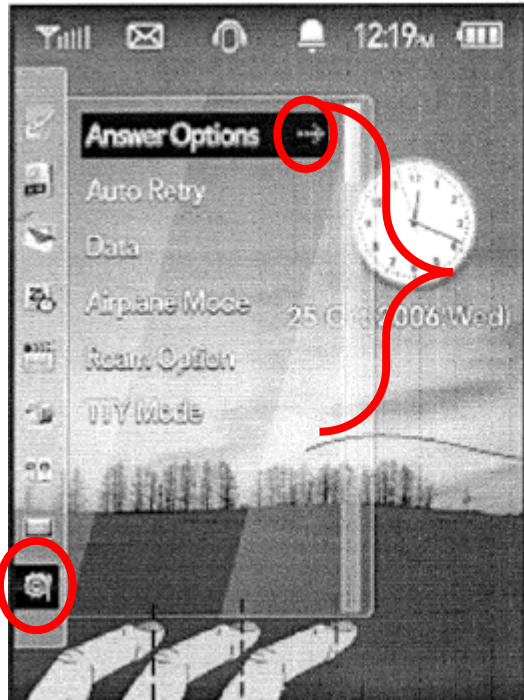
Accordingly, the implementation and operation of the bezel menus and radial menus would not have been merely a simple substitution

POR, 45

Ahn's functionality was limited in a radial menu



Ahn's menu 1710 as a radial menu



1710

EX1004 at FIG. 17; POR at 43, 47, 48, 50; EX2006, ¶¶120-121.



Dr. Rosenberg's Unpredictability

119. Nevertheless, a POSITA would have understood that using a radial menu “as ... an alternative” (EX1003, ¶109) to Ahn's second menu list 1710 was inapplicable and would have decreased the functionality of Ahn's device.

- Lacks functionality to display further sub-menus
- Cramped spacing would lose the benefits of Hinckley's radial menu
- Radial menu would be inappropriate for launching applications or Ahn's single command operations
- Unable to access icons displayed in menu 1700

EX2006, ¶¶118-125; POR, 46-51

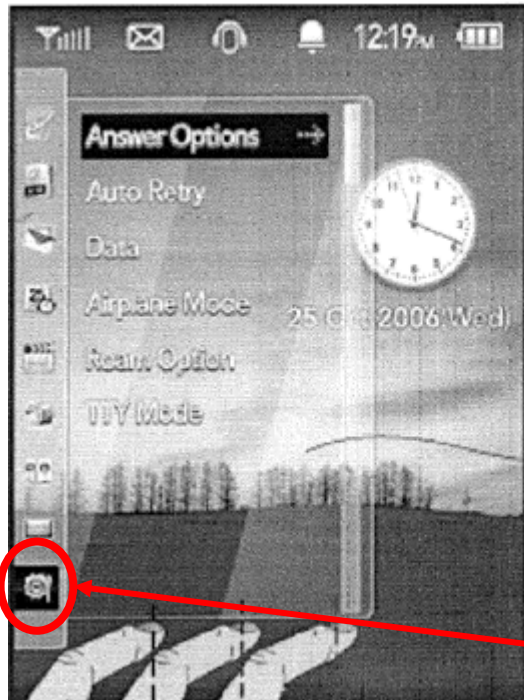
Thus, the implementation and operation of the bezel menus and radial menus would not have been “a simple substitution.”

POR, 51

Petitioner's combination is unexplained



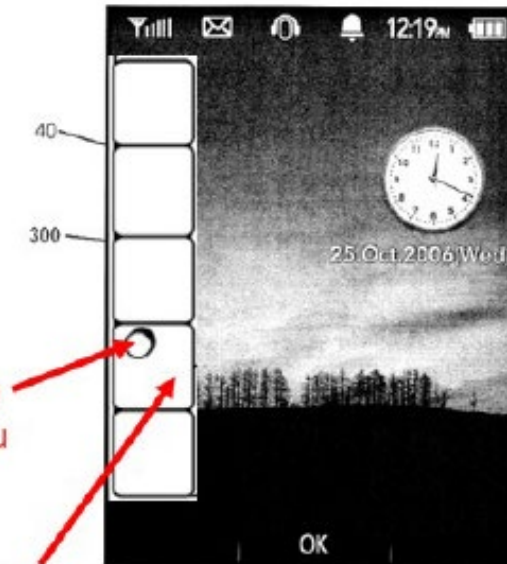
Ahn's menu doesn't have a second operation



1710

Opens sub-menu 1710

FIG. 3A



EX1004, FIG. 17; POR, 54

Petitioner ignores these differences in functionality and contends Ahn and Hinckley's menus can simply be substituted for one another; but a POSITA would understand that this was not the case.

POR, 53

Patent Owner does NOT argue bodily incorporation is required

Patent Owner Response

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

See e.g. POR at 45.



“Although proof of physical or bodily incorporation is not required, a satisfactory explanation of ‘how the combination of the . . . references [is] supposed to work’ is necessary to support ‘a conclusion that a relevant skilled artisan would have been motivated to make the combination and reasonably expect success in doing so.’”

Visa, Inc., v. Cortex MCP, Inc., IPR2024-00488 Paper 31 at 44 (PTAB July 22, 2025) (quoting *Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017)); sur-reply at 16-17.

Hinckley's' techniques are NOT beneficial to Ahn: novice and expert (gestural) modes



Dr. Terveen Testimony

- Q. And so, is it fair to say that the novice and the expert modes of the bezel menu are independent of the inclusion of any radial menu or radial menu icon?
- A. Well, I -- if by "independent," you mean novice and expert mode could be used with bezel menus that had radial menu icons, and therefore, radial menu submenus, and bezel menus that did not have radial menu icons, I would agree.

EX2018 at 54:13-21; sur-reply at 18.



Dr. Rosenberg Declaration

108. The gestural modes associated with the radial menu are also unrelated to Dr. Terveen's modifications in Limitations [1.e.i-iii]. EX1003, ¶¶100-115. In the novice mode, the user would tap-and-hold icon 1714 to access radial menu 1715 and then remove their finger to assess the menu. EX1006, ¶¶[0080], [0110]. And, in the expert mode, the user would tap-and-hold-and-drag icon 1714 in the direction associated with the target function before the radial menu opens. EX1006, ¶[0110]. This functionality (and any associated benefits) would not result from a tap of icon 1712 as asserted by Dr. Terveen (Dr. Terveen's Second Modification) or a tap of icon 1714 as asserted by the Board. The benefit of the novice/expert mode is unrelated to the modification to tap on an icon to perform one action or tap-and-hold to perform another action. Both novice and expert use a tap-and-hold and don't rely on the tap of an icon.

EX2006 at ¶ 108; POR at 35; sur-reply at 17.

Hinckley's' techniques are NOT beneficial to Ahn: Bezel Gestures



Dr. Terveen Testimony

Q. The radial menu is not deployed by bezel gesture; is it?

A. That's -- that's correct. The radial menu is deployed or activated through a different type of touch contact.

EX2005 at 72:7-12; POR at 40.

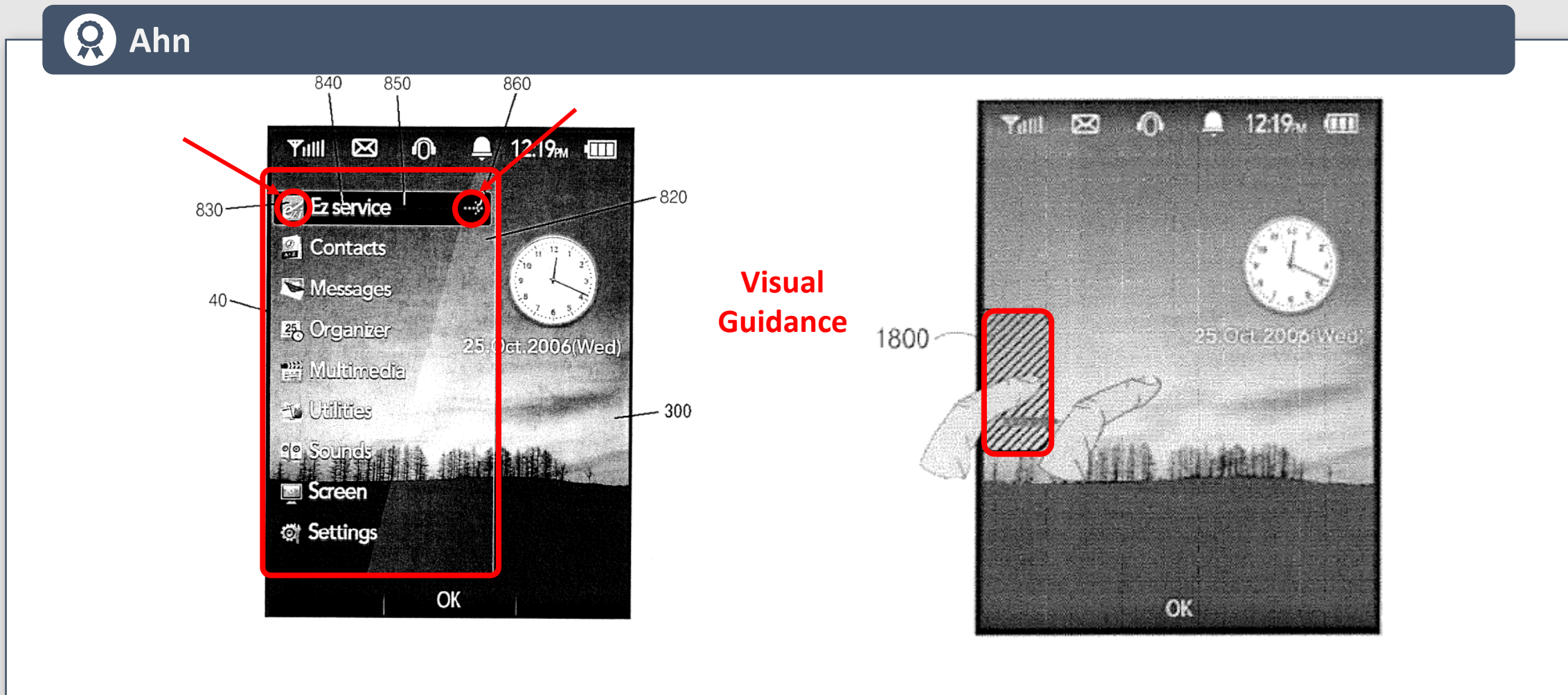


Dr. Rosenberg Declaration

112. However, these bezel gestures are distinct from the design of Hinckley's menus and are not utilized at all with respect to Hinckley's radial menu. EX2005, 72:7-12. Accordingly, the benefits associated with the functionality of bezel gestures or distinguishing between bezel and non-bezel gestures do not explain why a POSITA would have been motivated to "include the multiple selectable icons or slots described by Hinkley and that at least one of the selectable icons or slots would be associated with a radial menu icon as described by Hinkley" or "implement Ahn's mobile communication terminal 100 such that tapping the icon would have triggered one action, while tapping and holding the radial menu icon portion of that same icon would have triggered a different action" (EX1003, ¶110).

EX2006 at ¶ 112; POR at 40-41; sur-reply at 10.

Visual guidance does not explain why to implement a radial menu



EX1004 at FIGs. 8C, 18(a); sur-reply at 19.

Petitioner fails to show radial menus are suitable for Ahn



Dr. Terveen Supplemental Declaration

33. The prior art, including that cited by Dr. Rosenberg, demonstrates that POSITAs knew radial/marking menus had design trade-offs with respect to traditional linear menus. *Compare* EX2010, 2 (comparing advantages of pie menus like “equal level of ease in selecting any menu option” to disadvantages like “[t]he [limited] number of choices given by pie menus”). Taken together, a POSITA would have recognized that radial/marking menus present a suitable option in the context of mobile devices—like the one taught by Ahn—and would have utilized them where their advantages were consistent with the POSITA’s implementation goals.

EX1023 at ¶22; sur-reply at 10.

Radial menus are NOT marking menus

Petitioner's alleged benefits are only related to marking menus
where are distinct from radial menus

Reply, 17-18 (citing EX1027; EX1028; EX1029; EX1030, EX1031, EX1032);
sur-reply, 20

Dr. Rosenberg

³ Marking menus, which were similar to radial menus, and included additional complexities were also used in certain contexts, like CAD programs, but are not referenced in this record and distinct from the radial menu described in Hinckley.

EX2006 at ¶72; sur-Reply at 20.

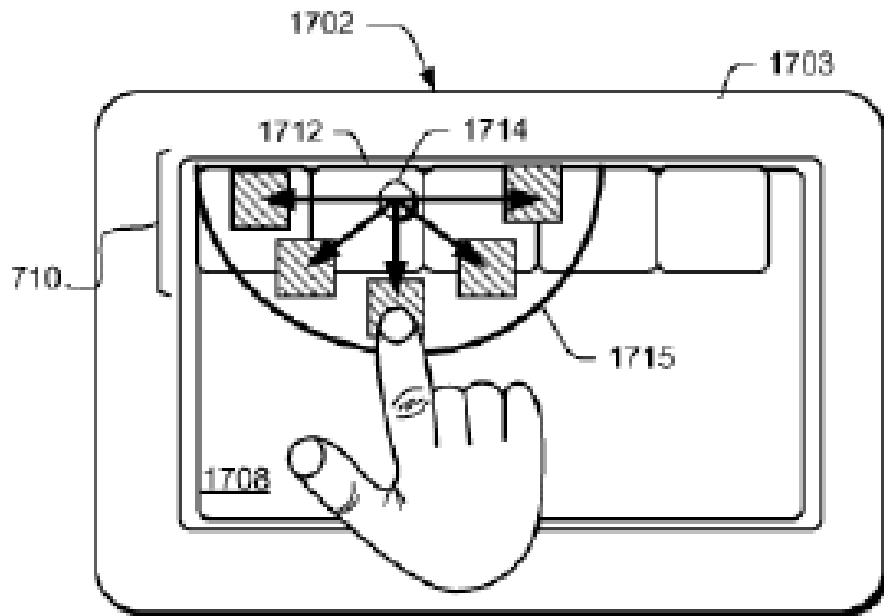
Zhao (Petitioner cited)

Extensive research
[6, 7, 11] has shown that marking menus have significant
advantages over regular pie/radial menus and linear menus,

EX1031, 1; sur-reply at 20.

Radial menus are NOT marking menus

Radial Menu



EX1006 at Fig. 17; POR at 22.

Marking Menus



Fig. 1. Pigtail splits the user's gesture into a lasso, which here selects the ink, and a mark, which here chooses the Copy command from 8 possibilities.

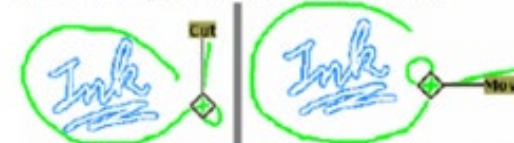


Fig. 2. Drawing the tail in different directions chooses other commands. Left: Cut is north; Right: Move is east.



Figure 2. Free-form gestures (left) incl. pigtail [35], spiral [36], downward caret [17], Z [37], X [38], upward caret [38], "delete" [38], "squiggle" [17], and "redo" [28]. Mark-based gestures (right). Dots indicate start of each gesture.

EX1026; EX1027; sur-reply at 21.

Petitioner cannot show obviousness by merely pointing to the elements in the art



“Most inventions arise from a combination of old elements and each element may often be found in the prior art. *Id.* at 1357. However, mere identification in the prior art of each element is insufficient to defeat the patentability of the combined subject matter as a whole. *Id.* at 1355, 1357. Rather, to establish a prima facie case of obviousness based on a combination of elements disclosed in the prior art, the Board must articulate the basis on which it concludes that it would have been obvious to make the claimed invention. *Id.* In practice, this requires that the Board ‘explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.’”

In re Kahn, 441 F.3d 977, 986 (Fed. Cir. 2006); sur-reply at 22.

“Without any explanation as to how or why the references would be combined to arrive at the claimed invention, we are left with only hindsight bias that KSR warns against. See *KSR*, 550 U.S. at 421. And while we understand that ‘[t]he obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation,’ we also recognize that we cannot allow hindsight bias to be the thread that stitches together prior art patches into something that is the claimed invention.”

Metalcraft of Mayville, Inc. v. The Toro Company, 848 F.3d 1358, 1367 (Fed. Cir. 2017); sur-reply at 22.

Overview

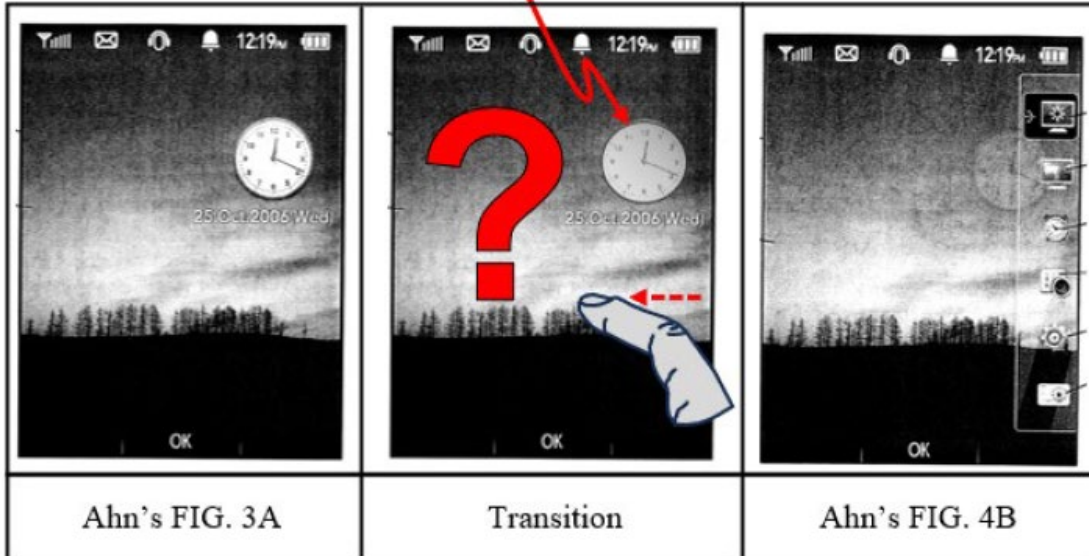
- '413 Patent
 - Multi-Part Pattern Based Gestures
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 - Petition Theory
 - Reply Theory
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- Sliding Theories
 - Ahn Theory fails
 - Hinckley Theory fails
- Petition’s Erroneous Mapping of Claim 101

Modification does not show progress



Petitioner's Modification

Clock cannot provide indication of "progress" or associated operation of gesture

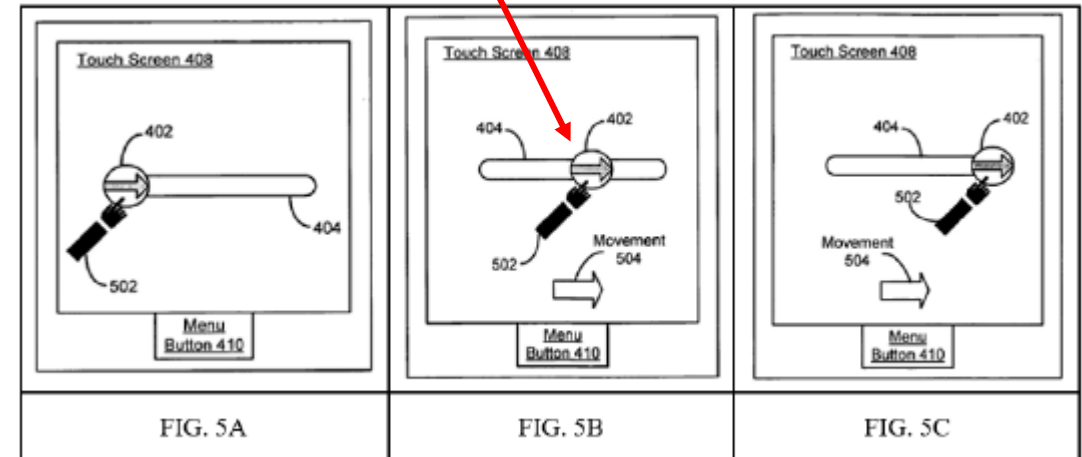


EX1005 at ¶¶ 76, 79; sur-reply at 27.



Chaudhri

60-70% progress



EX1005 at FIG. 3; sur-reply at 28.

Chaudhri's transition is *after* an unlock gesture

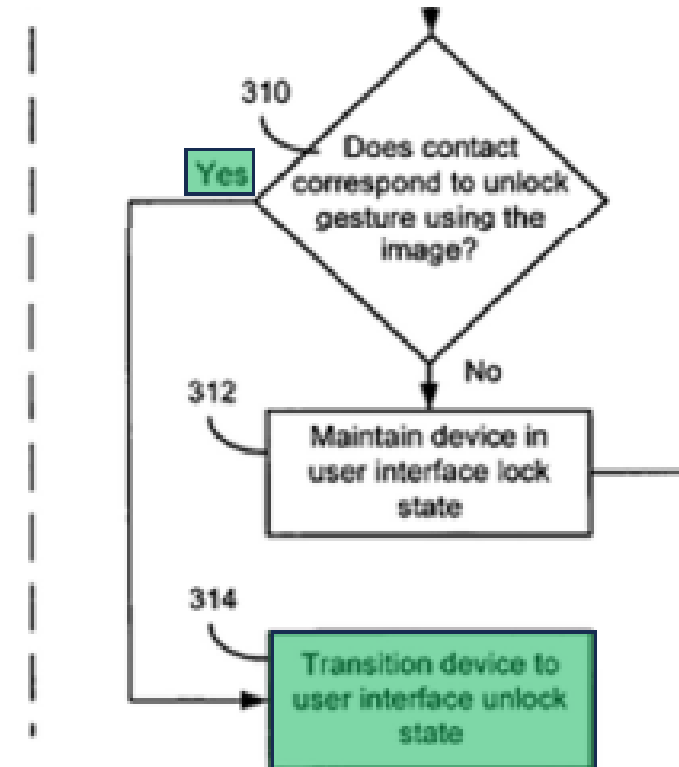
Chaudhri

404, the unlock action is complete. Upon completion of the unlock gesture, the device unlocks and displays on the touch screen 408 user-interface objects associated with normal operation of the device 400. FIG. 5D illustrates an example

include a hold or pause feature. In some embodiments, 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). The fade in and fade out may occur smoothly over a pre-determined time interval, such as 0.2 s, 1s or 2s. The pre-determined time interval may be in accordance with the unlock gesture, such as the time it takes the user to perform the gesture. Indication of Progress Towards Satisfaction of a User Input Condition

EX1005 at ¶¶ 76, 79; sur-reply at 27.

Chaudhri (annotated)



EX1005 at FIG. 3; sur-reply at 28.

Petitioner fails to show an “obvious to try” theory



“To prove obviousness under an obvious to try theory, Alkem must show (1) a design or market need to solve a particular problem, and (2) that ‘there are a finite number of identified, predictable solutions’ that would lead to an expectation of success.”

Grunenthal GMBH v. Alkem Labs. Ltd., 919 F.3d 1333, 1345 (Fed. Cir. 2019); sur-reply at 29.



Apple’s Petition

Fourth, a POSITA would have known that varying optical intensity for a user interface object (e.g., the blurring of Ahn’s clock widget) as a function of the magnitude of the user’s touch and drag gesture would have been one of a limited number of ways of implementing the blurring effect shown in FIGS. 4B, 10, and 13B of Ahn. EX1003, ¶[62]; *Uber Technologies, Inc. v. X One, Inc.*, 957 F. 3d 1334, 1339-40 (Fed. Cir. 2020). Either a POSITA could have implemented the blurring effect in a binary fashion (e.g., toggling instantaneously between unblurred and blurred) or progressively varied the blur as a function of the user’s gesture, as taught by Chaudhri-842. EX1003, ¶[62].

NO PROBLEM

Pet. at 22-23.

Petitioner fails to show an “obvious to try” theory



“To prove obviousness under an obvious to try theory, Alkem must show (1) a design or market need to solve a particular problem, *and* (2) that ‘there are a finite number of identified, predictable solutions’ that would lead to an expectation of success.”

Grunenthal GMBH v. Alkem Labs. Ltd., 919 F.3d 1333, 1345 (Fed. Cir. 2019); sur-reply at 29.

Further, Dr. Terveen’s framing of blurring as being “binary” (EX1003, ¶62) is incorrect and unsupported. There are numerous ways to “blur” an object that are not progressively as a function of the user’s gesture. For example, blurring after a keypad input (EX1004, ¶¶[0049]-[0051]); providing an intermediate animation before the blurring operation (EX1004, FIG. 4A); blurring the object instantaneously at the start of the gesture, during the gesture, or after the gesture is complete; blurring gradually at the start of the gesture or after the gesture, blurring over a predetermined time (EX1005, ¶[0079]) at the start, during, or after the gesture.

Sur-reply at 29-30.

Dr. Terveen’s

blatant neglect of alternatives does not somehow narrow the choices to two. Moreover, if the problem/solution is viewed without hindsight narrowing (e.g., diminishing an object’s presence when opening a menu), there are countless alternatives to blurring which further undermine Dr. Terveen’s false binary.

Sur-reply at 30.

Dr. Terveen’s contrived finiteness.

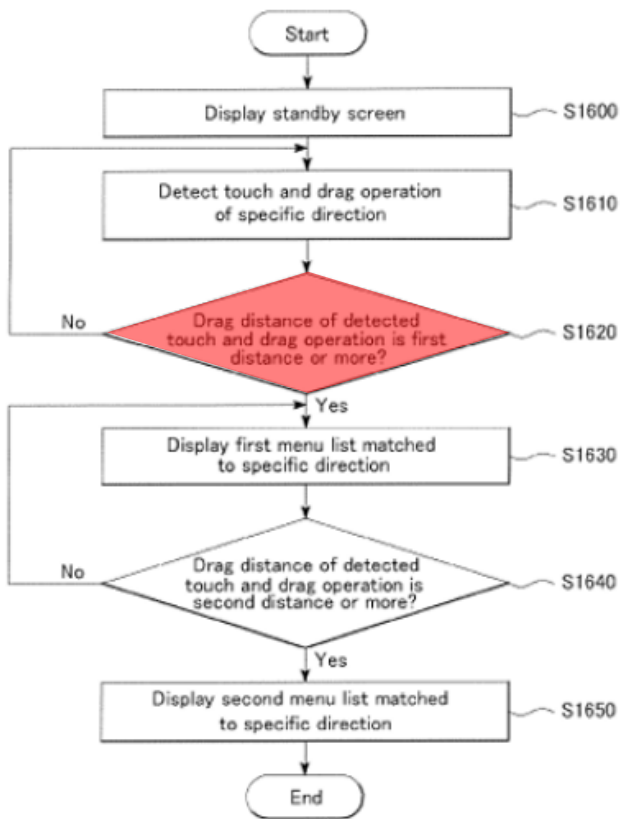
Overview

- '413 Patent
 - Multi-Part Pattern Based Gestures
 - Claims 1 and 101
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Ahn's menu is displayed after gesture is complete

 Ahn

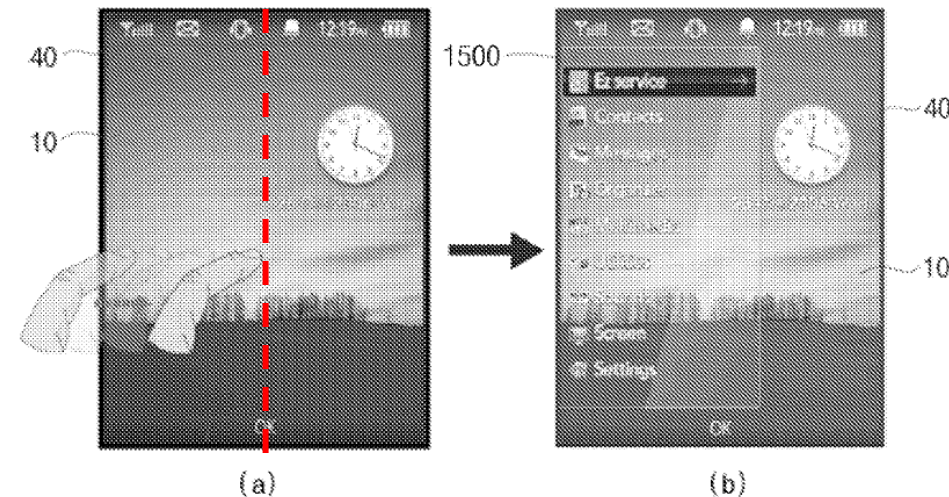
FIG. 16



EX1006 at ¶¶ 118-19; sur-reply at 43.

 Ahn

FIG. 15



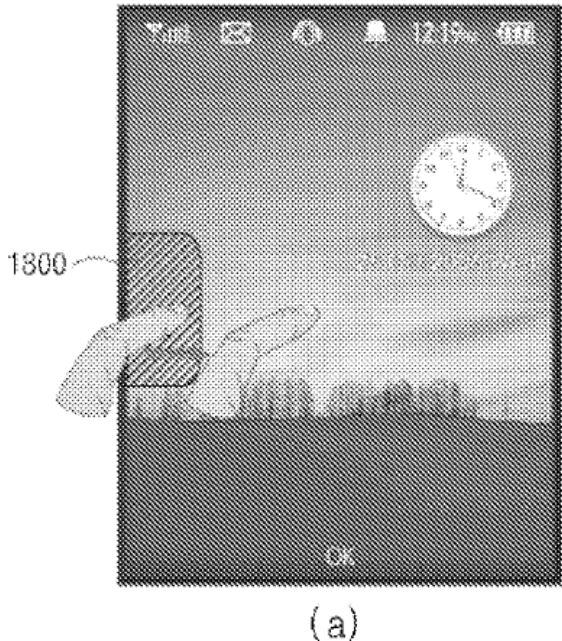
EX1004, FIG. 15; POR, 16

Ahn's menu is displayed after gesture is complete



Ahn's Shadow 1800 isn't illustrated as moving

FIG. 18

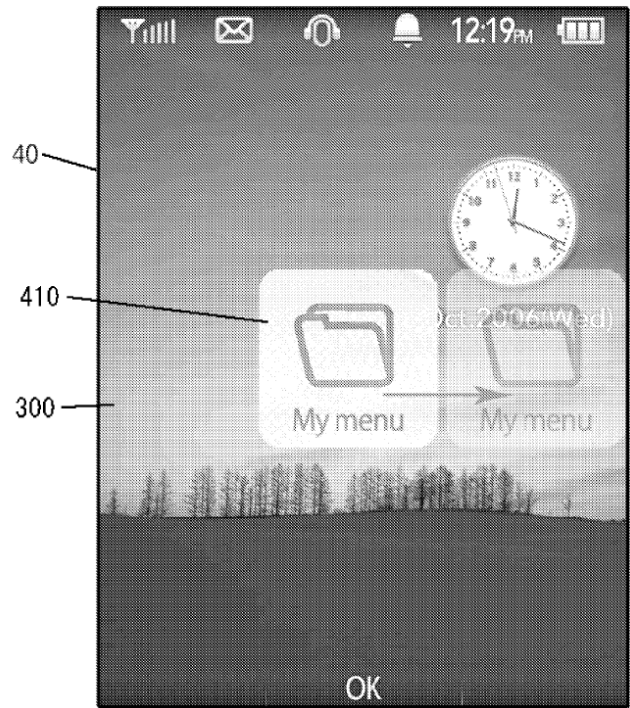


EX1004, FIG. 18(a); POR, 59.



Ahn Depicts Moving Objects

FIG. 4A



EX1004, FIG. 4A; POR, 59

Ahn Theory – Petitioner combines two different gestures without motivation



Ahn

[0118] FIG. 18 illustrates an example of a screen for displaying a graphical display for notifying a start position of a touch and drag operation to a user. For example, referring to FIG. 18(a), if the user **drags in a right direction** after touching the screen, a graphical shadow 1800 is displayed in the display 40, and the menu list 1500 shown in FIG. 15(b) can be displayed in the display 40. In this case, as the user drags the graphic shadow 1800, the menu list 1500 can be displayed along the dragged graphic 1800.

[0119] Further, for example, referring to FIG. 18(b), if the user touch drags to the left, the menu list 1500 shown in FIG. 15(b) can be displayed in the display 40. In this case, as the user may **press the graphic 1800** with a finger, 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 while the graphic 1800 disappears in the display 40.

EX1006 at ¶¶ 118-19; sur-reply at 43.



Apple's Reply

disappears in the display 40." EX1004, [0119]. A POSITA would have understood or at least found obvious that these temporal descriptions would have been implemented such that menu 1500 emerges **"as the user" "drags in a right direction" while "press[ing] the graphic 1800."** See EX1004, [0117]-[0119]; EX1023, [36].

Reply at 21.



Dr. Terveen Testimony

- A. I believe a person of ordinary skill in the art, reading these **paragraphs 118 and 119**, and looking at Figure 18(a) and (b), would think of these as being two **different operations or gestures.**

EX2018 at 70:10-22; sur-reply at 23.

Overview

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- **Sliding Theories**
 - Ahn Theory fails
 - **Hinckley Theory fails**
- Petition’s Erroneous Mapping of Claim 101

Hinckley's slots do NOT “follow” a finger



Hinckley's Timer Embodiment

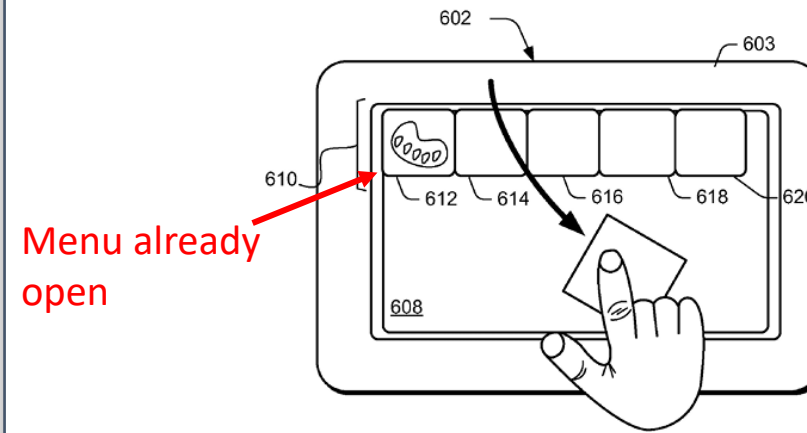
[0080] As but one example of how this can work in accordance with one embodiment, consider the following. When the finger is observed to cross from the screen bezel into a slot of the bezel menu, a timer is started. No other immediate visual feedback occurs. When the timer expires, if the finger is still in the region occupied by the bezel menu, the bezel menu slides out and tracks with the user's finger. When the user's finger lifts inside the bezel menu area, it stays posted. This is the novice mode described above. The user can lift a finger to inspect all slots, and tap on the desired one to create the desired object (rather than dragging it). The user can also touch down and drag an item onto the canvas from the novice mode. If the finger has slid past a threshold distance or region, then the bezel menu remains closed but the function indicated by the slot that was crossed is activated, e.g. a post-it is created and starts following the user's finger. This is the expert mode described above. An implementation consideration is that the slot that is selected by the expert mode gesture can be determined by the location at which the finger crosses the screen edge.

EX1006 at ¶[0080]; sur-reply at 24.



Hinckley's Other Embodiment

[0078] In the expert mode, once the user is familiar with the location of commonly used items accessible from the bezel menu, the user can perform a continuous finger-drag that crosses through the slot or icon and onto the canvas to create and drag an associated object (or tool, or interface mode) to a specific desired position or path, in a single transaction. The user can then let go of the object and interact with it. As an example, consider FIG. 7.

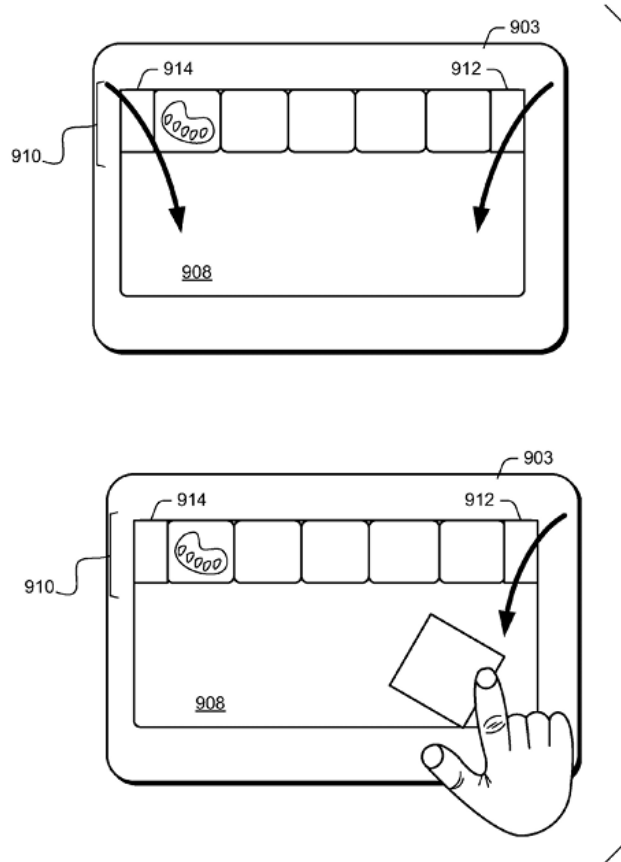


EX1006 at ¶[0078], FIG. 7; sur-reply at 24-25.

Hinckley's expert mode works when menu is open



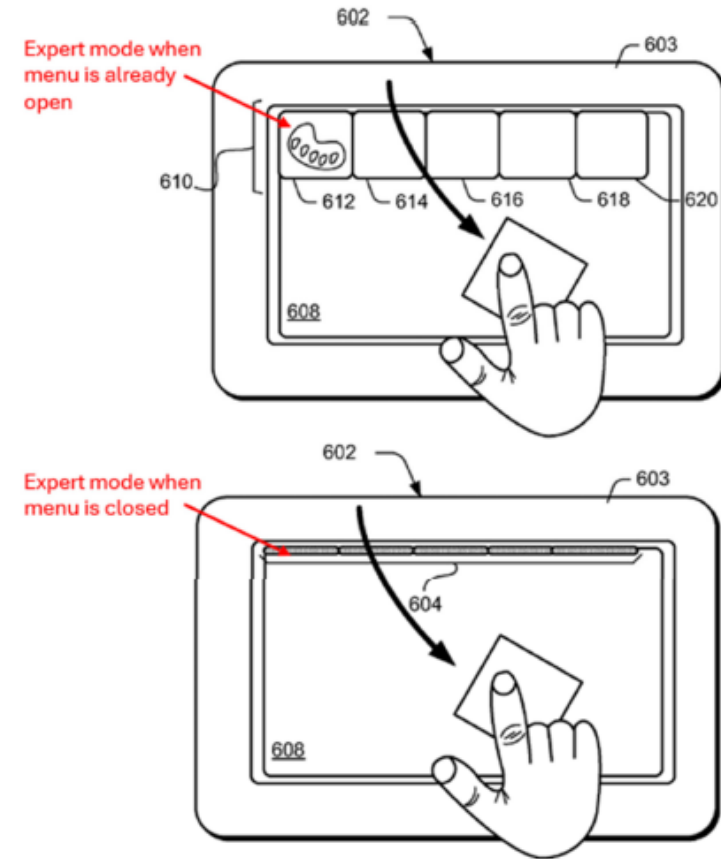
Hinckley's Timer Embodiment



EX1006 at FIG. 9; sur-reply at 25.



Hinckley (annotated)



EX1006 at FIGS. 7-8; sur-reply at 24-25.

Hinckley's expert mode gesture does not bring out the menu

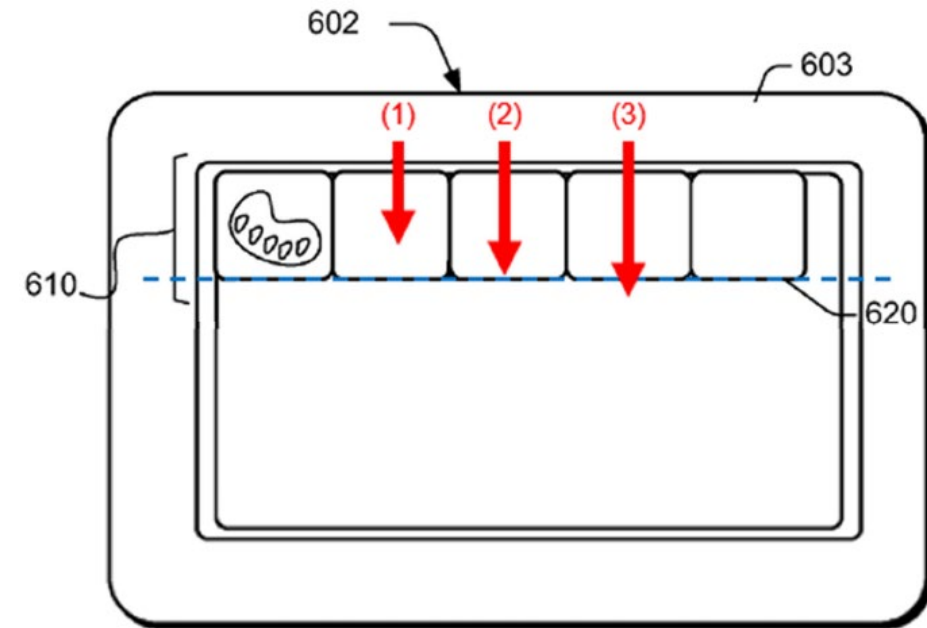


Dr. Terveen

“Hinckley is not saying that the user has to lift their finger only precisely after they have revealed it and they can't move their finger anymore.”

EX2018 at 53:4-7; sur-reply at 26.

Petitioner's Interpretation Requires Exact Swipe Length



(1) – would not fully display the menu

(3) – would invoke expert mode

EX1006 at FIG. 6 (annotated); sur-reply at 25-26.

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- Blurring Theory
- **Claim 101**
 - **Limitation 101.e.iv**
 - Petition’s Erroneous Mapping of the Claim

Independent Claim 101

Claim 101 – Sliding Limitation

1. An electronic device comprising:

...

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

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

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

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

Hinckley's radial menu does NOT open after a tap-and-hold-and-slide

Hinckley

[0108] Once the radial menu 1715 is exposed, the user can access various functionalities or commands by touching down on or near radial menu icon 1714 and stroking in a particular direction. In the illustrated and described embodi-

EX1006 at ¶ 108; Pet., 80

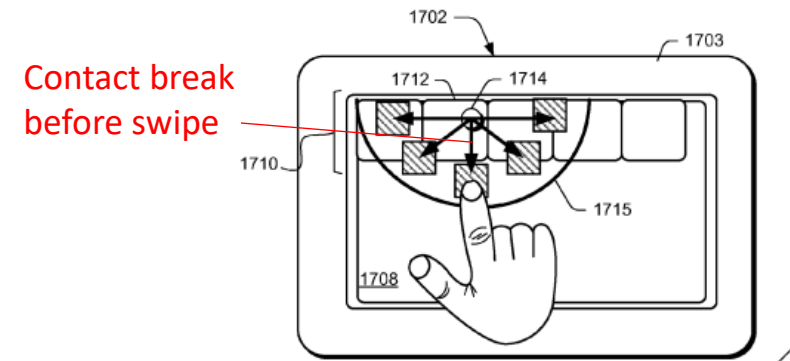
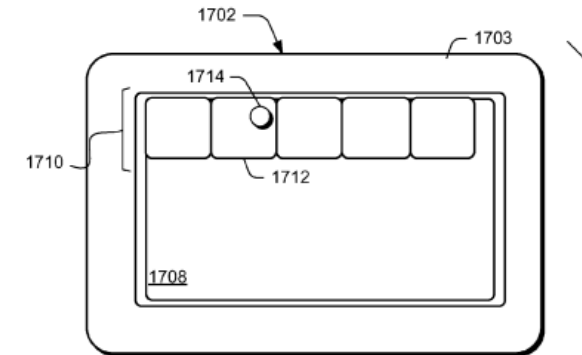
Dr. Terveen

11 Once the radial menu 1715 is exposed, the
12 user can access various functionalities or commands
13 by touching down on or near the radial menu icon and
14 stroking in a particular direction.

15 So, since that says the user can access
16 functionality by touching down and then stroking,
17 that implies that the user -- that the user's finger
18 was not the contact before, because it says you have
19 to -- the user is now touching down. Yeah.

EX1006 at ¶ 108; Pet., 80

Hinckley's radial menu



EX1006 at FIG. 17

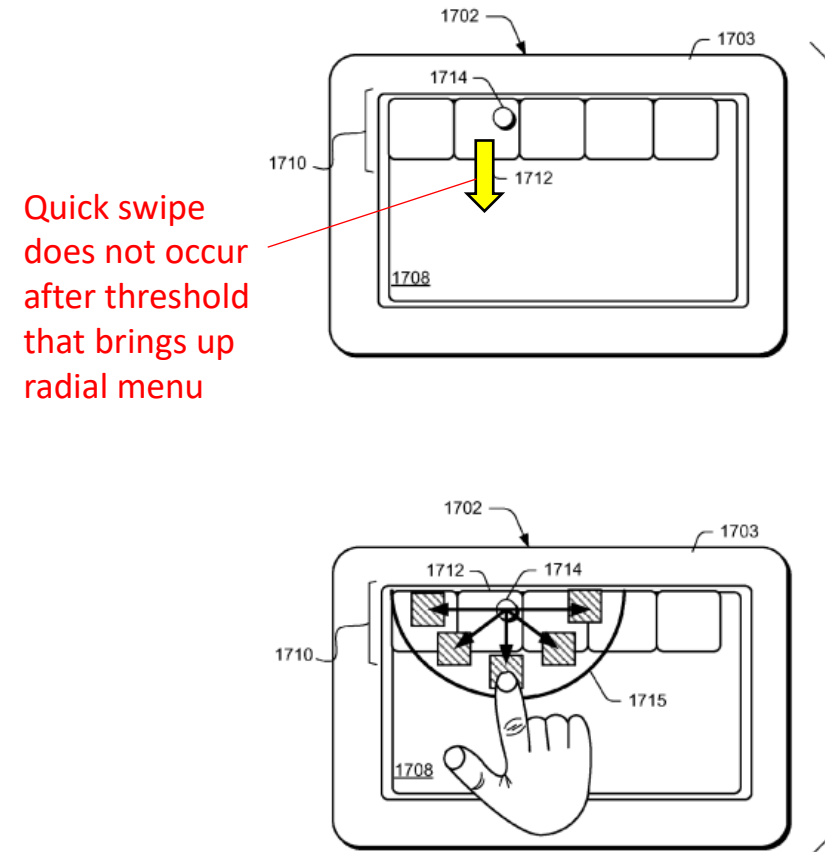
Hinckley's radial menu does NOT open after a tap-and-hold-and-slide

Hinckley

In the expert mode, intended for users who are familiar with the content and behavior of radial menus, the radial menu might not be exposed at all. Rather, a quick touch-and-stroke gesture associated with an icon or slot, such as icon 1712, may enable the radial menu's functionality or command to be accessed directly.

EX1006 at ¶110; Sur-reply, 30

Hinckley's radial menu



EX1006 at FIG. 17

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- First Duration Limitations
- Sliding Theories
- Blurring Theory
- **Claim 101**
 - Limitation 101.e.iv
 - **Petition’s Erroneous Mapping of the Claim**

Independent Claim 101

Claim 101 – First and Second Menus

1. An electronic device comprising:

...

[101.d] in response to the detection of **the first gesture** that begins in connection with the first edge and moves inward, displaying, utilizing the display, **a first menu** as sliding in and including one or more first menu items including a **particular application icon**;

...

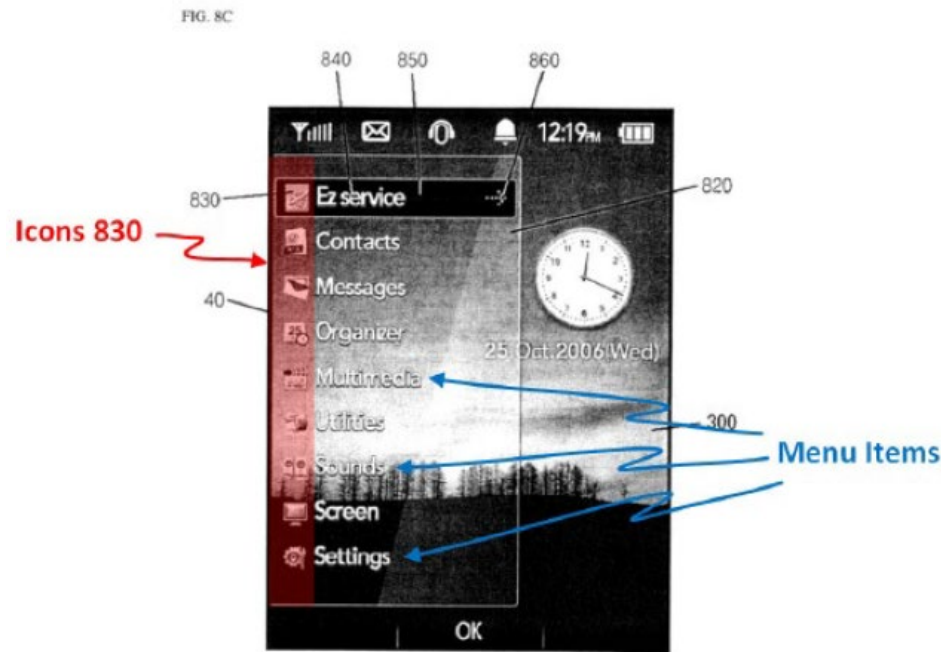
[101.f] when the graphical user interface is displayed, detecting, utilizing the touch interface, a second gesture that begins in connection with a second edge of the display and moves inward;

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

Petitioner's first and second menus are the same



Petitioner's First Menu and Application Icons



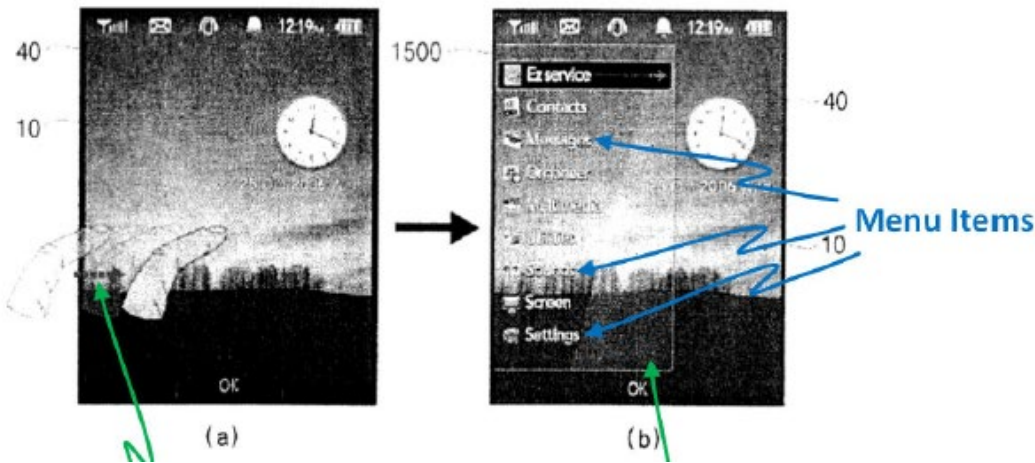
EX1004, FIG. 8C

Pet., 77



Petitioner's Second Menu

FIG. 15



Pet., 58-59, 82

Dr. Rosenberg



Dr. Rosenberg

Q. ... could a POSITA bring their own knowledge about user interface design to their understanding of the writing and how the writing might be useful in creating a system?

A. ... You are saying when a POSITA reads a patent, do they bring their own knowledge in interpreting that?

Q. Uh-huh.

A. Yes, in general. Yes. It is their education and training that gave them the experience and the knowledge for, you know, that they used to interpret what they are reading.

EX1024, 76:9-77:5; sur-reply 33



Dr. Rosenberg

Q. Would a POSITA have found it obvious after reading Ahn that a user could touch down outside of the graphical shadow and still open the menu?

A. I don't know if I would call it obvious. It is certainly not what is described.

...

Q. Let's assume for the sake of the question [a POSITA wants the graphical shadow] Would it have been obvious to that POSITA that a user could touch down outside of the graphical shadow and still open the menu

A. That is not something I specifically analyzed for this. I wasn't asked to analyze that. It is certainly not what is described in 118. ... I mean, you **could** think of all kinds of things. Wouldn't it be obvious to do X, Y and Z? That is not what is described in 118. So, **POSITAs can be creative and think of all kinds of things**, but I don't think that what you are describing of putting the finger down somewhere else that is not on the graphical shadow and opening that menu, **it is just really not what is described**.

EX1024, 84:4-86:13; sur-reply, 33

Dr. Rosenberg



Ahn

[0118] FIG. 18 illustrates an example of a screen for displaying a graphical display for notifying a start position of a touch and drag operation to a user. For example, referring to FIG. 18(a), if the user drags in a right direction after touching the screen, a graphical shadow **1800** is displayed in the display **40**, and the menu list **1500** shown in FIG. 15(b) can be displayed in the display **40**. In this case, as the user drags the graphic shadow **1800**, the menu list **1500** can be displayed along the dragged graphic **1800**.

[0119] Further, for example, referring to FIG. 18(b), if the user touch drags to the left, the menu list **1500** shown in FIG. 15(b) can be displayed in the display **40**. In this case, as the user may press the graphic **1800** with a finger, 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** while the graphic **1800** disappears in the display **40**.

EX1004 at ¶118-119



Dr. Rosenberg

A. ... So, I don't think a POSITA would understand, would understand that from reading 118 of Ahn.

...

Q. You mentioned tapping the graphical shadow 1800.

A. Yes, that was just throwing out examples of other ways to open the menu that are not described in 118.

Q. Okay. A POSITA having read Ahn, and all of Ahn, what would they think a system would do if a user tapped the graphical shadow?

A. I think they would, they would think that nothing happens.

Q. So ... nothing is allowed to happen in response to the tap?

A. Well, in reading further, actually 119 ... [says] In this case as the user may press the graphic 1800 with a finger,

EX1024, 87:8-90:1; sur-reply, 33

Dr. Terveen



Ahn

[0118] FIG. 18 illustrates an example of a screen for displaying a graphical display for notifying a start position of a touch and drag operation to a user. For example, referring to FIG. 18(a), if the user drags in a right direction after touching the screen, a graphical shadow **1800** is displayed in the display **40**, and the menu list **1500** shown in FIG. 15(b) can be displayed in the display **40**. In this case, as the user drags the graphic shadow **1800**, the menu list **1500** can be displayed along the dragged graphic **1800**.

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EX1004 at ¶118-119



Dr. Terveen

A. I think the graphical shadow is already there ... So, I think maybe that language is a little funny. But that's -- the language you just read [in paragraph 118] might be a little funny

...

Q. And so, I guess your interpretation, or your understanding is that a POSITA would not read, you know, paragraph 117 or 118 literally, as kind of if/then operations, but they would understand that the device, or the graphical shadow 1800 is there to begin with?

A. I said that is a certainly -- yes. A POSITA would understand it that way. Because of the purpose of the graphical shadow. ... And I think what's again a consistent interpretation of that, in light of the teachings here in these paragraphs, is that it is displayed, but it doesn't mean it wasn't displayed before the user started dragging in a right direction.

EX1028, 74:17-75:1, 76:8-77:3; sur-reply, 32