

IPR2024-01084

U.S. Patent No. 10,649,578

Patent Owner's Hearing Demonstratives

November 5, 2025

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

1

U.S. Patent No. 10,649,578

Petition (“Pet.”)

Paper 2

Patent Owner Response (“POR”)

Paper 13

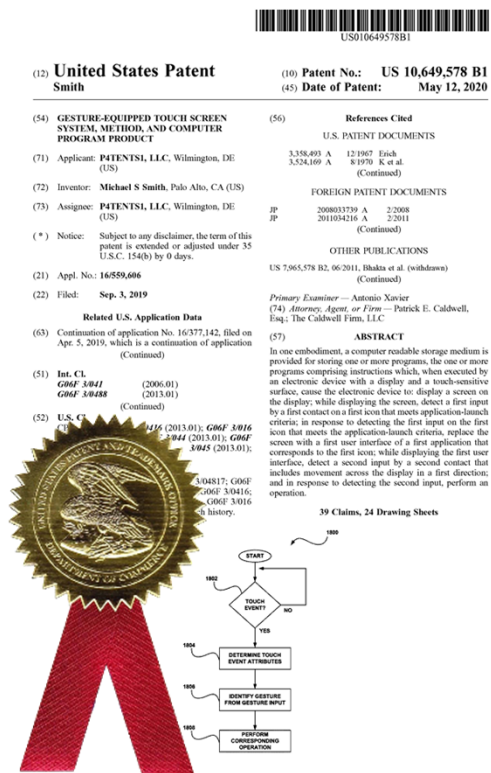
**Petitioner’s Reply to Patent Owner’s Response
 (“Reply”)**

Paper 17

Patent Owner Sur-Reply (“Sur-reply”)

Paper 22

U.S. Patent No. 10,649,578



(12) **United States Patent**
Smith

(54) **Gesture-equipped touch**
screen system, method, and
computer program product

(45) **Date of Patent: May 12,**
2020

(22) **Filed: Sept. 3, 2019**

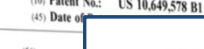
Overview

- '578 Patent
 - Pattern Based Gestures
 - Independent Claims 1, 15, and 27
- Undisputed Claim Constructions
 - Conditional Limitations
 - “The Second Input”
- Prior Art
 - Shiplacoff
 - Nan
- Ground 1 (Shiplacoff) and Ground 2 (Shiplacoff-Nan) Fail
 - No disclosure of “second input” triggering replacement of “the user interface of the application with the home screen”
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 - Petitioner’s new “flick” and “tap” theories fail
- Motivations to Combine
 - Petitioner’s asserted motivations for combining Shiplacoff and Nan fail
- Dependent Claims

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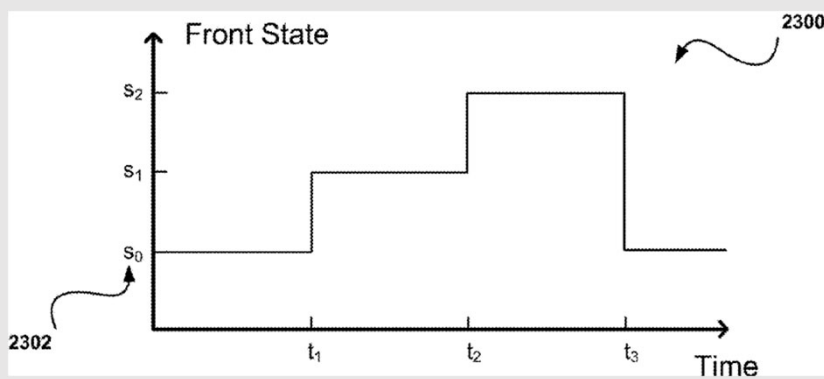
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'578 Patent

 US 10,649,578 B1			
(12) United States Patent Smith		(10) Patent No.: US 10,649,578 B1 (45) Date of Patent: May 12, 2020	
(54) GESTURE-EQUIPPED TOUCH SCREEN SYSTEM, METHOD, AND COMPUTER PROGRAM PRODUCT		(56) References Cited U.S. PATENT DOCUMENTS 3,358,493 A 12/1967 Erich 3,524,169 A 8/1970 K et al. (Continued)	
(71) Applicant: P4TENTS1, LLC, Wilmington, DE (US)		(56) Foreign Patent Documents JP 2008033739 A 2/2008 JP 2011034216 A 2/2011 (Continued)	
(72) Inventor: Michael S Smith, Palo Alto, CA (US)			
(73) Assignee: P4TENTS1, LLC, Wilmington, DE (US)			
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.			
(21) Appl. No.: 16/559,606 (22) Filed: Sep. 3, 2019			
Related U.S. Application Data (63) Continuation of application No. 16/377,142, filed on Apr. 5, 2019, which is a continuation of application No. 15/180,578.			
(51) Int. Cl. (2006.01) G06F 3/041 (2013.01) G06F 3/0488 (2013.01)			
(52) U.S. CL. (2013.01) G06F 3/0416 (2013.01); G06F 3/0418 (2013.01); G06F 3/0488 (2013.01); G06F 3/0416 (2013.01); G06F 3/0418 (2013.01)			
(53) Field of Classification Search CPC: G06F 3/0488 ; G06F 3/0416 ; G06F 3/0418 ; G06F 3/0416 ; G06F 3/0418			
See application file for complete search history.			

'578 Patent

Distinguishing “pattern-based gestures” using decision-tree-based programming logic



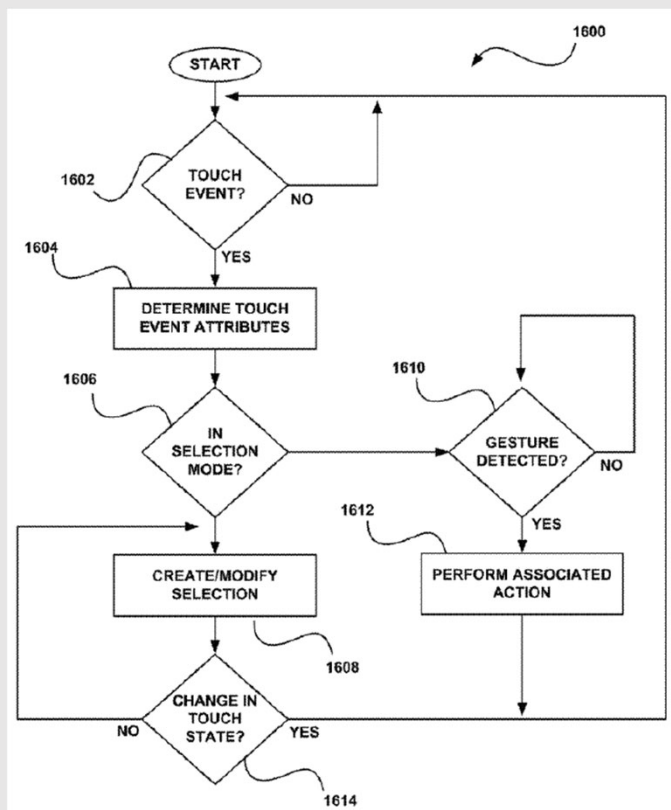
'578 Patent at Fig 23; POR at 4

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 $\{(s_1, t_1), (s_2, t_2), (s_0, t_3)\}$.

'578 Patent at 72:56-64, 74:33-35; POR at 3-4

Distinguishing “pattern-based gestures” using decision-tree-based programming logic



'578 Patent at Fig 16; POR at 8-10

As shown, it is determined if a touch event has occurred. See determination **1602**.

If it is determined that a touch event has occurred, then the touch event attributes are determined. See operation **1604**.

In the context of the present description, touch event attributes refer to one or more measurable aspects of the user interaction which resulted in a touch event. The measurable aspects may include, but are not limited to, touch state, contact area, contact point, contact pressure level, pressure uncertainty, touch uncertainty, and/or any other measurable aspect of user interaction.

As shown, it is determined whether the system is in a selection mode. See determination **1606**.

If a gesture has been detected, then an associated action is performed. See operation **1612**. In one embodiment, any

'578 Patent at 53:66-54:16, 55:1-2; POR at 8-9

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- Dependent Claims

'578 Patent | Claim 1

1. An electronic device, comprising:

...

one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the one or more programs including instructions for:

...

- [1.i] { while displaying the user interface of the application, detecting a second input by a second contact that includes movement across the display in a direction;
- [1.j] { in response to detecting the second input and in accordance with a determination that the second input meets one or more criteria that is met when the second input is detected to include a movement parameter that is above a movement threshold, displaying at least a portion of the user interface of the application in a first virtual display layer that appears at a lesser depth as compared to a second virtual display layer, such that the at least portion of the user interface of the application is reduced in size and is further displayed in its entirety when displayed in the first virtual display layer; and
- [1.k] { in response to detecting the second input and in accordance with a determination that the second input does not meet the one or more criteria that is met when the second input is detected to include the movement parameter that is above the movement threshold, replacing the user interface of the application with the home screen including the icon associated with the application.

'578 Patent | Claim 15

15. A method, comprising:

at an electronic device with a display, a touch interface, memory, and one or more processors::

...

- [15.i] { with the user interface of the application displayed, detecting a second input by a second contact that includes movement across the display in a direction;
- [15.j] { in response to detecting the second input and in accordance with a determination that the second input meets one or more criteria that is met with the second input being detected to include a movement parameter that is above a movement threshold, displaying at least a portion of the user interface of the application in a first virtual display layer that appears at a lesser depth as compared to a second virtual display layer, where the at least portion of the user interface of the application is reduced in size and is further displayed in its entirety in the first virtual display layer; and
- [15.k] { in response to detecting the second input and in accordance with a determination that the second input does not meet the one or more criteria that is met with the second input being detected to include the movement parameter that is above the movement threshold, replacing the user interface of the application with the home screen including the icon associated with the application..

'578 Patent | Claim 27

27. A non-transitory computer readable storage medium storing one or more programs, the one or more programs comprising instructions which, when executed by an electronic device with a display and a touch-sensitive surface, cause the electronic device to. . .

- [27.i] { while displaying the user interface, detect a second input by a second contact that includes movement across the display in a direction;
- [27.j] { in response to detecting the second input and in accordance with a determination that the second input meets a first one or more criteria that is met when the second input is detected to include a movement parameter that is above a movement threshold and that the second input that meets a second one or more criteria that is met when the second input is detected to include a duration parameter that is above a duration threshold, display at least a portion of the user interface of the application in a first virtual display layer that appears at a lesser depth as compared to a second virtual display layer, where the at least portion of the user interface of the application is reduced in size and is further displayed in its entirety when displayed in the first virtual display layer; and
- [27.k] { in response to detecting the second input and in accordance with a determination that the second input meets the first one or more criteria that is met when the second input is detected to include the movement parameter that is above the movement threshold and that the second input does not meet the second one or more criteria that is met when the second input is detected to include the duration parameter that is above the duration threshold, replace the user interface of the application with the home screen including the icon that corresponds to the application.

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Undisputed that claims require programming logic for triggering each recited action

Patent Owner Response

or “does not meet” specified criteria. EX2004, ¶40. Based on the plain claim language, a POSITA would have understood that logic operation to include:

- (i) “detecting a second input by a second contact that includes movement across the display in a direction;”
- (ii) “in response to detecting the second input,” determining whether “the second input meets” or “does not meet” the recited criteria; and
- (iii) “in accordance with” that yes/no determination, triggering performance of each corresponding display action where appropriate.

Id.

POR at 15-16; Sur-reply at 3

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Undisputed that “the second input” of each limitation must be detected “while displaying the user interface of the application”

Patent Owner Response

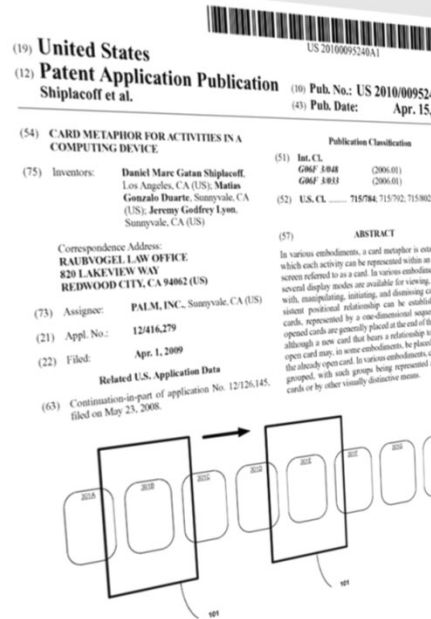
But the plain language of the claims require that “the second input” of Limitations [1j] and [1k] be detected *in the same operational context*. In particular, Limitation [1i] recites: “while displaying the user interface of the application, detecting a second input by a second contact that includes movement across the display in a direction.” And Limitations [1j]-[1k] collectively recite executing a logic operation “in response to detecting the second input” to (a) determine whether “the second input” either “meets” or “does not meet” specified criteria, and (b) “in accordance with” that yes/no determination, trigger each of the recited display actions where appropriate. *See supra* §IV.B. Limitations [15f]-[15g] and [27d]-

POR at 23-26; Sur-reply at 1, 3-4

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Shiplacoff | Overview



(19) **United States**

(12) **Patent Application Publication**
Shiplacoff et al.

(10) **Pub. No.: US 2010/0095240 A1**

(43) **Pub. Date: Apr. 15, 2010**

(54) **CARD METAPHOR FOR ACTIVITIES IN A
COMPUTING DEVICE**

Publication Classification

(51) **Int. Cl.**
G06F 3/048 (2006.01)
G06F 3/033 (2006.01)

(52) **U.S. Cl. 715/784; 715/792; 715/802; 345/157;
715/863**

(75) **Inventors:** **Daniel Marc Gatan Shiplacoff,**
Los Angeles, CA (US); Matias
Gonzalo Duarte, Sunnyvale, CA
(US); Jeremy Godfrey Lyon,
Sunnyvale, CA (US)

(57) **ABSTRACT**

In various embodiments, a card metaphor is established, in which each activity can be represented within an area of the screen referred to as a card. In various embodiments, any of several display modes are available for viewing, interacting with, manipulating, initiating, and dismissing cards. A persistent positional relationship can be established among cards, represented by a one-dimensional sequence. Newly opened cards are generally placed at the end of the sequence, although a new card that bears a relationship to an already open card may, in some embodiments, be placed adjacent to the already open card. In various embodiments, cards may be grouped, with such groups being represented as stacks of cards or by other visually distinctive means.

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(73) **Assignee:** **PALM, INC., Sunnyvale, CA (US)**

(21) **Appl. No.:** **12/416,279**

(22) **Filed:** **Apr. 1, 2009**

Related U.S. Application Data

(63) **Continuation-in-part of application No. 12/126,145,**
filed on May 23, 2008.

POR at 27-30

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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Shiplacoff teaches different display modes



Shiplacoff

[0068] As described herein, in one embodiment two or more modes are available for interacting with device 100. A determination is made as to which display mode is currently active on device 100. Depending on the current display mode, cards 301 are displayed differently. In various embodiments, display modes can include any combination of the following:

[0069] a “full-screen” mode, in which a card representing an application or other activity occupies substantially the entire display screen 101;

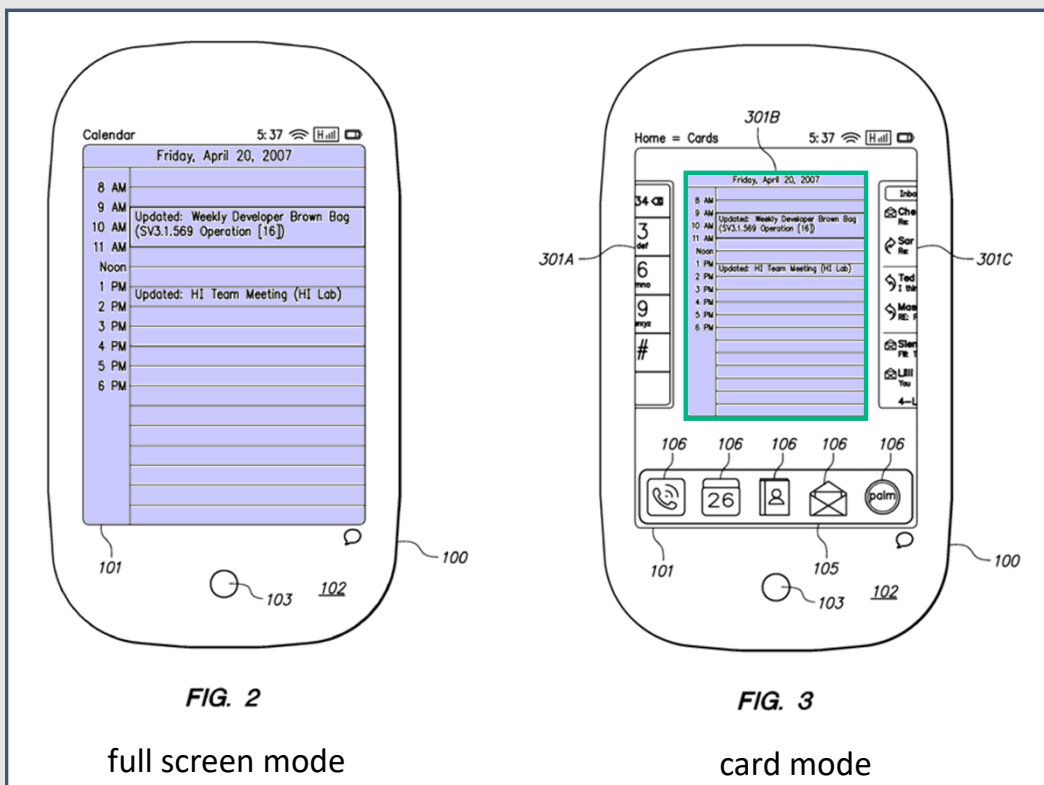
[0070] a “card” mode, in which at least two cards are presented, at least one of which is only partially visible, with each card representing an application or other activity;

[0071] a “shuffle” mode, in which cards are presented at a reduced size with respect to card mode, so that more than one card can be presented in full; and

[0072] a “grid” mode, in which card size is reduced according to available screen space.

Shiplacoff at ¶¶[0068]-[0073]; Pet. at 14; POR at 35-38; Sur-Reply at 5

Shiplacoff teaches switching from “full-screen mode” to “card mode” through a “swipe up” gesture



Shiplacoff

[0127] In another embodiment, the user can switch among the various modes by performing a gesture. One example of such a gesture is a “swipe up” gesture beginning in gesture area 102 and extending onto screen 101. In one embodiment, such a gesture switches from full-screen mode to card mode, or from card mode to shuffle mode, or from shuffle mode to grid mode. In another embodiment, such a gesture switches from full-screen mode to card mode, or from card mode to grid mode. In yet another embodiment, such a gesture switches from full-screen mode to card mode, or from card mode to a launcher screen.

Shiplacoff at ¶[0127]; POR at 33-34

Shiplacoff at FIGS. 2 and 3

Shiplacoff already uses a “tap or flick” gesture to close “card mode” or switch to “shuffle mode”



Shiplacoff

[0100] In one embodiment, the user can dismiss activities, for example by closing a card 301. In one embodiment, a card 301 can be closed by clicking on a control within the card. In another embodiment, a card 301 can be closed by dragging the card upward off screen 101, or performing a flicking action in an upward direction. Referring now to FIGS. 8A and

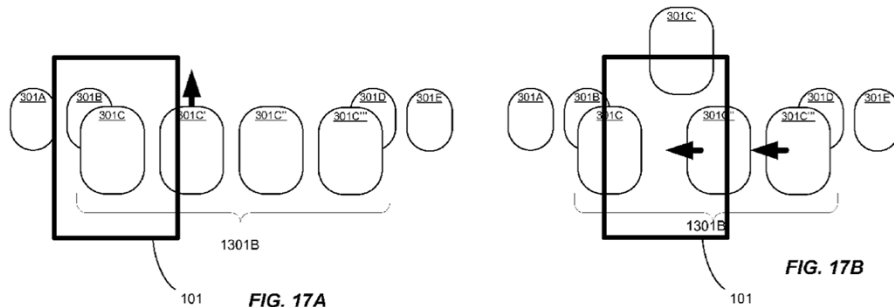
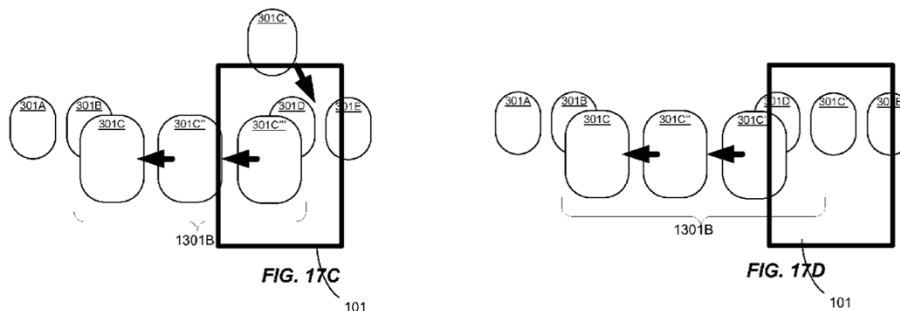
Shiplacoff at ¶[0100]; POR at 34-35



Shiplacoff

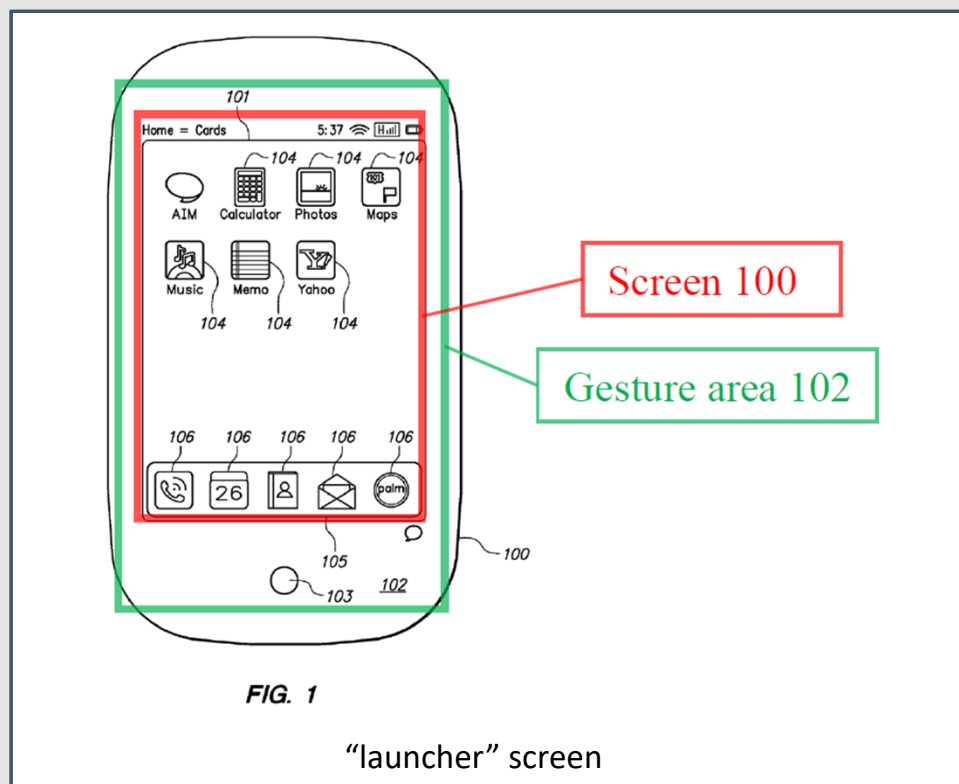
[0126] In yet another embodiment, when in card mode, tapping the area below the row of cards causes a switch to shuffle mode, whereas, when in shuffle mode, tapping any area not occupied by a card 301 causes a switch to card mode. In other embodiments, other user input actions can cause a switch between the modes, including for example, entering a gesture, typing a key on a keyboard, pressing a button, selecting a menu command, activating an on-screen button or other element, or the like.

Shiplacoff at ¶[0126]; POR at 33-38



Shiplacoff at FIGS. 17A-17D

Shiplacoff teaches switching from “card mode” to a “launcher screen” through a “swipe up” gesture



Shiplacoff at FIG. 1



Shiplacoff

[0063] Referring now to FIG. 1, there is shown an example of an example of a device 100 including a display screen 101 showing a launcher including several icons 104 representing applications that can be opened by the user, according to one embodiment. A quick-launch area 105 is also shown, including additional icons 106 for launching commonly used applications and other functions. Quick-launch area 105 is not

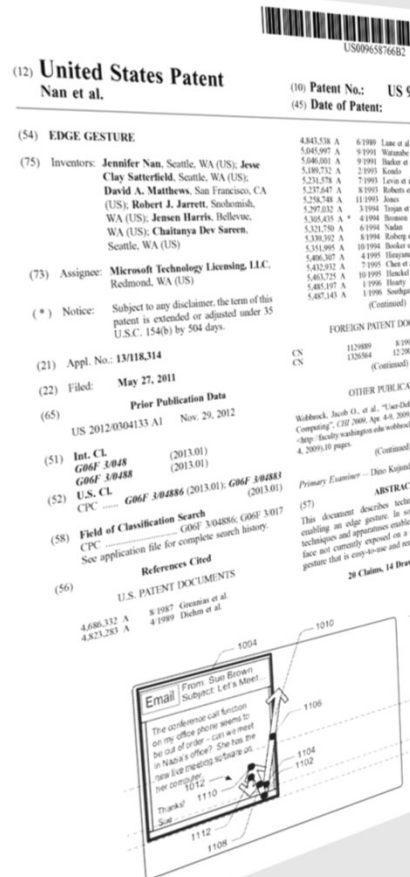
[0127] In another embodiment, the user can switch among the various modes by performing a gesture. One example of such a gesture is a “swipe up” gesture beginning in gesture area 102 and extending onto screen 101. In one embodiment, such a gesture switches from full-screen mode to card mode, or from card mode to shuffle mode, or from shuffle mode to grid mode. In another embodiment, such a gesture switches from full-screen mode to card mode, or from card mode to grid mode. In yet another embodiment, such a gesture switches from full-screen mode to card mode, or from card mode to a launcher screen.

Shiplacoff at ¶¶[0063], [0127]; POR at 40, 52-53; Sur-Reply at 1

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Nan | Overview



(12) United States Patent Nan et al.

(10) Patent No.: **US 9,658,766 B2**

(45) Date of Patent: **May 23, 2017**

(54) **EDGE GESTURE**

(75) Inventors: **Jennifer Nan**, Seattle, WA (US); **Jesse Clay Satterfield**, Seattle, WA (US); **David A. Matthews**, San Francisco, CA (US); **Robert J. Jarrett**, Snohomish, WA (US); **Jensen Harris**, Bellevue, WA (US); **Chaitanya Dev Sareen**, Seattle, WA (US)

(73) Assignee: **Microsoft Technology Licensing, LLC**, Redmond, WA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 504 days.

(21) Appl. No.: **13/118,314**

(22) Filed: **May 27, 2011**

(65) **Prior Publication Data**

US 2012/0304133 A1 Nov. 29, 2012

(51) **Int. Cl.**
G06F 3/048 (2013.01)

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

(58) **Field of Classification Search**
CPC **G06F 3/04886**; **G06F 3/017**
See application file for complete search history.

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(57) **ABSTRACT**

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(Continued)

Primary Examiner — Dino Kujundzic

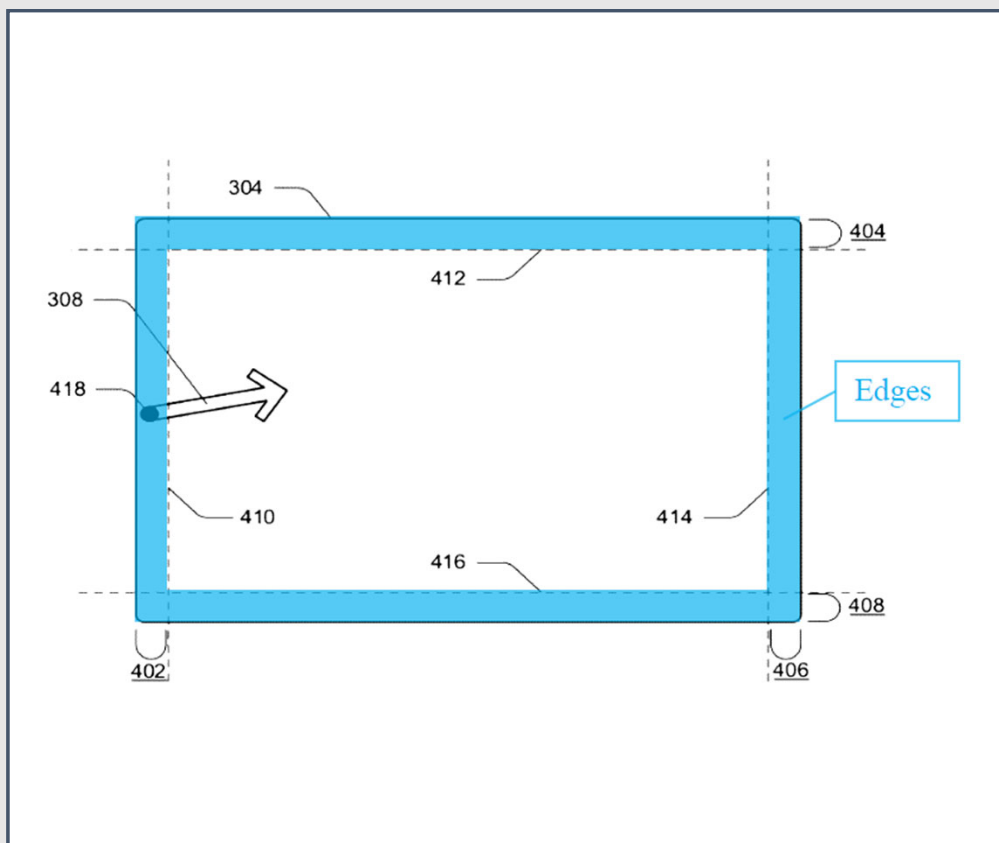
(57) **ABSTRACT**

This document describes techniques and apparatuses enabling an edge gesture. In some embodiments, these techniques and apparatuses enable selection of a user interface not currently exposed on a display through an edge gesture that is easy-to-use and remember.

20 Claims, 14 Drawing Sheets

POR at 31

Nan teaches use of an “edge gesture”



Nan at FIG. 4



Continuing the ongoing example, consider FIG. 4, which illustrates immersive interface 304 and gesture 308 of FIG. 3 as well as left edge 402, top edge 404, right edge 406, and bottom edge 408. For visual clarity webpage 306 is not shown. In this example the dimensions of the interface and display are of a moderate size, between that of smart phones and that of many laptop and desktop displays. Edges 402, 404, 406, and 408 have a small dimension of twenty pixels or about 10-15 mm in absolute terms, an area of each shown bounded by dashed lines at twenty pixels from the display limit at edge limit 410, 412, 414, and 416, respectively.

Gesture handler 128 determines that gesture 308 has a start point 418 and that this start point 418 is within left edge 402. Gesture handler 128 determines the start point in this case by receiving data indicating [X,Y] coordinates in pixels at which gesture 308 begins and comparing the first of these

Nan at 4:52-65; POR at 31

Primary Dispute

- **Grounds 1 and 2:** Whether a POSITA would have modified Shiplacoff such that its “tap or flick” is utilized in full-screen mode to trigger the display actions of Limitations [1k], [15g], and [27f]; and
- **Ground 2:** Whether a POSITA would have combined Shiplacoff and Nan as proposed.

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Both Ground 1 (Shiplacoff) and Ground 2 (Shiplacoff-Nan) Fail

- **No programming logic capable of detecting “the second input” in the required operational context and triggering replacement of “the user interface of the application with the home screen”** (Limitations [1k], [15g], [27f])
 - The Petition relied on Shiplacoff’s “tap or flick” as “the second input” for these limitations
 - Shiplacoff does not teach its “tap or flick” in the required operational context (i.e., while “displaying the user interface of the application”)
 - Shiplacoff does not teach its “tap or flick” input triggering the required display action
- **Petitioner’s new “other gestures” theory fails**
 - Petitioner is not permitted to change its mapping
 - A reference to “other gestures” (a genus) is insufficient to teach or suggest the particular species of gesture required by the claims
 - A POSITA would not have modified Shiplacoff as Petitioner proposes
- **Petitioner’s new “flick” and “tap” theories fail**
 - Petitioner is not permitted to change its mapping
 - Shiplacoff teaches that “flicking” begins on the display – NOT through some off-screen input
 - “Taps” are static gestures – NOT gestures with movement across the screen
 - Schiplacoff never teaches a “tap or flick” gesture to trigger a switch from “full-screen mode” to “card mode”

Sur-Reply at 5-22

No disclosure of “the second input” triggering replacement of “the user interface of the application with the home screen”

by the one or more processors, the one or more programs including instructions for:
displaying a home screen on the display, the home screen including an icon associated with an application;
while displaying the home screen, detecting a first input by a first contact on the icon;
in response to detecting the first input, replacing the home screen with a user interface of the application;
while displaying the user interface of the application, detecting a second input by a second contact that includes movement across the display in a direction;
in response to detecting the second input and in accordance with a determination that the second input meets one or more criteria that is met when the second input is detected to include a movement parameter that is above a movement threshold, displaying at least a portion of the user interface of the application in a first virtual display layer that appears at a lesser depth as compared to a second virtual display layer, such that the at least portion of the user interface of the application is reduced in size and is further displayed in its entirety when displayed in the first virtual display layer; and

[1.k]

in response to detecting the second input and in accordance with a determination that the second input does not meet the one or more criteria that is met when the second input is detected to include the movement parameter that is above the movement threshold, replacing the user interface of the application with the home screen including the icon associated with the application.

'578 Patent at Claim 1; POR at 10-11

Petitioner relied on Shiplacoff's "tap or flick" gesture as "the second input" of Limitations [1k], [15g], and [27f]



Petition

and upward direction). APPLE-1003, ¶[61]. Accordingly, it would have been obvious to a POSITA that when a different pre-programmed gesture, such as a tap or flick, is used, such a gesture ("*second input*") "*does not meet the one or more criteria that is met when the second input is detected to include the movement parameter that is above the movement threshold,*" and would have returned the display, as a matter of design choice, to the launch screen in FIG. 1 that includes the calendar icon ("*replacing the user interface of the application with the home screen including the icon associated with the application*"). APPLE-1004, ¶[99]; APPLE-1003, ¶[61]. According, Shiplacoff renders obvious [1k].

Pet. at 24

Shiplacoff's "tap or flick" is not used in the required context; does not trigger the required display action



Shiplacoff

[0100] In one embodiment, the user can dismiss activities, for example by closing a card 301. In one embodiment, a card 301 can be closed by clicking on a control within the card. In another embodiment, a card 301 can be closed by dragging the card upward off screen 101, or performing a flicking action in an upward direction. Referring now to FIGS. 8A and

Shiplacoff at ¶[0100]; POR at 29, 34, 36, 54



Shiplacoff

[0126] In yet another embodiment, when in card mode, tapping the area below the row of cards causes a switch to shuffle mode, whereas, when in shuffle mode, tapping any area not occupied by a card 301 causes a switch to card mode. In other embodiments, other user input actions can cause a switch between the modes, including for example, entering a gesture, typing a key on a keyboard, pressing a button, selecting a menu command, activating an on-screen button or other element, or the like.

Shiplacoff at ¶[0126]; POR at 44



Shiplacoff

[0112] In one embodiment, the user can interact with cards 301 in shuffle mode in substantially the same manner as in card mode. Cards 301 can be moved back and forth, and a positional relationship among cards 301 is maintained. Cards 301 can be rearranged within the sequence by dragging and dropping. A card 301 can be closed, and its activity dismissed, by dragging the card 301 upward off screen 101, or performing a flicking action in an upward direction, in a manner similar to the operation described above in connection with FIGS. 8A and 8B. For example, referring now to FIG. 10C, there is shown an example of an upward drag or flicking action to dismiss card 301E. Upon dismissal of card 301E, card 301F would shift to the left to occupy the space formerly occupied by card 301E, and card 301G would move to the left to maintain consistent spacing among cards.

Shiplacoff at ¶[0112]; POR at 29, 44-45, 54

Overview

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 - Shiplacoff
 - Nan
- **Ground 1 (Shiplacoff) and Ground 2 (Shiplacoff-Nan) Fail**
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 - **Petitioner’s new “other gestures” theory fails**
 - Petitioner’s new “flick” and “tap” theories fail
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 - Petitioner’s asserted motivations for combining Shiplacoff and Nan fail
- Dependent Claims

Petitioner's new “other gestures” theory fails



Petitioner's Reply

input are the claimed ‘second input’”). But the Petition is not so limited. The POR further attempts to limit Shiplacoff, by attempting to establish through reference to one of Shiplacoff’s examples that it teaches “tap or flick” gestures being limited to a “different operational context[]” that does not inform a transition from full screen mode to the launcher screen. *See* POR, 32-38, 43-47. But this argument fails to regard express statements in Shiplacoff, which recognize its examples as such, and that otherwise clarify that Shiplacoff’s selection of gestures within its examples was for illustrative purposes, and that “other gestures can be used for mode changes.” *See* APPLE-1004, [0124]-[0132].

Reply at 4

Reliance on “other gestures” (a genus) is insufficient to teach or suggest any particular species of gesture



“It is well established that disclosure of a genus in the prior art is not necessarily a disclosure of every species that is a member of that genus.”

Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc., 853 F.3d 1272, 1285 (Fed. Cir. 2017)

Shiplacoff teaches that different display modes are for different activities



Shiplacoff

invention: full-screen mode is optimized for maximum use of screen space for interacting with a single activity; card mode is optimized for easily switching focus from one activity to another and for easily initiating and terminating activities; shuffle mode is optimized for reordering and manipulating cards representing activities; and grid mode is optimized to provide an overview of open activities. Many actions can be

Shiplacoff at ¶[0074], [0127]; POR at 43-46; Sur-Reply at 6

Shiplacoff teaches that a “flick” is already programmed to trigger scrolling in “full-screen mode”



Shiplacoff-Duarte-992

[0069] *Scroll:* Referring now to Fig. 4H, the user can perform a drag-scroll operation by performing a drag gesture 402H (also referred to as a flick gesture) across screen 101 in a direction that supports scrolling for the current state of the display. In one embodiment, the drag must start moving immediately upon contact with screen 101, in order to be recognized as a scroll. The current display scrolls by an amount proportional to the distance moved by the user's finger, as shown in the right side of Fig. 4H. In one embodiment, the scroll amount can be adjusted or dampened as appropriate.

[0070] The user can also flick across screen 101 in a direction that supports scrolling for the current state of the display. In one embodiment, the flick must start immediately upon contact with screen 101, and the user's finger must leave the surface of screen 101 before stopping movement, in order to be recognized as

Shiplacoff-Duarte-992 at ¶[0069] – [0070]; POR at 46-54; Sur-Reply 7

Petitioner proposes that the same input can trigger both scrolling and a transition from “full screen mode” to the “launcher screen”



Petition

and upward direction). APPLE-1003, ¶[61]. Accordingly, it would have been obvious to a POSITA that when a different pre-programmed gesture, such as a tap or flick, is used, such a gesture (“*second input*”) “*does not meet the one or more criteria that is met when the second input is detected to include the movement parameter that is above the movement threshold,*” and would have returned the display, as a matter of design choice, to the launch screen in FIG. 1 that includes the calendar icon (“*replacing the user interface of the application with the home screen including the icon associated with the application*”). APPLE-1004, ¶[99]; APPLE-1003, ¶[61]. According, Shiplacoff renders obvious [1k].

Pet. at 24

POSITA would have been “led away” from modifying Shiplacoff’s “flick” to transition from full screen mode to the launch screen



While an express “warn[ing] against the very modification made by the patentee” certainly constitutes teaching away, express statements are “not the sole basis” on which a reference may be found to “[lead] away from the direction taken by the patentee.”

Spectralytics, Inc. v. Cordis Corp., 649 F.3d 1336, 1343 (Fed. Cir. 2011)

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Petitioner's new "flick" and "tap" theories fail

Petitioner's Reply – new "flick" theory

Based on these teachings, a POSITA would have understood or at least found obvious that Shiplacoff's device would have been able to distinguish between "flick" gestures depending on when, where, and how that gesture was input by the user. APPLE-1023, [19]. For example, like the "swipe up" gesture described for changing modes, a "flick" gesture started in the gesture area 102 or near an edge of screen 101 would have been distinguishable from a "flick" gesture started well within screen 101 and its display of a particular activity. See APPLE-

* * *

modifier key prior to performing the command." *Id.* In other words, Duarte-992 provides even further mechanisms by which Shiplacoff's device may assign different functions to the same "command." APPLE-1023, [20]. For example, a "flick" received while the modifier key is not depressed might scroll, while a "flick" received while the modifier key is held down might change display mode. APPLE-1023, [20].

Reply at 14-16

Petitioner's Reply – new "tap" theory

The Matthews reference that was highlighted in the Petition similarly establishes that POSITAs considered movement, albeit limited amounts of movement, as an attribute of a tap gesture. To this point, Matthews offers that, "[i]f the duration of the gesture does not comprise a distance of uninterrupted movement above a predefined distance or does not meet a predefined threshold time period, the gesture is considered a tap-type operation...." APPLE-1010, 10:65-11:7; *see also id.*, APPLE-1010, 3:38-46. Matthews clarifies further by

* * *

Accordingly, the record evidence leaves no room for debate. A POSITA reading Shiplacoff and seeing its express reference to "tap" would have understood and found obvious from Shiplacoff to transition among Shiplacoff's display modes based on gestures that include "movement across the display screen in a direction," and that the "tap" has a "movement parameter" that is not "above a movement threshold." APPLE-1023, [27]; *see* Petition, 24 ("it would have been obvious to a

Reply at 16-18

Petitioner is not permitted to change its mapping



“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)



“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



Relying on “previously unidentified portions of a prior-art reference to make a meaningfully distinct contention” “crosses the line from responsive to new” and is therefore improper.

Ariosa Diagnostics v. Verinata Health, Inc., 805 F.3d 1359, 1368 (Fed. Cir. 2015).

Schiplacoff teaches that “flicking” begins on the display, NOT off-screen



Shiplacoff-Duarte-992

[0069] *Scroll:* Referring now to Fig. 4H, the user can perform a drag-scroll operation by performing a drag gesture 402H (also referred to as a flick gesture) across screen 101 in a direction that supports scrolling for the current state of the

[0070] The user can also flick across screen 101 in a direction that supports scrolling for the current state of the display. In one embodiment, the flick must start immediately upon contact with screen 101, and the user's finger must leave the surface of screen 101 before stopping movement, in order to be recognized as

Shiplacoff-Duarte-992 at ¶[0069] – [0070]; POR at 41, 43-5-54



Shiplacoff

[0100] In one embodiment, the user can dismiss activities, for example by closing a card 301. In one embodiment, a card 301 can be closed by clicking on a control within the card. In another embodiment, a card 301 can be closed by dragging the card upward off screen 101, or performing a flicking action in an upward direction. Referring now to FIGS. 8A and

Shiplacoff at ¶[0100]; POR at 41, 43-5-54; Sur-Reply at 11



Shiplacoff

[0112] In one embodiment, the user can interact with cards 301 in shuffle mode in substantially the same manner as in card mode. Cards 301 can be moved back and forth, and a positional relationship among cards 301 is maintained. Cards 301 can be rearranged within the sequence by dragging and dropping. A card 301 can be closed, and its activity dismissed, by dragging the card 301 upward off screen 101, or performing a flicking action in an upward direction, in a manner similar to the operation described above in connection with FIGS. 8A and 8B. For example, referring now to FIG. 10C, there is shown an example of an upward drag or flicking action to dismiss card 301E. Upon dismissal of card 301E, card 301F would shift to the left to occupy the space formerly occupied by card 301E, and card 301G would move to the left to maintain consistent spacing among cards.

Shiplacoff at ¶[0112]; POR at 41, 43-5-54; Sur-Reply at 11

Petitioner provides no motivations for using a “flick” differently than it already used in Shiplacoff



Petitioner's Reply

POR, 49), Shiplacoff and Duarte-992 provide several mechanisms (*e.g.*, a gesture area, a modifier key, and recognition of the varying characteristics of a gesture, such as location, speed, and distance) by which a device may distinguish between different instances of a given type of input (*e.g.*, a tap or flick) received in a given display mode and assign functionality consistent with those distinctions. APPLE-1023, [21].

Reply at 16



“[O]bviousness concerns whether a skilled artisan not only could have made but would have been motivated to make the combinations or modifications of prior art to arrive at the claimed invention.”

Belden Inc. v. Berk-Tek LLC, 805 F.3d 1064, 1073 (Fed. Cir. 2015)

Sur-Reply at 12

Petitioner's new "tap" theory is untimely (relies on uncited evidence)

Petitioner's Reply – new "tap" theory

APPLE-1008, 28:37-62. In other words, according to Shaffer, POSITAs knew

* * *

The Matthews reference that was highlighted in the Petition similarly establishes that POSITAs considered movement, albeit limited amounts of movement, as an attribute of a tap gesture. To this point, Matthews offers that, "[i]f the duration of the gesture does not comprise a distance of uninterrupted movement above a predefined distance or does not meet a predefined threshold time period, the gesture is considered a tap-type operation...." APPLE-1010,

10:65-11:7; *see also id.*, APPLE-1010, 3:38-46. Matthews clarifies further by

* * *

Accordingly, the record evidence leaves no room for debate. A POSITA reading Shiplacoff and seeing its express reference to "tap" would have understood and found obvious from Shiplacoff to transition among Shiplacoff's display modes based on gestures that include "movement across the display screen in a direction," and that the "tap" has a "movement parameter" that is not "above a movement threshold." APPLE-1023, [27]; *see* Petition, 24 ("it would have been obvious to a

Reply at 16-18

Petition

[27e]

Feature [27e] recites similar features to [1j], and additionally recites "and that the second input that meets a second one or more criteria that is met when the second input is detected to include a duration parameter that is above a duration threshold." APPLE-1001, 99:51-65. For at least the reasons noted in [1j] and the reasons noted below, Shiplacoff renders [27e] obvious. APPLE-1003, ¶[79].

* * *

associated with a swipe gesture); APPLE-1003, ¶[80]. Moreover, a minimum predetermined time period threshold for a touch was also commonly used in the art such that any touch that did not satisfy the minimum predetermined time period threshold would be considered an unintentional touch or another type of gesture, such as a tap gesture. APPLE-1010, 11:2-7; APPLE-1003, ¶[80].

Pet. at 37

Shiplacoff describes “taps” as “static” gestures NOT gestures with movement across screen



'578 Patent

In the context of the present description, a static gesture refers to a gesture which does not involve movement across or in proximity to an interaction surface. Examples of static gestures may include, but are not limited to, button presses (real or virtual), multi-finger taps, operating a mechanical switch, a squeeze, and/or any other gesture which does not require motion.

'578 Patent at 61:18-24; Sur-Reply at 14

Shiplacoff never teaches a “tap or flick” gesture to switch from “full-screen mode” to “card mode”



Shiplacoff

[0100] In one embodiment, the user can dismiss activities, for example by closing a card 301. In one embodiment, a card 301 can be closed by clicking on a control within the card. In another embodiment, a card 301 can be closed by dragging the card upward off screen 101, or performing a flicking action in an upward direction. Referring now to FIGS. 8A and

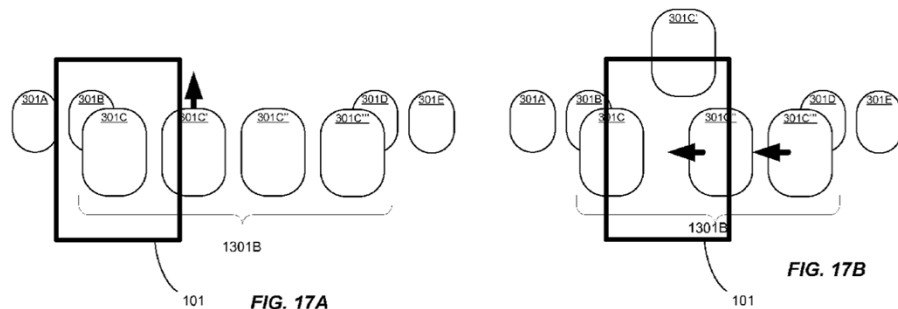
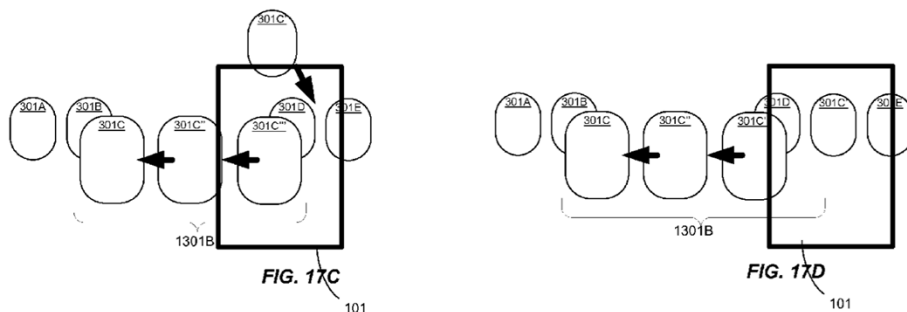
Shiplacoff at ¶[0100]; POR at 34-35



Shiplacoff

[0126] In yet another embodiment, when in card mode, tapping the area below the row of cards causes a switch to shuffle mode, whereas, when in shuffle mode, tapping any area not occupied by a card 301 causes a switch to card mode. In other embodiments, other user input actions can cause a switch between the modes, including for example, entering a gesture, typing a key on a keyboard, pressing a button, selecting a menu command, activating an on-screen button or other element, or the like.

Shiplacoff at ¶[0126]; POR at 33-38; Sur-Reply at 15



Shiplacoff at FIGS. 17A-17D

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- **Motivations to Combine**
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- Dependent Claims

Petitioner improperly tries to recast Ground 2 as a “relatively long single-finger gesture” and a “relatively short single-finger gesture”

Petition

Under Ground 1, features [1i]-[1k] were addressed, in part, by mapping Shiplacoff's swipe up gesture to the claimed “second input.” To the extent Patent Owner argues that Shiplacoff does not disclose and render obvious a “movement threshold” and related features such as “when the second input is detected to include the movement parameter that is above the movement threshold” (features [1j], [1k]), the edge gesture used in the SNC system (that would substitute the swipe up gesture in Shiplacoff alone) renders these features obvious. APPLE-1003, ¶[87].

Pet. at 46-49

Petitioner's Reply – new Ground 2 theory

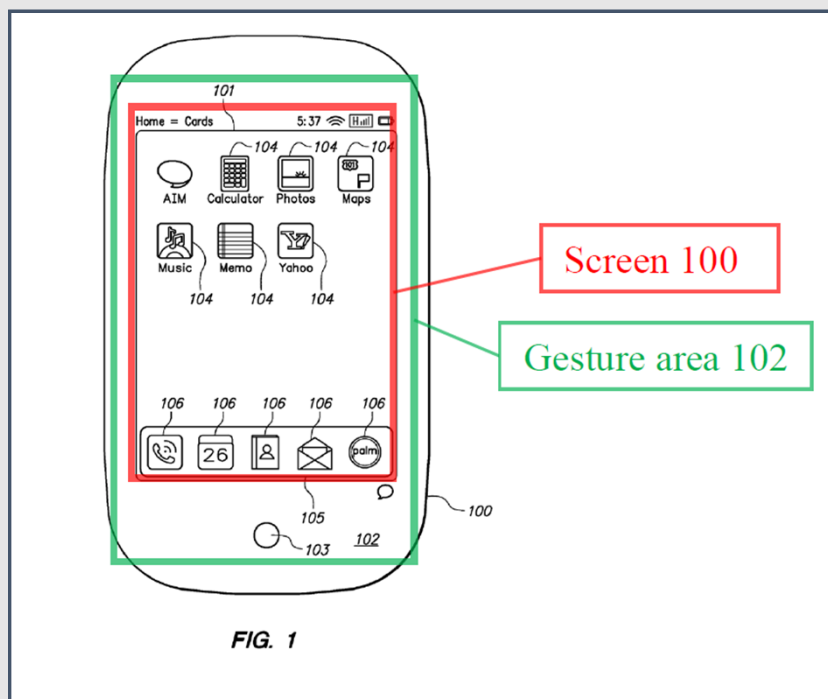
With respect to FIG. 8, Nan teaches an example in which “block 804 may determine to present...an application-selection interface in response to a relatively short single-finger gesture, or a system-control interface permitting selection to shut down computing device 102 in response to relatively long single-finger gesture, for example.” APPLE-1005, 7:38-44; Petition, 46-47 (citing same). In other words, the very example provided in Nan is one in which the device is choosing to which of two different interfaces the display should be transitioned based on whether a single-finger gesture is above or below a threshold (*i.e.*, whether the gesture is “relatively short” or “relatively long”). *See id.*; APPLE-1023, [30].

Reply at 20-21

Petitioner's motivations for combining Shiplacoff and Nan fail

- **First**, combining Shiplacoff and Nan would render Shiplacoff's "gesture area" inoperable for its intended purpose. POR, 60-64 (Reply, 19)
- **Second**, if Shiplacoff's "gesture area" were replaced with Nan, it would negate Shiplacoff's benefits of "expand[ing] the available space and the vocabulary of gestures." POR, 62-64 (Reply, 20-21)
- **Third**, Shiplacoff and Nan disclose different approaches – Shiplacoff teaches against Nan's "edge" approach and Shiplacoff "gesture area" is strictly an offscreen area. POR, 62-64 (Reply, 21-22)

Combining Nan would render Shiplacoff's "gesture area" inoperable



Shiplacoff at FIG. 1



[0064] In one embodiment, screen 101 is touch-sensitive, so that a user can activate an application or function by touching a displayed icon 104, 106. In one embodiment, device 100 also includes a touch-sensitive gesture area 102 for entering gesture-based commands, as described in the above-referenced related application. In another embodiment, screen 101 and/or gesture area 102 is sensitive to user motion in proximity to the surface, so as to detect gestures and commands performed near the surface but without necessarily contacting the surface.

Shiplacoff at ¶[0064]; POR at 60-64; Reply at 19

Combining Nan would negate Shiplacoff's benefits



Shiplacoff-Duarte-992

[0052] In one embodiment, as described above, the present invention provides a way to implement a vocabulary of touch commands including gestures that are performed within gesture area 102, within screen 101, or on some combination of the two. As mentioned above, gestures can also be performed over the surface of gesture area 102 and/or screen 101, without necessarily contacting these surfaces. The invention thus expands the available space and the vocabulary of gestures over prior art systems.

Shiplacoff-Duarte-992 at ¶[0052]; POR at 62-64; Reply at 20-21)

Shiplacoff and Nan teach different approaches



Shiplacoff-Duarte-992

[0045] One skilled in the art will recognize that gesture area 102 can be provided in any location with respect to screen 101 and need not be placed immediately below screen 101 as shown in Fig. 2. In addition, there may be a gap between gesture area 102 and screen 101, without departing from the essential characteristics of the present invention. Where a gap is present, device 100 may simply ignore the gap when interpreting touch commands that cross over from gesture area 102 to touch-sensitive screen 101, and vice versa.

Shiplacoff-Duarte-992 at ¶[0045]; POR at 62-64; Reply at 21-22)

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- **Dependent Claims**

Dependent Claims 2-3, 16-17, and 28-29



Petition's Reply

Smith argues that “Petitioner makes no allegation that Shiplacoff’s ‘tap or flick’ input—which Petitioner maps to ‘the second input’ of the remaining Limitations [1k], [15g], and [27f]—satisfies the additional requirements of” dependent claims 2 and 3 (or corresponding claims 16, 17, 28, and 29). It did not need to.

Reply at 26



Petition's Reply

With respect to Limitations [1k], [15g], and [27f], the Petition explained how “it would have been obvious, if not understood, to use a different gesture, such as a tap or flick, that does not have the same movement parameters”—and “duration parameters”—as “those of a swipe up gesture.” *See* Petition, 23-24, 36-39. Thus, both Grounds simply argue that it would have been obvious to change the “movement parameters” and “duration parameters” of the “different gesture” that transitions from full screen mode to the launcher screen, without requiring or relying on a change from the aspects of the “swipe up” gesture that would otherwise meet dependent claims 2 and 3. *See id.*; APPLE-1023, [39]-[42]. Thus, for the same reason the “swipe up” gesture meets dependent claims 2 and 3 so too would the “different gesture” described with respect to Limitations [1k], [15g], and [27f]. *Id.*

Reply at 26

The “vertical direction” of a “swipe up” gesture does not apply to all other gestures



'578 Patent

3. The electronic device of claim 1, wherein the electronic device is configured such that the detecting the second input by the second contact that includes movement across the display in the direction, which includes a vertical direction.

'578 Patent at Claim 3; Sur-Reply at 23-24