

Motorola Mobility LLC and Google LLC (Petitioners) v. Multifold International Incorporated PTE, LTD. (Patent Owners)

PETITIONERS' HEARING DEMONSTRATIVES

Case No. IPR2025-00040

February 24, 2026



Ex. 1013
Google LLC v. Multifold Int'l
IPR2025-00040

ROADMAP

1 OVERVIEW AND CONTESTED ISSUE

Patent Owner has no substantive dispute for the independent claims
Dependent Claims 5, 8, and 9

2 SPECIFIC GROUNDS

Grounds 1 & 2: Yook Anticipation and Obviousness

Grounds 3 & 4: Lee Anticipation and Obviousness

Grounds 5 & 6: Aguilar Anticipation and Obviousness

Ground 7: Purcell Anticipation

Ground 8: Purcell and Yook Obviousness

ROADMAP

1 OVERVIEW AND CONTESTED ISSUE

Patent Owner has no substantive dispute for the independent claims
Dependent Claims 5, 8, and 9

2 SPECIFIC GROUNDS

Grounds 1 & 2: Yook Anticipation and Obviousness

Grounds 3 & 4: Lee Anticipation and Obviousness

Grounds 5 & 6: Aguilar Anticipation and Obviousness

Ground 7: Purcell Anticipation

Ground 8: Purcell and Yook Obviousness

OVERVIEW

U.S. Patent No. 9,134,756

“THE ’756 PATENT”

US 9,134,756 B2

(12) **United States Patent**
de Paz

(10) **Patent No.:** **US 9,134,756 B2**
(45) **Date of Patent:** **Sep. 15, 2015**

(54) **DUAL SCREEN APPLICATION VISUAL INDICATOR**

(75) **Inventor:** **Alexander de Paz**, Burlington (CA)

(73) **Assignee:** **Z124**, George Town (KY)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 680 days.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,832,099 A * 11/1998 Clark et al. 715/764

6,014,135 A 1/2000 Fernandez (Continued)

FOREIGN PATENT DOCUMENTS

(54) DUAL SCREEN APPLICATION VISUAL INDICATOR

(51) **Int. Cl.** (2006.01)
G06F 1/16 (2013.01)
G06F 3/048 (Continued)

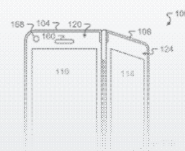
(52) **U.S. CL.**
CPC — **G06F 1/1616** (2013.01); **G06F 1/16** (2013.01); **G06F 1/1617** (2013.01); **G06F 1/1677** (2013.01); **G06F 3/048** (2013.01); **G06F 3/0481** (2013.01); (Continued)

(58) **Field of Classification Search**
CPC — **G06F 3/04835**; **G06F 3/0486**; **G06F 3/048** **USPC** — 715/761
See application file for complete search history.

(74) **Attorney, Agent, or Firm** — Sheridan Ross PC.

(57) **ABSTRACT**
A dual-screen user device and methods for revealing a combination of desktops on single and multiple screens are disclosed. A determined number of desktops and/or running applications can be selectively displayed on dual screen displays conditioned upon inputs received and the state of the device. Desktop displays and applications can be selectively shifted between the screens by user gestures, and can be moved off of the screens by other user gestures and therefore hidden. The hidden desktops and screens however can be re-displayed by yet another gesture. The desktops and applications are arranged in a window stack that represents a logical order of the desktops and applications allowing a user with an intuitive ability to manage multiple applications/desktops running simultaneously. Visual indicators can be used on the displayed applications and desktops enabling a user to maximize a display on multiple screens or to minimize them on a single selected screen.

14 Claims, 25 Drawing Sheets



(57)

ABSTRACT

A dual-screen user device and methods for revealing a combination of desktops on single and multiple screens are disclosed. A determined number of desktops and/or running applications can be selectively displayed on dual screen displays conditioned upon inputs received and the state of the device. Desktop displays and applications can be selectively shifted between the screens by user gestures, and can be moved off of the screens by other user gestures and therefore hidden. The hidden desktops and screens however can be re-displayed by yet another gesture. The desktops and applications are arranged in a window stack that represents a logical order of the desktops and applications allowing a user with an intuitive ability to manage multiple applications/desktops running simultaneously. Visual indicators can be used on the displayed applications and desktops enabling a user to maximize a display on multiple screens or to minimize them on a single selected screen.

OVERVIEW

The '756 Patent

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

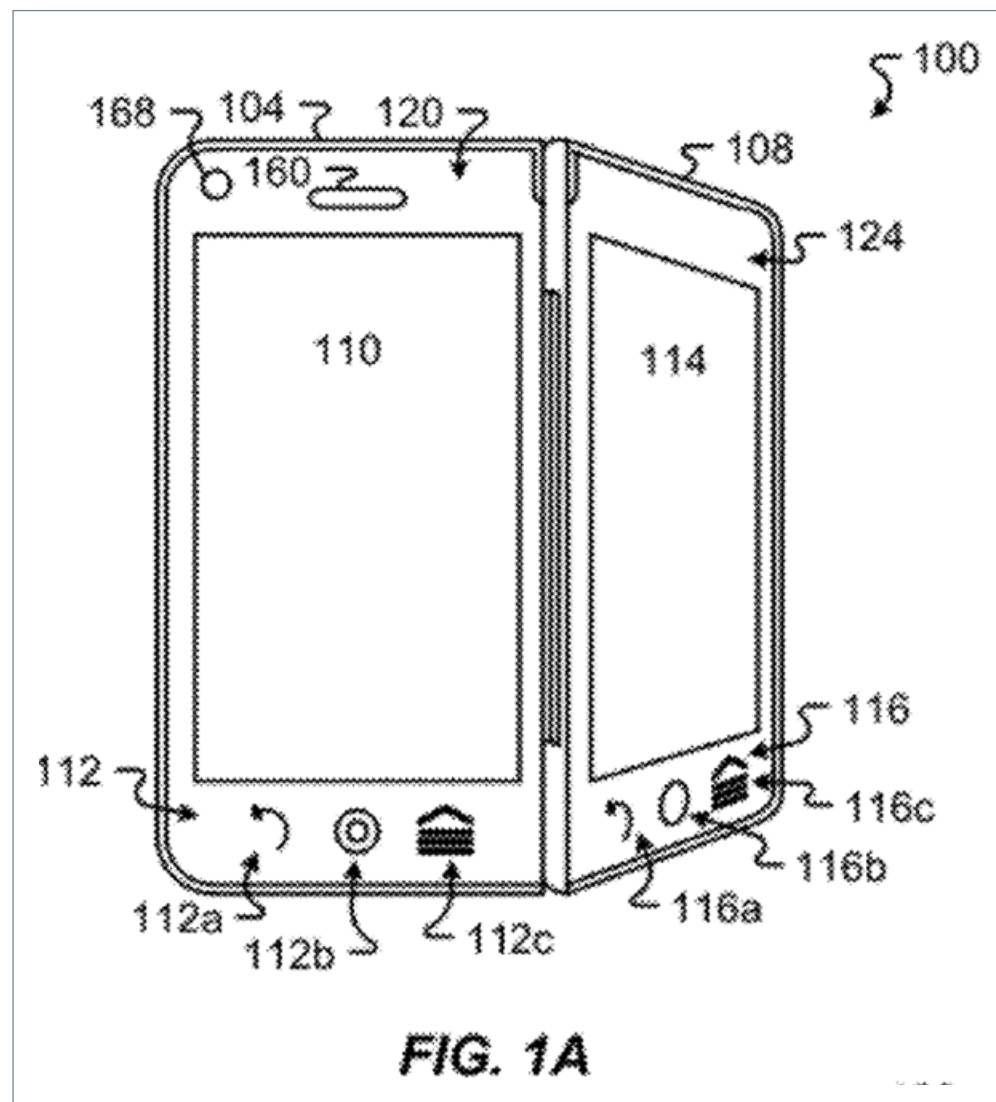
receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



OVERVIEW

IPR2025-00040

- Independent Claims: 1, 7
- Challenged Claims: 1-9
- Grounds for Unpatentability:
 - GROUND 1: Yook anticipates claims 1-4 and 6-9 under pre-AIA 35 U.S.C §102(a)
 - GROUND 2: Yook renders the Challenged Claims obvious under pre-AIA 35 U.S.C §103
 - GROUND 3: Lee anticipates claims 1-3, 6, 7, and 9 under pre-AIA 35 U.S.C §102(b)
 - GROUND 4: Lee renders claims 1-3, 6, 7, and 9 obvious under pre-AIA 35 U.S.C §103
 - GROUND 5: Aguilar anticipates claims 1-3, 6, 7, and 9 under pre-AIA 35 U.S.C §102(e)
 - GROUND 6: Aguilar renders claims 1-3, 6, 7, and 9 obvious under pre-AIA 35 U.S.C §103
 - GROUND 7: Purcell anticipates claims 1-3, 6, 7, and 9 under pre-AIA 35 U.S.C §102(b)
 - GROUND 8: Purcell in view of Yook renders the Challenged Claims obvious under pre-AIA 35 U.S.C §103

OVERVIEW

'756 PATENT

PO Does Not Identify Any Limitations Missing From the Prior Art In The Independent Claims

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.

7. A non-transitory computer-readable medium having stored thereon instructions that cause a computing system to execute a method, the instructions comprising:

instructions configured to receive a first predetermined input that represents an instruction to determine and reveal a first desktop or application on a first display of the multi-display device;

instructions configured to receive a second predetermined input that represents an instruction to determine and reveal a second desktop or application on a second display of the multi-display device;

instructions configured to respond to the first and second predetermined inputs with outputs that cause the first desktop or application to be displayed on the first display and cause the second desktop or application to be displayed on the second display;

instructions configured to receive a third predetermined input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays according to the instructions configured to respond to the third predetermined input; and

instructions configured to respond to the third predetermined input that causes displaying of the selected one of the first or second desktops or applications in a maximized condition.

OVERVIEW '756 PATENT

PO's Expert Does Not Dispute That the Prior Art Discloses Claims 1-4 and 6-9

45. The Petition challenges claims 1-9 of the '756 Patent under eight grounds. I have only been asked to opine on the validity of claim 5. Therefore, the two Grounds relevant to my declaration are:

- Ground 2: Obviousness of claim 5 over Yook; and
- Ground 8: Obviousness of claim 5 over Purcell and Yook.

Pet., ii, v. Furthermore, I understand that the Petition alleges claim 5 is obvious in view of Purcell and Yook for the same reason that it is obvious in view of Yook.

Pet., 88. Therefore, my declaration focuses on Yook's disclosure.

46. I have not been asked to opine on the validity of claims 1-4 or 6-9, nor do I have an opinion as to the validity of these claims.

Q. And in this declaration, you are not disputing whether any of the references in the IPR petition teach limitations of Claim 1 of the '756; is that correct?

A. Just one second. Yeah. As I state in paragraph 46, I have not been asked to opine on the validity of Claims 1 through 4 or 6 through 9, nor do I have an opinion as to validity of these claims. So I am not disputing the validity and I think incorporated in that is the answer to your question.

OVERVIEW '756 PATENT

PO's Limited Challenge – Claim 1

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.

- Sole challenge for the independent claims is the element, "*displaying...the selected first and second desktops or applications on the first and second displays*"
- PO does not challenge that the prior art fails to disclose this element
 - Only argues that the listing of the challenged claims in the Petition omitted some language at the end of a limitation of claim 1
 - No such argument for independent claim 7

CLAIM 1 '756 PATENT

The Prior Art Discloses “Displaying, by the Processor, ...”

- The Institution Decision found the element present and addressed by the Petition
- The Petition demonstrated multiple examples of each prior art reference displaying two applications on a first and second screen
- PO's arguments are in conflict with its prior statements

CLAIM 1 '756 PATENT

The Institution Decision Considered the "displaying" Language Because the Petition Addressed the Element

- The ID determined that Limitation 1[B] was expressly disclosed by the prior art

Limitation 1[B]: “receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device; selecting, by the processor, a second desktop or application to display on the second display; displaying, by the processor, the selected first and second desktops or applications on the first and second displays;”

Institution Decision, 20

On the present record, Yook and the Rodriguez Declaration adequately support Petitioner’s contention that Yook discloses Limitation 1[B].

Institution Decision, 21

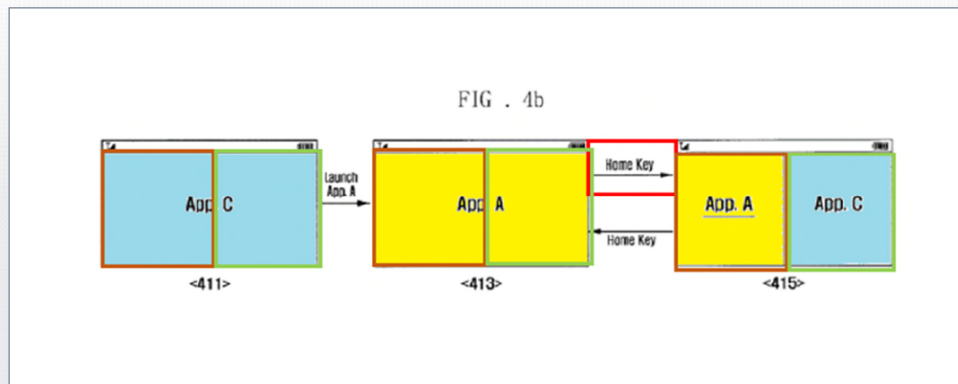
On the present record, Purcell and the Rodriguez Declaration adequately support Petitioner’s contention that Purcell discloses Limitations 1[A], 1[B], and 1[C].

Institution Decision, 28

CLAIM 1 – GROUNDS 1, 2 '756 PATENT

The Petition Shows that the Prior Art Discloses Displaying Two Applications

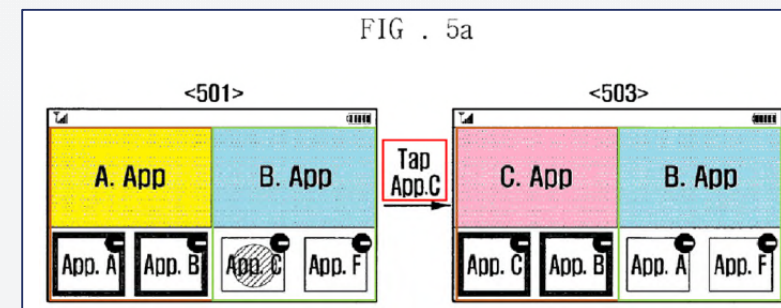
YOOK



With reference again to Fig. 4b, Yook discloses that a user can “generate[s] an input signal corresponding to one of a particular key and a touch event like the ‘Home’ key in screen 413...can simultaneously output two functional view areas App.C and App.A.” Ex. 1004, ¶[0047], Ex. 1003, ¶71. In response to receiving the

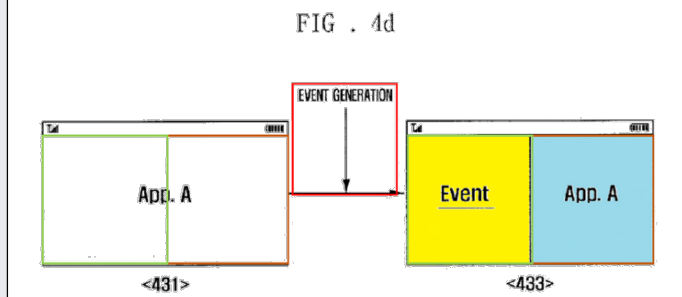
Petition, 27-28

Yook also discloses how a user can select one out of multiple running applications to reveal on each display. Ex. 1003, ¶73. For example, as shown in Fig. 5, a user can select by the touchscreen one of App.A, App.B, App.C, or App.F from a stack in order to display on the second display. Ex. 1003, ¶73; Ex. 1004, ¶[0058].



Petition, 29

As another example, Fig. 4d, demonstrates how an “Event Generation” input is used to launch a second application, which is then displayed on the second display (green box). Ex. 1004, ¶[0051], Ex. 1003, ¶74.

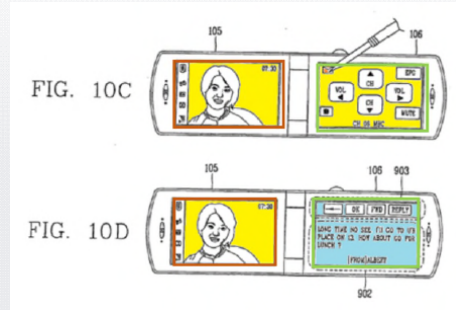
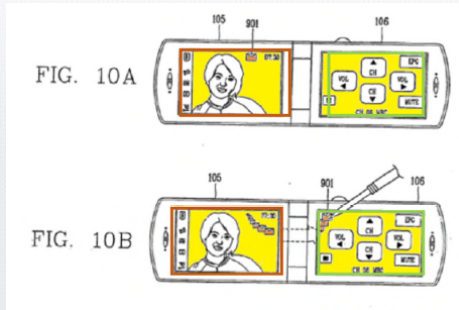


Petition, 30

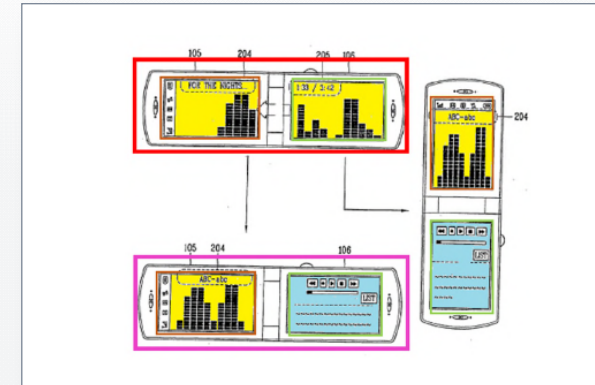
CLAIM 1 – GROUNDS 3, 4 '756 PATENT

The Petition Shows that the Prior Art Discloses Displaying Two Applications

LEE



Lee is directed to a multi-display and multi-screen device that includes a touch screen user interface. Ex. 1003, ¶53; Ex. 1005, Figs. 1-11, ¶¶[0002]-[0009]. Lee provides an example of displaying one application, and then instructing a second application to open on a second display. *Id.*, ¶¶[0053]-[0054]. As shown below in Figs. 10C-10D, Lee discloses that when one application is initially displayed and an event occurs, such as an incoming text message, the event is revealed on the second display. Ex. 1003, ¶53; *Id.*



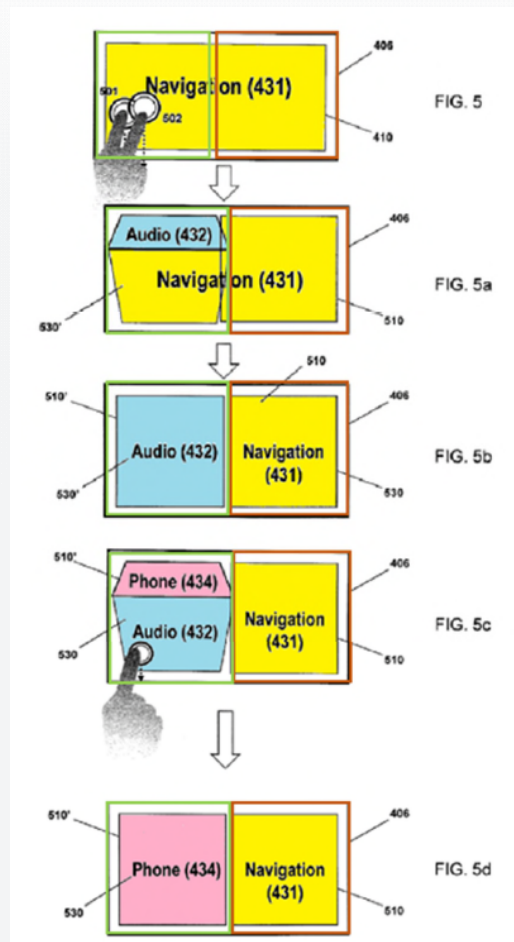
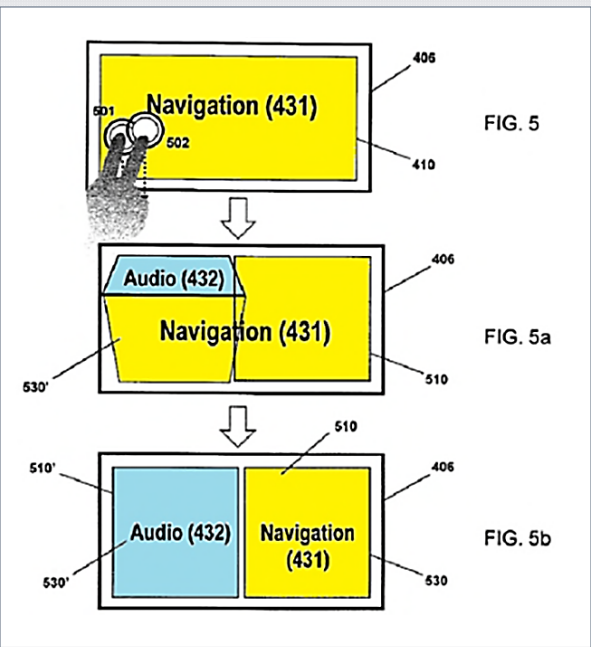
Lee discloses this limitation. Ex. 1004, Fig. 4, Fig. 6, Fig. 9, ¶[0048]; Ex. 1003, ¶119-20. In the previous element, with respect to Figs. 6-8, Lee described how a single application window can be displayed on both displays. Ex. 1005, ¶[0048]; Ex. 1003, ¶120. Lee further recognized that a user may wish to “multitask” among several applications, and Lee describes how a user can perform multitasking and display two application windows using the two separate displays. Ex. 1005, ¶¶[0049]-[0053]; Ex. 1003, ¶119. Lee begins this discussion with Fig. 9, which shows the device displaying a window of the first application on both the first and second display in the red outline:

CLAIM 1 – GROUNDS 5, 6 '756 PATENT

The Petition Shows that the Prior Art Discloses Displaying Two Applications

AGUILAR

Aguilar is directed to a multi-display device that is able to display a single application across the entire screen, or divide the screen into multiple displays for multiple applications. Ex. 1003, ¶54; Ex. 1006, Abstract, Figs. 4-9.



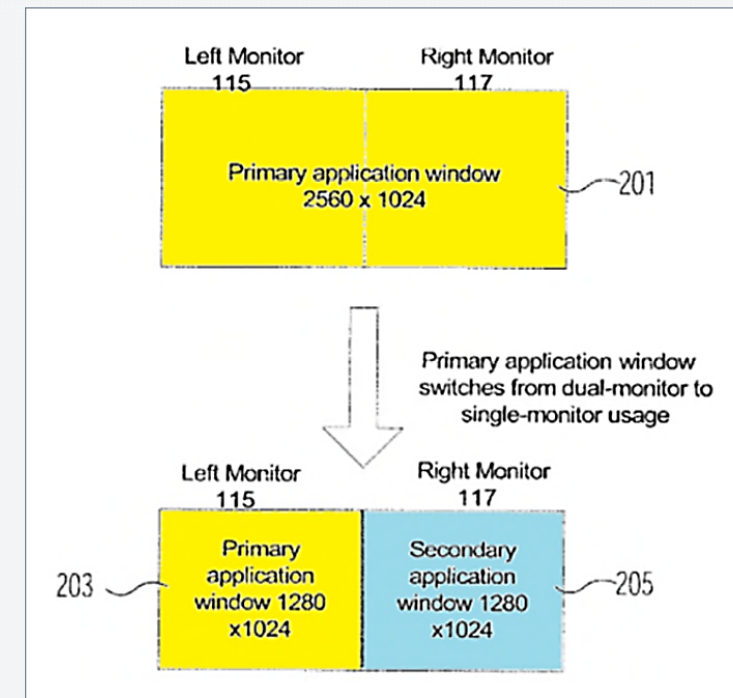
CLAIM 1 – GROUNDS 7, 8 '756 PATENT

The Petition Shows that the Prior Art Discloses Displaying Two Applications

PURCELL

1003, ¶182. Purcell describes a second input is received for instructions “to permit another application to execute concurrently and display an image window adjacent to an image window of the primary application...” Ex. 1007, ¶[0016]; Ex. 1003, ¶183. Based on the input and instructions, the system then “initiates execution of a secondary application that displays an associated image window on the right monitor (monitor 117).” *Id.* Thus, the second application is revealed on the second display. *Id.*

Purcell is directed to a system with multiple display monitors that is used to display multiple applications at the same time to a user.



CLAIM 1 '756 PATENT

PO's Preliminary Response

- In its Preliminary Response, PO stated that the prior art displays, and the Petition showed, first and second applications on each of the displays
- PO's attempts to argue about the "displaying, by the processor, . . ." limitation are in direct conflict with its prior statements

First, the Petition alleges

Yook discloses Element 1[A] because it describes "how a user can select one out of multiple running applications to reveal on each display. For example, as shown in Fig. 5, a user can select by the touchscreen one of App.A, App.B, App.C, or App.F from a stack in order to display on the first display."

Fourth, Petitioners' Purcell analysis also fails to address the selection step.

With respect to Element 1[A], Petitioners allege that "[a]s also shown in Fig. 2, the first application (yellow) can be displayed only on the first display (orange box).

Either scenario meets the claim." Pet., 77. But this allegation does not address the requirement that a processor selects the application to be displayed on the first display—Petitioners at most allege that an application is displayed, without a

selection step. Likewise for Element 1[B], Petitioners allege "Purcell discloses

receiving a second input to reveal a second application, and in response to that

input, displaying a second application on the second display." But again, this is at

most a teaching of displaying an application on the second display. It does not

follow from this disclosure that Purcell's processor performs the required selection

of the application to display on the second display. As with the other references,

the Petition fails to show how Purcell suggests the required steps to be performed

by the processor.

OVERVIEW '756 PATENT

PO's Limited Challenge – Three Dependent Claims

5. The method of claim 4, wherein the visual indicator has a wave shape.

8. The computer-readable medium of claim 7, wherein at least one of the first or second displays has a visual indicator displayed thereon and signifying that a desktop or application appearing on that display can be maximized by a user gesture according to the instructions configured to receive a third predetermined input.

9. The computer-readable medium of claim 7 wherein a fourth predetermined input is an instruction to minimize a selected one of the first or second desktops or applications, resulting in the selected one being displayed only one of the first and second displays according to the instructions configured to respond to the third predetermined input.

- PO's expert failed to support PO's argument on claim 5.

Reply at 17-19

- PO challenges claims 8 and 9 based on the word "instructions" but fails to substantively address anything from the Petition or Expert Declaration that identified instructions

PO Response, at 24-25; Reply at 20-21

CLAIM 5

'756 PATENT

Yook Obviousness

5. The method of claim 4, wherein the visual indicator has a wave shape.



Ex. 1004, selected icons from Figs. 1, 4e, 5a, 5c, 5d, 6, 7a, 7b, 7c, 8, 9, 10, 11, 12, 13

A POSITA would understand that the shape taken by a visual indicator, or icon, is merely a matter of common and routine design choice. Ex. 1003, ¶109; *Tesla, Inc. v. Charge Fusion Techs., LLC*, IPR2022-01217, Paper 11 (PTAB Feb. 1, 2023) (as part of an obvious finding, noting that a visual charging indicator “would be a matter of routine design choice”). The icons in Yook are providing the claimed functionality of claim 5, and their visual appearance is irrelevant to providing the visual indication of permitting the application to be maximized. Yook’s multiple different icons that accomplish this claimed purpose render the claim obvious. Ex. 1003, ¶109.

CLAIM 5

Yook Obviousness

5. The method of claim 4, wherein the visual indicator has a wave shape.

Q. Other than the '756 patent, does your declaration identify any examples where a wave shape is associated with maximizing and minimizing application size?

A. I don't think so.

Ex. 1012, 189:13-18

PO's expert admits that the "wave shape" is a design choice without any patentable significance:

Q. So if I understand that, the visual indicator would indicate that the user can do something, but not necessarily what that something is?

A. Right.

Ex. 1012, 200:2-6

CLAIM 5

Yook Obviousness

5. The method of claim 4, wherein the visual indicator has a wave shape.

A person of ordinary skill would know that the wave shape is suitable for expanding with the application because it can stretch as shown in Fig. 10. Ex.2002, ¶74 (“From these disclosures, a person of ordinary skill would know that the wave shape is suitable for expanding with the application because it expands as shown in Fig. 10. The person of ordinary skill would thus understand that a wave shaped visual indicator is a specific functional embodiment of a visual indicator that can expand with the application.”). Thus, based on these disclosures, a person of ordinary skill would understand that a wave shaped visual indicator is a specific functional embodiment of a visual indicator that can expand with the application. Ex.2002, ¶¶66-74.

PO Sur-Reply, at 21

PO's Expert Could Not Support PO's Argument

Q. [D]o you see words that in the claim language itself, that the visual indicator needs to be different between when an application is minimized or maximized?

A. No, I don't.

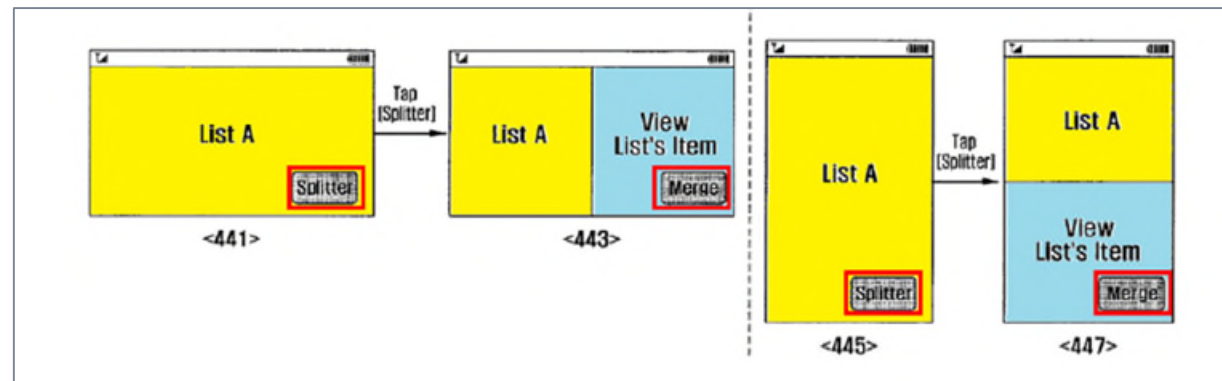
Ex. 1012, 217:5-10

ALL GROUNDS '756 PATENT

CLAIMS 8 & 9

8. The computer-readable medium of claim 7, wherein at least one of the first or second displays has a visual indicator displayed thereon and signifying that a desktop or application appearing on that display can be maximized by a user gesture according to the instructions configured to receive a third predetermined input.

9. The computer-readable medium of claim 7 wherein a fourth predetermined input is an instruction to minimize a selected one of the first or second desktops or applications, resulting in the selected one being displayed only one of the first and second displays according to the instructions configured to respond to the third predetermined input.



Ex. 1004, Fig. 4e (annotated)



Ex. 1004, Fig. 10 (annotated)

ALL GROUNDS '756 PATENT

7. A non-transitory computer-readable medium having stored thereon instructions that cause a computing system to execute a method, the instructions comprising:

instructions configured to receive a first predetermined input that represents an instruction to determine and reveal a first desktop or application on a first display of the multi-display device;

instructions configured to receive a second predetermined input that represents an instruction to determine and reveal a second desktop or application on a second display of the multi-display device;

instructions configured to respond to the first and second predetermined inputs with outputs that cause the first desktop or application to be displayed on the first display and cause the second desktop or application to be displayed on the second display;

instructions configured to receive a third predetermined input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays according to the instructions configured to respond to the third predetermined input; and

instructions configured to respond to the third predetermined input that causes displaying of the selected one of the first or second desktops or applications in a maximized condition.

9. The computer-readable medium of claim 7 wherein a fourth predetermined input is an instruction to minimize a selected one of the first or second desktops or applications, resulting in the selected one being displayed only one of the first and second displays according to the instructions configured to respond to the third predetermined input.

PO Argument Misreads Claim 9

Petitioners present no evidence with respect to claim 6 that minimizing a selected desktop or application results in the selected one being displayed according to the same instructions that cause the display of a desktop or application in a maximized condition. *Indeed, the Petition alleges with respect to claim 6 that*

PO Response, at 25

The claim language states that the minimized application is one of the two displays that was displayed.

ROADMAP

1 OVERVIEW AND CONTESTED ISSUE

2 Specific Grounds

Grounds 1 & 2: Yook Anticipation and Obviousness

Grounds 3 & 4: Lee Anticipation and Obviousness

Grounds 5 & 6: Aguilar Anticipation and Obviousness

Ground 7: Purcell Anticipation

Ground 8: Purcell and Yook Obviousness

FOUND 1 & 2

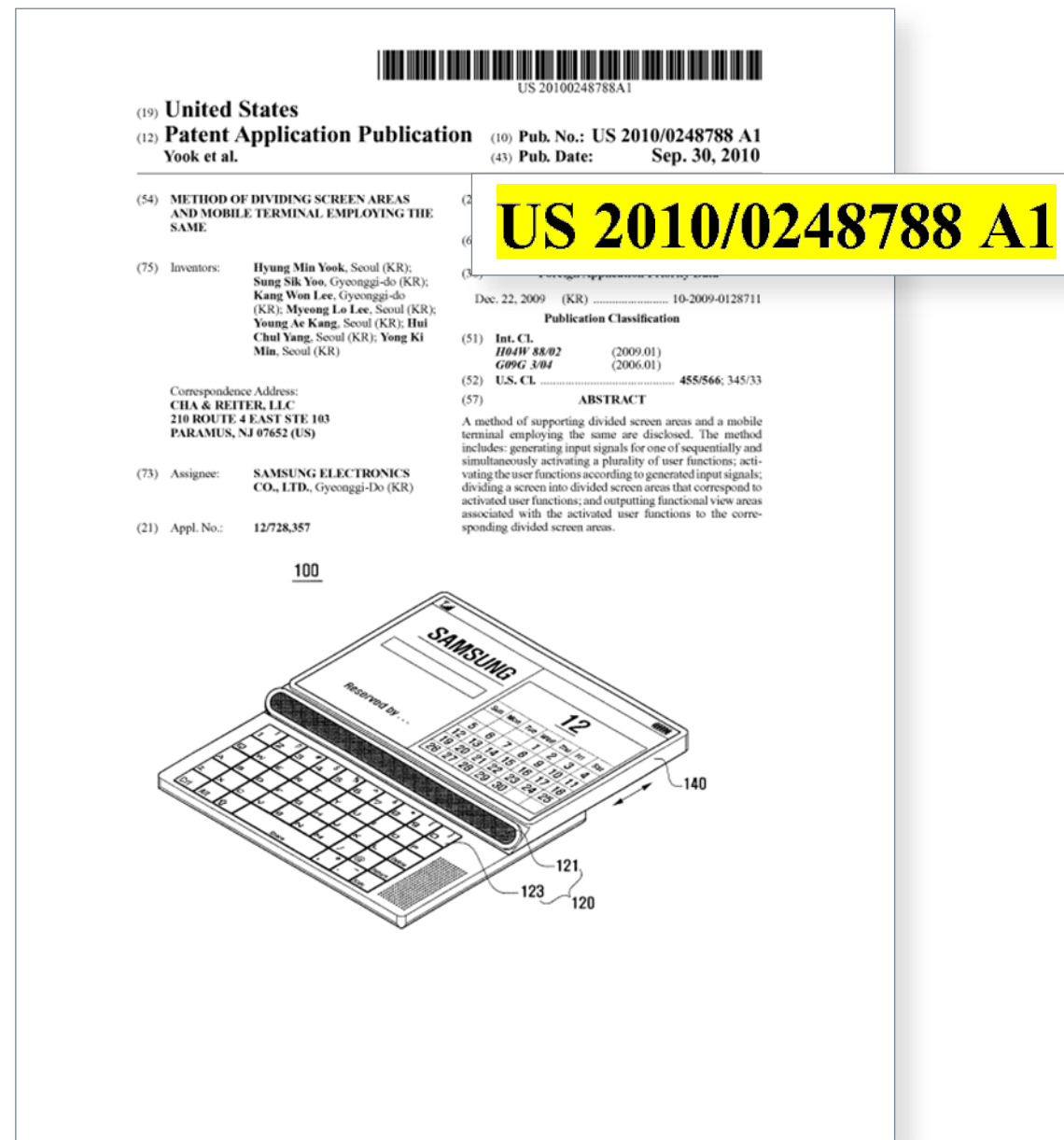
Yook Anticipation and Obviousness

GROUND 1:

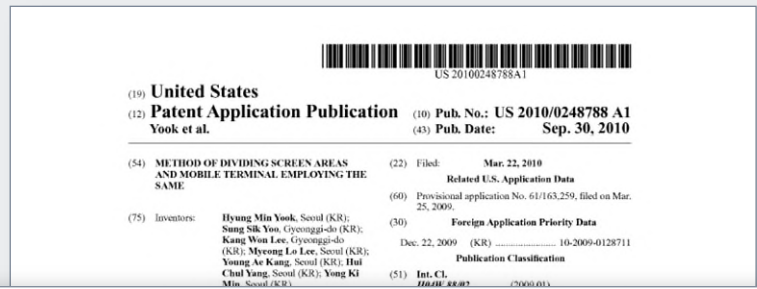
Yook anticipates claims 1-4 and 6-9 under pre-AIA 35 U.S.C §102(a)

GROUND 2:

Yook renders the Challenged Claims obvious under pre-AIA 35 U.S.C § 103

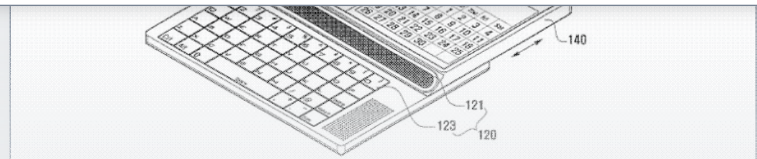


GROUND S 1 & 2 **Yook Prior Art**

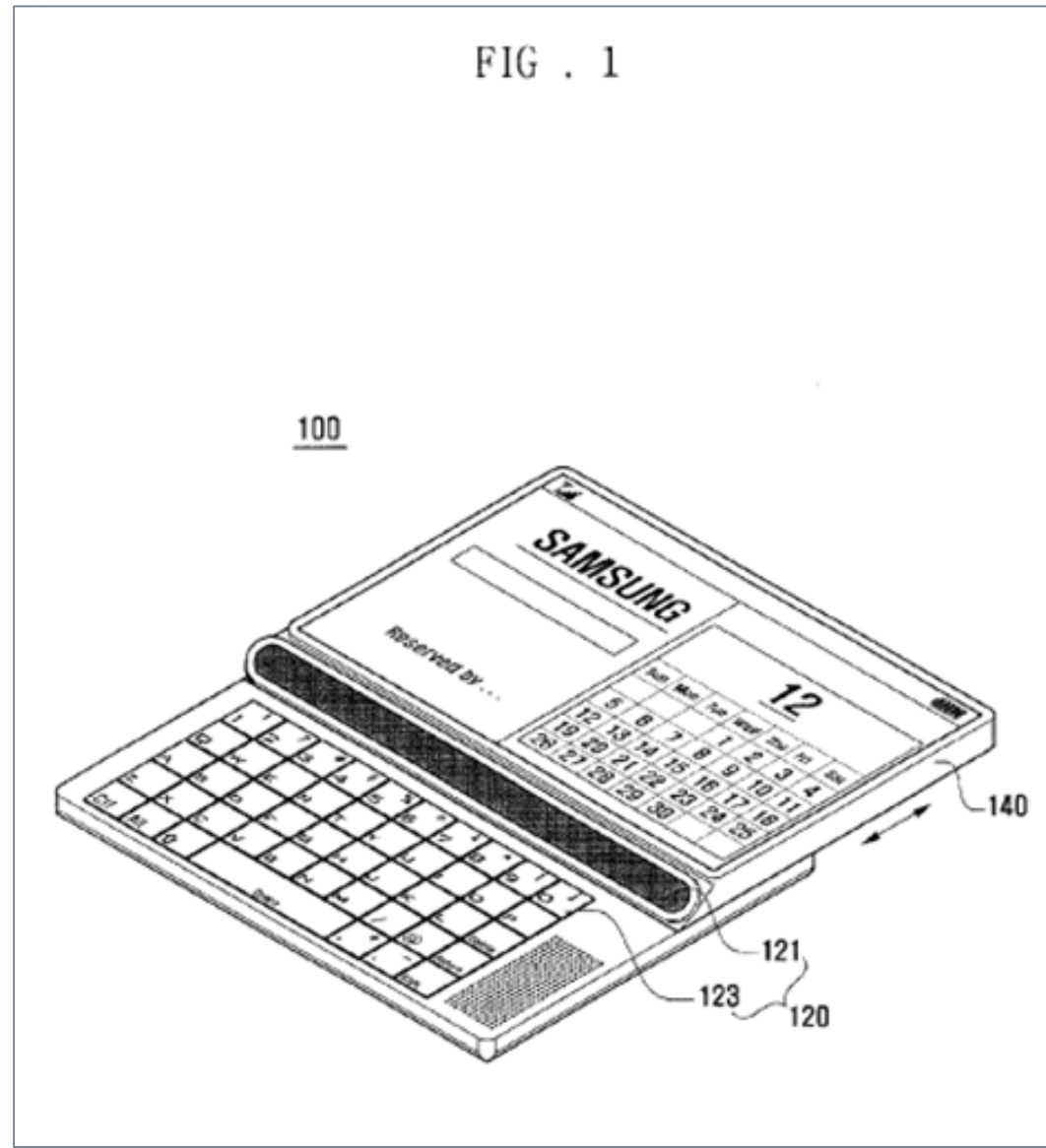


Pub. No.: **US 2010/0248788 A1**
 Pub. Date: **Sep. 30, 2010**

Filed: **Mar. 22, 2010**

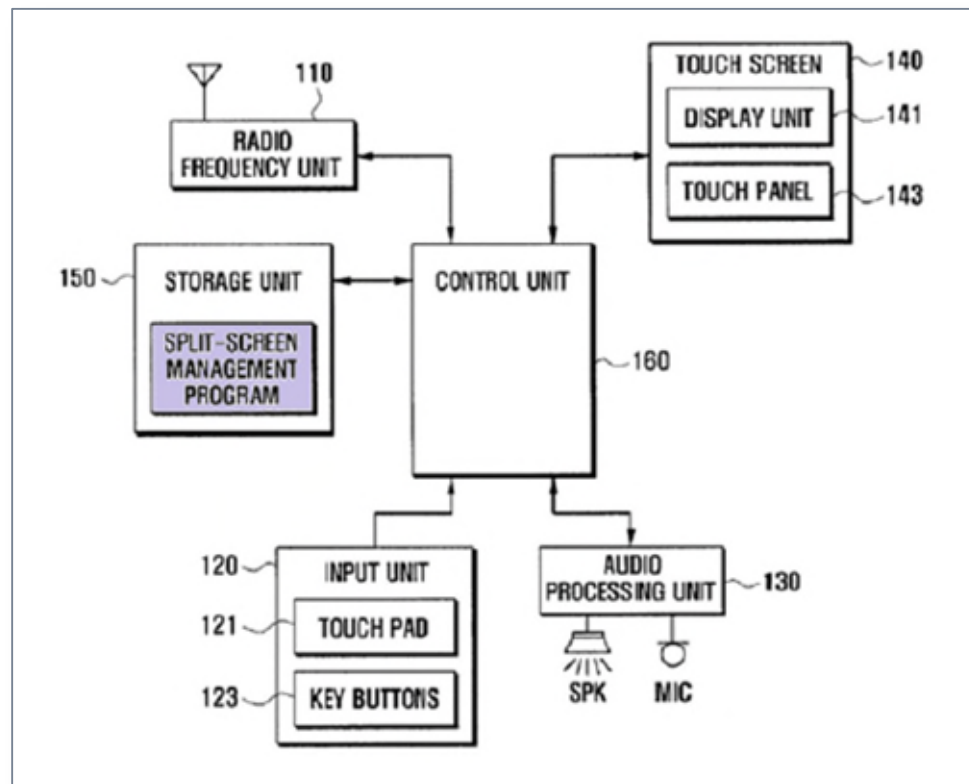


Claims priority to provisional application number 61/163,259 filed on March 25, 2009

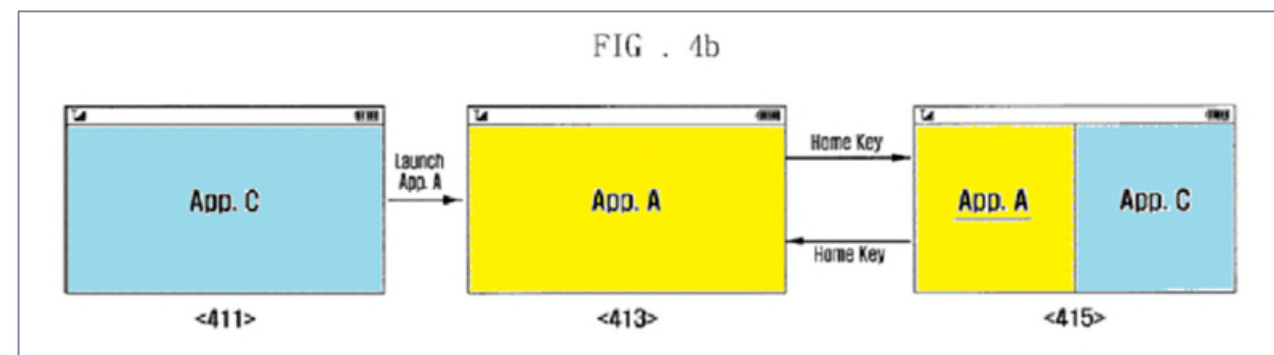


FOUNDATIONS 1 & 2

Yook Prior Art



Ex. 1004, Fig. 2 (annotated)



Ex. 1004, Fig. 4b (annotated)

GROUND 1 & 2 '756 PATENT

Yook Anticipation and Obviousness

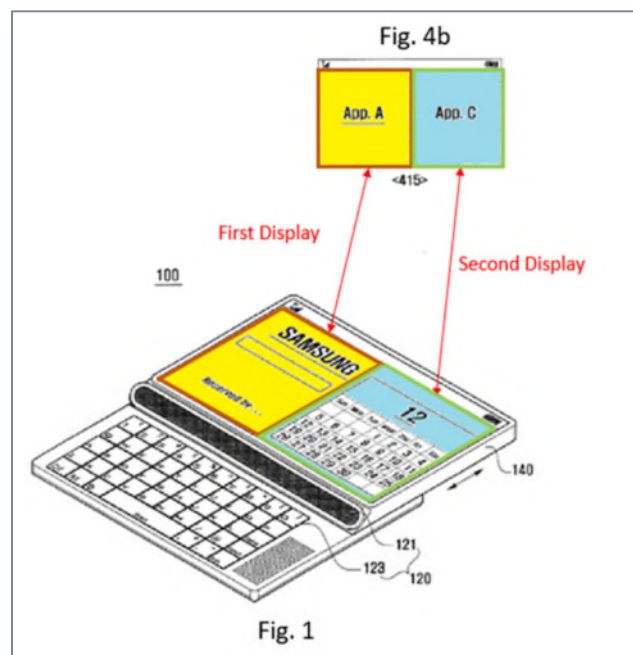
CLAIM 1[P]

What is claimed is:

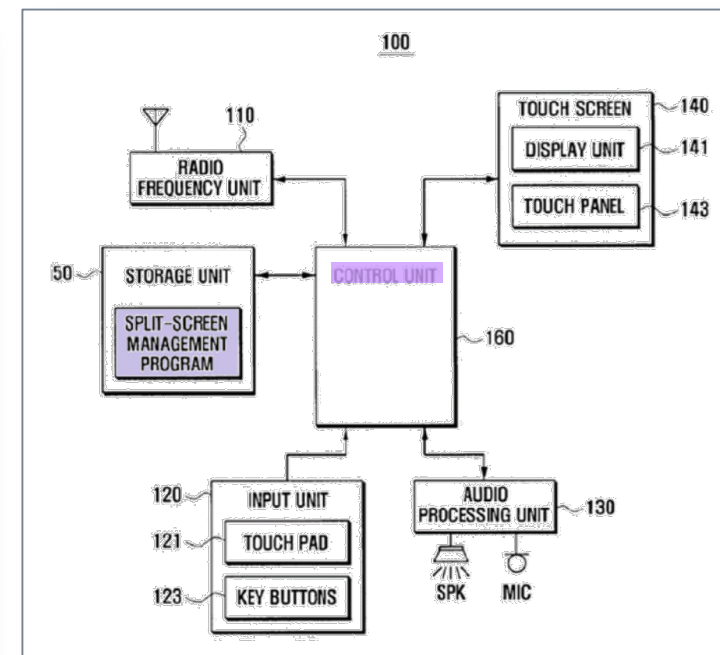
1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

- receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;
- selecting, by the processor, a first desktop or application to display on the first display;
- receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;
- selecting, by the processor, a second desktop or application to display on the second display;
- displaying, by the processor, the selected first and second desktops or applications on the first and second displays;
- receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and
- displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.

US 2010/0248788 A1



Ex. 1004, Fig. 1 (annotated)



Ex. 1004, Fig. 2 (annotated)

GROUNDS 1 & 2 '756 PATENT

Yook Anticipation and Obviousness

CLAIM 1[A]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

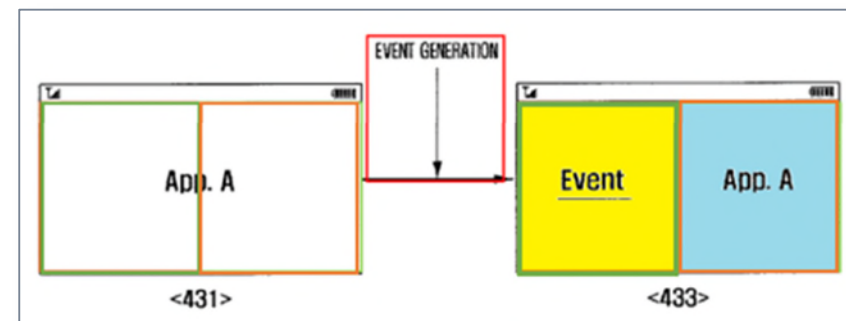
displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

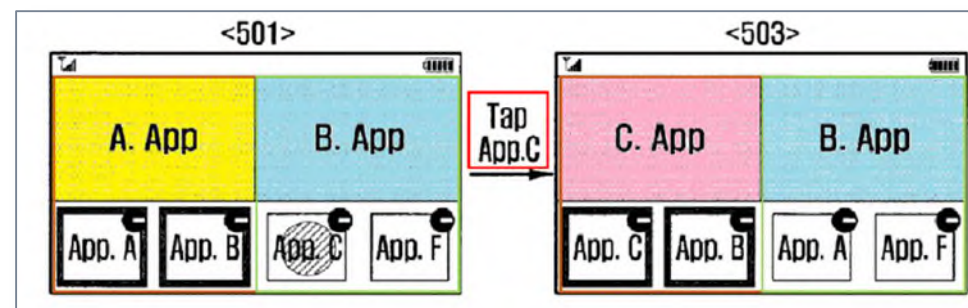
displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1004, Fig. 4b (annotated)



Ex. 1004, Fig. 4d (annotated)



Ex. 1004, Fig. 5a (annotated)

GROUNDS 1 & 2 '756 PATENT

Yook Anticipation and Obviousness

CLAIM 1[B]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

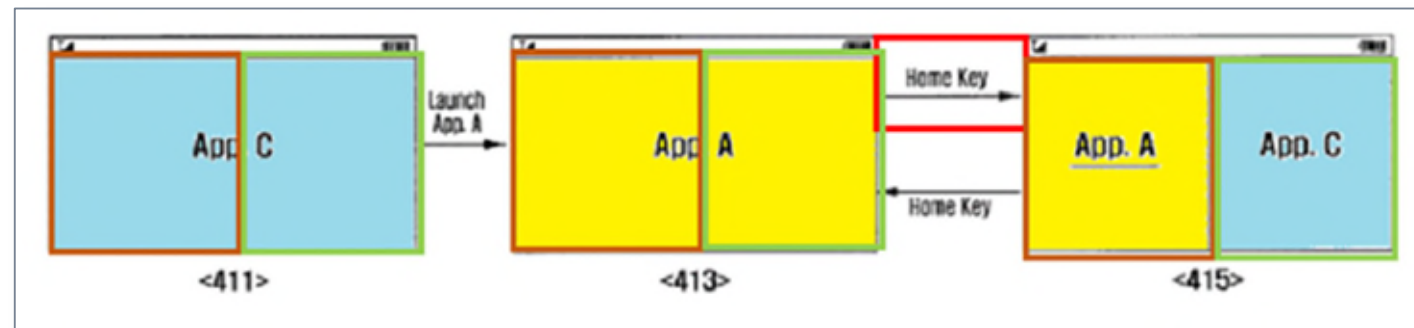
receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1004, Fig. 4b (annotated)



Ex. 1004, Fig. 10 (annotated)

GROUNDS 1 & 2 '756 PATENT

Yook Anticipation and Obviousness

CLAIM 1[B]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

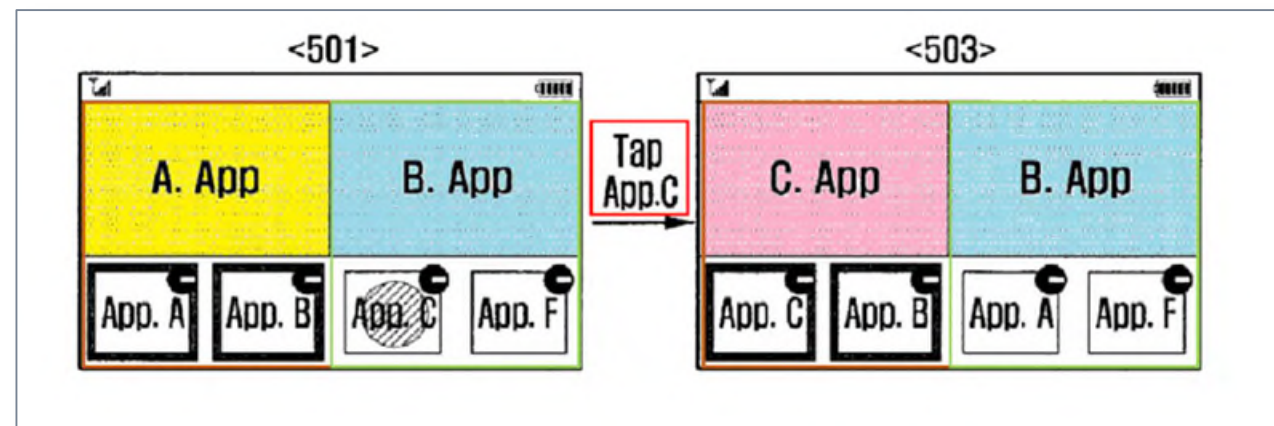
receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

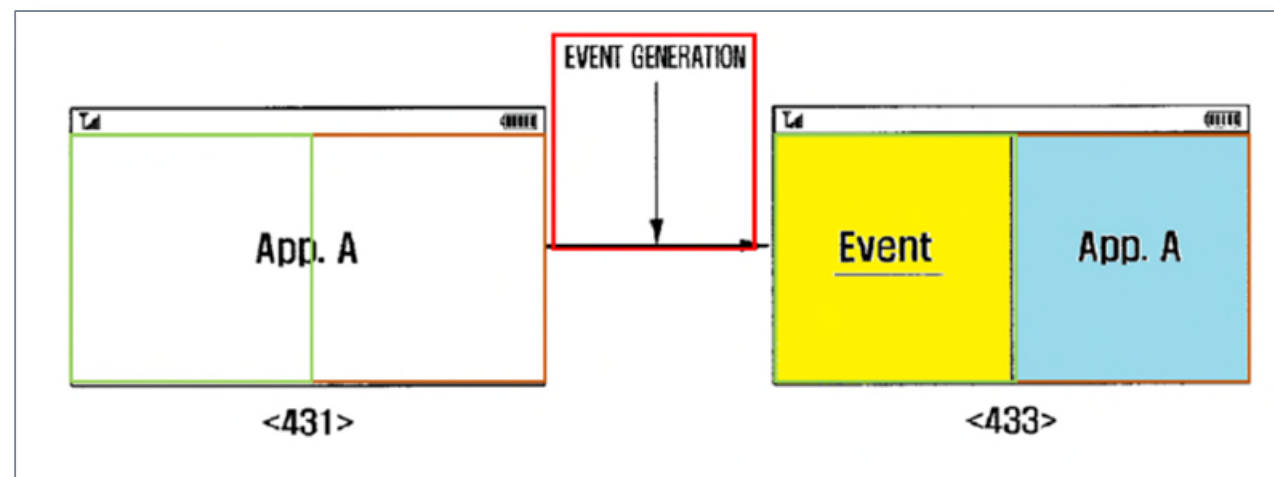
displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1004, Fig. 5a (annotated)



Ex. 1004, Fig. 4d (annotated)

GROUNDS 1 & 2 '756 PATENT

Yook Anticipation and Obviousness

CLAIM 1[B]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.

¶101. For example, a “functional view area” (Yook) can encompass a display as claimed in the '756 patent. Ex. 1003, ¶101-103; Ex. 1004, ¶[0039] (“When two instances of a user function are activated, the control unit 160 can control the display unit 141 to divide the screen into two areas, and **cause two functional view areas to be displayed. . .**”); Ex. 1001, 5:1-9 (“The term “display” refers to a portion of one or more screens used to display the output of a computer to a user. “).

Petition at 40-41

GROUNDS 1 & 2 '756 PATENT

Yook Anticipation and Obviousness

CLAIM 1[C]

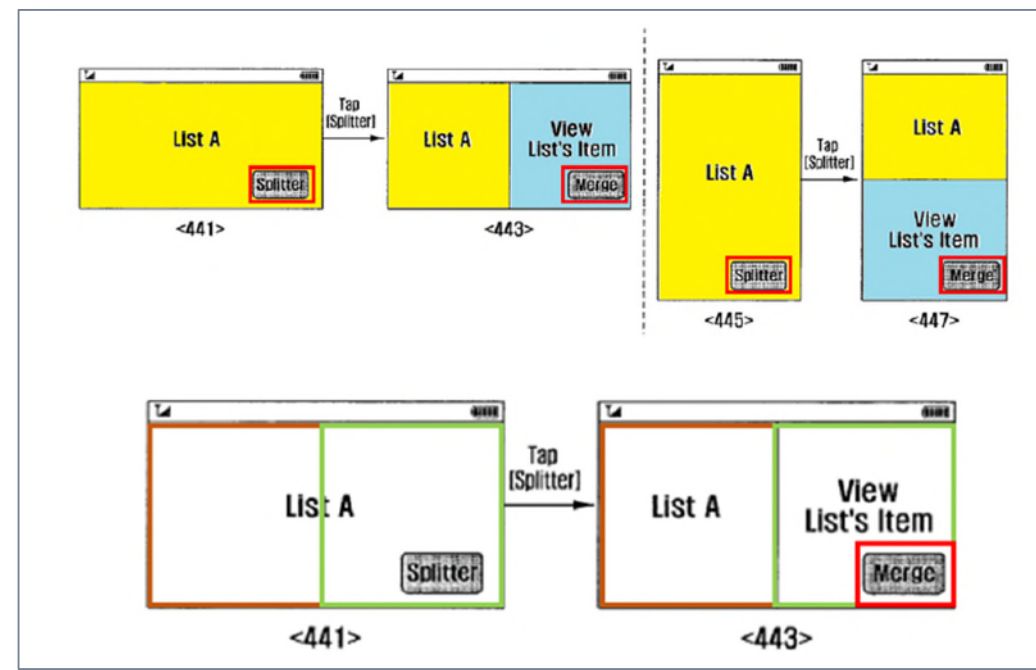
What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

- receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;
- selecting, by the processor, a first desktop or application to display on the first display;
- receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;
- selecting, by the processor, a second desktop or application to display on the second display;
- displaying, by the processor, the selected first and second desktops or applications on the first and second displays;
- receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and
- displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1004, Fig. 4b (annotated)



Ex. 1004, Fig. 4e (annotated)

GROUNDS 1 & 2 '756 PATENT

PO's Sur-Reply Raises a New Claim Construction Argument About Order of Steps

Case IPR2025-00040
U.S. Patent No. 9,134,756

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MOTOROLA MOBILITY LLC AND GOOGLE LLC,
Petitioners,

v.

MULTIFOLD INTERNATIONAL INC. PTE. LTD.,
Patent Owner.

Case IPR2025-00040
U.S. Patent No. 9,134,756

PATENT OWNER'S SUR-REPLY

Second, Petitioners' newly identified evidence does not anticipate or render obvious claim 1. Claim 1 recites a specific order of steps that must be performed in the order written. *Mformation Tech. v. Research in Motion Ltd.*, 764 F.3d 1392, 1398-99 (Fed. Cir. 2014) (holding that "a claim 'requires an ordering of steps when the claim language, as a matter of logic or grammar, requires that the steps be performed in the order written'."). Here, claim 1 requires the first and second steps ("receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device; selecting, by the processor, a first desktop or application to display on the first display;") as well as the third and fourth steps ("receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device; selecting, by the processor, a second desktop or application to display on the second display;") to be performed before the fifth step ("displaying, by the processor, the selected first and second desktops or applications on the first and second displays;"). It is logically impossible to display selected first and second desktops before steps that select the first desktop and select the second desktop. Because of this order, the fifth step of "displaying" must occur after both (two) "selecting" steps.

GROUNDS 1 & 2 '756 PATENT

PO's Belated Claim Construction Argument + Is Waived

- The first time PO asserted an argument about the ordering of steps was in its Sur-Reply
- This belated argument is improper under the PTAB's rules and should not be considered
- All Grounds invalidate the claims under PO's construction



“Generally, a reply or sur-reply may only respond to arguments raised in the preceding brief. 37 C.F.R. § 42.23, ...

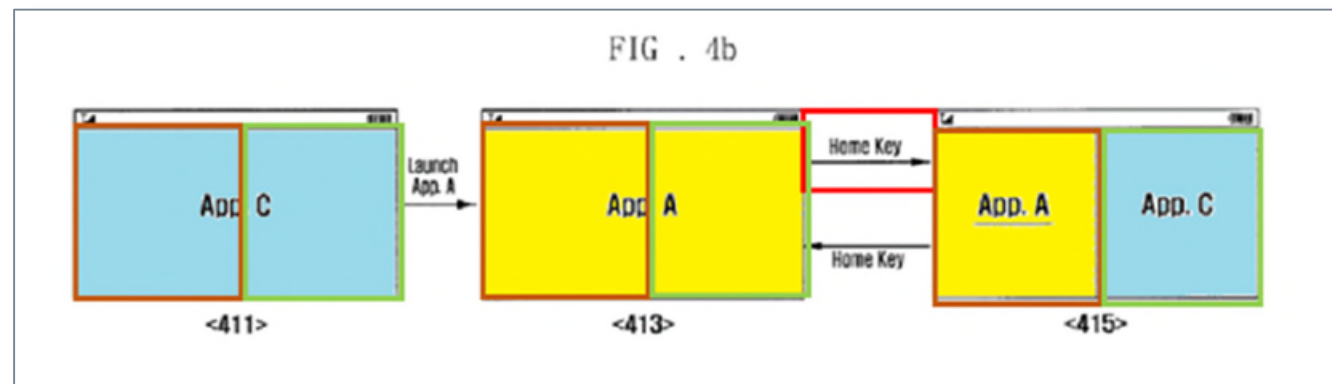
“Respond,” in the context of 37 C.F.R. § 42.23(b), does not mean proceed in a new direction with a new approach as compared to the positions taken in a prior filing. While replies and sur-replies can help crystalize issues for decision, a reply or sur-reply that raises a new issue or belatedly presents evidence may not be considered. The Board is not required to attempt to sort proper from improper portions of the reply or sur-reply.”

GROUNDS 1 & 2 '756 PATENT

Yook Anticipation and Obviousness

CLAIM 2

2. The method of claim 1, wherein at least one of the first, second, and third inputs is achieved by at least a user input gesture.



Ex. 1004, Fig. 4b (annotated)

[0047] The mobile terminal 100 can provide simultaneous presentation of two pieces of data related by an event history. For example, when the user generates an input signal corresponding to one of a particular key and a touch event like the 'Home' key in screen 413, the mobile terminal 100 can simultaneously output two functional view areas App.C and App.A to the display unit 141 as illustrated in screen 415, where the functional view area App.C is related by an event history to the functional view area App.A. In this case, the mobile terminal 100 can control the display unit 141 to divide the screen into two areas, and cause functional view areas to be displayed on the corresponding areas. That is, the mobile terminal 100 can display the functional view area App.A (presented immediately before pressing the 'Home' key) on the left divided screen area, and display the functional view

Ex. 1004, [0047]

Petition, at 32-33

GROUNDS 1 & 2 '756 PATENT

Yook Anticipation
and Obviousness

CLAIM 3

3. The method of claim 1, wherein the third input is a user gesture comprising at least one of a tap or long hold gesture.

US 2010/0248788 A1

[0047] The mobile terminal 100 can provide simultaneous presentation of two pieces of data related by an event history. For example, when the user generates an input signal corresponding to one of a particular key and a touch event like the 'Home' key in screen 413, the mobile terminal 100 can simultaneously output two functional view areas App.C and App.A to the display unit 141 as illustrated in screen 415, where the functional view area App.C is related by an event history to the functional view area App.A. In this case, the mobile terminal 100 can control the display unit 141 to divide the screen into two areas, and cause functional view areas to be displayed on the corresponding areas. That is, the mobile terminal 100 can display the functional view area App.A (presented immediately before pressing the 'Home' key) on the left divided screen area, and display the functional view

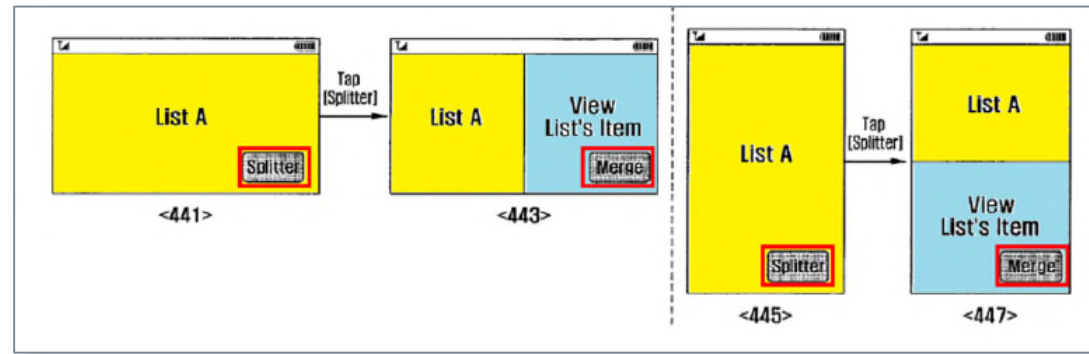
Ex. 1004, [0047]

GROUNDS 1 & 2 '756 PATENT

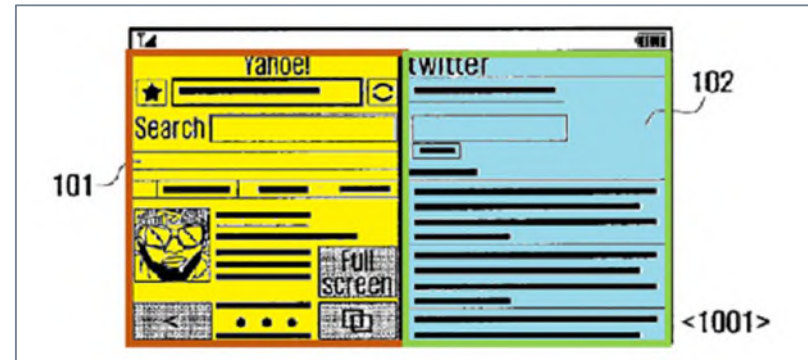
Yook Anticipation and Obviousness

CLAIM 4

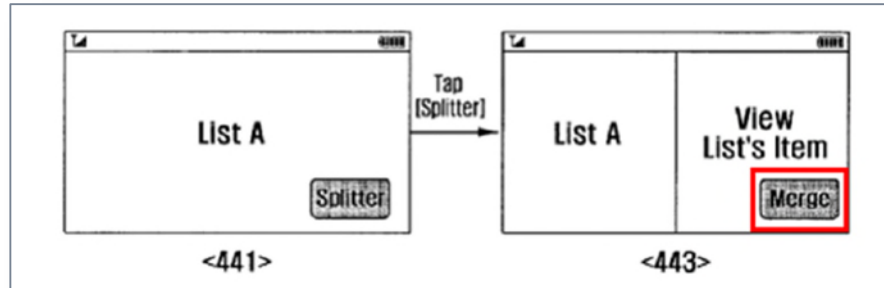
4. The method of claim 1, wherein at least one of the first or second displays has a visual indicator displayed thereon and signifying that a desktop or application appearing on that display can be maximized by a user gesture.



Ex. 1004, Fig. 4e (annotated)



Ex. 1004, Fig. 10 (annotated)



Ex. 1004, Fig. 4e (annotated)

GROUND S 1 & 2 '756 PATENT

Yook Obviousness

CLAIM 5

5. The method of claim 4, wherein the visual indicator has a wave shape.



Ex. 1004, selected icons from Figs. 1, 4e, 5a, 5c, 5d, 6, 7a, 7b, 7c, 8, 9, 10, 11, 12, 13

A POSITA would understand that the shape taken by a visual indicator, or icon, is merely a matter of common and routine design choice. Ex. 1003, ¶109; *Tesla, Inc. v. Charge Fusion Techs., LLC*, IPR2022-01217, Paper 11 (PTAB Feb. 1, 2023) (as part of an obvious finding, noting that a visual charging indicator “would be a matter of routine design choice”). The icons in Yook are providing the claimed functionality of claim 5, and their visual appearance is irrelevant to providing the visual indication of permitting the application to be maximized. Yook’s multiple different icons that accomplish this claimed purpose render the claim obvious. Ex. 1003, ¶109.

GROUNDS 1 & 2 '756 PATENT

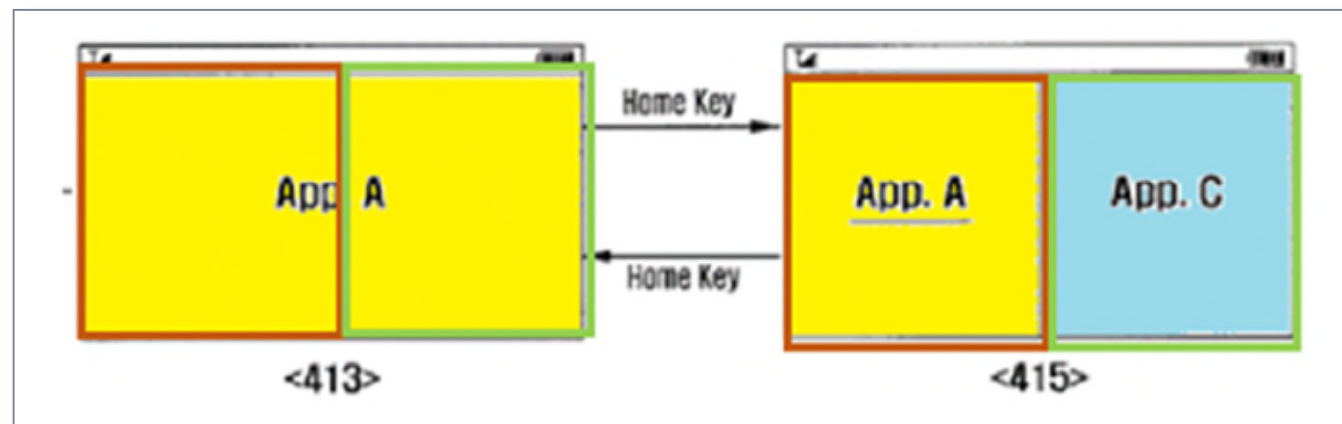
Yook Anticipation and Obviousness

CLAIM 6

6. The method of claim 1, wherein a fourth input is an instruction to minimize a selected one of the first or second desktops or applications, resulting in the selected one being displayed only one of the first and second displays.



Ex. 1004, Fig. 10 (annotated)



Ex. 1004, Fig. 4e (annotated)

GROUNDS 1 & 2 '756 PATENT • CLAIM 7

Claims 1 and 7 Are Substantively the Same

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.

7. A non-transitory computer-readable medium having stored thereon instructions that cause a computing system to execute a method, the instructions comprising:

instructions configured to receive a first predetermined input that represents an instruction to determine and reveal a first desktop or application on a first display of the multi-display device;

instructions configured to receive a second predetermined input that represents an instruction to determine and reveal a second desktop or application on a second display of the multi-display device;

instructions configured to respond to the first and second predetermined inputs with outputs that cause the first desktop or application to be displayed on the first display and cause the second desktop or application to be displayed on the second display;

instructions configured to receive a third predetermined input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays according to the instructions configured to respond to the third predetermined input; and

instructions configured to respond to the third predetermined input that causes displaying of the selected one of the first or second desktops or applications in a maximized condition.

GROUNDS 1 & 2 '756 PATENT

Yook Anticipation and Obviousness

CLAIM 7

7. A non-transitory computer-readable medium having stored thereon instructions that cause a computing system to execute a method, the instructions comprising:

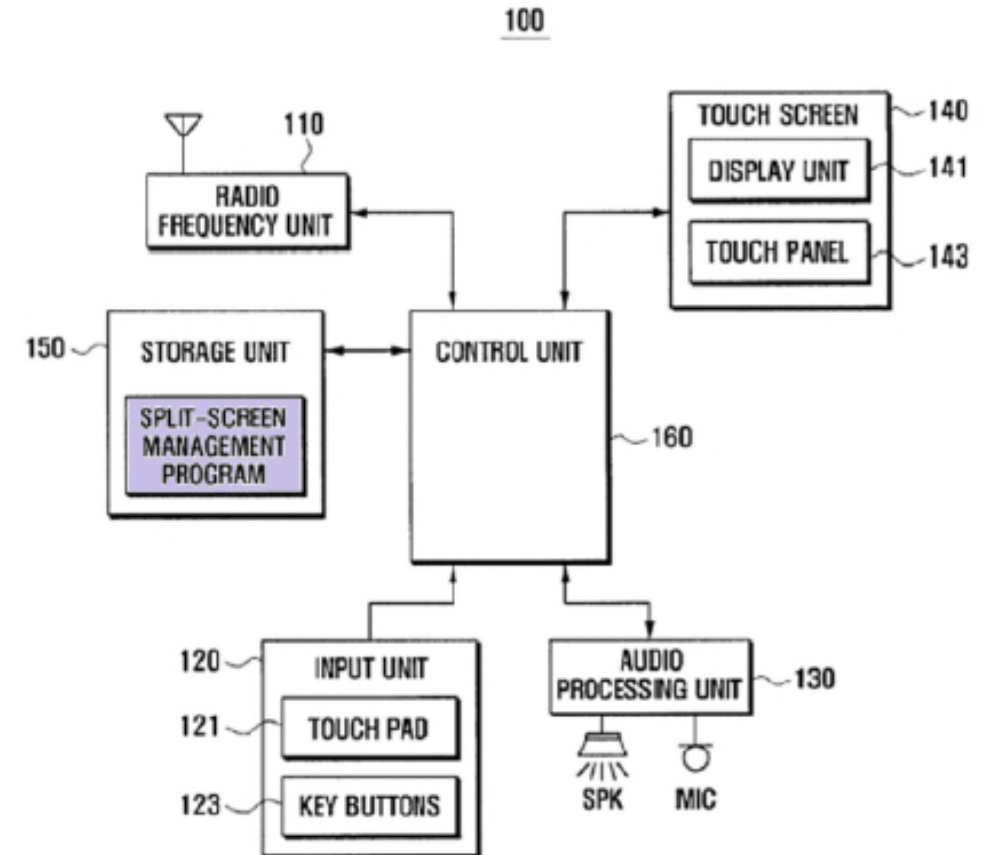
instructions configured to receive a first predetermined input that represents an instruction to determine and reveal a first desktop or application on a first display of the multi-display device;

instructions configured to receive a second predetermined input that represents an instruction to determine and reveal a second desktop or application on a second display of the multi-display device;

instructions configured to respond to the first and second predetermined inputs with outputs that cause the first desktop or application to be displayed on the first display and cause the second desktop or application to be displayed on the second display;

instructions configured to receive a third predetermined input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays according to the instructions configured to respond to the third predetermined input; and

instructions configured to respond to the third predetermined input that causes displaying of the selected one of the first or second desktops or applications in a maximized condition.



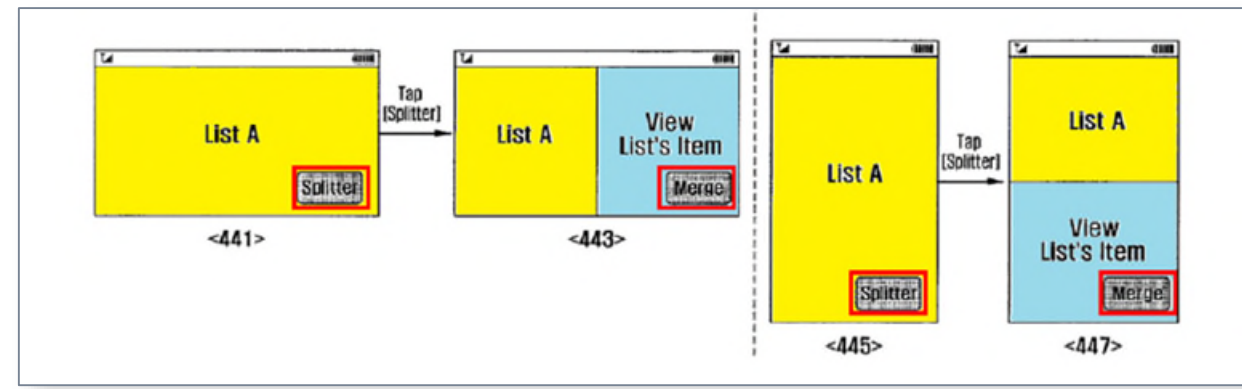
GROUNDS 1 & 2 '756 PATENT

Yook Anticipation and Obviousness

CLAIMS 8 & 9

8. The computer-readable medium of claim 7, wherein at least one of the first or second displays has a visual indicator displayed thereon and signifying that a desktop or application appearing on that display can be maximized by a user gesture according to the instructions configured to receive a third predetermined input.

9. The computer-readable medium of claim 7 wherein a fourth predetermined input is an instruction to minimize a selected one of the first or second desktops or applications, resulting in the selected one being displayed only one of the first and second displays according to the instructions configured to respond to the third predetermined input.



Ex. 1004, Fig. 4e (annotated)



Ex. 1004, Fig. 10 (annotated)

GROUND 3 & 4

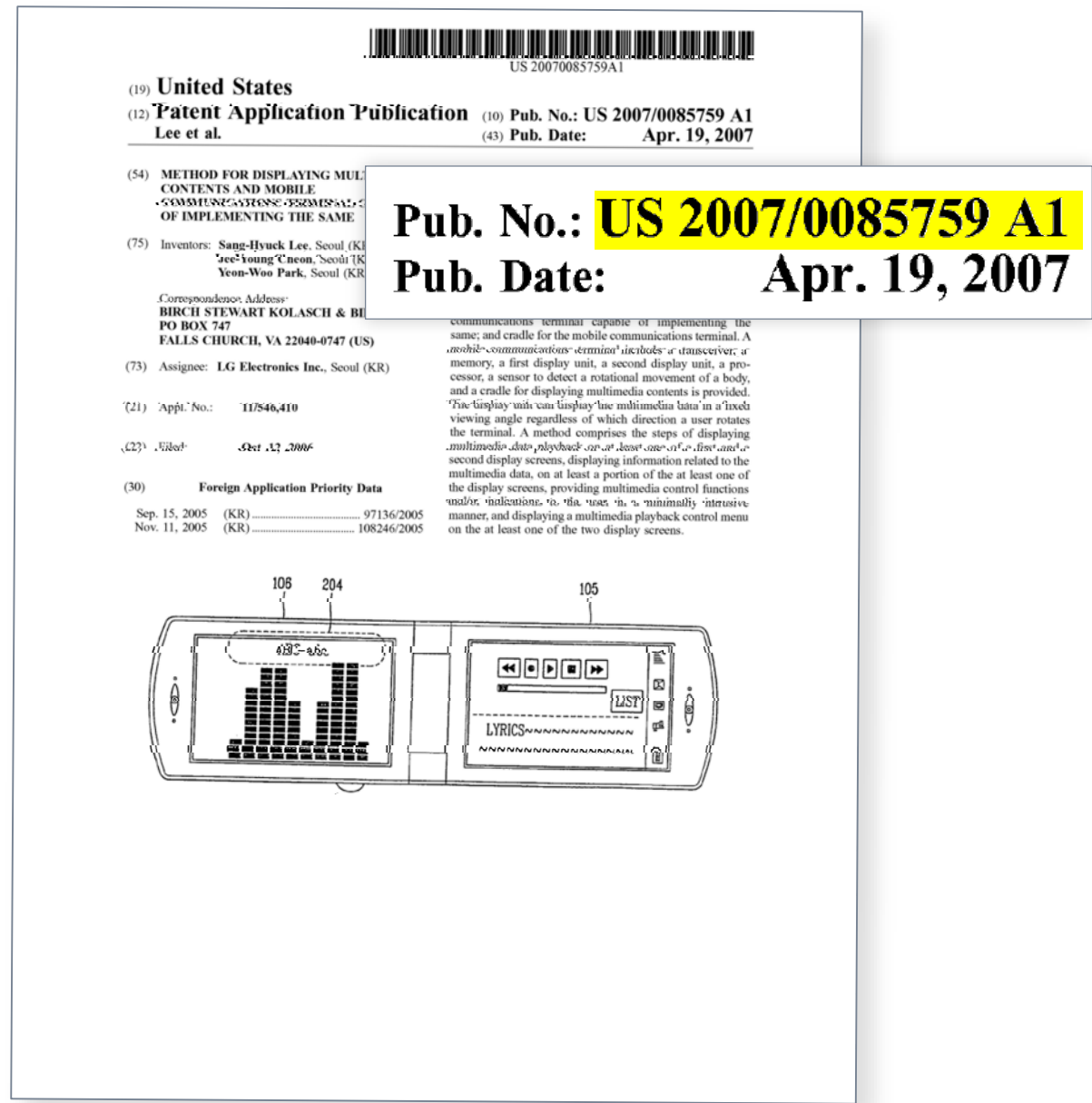
Lee Anticipation and Obviousness

GROUND 3:

Lee anticipates claims 1-3, 6, 7, and 9 under pre-AIA 35 U.S.C §102(b)

GROUND 4:

Lee renders claims 1-3, 6, 7, and 9 obvious under pre-AIA 35 U.S.C §103



GROUND S 3 & 4 **Lee Prior Art**

Pub. No.: **US 2007/0085759 A1**
Pub. Date: **Apr. 19, 2007**

(22) Filed: **Oct. 12, 2006**


 US 20070085759A1

(19) **United States**
 (12) **Patent Application Publication** (10) **Pub. No.:** **US 2007/0085759 A1**
 Lee et al. (43) **Pub. Date:** **Apr. 19, 2007**

(54) **METHOD FOR DISPLAYING MULTIMEDIA CONTENTS AND MOBILE COMMUNICATIONS TERMINAL CAPABLE OF IMPLEMENTING THE SAME**

(75) Inventors: Sang-Hyun Lee, Seoul (KR);
 Jee-Young Chon, Seoul (KR);
 Yoon-Woo Park, Seoul (KR)

Correspondence Address:
 BIRCH STEWART KOLASCH & BIRCH
 PO BOX 747
 FALLS CHURCH, VA 22040-0747 (US)

(73) Assignee: LG Electronics Inc., Seoul (KR)

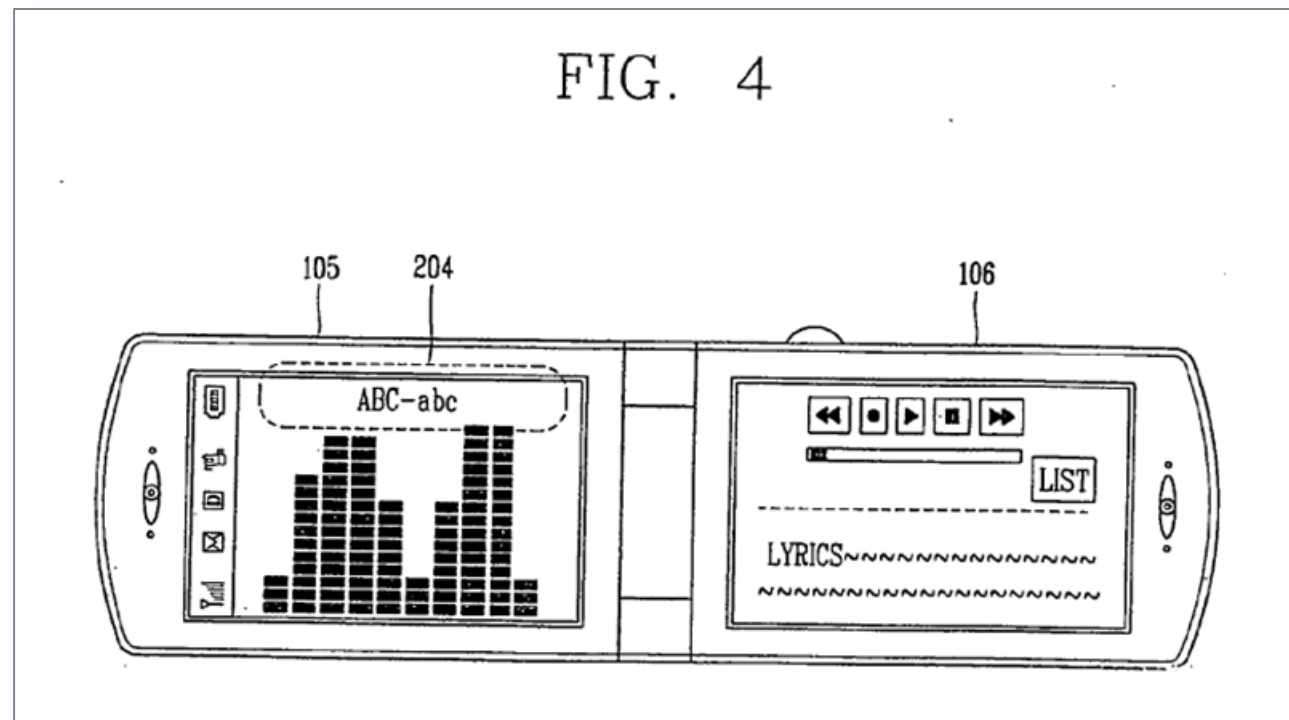
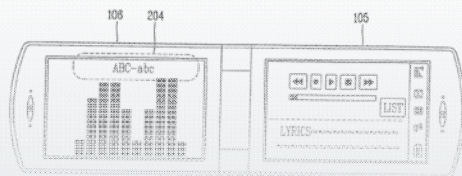
(21) Appl. No.: 11/546,410

(22) Filed: Oct. 12, 2006

(30) **Foreign Application Priority Data**
 Sep. 15, 2005 (KR) 97134/2005
 Nov. 11, 2005 (KR) 100246/2005

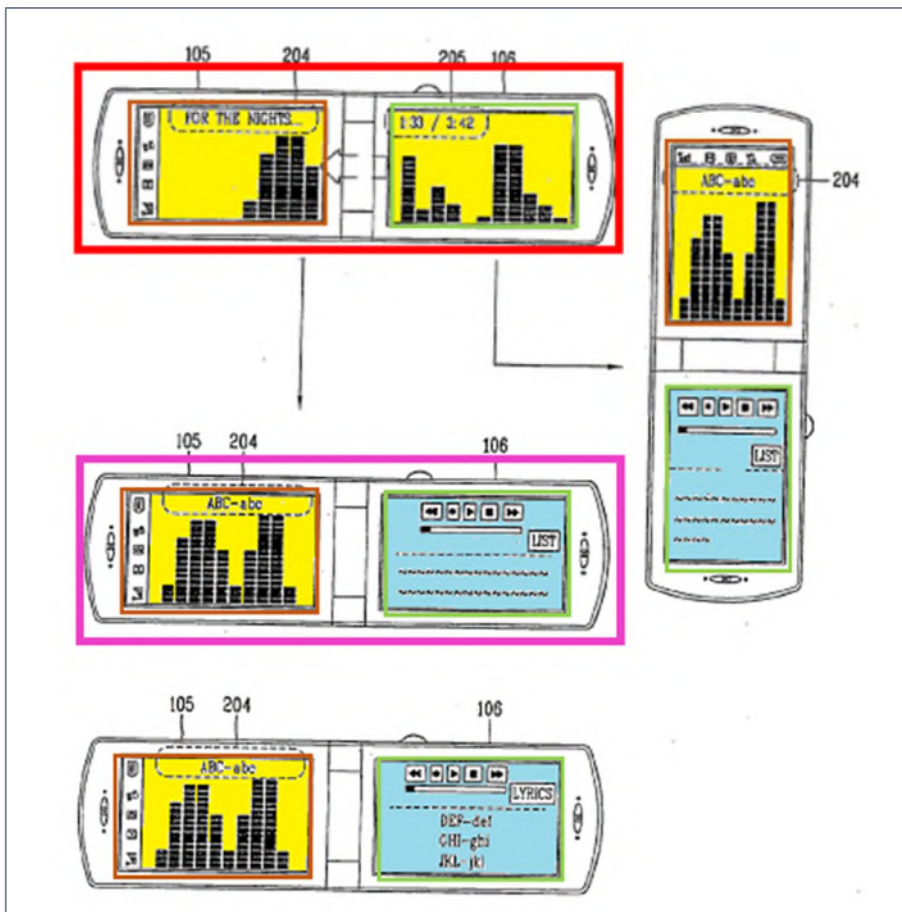
Publication Classification
 (51) Int. Cl. G06G 5/00 (2006.01)
 (52) U.S. Cl. 345/1.1; 345/2.3

ABSTRACT
 The invention is directed to a method of displaying multimedia data and providing multitasking features and a mobile communications terminal capable of implementing the same. A method comprises the steps of displaying multimedia data playback on at least one of a first and a second display screens, displaying information related to the multimedia data, on at least a portion of the at least one of the display screens, providing multimedia control functions and/or indications to the user in a minimally intrusive manner, and displaying a multimedia playback control menu on the at least one of the two display screens.

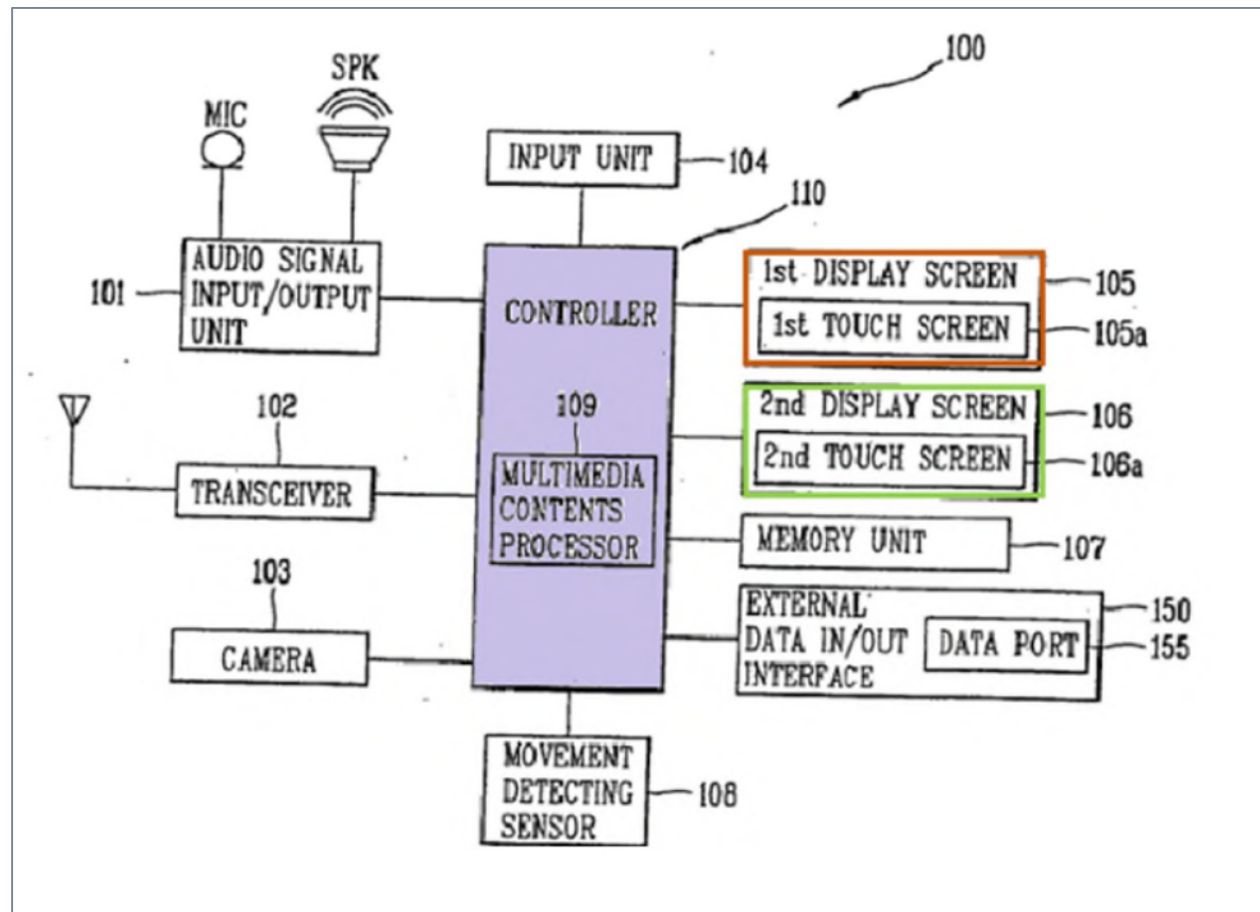


Ex. 1005, Fig. 4

GROUND S 3 & 4 **Lee Prior Art**



Ex. 1005, Fig. 9 (annotated)



Ex. 1005, Fig. 1 (annotated)

GROUND 3 & 4 '756 PATENT

Lee Anticipation and Obviousness: 1[P]

CLAIM 1[P]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

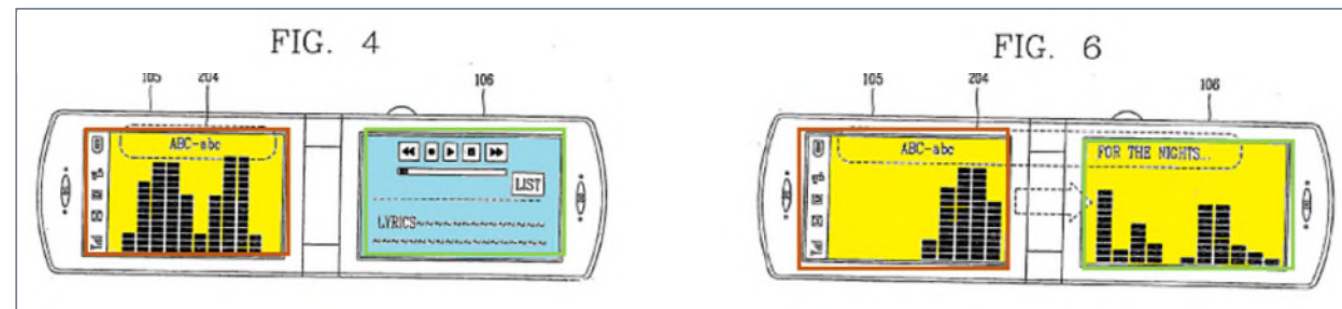
receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

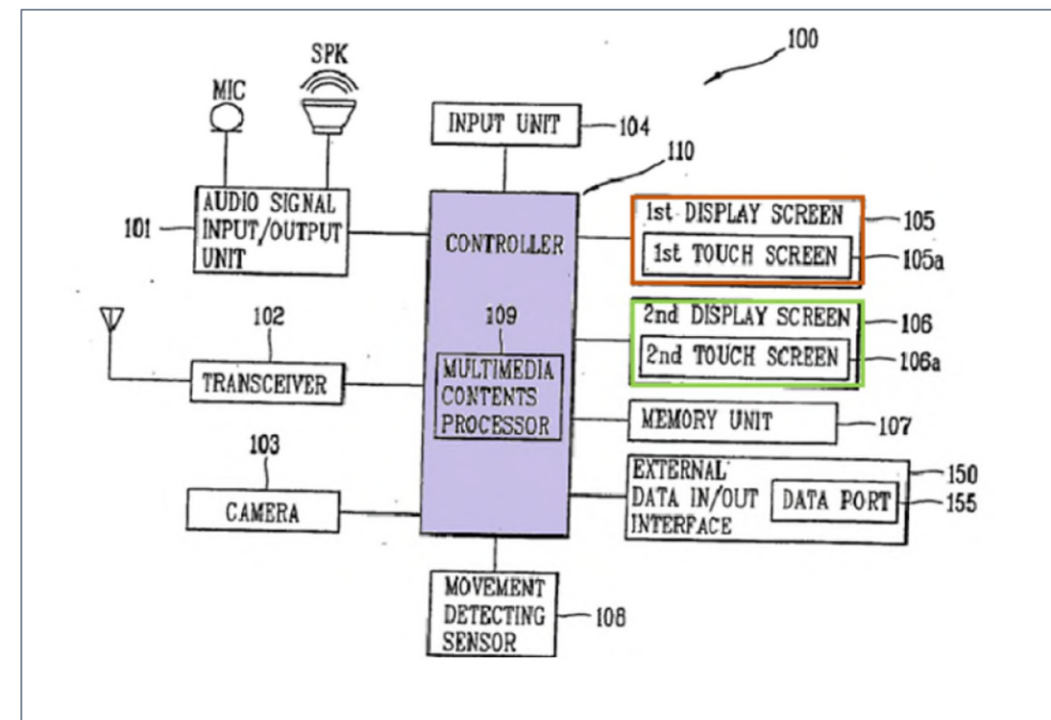
displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1005, Figs. 4, 6 (annotated)



Ex. 1005, Fig. 1 (annotated)

GROUNDS 3 & 4 '756 PATENT

Lee Anticipation and Obviousness

CLAIM 1[A]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

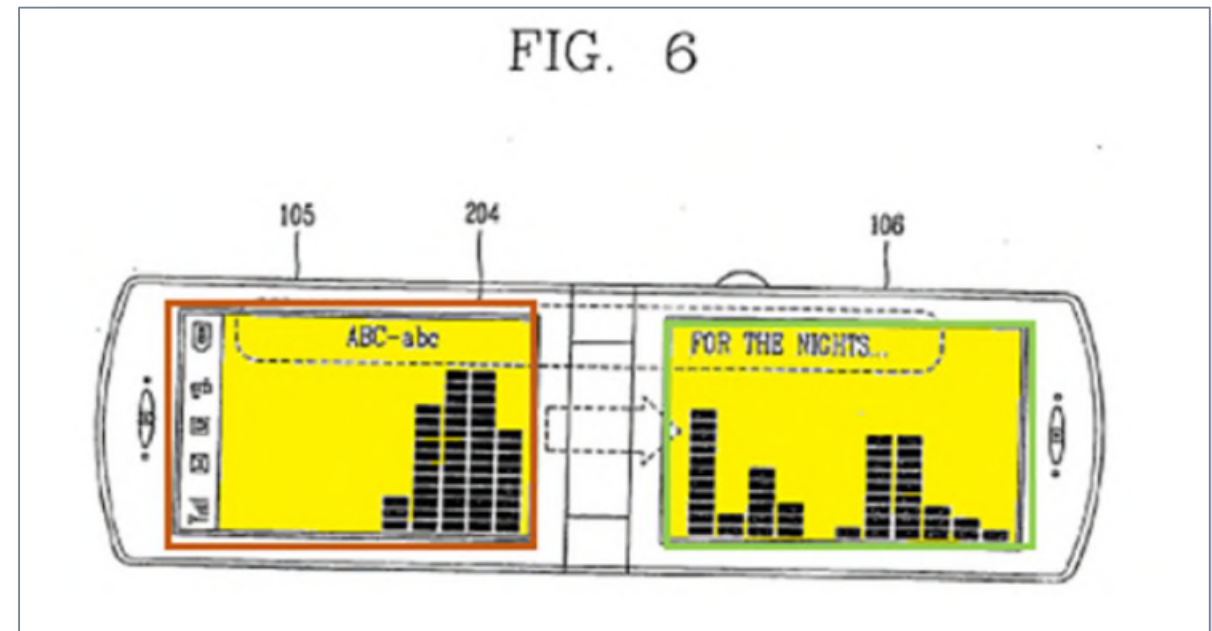
receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1005, Fig. 6 (annotated)

GROUND 3 & 4 '756 PATENT

Lee Anticipation and Obviousness

CLAIM 1[B]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

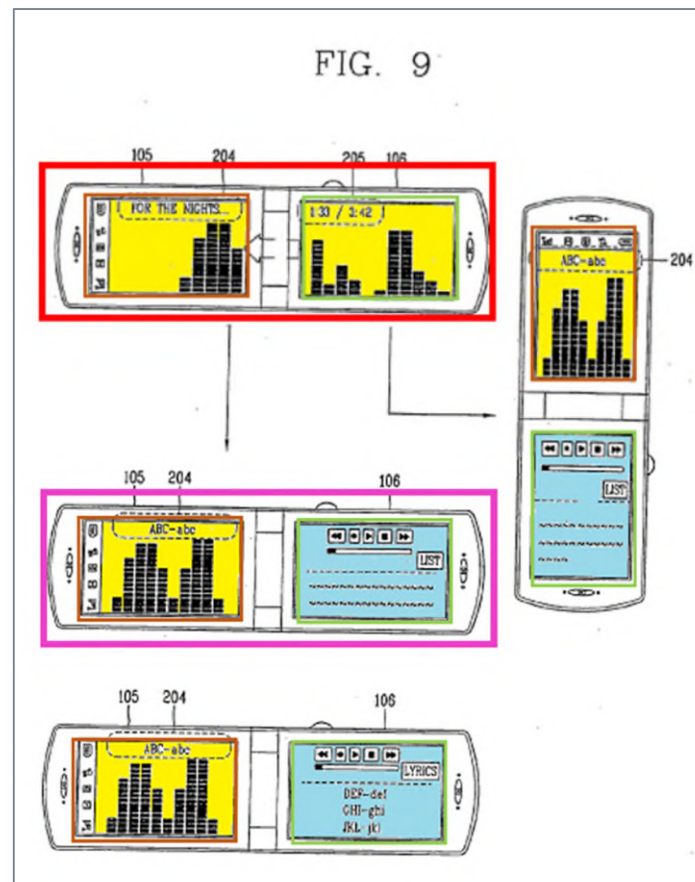
receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

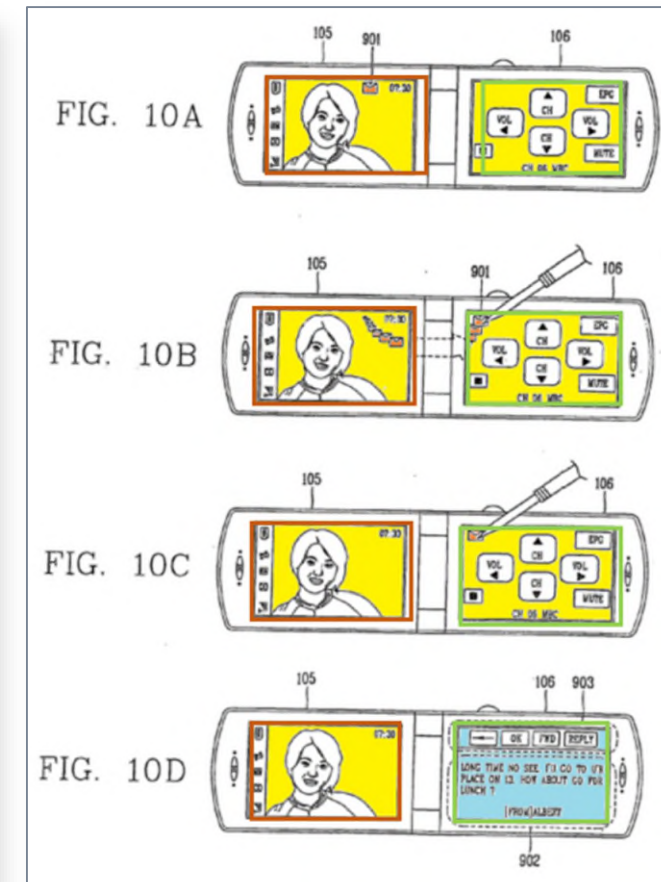
displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1005, Fig. 9 (annotated)



Ex. 1005, Figs. 10A-10D (annotated)

GROUND 3 & 4 '756 PATENT

Lee Anticipation and Obviousness

CLAIM 1[C]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

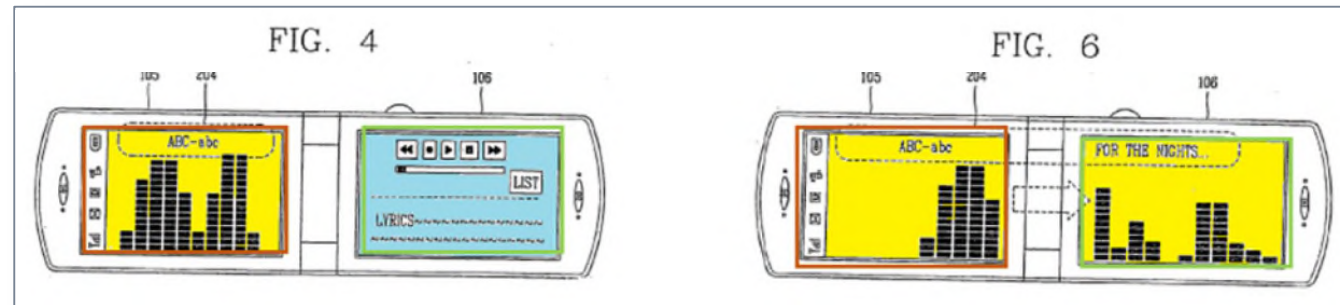
receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

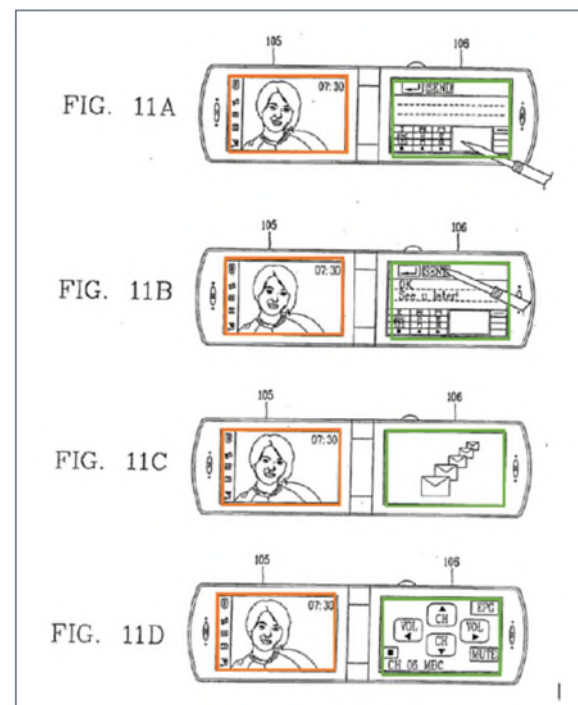
displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1005, Figs. 4, 6 (annotated)



Ex. 1005, Figs. 11A-11D (annotated)

GROUNDS 3 & 4 '756 PATENT

Lee Anticipation
and Obviousness

CLAIM 2

2. The method of claim 1, wherein at least one of the first, second, and third inputs is achieved by at least a user input gesture.

[0034] Also, the mobile terminal 100 can comprise the first display screen 105 to display general mobile terminal operations, multimedia contents, and information regarding those operations and the contents, and the second display screen 106 to perform input unit function (i.e., touch sensitive screen) and display various information and data. The first display screen 105 and the second display screen 106 can exchange each other's role (i.e., the first display screen 105 including the input unit function) and other various configurations of the display screens can be implemented and are within the scope of the present invention.

Ex. 1005, [0034]

[0037] In accordance with one embodiment of the present invention, the mobile terminal 100 can include the input unit 104 being an independent feature arranged on the body of the terminal or being implemented in the same hardware configuration of the touch sensitive screen of at least one of the display screens 105, 106. When the input unit 104 is implemented as a touch sensitive input unit (i.e., part of the touch sensitive screen), the controller 110 can receive signals inputted by the touch sensitive input unit 104 and expand the screen information displayed on the first display screen 105 to the second display screen 106 (i.e., the second display screen 106 displaying the same screen information of the first display screen 105 simultaneously), or return to the default display by displaying the screen information on only one display screen if the both display screens have been displaying the same. The order of expansion or returning to the default display is not limited to the above-described manner, but any displaying order or process can be within the scope of the present invention.

Ex. 1005, [0037]

GROUNDS 3 & 4 '756 PATENT

Lee Anticipation and Obviousness

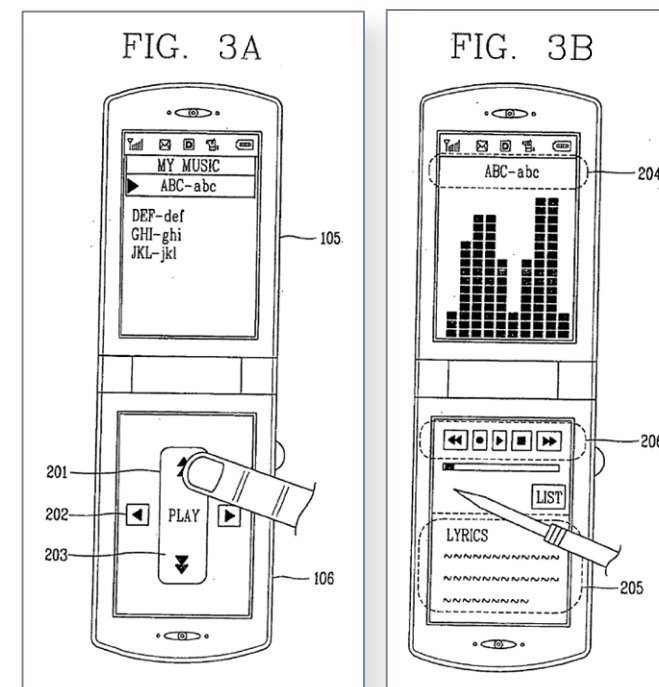
CLAIM 3

3. The method of claim 1, wherein the third input is a user gesture comprising at least one of a tap or long hold gesture.

US 2007/0085759 A1

[0034] Also, the mobile terminal 100 can comprise the first display screen 105 to display general mobile terminal operations, multimedia contents, and information regarding those operations and the contents, and the second display screen 106 to perform input unit function (i.e., touch sensitive screen) and display various information and data. The first display screen 105 and the second display screen 106 can exchange each other's role (i.e., the first display screen 105 including the input unit function) and other various configurations of the display screens can be implemented and are within the scope of the present invention.

Ex. 1005, [0034]

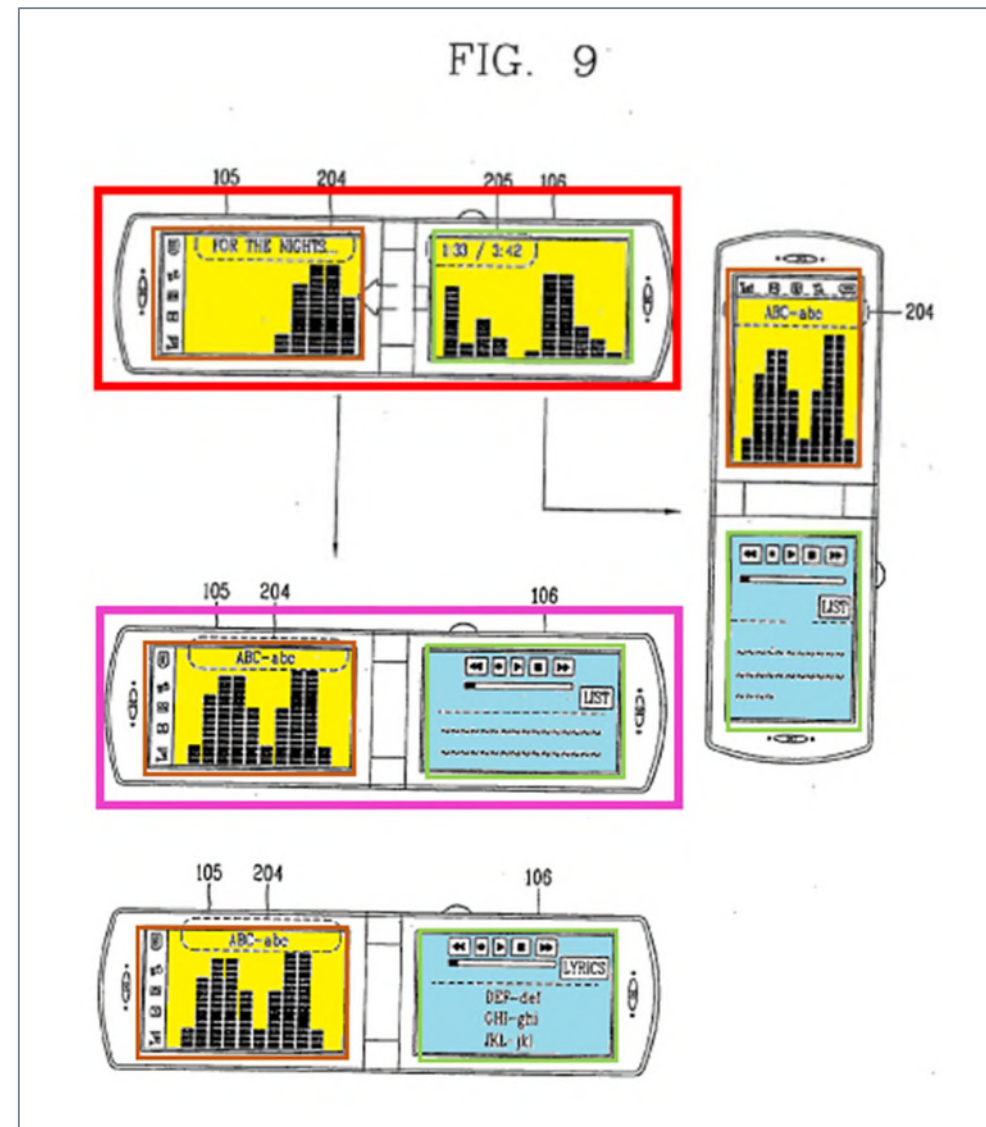


GROUND 3 & 4 '756 PATENT

Lee Anticipation and Obviousness

CLAIM 6

6. The method of claim 1, wherein a fourth input is an instruction to minimize a selected one of the first or second desktops or applications, resulting in the selected one being displayed only one of the first and second displays.



Ex. 1005, Fig. 9

GROUNDS 3 & 4 '756 PATENT

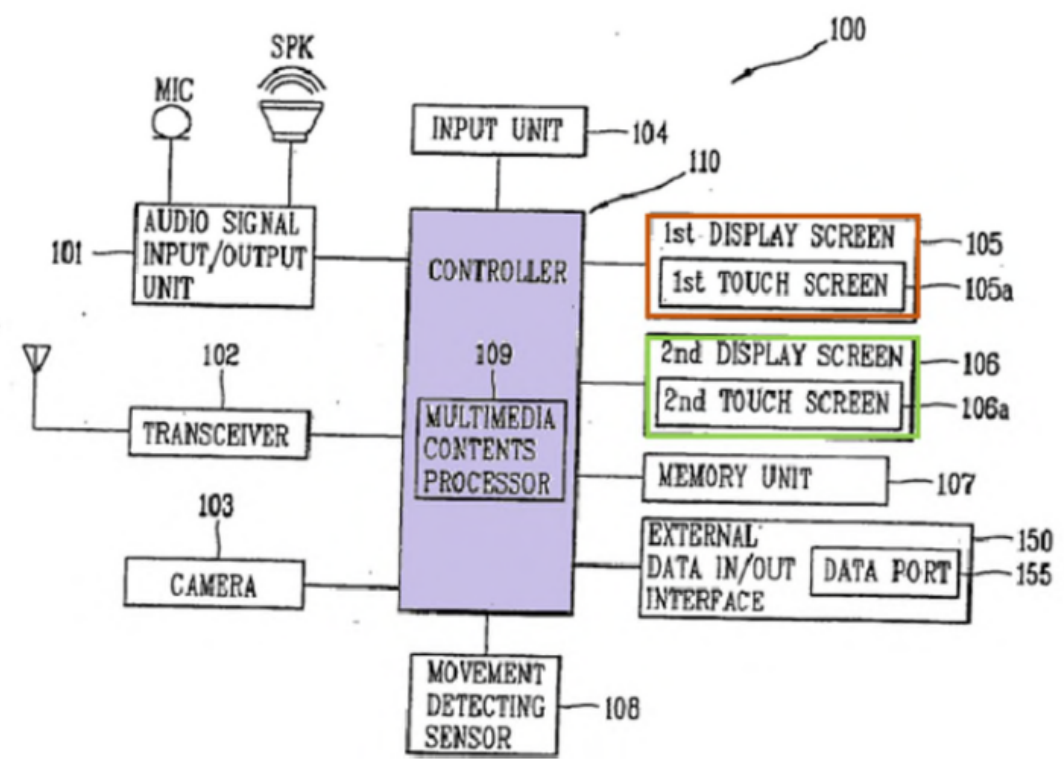
Lee Anticipation and Obviousness

CLAIM 7

7. A non-transitory computer-readable medium having stored thereon instructions that cause a computing system to execute a method, the instructions comprising:

- instructions configured to receive a first predetermined input that represents an instruction to determine and reveal a first desktop or application on a first display of the multi-display device;
- instructions configured to receive a second predetermined input that represents an instruction to determine and reveal a second desktop or application on a second display of the multi-display device;
- instructions configured to respond to the first and second predetermined inputs with outputs that cause the first desktop or application to be displayed on the first display and cause the second desktop or application to be displayed on the second display;
- instructions configured to receive a third predetermined input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays according to the instructions configured to respond to the third predetermined input; and
- instructions configured to respond to the third predetermined input that causes displaying of the selected one of the first or second desktops or applications in a maximized condition.

FIG. 1

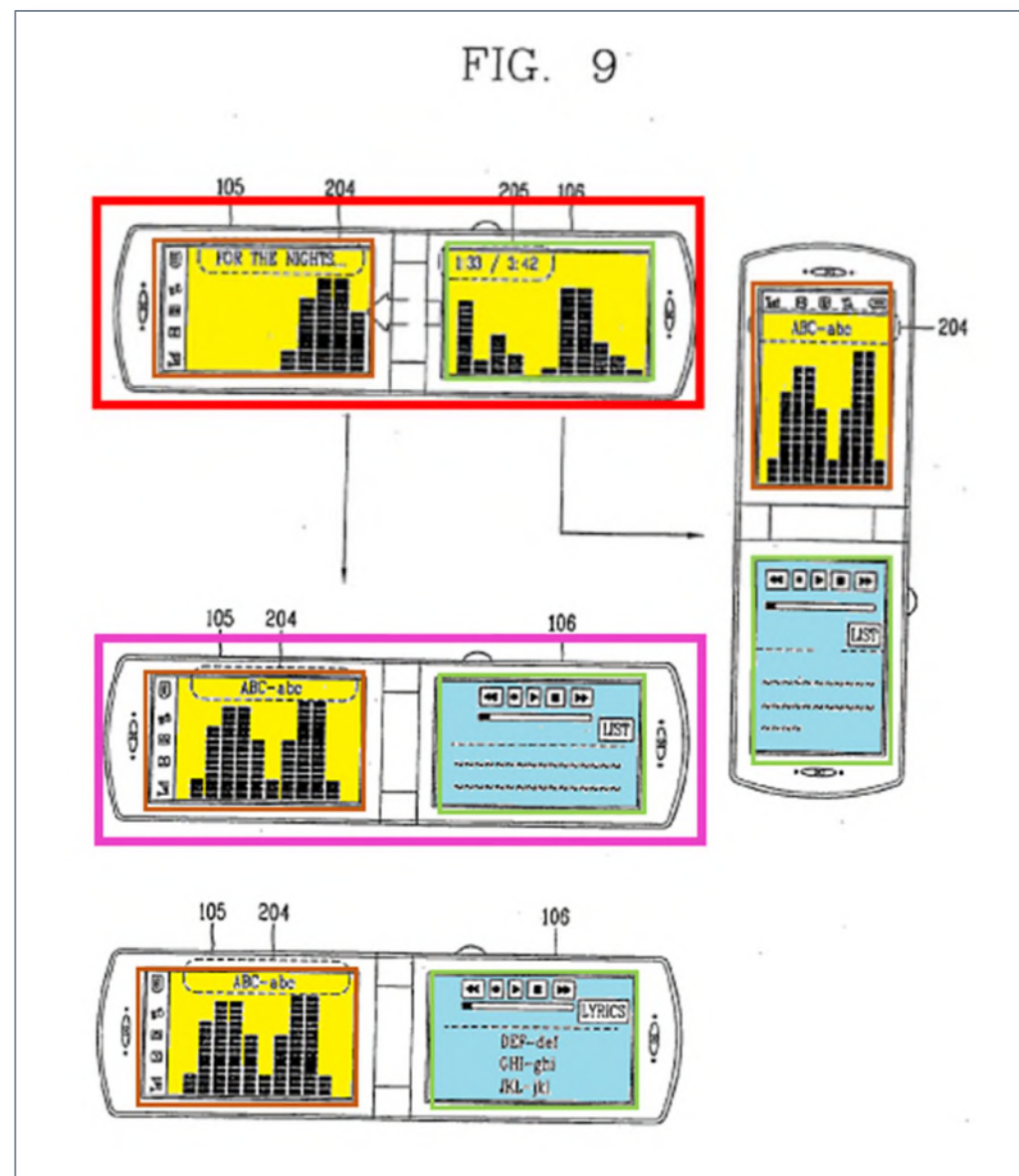


OVERVIEW

Lee Anticipation and Obviousness

CLAIM 9

9. The computer-readable medium of claim 7 wherein a fourth predetermined input is an instruction to minimize a selected one of the first or second desktops or applications, resulting in the selected one being displayed only one of the first and second displays according to the instructions configured to respond to the third predetermined input.



Ex. 1005, Fig. 9
Petition, at 56

GROUND 5 & 6

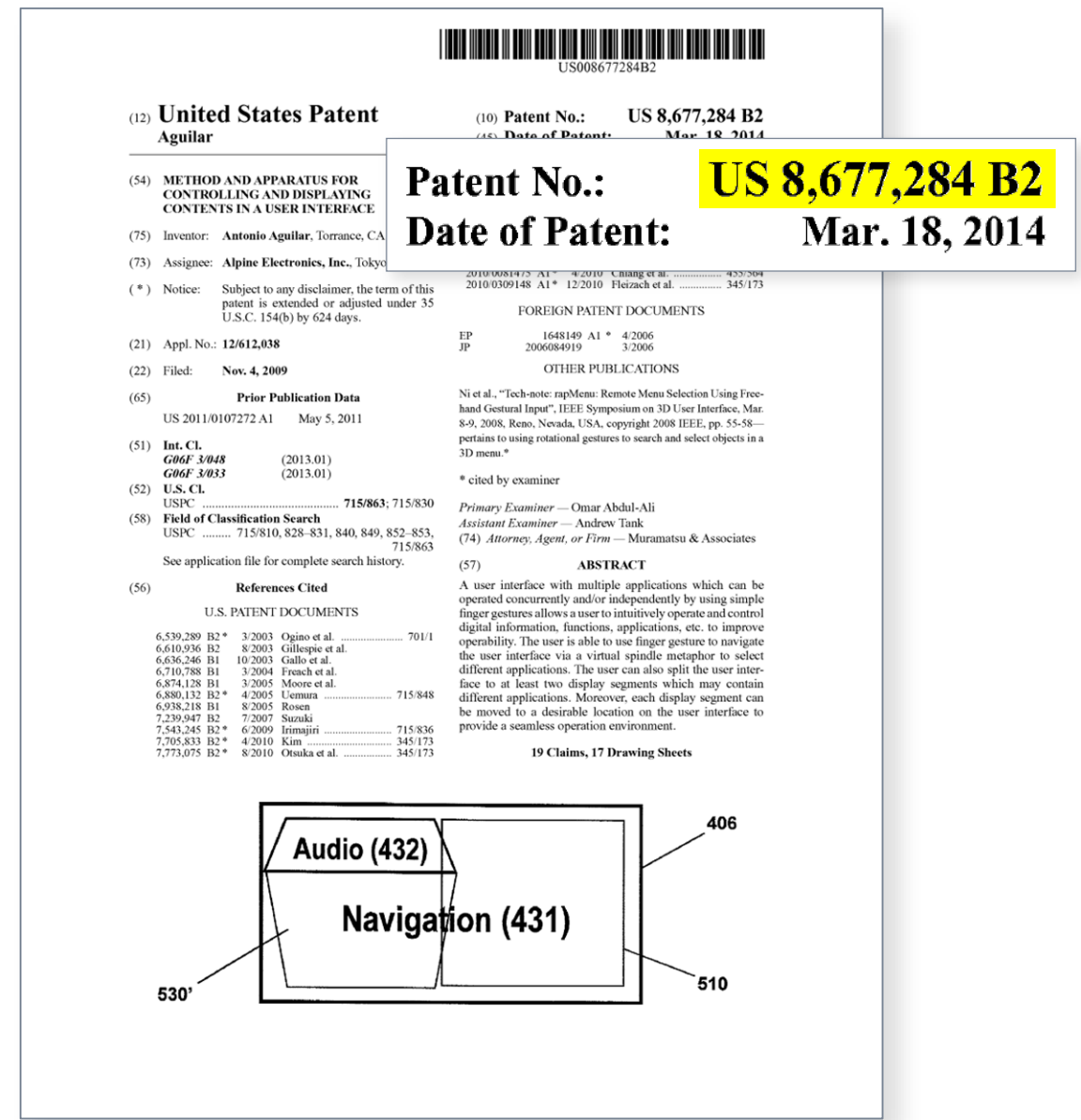
Aguilar Anticipation and Obviousness

GROUND 5:

Aguilar anticipates claims 1-3, 6, 7, and 9 under pre-AIA 35 U.S.C §102(e)

GROUND 6:

Aguilar renders claims 1-3, 6, 7, and 9 obvious under pre-AIA 35 U.S.C §103



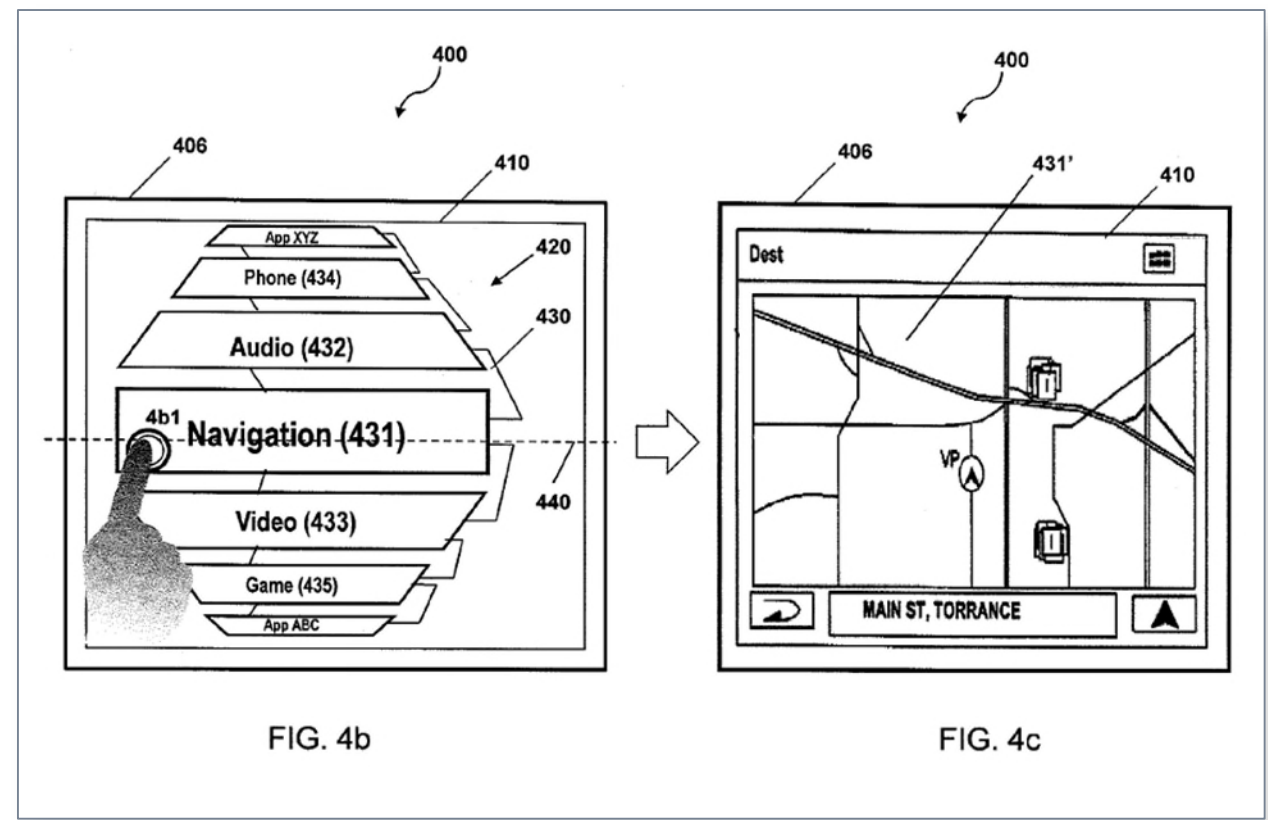
GROUND S 5 & 6 **Aguilar Prior Art**

Patent No.: **US 8,677,284 B2**
Date of Patent: **Mar. 18, 2014**

(22) Filed: **Nov. 4, 2009**

US008677284B2

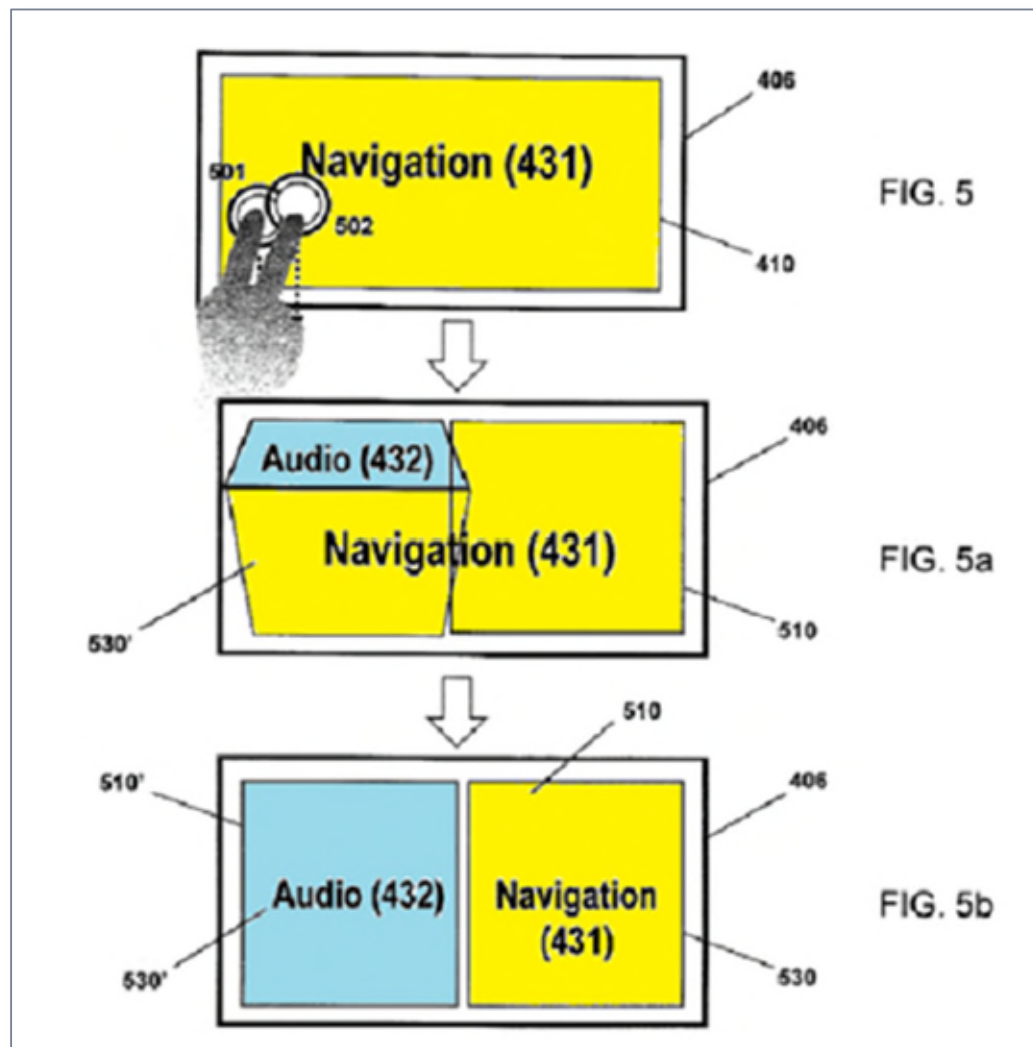
(12) United States Patent Aguilar (54) METHOD AND APPARATUS FOR CONTROLLING AND DISPLAYING CONTENTS IN A USER INTERFACE (75) Inventor: Antonio Aguilar, Torrance, CA (US) (73) Assignee: Alpine Electronics, Inc., Tokyo (JP) (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 624 days. (21) Appl. No.: 12/612,038 (22) Filed: Nov. 4, 2009 (65) Prior Publication Data US 2011/0107272 A1 May 5, 2011 (51) Int. Cl. G06F 3/048 (2013.01) G06F 3/043 (2013.01) (52) U.S. Cl. USPC 715/063; 715/030 (58) Field of Classification Search USPC 715/010, 828-831, 840, 849, 852-853, 715/063 See application file for complete search history. (56) References Cited U.S. PATENT DOCUMENTS 6,536,280 B2* 3/2003 Ogino et al. 700/1 6,610,936 B2 8/2003 Gillespie et al. 6,636,246 B1 10/2003 Gully et al. 6,710,789 B1 3/2004 French et al. 6,853,126 B1 3/2005 Sloner et al. 6,880,332 B2* 4/2005 Venema 715/048 6,936,218 B1 8/2005 Reiss 7,199,047 B2 7/2007 Smith 7,513,245 B2 2/2009 Imig 7,769,573 B2* 4/2011 Kim 7,773,075 B2* 8/2011 Priddy et al. 345/173	(10) Patent No.: US 8,677,284 B2 (45) Date of Patent: Mar. 18, 2014 8,375,205 B2* 2/2013 Zakewski et al. 715/234 2006/0020903 A1 1/2006 Wang et al. 2006/0025920 A1 2/2006 Neri et al. 2006/0066507 A1 3/2006 Yangguang 2007/0150443 A1* 6/2007 Chaudhri et al. 715/063 2007/0222700 A1 9/2007 Chaudhri et al. 2008/0126084 A1 6/2008 Adams et al. 2010/0005415 A1* 1/2010 Miyazaki et al. 715/032 2010/0014475 A1* 4/2010 Chang et al. 455/564 2010/0309148 A1* 12/2010 Fletcher et al. 345/173 FOREIGN PATENT DOCUMENTS EP 1648149 A1* 4/2006 JP 2006084919 3/2006 OTHER PUBLICATIONS Ni et al., "Inch-note: ragMenu: Remote Menu Selection Using Free-hand Gestural Input", IEEE Symposium on 3D User Interfaces, Mar. 8-9, 2008, Reno, Nevada, USA, copyright 2008 IEEE, pp. 45-56—pertains to using rotational gestures to search and select objects in a 3D menu * * cited by examiner Primary Examiner — Omar Abdul-Ali Assistant Examiner — Andrew Link (74) Attorney, Agent, or Firm — Morimoto & Associates (57) ABSTRACT A user interface with multiple applications which can be opened concurrently and/or independently by using simple finger gestures allows a user to intuitively operate and control digital information, functions, applications, etc. to improve operability. The user is able to use finger gesture to navigate the user interface via a virtual spindle metaphor to select different applications. The user can also split the user interface to at least two display segments which may contain different applications. Moreover, each display segment can be moved to a desirable location on the user interface to provide a customized operation environment. 19* Extra. 17 Describing Sheets.
--	--



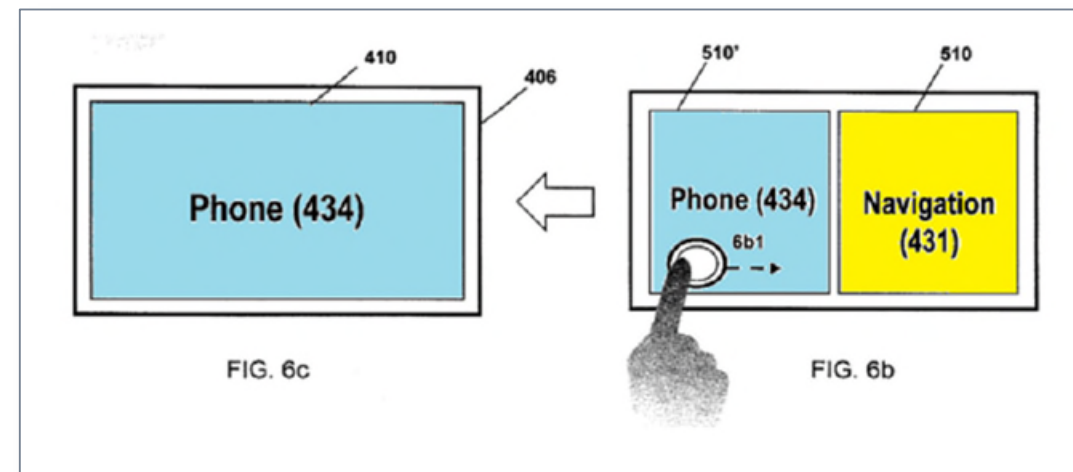
Ex. 1006, Figs. 4b, 4c

U.S. Patent No. 8,677,284 A1
Filed: May 5, 2011

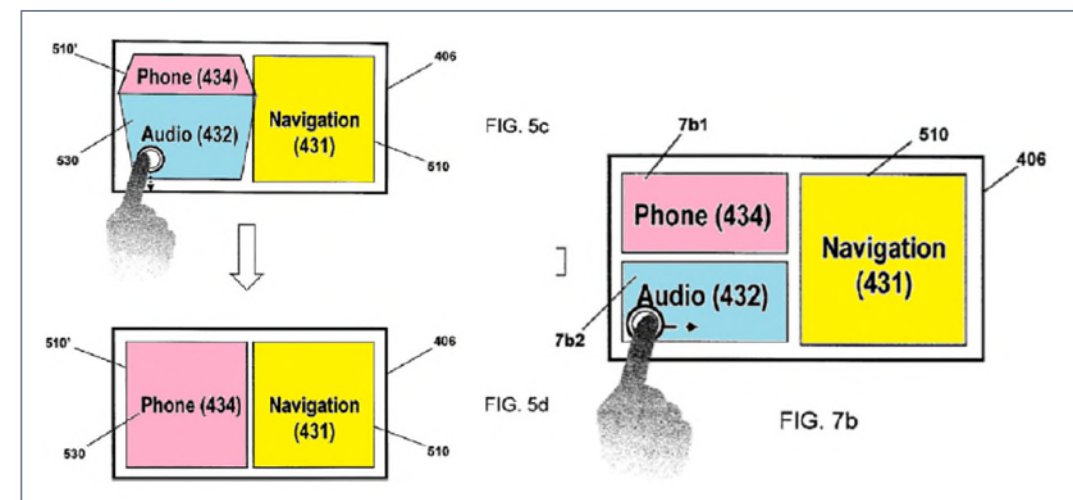
GROUNDS 5 & 6 **Aguilar Prior Art**



Ex. 1006, Figs. 5, 5a, 5b (annotated)



Ex. 1006, Figs. 6b, 6c (annotated)



Ex. 1006, Figs. 5c, 5d, 7b (annotated)

GROUNDS 5 & 6

Aguilar Anticipation and Obviousness

CLAIM 1[P]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

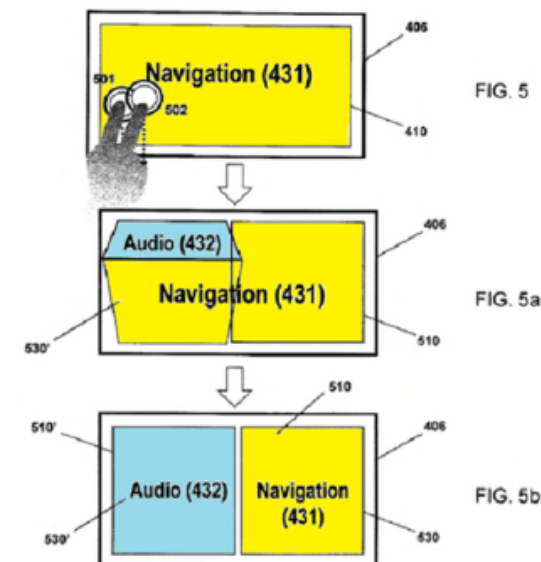
displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.

(57)

ABSTRACT

A user interface with multiple applications which can be operated concurrently and/or independently by using simple finger gestures allows a user to intuitively operate and control digital information, functions, applications, etc. to improve operability. The user is able to use finger gesture to navigate the user interface via a virtual spindle metaphor to select different applications. The user can also split the user interface to at least two display segments which may contain different applications. Moreover, each display segment can be moved to a desirable location on the user interface to provide a seamless operation environment.

Ex. 1006, Abstract, Fig. 5b



GROUND 5 & 6 '756 PATENT

Aguilar Anticipation and Obviousness

CLAIM 1[A]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

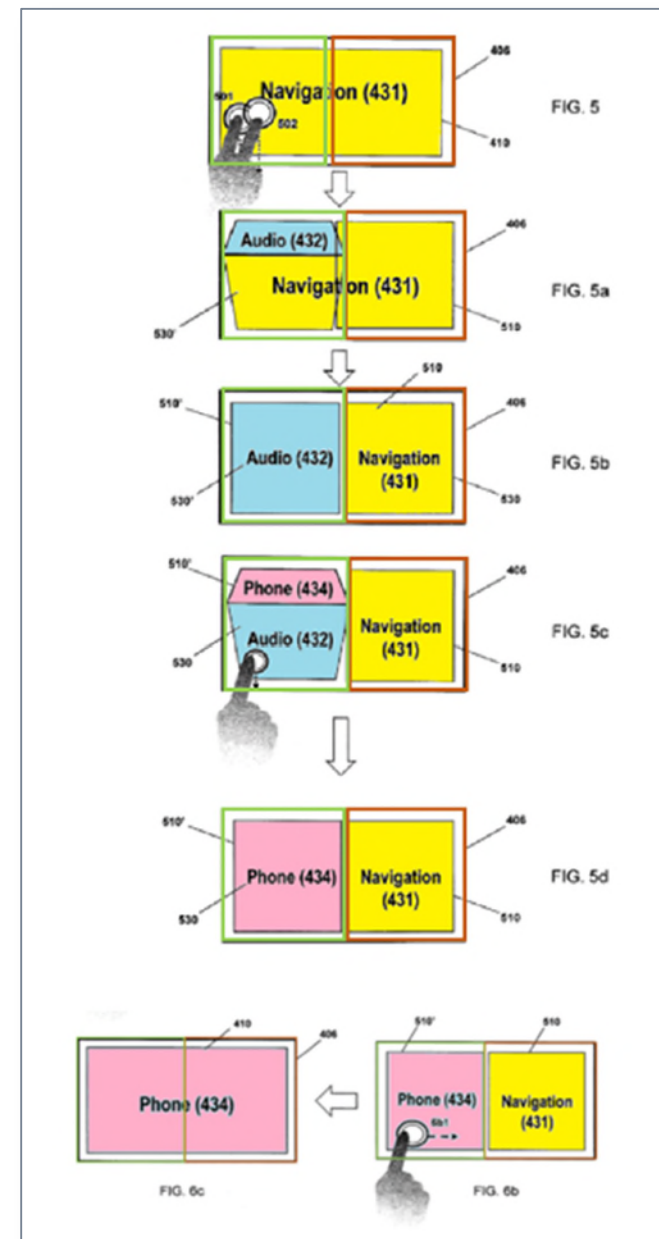
receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1006, Figs. 5, 5a, 5b, 5c, 5d, 6c, 6b (annotated)

GROUNDS 5 & 6 '756 PATENT

Aguilar Anticipation and Obviousness

CLAIM 1[A]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

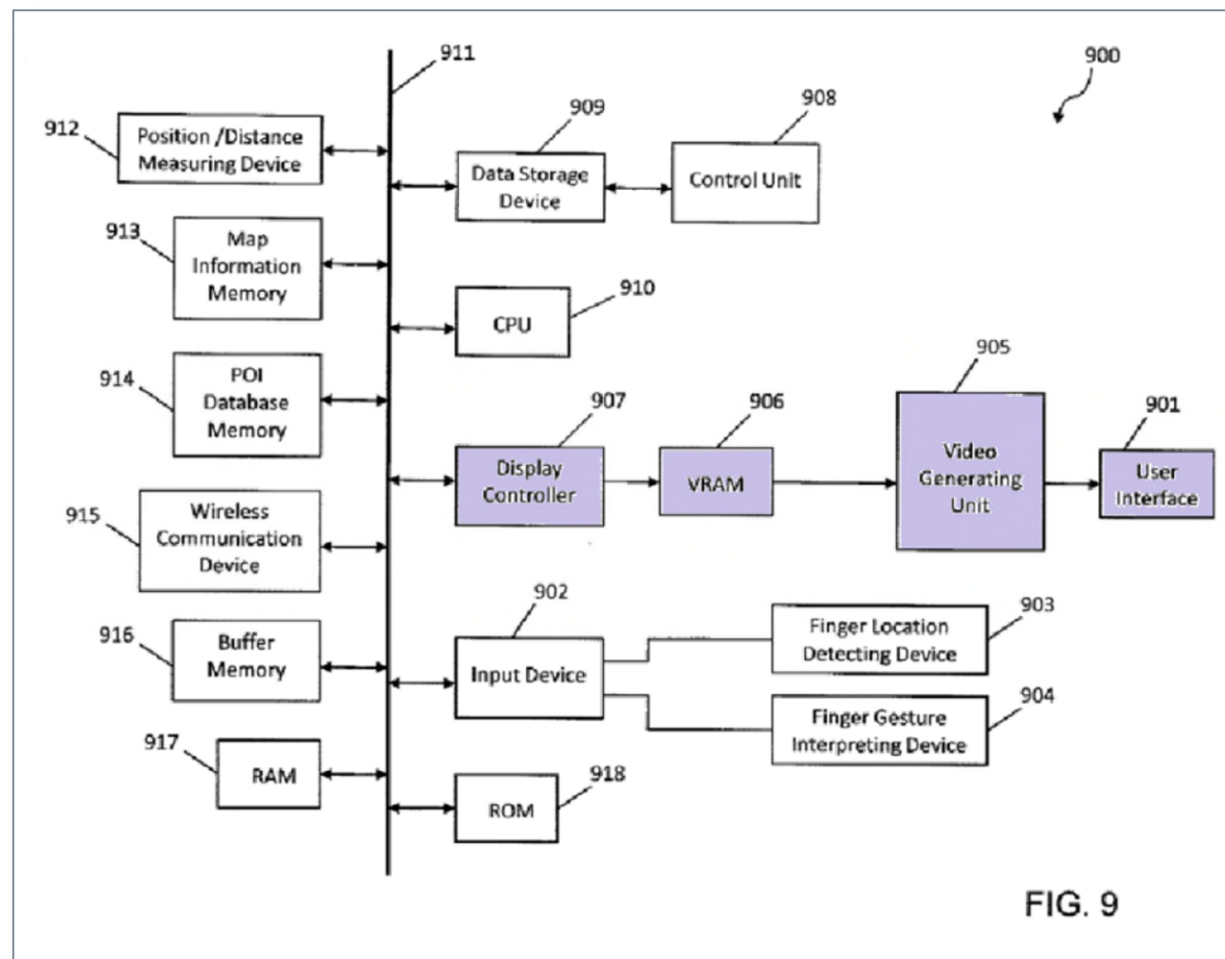
receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1006, Fig. 9 (annotated)

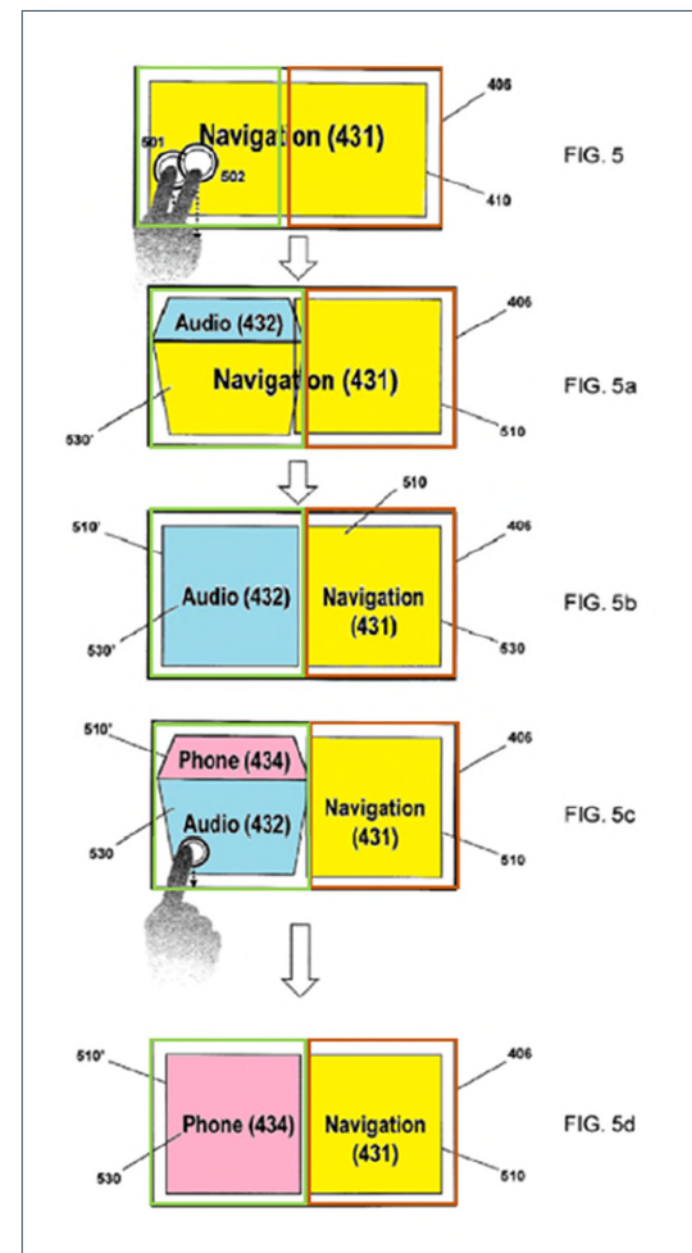
GROUNDS 5 & 6 '756 PATENT

Aguilar Anticipation and Obviousness

CLAIM 1[B]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:
 - receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;
 - selecting, by the processor, a first desktop or application to display on the first display;
 - receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;
 - selecting, by the processor, a second desktop or application to display on the second display;
 - displaying, by the processor, the selected first and second desktops or applications on the first and second displays;
 - receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and
 - displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1006, Figs. 5, 5a, 5b, 5c, 5d (annotated)
Petition, at 61-63

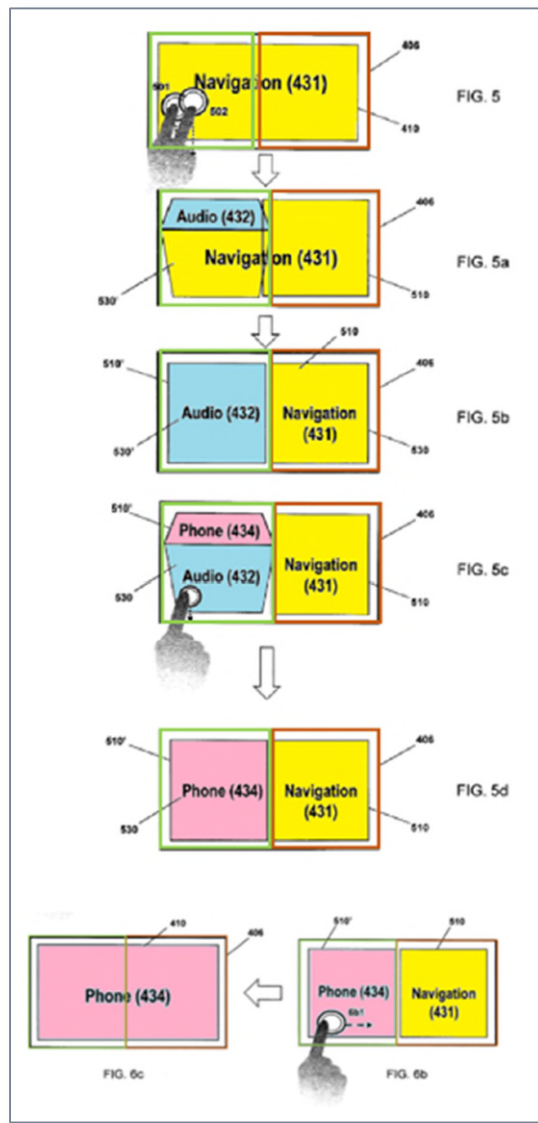
GROUNDS 5 & 6 '756 PATENT

Aguilar Anticipation and Obviousness

CLAIM 1[C]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:
 - receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;
 - selecting, by the processor, a first desktop or application to display on the first display;
 - receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;
 - selecting, by the processor, a second desktop or application to display on the second display;
 - displaying, by the processor, the selected first and second desktops or applications on the first and second displays;
 - receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and
 - displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1006, Figs. 5, 5a, 5b, 5c, 5d, 6c, 6b (annotated)

In another embodiment, the user can use simple finger gesture to close an unwanted application. Referring to FIGS. 6 and 6a, the user can spin the smaller spindle 530' to select a different application by dragging down the screen 510' with one finger, as previously shown in FIGS. 5c and 5d. As can be seen in FIG. 6b, two applications, Phone 434 and Navigation 431, are located on the display segments 510' and 510, respectively. If the user wishes to close the Navigation 431 application, the user can simply slide the Phone 434 application on the display segment 510' to the Navigation 431 on the display segment 510, and the two display segments 510' and 510 will be merged to the screen 410 with the Phone 434 application thereon, as shown in FIG. 6c. On the other hand, if the user wants to keep the Navigation application 431 and get rid of the Phone application 434, the user can slide the Navigation application 431 to the left side where the Phone application 434 is located.

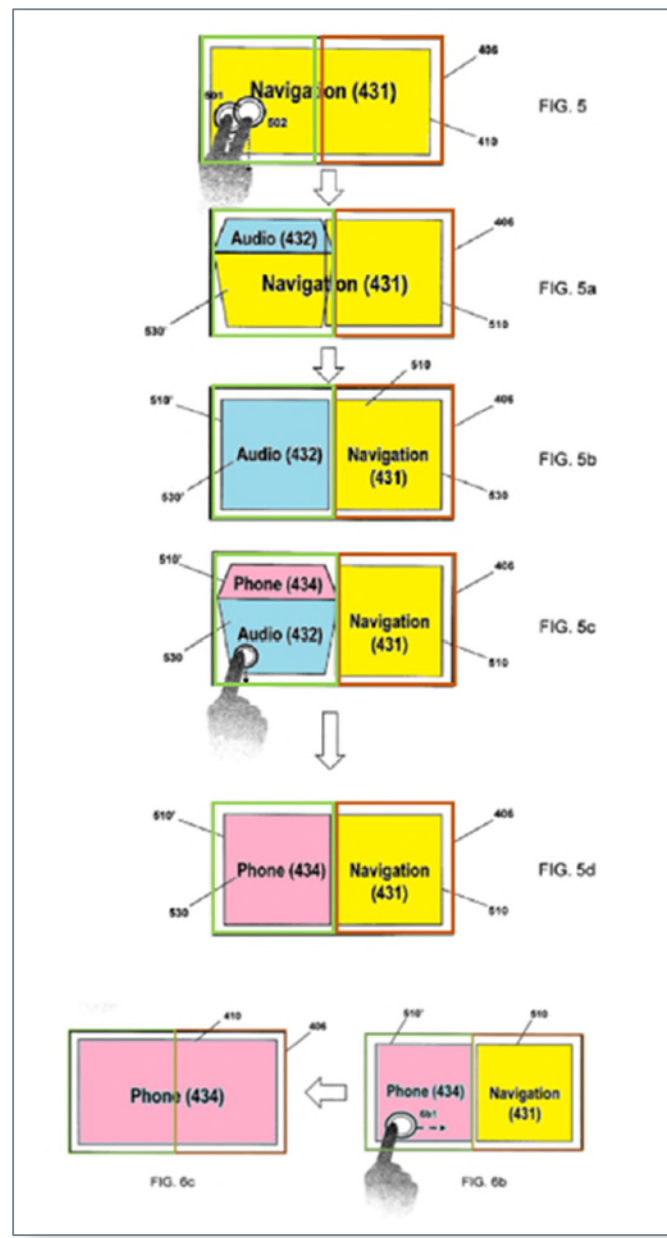
Ex. 1006, 7:42-54

GROUND S 5 & 6 ' 756 PATENT

Aguilar Anticipation and Obviousness

CLAIM 2

2. The method of claim 1, wherein at least one of the first, second, and third inputs is achieved by at least a user input gesture.

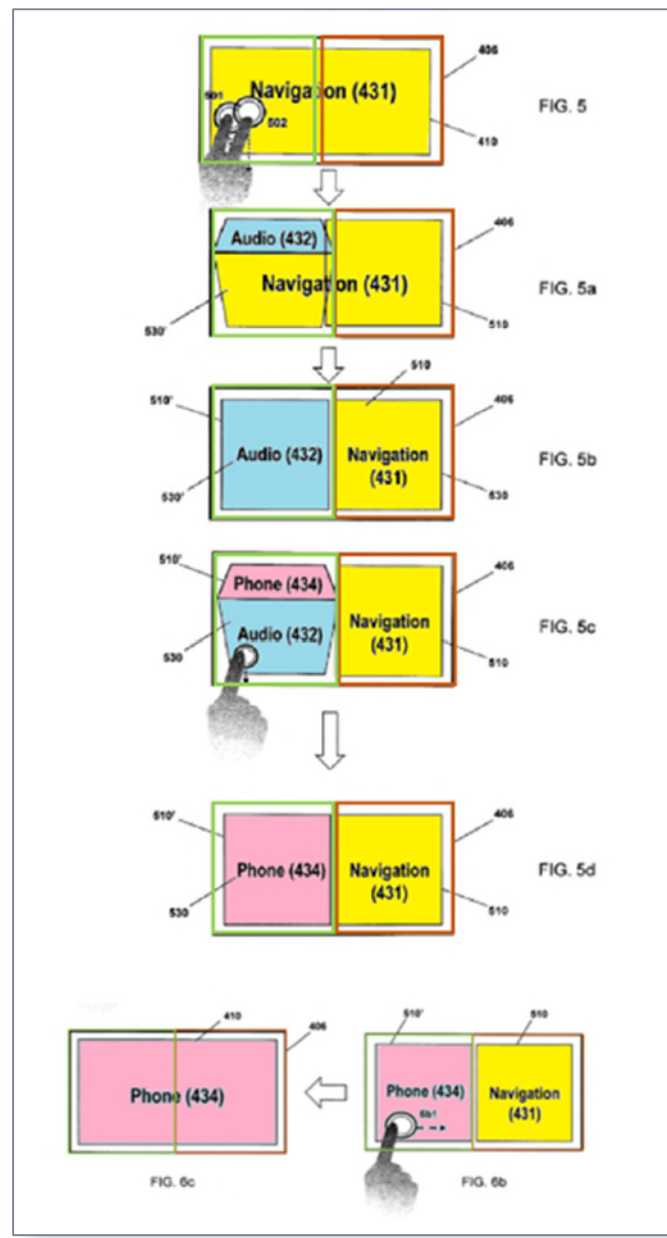


GROUNDS 5 & 6 '756 PATENT

Aguilar Anticipation and Obviousness

CLAIM 3

3. The method of claim 1, wherein the third input is a user gesture comprising at least one of a tap or long hold gesture.

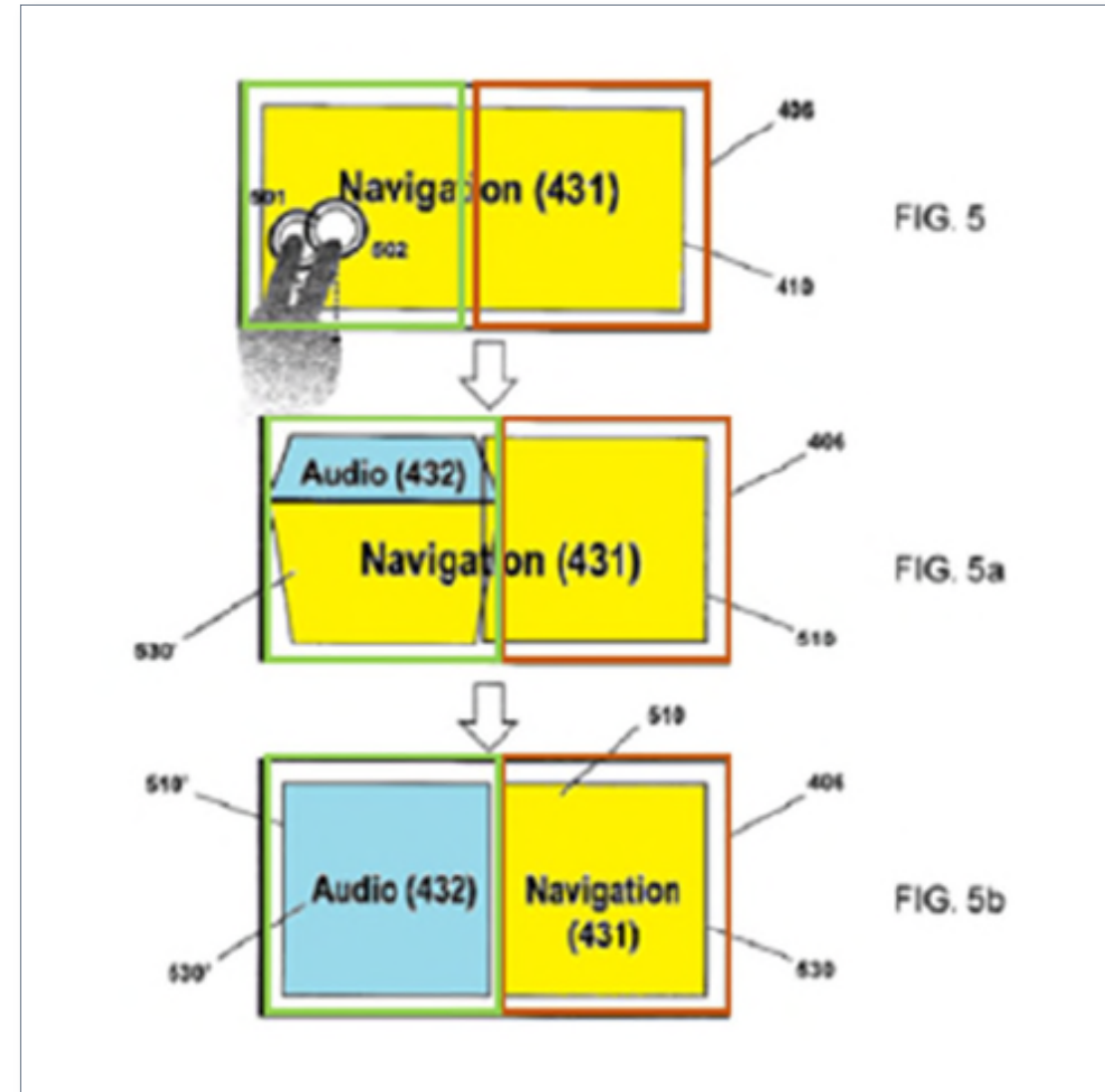


GROUND 5 & 6 '756 PATENT

Aguilar Anticipation and Obviousness

CLAIM 6

6. The method of claim 1, wherein a fourth input is an instruction to minimize a selected one of the first or second desktops or applications, resulting in the selected one being displayed only one of the first and second displays.



Ex. 1006, Figs. 5, 5a, 5b

GROUND 5 & 6 '756 PATENT

Aguilar Anticipation and Obviousness

CLAIM 7

7. A non-transitory computer-readable medium having stored thereon instructions that cause a computing system to execute a method, the instructions comprising:

instructions configured to receive a first predetermined input that represents an instruction to determine and reveal a first desktop or application on a first display of the multi-display device;

instructions configured to receive a second predetermined input that represents an instruction to determine and reveal a second desktop or application on a second display of the multi-display device;

instructions configured to respond to the first and second predetermined inputs with outputs that cause the first desktop or application to be displayed on the first display and cause the second desktop or application to be displayed on the second display;

instructions configured to receive a third predetermined input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays according to the instructions configured to respond to the third predetermined input; and

instructions configured to respond to the third predetermined input that causes displaying of the selected one of the first or second desktops or applications in a maximized condition.

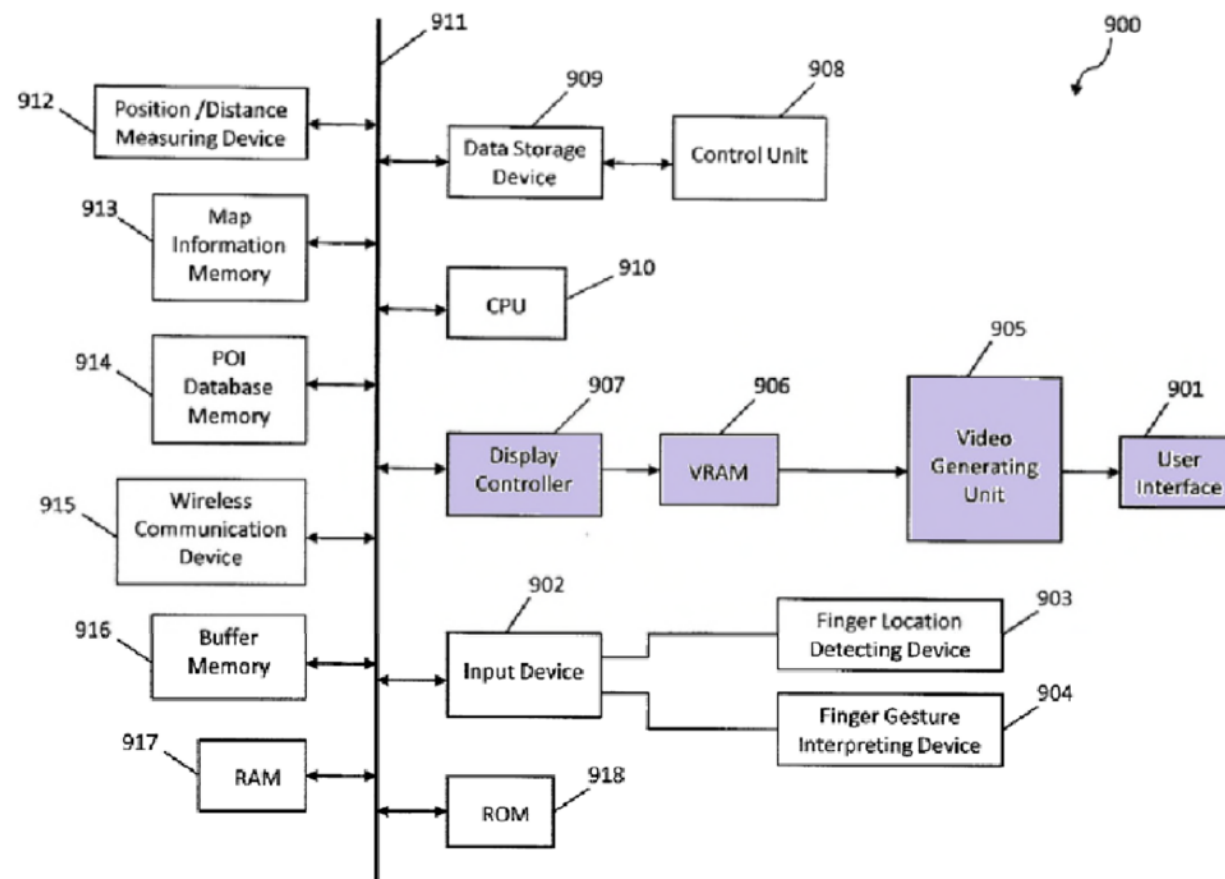


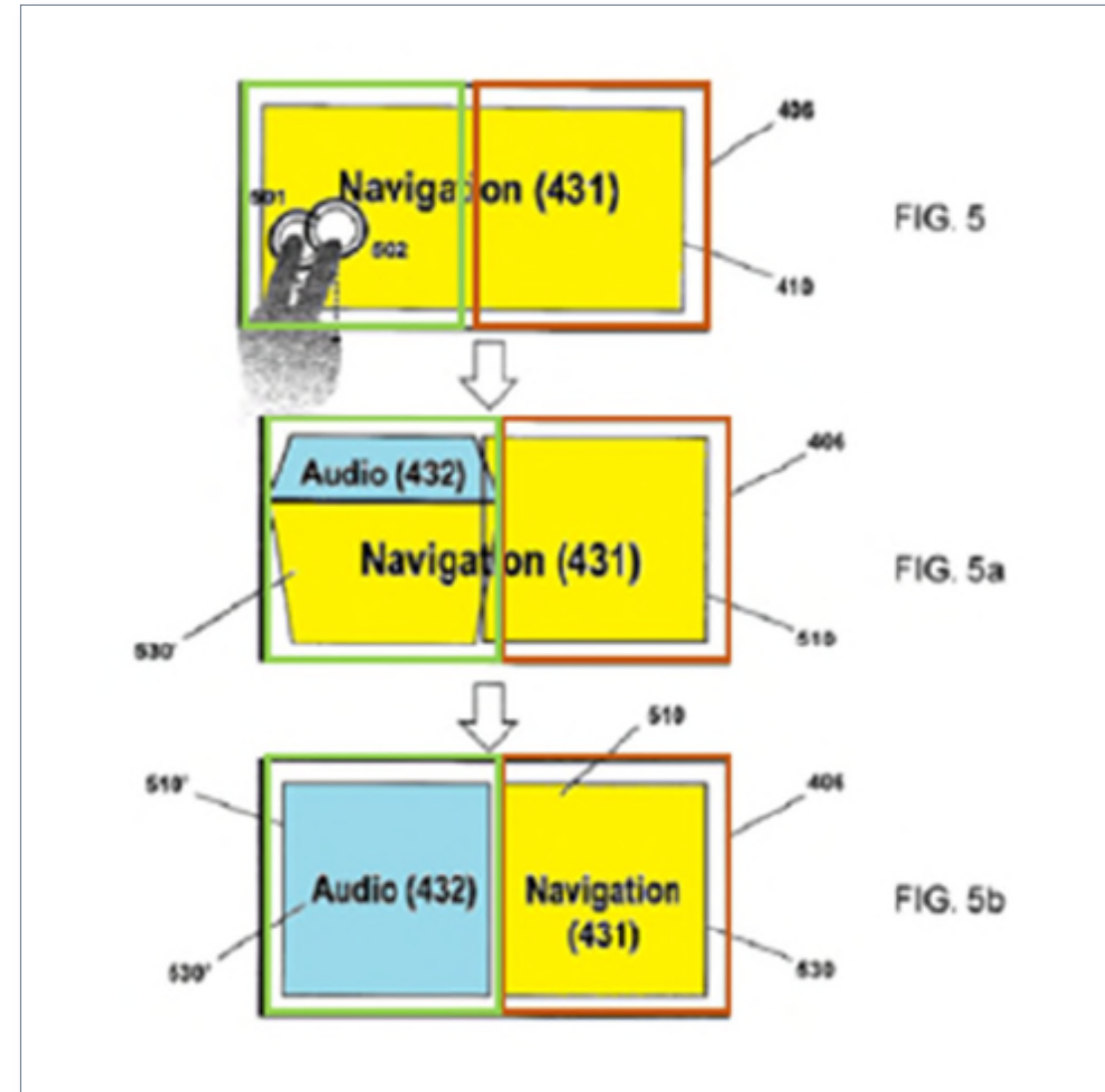
FIG. 9

GROUNDS 5 & 6

Aguilar Anticipation and Obviousness

CLAIM 9

9. The computer-readable medium of claim 7 wherein a fourth predetermined input is an instruction to minimize a selected one of the first or second desktops or applications, resulting in the selected one being displayed only one of the first and second displays according to the instructions configured to respond to the third predetermined input.



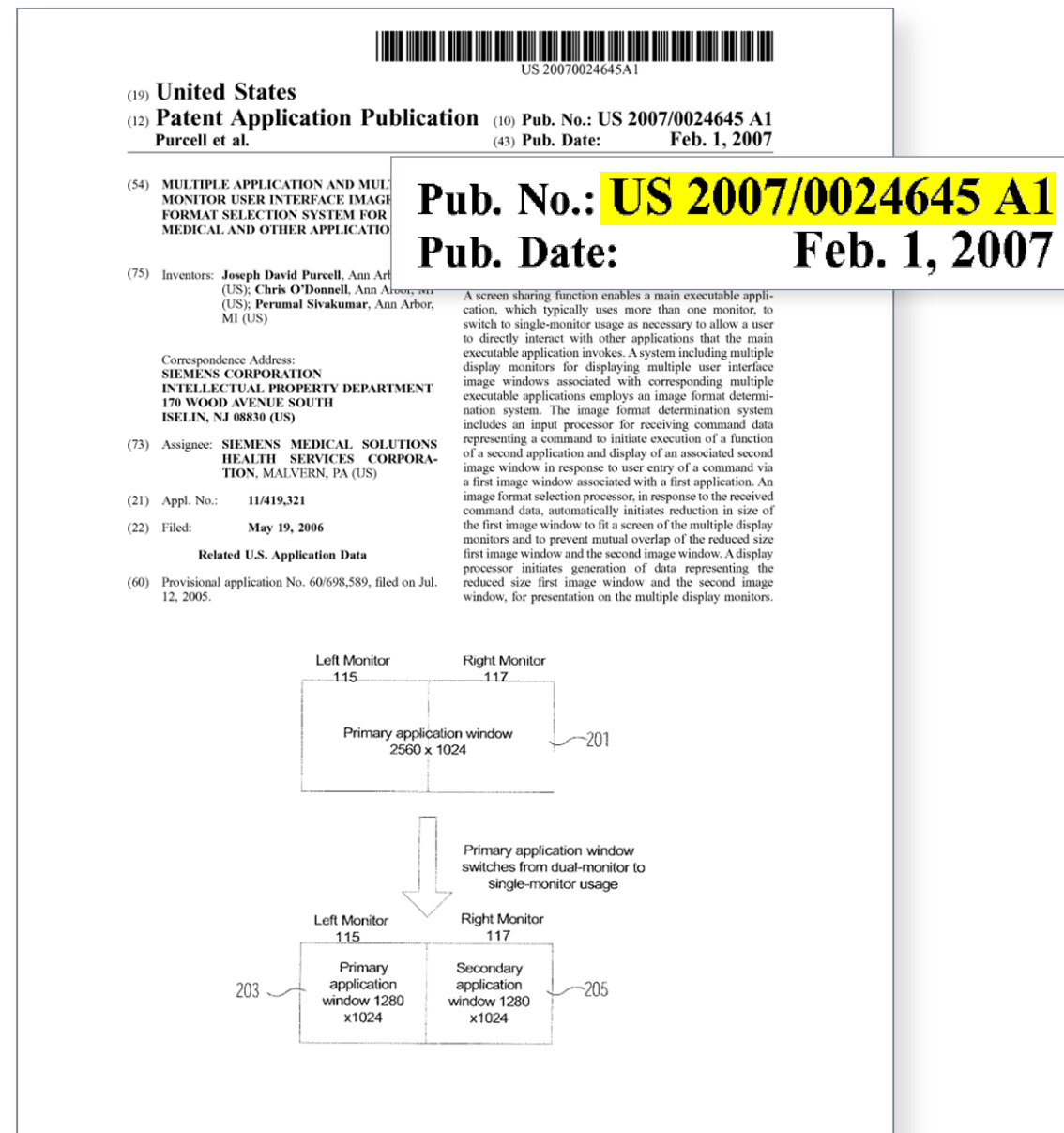
Ex. 1006, Figs. 5, 5a, 5b

GROUND 7

Purcell Anticipation

PURCELL ANTICIPATES

Claims 1-3, 6, 7, and 9 under
pre-AIA 35 U.S.C §102(b)



GROUND 7

Purcell Prior Art

Pub. No.: **US 2007/0024645 A1**

Pub. Date: **Feb. 1, 2007**

Filed: **May 19, 2006**

(19) United States
(12) Patent Application Publication
Purcell et al.

(10) Pub. No.: US 2007/0024645 A1
(43) Pub. Date: Feb. 1, 2007

(54) MULTIPLE APPLICATION AND MULTIPLE
MONITOR USER INTERFACE IMAGE
FORMAT SELECTION SYSTEM FOR
MEDICAL AND OTHER APPLICATIONS

Publication Classification
(51) Int. Cl.
G06G 5/00 (2006.01)
(52) U.S. Cl. 345/834

(75) Inventors: Joseph David Purcell, Ann Arbor, MI
(US); Chris O'Donnell, Ann Arbor, MI
(US); Perumal Sivakumar, Ann Arbor,
MI (US)

Correspondence Address:
SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
175 WOOD AVENUE SOUTH
ISELIN, NJ 08839 (US)

(73) Assignee: SIEMENS MEDICAL SOLUTIONS
HEALTH SERVICES CORPORATION,
MALVERN, PA (US)

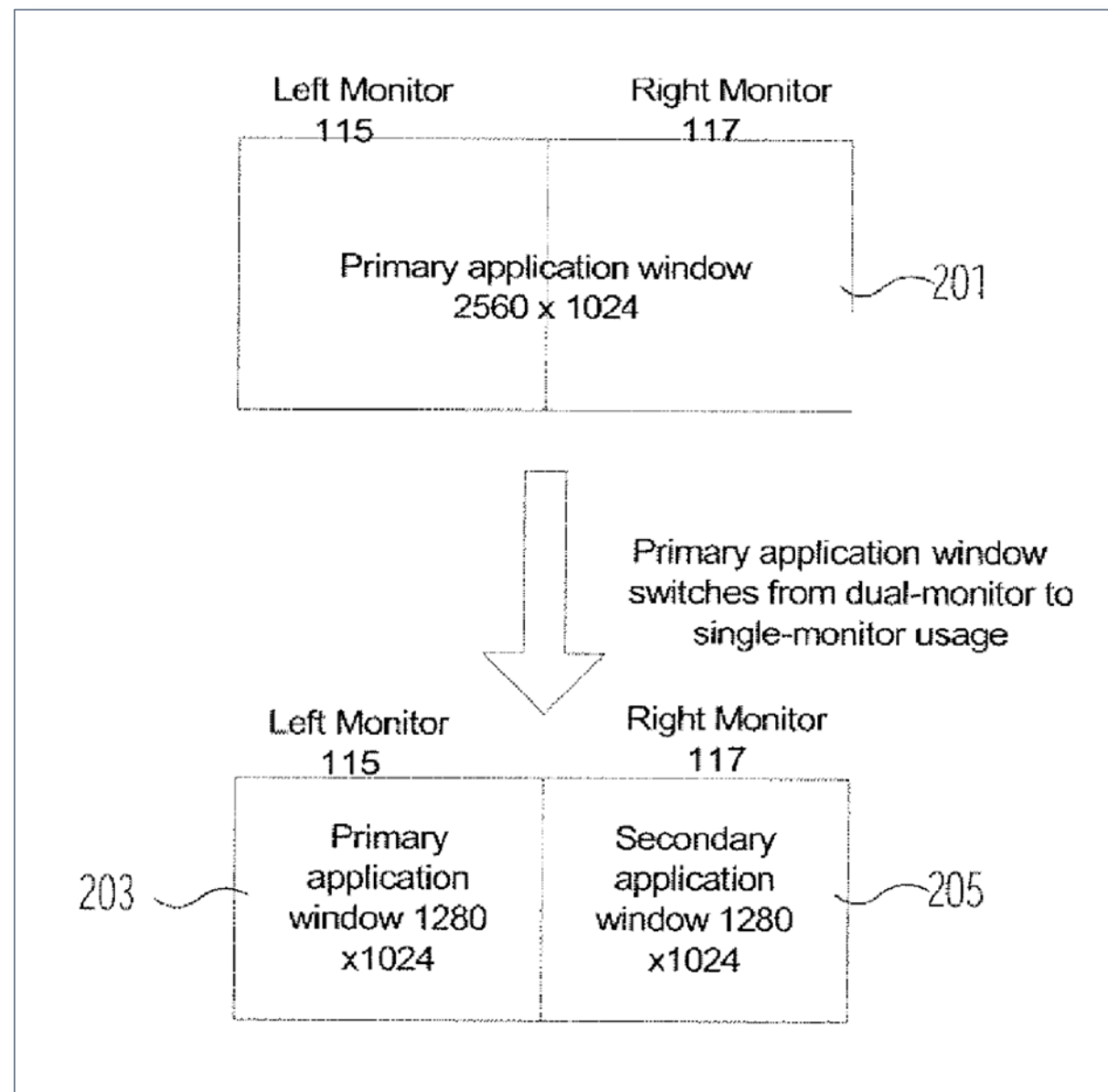
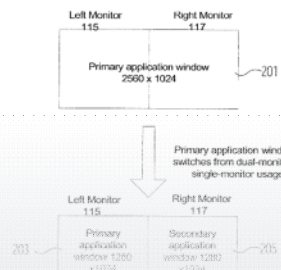
(21) Appl. No.: 11/419,321

(22) Filed: May 19, 2006

Related U.S. Application Data

(60) Provisional application No. 60/698,589, filed on Jul.
12, 2005.

(57) ABSTRACT
A screen sharing function enables a main executable application, which typically uses more than one monitor, to switch to single-monitor usage as necessary to allow a user to directly interact with other applications that the main executable application invokes. A system including multiple display monitors for displaying multiple user interface image windows associated with corresponding multiple executable applications employs an image format determination system. The image format determination system includes an input processor for receiving command data representing a command to initiate execution of a function of a second application and display of an associated second image window in response to user entry of a command via a first image window associated with a first application. An image format selection processor, in response to the received command data, automatically initiates reduction in size of the first image window to fit a screen of the multiple display monitors and to prevent mutual overlap of the reduced size first image window and the second image window. A display processor initiates generation of data representing the reduced size first image window and the second image window, for presentation on the multiple display monitors.



GROUND 7 '756 PATENT

Purcell Anticipation

CLAIM 1[P]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

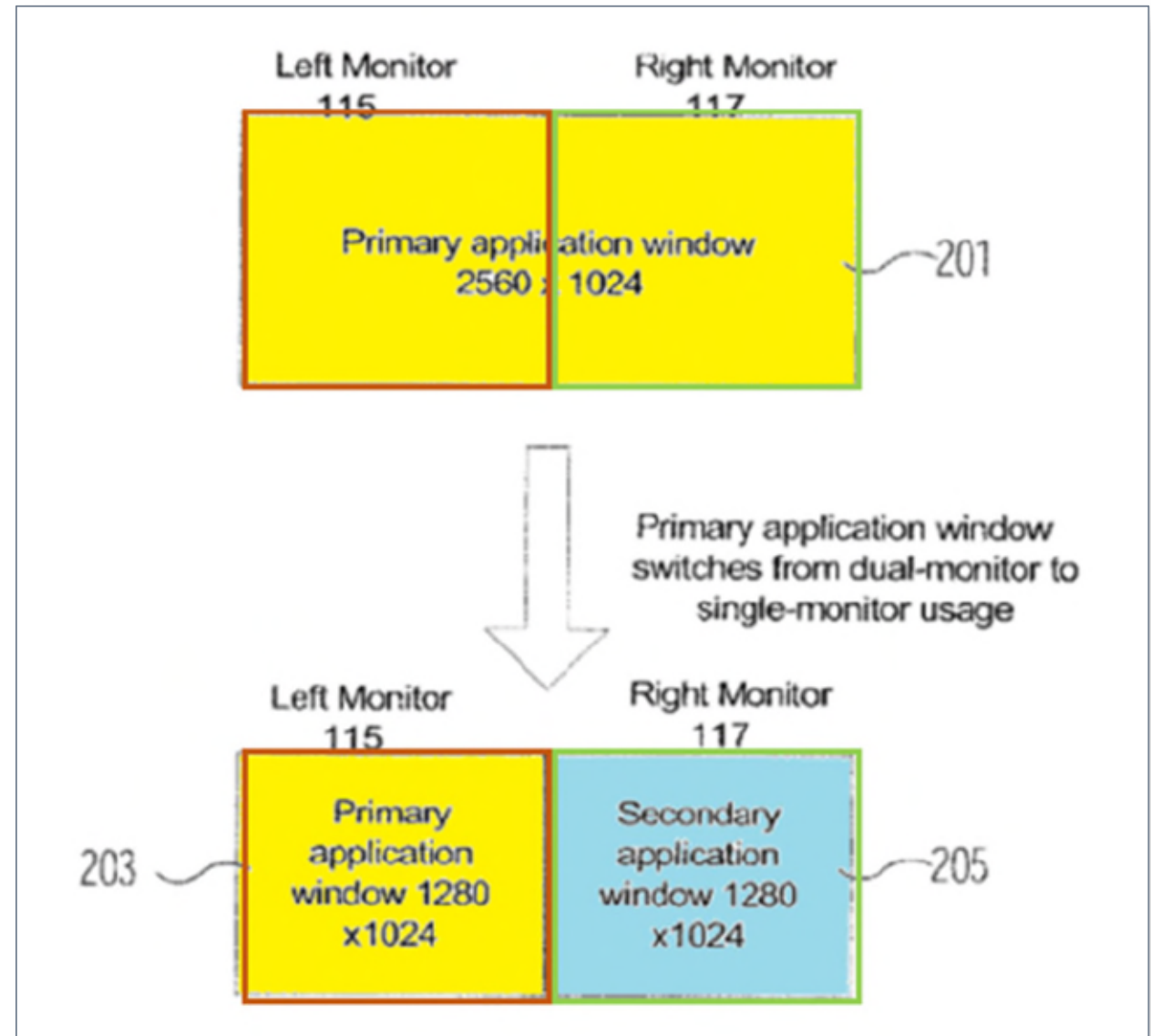
receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



GROUND 7 '756 PATENT

Purcell Anticipation

CLAIM 1[A]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

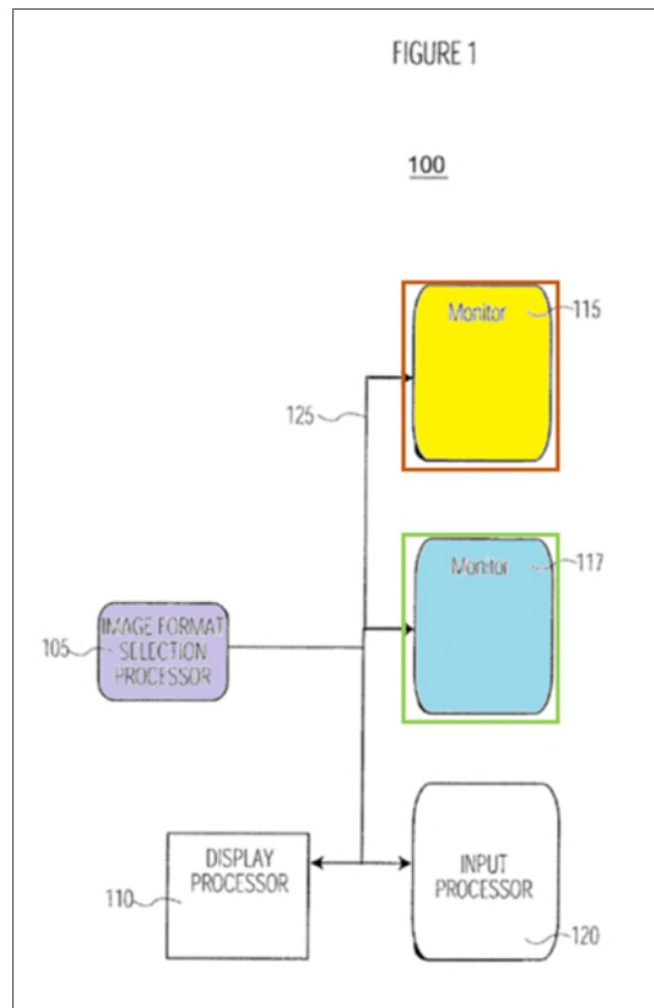
receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

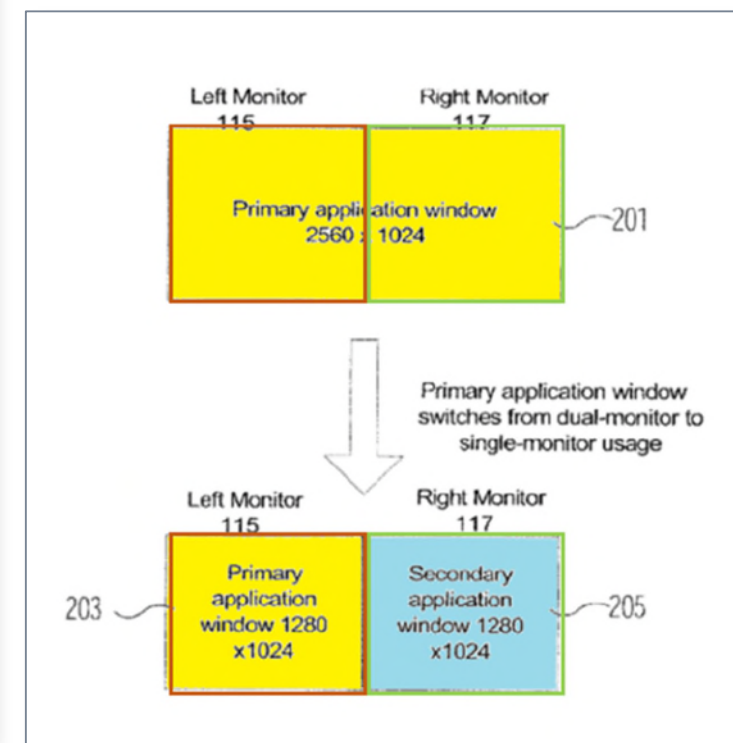
displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1007, Fig. 1 (annotated)



Ex. 1007, Fig. 2 (annotated)

GROUND 7 '756 PATENT

Purcell Anticipation

CLAIM 1[B]

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

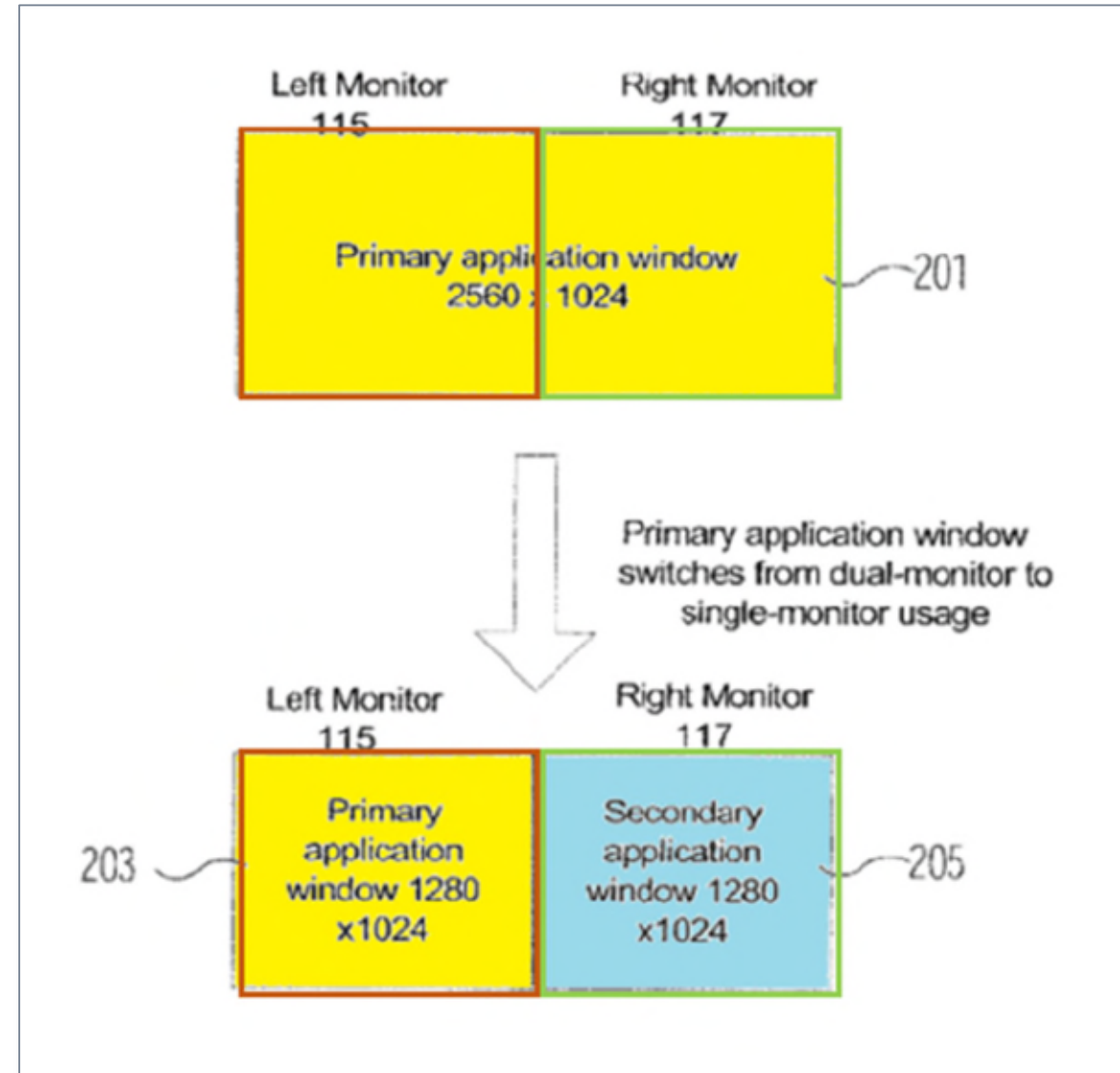
receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.



Ex. 1007, Fig. 2 (annotated)

GROUND 7

'756 PATENT • CLAIM 1[C]

Purcell Anticipation

US 2007/0024645 A1

What is claimed is:

1. A method of displaying a plurality of desktops and/or applications, each having at least one window, on a multi-display device, comprising:

receiving, by a processor, a first input that represents an instruction to reveal one of a desktop or application on a first display of the multi-display device;

selecting, by the processor, a first desktop or application to display on the first display;

receiving, by the processor, a second input that represents an instruction to reveal one of a desktop or application on a second display of the multi-display device;

selecting, by the processor, a second desktop or application to display on the second display;

displaying, by the processor, the selected first and second desktops or applications on the first and second displays;

receiving, by the processor, a third input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays; and

displaying, by the processor, the selected one of the first or second desktops or applications in a maximized condition.

[0020] Display processor 110 in system 100 in one embodiment in step 707, initiates generation of data representing the first image window comprising a reduced size version of the first size image on the first display monitor of the plurality of display monitors to prevent mutual overlap of the reduced size first image window and the second image window on the first display monitor. In another embodiment display processor 110 in system 100 initiates generation of data representing the reduced size first image window and the second image window, for presentation on the plurality of display monitors. The reduced size first image window is presented on a first monitor of the plurality of display monitors and the second image window is presented on a different second monitor of the plurality of display monitors. The first image window prior to the size reduction encompasses the first monitor and the different second monitor. In response to a user command to terminate execution of the second application or a function of the second application, the image format selection processor automatically initiates increase in size of the first image window to fit a screen of a monitor of the plurality of display monitors. In another embodiment, in response to a user command to terminate execution of the second application or a function of the second application, the image format selection processor automatically initiates increase in size of the first image window to encompass display screens of the first monitor and the different second monitor. The process of FIG. 3 ends at step 713.

GROUND 7 '756 PATENT

Purcell Anticipation

CLAIM 2

2. The method of claim 1, wherein at least one of the first, second, and third inputs is achieved by at least a user input gesture.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MOTOROLA MOBILITY LLC, AND GOOGLE, LLC

Petitioners,

187. Purcell’s system operates based upon a user interacting with its “user interface” that receives “user commands.” Ex. 1007, ¶¶[0015], [0020]. Such user commands include well-known user inputs for Windows-based devices, such as “ALT+TAB command,” “Windows Taskbar,” or “clicking on an un-obscured portion of the secondary application window.” *Id.*, ¶[0003]. For example, Purcell indicates that the “user enters the command using a keyboard, mouse, a touch screen, a microphone or a voice recognition application...” *Id.*, ¶[0013]. These are all “user input gestures.”

Ex. 1003, ¶ 187

GROUND 7 '756 PATENT

Purcell Anticipation

CLAIM 3

3. The method of claim 1, wherein the third input is a user gesture comprising at least one of a tap or long hold gesture.

189. As I explained above, Purcell discloses that a “user enters the command using a keyboard, mouse, a touch screen, a microphone or a voice recognition application...” Ex. 1007, ¶[0013]. A user input via touch screen would require the user to “tap” on the touch screen in order to input the command.

Ex. 1003, ¶ 187

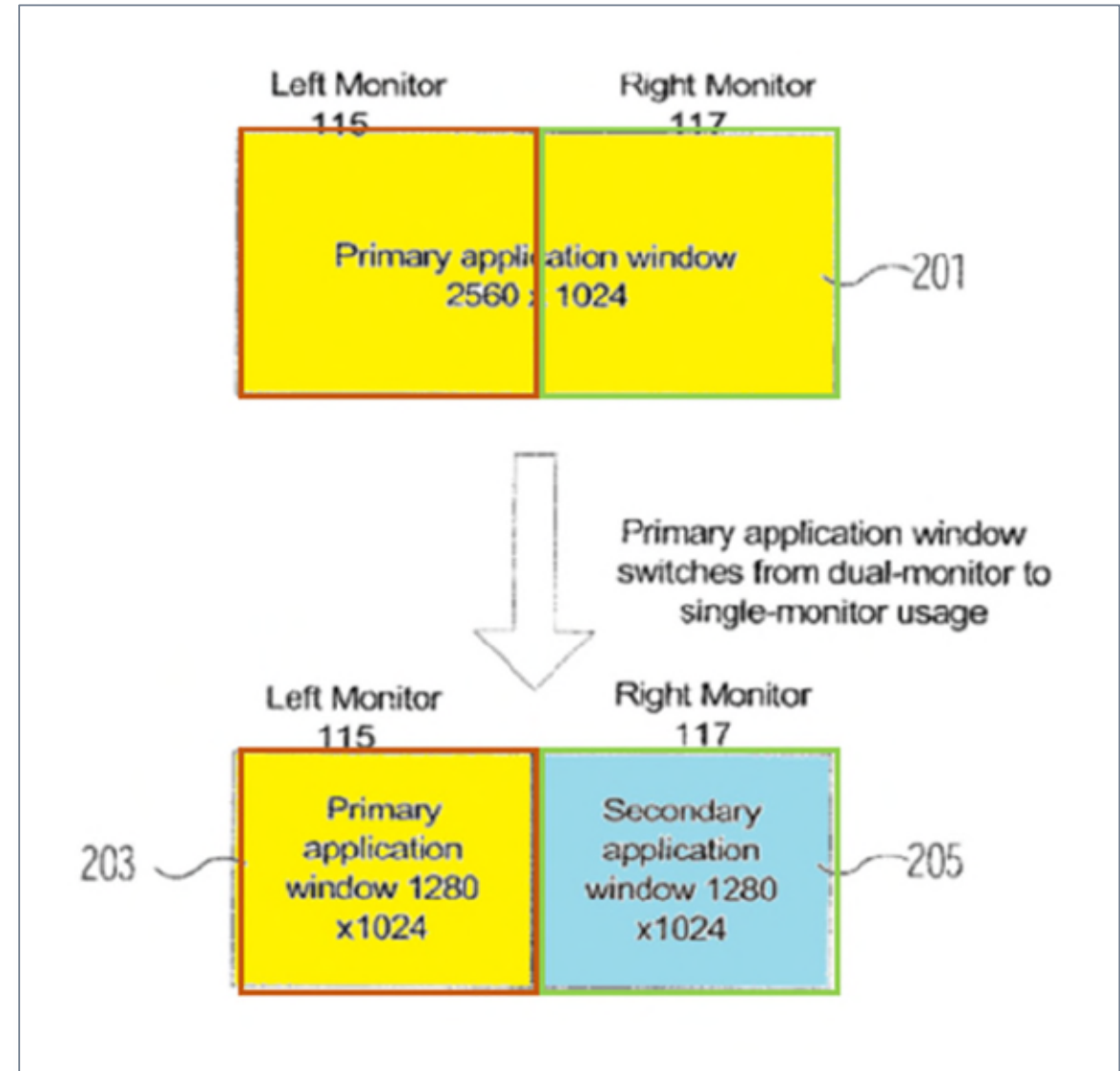
[0013] FIG. 1 shows image format determination system 100 employed by a workstation (e.g., a PC, server, notebook, PDA) employing a microprocessor, controller or other processing device. System 100 employs a screen sharing function and multiple display monitors 115, 117 for displaying multiple user interface image windows associated with corresponding multiple executable applications. Input processor 120 receives command data representing a command to initiate execution of a function of a second application and display of an associated second image window in response to user entry of a command via a first image window associated with a first application. The user enters the command using a keyboard, a mouse, a touch screen, a microphone or a voice recognition application, for example. Image format selection processor 105, in response to the received command data, automatically initiates reduction in size of the first image window to fit a screen of display monitors 115 and 117 and to prevent mutual overlap of the reduced size first image window and the second image window. Display processor 110 initiates generation of data representing the reduced size first image window and the second image window, for presentation on display monitors 115 and 117.

GROUND 7 '756 PATENT

Purcell Anticipation

CLAIM 6

6. The method of claim 1, wherein a fourth input is an instruction to minimize a selected one of the first or second desktops or applications, resulting in the selected one being displayed only one of the first and second displays.



Ex. 1007, Fig. 2 (annotated)

GROUNDS 5 & 6 '756 PATENT

Purcell Anticipation

CLAIM 7

7. A non-transitory computer-readable medium having stored thereon instructions that cause a computing system to execute a method, the instructions comprising:

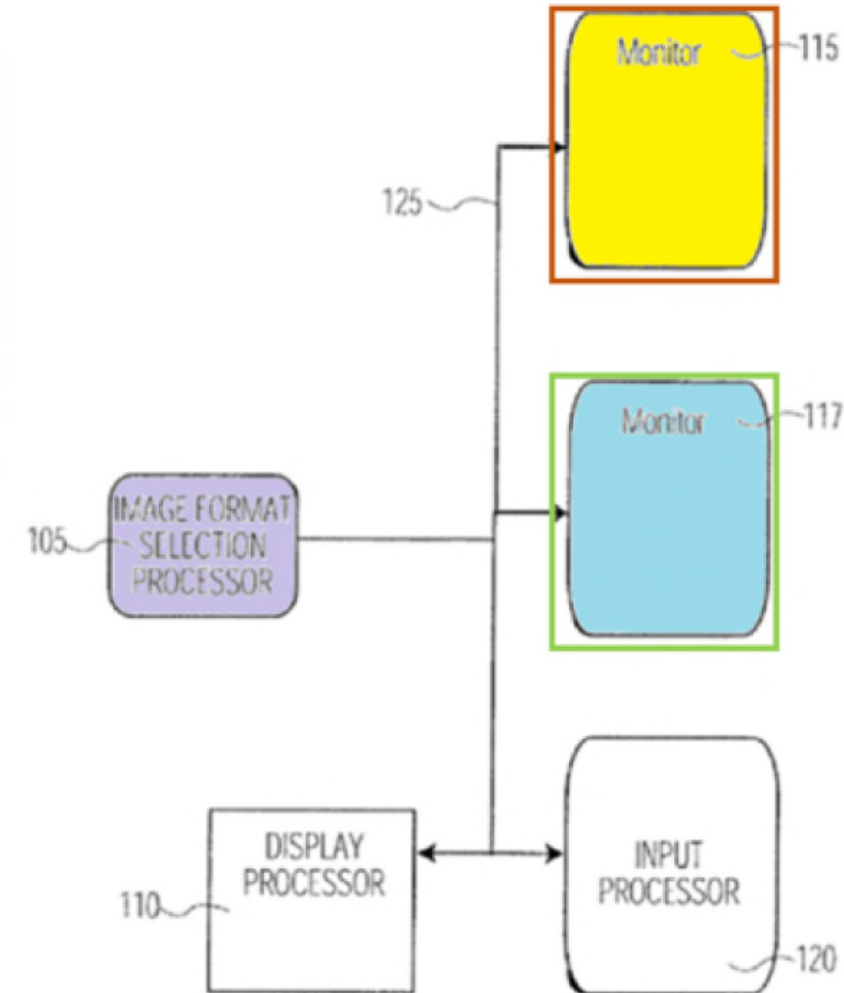
instructions configured to receive a first predetermined input that represents an instruction to determine and reveal a first desktop or application on a first display of the multi-display device;

instructions configured to receive a second predetermined input that represents an instruction to determine and reveal a second desktop or application on a second display of the multi-display device;

instructions configured to respond to the first and second predetermined inputs with outputs that cause the first desktop or application to be displayed on the first display and cause the second desktop or application to be displayed on the second display;

instructions configured to receive a third predetermined input that represents an instruction to maximize a selected one of the first or second desktops or applications resulting in the selected one being displayed on both of the first and second displays according to the instructions configured to respond to the third predetermined input; and

instructions configured to respond to the third predetermined input that causes displaying of the selected one of the first or second desktops or applications in a maximized condition.

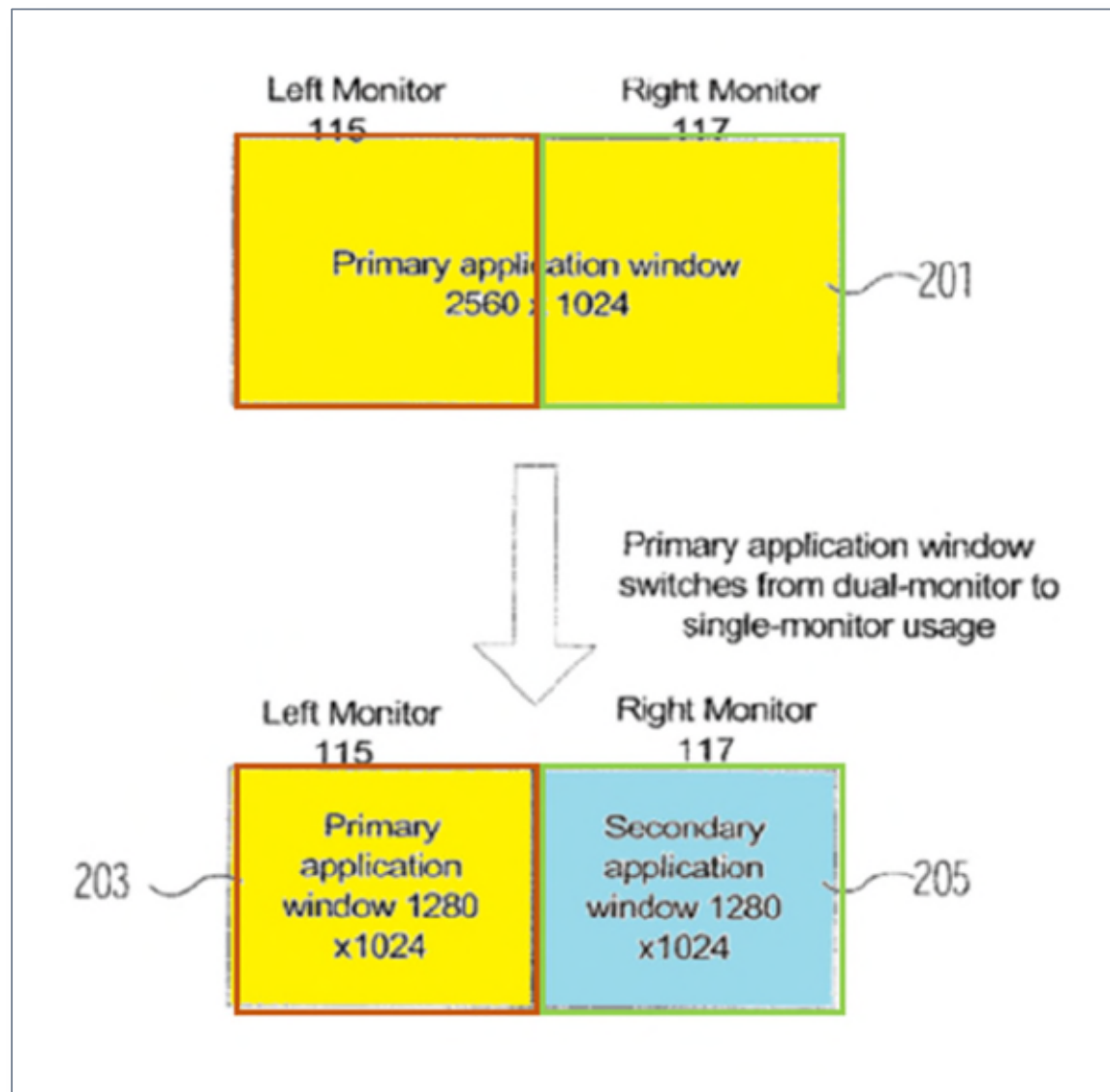


GROUND 7 '756 PATENT

Purcell Anticipation

CLAIM 9

9. The computer-readable medium of claim 7 wherein a fourth predetermined input is an instruction to minimize a selected one of the first or second desktops or applications, resulting in the selected one being displayed only one of the first and second displays according to the instructions configured to respond to the third predetermined input.



Ex. 1007, Fig. 2 (annotated)

GROUND 8 '756 PATENT

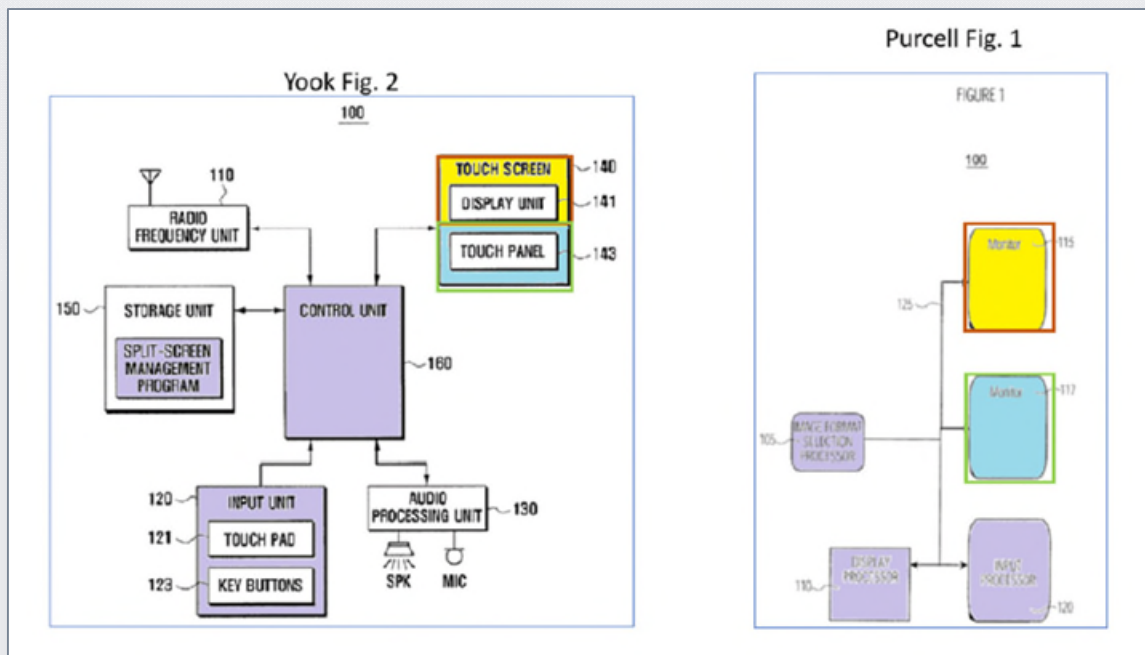
Purcell and Yook Obviousness

Purcell in view of Yook renders the challenged claims obvious under pre-AIA 35 U.S.C §103

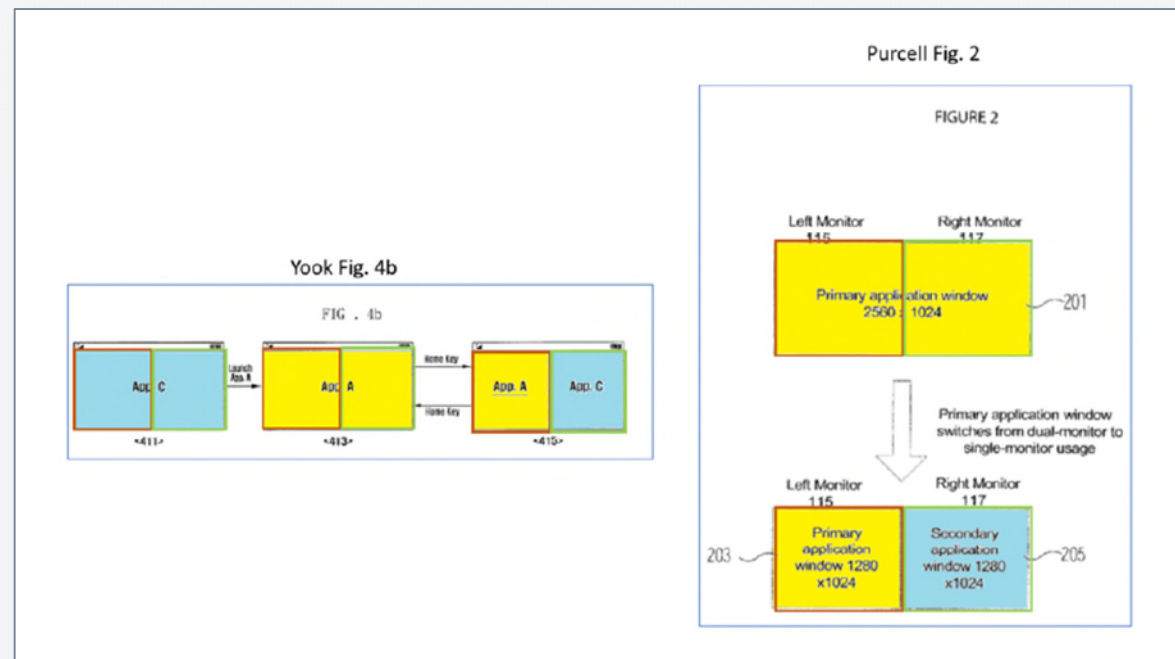
- A POSITA would have been motivated to combine the teachings of Purcell's dual monitor display system with the teachings of Yook's dual-display system to achieve additional user display options| that were commonplace in the industry at the time
- Yook and Purcell also developed similar systems and methods to accomplish the solutions to the same problem, including the use of an input processor, split screen management program, and a control unit/display unit
- The manner in which Yook and Purcell implemented their split-screen methods on these systems was also similar

GROUND 8 '756 PATENT

Purcell and Yook Obviousness

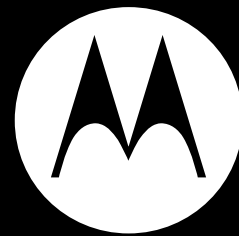


Petition, 85



Petition, 85

Google



motorola