

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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GOOGLE LLC and MOTOROLA MOBILITY LLC  
Petitioners

v.

MULTIFOLD INTERNATIONAL INCORPORATED PTE. LTD.,  
Patent Owner

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IPR2025-00060

Patent No. 8,842,080

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**PETITION FOR *INTER PARTES* REVIEW  
OF U.S. PATENT NO. 8,842,080**

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# LIST OF EXHIBITS

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| EX1001 | U.S. Patent No. 8,842,080 (“the ’080 patent”)                                                                                                                                                                |
| EX1002 | Declaration of Sandeep Chatterjee, Ph.D.                                                                                                                                                                     |
| EX1003 | Curriculum Vitae of Sandeep Chatterjee, Ph.D.                                                                                                                                                                |
| EX1004 | Prosecution History of U.S. Patent App. No. 12/948,686                                                                                                                                                       |
| EX1005 | Certified English-language Translation of Japanese Patent Publication No. H09-204288 (“Ogawa”), Original Japanese Patent Publication No. H09-204288, and Translation Certificate                             |
| EX1006 | U.S. Patent No. 8,649,824 (“Choi”)                                                                                                                                                                           |
| EX1007 | U.S. Patent No. 2010/0248788 (“Yook”)                                                                                                                                                                        |
| EX1008 | Mobile Phone Museum, Nokia 9000 Communicator ( <a href="https://www.mobilephonemuseum.com/phone-detail/nokia-9000-communicator">https://www.mobilephonemuseum.com/phone-detail/nokia-9000-communicator</a> ) |
| EX1009 | U.S. Patent No. 6,912,664 (“Ranganathan”)                                                                                                                                                                    |
| EX1010 | U.S. Patent No. 8,265,705 (“Lee”)                                                                                                                                                                            |
| EX1011 | U.S. Patent No. 9,692,881 (“Jyonoshita”)                                                                                                                                                                     |
| EX1012 | An Introduction to Graphical User Interfaces with Java Swing, Paul Fisher, Addison Wesley, 2005 (excerpt)                                                                                                    |
| EX1013 | Scheduling Order for <i>Multifold International Incorporated Pte. Ltd. v. Motorola Mobility LLC</i> , Case No. 1:23-cv-01173 (D. Del.)                                                                       |
| EX1014 | Scheduling Order for <i>Multifold International Incorporated Pte. Ltd. v. Google LLC</i> , Case No. 1:23-cv-01323 (D. Del.)                                                                                  |
| EX1015 | Appendix A-7 to Multifold’s Infringement Contentions served in <i>Multifold International Incorporated Pte. Ltd. v. Google LLC</i> , Case No. 1:23-cv-01323 (D. Del.)                                        |

## I. INTRODUCTION

Google LLC and Motorola Mobility LLC (collectively “Petitioners”) respectfully request *inter partes* review of claims 1, 2, 4-9, 12-16, and 20 (“the challenged claims”) of U.S. Patent No. 8,842,080 (“the ’080 patent”) (EX1001) assigned to Multifold International Incorporated PTE. LTD. (“Patent Owner” or “PO”).

## II. MANDATORY NOTICES

Real Parties-in-Interest: Pursuant to 37 C.F.R. § 42.8(b)(1), Petitioners identify Google LLC<sup>1</sup> and Motorola Mobility LLC<sup>2</sup> as the real parties-in-interest.

Related Matters: The ’080 patent is asserted by PO in Case No. 1:23-cv-01323 (D. Del.) against Google (“Google Litigation”) and in Case No. 1-23-cv-01173 (D. Del.) against Motorola Mobility LLC (“Motorola Litigation”). Motorola

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<sup>1</sup> Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc. XXVI Holdings Inc. and Alphabet Inc. are not real parties-in-interest to this proceeding.

<sup>2</sup> Motorola Mobility LLC is a direct, wholly owned subsidiary of Motorola Mobility Holdings LLC, which is indirectly a wholly-owned subsidiary of Lenovo Group Ltd. Motorola Mobility Holdings LLC and Lenovo Group Ltd. are not real parties-in-interest to this proceeding.

Mobility LLC was served with the complaint on October 18, 2023 and Google LLC was served with the complaint on November 20, 2023. Thus, this petition is timely under 35 U.S.C. § 315(b).

The '080 patent originates from U.S. Patent Application No. 12/948,686 (the "'686 application"), filed on November 17, 2010, and claims priority to Provisional Application Nos. 61/389,117 (the "'117 provisional application") and 61/389,087 (the "'087 provisional application"), each filed on October 1, 2010.

Counsel and Service Information: Designated lead counsel for Petitioners is Naveen Modi (Reg. No. 46,224, naveenmodi@paulhastings.com) (Counsel for Petitioner Google). Backup counsel for Petitioners and respective service information is provided below:

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Petitioners consent to electronic service at the emails listed above for each Petitioner.

### **III. PAYMENT OF FEES**

The PTO is authorized to charge any fees due during this proceeding to Deposit Account No. 50-2613.

#### **IV. GROUNDS FOR STANDING**

Petitioners certify under 37 C.F.R. § 42.104(a) that the '080 patent is available for review and Petitioners are not barred or estopped from requesting review on the grounds identified herein.

#### **V. PRECISE RELIEF REQUESTED AND GROUNDS RAISED**

Petitioners respectfully request review of claims 1, 2, 4-9, 12-16, and 20 of the '080 patent and cancellation of these claims as unpatentable. The challenged claims should be found unpatentable on the following grounds:

**Ground 1:** Claims 1, 2, 12, 13, and 20 are unpatentable under pre-AIA 35 U.S.C. § 102(b) as being anticipated by Ogawa (EX1005);

**Ground 2:** Claims 4-9 are unpatentable under pre-AIA 35 U.S.C. § 103 as being obvious in view of Ogawa and Yook (EX1007);

**Ground 3:** Claims 1, 2, 12-16, and 20 are unpatentable under pre-AIA 35 U.S.C. § 103 as being obvious in view of Ogawa and Choi (EX1006); and

**Ground 4:** Claims 4-9 are unpatentable under pre-AIA 35 U.S.C. § 103 as being obvious in view of Ogawa, Choi, and Yook.

For purposes of this proceeding, Petitioners assume the earliest possible priority date of the '080 patent is October 1, 2010.<sup>3</sup> Ogawa published on August 5, 1997 (EX1005, Cover) and thus qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(b). Yook was filed on March 22, 2010 (EX1007, Cover) and Choi was filed on May 12, 2009 (EX1006, Cover). Thus, Yook and Choi qualify as prior art under at least pre-AIA 35 U.S.C. § 102(e).

Ogawa, Yook, and Choi were not considered during prosecution. (*See generally* EX1004.)

## **VI. LEVEL OF ORDINARY SKILL**

A person of ordinary skill in the art at the time of the alleged invention of the '080 patent ("POSITA") would have had an undergraduate degree in electrical engineering, computer engineering, computer science or a related field along with two years of work experience in the field of user interface technologies, including

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<sup>3</sup> Petitioners do not concede that the '080 patent is entitled to such a priority date and reserve the right to challenge such priority claim in this proceeding and other proceedings.

e.g., graphical interface technologies, or a related field. (EX1002, ¶¶20-21.)<sup>4</sup> More education can supplement practical experience and vice versa. (*Id.*)

## **VII. THE '080 PATENT**

The '080 patent is directed to methods for controlling a handheld computing device (e.g., device 100 in figure 1 shown below) including one or more displays like display 102 and display 104. (EX1001, Abstract, 4:9-11.) The methods involve providing an icon on the display(s) for indicating the status of an application displayable on the one or more displays. (*Id.*, Abstract.)

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<sup>4</sup> Petitioners submit the declaration of Dr. Sandeep Chatterjee (EX1002), an expert in the field of the '080 patent. (EX1002, ¶¶2-14; EX1003; *see also* EX1002, ¶¶15-188 (citing EX1004-EX1012).)

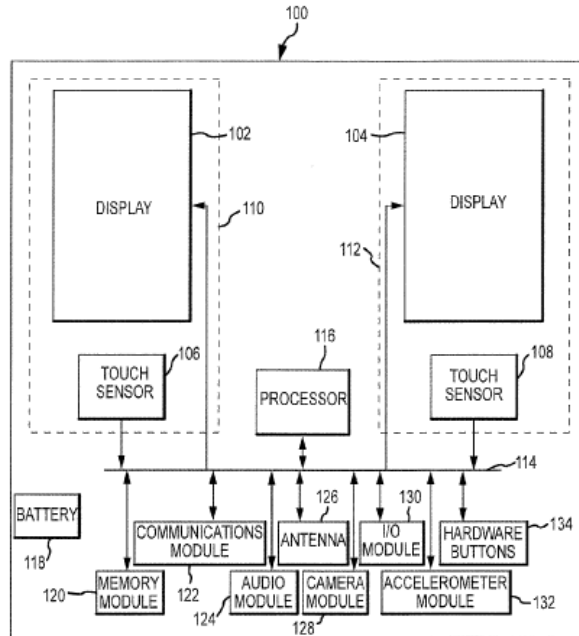
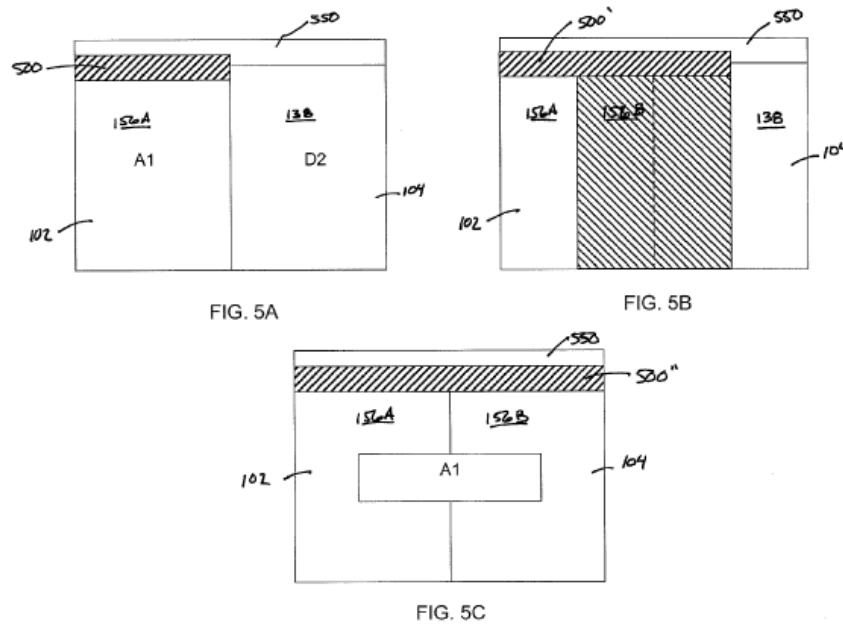


FIG.1

(EX1001, FIG. 1; EX1002, ¶32.)

For example, with reference to figures 5A-5C (shown below), the '080 patent describes displaying a first screen 156A of application A1 in a first display condition (e.g., the first screen 156 having a window size covering the display 102). (EX1001, 13:24-59.) An icon 500 indicates that the application A1 is in a first state corresponding to the first display condition (e.g., the icon 500 is provided at the top of the first screen 102 with a size corresponding to the size of the first screen 156A). (*Id.*)



(EX1001, FIGS. 5A-5C; EX1002, ¶33.)

The '080 patent describes receiving a gesture input at a gesture sensor. (EX1001, 6:13-29, 13:60-14:4; *see also* FIG. 4 (showing gesture inputs).) In response to the gesture input, the application A1 is changed to a second display condition like that shown in figure 5B (or 5C) where the application now includes first screen 156A and second screen 156B. (EX1001, 13:60-14:13.) In this second display condition, the second screen 156B is extended beyond first display 102 such that it covers a part of second display 104. (*Id.*) The icon 500 morphs into icon 500' corresponding to the second display condition (e.g., corresponding to the extended size of the application). (*Id.*, 13:60-14:46; EX1002, ¶34.)

## VIII. CLAIM CONSTRUCTION

The Board only construes the claims when necessary to resolve the underlying controversy. *Toyota Motor Corp. v. Cellport Sys., Inc.*, IPR2015-00633, Paper No. 11 at 16 (P.T.A.B. Aug. 14, 2015). Here, given the correlation between the prior art references and the challenged claims, the Board need not construe any terms of the challenged claims to resolve the underlying controversy. (EX1002, ¶52.)<sup>5</sup>

Petitioners note that independent claim 12 is directed to “[a] handheld computing device, comprising,” *inter alia*, “a first display” and “a second display.” Claim 2 similarly recites “the first and second display” and claim 4 similarly recites “a first and second display.”<sup>6</sup> Regarding the “**display**” term, the ’080 patent states that “[a]s used herein, the term ‘**display**’ is intended to connote device hardware,

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<sup>5</sup> Petitioners reserve all rights to raise claim construction and other arguments, including challenges under 35 U.S.C. §112, in district court as relevant to those proceedings. By applying the plain meaning or proposed constructions herein, Petitioners do not concede the claims are definite, have specification support, etc., and thus reserve the right to address any associated §112 issues in other proceedings.

<sup>6</sup> While claims 2 and 4 depend from independent claim 1, claim 1 is not impacted by this issue as claim 1 recites “**one** or more displays” in the preamble. So even if the preamble is found limiting, claim 1 encompasses a scenario with a single display.

whereas ‘screen’ is intended to connote the displayed image produced on the display” and that “[i]n this regard, a display is a physical hardware that is operable to render a screen.” (*See* EX1001, 4:18-22.) However, PO’s infringement contentions suggest that the “first display” and “second display” in claim 12 read on a single physical display divided into two or more logical displays. (*See, e.g.*, EX1015, 33-34 (mapping two logically divided parts of a single physical display in the accused product as the “first display” and “second display”).)

**Grounds 1 and 2** below covers claims 2, 4-9, 12, 13, and 20 under PO’s interpretation of “display” which encompasses the claimed “first display” and “second display” being logically divided displays of a single physical display while **Grounds 3 and 4** below covers claims 2, 4-9, 12-16, and 20 under a narrower interpretation of “display” consistent with the above-noted description in the specification (under which the claimed “first display” and “second display” are physically distinct from each other). **Ground 3** also covers claims 14-16 under PO’s interpretation of “display.” (*See* n.17-n.19.)

## IX. DETAILED EXPLANATION OF GROUNDS

As detailed below, each of the challenged claims are unpatentable. (EX1002, ¶¶55-188.)

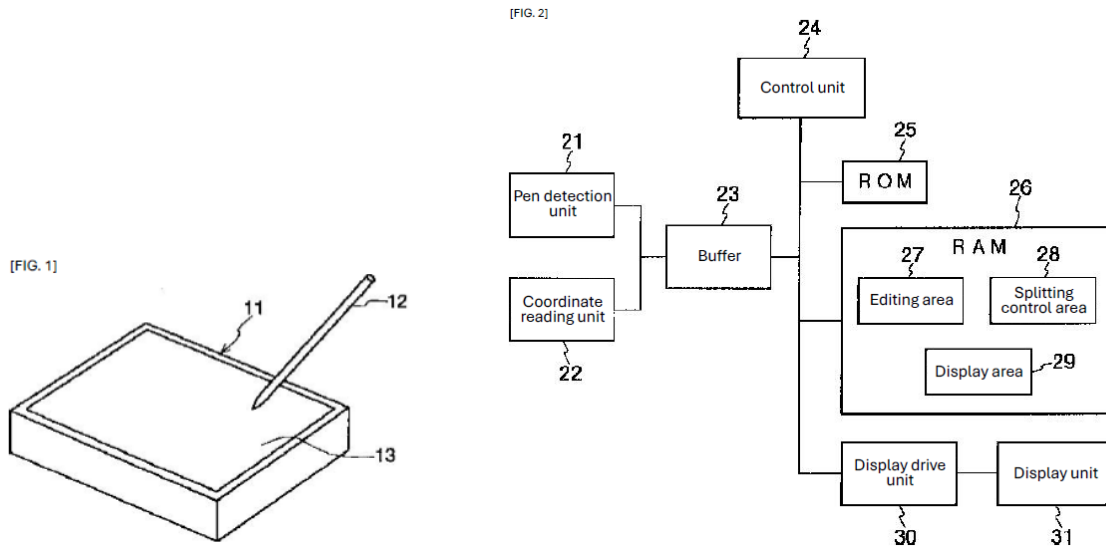
### A. Ground 1: Ogawa Anticipates Claims 1, 2, 12, 13, and 20

#### 1. Claim 1

- i) [1.pre] **“A method for controlling a handheld computing device including one or more displays, comprising:”**

To the extent limiting, Ogawa discloses the preamble of claim 1. (EX1002, ¶¶56-63.) Ogawa discloses a method of controlling a handheld computing device such as an electronic notebook including one or more displays. (EX1002, ¶¶35-39.)

For example, as shown below, Ogawa discloses an electronic display device (e.g., electronic notebook) (“handheld computing device”) including display unit 31 (“one or more displays”) and pen 12 for providing touch input to the device. (EX1005, Abstract, [0001]-[0002], [0011]-[0012], [0015], [0020], FIGS. 1-2.)



(*Id.*, FIGS. 1-2; EX1002, ¶57.)

A POSITA would have understood that an “electronic notebook” with a touch screen input using an input device like Ogawa’s pen 12 would have been a “handheld computing device” as it is portable (capable of being handheld) and has computing functionality (e.g., to show a calendar and schedule). (EX1005, [0020] (disclosing the operations of its electronic device in the context of an “electronic notebook”), [0033] (disclosing the programs being displays can include a calendar and schedule); EX1002, ¶58.)

Ogawa discloses that “[t]he display unit 31 is composed of a flat panel display or the like.” (EX1005, [0015].) As shown above in figure 1, the electronic device includes electronic device main body 11, electronic pen 12 for providing input to the

display device, and display input surface 13 which integrates the display surface and input surface. (*Id.*, [0011], FIG. 1.)<sup>7</sup>

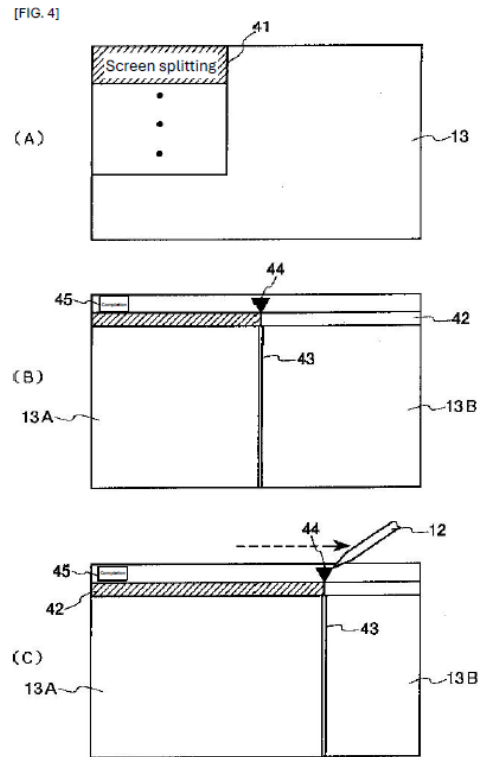
As shown above in figure 2, the electronic device also includes control unit 24, pen detection unit 21, coordinate reading unit 22, buffer 23, ROM 25, RAM 26 (including editing area 27, splitting control area 28, and display area 29), and display drive unit 30 which displays content on display unit 31 under control of control unit 24. (EX1005, [0012]-[0015], FIG. 2; EX1002, ¶60.)

Ogawa discloses a method of controlling its electronic device (“handheld computing device”) with display input surface 13 including display unit 31 (“one or

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<sup>7</sup> Based on Ogawa’s overall disclosure, a POSITA would have understood that the electronic device’s display input surface 13 shown in figure 1 is a combination of display unit 31 and pen detection unit 21 shown in figure 2. (EX1002, ¶59.) Ogawa discloses that its “display input surface 13 in which a display surface and an input surface are integrated.” (EX1005, [0011].) The “display unit 31 is composed of a flat panel display or the like” for displaying image/data content (EX1005, [0015]) and thus corresponds to the display surface of display input surface 13. (EX1002, ¶59.) The pen detection unit 21 detects contact between pen 12 and display input surface 13 (EX1005, [0013]) and thus corresponds to the input portion of display input surface 13. (EX1002, ¶59.)

more displays” consistent with the specification’s description of “display” as discussed above in Section VIII (e.g., physical hardware that is operable to render a screen)) because it discloses, e.g., a method for controlling its display such that it is split into one or more displays as shown in figures 4(A)-(C) below.



(EX1005, FIGS. 4(A)-(C); EX1002, ¶61.)

As shown above and described further below in relation to the remaining limitations of claim 1, Ogawa discloses methods for splitting its display into a plurality of displays (e.g., splitting display surface 13 in figure 4(A) to display surfaces 13A and 13B as shown in figures 4(B)-(C)). (EX1005, Abstract, p. 2

(claims 1-4), [0001], [0004]-[0009], [0017]-[0019]; *see also id.*, FIGS. 3, 5; EX1002, ¶62.)

Therefore, Ogawa discloses the preamble of claim 1. (EX1002, ¶63; *see also* analysis and citations below for claim elements [1.a]-[1.g].)

**ii) [1.a] “displaying a first screen of an application in a first display condition;”**

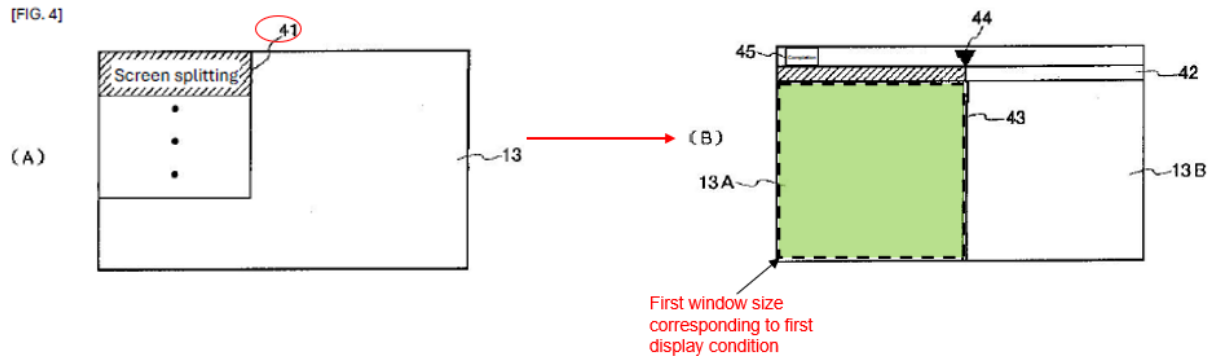
Ogawa discloses this limitation. (EX1002, ¶¶64-67.) For example, as shown in annotated figure 4(B) below, Ogawa discloses displaying a first screen 13A (“first screen” shaded in green) of a program (“application”) in a first window size (“first display condition”) as shown in figure 4B below. (EX1005, [0017]-[0018], [0023]-[0024], [0033], FIGS. 4(A)-(C); *see also id.*, FIGS. 3, 5.)<sup>8</sup>

In particular, Ogawa discloses that “[w]hen ‘Split Screen’ is selected with the pen 12 while a function operation (menu) 41 is displayed as depicted in FIG. 4(A),

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<sup>8</sup> Claim limitation [1.a] recites a “first screen.” As noted in Section VIII, the ’080 patent discloses that “a display is a physical hardware that is operable to render a screen.” The ’080 patent further discloses that a “screen may be associated with an application and/or an operating system on the handheld computing device.” (EX1001, 4:21-28; *see also id.*, 4:35-48.) This is consistent with Ogawa’s disclosure where the display unit 31 renders the first screen 13A which is associated with an

an access bar 42 is displayed in a top line of the display area, the entire screen is lowered by one line, and the display surface is split into two screens 13A and 13B, almost symmetrically as depicted in FIG. 4(B).” (Ogawa, [0017].)



(EX1005, FIG. 4A (left, annotated), FIG. 4(B) (right, annotated); EX1002, ¶65.)

Indeed, Ogawa’s disclosure is consistent with the ’080 patent’s disclosure which describes displaying first screen 102 of application A1 in a first display condition, where the condition corresponds to the size the application occupies on the first display or the second display (or both displays). (EX1001, 3:3-14, 13:60-65; EX1002, ¶66.) The similar disclosures of Ogawa and the ’080 patent are shown in the comparison of their relevant figures below.

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application (e.g., a calendar program). (EX1005, [0015] (disclosing that the display unit 31 “displays images, data, and the like”), [0017]-[0018], [0033]; *see also* n.7.)

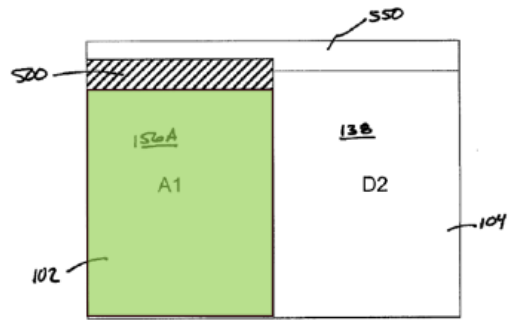
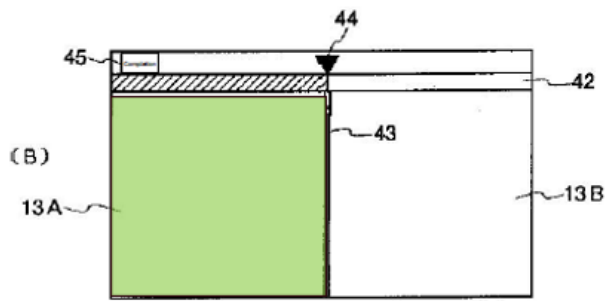


FIG. 5A

**Ogawa**

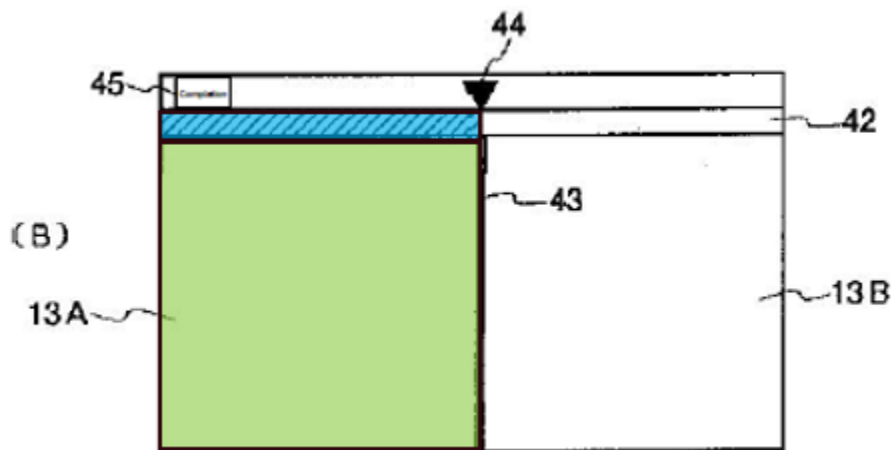
**'080 Patent**

(EX1005, FIG. 4(B) (left, annotated); EX1001, FIG. 5A (right, annotated); EX1002, ¶66.)

Accordingly, Ogawa discloses claim limitation [1.a]. (EX1002, ¶67.)

- iii) [1.b] “displaying an icon with the first screen of the application, wherein the icon indicates that the application is in a first state corresponding to the first display condition;”

Ogawa discloses this limitation. (EX1002, ¶¶68-71.) For example, as shown below, Ogawa discloses displaying a colored/shaded portion of access bar 42 (“icon” shaded in blue) with first screen 13A of the program (“application”), wherein the colored/shaded portion of access bar 42 (“icon”) indicates that the program is in a first state corresponding to the first window size (“first display condition”) of the program. (EX1005, [0017]-[0018], [0023]-[0024], [0033]; *see also id.*, FIGS. 3, 5.)

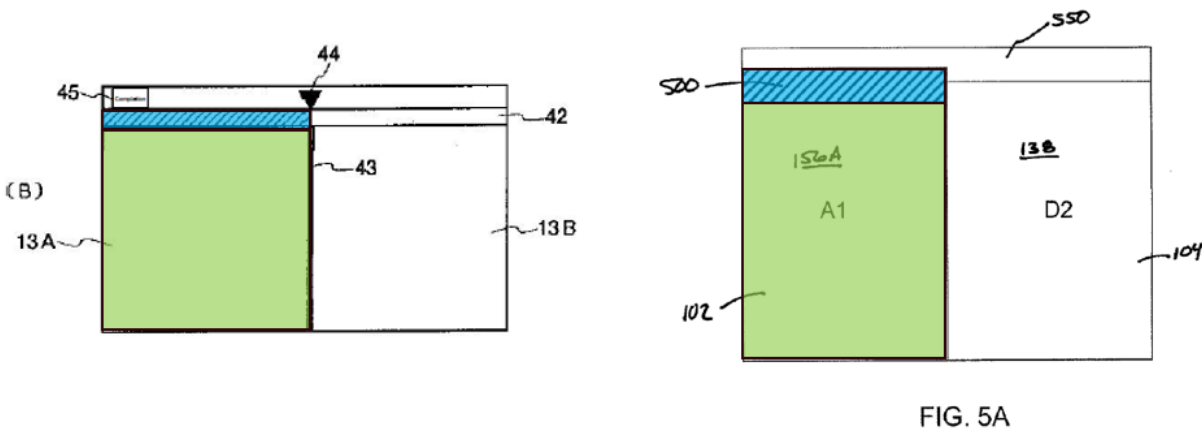


(EX1005, FIG. 4(B) (annotated); EX1002, ¶68.)

In particular, Ogawa discloses that, as shown above, “[t]he portion of the access bar 42 located on an active screen (the screen currently being accessed) is colored (depicted with hatching in FIG. 4) to indicate an active state.” (Ogawa, [0017]; *see also id.*, [0024] (“At this time, an access bar 42 is drawn at the top, and

furthermore, a portion of the access bar 42 is colored based on the active screen flag and the splitting length to indicate the active state.”); EX1002, ¶69.)

Ogawa’s disclosure is consistent with the ’080 patent’s disclosure which, as shown below, describes displaying icon 500 with first screen 102 of application A1, where icon 500 indicates application A1 is in a first state corresponding to the size of the application A1 window. (EX1001, Abstract, 3:3-14, 13:35-65; EX1002, ¶70.)



**Ogawa**

**'080 Patent**

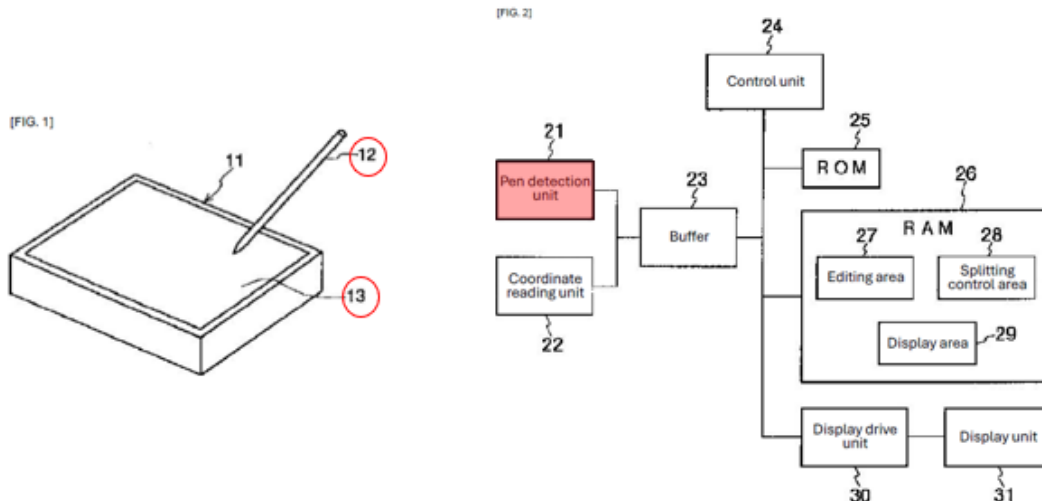
(EX1005, FIG. 4(B) (left, annotated); EX1001, FIG. 5A (right, annotated); EX1002, ¶70.)

Accordingly, Ogawa discloses claim limitation [1.b]. (EX1002, ¶71.)

**iv) [1.c] “receiving a gesture input at a gesture sensor;”**

Ogawa discloses this limitation. (EX1002, ¶¶72-75.) For example, Ogawa discloses receiving a gesture input when pen 12 touches display input surface 13,

where the contact is detected by pen detection unit 21 (“gesture sensor”) based on the touch. (EX1005, [0013], [0018]-[0019], [0021].)



(EX1005, FIG. 1 (left, annotated), FIG. 2 (right, annotated); EX1002, ¶72.)

In particular, Ogawa discloses that “pen detection unit 21 detects contact between the pen 12 and the display input surface 13, and outputs a detection signal.” (EX1005, [0013]; *see also id.*, [0015] (“The display unit 31, the pen detection unit 21, and the coordinate reading unit 22 are provided by lamination so that input can be made on the display screen.”), [0018], [0029], [0057] (disclosing that the inputting means is not limited to a pen but can include “input by a finger.”).) Based on the output from pen detection unit 21, “coordinate reading unit 22 reads the coordinates of the contact position between the pen 12 and the display input surface 13, and outputs the coordinates that were read” to buffer 23. (EX1005, [0013] ; EX1002, ¶73.)

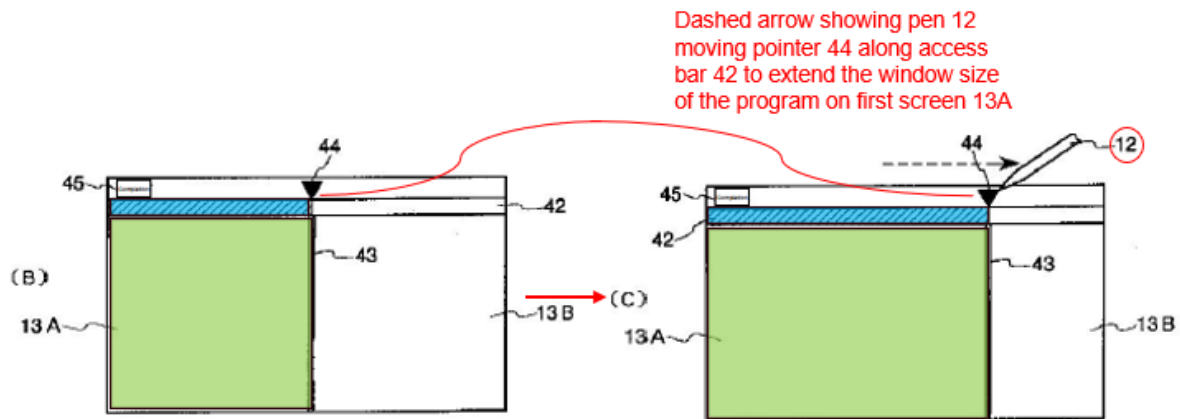
Ogawa's pen detection unit 21 which detects contact/touch between pen 12 and display input surface 13 corresponds to a gesture sensor and is consistent with the '080 patent's disclosure which describes that the "gesture sensor may be a touch sensitive device . . . or other sensor operable to detect user inputs in the form of a gesture." (EX1001, 2:41-45; *see also id.*, 6:17-21, 12:6-15 (describing various input mechanisms for gestures including a stylus, which is like Ogawa's pen 12); EX1002, ¶74.)

Accordingly, Ogawa discloses claim limitation [1.c]. (EX1002, ¶75.)

v) **[1.d] "modifying the manner in which the application is displayed in response to the receiving step;"**

Ogawa discloses this limitation. (EX1002, ¶¶76-78.) For example, Ogawa discloses modifying the manner in which the program ("application") is displayed in response to receiving a gesture input via pen 12.

In particular, with reference to figures 4(B)-(C) below, Ogawa discloses that its pen detection unit 21 ("gesture sensor") detects pen 12 contacting a pointer 44 that indicates the point at which screens 13A and 13B are split and pen 12 being moved along access bar 42 (e.g., by dragging pointer 44) to extend the size of first screen 13A such that program encompasses a larger window size. (EX1005, [0019], [0027], [0028].)



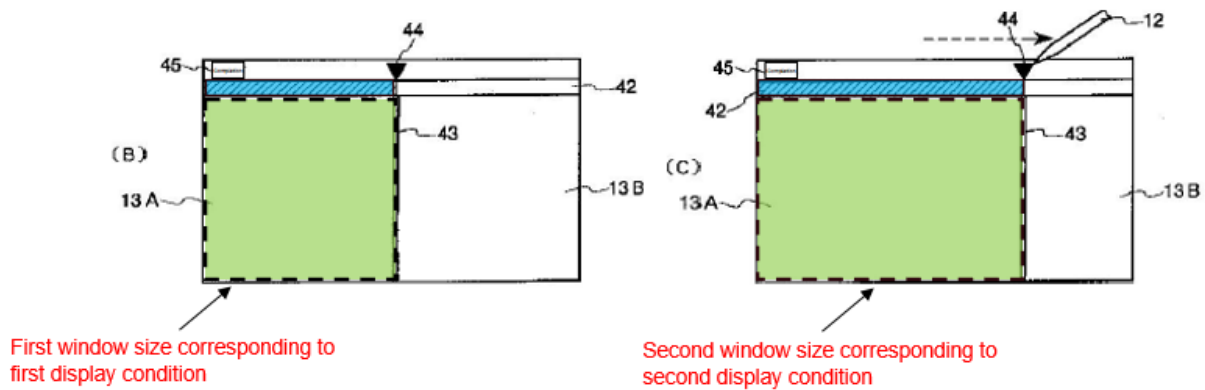
(EX1005, FIG. 4(B) (left, annotated), FIG. 4(C) (right, annotated); EX1002, ¶77.)

Accordingly, Ogawa discloses claim limitation [1.d]. (EX1002, ¶78.)

vi) [1.e] “changing the application to a second display condition; and”

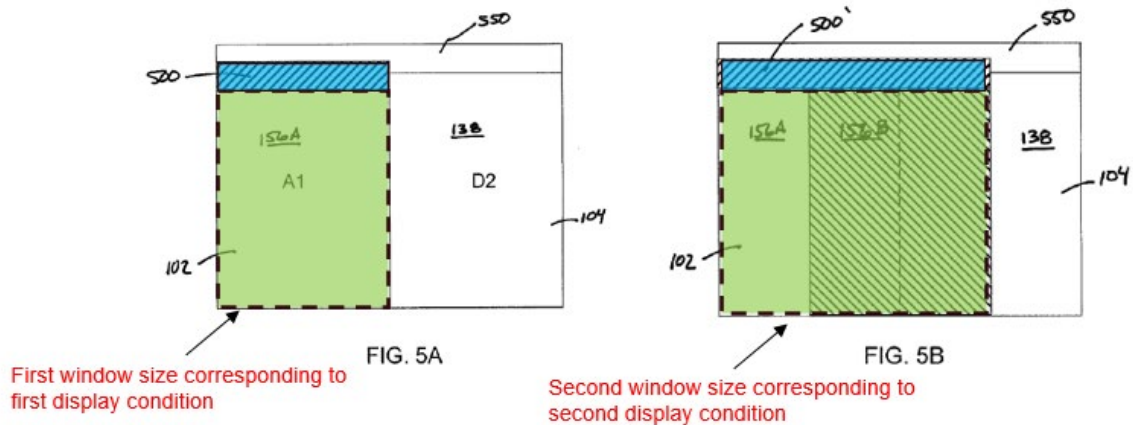
Ogawa discloses this limitation. (EX1002, ¶¶79-82.) For example, Ogawa discloses changing the application to a second display condition for reasons similar to those given above with respect to limitation [1.d]. (*See supra* Section IX.A.1.v.)

For example, as discussed above and shown below, in response to pen 12 dragging pointer 44 along access bar 42 to expand the size of first screen 13A, the size of the window in which the program (“application”) is displayed is changed to a second (e.g., larger) window size (“second display condition”). (EX1005, [0019], [0027]-[0028].)



(EX1005, FIG. 4(B) (left, annotated), FIG. 4(C) (right, annotated); EX1002, ¶80.)

Ogawa’s disclosure regarding changing the application to a second display condition is similar to the ’080 patent’s disclosure, which as shown below with reference to figures 5A-5B, shows the window size of application A1 expanding from a first size (which includes screen 156A of application A1) to a second size (which now includes screens 156A and 156B of application A1) after application A1 is expanded from first display 102 into second display 104. (EX1001, 13:66-14:4.)



**'080 Patent**

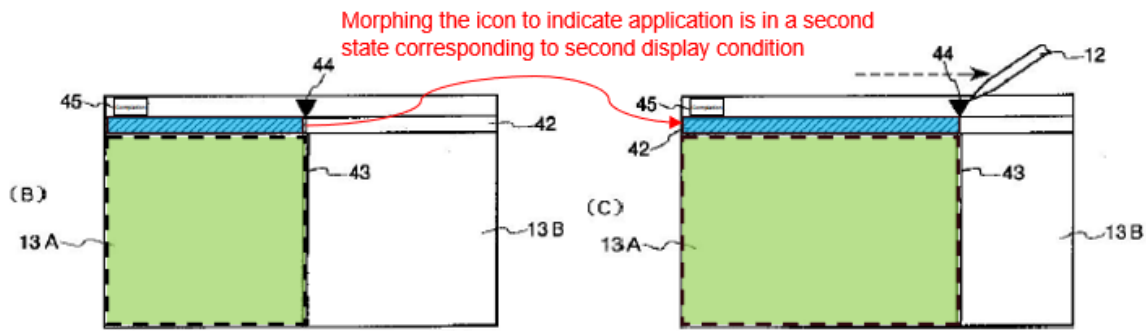
(EX1001, FIG. 5(A) (left, annotated), FIG. 5(B) (right, annotated); EX1002, ¶81.)

Accordingly, Ogawa discloses claim limitation [1.e]. (EX1002, ¶82.)

- vii) [1.f] “morphing the icon to indicate that the application is in a second state corresponding to a second display condition the morphing comprising changing the shape and size of the icon;”

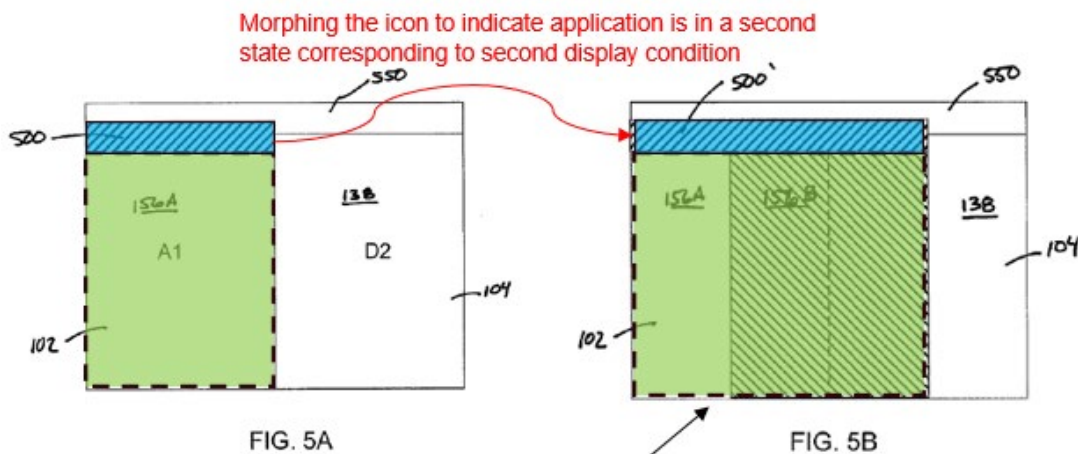
Ogawa discloses this limitation. (EX1002, ¶¶83-88.)

First, as shown below, Ogawa discloses morphing the colored/shaded portion of access bar 42 (“icon” shaded in blue) to indicate that the program (“application”) is in a second state corresponding to the second window size (“second display condition”). (EX1005, [0017]-[0019], [0023]-[0024], [0027]-[0028], FIGS. 4(B)-4(C); *see also id.*, FIGS. 3, 5.)



(EX1005, FIG. 4(B) (left, annotated), FIG. 4(C) (right, annotated); EX1002, ¶84.)

Second, the above-cited disclosures and figures demonstrate that Ogawa discloses that the morphing of the icon includes changing the shape and size of the icon, in a manner consistent with the disclosures of the '080 patent. The '080 patent discloses that similar to Ogawa, the morphing of its icon 500 to icon 500' includes elongating the width of the substantially rectangular icon 500, as shown below. (EX1001, 13:65-14:13.)



### '080 Patent

(EX1001, FIG. 5(A) (left, annotated), FIG. 5(B) (right, annotated); EX1002, ¶85.)

Thus, similar to the '080 patent's disclosure, the shape and size of the shaded portion of access bar 42 changes (commensurate with the size of the first screen 13A changing from figure 4(B) to 4(C)) as part of the morphing of access bar 42 to indicate that Ogawa's program is in a second state corresponding to the second window size. (EX1005, [0017]-[0019], [0023]-[0024], [0027]-[0028], FIGS. 4(B)-(C); *see also id.*, FIGS. 3, 5; EX1002, ¶86.)

To the extent PO argues that the '080 patent's description of an aspect ratio of icon 500' in figure 5B changing relative to the aspect ratio of icon 500 in figure 5A (EX1001, 14:14-46) supports these features, Ogawa discloses the same features as it discloses the aspect ratio of the colored/shaded portion of access bar 42 in figure 4(C) changes relative to the aspect ratio of the colored/shaded portion of access bar 42 in figure 4(B). (EX1005, [0017]-[0019], [0023]-[0024], [0027]-[0028], FIGS. 4(B)-(C), *see also id.*, FIGS. 3, 5.) For example, like the '080 patent's disclosure of the aspect ratio changing because the "width of icon 500 may expand commensurately with the expansion of the application into the second display" while the height remains the same (EX1001, 14:20-31), the aspect ratio of Ogawa's colored/shaded portion of access bar 42 changes in the same way, thus disclosing the claimed "**changing the shape and size of the icon.**" (EX1002, ¶87; *see also infra* Sections IX.B.2-6 (addressing claims 5-9 relating to the aspect ratios).)

Accordingly, Ogawa discloses claim limitation [1.f]. (EX1002, ¶88.)

**viii) [1.g] “wherein the first and second states comprise an open application state.”**

Ogawa discloses this limitation for reasons similar to those given above for claim limitations [1.b] and [1.f]. (EX1002, ¶¶89-91.) As discussed above, Ogawa discloses that the program in first screen 13A in both the first state (figure 4(B)) and second state (figure 4(C)) is in an active state (“open application state”) because the colored/shaded portion of access bar 42 corresponds to the active screen on display input surface 13. (*See supra* Sections IX.A.1.iii, IX.A.1.vii.)

For example, Ogawa discloses that the “portion of the access bar 42 located on an active screen (the screen currently being accessed) is colored (depicted with hatching in FIG. 4) to indicate an active state.” (EX1005, [0018]; *see also id.*, [0016], [0023]; EX1002, ¶90.)

Accordingly, Ogawa discloses claim limitation [1.g]. (EX1002, ¶91.)

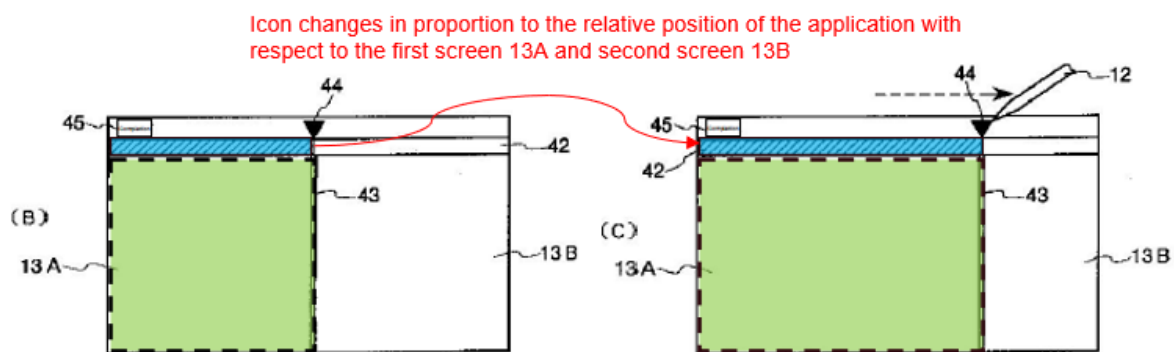
**2. Claim 2: “The method according to claim 1, wherein the icon is changed in proportion to the relative position of the application with respect to the first and second display.”<sup>9</sup>**

Ogawa discloses this limitation. (EX1002, ¶92.) For example, as discussed above in relation to claim limitations [1.e]-[1.f], Ogawa discloses that the

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<sup>9</sup> Claim 2 fails to provide antecedent basis for “the first and second display” as claim 1 recites “one or more displays” and not “a first display” or “a second display.” (*See*

colored/shaded portion of access bar 42 (“icon” shaded in blue) is changed in proportion to the relative position of the program (“application”) with respect to the first and second parts of display input surface 13 on which the first and second screens 13A and 13B are displayed, respectively (claimed first and second displays).  
(See *supra* Sections IX.A.1.vi-vii.)



(EX1005, FIG. 4(B) (left, annotated), FIG. 4(C) (right, annotated); EX1002, ¶92.)

generally EX1001, claim 1.) To the extent the “first display” and “second display” terms can be understood, Petitioners map them to Ogawa’s first part of display input surface 13 (which includes display unit 31) on which first screen 13A is displayed and the second part of display input surface 13 on which second screen 13B is displayed, respectively. (See *supra* Sections IX.A.1.i, IX.A.1.ii, IX.A.1.vii; EX1002, ¶92.) This is consistent with PO’s interpretation of the “display” term encompassing logically divided displays. (See *supra* Section VIII; n.7 (explaining that the display input surface 13 includes the display unit 31).)

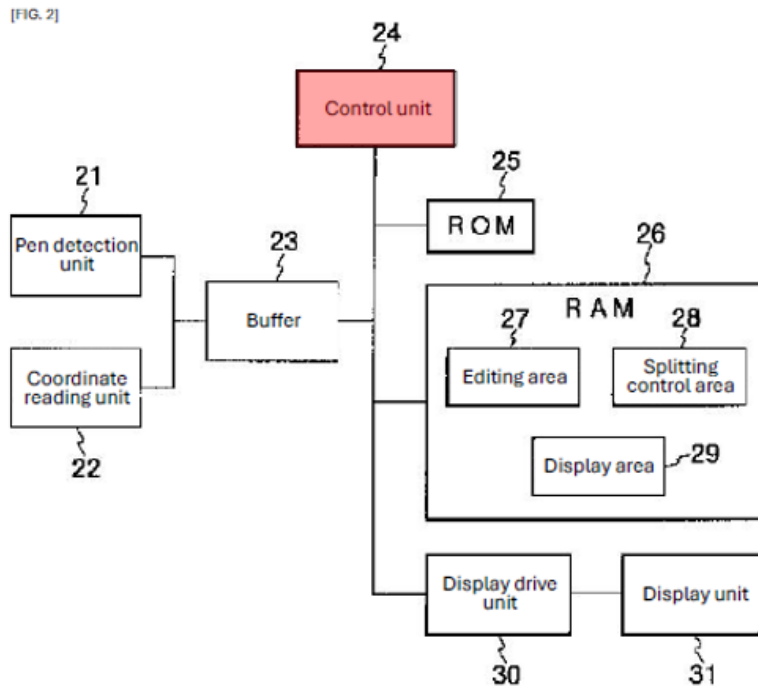
**3. Claim 12**

**i) [12.pre] “A handheld computing device, comprising:”**

To the extent limiting, Ogawa discloses the preamble of claim 12. (EX1002, ¶¶93-94.) For example, Ogawa discloses an electronic device such as an electronic notebook (“handheld computing device”). (EX1005, Abstract, [0001]-[0002], [0011]-[0012], [0020], FIGS. 1-2; *see also supra* Section IX.A.1.i.)

**ii) [12.a] “a processor;”**

Ogawa discloses this limitation. (EX1002, ¶¶95-97.) For example, Ogawa discloses that its electronic notebook includes control unit 24 (“processor”) connected to various other components of the electronic notebook like ROM 25, RAM 26, and display drive unit 30. (EX1005, [0012], [0015], FIG. 2; *see also* EX1001, 7:53-57 (the ’080 patent disclosing a processor operative to similarly control the functionality of the handheld device).)

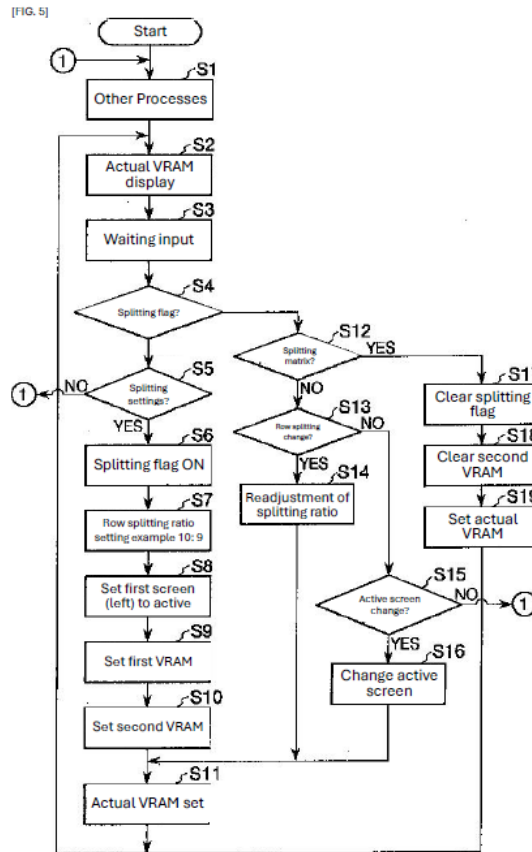


(EX1005, FIG. 2 (annotated); EX1002, ¶95.)

For example, Ogawa discloses that its electronic notebook includes control unit 24 (“processor”) which carries out the processing functionality of the electronic notebook (e.g., the process shown in figure 5 reproduced below).

Next, the operation of the electronic device that enables the aforementioned screen operation will be described with reference to the flowchart of FIG. 5. First, when the power is turned ON, **the control unit 24 starts the process depicted in FIG. 5 in accordance with the program stored in ROM 25, and general processes related to an electronic notebook (other processes) are performed (step S1).** At this time, the splitting flag is turned OFF by default. Therefore, **the control unit 24 executes data processing** using the first editing area 27A, and loads the display contents into the actual VRAM 29A.

(EX1005, [0020]<sup>10</sup>; *see also id.*, [0021]-[0022].)



(EX1005, FIG. 5; EX1002, ¶96.)

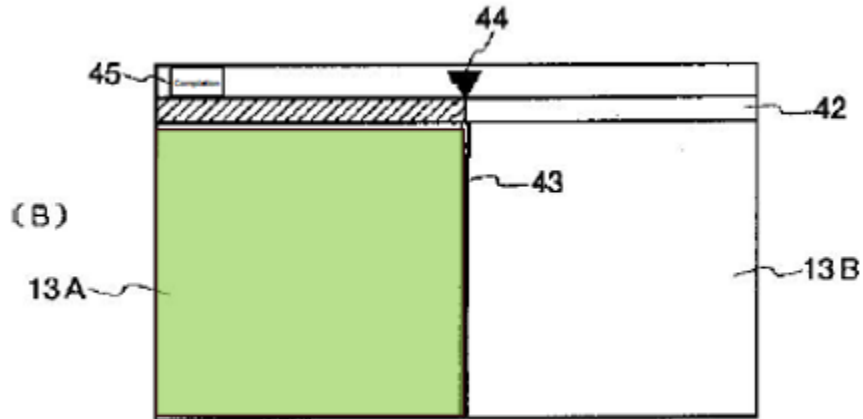
Accordingly, Ogawa discloses claim limitation [12.a]. (EX1002, ¶97.)

- iii) [12.b] “a first display operable to display a first screen, the first display being in operative communication with the processor;”

Ogawa discloses this limitation. (EX1002, ¶¶98-101.) For example, Ogawa discloses its electronic notebook includes a first part of display input surface 13

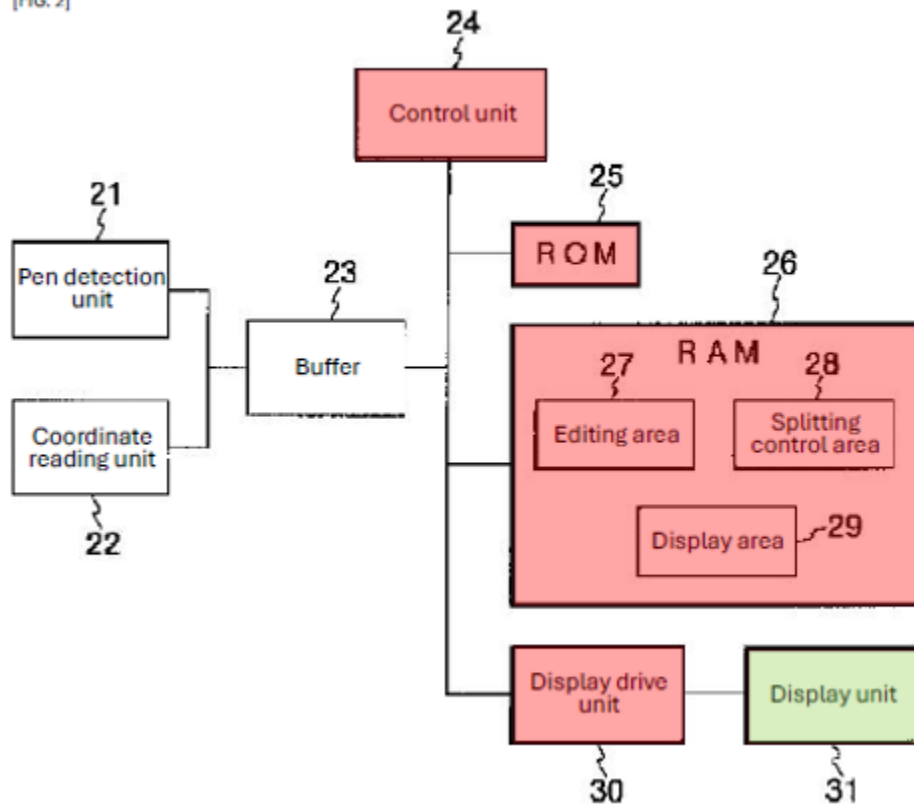
<sup>10</sup> Emphasis added unless otherwise noted.

(“first display”) operable to display first screen 13A (“first screen”), the first part of display input surface 13 (“first display”) being in operative communication with control unit 24 (“processor”) at least via display drive unit 30 and RAM 26.  
(EX1005, [0015], [0017], [0023]-[0025], FIGS. 2, 3, 4(A)-(C), 5.)



(EX1005, FIG. 4(B) (annotated); EX1002, ¶98.)

[FIG. 2]



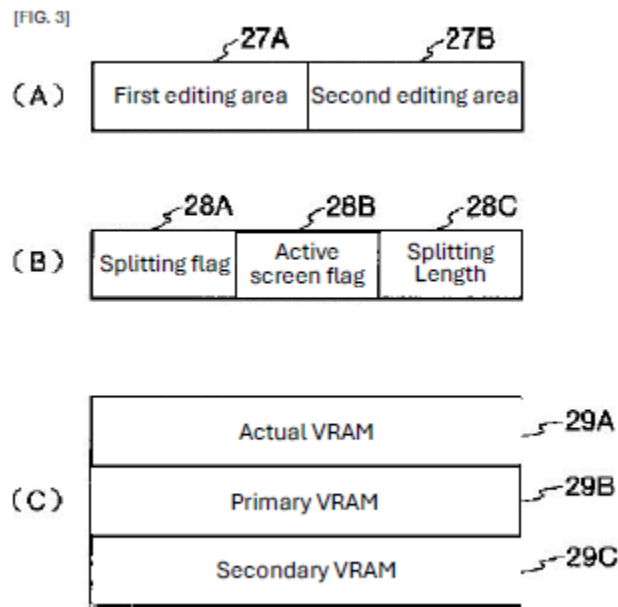
(EX1005, FIG. 2 (annotated); EX1002, ¶98.)

The logically split display input surface 13 includes a first part (which displays first screen 13A) and a second part (which displays second screen 13B) which correspond to a “first display” of claim limitation [12.b] and a “second display” of claim limitation [12.c] below, respectively. (EX1002, ¶99; *see infra* Section IX.A.3.iv.) This is consistent with PO’s interpretation of this term which encompasses two logically divided parts of a single physical display in the accused device as the claimed “first display” and “second display.” (*See, e.g.*, EX1015, 33-34; *see also supra* Section VIII.)

Ogawa discloses that the first part of the logically split display input surface 13 is in operative communication with control unit 24 as control unit 24 executes instructions from RAM 26 (including editing area 27, splitting control area 28, and display area 29) to display content on this first part using display drive unit 30. (EX1005, [0015], [0017], [0023]-[0025], FIGS. 2, 3, 4(A)-(C), 5.)<sup>11</sup> As described in the reproduced portions of Ogawa below, Ogawa discloses that in the case when display input surface 13 is split, control unit 24 executes instructions to display content (e.g., a program like a calendar or schedule) on first screen 13A of the first part of the display input surface 13 based on, e.g., information stored in first editing area 27A, the splitting flag 28A and active screen flag 28B, along with actual VRAM 29A and primary VRAM 29B. (*Id.*; EX1002, ¶100.)

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<sup>11</sup> See n.7



(EX1005, FIGS. 3(A)-(C).)

The display unit 31 is composed of a flat panel display or the like, and displays images, data, and the like. **The display drive unit 30 displays an image on the display unit 31 under the control of the control unit 24.** The display unit 31, the pen detection unit 21, and the coordinate reading unit 22 are provided by lamination so that input can be made on the display screen.

(EX1005, [0015].)

Next, an example of screen operation in an electronic device having such a configuration will be described with reference to FIG. 4. **When "Split Screen" is selected with the pen 12 while a function operation (menu) 41 is displayed as depicted in FIG. 4(A), an access bar 42 is displayed in a top line of the display area, the entire screen is lowered by one line, and the display surface is split into two screens 13A and 13B, almost symmetrically as depicted in FIG. 4(B) . . .**

(EX1005, [0017].)

On the other hand, if it is determined in step S5 that screen splitting has been instructed, a splitting flag is set in the splitting flag register 28A (step S6). Next, a predetermined splitting ratio, for example, 10:9, is set in the splitting length register 28C (step S7). **Next, a flag for making the left screen 13 active is set in the active screen flag register 28B (step S8).**

(EX1005, [0023].)

Next, the contents of the actual VRAM 29A are written to the first VRAM 29B (step S9). Next, the contents of the first VRAM 29B are written to the second VRAM 29C (step S10).

**Next, the contents of the first VRAM 29B are written to the actual VRAM 29A (step S11).** At this time, an access bar 42 is drawn at the top, and furthermore, a portion of the access bar 42 is colored based on the active screen flag and the splitting length to indicate the active state. Furthermore, a pointer 44 is drawn at the position designated by the splitting length, and an end icon 45 is drawn at the top left.

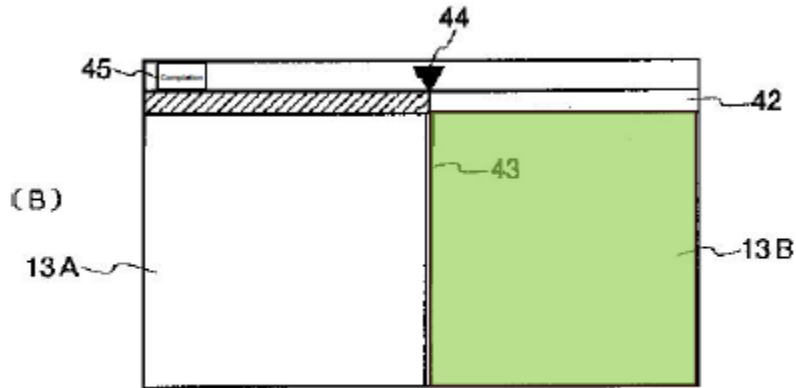
**Furthermore, in accordance with setting of the splitting length register 28C, the data of the portion to be displayed out of the contents of the second VRAM 29C is read, and written into the actual VRAM 29A. The contents of the actual VRAM 29A thus set are displayed in step S2 as depicted in FIG. 4(B).**

(EX1005, [0024]-[0025].)

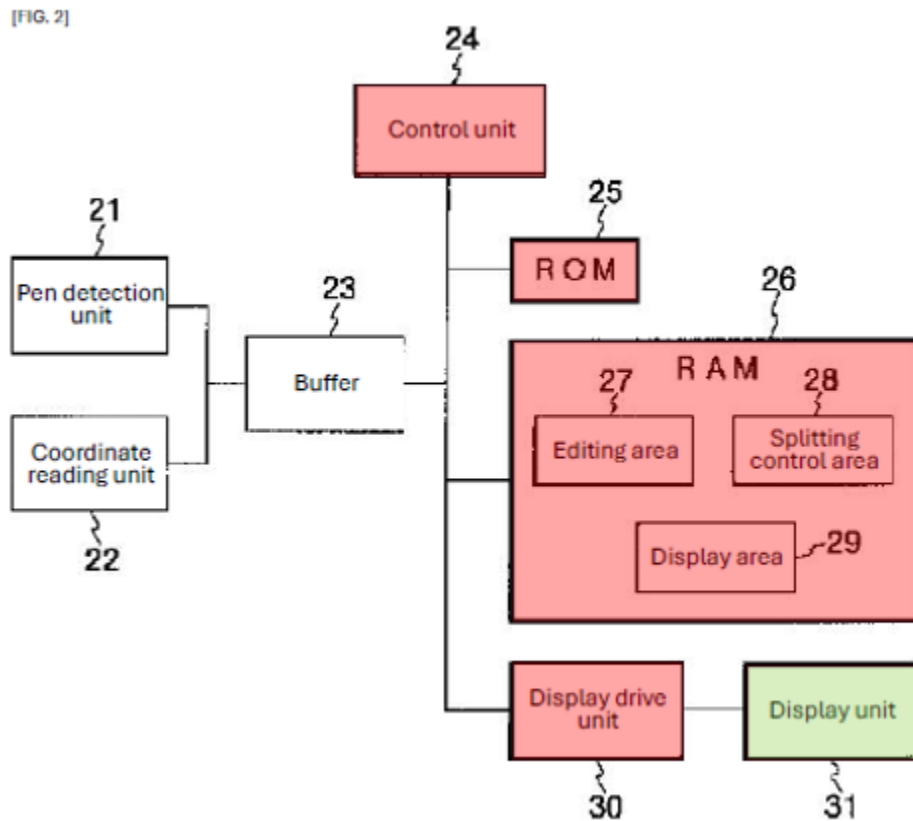
Accordingly, Ogawa discloses claim limitation [12.b]. (EX1002, ¶101.)

- iv) **[12.c] “a second display operable to display a second screen, the second display being in operative communication with the processor;”**

Ogawa discloses this limitation for reasons similar to those given above with respect to claim limitation [12.b]. (EX1002, ¶¶102-105.) For example, Ogawa discloses its electronic notebook includes a second part of display input surface 13 (“second display”) operable to display second screen 13B (“second screen”), the second part of the display input surface 13 (“second display”) being in operative communication with control unit 24 (“processor”) at least via display drive unit 30 and RAM 26. (EX1005, [0015], [0017], [0023]-[0025], FIGS. 2, 3, 4(A)-(C), 5.)



(EX1005, FIG. 4(B) (annotated); EX1002, ¶102.)



(EX1005, FIG. 2 (annotated); EX1002, ¶102.)

As discussed above, the logically split display input surface 13 which includes a first part (which displays first screen 13A) and a second part (which displays

second screen 13B) correspond to the “first display” of claim limitation [12.b] and the “second display” of claim limitation [12.c], respectively. (EX1002, ¶103; *see supra* Section IX.A.3.iii.) This is consistent with PO’s interpretation of this term which encompasses two logically divided parts of a single physical display in the accused device as the claimed “first display” and “second display.” (*See, e.g.*, EX1015, 33-34; *see also supra* Section VIII.)

Ogawa discloses that the second part of the logically split display input surface 13 is in operative communication with control unit 24 as control unit 24 executes instructions from RAM 26 to display content on this second part using display drive unit 30. (EX1005, [0015], [0017], [0023]-[0025], FIGS. 2, 3, 4(A)-(C), 5.)<sup>12</sup> As described in these portions of Ogawa (reproduced above in Section IX.A.3.iii), Ogawa discloses that in the case when display input surface 13 is split, control unit 24 executes instructions to display content (e.g., a program like a calendar or schedule) on second screen 13B of the second part of display input surface 13 based on, e.g., information stored in second editing area 27B, the splitting flag 28A and active screen flag 28B, along with actual VRAM 29A and secondary VRAM 29C. (*Id.*; EX1002, ¶104.)

Accordingly, Ogawa discloses claim limitation [12.c]. (EX1002, ¶105.)

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<sup>12</sup> *See* n.11.

- v) **[12.d] “at least one gesture sensor, separate from the first display and the second display, and operable to receive a gesture input;”**

Ogawa discloses this limitation for reasons similar to those given above with respect to claim limitation [1.c]. (EX1002, ¶¶106-109.) For example, Ogawa discloses pen input detection unit 21 (“at least one gesture sensor”), separate from the first and second parts of display input surface 13 (“first display” and “second display,” respectively), and operable to receive a gesture input via the pen 12. (EX1005, [0012]-[0013], [0015], [0021], FIG. 2; *see also supra* Section IX.A.1.iv.)

The pen detection unit 21 is separate from display input surface 13 because the gesture sensor (i.e., pen input detection unit 21) has to detect the contact (“gesture input”) between pen 12 and the display surface (display unit 31) of display input surface 13. (EX1002, ¶107; EX1005, [0013]; *see also* n.7.) Based on the detected contact, pen detection unit 21 outputs a detection signal which is used by coordinate reading unit 22 to “reads the coordinates of the contact position between the pen 12 and the display input surface 13, and outputs the coordinates that were read.” (EX1005, [0013].) If pen detection unit 21 was not separate from display input surface 13, pen detection unit 21 could not work in conjunction with coordinate reading unit 22 to determine the coordinates at which the contact at display input surface 13 was detected. (EX1002, ¶107.)

As explained in relation to claim limitation [1.c], Ogawa discloses that pen detection unit 21 is operable to receive a gesture input when pen 12 touches display input surface 13. (*See supra* Section IX.A.1.iv; EX1002, ¶108.)

Accordingly, Ogawa discloses limitation [12.d]. (EX1002, ¶109.)

**vi) [12.e] “wherein the processor is operable to:”**

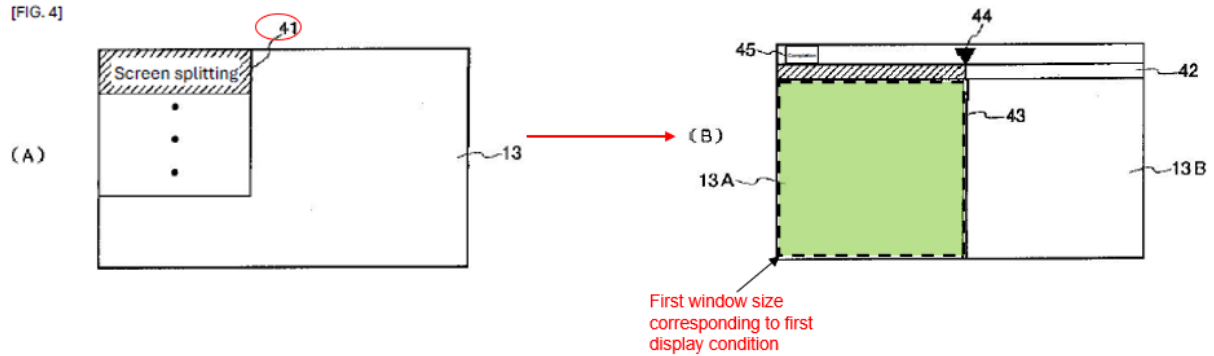
Ogawa discloses this limitation. (EX1002, ¶¶110.) For example, Ogawa discloses that its control unit 24 (“processor”) is operable to perform the features set forth in the following limitations (limitations [12.f]-[12.i]).

**vii) [12.f] “execute an application that is displayable on at least one of the first display and the second display in response to the gesture input; and”**

Ogawa discloses this limitation. (EX1002, ¶¶111-113.) For example, as discussed above with reference to claim limitation [1.a], Ogawa discloses executing a program (“application”) that is displayable on at least one of the first part and the second part of display input surface 13 (“first display” and “second display,” respectively) in response to pen input detection unit 21 detecting a gesture input by way of pen 12 touching display input surface 13. (*See supra* Section IX.A.1.ii.)

In particular, as discussed above, Ogawa discloses executing a program (“application”) like a calendar on at least the first part of the display input surface 13 (“at least one of the first display and the second display”) in response to the user selecting a split screen option on menu 41 with pen 12 (“in response to the gesture

input”). . (EX1005, [0017]-[0018], [0023]-[0024], [0033], FIGS. 4(A)-(C); *see also id.*, FIGS. 3, 5.)

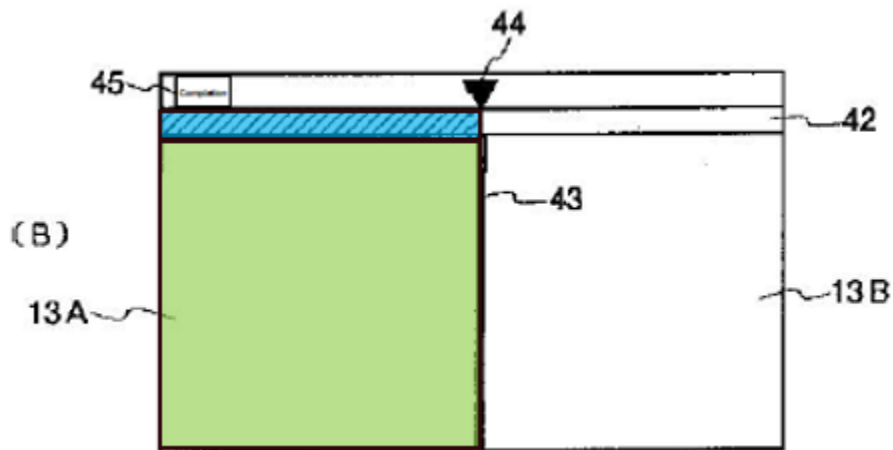


(EX1005, FIG. 4A (left, annotated), FIG. 4(B) (right, annotated); EX1002, ¶112.)

Accordingly, Ogawa discloses claim limitation [12.f]. (EX1002, ¶113.)

**viii) [12.g] “displaying an icon associated with the application in at least one of the first display and the second display,”**

Ogawa discloses this limitation. (EX1002, ¶¶114-116.) For example, as discussed above with reference to claim limitation [1.b], Ogawa discloses displaying a colored/shaded portion of an access bar 42 (“icon” shaded in blue) associated with the program (“application”) in at least the first part of display input surface 13 (“at least one of the first display and the second display”). (*See supra* Section IX.A.1.iii; EX1005, [0017]-[0018], [0023]-[0024], [0033]; *see also id.*, FIGS. 3, 5.)



(EX1005, FIG. 4(B) (annotated); EX1002, ¶114.)

In particular, Ogawa discloses that, as shown above, “[t]he portion of the access bar 42 located on an active screen (the screen currently being accessed) is colored (depicted with hatching in FIG. 4) to indicate an active state.” (Ogawa, [0017]; *see also id.*, [0024] (“At this time, an access bar 42 is drawn at the top, and furthermore, a portion of the access bar 42 is colored based on the active screen flag and the splitting length to indicate the active state.”); EX1002, ¶115.)

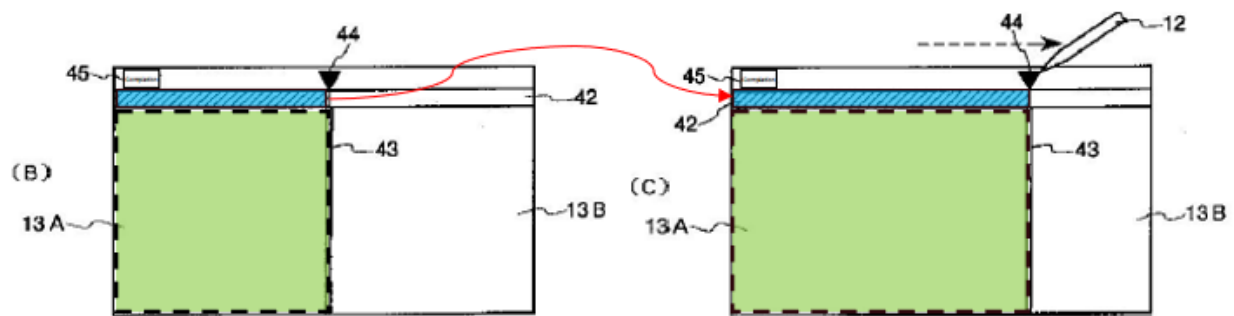
Accordingly, Ogawa discloses claim limitation [12.g]. (EX1002, ¶116.)

- ix) [12.h] “wherein the icon indicates that the application is in one of two or more states associated with a display status of the application with respect to the first and second displays;”

Ogawa discloses this limitation. (EX1002, ¶¶117-119.) For example, as discussed above with reference to claim limitations [1.b], [1.e], [1.f], and [12.g], Ogawa discloses that the colored/shaded portion of access bar 42 (“icon” shaded in

blue) indicates that the program (“application”) is in one of two or more states associated with a window size (“display status”) of the application with respect to the first and second parts of display input surface 13 (“first and second displays”). (See *supra* Sections IX.A.1.iii, IX.A.1.vi-vii, IX.A.3.viii; EX1005, [0017]-[0018], [0023]-[0024], [0033]; see also *id.*, FIGS. 3, 5.)

In particular, as discussed above, Ogawa discloses that the colored/shaded portion of access bar 42 corresponds to the window size (“display status”) of the program (“application”) with respect to the first and second parts of display input surface 13. (EX1005, [0017]-[0019], [0023]-[0024], [0027]-[0028], FIGS. 4(B)-(C); see also *id.*, FIGS. 3, 5.)



(EX1005, FIG. 4(B) (left, annotated), FIG. 4(C) (right, annotated); EX1002, ¶¶117-118.)

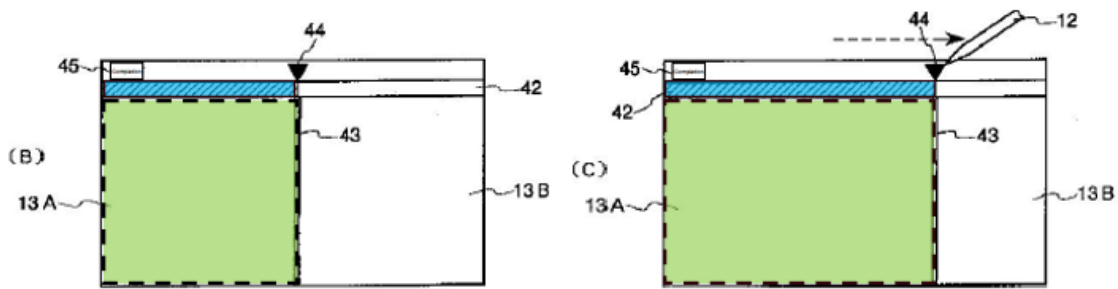
Accordingly, Ogawa discloses claim limitation [12.h]. (EX1002, ¶119.)

**x) [12.i] “wherein the first and second states comprise an open application state.”<sup>13</sup>**

Ogawa discloses this limitation for at least reasons similar to those given above with respect to claim limitations [1.g] and [12.h]. (*See supra* Sections IX.A.1.viii, IX.A.3.ix; EX1002, ¶¶120-121.) For example, Ogawa discloses that the program in the first part of display input surface 13 in both the first state (figure 4(B)) and second state (figure 4(C)) is in an active state (“open application state”) because the colored/shaded portion of access bar 42 corresponds to the active screen on the display input surface 13. (EX1005, [0018]; *see also id.*, [0016], [0023].)

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<sup>13</sup> Claim limitation [12.i] fails to provide antecedent basis for “the first and second states” as claim limitation [12.h] recites “one of two or more states associated with a display status of the application” and not “a first state” or “a second state.” (*See generally* EX1001, claim 12.) To the extent the “first [state]” and “second state[.]” terms can be understood, Petitioners map the first state to the program’s display state in figure 4(B) and the second state to the program’s display state in figure 4(C), as discussed above with respect to limitations [1.b], [1.f], and [12.h]. (*See supra* Sections IX.A.1.iii, IX.A.1.vii, IX.A.3.ix; EX1002, ¶120.)



(EX1005, FIG. 4(B) (left, annotated), FIG. 4(C) (right, annotated); EX1002, ¶120.)

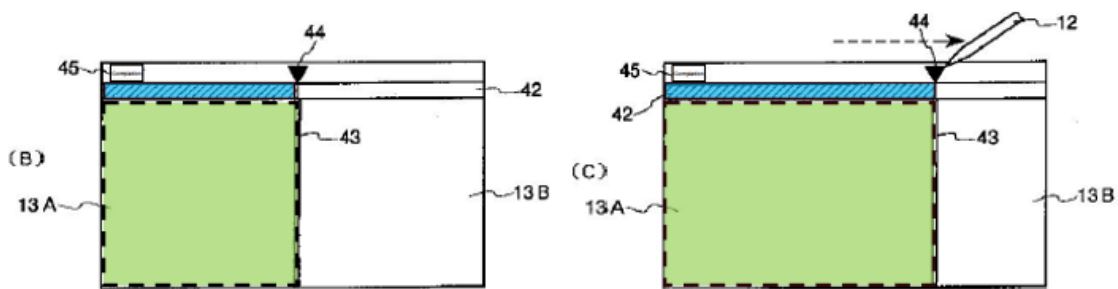
Accordingly, Ogawa discloses claim limitation [12.i]. (EX1002, ¶121.)

4. **Claim 13: “A device as recited in claim 12, wherein the icon is indicative of whether the application is expandable, whether the application is expanded, or whether the application is expanding.”**

Ogawa discloses this limitation. (EX1002, ¶¶122-125.) As an initial matter, Petitioners note that claim 13 recites features in alternative form: “the icon is indicative of whether the application is expandable, . . . expanded, **or** . . . expanding.” Accordingly claim 13 is met by the prior art if at least one of the alternatively claimed features is disclosed.

Ogawa discloses at least that the colored/shaded portion of access bar 42 (“icon” shaded in blue) is indicative of whether the program (“application”) is expandable. (EX1005, [0018]-[0019], [0024]-[0025], [0027]-[0028], FIGS. 4(B)-(C), 5.) For example, as shown in figures 4(B) and 4(C), when the program does not occupy the entirety of display input surface 13 (i.e., the program occupies a part of

display input surface 13 such as that shown in figures 4(B) and 4(C)), then the icon is indicative of the application being expandable because the user can expand the program such that the window size of the program increases relative to the first and second displays of display input surface 13. (*Id.*) As shown in figure 4(C), the window size of the program displayed in the first part of display input surface 13 is expanded relative to the window size of the program shown in figure 4(B), thus the icon in figure 4(B) indicates that the program is expandable. (*Id.*)



(EX1005, FIG. 4(B) (left, annotated), FIG. 4(C) (right, annotated); EX1002, ¶123.)

Ogawa's disclosures are similar to how the '080 patent describes this feature, explaining that "a user may observe the icon to determine the status of the application with respect to the one or more displays (e.g., whether the application is expandable, expanded, or expanding)." (EX1001, Abstract; *see also id.*, 13:24-37; EX1002, ¶124.)

Accordingly, Ogawa discloses claim 13. (EX1002, ¶125.)

5. **Claim 20: “The method according to claim 12, wherein the icon morphs to indicate that the application is in one of two or more states, the morphing comprising changing the shape and size of the icon.”**

Ogawa discloses this limitation for at least reasons similar to those given above with respect to claim limitation [1.f]. (EX1002, ¶126; *see supra* Section IX.A.1.vii.)

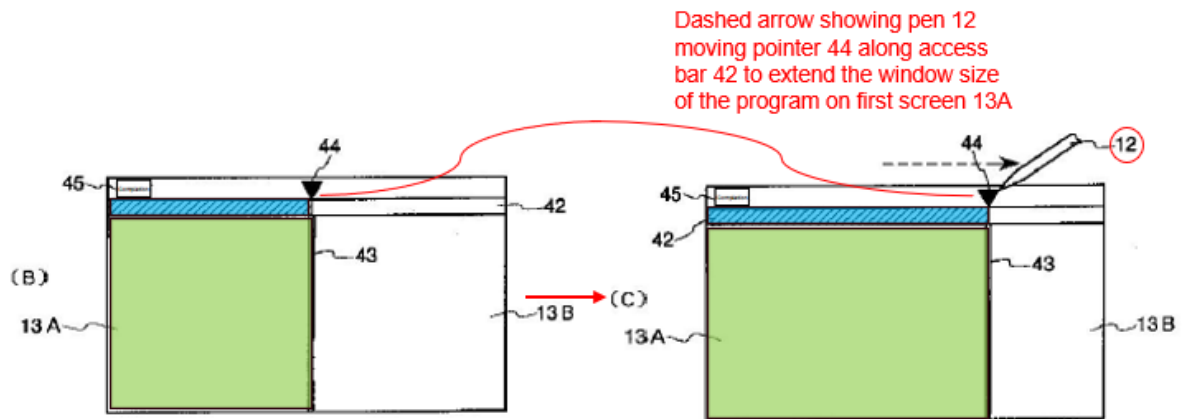
**B. Ground 2: Ogawa in View of Yook Renders Claims 4-9 Obvious**

- 1. Claim 4: “The method according to claim 1, wherein the first display condition includes displaying the application in at least a first and second display, and wherein the modifying includes minimizing the application to occupy only one of the first and second displays.”**

Ogawa in view of Yook discloses and/or suggests, and renders obvious, this limitation. (EX1002, ¶¶127-141.)

Ogawa does not disclose that the first display condition includes displaying the application in at least a first and second part of display input surface 13 (claimed “first and second display”), and wherein the modifying includes minimizing the application to occupy only one of the first and second displays, as required by claim 4. (*Id.*, ¶128)

Instead, Ogawa discloses a scenario in reverse where the program (“application”) is first displayed on a first part of display input surface 13 (“first display”) on which first screen 13A is displayed (*see* figure 4B below) and the modifying includes increasing the window size of the program such that it extends to the second part of display input surface 13 (“second display”) where second screen 13B was displayed (*see* figure 4C below). (*See supra* Sections IX.A.1.ii, IX.A.1.v.)

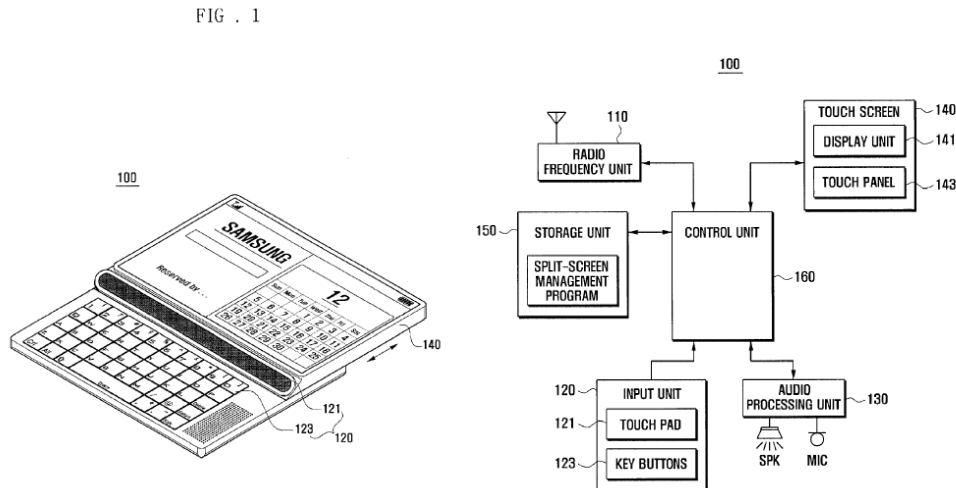


(EX1005, FIG. 4(B) (left, annotated), FIG. 4(C) (right, annotated); EX1002, ¶129.)

However, it would have been obvious to modify Ogawa's disclosed process to include the claim 4 features based on the knowledge of a POSITA and the teachings of Yook. (EX1002, ¶130; *see also id.*, ¶¶ 23-31.)

Yook is directed to an electronic device (e.g., mobile terminal 100) including a touch screen 140, where the touch screen 140 includes display unit 141 and a touch panel 143. (EX1007, [0024]-[0024], [0030]-[0031], FIGS. 1-2; *see also* EX1002 ¶¶40-44.)

FIG . 2



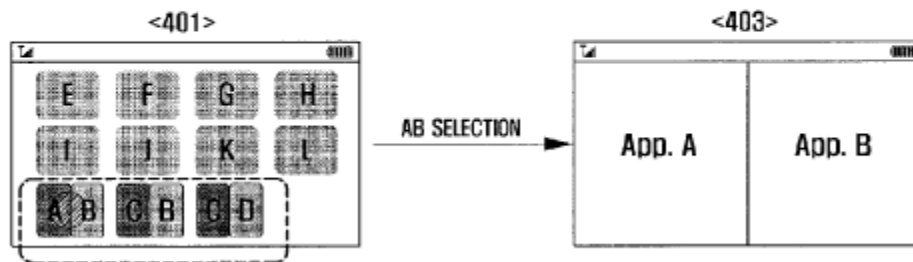
(EX1007, FIG. 1 (left), FIG. 2 (right); EX1002, ¶131.)

Like Ogawa, Yook discloses a screen area management program which, in response to user input or an event trigger, “divides the screen of the display unit 141 into a plurality of divided screen areas.” (EX1007, [0035]; *see also id.*, Abstract, [0003]-[0008], [0026]-[0027], FIG. 4a-4e.) Thus, Yook discloses methods of controlling the display of content in a dual display configuration in the same technical field as Ogawa. (EX1002, ¶132.) Accordingly, a POSITA would have had reason to consider the teachings of Yook when implementing Ogawa. (*Id.*)

Yook discloses managing the display of applications on display unit 141 in a variety of ways. (EX1002, ¶133.) For example, as shown in figure 4a below, mobile terminal 100 displays a plurality of menu items including “dual menu items.” (EX1007, [0044].) If one of the “dual menu items” is selected, then “mobile terminal

100 can activate application programs related to the menu items A and B, display a functional view area App.A as to the application program related to the menu item A on a divided screen area, and display a functional view area App.B as to the application program related to the menu item B on the other divided screen area, as illustrated in screen 403.” (*Id.*)

FIG . 4a

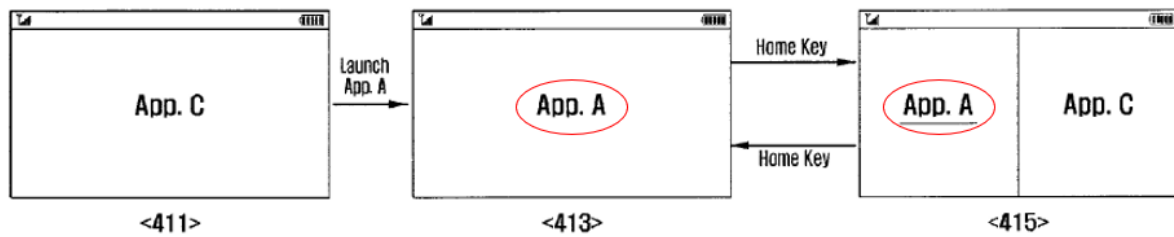


(EX1007, FIG. 4a; EX1002, ¶133.)

In another scenario discussed with reference to figure 4b reproduced below, a menu/function “C” can be displayed across the entirety of the screen first as shown on screen 411. (EX1007, [0046].) The user may then open function “A” as shown in screen 413, and function “A” is displayed on the entire screen (screen 413 below). (*Id.*) If the user then provides a specified input like a “Home Key,” “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 area App.C (presented in relation to the function ‘C’ before the function ‘A’) on the right divided screen area.” (*Id.*)

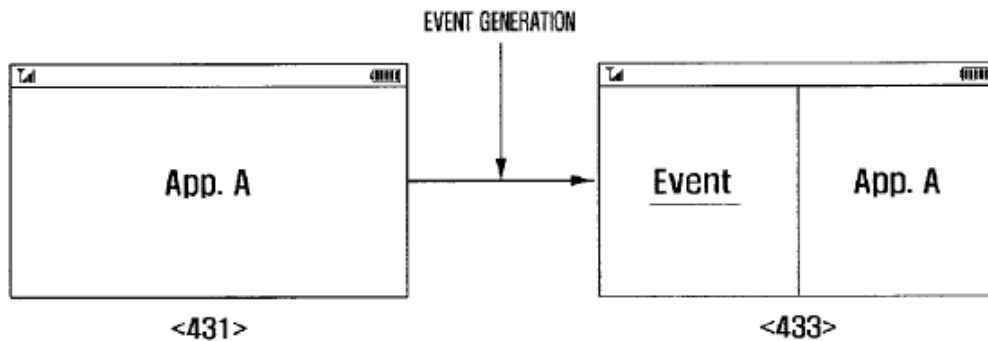
FIG . 4b



(EX1007, FIG. 4b (annotated); EX1002, ¶¶134.)

Figure 4d reproduced below shows a similar scenario where a moving image playback function “A” is first displayed in a “full screen format.” (EX1007, [0051]-[0052].) If an incoming call is received at this time (signified by “Event” below), then the function “A” is minimized to a first display on the right side of display unit 141 while the incoming call labeled as “Event” is shown on the left side of the display. (*Id.*)

FIG . 4d



(EX1007, FIG. 4d (annotated); EX1002, ¶135.)

In view of Yook's above-noted teachings, a POSITA would have been motivated to modify Ogawa such that its disclosed display control methods for an electronic device (e.g., electronic notebook) incorporated Yook's teachings. (EX1002, ¶136.) For example, as discussed above, both Ogawa and Yook are concerned with electronic devices with touch-sensitive multi-display configurations and methods to control the display of content on the multiple displays. (*Id.*) Both references describe displaying content like images or applications like calendars on the screen. (EX1005, [0015], [0033]; EX1007, [0034], [0038], [0075], FIGS. 1, 6-13.)

Thus, it would have been obvious to implement Ogawa's display control method using Yook's technique such that Ogawa's method would have included first displaying a program across both logically divided displays of display input surface

13 (i.e., the first display condition includes displaying the application in at least a first and second display, as claimed) to increase the viewing area for the program as shown and described with reference to Yook's figures 4b and 4d above. (EX1002, ¶137.) And the modifying would have included minimizing the program to occupy only one of the first and second parts of display input surface 13 (i.e., the modifying includes minimizing the application to occupy only one of the first and second displays, as claimed) as also shown and described with reference to Yook's figures 4b and 4d above. (*Id.*) For instance, based on the teachings of Yook, one way Ogawa's display control operations would have been modified is when a user elects to split a screen in figure 4(A) using the split screen menu 41, the program is first displayed like in figure 4(C) where it is displayed across two displays and then, based on user input to minimize the program size (e.g., by the user using pen 12 to drag the pointer 44 to the left towards first screen 13A), the program is displayed on one display. (*Id.*; EX1005, FIGS. 4(A)-(C).)

Indeed, doing so would have been nothing more than a commonsense modification to Ogawa's disclosed techniques and would have provided a capability that Ogawa's disclosed process would have benefited from. (EX1002, ¶138.) For instance, as discussed above, Ogawa discloses a scenario in which display input surface 13 is first split into first screen 13A and second screen 13B in figure 4B and then the size of the program displayed in first screen 13A is increased (figure 4C) to

extend to the second part of display input surface 13 that displays second screen 13B. (*See supra* Sections IX.A.1.ii, IX.A.1.v.) But a POSITA would have understood that once the window size of the program is extended such that it is displayed on both the first and second parts of display input surface 13, then the user would have had the ability to use pen 12 to drag pointer 44 to the left to instruct Ogawa's device to minimize the program such that it is displayed on one of the first and second parts of display input surface 13. (EX1005, [0012]-[0013], [0015], [0017]-[0019], FIGS. 1-2, 4(A)-(C); EX1002, ¶138.)

In other words, the display conditions of a program in a multi-display configuration would have been subject to change in Ogawa in a limited number of ways (e.g., from maximizing to minimizing and vice versa and from being displayed on one display to multiple displays or vice versa) because that would have been the expected use of the device. (EX1002, ¶139.) Yook teaches the management for the window size of applications in the same way, as discussed above. (*Id.*) Accordingly, a POSITA would have been motivated and found it obvious to make the above-proposed modification to Ogawa, to address the foreseeable need and expectation of window size management in a multi-display configuration. (*Id.*) Such a modification would have involved the substitution of one known way of displaying a program (initially displaying a program on a single display in a multi-display configuration and then maximizing the program so it is displayed across multiple

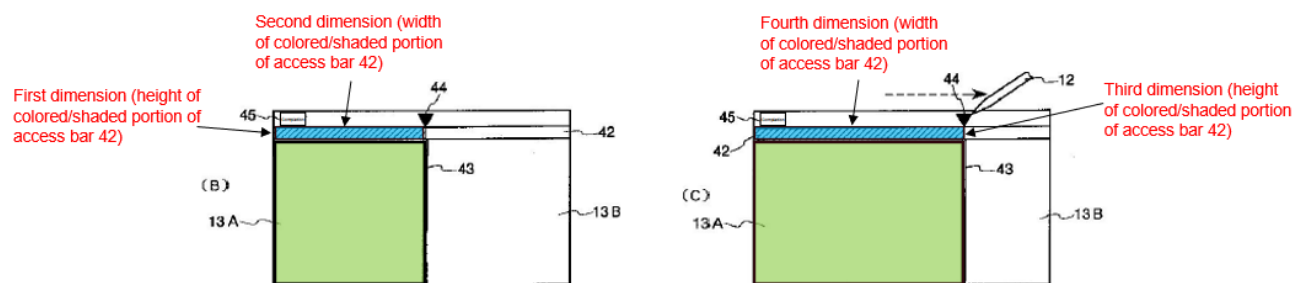
displays as disclosed by Ogawa) with another known display method (Yook's technique initially displaying a program on multiple displays and then minimizing the program so it is displayed on one display), and thus would yield a predictable result. (EX1002, ¶139.) *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416–18 (2007).

The proposed modifications to Ogawa based on Yook, as described above, would have been a predictable and straightforward combination of well-known technologies using known methods. *See KSR Int'l Co.*, 550 U.S. at 416–18. Indeed, a POSITA would have had the capability and knowledge to implement, and found it obvious to try, the above modifications as required by the challenged claims, while ensuring proper operation of the Ogawa systems and methods. *See KSR Int'l Co.*, 550 U.S. at 421. Therefore, a POSITA would have had a reasonable expectation of success that the combined Ogawa-Yook system and method would have operated as expected. *See Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1379-81 (Fed. Cir. 2023) (holding that Petitioner need not show that the proposed substitution was necessarily an improvement but rather would have been a suitable option). (EX1002, ¶140.)

Therefore, the Ogawa-Yook combination discloses and/or suggests, and renders obvious, claim 4. (EX1002, ¶141.)

2. **Claim 5: “The method according to claim 4, wherein a first and second dimension define a first aspect ratio of the icon and a third and fourth dimension define a second aspect ratio of the icon.”**

Ogawa in view of Yook discloses and/or suggests, and renders obvious, this limitation. (EX1002, ¶¶142–145.) For example, in Ogawa, the height (“first [dimension]”) and width (“second dimension”) of the colored/shaded portion of access bar 42 in figure 4(B) define a first aspect ratio of the colored/shaded portion of access bar 42 (“icon”) and the height (“third [dimension]”) and width (“fourth dimension”) of the colored/shaded portion of access bar 42 in figure 4(C) define a second aspect ratio of the colored/shaded portion of access bar 42, as shown below. (EX1005, [0017]-[0019] (describing figures 4(B)-4(C)), FIGS. 4(B)-4(C); *see also id.*, [0020], [0023]-[0030] (describing figure 5 operations related to figures 4(B)-4(C)), FIG. 5.)



(EX1005, FIG. 4(B) (left, annotated), FIG. 4(C) (right, annotated); EX1002, ¶142.)

As shown above, the first and third dimensions (height) remain the same while the second and fourth dimensions (width) change based on the width of the displayed

program as the colored/shaded portion of access bar 42 morphs from the size shown in figure 4(B) to the size shown in figure 4(C). (EX1005, [0017]-[0019], FIGS. 4(B)-4(C); *see also id.*, [0020], [0023]-[0030], FIG. 5; EX1002, ¶143.)<sup>14</sup>

Ogawa's disclosures are consistent with the '080 patent's disclosure which describes that "the first and third dimension may comprise a height dimension" of the icon 500/500' in figures 5A and 5B which "may not change" as the icon's size increases between figures 5A and 5B, while the other two dimensions correspond to the width of icon 500/500' which "may expand commensurately with the expansion of the application into the second display." (EX1001, 14:26-31; *see also id.*, *generally*, 14:14-46, FIGS. 5A-5C; EX1002, ¶144.)

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<sup>14</sup> If the order of operations is reversed as discussed above in Section IX.B.1 where the program is first displayed across two displays and then minimized to one display, the Ogawa-Yook combination still teaches the features of claim 4. (EX1002, ¶143.) The first and second dimensions would respectively correspond to the height and width of the colored/shaded portion of access bar 42 in figure 4(C) while the third and fourth dimensions would respectively correspond to the height and width of the colored/shaded portion of access bar 42 in figure 4(B). (*Id.*) But for simplicity, Petitioners refer to the order of operations in Ogawa. (*Id.*)

Therefore, the Ogawa-Yook combination discloses and/or suggests, and renders obvious, claim 5. (EX1002, ¶145.)

**3. Claim 6: “The method according to claim 5, wherein the first aspect ratio is different than the second aspect ratio.”**

Ogawa in view of Yook discloses and/or suggests, and renders obvious, this limitation. (EX1002, ¶146.) For example, as discussed above with respect to claim 5, the first aspect ratio is defined by the height and width of the colored/shaded portion of access bar 42 in figure 4B while the second aspect ratio is defined by the height and width of the colored/shaded portion in figure 4(C). (*See supra* Section IX.B.2.) The two aspect ratios would have been different because the widths of the colored/shaded portion of access bar 42 in figures 4B and 4C are different (commensurate with the window size of the displayed program) while the height remains the same. (*Id.*) As such, the different values for the width with a constant height would have led to the first aspect ratio being different from the second aspect ratio. (EX1002, ¶146.)<sup>15</sup>

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<sup>15</sup> If the order of operations is reversed as discussed above in Section IX.B.1 where the program is first displayed across two displays and then minimized to one display, the Ogawa-Yook combination still teaches the features of claim 6 because the widths of the colored/shaded portions of access bar 42 would still be different between figures 4(B) and 4(C). (EX1002, ¶146; *see also* n.14.)

**4. Claim 7: “The method according to claim 6, wherein the first dimension and the third dimension are equal.”**

Ogawa in view of Yook discloses and/or suggests, and renders obvious, this limitation for at least reasons similar to those given above for claim 5. (EX1002, ¶147.) As discussed above, the height of the colored/shaded portion of access bar 42 in figure 4(B) (“first dimension”) and the height of the colored/shaded portion of access bar 42 in figure 4(C) (“second dimension”) are the same, i.e., equal. (*See supra* Section IX.B.2.)<sup>16</sup>

**5. Claim 8: “The method according to claim 7, wherein the first dimension and the third dimension are vertical dimensions.”**

Ogawa in view of Yook discloses and/or suggests, and renders obvious, this limitation for at least reasons similar to those given above for claim 5. (EX1002, ¶148.) As discussed above, the claimed first and second dimensions are being mapped to the height of the colored/shaded portion of access bar 42 in figures 4(B)

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<sup>16</sup> If the order of operations is reversed as discussed above in Section IX.B.1 where the program is first displayed across two displays and then minimized to one display, the Ogawa-Yook combination still teaches the features of claim 7 because the heights of the colored/shaded portions of access bar 42 would still be the same between figures 4(B) and 4(C). (EX1002, ¶147; *see also* n.14.)

and 4(C), where height is a “vertical dimension,” as claimed. (*See supra* Section IX.B.2.)

6. **Claim 9: “The method according to claim 8, wherein the second dimension corresponds to a width of the application when displayed in the first display, and wherein the fourth dimension corresponds with the width of the application when displayed in the first and the second display.”**

Ogawa in view of Yook discloses and/or suggests, and renders obvious, this limitation for at least reasons similar to those given above for claim 5. (EX1002, ¶149.) As discussed above, the claimed second dimension corresponds to a width of the program when displayed in the first part of display input surface 13 (which displays first screen 13A) in figure 4(B), and the claimed fourth dimension corresponds to a width of the program when displayed in the first and second parts of display input surface 13 (which displays first and second screens 13A-13B) in figure 4(C). (*See supra* Section IX.B.2.)

**C. Ground 3: Ogawa in View of Choi Renders Claims 1, 2, 12-16, and 20 Obvious**

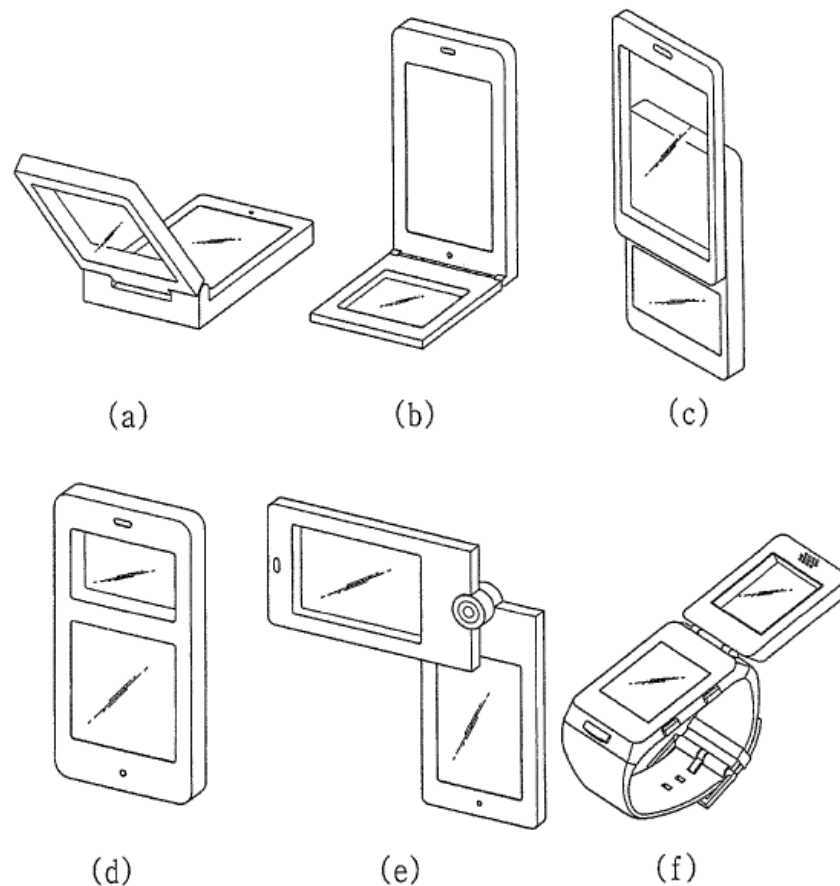
As discussed below, while Ogawa discloses all these limitations of claims 1, 2, 12-13, and 20 for the reasons provided in Section IX.A, a POSITA would have also found it obvious to modify Ogawa based on the teachings of Choi and a POSITA's knowledge such that the combination of Ogawa and Choi teaches all the limitations of these claims along with additional features set forth in claims 14-16. (EX1002, ¶150; *see also id.*, ¶¶ 23-31.)

**1. It Would Have Been Obvious to Combine Ogawa and Choi**

Like Ogawa, Choi is directed to methods for controlling display of content on mobile terminals. (EX1006, Abstract, 1:15-19, 1:32-36 (describing that “the mobile terminals can be further classified into **handheld** terminals . . .”), 5:45-50, (describing that the mobile terminal can include “**smart phones**”), 8:13-35 (describing single or multiple display devices); EX1002, ¶151; *see also* EX1002, ¶¶45-51.)

Choi discloses various examples of mobile terminals with single or multiple touch-sensitive displays. (EX1006, 8:13-27, 13:52-65, 14:47-52, FIGS. 5-6.) Figure 6 below shows various mobile terminals having a dual display configuration.

FIG. 6

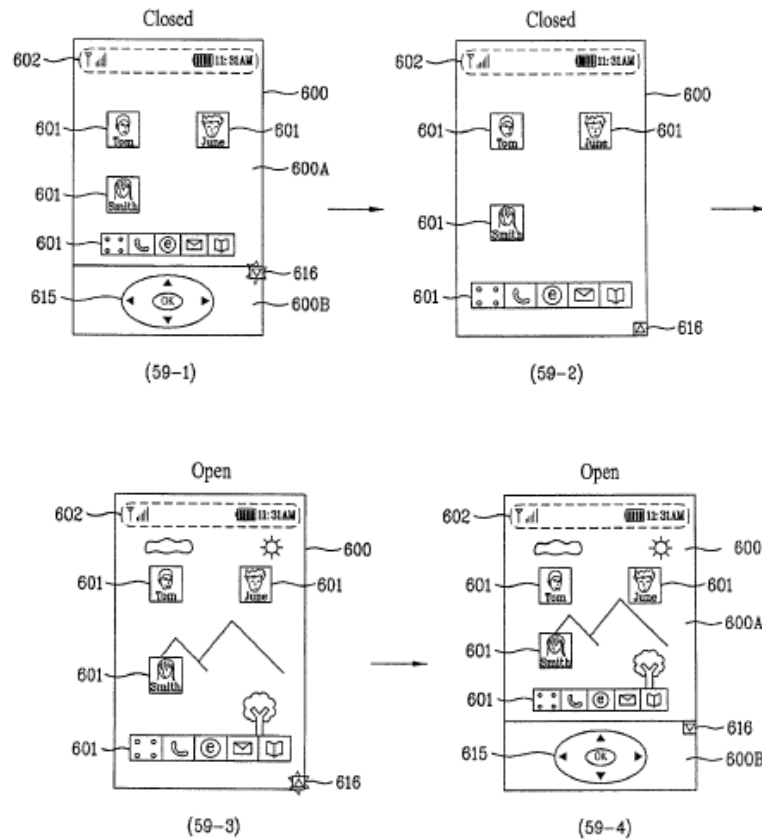


(EX1006, FIG. 6; EX1002, ¶152.)

Choi discloses that a multiple display configuration for its mobile terminals can be implemented by logically dividing a single physical display into two displays or by providing two separate physical display units instead of the single physical display. (EX1006, 33:6-18, FIG. 59.) For example, with reference to figure 59 below, Choi discloses that its mobile terminal includes a touch-sensitive display 151 indicated by touch screen 600. (*Id.*, 9-11 (“In the following description, a display

screen of the touch screen 151 will be indicated by a reference number 600.”), 8:1-22 (describing display 151).)

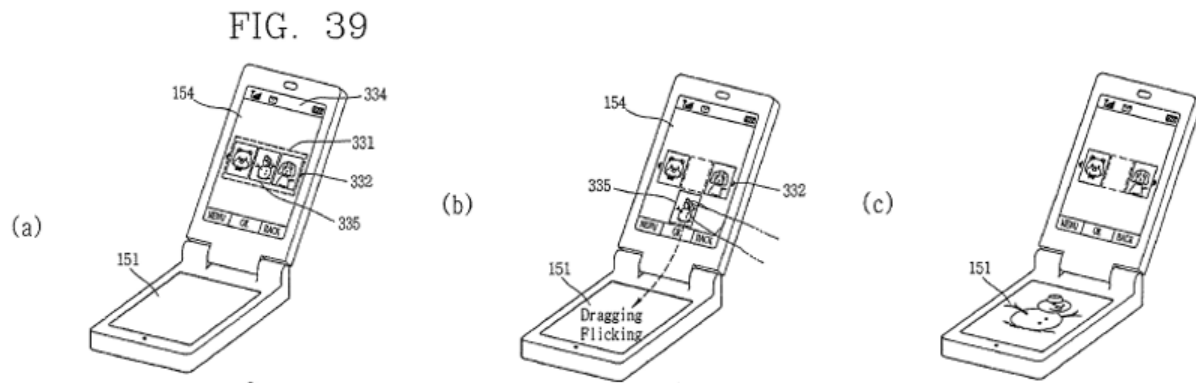
FIG. 59



(EX1006, FIG. 59(59-1)-(59-4); EX1002, ¶153.)

Choi discloses that “**the touch screen 600 can be divided into two areas, i.e., a first area 600A and a second area 600B**” and “[o]ptionally, **the mobile terminal 100 includes two display units to be responsible for the first and second areas 600A and [6]00B, respectively.**” (EX1006, 33:14-18, FIG. 59; EX1002, ¶154.)

In another embodiment described with reference to figure 39 (shown below), Choi discloses a folder-type mobile terminal includes two separate touch-sensitive displays, a liquid crystal display (LCD) 151 and a transparent organic light-emitting diode display (TOLED) 154. (EX1006, 24:64-25:3 (“As shown in FIG. 39, in **the mobile terminal having the TOLED 154 and LCD 151 separately provided**, the controller 180 can display a screen for executing a photo album on the TOLED 154.”), 14:24-35 (describing the folder-type mobile terminal including LCD 151 and TOLED 154 with reference to figures 7A-7B), 14:47-52 (describing that the LCD 151 and TOLED 154 are touch screen displays); *see also id.*, 8:18-22.)



(EX1006, FIGS. 39(a)-(c); EX1002, ¶155.)

FIG. 7A

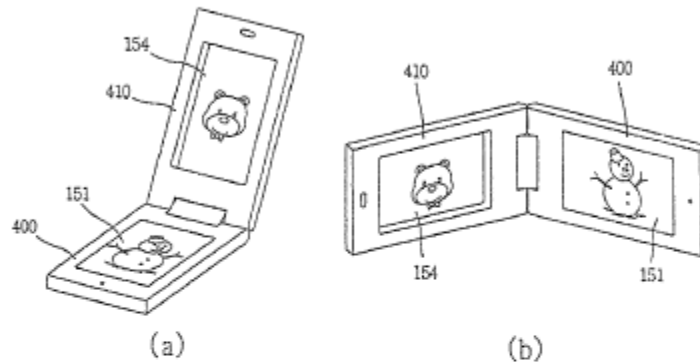
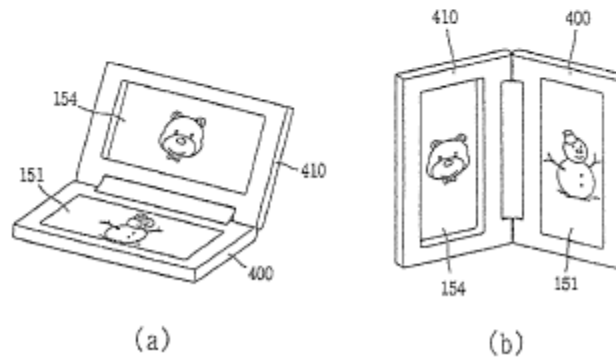


FIG. 7B



(EX1006, FIGS. 7A-B; EX1002, ¶155.)

Choi discloses with reference to the figure 39 embodiment that content displayed on one display in a dual-display device (e.g., TOLED 154) may be switched with the content displayed on the other display of the device (e.g., LCD 151). (EX1006, 25:22-40.) In particular, Choi discloses that a screen switching function key “for switching contents respectively displayed on the TOLED 154 and

the LCD 151” is provided. (*Id.*) The screen switching function key may have a toggling function, where upon selection of the toggling function, “the controller 180 can **change an icon shape of the screen switching function key**, and simultaneously switch contents respectively displayed on the TOLED 154 and the LCD 151.” (*Id.*; EX1002, ¶156.) That is, Choi discloses changing an icon’s appearance to indicate a change in the display states associated with the content displayed on the multiple displays of the device (e.g., icon’s changed appearance indicating that the content being displayed on the first display and the second display has been switched). (EX1002, ¶156.)

Choi further discloses that its displays (e.g., LCD 151 or TOLED 154) are configured as touch screens “having an underlying touchpad which generates signals responsive to user contact with the touch screen, such as with a finger or stylus.” (EX1006, 11:39-44; *see also id.*, 7:26-32, 47-52.) Choi discloses embodiments where instead of providing the touchpad under or over the display screen, the touchpad may be provided at an “outer side” or “upper end” of the display. (EX1006, 22:15-24 (“ . . . Also, under the closed state of the first body 200, the controller 180 can receive a user's command input via a touchpad disposed on an upper portion (upper surface, **upper end**, **outer side**) of the TOLED 154.”); EX1002, ¶157.)

Thus, Choi discloses methods of controlling the display of content in a dual display configuration in the same technical field as Ogawa, including the use of touch screens and changing an icon's appearance to reflect a change in the display conditions on the display device. (EX1002, ¶157.) Accordingly, a POSITA would have had reason to consider the teachings of Choi when implementing Ogawa. (EX1002, ¶158.)

In view of Choi's above-noted teachings, a POSITA would have been motivated to modify Ogawa such that its disclosed display control methods for an electronic device (e.g., electronic notebook) incorporated Choi's teachings. (EX1002, ¶159.) For example, as discussed above, both Ogawa and Choi are concerned with electronic devices with touch-sensitive multi-display configurations and methods to control the display of content on the multiple displays. (*Id.*) Both references describe displaying content like images or applications like calendars on the screen. (EX1005, [0015], [0033]; EX1006, 24:64-25:21, 29:45-53.)

Thus, it would have been obvious to implement Ogawa's display control method using a folder-type mobile terminal such as a smart phone ("handheld computing device") as disclosed by Choi as such a modification would have involved the substitution of one known computing device (electronic device/notebook in Ogawa) with another known computing device (Choi's smartphone), both of which perform similar functions (e.g., used for image display,

editing, communicating, and editing) and thus would yield a predictable result. (EX1002, ¶160.) *See KSR Int'l Co.*, 550 U.S. at 416–18.

Similarly, to the extent PO argues (incorrectly) that Ogawa does not disclose changing the shape of an icon, it at least would have been obvious to modify Ogawa's method such that when the **size** of the colored/shaded portion of access bar 42 ("icon") increases as a result of the window size of the program being displayed in the multi-display configuration increasing (e.g., first and second screens 13A and 13B), the **shape** of the colored/shaded portion of access bar 42 also changes, as taught by Choi. (EX1002, ¶161; EX1005, [0017]-[0019], [0023]-[0024], [0027]-[0028]; EX1006, 25:22-40.) By changing the shape of the colored/shaded portion of access bar 42 in addition to changing its size, a POSITA would have understood that it would further indicate or highlight to the user that there is a change in the display condition of the program relative to the multiple displays. (EX1006, 25:22-40; EX1002, ¶161.) Additionally, the shape of the colored/shaded portion of access bar 42 would have been an obvious design choice that would not have affected the functionality of Ogawa's device and method. (EX1002, ¶161.)

It would have been further obvious to modify Ogawa's method such that instead of using a single physical display (e.g., Ogawa's display unit 31 included in display input surface 13) to implement a multi-display configuration by logically dividing the single display as shown in figures 4(B)-(C) of Ogawa, two physically

separate display units would have been used to implement a similar multi-display configuration as taught by Choi (e.g., a first display for displaying first screen 13A and a second physically distinct display for displaying second screen 13B in Ogawa). (EX1006, 14:24-35, 14:47-52, 26:64-25:3, 33:14-18, FIGS. 7A-B, 39, 59; EX1005, [0015]-[0018], FIGS. 4(B)-(C).) As Choi discloses, these two options (dividing a single physical display logically into two displays or using two physically distinct displays) would have yielded the same predictable results of a multi-display device. (EX1006, 33:14-18; EX1002, ¶162.)

Similarly, it would have been obvious to modify Ogawa's device such that instead of display unit 31 and pen detection unit 21 being overlaid each other to form display input surface 13 (like in some embodiments of Choi where the display surface and touchpad are overlaid as discussed above), pen detection unit 21 would have been placed at an "outer side" or "upper end" of display unit 31 (like the touchpad is placed relative to the display unit in another embodiment of Choi). (EX1006, 22:15-24.) Providing pen detection unit 21 separate from display unit 31 this way would have allowed the user to view the full contents displayed on display unit 31 while still allowing the ability to control the device and what is displayed on the device by manipulating the touchpad on the outer side or upper end of the display unit. (EX1002, ¶163.) Moreover, there are a finite number of locations in Ogawa's device where pen detection unit 21 would have been placed relative to the display

unit 31. (*Id.*) For example, pen detection unit 21 would have been placed overlaid with the display unit 31 (as taught by Ogawa) or it would have been placed at an outer side of display unit 31 or near an end (e.g., upper end) of display unit 31 as taught by Choi. (*Id.*) The result of modifying Ogawa such that pen detection unit 21 is provided at an outer side or end of display unit 31 would have yielded predictable results, e.g., with the user's ability to control the device. (*Id.*)

The proposed modifications to Ogawa described above would have been a predictable and straightforward combination of well-known technologies using known methods. *See KSR Int'l Co.*, 550 U.S. at 416–18. Indeed, a POSITA would have had the capability and knowledge to implement, and found it obvious to try, the above modifications as required by the challenged claims, while ensuring proper operation of the Ogawa systems and methods. *See KSR Int'l Co.*, 550 U.S. at 421. Therefore, a POSITA would have had a reasonable expectation of success that the combined Ogawa-Choi system and method would have operated as expected. *See Intel Corp.*, 61 F.4th at 1379-81. (EX1002, ¶164.)

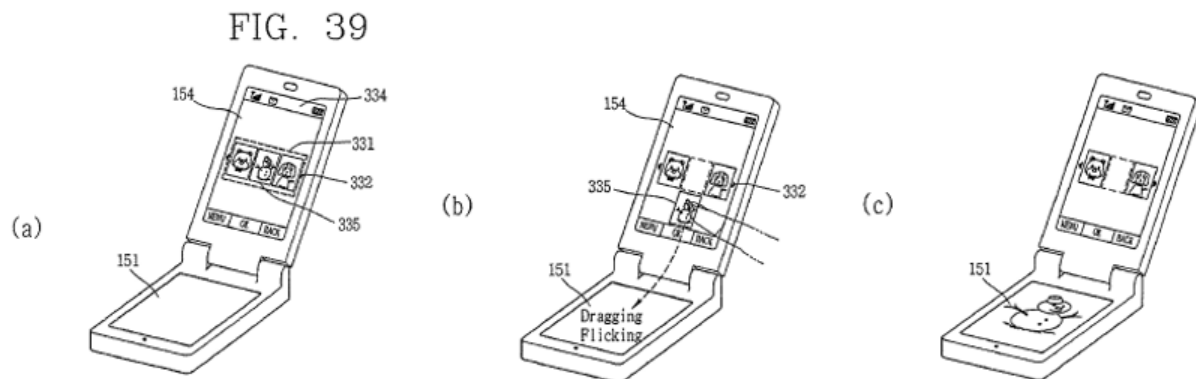
Therefore, as discussed below, the Ogawa-Choi combination renders the challenged claims obvious. (EX1002, ¶165.)

## 2. Claim 1

As discussed above, Ogawa anticipates claim 1. (*See supra* Section IX.A.1.) PO may argue that Ogawa does not disclose a “**handheld** computing device

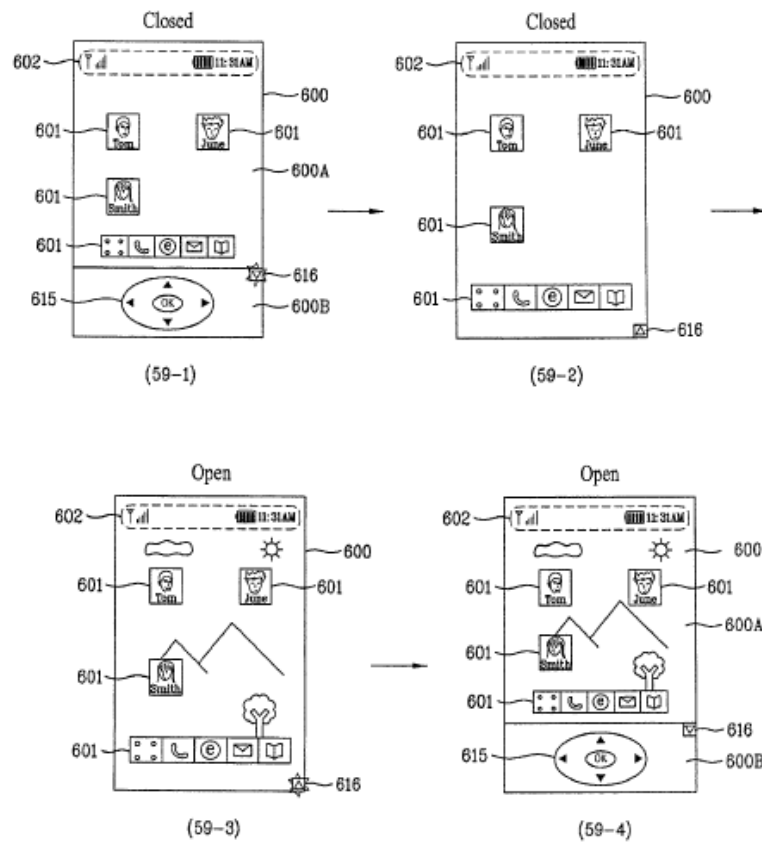
including one or more displays” as recited in the preamble of claim 1 and that “the morphing comprising changing the **shape** and size of the icon” as recited in claim limitation [1.f]. While Ogawa discloses these features (*see supra* Sections IX.A.1.i, IX.A.1.f), at minimum the Ogawa-Choi combination renders these features obvious. (*See supra* Section IX.C.1; EX1002, ¶¶166-169.)

For example, as discussed above, the Ogawa-Choi combination discloses and/or suggests, and renders obvious, a method for controlling a folder-type mobile terminal such as a smart phone (“handheld computing device”) with a dual-display configuration (“one or more displays”), as required by the claim 1 preamble. (*See supra* Section IX.C.1.)



(EX1006, FIGS. 39(a)-(c); EX1002, ¶167.)

FIG. 59



(EX1006, FIG. 59(59-1)-(59-4); EX1002, ¶167.)

Similarly, as discussed above, the Ogawa-Choi combination discloses or suggests that the morphing of the colored/shaded portion of access bar 42 (“icon”) in Ogawa would have included changing the **shape** and size of the colored/shaded portion of access bar 42 (“icon”), as required by claim limitation [1.f]. (*Id.*; EX1002, ¶168.)

Ogawa discloses the remaining limitations of claim 1. (*See supra* Section IX.A.1.) The proposed modifications to Ogawa based on Choi’s teachings does not

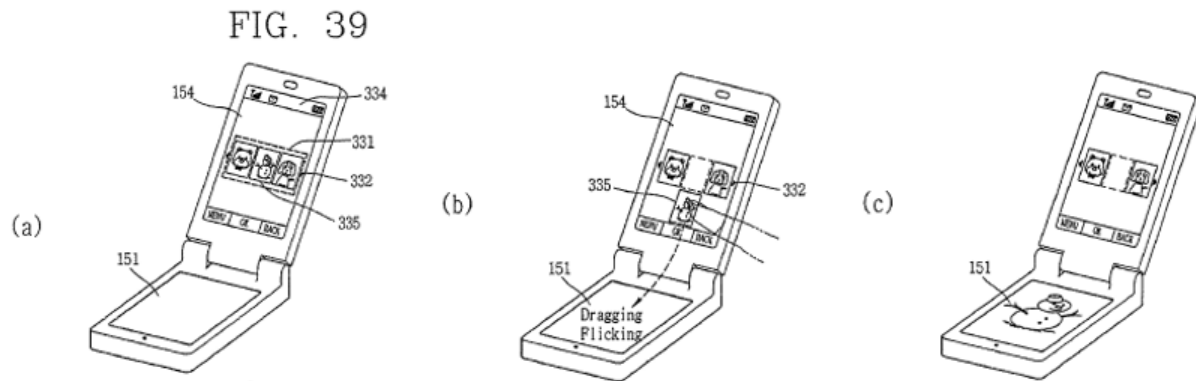
impact Petitioners’ reliance on Ogawa for the remaining limitations of claim 1 because, e.g., both Ogawa and Choi are directed to controlling the display of content in a multi-display configuration. (EX1002, ¶169.) Accordingly, the Ogawa-Choi combination discloses or suggests the features of claim 1. (*Id.*)

### 3. Claim 2

As discussed above, Ogawa discloses that “the icon is changed in proportion to the relative position of the application with respect to the first and second display.” (*See supra* Section IX.A.2.) While the claim does not provide antecedent basis for “the . . . second display” (*see* n.9), PO may argue or the Board may find that claim 2 requires the “first display” and “second display” to be physically distinct from each other. (*See supra* Section VIII.)

To the extent claim 2 is interpreted this way, the Ogawa-Choi combination discloses and/or suggests, and renders obvious, a smart phone with physically distinct first and second displays. (*See supra* Section IX.C.1; EX1002, ¶¶170–175.) As discussed above, Choi discloses that a multiple display configuration for folder-type mobile terminals can be implemented by logically dividing a single physical display into two displays or by providing two separate display units instead of the single physical display. (EX1006, 14:24-35, 14:47-52, 26:64-25:3, 33:14-18, FIGS. 7A-B, 39, 59; *see supra* Section IX.C.1.) A POSITA would have found it obvious to modify Ogawa’s method such that instead of using a single physical display (e.g.,

Ogawa's display unit 31 included in display input surface 13) to implement a multi-display configuration by logically dividing the single display as shown in figures 4(B)-(C) of Ogawa, two physically separate display units would have been used to implement a similar multi-display configuration as taught by Choi (e.g., a first display for displaying first screen 13A and a second physically distinct display for displaying second screen 13B in Ogawa). (EX1006, 14:24-35, 14:47-52, 26:64-25:3, 33:14-18, FIGS. 7A-B, 39, 59; EX1005, [0015]-[0018], FIGS. 4(B)-(C).)



(EX1006, FIGS. 39(a)-(c); EX1002, ¶171.)

FIG. 7A

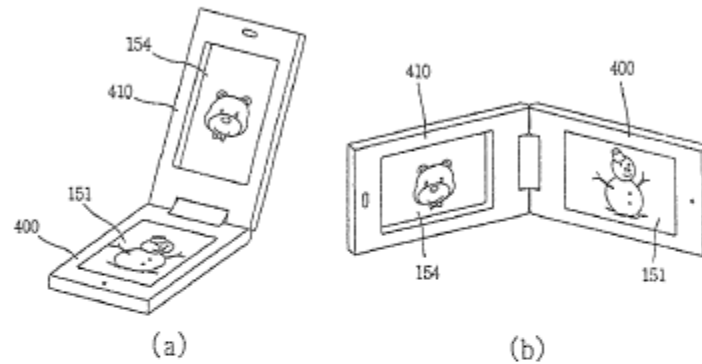
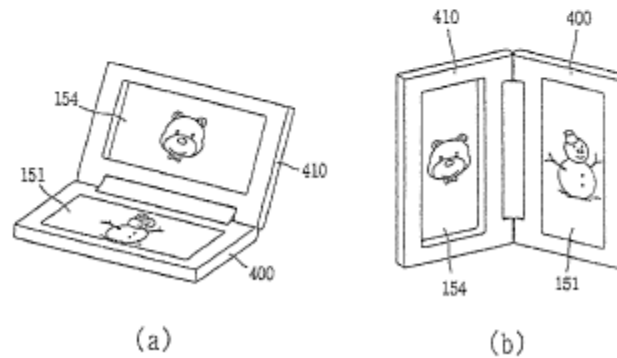


FIG. 7B



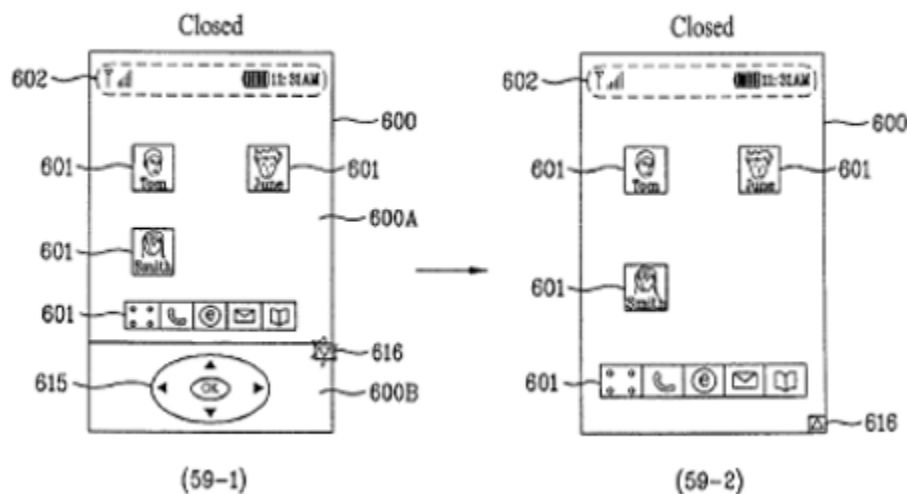
(EX1006, FIGS. 7A-B; EX1002, ¶171.)

Choi discloses that these two options, i.e., dividing a single physical display logically into two displays or using two physically distinct displays, would have yielded the same predictable results of a multi-display device as disclosed by Ogawa.

(EX1006, 33:14-18; EX1002, ¶172.)

Moreover, similar to Ogawa's disclosures regarding displaying the program in first screen 13A in figure 4(B) and then, in response to a gesture input, extending the window size of the program as shown in figure 4(C)), Choi similarly discloses with reference to figure 59 that the contents displayed in the first area 600A can be extended to the second area 600B (where the first and second areas 600A and 600B can be separate display units), i.e., across the entirety of the display 600 in response to a user touching an area adjust icon 616 (*see, e.g.*, transition from figure 59(59-1) to 59(59-2) below). (EX1006, 33:14-38.)

FIG. 59



(EX1006, FIG. 59(59-1)-(59-2); EX1002, ¶173.)

Accordingly, in light of the proposed modification to Ogawa where the single physical display unit in Ogawa that is logically divided to display first and second screens 13A and 13B is replaced by two physically distinct displays that respectively

display the first and second screens 13A and 13B (e.g., like that shown in figures 7A-7B and 39 of Choi), the proposed modification to Ogawa would have resulted in Ogawa implementing its process of displaying the program across multiple logically divided displays such that the program would have instead been displayed across multiple physically distinct displays. (EX1002, ¶174.) For example, with reference to claim 2, in the Ogawa-Choi combination, the colored/shaded portion of access bar 42 (“icon”) would have changed in proportion to the relative position of the program (“application”) with respect to the first display (which would have displayed first screen 13A) and the physically distinct second display (which would have displayed second screen 13B). (*Id.*; EX1005, FIGS. 4(B)-(C); EX1006, FIGS. 59 (59-1)-(59-2).)

Accordingly, the Ogawa-Choi combination discloses the features of claim 2. (EX1002, ¶175.)

#### 4. Claims 12-13

As discussed above, Ogawa anticipates claims 12 and 13. (*See supra* Sections IX.A.3-4.) PO may argue that Ogawa does not disclose (i) a “**handheld** computing device” as recited in the preamble of claim 12, (ii) “a **first display**” (claim limitation [12.b]) physically distinct from “a **second display**” (claim limitation [12.c]) (*see supra* Section VIII), and (iii) “at least one gesture sensor, **separate from** the first

display and the second display, and operable to receive a gesture input” (claim limitation [12.d]). (EX1002, ¶176.)

The Ogawa-Choi combination discloses and/or suggests, and renders obvious, a “handheld computing device” (e.g., a folder-type mobile terminal such as a smart phone) for the reasons provided above with respect to claim 1. (*See supra* Sections IX.C.1-2.) The Ogawa-Choi combination further discloses and/or suggests, and renders obvious, “a second display” physically distinct from the first display for the reasons provided above with respect to claim 2. (*See supra* Sections IX.C.1, IX.C.3.) Similarly, the Ogawa-Choi combination further discloses and/or suggests, and renders obvious, that the pen input detection unit 21 (“at least one gesture sensor”) is disposed on an outer side or end (“separate from”) the first and second parts of the display surface of the display input surface 13, for the reasons provided above. (*See supra* Section IX.C.1; EX1002, ¶177.)

Ogawa discloses the remaining limitations of claims 12 and the limitations of 13. (*See supra* Sections IX.A.3-4.) The proposed modifications to Ogawa based on Choi’s teachings does not impact Petitioners’ reliance on Ogawa for the remaining limitations of claim 12 and claim 13 because, e.g., both Ogawa and Choi are directed to controlling the display of content in a multi-display configuration. (EX1002, ¶178.) Accordingly, the Ogawa-Choi combination discloses or suggests the features of claims 12 and 13. (*Id.*)

**5. Claim 14: “The device as recited in claim 13, wherein the handheld computing device comprises a smart phone.”**

The Ogawa-Choi combination discloses and/or suggests, and renders obvious, this limitation for at least the same reasons as those given above with respect to claims 1 and 12. (*See supra* Sections IX.C.1-2, 4.) As discussed above, the Ogawa-Choi combination discloses a mobile terminal such as a smart phone that corresponds to the claimed “handheld computing device compris[ing] a smart phone.” (*Id.*; EX1006, 5:45-50, (describing that the mobile terminal can include “**smart phones**”); EX1002, ¶179.)<sup>17</sup>

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<sup>17</sup> The Ogawa-Choi combination discloses and/or suggests, and renders obvious, claim 14 under both interpretations of a “display” (e.g., the “first display” and “second display” of claim 12 being logically divided displays or physically separate displays) as it would have been obvious to implement Ogawa’s display control method using a folder-type mobile terminal such as a smart phone (“handheld computing device”) as disclosed by Choi. Such a modification would have involved the substitution of one known computing device (electronic device/notebook in Ogawa) with another known computing device (Choi’s smartphone), both of which perform similar functions (e.g., used for image display, editing, communicating, and editing) and thus would yield a predictable result. (*See supra* Section IX.C.1; EX1002, ¶179.)

6. **Claim 15: “The device as recited in claim 14, wherein the first display and second display are positionable with respect to each other between an open and closed position.”**

The Ogawa-Choi combination discloses and/or suggests, and renders obvious, this limitation for reasons similar to those given above with respect to claims 1, 2, and 12. (EX1002, ¶180.) For example, as discussed above, the Ogawa-Choi combination discloses a folder-type mobile terminal such as a smart phone like that shown in figures 7A-7B and 39 (reproduced below), which include two physically distinct displays.

FIG. 7A

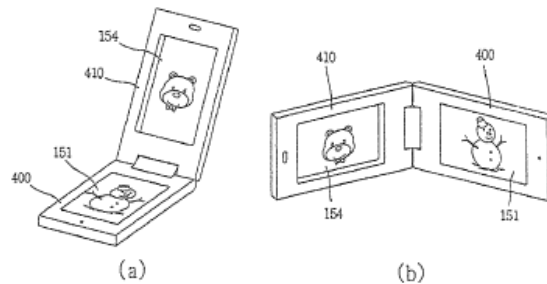
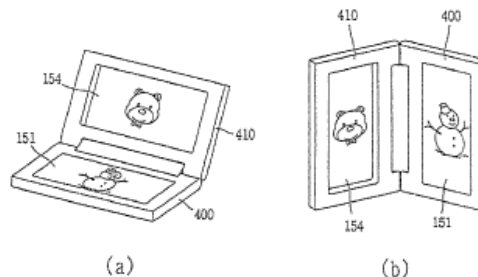
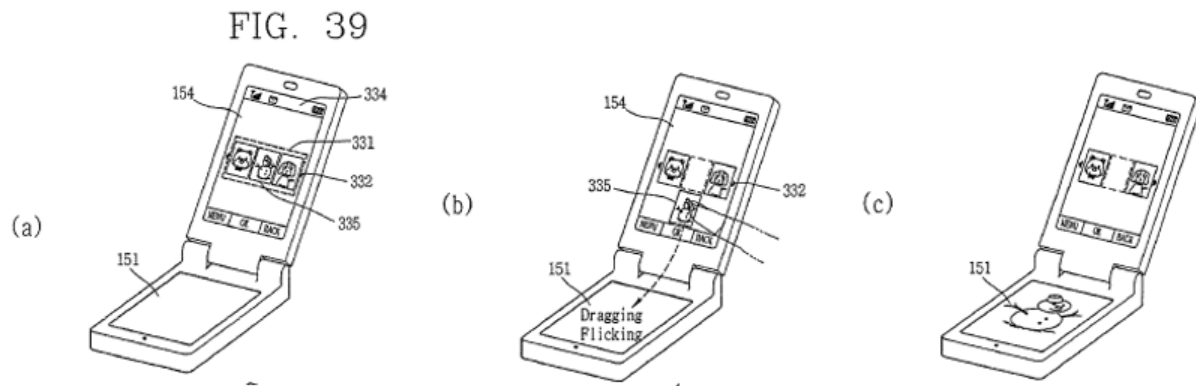


FIG. 7B



(EX1006, FIGS. 7A-B; EX1002, ¶180.)



(EX1006, FIGS. 39(a)-(c); EX1002, ¶180.)

In the Ogawa-Choi combination, the first display (e.g., display 151) and the second display (e.g., display 154) of the folder-type mobile terminal would have been positionable with respect to each other between an open and closed position as shown above. (EX1002, ¶181.)

Accordingly, the Ogawa-Choi combination discloses or suggests the features of claim 15.<sup>18</sup> (EX1002, ¶182.)

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<sup>18</sup> The Ogawa-Choi combination discloses and/or suggests, and renders obvious, claim 15 under both interpretations of a “display” (e.g., the “first display” and “second display” of claim 12 being logically divided displays or physically separate displays). (See n.17.)

7. **Claim 16: “The device as recited in claim 15, wherein when in the open position, the first display and the second display are visible from the vantage point of a user.”**

The Ogawa-Choi combination discloses and/or suggests, and renders obvious, this limitation for reasons similar to those given above with respect to claim 15. (EX1002, ¶183.) For example, as discussed above, the Ogawa-Choi combination discloses a folder-type mobile terminal such as a smart phone like that shown in figures 7A-7B and 39 (reproduced below), which include two physically distinct displays.

FIG. 7A

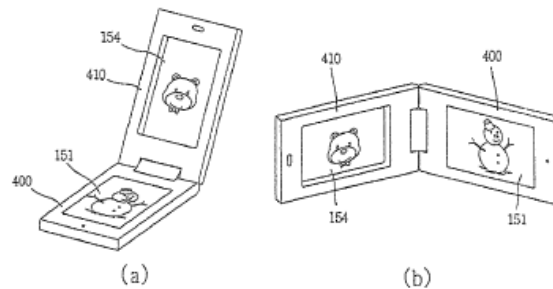
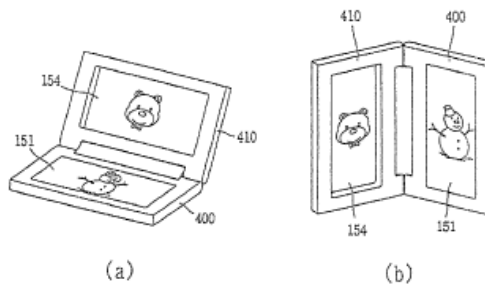
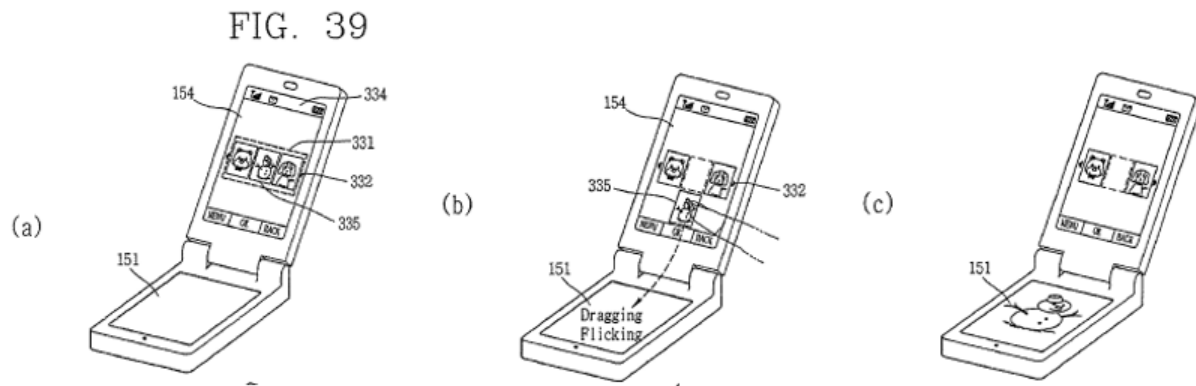


FIG. 7B



(EX1006, FIGS. 7A-B; EX1002, ¶183.)



(EX1006, FIGS. 39(a)-(c); EX1002, ¶183.)

As shown above, in the Ogawa-Choi combination, when in the open position, the first display (e.g., display 151) and the second display (e.g., display 154) are visible from the vantage point of a user. (EX1002, ¶184.)

Accordingly, the Ogawa-Choi combination discloses or suggests the features of claim 16.<sup>19</sup> (EX1002, ¶185.)

## 8. Claim 20

As discussed above, Ogawa anticipates claim 20. (*See supra* Section IX.A.5.) PO may argue that Ogawa does not disclose that “the morphing comprising changing

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<sup>19</sup> The Ogawa-Choi combination discloses and/or suggests, and renders obvious, claim 16 under both interpretations of a “display” (e.g., the “first display” and “second display” of claim 12 being logically divided displays or physically separate displays). (*See* n.17.)

the shape and size of the icon.” While Ogawa discloses these features (*see supra* Section IX.A.5), the Ogawa-Choi combination discloses and/or suggests, and renders obvious, these features for the reasons given above with respect to claim 1. (*See supra* Sections IX.C.1-2; EX1002, ¶186.)

**D. Ground 4: Ogawa in View of Choi and Yook Renders Claims 4-9 Obvious**

As discussed above for **Ground 2**, the Ogawa-Yook combination discloses and/or suggests, and renders obvious, claims 4-9 where a “first and second display” are logically divided displays of a single physical display. (*See supra* Sections VIII, IX.B.) As further discussed above, the Ogawa-Choi combination discloses and/or suggests, and renders obvious claims 2, 12-16, and 20 under a narrower interpretation of “display” where the first display is physically distinct from the second display. (*See supra* Sections IX.C.1, IX.C.3-8.) It would have been obvious to modify the Ogawa-Choi combination which includes two physically distinct displays (instead of Ogawa’s logically divided displays) to further include the teachings of Yook as discussed above under **Ground 2**. (*See supra* Section IX.B.1.) As Choi teaches, a dual-display touch screen like the one disclosed in Ogawa (or Yook) can either be divided logically into two display areas or implemented with two physically separate display units. (EX1006, 33:14-18; *see supra* Section IX.C.1.) Thus, the Ogawa-Choi-Yook combination would have resulted in displaying Ogawa’s program across two physically distinct displays and then minimizing the program such that it is displayed in one of the two displays. (*See supra* Sections IX.B.1, IX.C.1; EX1002, ¶187.)

Thus, the Ogawa-Choi-Yook combination discloses and/or suggests, and renders obvious, claims 4-9 for the reasons given above with respect to **Ground 2**.

(*See supra* Section IX.B.1-6; EX1002, ¶188.)

**X. DISCRETIONARY DENIAL IS NOT APPROPRIATE**

**A. The Board Should Not Deny Institution Under § 325**

The prior art in the asserted Grounds was neither applied against the claims nor discussed by the Examiner and the arguments presented herein are not the same or substantially the same as those considered during prosecution, especially as supported here by expert testimony. *See e.g., Fasteners for Retail, Inc. v. RTC Indus., Inc.*, IPR2019-00994, Paper 9 at 7-11 (PTAB Nov. 5, 2019). (EX1004.) Thus, discretionary denial under § 325(d) should not be exercised here. *Apple, Inc. v. Omni Medsci, Inc.*, IPR2020-00029, Paper 7 at 52-55 (April 22, 2020).

**B. The Board Should Not Deny Institution Under *Fintiv***

The six *Fintiv* factors do not justify denying institution. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential).

Petitioners may respectively request a stay of the Google Litigation and Motorola Litigation if institution is granted. The district court has not indicated how it will rule on such motions. Moreover, the PTAB does not infer how a district court would rule should a stay be requested. *Hulu LLC v. SITO Mobile R&D IP, LLC*, IPR2021-00298, Paper 11 at 10-11 (May 19, 2021). Thus, this factor is neutral. *See, e.g., Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24 at 7 (June 16, 2020) (“*Sand Revolution*”).

The **second factor** (trial proximity) favors institution. Trial is not set until August 3, 2026 against Motorola and November 16, 2026 against Google. (EX1013, 18; EX1014, 20.) This IPR should conclude months before either trial. Accordingly, this factor weighs heavily against a discretionary denial.

The **third factor** (investment in parallel proceedings) favors institution. To date, the parties and Court have invested relatively little in the two litigations, particularly as to invalidity. Discovery recently commenced in both proceedings and the parties have served their respective initial contentions. (EX1013, 4; EX1014, 4.) The claim construction process has not begun, and the claim construction hearings are scheduled for June 27, 2025 (EX1013, 18; EX1014, 18) after the expected date of the institution decision. No depositions have occurred, no expert discovery has been conducted, and no summary judgment motions have been filed in either litigation. *See Sand Revolution* at 11.

Moreover, Petitioners proceeded with reasonable diligence. PO's infringement allegations initially asserted over 100 asserted claims across sixteen patents in the litigations. Petitioners filed this Petition within three months of receiving PO's infringement contentions and just over two weeks after PO was required to narrow the number of Asserted Claims from 100 to 40. (EX1013, 4; EX1014, 4.) "[I]t is often reasonable for a petitioner to wait to file its petition until

it learns which claims are being asserted against it in the parallel proceeding.” *Fintiv* at 11.

The **fourth factor** (overlap) also favors institution. Petitioners are challenging claims 2, 4-9, and 20, which are not at issue in the Google and Motorola litigations. Moreover, because this proceeding will conclude prior to any trial and pretrial proceedings in those litigations, even if the claims were the same, this factor would favor institution.

Although the same parties are involved in the litigations and this proceeding, the **fifth factor** (parties) is outweighed by factors 1-4 and 6 as explained herein. Thus, under the “holistic view” of whether integrity of the system and efficiency is best served, institution is favored. *Samsung Elecs. Co. Ltd. v. Dynamics Inc.*, IPR2020-00505, Paper 11 at 15 (Aug. 12, 2020).

The **sixth factor** (other circumstances) favors institution. Petitioners’ grounds demonstrate how the challenged claims are unpatentable under both PO’s unsupported infringement interpretations and interpretations supported by the intrinsic record. (*See supra* Sections VIII; IX.) The asserted grounds rely on prior art combinations that were not before the Office and demonstrate the unpatentability of PO’s claims. Thus, the merits are compelling. *Fintiv* at 14-15.

**XI. CONCLUSION**

Petitioners request institution of IPR for the challenged claims based on the above specified grounds.

Respectfully submitted,

Dated: October 17, 2024

By: /Naveen Modi/  
Naveen Modi (Reg. No. 46,224)  
Counsel for Petitioner Google  
Designated Lead Counsel for Petitioners

**CERTIFICATE OF COMPLIANCE**

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that the foregoing  
Petition for *Inter Partes* Review of U.S. Patent No. 8,842,080 contains, as  
measured by the word-processing system used to prepare this paper, 13,947 words.  
This word count does not include the items excluded by 37 C.F.R. § 42.24 as not  
counting towards the word limit.

Respectfully submitted,

Dated: October 17, 2024

By: /Naveen Modi/  
Naveen Modi (Reg. No. 46,224)  
Counsel for Petitioner Google  
Designated Lead Counsel for Petitioners

**CERTIFICATE OF SERVICE**

I hereby certify that on October 17, 2024, I caused a true and correct copy of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 8,842,080 and supporting exhibits to be served via express mail on the Patent Owner at the following correspondence address of record as listed on Patent Center:

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