

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC and MOTOROLA MOBILITY LLC,

Petitioners,

v.

MULTIFOLD INTERNATIONAL INCORPORATED PTE. LTD.

Patent Owner

Case No. IPR2025-00058

U.S. Patent No. 9,158,494

PATENT OWNER'S PRELIMINARY RESPONSE

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Ex. 2001	Declaration of Sanjiv Sirpal
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Ex. 2003	Declaration of Ed Becze
Ex. 2004	U.S. Provisional Application No. 61/539,884
Ex. 2005	<i>Reserved</i>
Ex. 2006	"UX Foundation Overview" PowerPoint, Sanjiv Sirpal, Nov. 10, 2010.
Ex. 2007	"Tiger Teams UX Polish" PowerPoint, dated Feb. 18, 2011.
Ex. 2008	"Feb22_TigerTeamToronto" PowerPoint, dated February 22, 2011.
Ex. 2009	Metadata for Exhibit 2008 (Feb22_TigerTeamToronto)
Ex. 2010	[REDACTED] "Imerj Overview" PowerPoint, dated September 8, 2011
Ex. 2011	Browser UX Issues spreadsheet
Ex. 2012	"Windowing Management Interaction Design Specification," Flextronics, v 0.4, September 10, 2010
Ex. 2013	"Browser Interaction Design Specification," Flextronics, v. 0.4, October 6, 2010

Ex. 2014	Dev Kit 1 Photo taken by Ed Becze, February 20, 2025
Ex. 2015	Dev Kit 2 Photo taken by Ed Becze, February 20, 2025
Ex. 2016	Dev Kit 3 Photo taken by Ed Becze, February 20, 2025
Ex. 2017	EV-1 Prototype Photo taken by Ed Becze, February 20, 2025
Ex. 2018	EX-2 Prototype Photo taken by Ed Becze, February 20, 2025
Ex. 2019	Travel Invoice for Ed Becze Trip from Toronto to Linkoping Sweden, October 12-21, 2010
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Ex. 2022	CES-2011-Demo-SmartPad-Browser-Maximize.mpeg
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Ex. 2030	<i>Reserved</i>
Ex. 2031	April 5, 2010 email from Paul Reeves to Ron Cassar titled “Multi tasking designs”
Ex. 2032	January 14, 2011 email from Ron Cassar to various recipients titled “Updated Project Plan”
Ex. 2033	Microsoft Projects document titled “SSA Project Plan (2011-01-13).pdf”
Ex. 2034	December 1, 2010 email chain between Paul Reeves, Stanley Kurdziel, Ron Cassar and David Thompson titled “Re: parent / Child”
Ex. 2035	[REDACTED] January 12, 2011 email from Rod Schrock to various recipients titled “Heads Up – Meeting in Europe Next Week”
Ex. 2036	January 18, 2011 email from Rod Schrock to various recipients titled “Conquest Software Review”
Ex. 2037	January 25, 2011 email from Rod Schrock to various recipients titled “EV2 – Whole Lotta Use Case Refinement Needed.”
Ex. 2038	January 28, 2011 email from Rod Schrock to various recipients titled “Conquest Project Update”
Ex. 2039	“FlexComputing Strategic Products” PowerPoint dated January 2011
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Ex. 2048	JIRA SSA-1032 Created Report generated December 16, 2010
Ex. 2049	JIRA SSA-1248 Created Report generated January 14, 2011
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Ex. 2077	JIRA SSA-1570 Commented Report generated February 21, 2011
Ex. 2078	JIRA SSA-1407 Created Report generated February 9, 2011
Ex. 2079	JIRA SSA-1430 Created Report generated February 11, 2011
Ex. 2080	JIRA SSA-1476 Created Report generated February 14, 2011
Ex. 2081	JIRA SSA-1378 Created Report generated February 3, 2011
Ex. 2082	JIRA SSA-731 Reopen Report generated February 20, 2011
Ex. 2083	JIRA SSA-1020 Updated Report generated February 10, 2011
Ex. 2084	JIRA SSA-1040 Updated Report generated February 20, 2011
Ex. 2085	JIRA SSA-1385 Updated Report generated February 17, 2011
Ex. 2086	JIRA SSA-1387 Updated Report generated February 7, 2011
Ex. 2087	JIRA SSA-1543 Updated Report generated February 17, 2011

I. INTRODUCTION

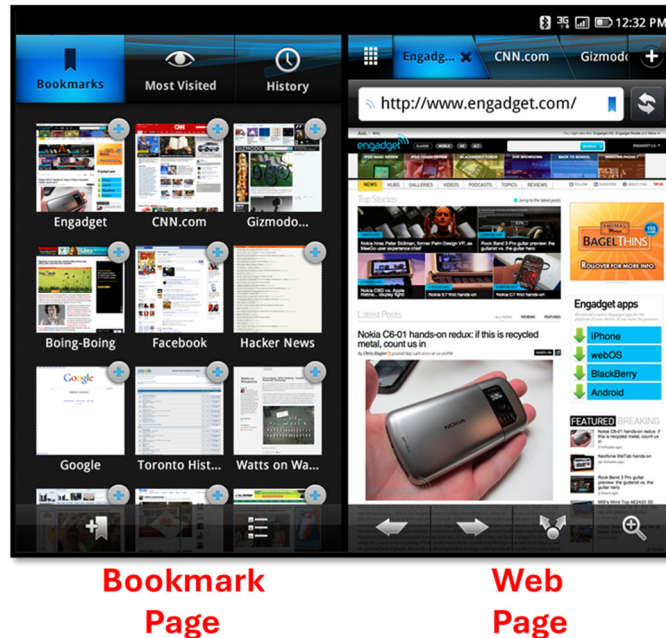
Petitioners cannot demonstrate a reasonable likelihood of success in this IPR because its primary reference for all grounds, Seo, is not prior art. The challenged claims of the '494 Patent were conceived and actually reduced to practice prior to February 10, 2011, which is the earliest possible effective filing date for the Seo reference. Alternatively, the challenged claims were conceived prior to February 10, 2011 and reduced to practice no later than February 22, 2011 with diligence between February 10 to February 22, 2011.

The '494 Patent was one of many inventions that resulted from Flextronics' foldable smartphone project during 2010 and 2011. The project—which went by several names over its life but is referred to herein as “Imerj”—developed a fully functional foldable dual-display smartphone. A photo of an Imerj dual-display foldable smartphone is shown below:



The '494 Patent is directed to minimizing and maximizing between dual display and single display. EX1001 ['494 Patent], Title. *See, id.*, cl. 1. An example of portrait dual display is shown below:

Browser Stretches Across Two Displays



In the example, the device is in dual portrait mode (i.e., the two displays are both in portrait orientation) and the web browser app is open. The right display is open to a webpage. The left display is open to a bookmarks page. Both pages are part of the web browser app. User input (for example, a drag gesture across a gesture bar) can minimize and maximize the bookmark page.

As detailed below, prior to February 10, 2011, at least two series of prototype Imerj smartphones and a prototype Imerj tablet were running dual display applications with the ability to minimize and maximize between dual display and single display. These smartphone prototypes—referred to on the

project as EV-1 and EV-2—were tested to confirm they worked for their intended purpose. In addition, a prototype Imerj tablet was tested to confirm it worked for its intended purpose.

In the alternative, on or around February 22, 2011, the Imerj project began a new phase of polish testing operational prototypes to ensure a smooth user experience. At this stage, dozens of engineers on the Imerj team were continuously testing operational EV-2 prototypes to refine the operation and identify and resolve minor bugs. By this point, the issues being identified were relatively minor and there was no question the phones worked for their intended purpose.

Nor is testing or diligence on this project in question. As confirmed by inventor Sanjiv Sirpal and corroborated by Imerj team members Ron Cassar and Ed Becze and documentary evidence, over 100 engineers were working full time on the Imerj project over the critical time period from late 2010 through February 2011. Testing and development on the project were constant.

In addition, the Petitioners fail to present any obviousness rationale for claims 14 or 18. For that additional reason, Petitioners cannot show a reasonable likelihood of success that claims 14 or 18, or claims 19 and 20 that depend from claim 18, are unpatentable.

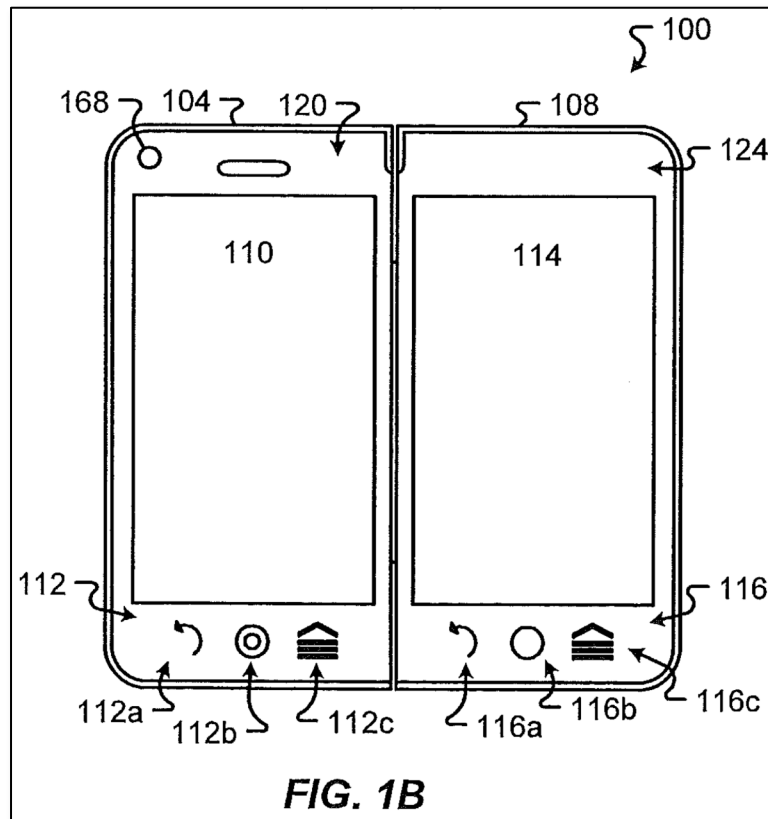
Because the Seo reference is not prior art and because Petitioners cannot show claims 14 and 18-20 are unpatentable even if Seo were prior art (it is not), the Board should therefore decline to institute this IPR.

II. THE '494 PATENT

A. Overview

The '494 Patent is titled “Minimizing and Maximizing Between Portrait Dual Display and Portrait Single Display.” EX1001 ['494 Patent], Title. The '483 Application that issued as the '494 Patent was filed on February 6, 2012 and claims priority to Provisional Application No. 61/539,884, filed on September 27, 2011. EX2004 ['884 Provisional]. Because the '494 Patent was filed prior to March 16, 2013, it is a pre-AIA patent subject to the pre-AIA first to invent statutory regime.

The invention of the '494 Patent was one of many that resulted from Flextronics' Imerj dual display smartphone project. The inventors recognized “a need for a dual multi-display handheld computing device that provides for enhanced power and/or versatility compared to conventional single display handheld computing devices.” EX1001 ['494 Patent], 1:46-49. Embodiments of this device are discussed throughout the patent, including Figure 1B below:



EX1001 ['494 Patent], Fig. 1B. *See generally* Figs. 1A-1J.

In particular, the inventors recognized a need for maximizing and minimizing two pages from a single application across two displays. The '494 Patent explains an example of minimization as follows:

[I]t is desirable to have a multi-display device that can selectively display pages of information in response to a minimization operation or a maximization operation. [] where the multi-display device has at least two screens, a first page of the application can be presented on the first screen of the device, while a second page of the

application can be presented on the second screen of the device. In response to a minimization operation, the second page of the application can continue to be displayed, while the first page of the application can be dismissed.

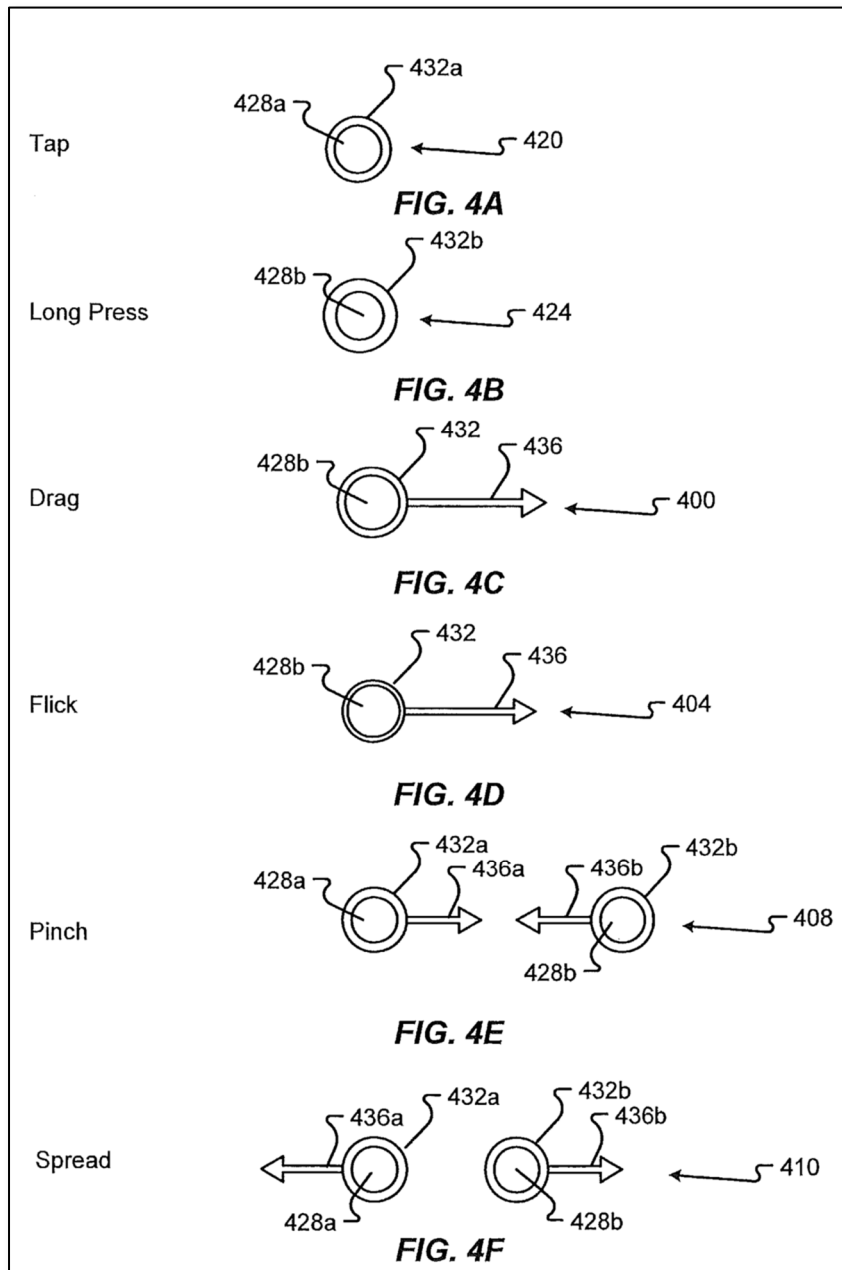
EX1001 [’494 Patent], 1:45-1:65. The ’494 Patent explains an example of maximization as follows:

Where a single page of the application is displayed, user input in the form of a maximization command can result in the first page of the application being presented by the first screen, and the second page of the application being presented by the second screen. Moreover, the presentation of the first and second pages by the first and second screens respectively can be made, regardless of whether the first or the second screen was presented at the time the input from the user to maximize the application was received, and regardless of the screen on which the first or second page was presented.

EX1001 [’494 Patent], 1:65-2:8.

One way to perform the maximization and minimization function is through the use of gestures. The ’494 Patent explains “[t]he term ‘gesture capture’ refers to a sense or otherwise a detection of an instance and/or type of user gesture.”

EX1001 ['494 Patent], 5:4-5. Figs. 4A-4F show different types of possible gestures, including tap, long press, drag, flick, pinch and spread:



B. Challenged Claims

The challenged claims of the '494 Patent are directed toward different manners of presenting multiple pages of an application on a device with multiple displays, with dependent claims including additional gesture functionality and applications like browsers. Exemplary claim 1 is shown below:

1. A method for controlling a display of a device, comprising:
presenting a first page of a first application on a first display of the device, wherein the first page is an auxiliary page;
presenting a second page of the first application on a second display of the device, wherein the second page is a primary page, wherein the first and second pages present different content and are distinct pages, and wherein the auxiliary page is a child of the primary page;
receiving a first input from a user, wherein the first input includes an input to minimize the first application to one of the first and second displays of the device, wherein the second page of the first application is displayed by one of the first display of the device and the second display of the device, and wherein the first page of the first application is not displayed.

III. THE IMERJ DUAL DISPLAY SMARTPHONE

The Imerj dual display smartphone was an innovative dual display smartphone developed at Flextronics from 2009 through 2011. A photo of the Imerj dual display smartphone is shown below:



The Imerj dual display smartphone could support a variety of different orientations across its two screens. One such example included what was referred to as “Portrait Dual” mode, where two application pages from the same application could be displayed on different screens:



The example in the screenshot above shows an email inbox on the left display and an email from the inbox on the right display. Thus, two different pages from the same email application are simultaneously displayed—a parent (which in this example was the inbox) and a child (which in this example was an email message selected from the inbox). This functionality was available for various different native applications developed on the project, including email, web browser, calendar, and the photo gallery. EX2001 [Sirpal Decl.], ¶¶13, 53-54; EX 2002 [Cassar Decl.], ¶¶29, 33, 65; EX2035 [Heads Up]. User gestures were used to perform various functions, including maximizing the application to show multiple

pages and minimizing the application to show a single page, as well as moving pages from one display to the other. EX2001 [Sirpal Decl.], ¶¶7, 11-12; EX2002 [Cassar Decl.], ¶12. The Imerj dual display smartphone included a gesture bar that could be used to perform this functionality. EX2002 [Cassar Decl.], ¶26. An example is shown below:



The Imerj smartphone had been in development since late 2009. EX2001 [Sirpal Decl.], ¶7; EX2002 [Cassar Decl.], ¶5; EX2003 [Becze Decl.], ¶5. And, as discussed below, prototypes that worked for their intended purpose of minimizing and maximizing between dual display and single display were functional prior to February 10, 2011. *Infra*, §V.C.

IV. THE SEO REFERENCE

The Seo reference is not prior art because the inventors of the '494 Patent conceived of the claimed invention and reduced it to practice before the filing date of Seo's provisional parent application.

The Petition presents four grounds of alleged unpatentability:

Ground 1: Claims 1, 2, 4, 6, 10 and 12 are unpatentable under pre-AIA 35 U.S.C. §102 as anticipated by Seo (EX1005).

Ground 2: Claims 1, 2, 4, 6, 10, 12, and 13 are unpatentable under pre-AIA 35 U.S.C. §103 as being obvious in view of Seo.

Ground 3: Claims 14 and 18–20 are unpatentable under pre-AIA 35 U.S.C. §103 as being obvious in view of Seo and Yook (EX1007).

Ground 4: Claim 9 is unpatentable under pre-AIA 35 U.S.C. §103 as being obvious in view of Seo and Choi (EX1010).

Pet., 4.

Each ground relies on the Seo reference (US Patent Appl. Publication 2012/0306782) as the primary reference. The Petition alleges Seo is prior art under pre-AIA 35 U.S.C. §102(e). Pet., 5. Thus, Seo would only qualify as prior art if its earliest effective filing date were before the challenged claims' date of invention.

Petitioners allege the Seo reference is entitled to rely on its parent provisional application (Prov. Appl. No. 61/441,491) for a filing date of February 10, 2011.¹ Pet., 12-17. Even assuming (without conceding) Petitioners were correct, Imerj dual display smartphone prototypes were conceived and reduced to practice (i.e., sufficiently tested to confirm they were functional for their intended purpose) before February 10, 2011. *Infra*, §V.C. Alternately the Imerj prototypes were reduced to practice no later than February 22, 2011 with diligence for the twelve or thirteen days between February 10 and February 22, 2011. *Infra*, §V.D. Because the challenged claims of the '494 Patent were invented prior to the earliest possible critical date of Seo, Seo is not prior art to the '494 Patent.

V. THE IMERJ DUAL DISPLAY SMARTPHONE ANTEDATES SEO

Petitioners cannot demonstrate a reasonable likelihood of success of proving any challenged claim is unpatentable because the Imerj dual display smartphone antedates the Seo reference.

Each ground in the Petition depends on the Seo reference. Pet., 4. As discussed below, the claimed invention was conceived and actually reduced to

¹ This Preliminary Response takes no position regarding whether Seo is entitled to claim the benefit of the filing date of its parent provisional application.

practice before the earliest possible effective filing date of Seo (February 10, 2011) by prototypes of the Imerj dual display smartphone. EX2001 [Sirpal Decl.], ¶¶10, 25; EX2002 [Cassar Decl.], ¶25, EX2003 [Becze Decl.], ¶¶20, 25. As demonstrated in the declarations of Sanjiv Sirpal, Ron Cassar, and Ed Becze, at least two series of Imerj smartphone prototypes (EV-1 and EV-2) and the related Smartpad prototype had been tested to confirm they were functional for their intended purpose (minimizing and maximizing between dual display and single display) prior to February 10, 2011. EXS2001, 2002, 2003.

Alternately, as discussed below, the Imerj dual display smartphone was reduced to practice no later than February 22, 2011. At that point, the claimed functionality was implemented and running on EV-2 prototypes that were being tested to refine the user experience. EX2001 [Sirpal Decl.], ¶39; EX2002 [Cassar Decl.], ¶50; EX2003 [Becze Decl.], ¶29; EX2037; EX2008; EX2010. The Imerj team had demonstrated that the phone worked for its intended purpose of minimizing and maximizing between dual display and single display and testing teams had been working to polish the user experience by identifying any remaining issues and refine the user experience. *Id.* There was diligence from February 10 to February 22, 2011, because testing consisting of refining the user experience and identifying and resolving corner-case software issues was occurring on a daily

basis by dozens of engineers, not only from February 10 to February 22, 2011, but throughout the life of the project. EX2001 [Sirpal Decl.], ¶¶39-47; EX2002 [Cassar Decl.], ¶¶58-62; EX2003 [Becze Decl.], ¶¶28-31; EX2008, EX2010; EX2037.

A. Legal Standard

A patent owner may antedate an asserted prior art patent by showing conception of the claimed invention prior to the critical date and either actual reduction to practice prior to the critical date or “reasonably continuous diligence” in reducing the invention to practice until its effective filing date. *See ATI Techs. v. Iancu*, 920 F.3d 1362, 1369 (Fed. Cir. 2019); *Tyco Healthcare Grp. v. Ethicon Endo-Surgery, Inc.*, 774 F.3d 968, 975 (Fed. Cir. 2014). “Conception exists when a definite and permanent idea of an operative invention, including every feature of the subject matter sought to be patented, is known.” *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994). Objective evidence that corroborates an inventor’s testimony regarding the conception of the invention is required “because of the danger in post-hoc rationales by an inventor claiming priority.” *Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1065 (Fed. Cir. 2005). The sufficiency of corroboration is determined according to a “rule of reason.” *Price v. Symsek*, 988 F.2d 1187, 1195 (Fed. Cir. 1993). Under the rule of reason, “all pertinent evidence is examined in order to determine whether the inventor’s story is credible.”

Fleming v. Escort Inc., 774 F.3d 1371, 1377 (Fed. Cir. 2014) (quoting *Sandt* Inventor declarations submitted to antedate a reference must be corroborated, and corroboration is governed by a “rule of reason” standard. *Perfect Surgical Techs., Inc. v. Olympus Am., Inc.*, 841 F.3d 1004, 1007–09 (Fed. Cir. 2016). *Tech., Ltd. v. Resco Metal & Plastics Corp.*, 264 F.3d 1344, 1350 (Fed. Cir. 2001)).

To establish an actual reduction to practice, a party must establish that: (1) an embodiment or process existed that satisfies every element of the claim at issue; and (2) the invention would work for its intended purpose. *E.I. du Pont De Nemours & Co. v. Unifrax I LLC*, 921 F.3d 1060, 1075 (Fed. Cir. 2019). The same requirement for evidence that corroborates inventor testimony on conception under the rule of reason also applies to the reduction to practice determination. *Id.* at 1076. When a party relies on an earlier conception, it must “connect[] the conception with [the inventor's] reduction to practice by reasonable diligence on his part, so that they are substantially one continuous act.” *Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1577 (Fed. Cir. 1996).

B. The Invention Was Conceived Before February 10, 2011

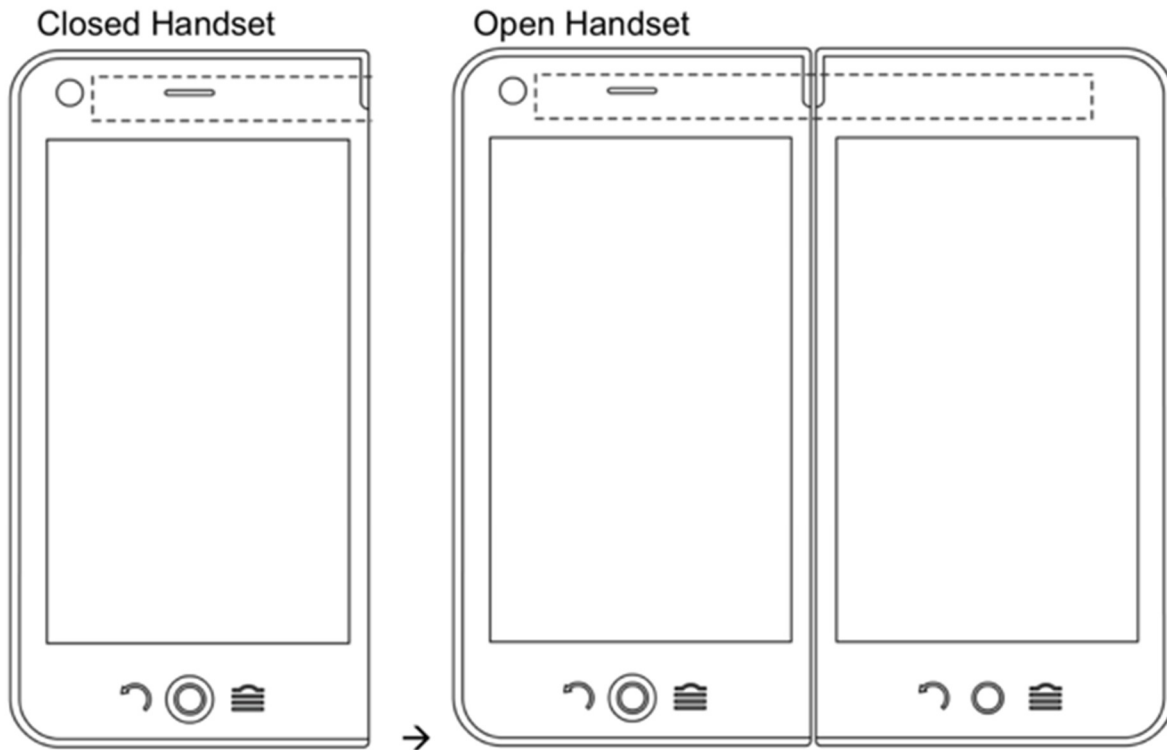
The functionality of maximizing and minimizing between dual display and single display was conceived no later than November 18, 2010. EX2001 [Sirpal Decl.], ¶¶9-24; EX2002 [Cassar Decl.], ¶¶10-18; EX2003 [Becze Decl.], ¶¶6-12.

EX2006 [UX Overview], 1; EX2012 [Windowing Management]; EX2013 [Browser Interaction Design]. Inventor Sanjiv Sirpal testified that he conceived and reduced to practice the claimed invention prior to February 10, 2011. EX2001 [Sirpal Decl.], ¶10. As discussed below, his testimony is corroborated by documents, things, and testimony by non-inventors. Thus, conception occurred prior to the February 20, 2011 critical date.

Co-inventor Sanjiv Sirpal was the Director of User Experience on the Imerj project. EX2001 [Sirpal Decl.], ¶6; EX2002 [Cassar Decl.], ¶9; EX2003 [Becze Decl.], ¶6. In that capacity, Sanjiv Sirpal was responsible not only for developing and maintaining specifications detailing how the smartphone displays should behave and what functions would be performed by particular gestures, but also for ensuring that the product being developed met the requirements laid out in the specifications. EX2001 [Sirpal Decl.], ¶¶ 6, 8, 24; EX2002 [Cassar Decl.], ¶¶9, 12; EX2003 [Becze Decl.], ¶¶6, 8.

On November 18, 2020, Sanjiv Sirpal authored a PowerPoint Presentation titled “UX Foundation Overview.” EX2001 [Sirpal Decl.], ¶11; EX2002 [Cassar Decl.], ¶11; EX2003 [Becze Decl.], ¶7. This document corroborates Sanjiv Sirpal’s testimony that the claimed functionality was conceived no later than November 18, 2010. EX2001 [Sirpal Decl.], ¶¶11-13; EX2002 [Cassar Decl.], ¶¶11-12; EX2003

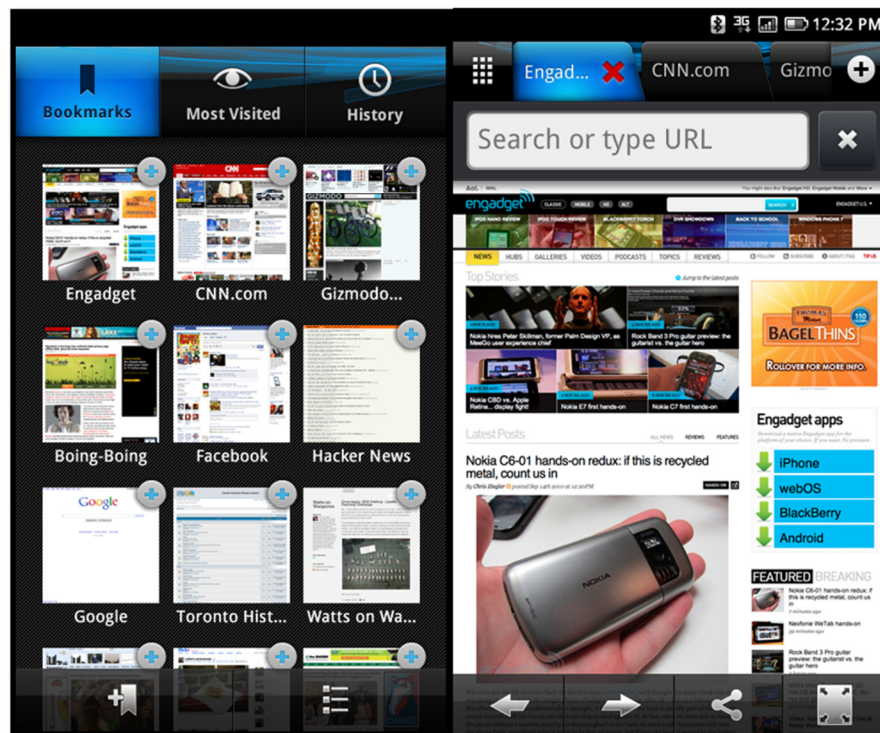
[Becze Decl.], ¶¶7-8. This document discloses a dual-screen handset with a gesture strip across the top of the device bounded by the dashed rectangle:



EX2006 [UX Overview], 15. *See also id.*, 30; EX2001 [Sirpal Decl.], ¶11; EX2002 [Cassar Decl.], ¶13; EX2003 [Becze Decl.], ¶9. EX2006 discusses that the “Capacitive Gesture Strip” can be “used to track the gestures that are used to “Move,” “Maximize,” and “Minimize.” EX2006 [UX Overview], 30; EX2002 [Cassar Decl.], ¶14; EX2003 [Becze Decl.], ¶10. EX2006 explains that “[d]ual screen capable applications will first maximize, and then minimize.” EX2006 [UX Overview], 31; EX2001 [Sirpal Decl.], ¶11; EX2002 [Cassar Decl.], ¶16.

EX2006 also shows dual display applications in what the Imerj project referred to as “dual portrait mode.” These applications display two different pages from a single app. EX2001 [Sirpal Decl.], ¶13; EX2002 [Cassar Decl.], ¶17; EX2003 [Becze Decl.], ¶12. One example of this is shown below:

Portrait Dual Screen



EX2006 [UX Overview], 79. The example above shows an internet browser in dual screen mode with a parent page showing browser content and the child page showing bookmarks for the browser. EX2002 [Cassar Decl.], 17. *See also* EX2001 [Sirpal Decl.], ¶13; EX2003 [Becze Decl.], ¶12. Other portions of

EX2006 show separate possible implementations of applications in dual screen mode for the Imerj project. *See, e.g.*, EX2006 [UX Overview], 33 (dual screen phone dialer), 45-49 (showing dual screen email app, dual screen phone dialer, and dual screen messaging), 75 (dual screen calendar app), 84 (dual screen camera app); EX2001 [Sirpal Decl.], ¶13.

The UX Overview presentation also discusses exemplary “Deep Dives” on the for the Calendar (slides 94-104), Messaging (105-112) and Browsing (113-131), illustrating example dual screen functionality envisioned in applications as of November 18, 2010. EX2006 [UX Overview], 94-131. EX2001 [Sirpal Decl.], ¶13. Thus, EX2006 confirms inventor Sanjiv Sirpal’s testimony that the invention of the ’494 Patent was conceived prior to February 10, 2011.

Additional evidence demonstrates conception prior to February 10, 2011. For example, EX2012 [Windowing Management] corroborates inventor Sanjiv Sirpal’s testimony that conception was accomplished by November 18, 2010. Exhibit 2012 is an interaction design specification dated September 10, 2010 created by Sanjiv Sirpal’s design team with his input and evidencing conception of the invention. EX2001 [Sirpal Decl.], ¶15. The specification is titled “Windowing Management Interaction Design Specification” and discusses examples of how different user

interactions and inputs should affect the phone displays. EX2012 [Windowing Management], 1; EX2001 [Sirpal Decl.], ¶15.

The specification defines “WPC operations” (or Window Position Control operations) that could be performed by gesture input, including “moving an application to the other screen, maximizing a dual-screen capable application to two screens, or minimizing one to a single-screen.” EX2012 [Windowing Management], 4; EX2001 [Sirpal Decl.], ¶16. The specification includes a table listing the following gestures supported by the UX (user experience) design:

The following off-screen gestures are supported by the WPC:

Tap	<i>Currently not utilized</i>
Long-press	<i>Currently not utilized</i>
Drag	1. Moves applications from one screen to another 2. Maximizes and minimizes dual-screen capable applications
Long-drag	Considered a sequence of continuous drag operations.
Flick	1. Moves applications from one screen to another 2. Minimizes dual-screen applications
Pin & drag	Holds the pinned application in place while moving the other applications in the application stack. The pinned application always remains in view.
Pinch	Displays the Application Manager
Spread	Reveals the Desktop

Id., 8. The specified gestures include the “Drag” gesture which “[m]oves applications from one screen to another” and/or “[m]aximizes and minimizes dual-screen capable applications”, as well as the “Flick” gesture which also

“[m]oves applications from one screen to another” and “[m]inimizes dual-screen applications.” *Id.*; EX2001 [Sirpal Decl.], ¶16.

Exhibit 2012 [Window Management] also defines examples of standard rules to be applied in response to receiving gesture input to maximize and minimize dual-screen capable applications. EX2012 [Windowing Management]; EX2001 [Sirpal Decl.], ¶17. Dual-screen capable applications were applications capable of displaying two different views of the same application (e.g., by being displayed on one or two displays. *Id.* For example, this specification illustrates example rules for how maximization and minimization on dual-screen capable applications should be performed in response to a user’s gesture input:

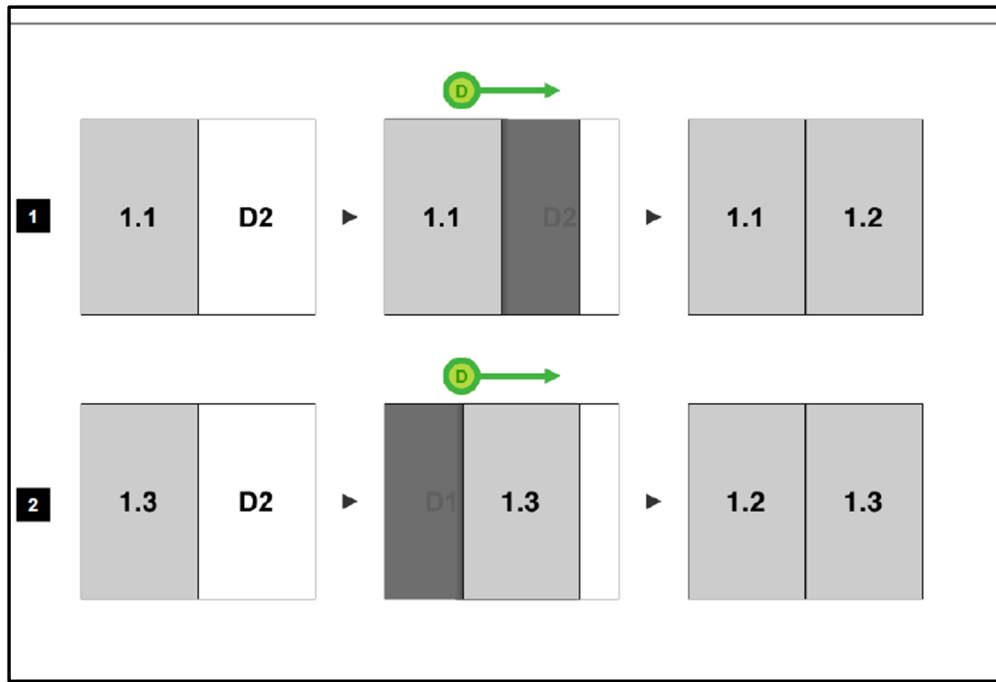
2.1 Introduction to maximization and minimization rules

From the point of view of the WPC system, applications are either maximized to span across two screens, or minimized to one screen; the application (and its internal structure) determines the details on that action, ie which of views move during maximization, and which remains visible during minimization.

During a maximization action, due to technical restrictions it may not be possible to show the uncovered view. In these cases, an empty view is shown, instead.

Examples of maximization scenarios:

1. A root view on the left screen is maximized, sliding its child view on the right screen.
2. A leaf view on the left screen is moved to the right screen, and its parent is uncovered on the left screen

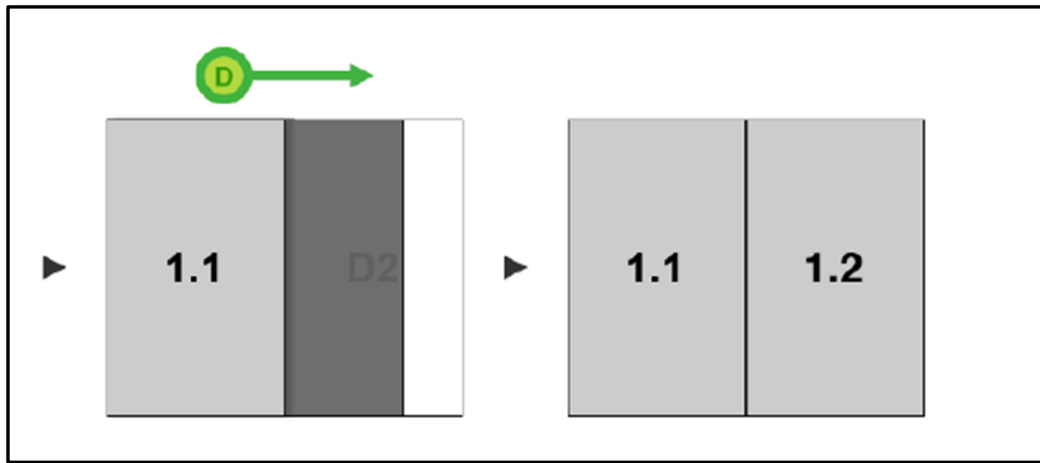


EX2012 [Windowing Management], 10 (images excerpted); EX2001 [Sirpal Decl.], ¶17.

The figures above illustrate, for example “1”, an initial state with one display showing view “1.1” of a dual-screen capable application on a left display (e.g., a parent page) and a desktop “D2” on a right display. EX2012 [Windowing Management], 10; EX2001 [Sirpal Decl.], ¶18.

In response to a user executing a drag gesture input to maximize the application (drag gesture input shown as “D” in the **green** circle from the display with the parent page toward the other display), the application is maximized such that the left side displays the “1.1” view (or page) of the application and the right side displays a

second view (or page) of the same application labeled “1.2”. *Id.* This is illustrated below:



In this example, “1.2” is a child of “1.1.” EX2012 [Windowing Management], 6; EX2001 [Sirpal Decl.], ¶18.

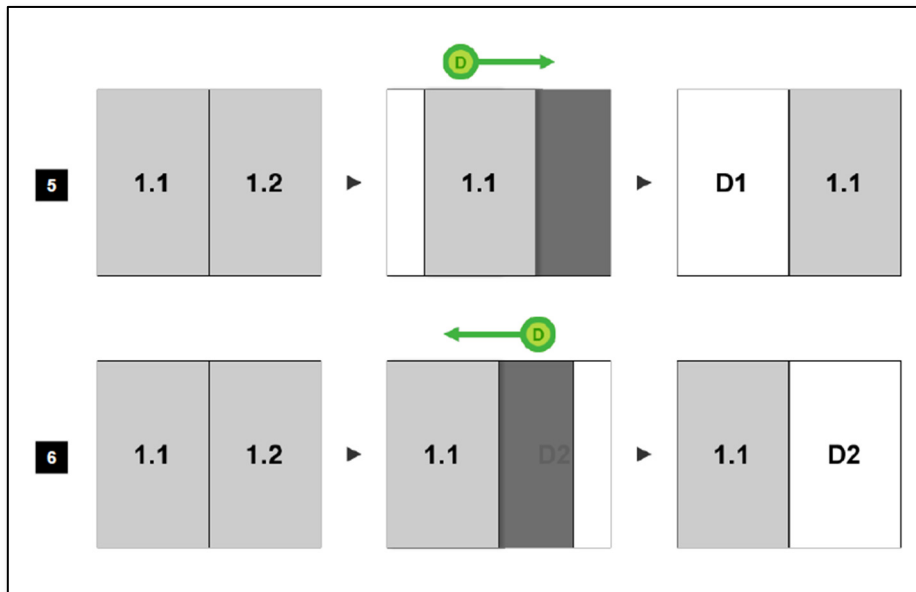
EX2012 provides additional examples of standard rules for maximizing and minimizing dual-screen capable applications across two displays in response to gesture inputs. EX2012 [Windowing Management], 9-19; EX2001 [Sirpal Decl.], ¶19. For example, standard minimization rules are provided which illustrate how a dual-screen capable application that is being displayed on two displays can be minimized in response to gesture input:

Examples of minimization scenarios:

5. A parent view on the left screen is moved on top of its child view on the right screen.
6. A child view on the right screen is moved underneath a parent view on the left screen.

The motion for minimizing a window is:

MOT.1.4 Minimize



EX2012 [Windowing Management], 12 (images excerpted); EX2001 [Sirpal Decl.], ¶19. In the two examples illustrated above (examples “5” and “6”), a dual-screen capable application, displaying a parent view (or page) “1.1” on the left side and a child view (or page) “1.2” on the right side, is minimized, based on gesture input, to show only the parent view “1.1” on either the right side (as shown in example “5”) or the left side (as shown in example “6”) based on the

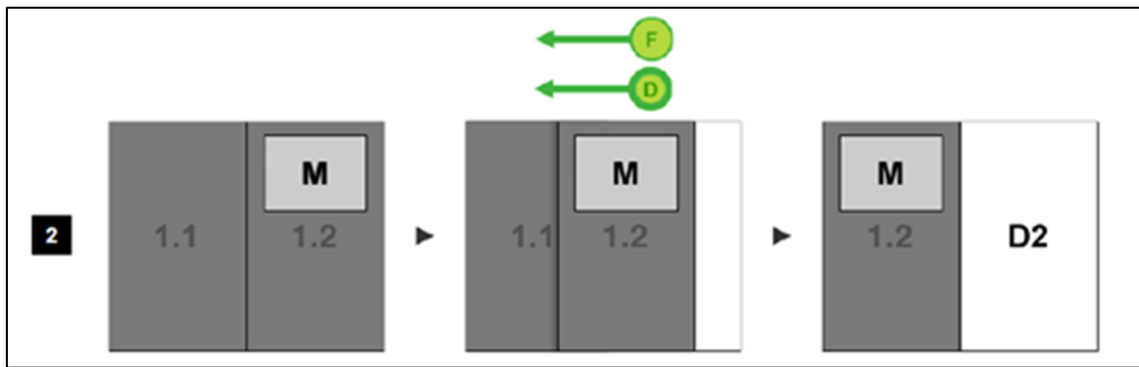
direction of the drag gesture input (shown in green in each example). *Id.* Under these example minimization rules, dual-screen capable applications minimize in a way that results in the parent view (e.g., “1.1”) remaining displayed while the child view (e.g., “1.2”) is no longer displayed. EX2001 [Sirpal Decl.], ¶19.

EX2012 provides additional example minimization rules for certain cases where the child remains displayed upon minimization. EX2001 [Sirpal Decl.], ¶20. For example, when a dual-screen capable application is being minimized in response to gesture input, the child view (e.g., “1.2”) remains displayed and the parent view (e.g., “1.1”) is not displayed when, for example, the child includes a modal (“M”), as shown in example “2” below:

2.8 Modal behavior during minimization

Dual-screen enabled applications can contain modal views on either screen. As a rule of thumb, the view containing the modal will always be visible after a minimization action whenever possible. This rule supersedes any other minimization rules.

1. Minimizing a parent+modal child view from the left will keep the modal view on the right screen and hide the parent view
2. Minimizing a modal parent+child view from the right will move the modal view to the left and hide the parent view
3. If the modal is a view that cannot be minimized to, like an expose view, the modal is cancelled upon minimization.



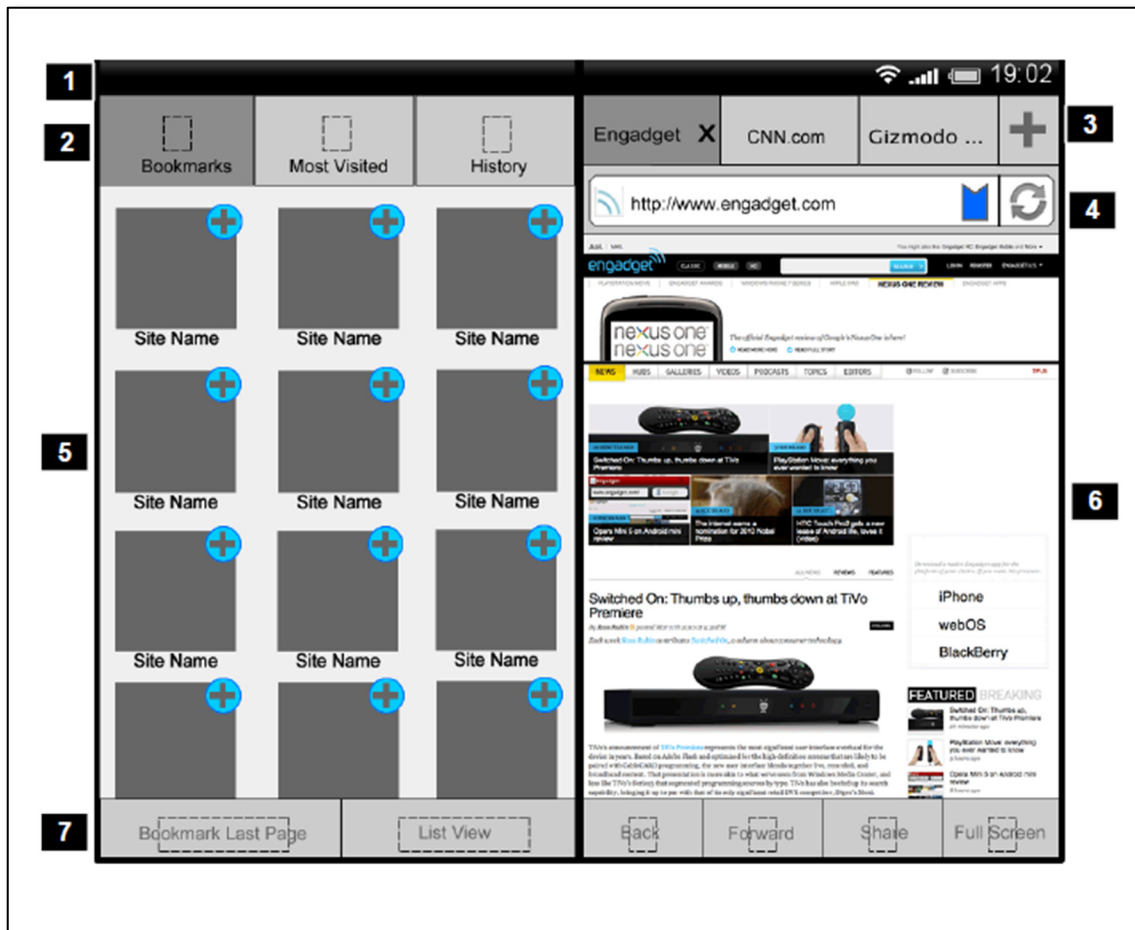
EX2012 [Windowing Management], 20 (excerpted); EX2001 [Sirpal Decl.],
¶20; *see also* Exhibit 2006 [UX Overview], 53.

In addition to the modal rules discussed above, some dual-screen capable applications had additional maximization/minimization rules. EX2001 [Sirpal Decl.], ¶21. The Imerj project’s dual-screen capable internet browser (or “Browser”) was one such example application. *Id.* Exhibit 2013 [Browser – Interaction Design] demonstrates this functionality was conceived no later than November 18, 2020. EX2001 [Sirpal Decl.], ¶21.

Similarly, the functionality of the photo gallery application demonstrates additional example rules. Ron Cassar, who led the development of system architecture and development for the smartphone firmware, testified that, different than the email and browser applications for the Imerj project, when the photo gallery is opened and maximized to two displays, a minimization gesture will

result in the parent page minimizing and the child remaining. EX2002 [Cassar Decl.], ¶77.

Patent Owner presents additional evidence corroborating inventor Sanjiv Sirpal's testimony that conception occurred prior to February 10, 2010. EX2013 [Browser–Interaction Design] is a UX design specification created by co-inventor Mo Selim, revised by Sanjiv Sirpal, and dated October 6, 2010. EX2013 [Browser–Interaction Design], 1-2; EX2001 [Sirpal Decl.], ¶22. This specification defines the operation of the Browser, including its support for “Portrait Dual” (or “Portrait Dual Screen,” or “Dual Portrait,” or “PD”) mode which is a mode where the Browser displays two views (or pages) on two displays as shown below:



EX2013 [Browser–Interaction Design], 34; EX2001 [Sirpal Decl.], ¶22. This specification explains that “The Default view in Portrait Dual displays the Control Page on the Left (with Bookmark tab selected) and the Web Browser view on the right. This is the view that is always seen when the application is maximized in Portrait Mode.” EX2013 [Browser–Interaction Design], 34; EX2001 [Sirpal Decl.], ¶22.

In addition, the Browser specification specifies that the “Web Browser” view remains visible on minimization gestures, unless there is a modal on the “Control Page” on the left:

3.11 Minimizing Portrait Dual

When using the browser is minimized from Dual Screen to Single Screen the following criteria is used to asses which screen remains in view

Priority 1 - Screen with a Modal (Inline or Full Screen)

Priority 2 - The Web Browser

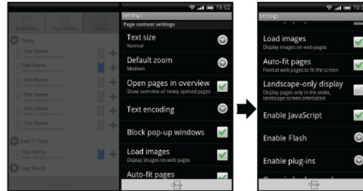
Example 1)



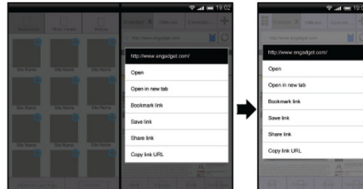
Example 2)



Example 3)



Example 4)



Example 5)



EX2013 [Browser–Interaction Design], 44; EX2001 [Sirpal Decl.], ¶23.

Further, that actual reduction to practice occurred before February 10, 2011 confirms that conception must have occurred prior to February 10, 2011. Basic gesture functionality for the Imerj project such as moving applications between screens had already been implemented based on the specifications provided by Sanjiv Sirpal and his team on development kits (“dev kits”) in early 2010. EX2001 [Sirpal Decl.], ¶29; EX2002 [Cassar Decl.], ¶¶18, 20; EX2003 [Becze Decl.], ¶15.

By December 2020, prototype smartphones known as “EV-1 prototypes” had been manufactured and had fully tested software implementing maximizing and minimizing between dual display and single display. EX2033 [Project Plan], rows 55-56, 66; EX2002 [Cassar Decl.], ¶18; EX2003 [Becze Decl.], ¶16; EX2019; EX2001 [Sirpal Decl.], ¶30. This testing and development was done in accordance with the gesture specifications provided by Sanjiv Sirpal and his team, and with the specifications they provided. EX2002 [Cassar Decl.], ¶¶10, 18; EX2003 [Becze Decl.], ¶6; EX2001 [Sirpal Decl.], ¶¶8, 24. The fact that the claimed functionality was implemented and in fact already worked for its intended purpose before February 10, 2011 means that conception must have occurred earlier.

Accordingly, conception occurred no later than November 18, 2010 and in any event well before February 10, 2011.

C. The Invention Was Actually Reduced To Practice Before February 10, 2011

The Imerj dual display smartphones were actually reduced to practice prior to February 10, 2011. Inventor Sanjiv Sirpal testified that the concept of minimization and maximization between dual display and single display was reduced to practice prior to February 10, 2011 through sufficient testing to ensure the prototypes worked for their intended purpose. EX2001 [Sirpal Decl.], ¶25. As

discussed below, his testimony is corroborated by documents, things, and testimony by non-inventors.

The Imerj project manufactured and tested two different series of prototype smartphones, as well as a prototype Smartpad with dual display capabilities, and ensured these prototypes worked for their intended purpose before February 10, 2011.

The first functioning smartphone prototypes were referred to as EV-1 prototypes. EX2001 [Sirpal Decl.], ¶30; EX2002 [Cassar Decl.], ¶23; EX2003 [Becze Decl.], ¶16. These prototypes were delivered to the Imerj team during October and November 2010. EX2001 [Sirpal Decl.], ¶30; EX2002 [Cassar Decl.], ¶23; EX2003 [Becze Decl.], ¶¶16-19. Approximately 50 EV-1 prototypes were manufactured, with 20 to 26 of those used for software testing. EX2003 [Becze Decl.], ¶16. A photo of an EV-1 prototype is shown below:



EX2017; EX2003 [Becze Decl.], ¶18.

The second set of prototypes were referred to as EV-2 prototypes. EX2001 [Sirpal Decl.], ¶32; EX2002 [Cassar Decl.], ¶24; EX2003 [Becze Decl.], ¶21. These prototypes were delivered to the Imerj team in January 2011. EX2002 [Cassar Decl.], ¶24; EX2003 [Becze Decl.], ¶21; EX2036 [Conquest Software Review]; EX2038 [Conquest Project Update]. By the end of January 2011, at least 200 EV-2 prototypes had been distributed to Imerj engineers. EX2038 [Conquest Project Update]; EX2002 [Cassar Decl.], ¶43. A photo of an EV-2 prototype is shown below:



EX2018; EX2003 [Becze Decl.], ¶22.

Both the EV-1 and EV-2 prototypes were reduced to practice before February 10, 2011, because Sanjiv Sirpal and Imerj project engineers working to implement his designs tested them sufficiently to ensure they worked for their intended purpose of minimizing and maximizing between dual display and single display prior to February 10, 2011. EX2001 [Sirpal Decl.], ¶¶25-38; EX2002 [Cassar Decl.], ¶¶19-49, 60-62; EX2003 [Becze Decl.], ¶¶16-25; EXS2032-2039 [emails and presentations detailing testing and development on EV-1 and EV-2 prototypes]; EXS2040, 2042-2063 [pre-February 2011 JIRA reports]. In the alternative, actual reduction to practice occurred no later than February 22, 2011,

with diligence between February 10, 2011, and February 22, 2011. EX2001 [Sirpal Decl.], ¶¶39-48; EX2002 [Cassar Decl.], ¶¶5, 50-61; EX2003 [Becze Decl.], ¶¶5, 24; EX2007 [Tiger Team UX Polish]; EX2008 [Feb22_TigerTeam Toronto]; EXS2041, 2043, 2064-2087 [post-February 2011 JIRA reports]

1. EV-1 Prototypes Reduced The Invention To Practice Before February 10, 2011

The EV-1 prototypes implemented minimizing and maximizing between dual display and single display no later than February 9, 2011. EX2001 [Sirpal Decl.], ¶32; EX2002 [Cassar Decl.], ¶25; EX2003 [Becze Decl.], ¶20. EV-1 prototypes were manufactured in October 2010 and November 2010. EX2003 [Becze Decl.], ¶19; EX2019. A photo of an EV-1 unit is shown below annotating the gesture capture strip in red:

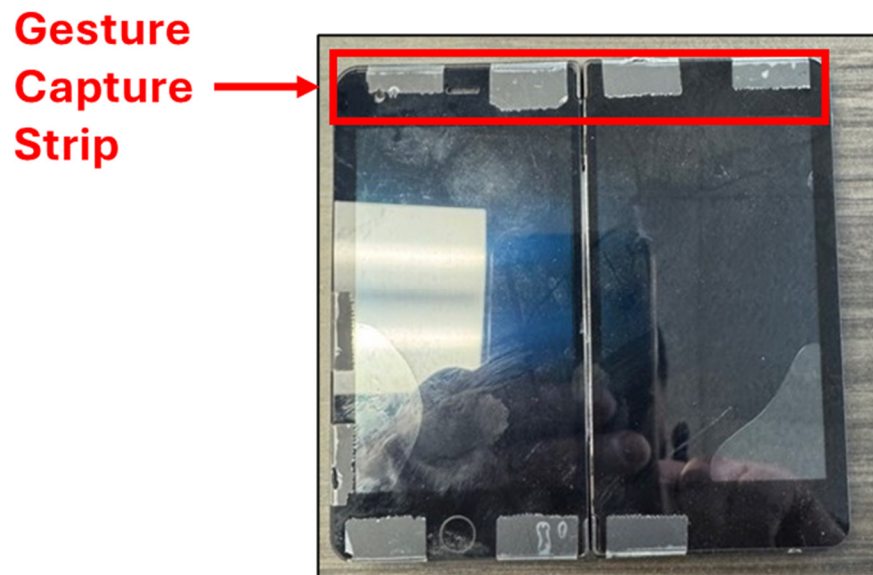


Exhibit 2017 (annotated); EX2003 [Becze Decl.], ¶18.

The gesture functionality in the Imerj dual display smartphones was part of the software that was referred to on the project as Window Position Controls, or “WPC.” EX2002 [Cassar Decl.], ¶27; EX2001 [Sirpal Decl.], ¶12. WPC included gesture functionality in general, as well as other inputs and interactions that could collectively affect how the user could interact with the phone, including (in addition to gestures), orientation, open/close state, what type of application was visible and docking state (phone dock, tablet, laptop). EX2002 [Cassar Decl.], ¶27; EX2001 [Sirpal Decl.], ¶12. As testified by Ed Becze, the WPC functionality was implemented on EV-1 and remained functionally the same for EV-2. EX2003 [Becze Decl.], ¶20. *See also* EX2033 [Project Plan], rows 49-70 (showing WPC “100%” complete); EX2002 [Cassar Decl.], ¶¶25-29 (discussing same relevant gesture functionality through the Imerj project); 36-39 (discussing completion of relevant functionality in EX2033). Thus, the relevant gesture functionality was largely the same for EV-1 and EV-2.

The WPC gesture capability necessary to support the relevant gesture functionality (minimization and maximization and parent/child relationships) was complete well before February 10, 2011 on EV-1 prototypes. EX2002 [Cassar Decl.], ¶¶36-39; EX2001 [Sirpal Decl.], ¶¶32-34. Specifically, EX2033 [SSA

Project Plan] is a project plan Ron Cassar sent to his team on January 14, 2011. *Id.*, EX2032 [Updated Project Plan]; EX2002 [Cassar Decl.], ¶¶36; EX2001 [Sirpal Decl.], ¶¶35. Rows 44 through 98 involve WPC functionality. EX2033 [SSA Project Plan], 1. Rows 49 through 70 detail progress on “Gestures.” *Id.* In the third column, every gesture from row 49 through 70 is listed as “100%” complete:

ID		% Complete	Task Name	Duration	Start	Finish
.						
49		100%	Gestures	05.9 days?	Wed 8/25/10	Wed 1/19/11
50		100%	Add Gesture area to the Froyo emulator	5 days	Mon 10/4/10	Fri 10/8/10
51		100%	Refactor Application Model Manager from WPM	15 days	Wed 8/25/10	Thu 11/18/10
52		100%	Refactor Gesture Controller from WPM	2 days	Wed 8/25/10	Fri 9/3/10
53		100%	Gesture Controller	05.9 days?	Wed 8/25/10	Wed 1/19/11
54		100%	Single Display Application Transition Controller	3 days	Fri 9/3/10	Fri 11/26/10
55		100%	Minimize Dual Display Application Transition Controller	3 days	Fri 9/3/10	Fri 11/26/10
56		100%	Maximize Dual Display Application Transition Controller	4 days	Mon 9/6/10	Fri 11/26/10
57		100%	Delayed application configuration change after off-screen gesture comple	3 days	Thu 8/26/10	Wed 11/17/10
58		100%	Spread Gesture	5 days	Tue 12/7/10	Wed 1/19/11
59		100%	Expose UI for configuration parameters.	3 days	Wed 10/13/10	Fri 10/15/10
60		100%	Desktop Reveal	6 days	Sun 9/19/10	Fri 11/26/10
61		100%	Support for different orientations - single display application	3 days	Fri 11/26/10	Wed 12/1/10
62		100%	Support for different orientations - minimize	3 days	Wed 12/1/10	Mon 12/6/10
63		100%	Support for different orientations - maximize	3 days	Mon 12/6/10	Thu 12/9/10
64		100%	Support for different orientations - bonk	3 days	Thu 12/9/10	Tue 12/14/10
65		100%	Support for different orientations - reveal	3 days	Tue 12/14/10	Fri 12/17/10
66		100%	Integration with Parent / Child infrastructure	1 day?	Mon 11/22/10	Mon 11/22/10
67		100%	Integration with Wave animation	5 days	Mon 12/6/10	Fri 12/10/10
68		100%	Add wave animation to enuciator	1 day?	Wed 8/25/10	Wed 8/25/10
69		100%	Pinch & Swap	7 days	Fri 11/26/10	Mon 1/17/11
70		100%	Bonk	5 days	Wed 8/25/10	Mon 1/17/11

EX2033 [SSA Project Plan] (excerpted and annotated); EX2022 [Cassar Decl.], ¶¶36; EX2023 [Sirpal Decl.], 35. Thus, by no later than January 13, 2011, the relevant gesture functionality was complete. *Id.*

Moreover, the Project Plan indicates that the minimization, maximization and parent/child relationship features were complete as early as November 2010.

In the highlighted rows below, “Minimize Dual Display Application Transition Controller” is listed as “100%” complete as of November 26, 2010, “Maximize Dual Display Application Transition Controller” is listed as “100%” complete as of November 26, 2010, and “Integration with Parent/Child Infrastructure” is listed as “100%” complete as of November 22, 2010:

% Complete	Task Name	Duration	Start	Finish
.				
100%	Gestures	05.9 days?	Wed 8/25/10	Wed 1/19/11
100%	Add Gesture area to the Froyo emulator	5 days	Mon 10/4/10	Fri 10/8/10
100%	Refactor Application Model Manager from WPM	15 days	Wed 8/25/10	Thu 11/18/10
100%	Refactor Gesture Controller from WPM	2 days	Wed 8/25/10	Fri 9/3/10
100%	Gesture Controller	05.9 days?	Wed 8/25/10	Wed 1/19/11
100%	Single Display Application Transition Controller	3 days	Fri 9/3/10	Fri 11/26/10
100%	Minimize Dual Display Application Transition Controller	3 days	Fri 9/3/10	Fri 11/26/10
100%	Maximize Dual Display Application Transition Controller	4 days	Mon 9/6/10	Fri 11/26/10
100%	Delayed application configuration change after off-screen gesture complete	3 days	Thu 8/26/10	Wed 11/17/10
100%	Spread Gesture	5 days	Tue 12/7/10	Wed 1/19/11
100%	Expose UI for configuration parameters.	3 days	Wed 10/13/10	Fri 10/15/10
100%	Desktop Reveal	6 days	Sun 9/19/10	Fri 11/26/10
100%	Support for different orientations - single display application	3 days	Fri 11/26/10	Wed 12/1/10
100%	Support for different orientations - minimize	3 days	Wed 12/1/10	Mon 12/6/10
100%	Support for different orientations -maximize	3 days	Mon 12/6/10	Thu 12/9/10
100%	Support for different orientations - bonk	3 days	Thu 12/9/10	Tue 12/14/10
100%	Support for different orientations - reveal	3 days	Tue 12/14/10	Fri 12/17/10
100%	Integration with Parent / Child infrastructure	1 day?	Mon 11/22/10	Mon 11/22/10
100%	Integration with Wave animation	5 days	Mon 12/6/10	Fri 12/10/10
100%	Add wave animation to enuciator	1 day?	Wed 8/25/10	Wed 8/25/10
100%	Pinch & Swap	7 days	Fri 11/26/10	Mon 1/17/11
100%	Bonk	5 days	Wed 8/25/10	Mon 1/17/11

Exhibit 2033 [Project Plan], 1 (excerpted and annotated). These confirm the recollection of Ron Cassar and Sanjiv Sirpal that the relevant gesture functionality was implemented in EV-1 units (and, correspondingly, EV-2) prior to February 10, 2011. EX2002 [Cassar Decl.], ¶¶37-39 (confirming that EX2033 meant dual screen

minimize, maximize and parent/child functionality was present); EX2001 [Sirpal Decl.], ¶35.

Consistent with the November 22, 2010 finish date listed in Ron Cassar's Project Plan for "Integration with Parent / Child infrastructure," a December 1, 2010 email from Paul Reeves states "I understand that ParentChild may have been added to the framework." EX2034 [Re: Parent/Child]. This is consistent with Ron Cassar's recollection that dual display parent/child functionality was implemented on EV-1 prototypes no later than December 2010. EX2002 [Cassar Decl.], ¶30.

On January 12, 2011, Ron Cassar received an email from Rod Schrock (the manager of the Imerj project) stating that Rod Schrock is "meeting with Vodaphone and CPW in Europe next week" to "showcase the handset." EX2035 [Heads Up Email]. Thus, Rod Schrock was demonstrating the handset for Vodaphone and CPW. *Id.*, EX2002 [Cassar Decl.], ¶32. The demonstration units were EV-1 prototypes because EV-2 units had just been released and would need a few weeks of testing before demonstrating to potential customers and partners. *Id.* The "showcase system software will be Visual Multitasking (wpc) and App Manager" and the "showcase applications will be phone, email, browser, calendar." EX2035 [Heads Up Email]." EX2002 [Cassar Decl.], ¶33.

Thus, Imerj was demonstrating WPC functionality for the phone, email, browser and calendar applications the week of January 17, 2011. *Id.*; EX2002 [Cassar Decl.], ¶¶33. Imerj would not have showcased WPC capabilities (e.g., gesture functionality) for the phone, email, browser, and calendar apps at a demonstration for potential customers and partners if these features were not functioning for their intended purpose. *Id.* This is consistent with the recollections of Sanjiv Sirpal and Ron Cassar that WPC functionality (e.g., gesture functionality) was implemented and operating for its intended purpose in apps including the phone, email, browser and calendar apps by January 2011. EX2002 [Cassar Decl.], ¶¶32-35; EX2001 [Sirpal Decl.], ¶¶33, 54.

Exhibit 2035 [Heads Up] also states that “[w]e now have landscape WPC working so all apps should be optimized and verified to work well in this mode. It is really cool and could be the preferred mode of operation on the Smartpad.” *Id.* This confirms Ron Cassar’s recollection that gesture functionality worked on the Imerj smartphone in portrait mode as of January 12, 2011 because the gesture functionality of the smartphone was complete before the gesture functionality for the Smartpad tablet. EX2002 [Cassar Decl.], ¶¶34-35.

The “Smartpad” was a tablet product that was being developed in conjunction with the Imerj smartphone. *Id.*, ¶34. The Smartpad was essentially a

tablet shell that the Imerj smartphone could plug into. *Id.* The Imerj smartphone had the CPU and memory that operated the Smartpad. *Id.* The Imerj smartphone had to support landscape and portrait modes on the Smartpad, in addition to modes on the smartphone. *Id.*

Exhibits 2023 and 2024 are excerpts of a demo video prepared on January 4, 2011 demonstrating functionality of the Imerj Smartpad. EXS2023, 2024; EX2001 [Sirpal Decl.]; ¶¶79. As discussed below at §V.C.2, these excerpts demonstrate minimization and maximization functionality using the browser application on the Smartpad in dual display mode. *Id.* EX2001 [Sirpal Decl.], ¶¶79-80. An Imerj EV-1 prototype was plugged into the back of the Smartpad and contained the processor and programming that was responsible for the operation of the gesture functionality on the Smartpad. EX2001 [Sirpal Decl.], ¶80. Since the EV-1 prototype was capable of performing minimization and maximization between dual display and single display on a Smartpad, the EV-1 must have already been capable of performing the same functions on the EV-1 displays. EX2001 [Sirpal Decl.], ¶81. Sanjiv Sirpal recalls that the smartphone gesture functionality was implemented and functional before the Smartpad gesture functionality. EX2001 [Sirpal Decl.], ¶81. This testimony is corroborated by Ron Cassar, who recalls the

relevant portrait gesture functionality being implemented on the smartphone first.

EX2002 [Cassar Decl.], ¶35.

EX2011 [Browser UX Issues] is an Excel spreadsheet used by Sanjiv Sirpal's team to log issues discovered during testing the Imerj browser application. EX2001 [Sirpal Decl.], ¶33. The metadata in the document confirms it was last modified on January 20, 2011, by a member of Sanjiv Sirpal's team. EX2011 [Browser UX Metadata]; EX2001 [Sirpal Decl.], ¶33. There are no issues listed in EX2011 relating to the minimization or maximization functionality of the browser. EX2001 [Sirpal Decl.], ¶33. The absence of any such issues in a log file confirms Sanjiv Sirpal's recollection that the Browser software was running on an Imerj prototype EV-1 handset which was tested sufficiently to determine, on or before January 20, 2011, that it worked for its intended purpose of minimizing and maximizing between dual display and single display. EX2001 [Sirpal Decl.], ¶33.

Thus, by no later than February 9, 2011, Sanjiv Sirpal and the Imerj team had reduced the claimed invention to practice on EV-1 prototypes. EX2001 [Sirpal Decl.], ¶¶33-35; EX2002 [Cassar Decl.], ¶¶25, 30-39; EX2003 [Becze Decl.], ¶20.

2. The Imerj Smartpad Prototype Was Reduced To Practice Before February 10, 2011

As discussed above in Section V.C.1, Imerj developed a Smartpad tablet companion to the Imerj smartphone. *See, e.g.*, EX2002 [Cassar Decl.], ¶¶34-35.

The “Smartpad” was a tablet product that was being developed in conjunction with the Imerj smartphone. *Id.*, ¶34; The Smartpad was essentially a tablet shell that the Imerj smartphone could plug into or dock with. *Id.*, [Sirpal Decl.], ¶80. The Imerj smartphone had the CPU and memory that operated the Smartpad. *Id.* The Imerj smartphone had to support landscape and portrait modes on the Smartpad, in addition to the supporting the same modes on the smartphone. *Id.*

On January 4, 2011, Sanjiv Sirpal was present for a videotaped demonstration video of the Imerj Smartpad (with an EV-1 prototype plugged into it) that tested the functionality of the Smartpad. EX2001 [Sirpal Decl.], ¶79. Because the Smartpad was a shell device, software on the processor of the EV-1 prototype was actually running the demonstration. EX2001 [Sirpal Decl.], ¶80. Sanjiv Sirpal retained that video demonstration in his files. *Id.* ¶¶79-80. The test performed minimization and maximization functionality on the Smartpad in dual portrait display mode. *Id.* EXS2023 and 2024 are video excerpts of the demonstration showing dual portrait display minimization and maximization functionality on the browser . *Id.*

Sanjiv Sirpal testifies, consistent with EX2023, that “Exhibit 2023 demonstrates a browser dual portrait mode app with a child (bookmarks) page

shown on the first display (left side) and a primary page (browser content page) displayed by the second display (right side), and the child (bookmarks) page being minimized (no longer shown) in response to a user performing gesture region input to minimize the browser app to one of the displays.” EX2001 [Sirpal Decl.], ¶80; EX2023. Sanjiv Sirpal further testifies, consistent with EX2024, that “Exhibit 2024 demonstrates the same browser app receiving a user input to maximize the browser app to both displays.” EX2001 [Sirpal Decl.], ¶80; EX2024. Accordingly, the video clips demonstrate sufficient testing of the Smartpad to determine that the invention worked for its intended purpose of minimizing and maximizing between dual display and single display. EX2001 [Sirpal Decl.], ¶¶79-80; EX2023; EX2024.

3. EV-2 Prototypes Reduced The Invention To Practice Before February 10, 2011

The EV-2 prototypes implemented minimizing and maximizing between dual display and single display before February 10, 2011. EX2001 [Sirpal Decl.], ¶¶37-38, 82-83; EX2002 [Cassar Decl.], ¶24; EX2003 [Becze Decl.], ¶¶22, 25. EV-2 prototypes were manufactured in January 2011. EX2003 [Becze Decl.], ¶23; EX2020. A photo of an EV-2 unit is shown below annotating the gesture capture strip in red:

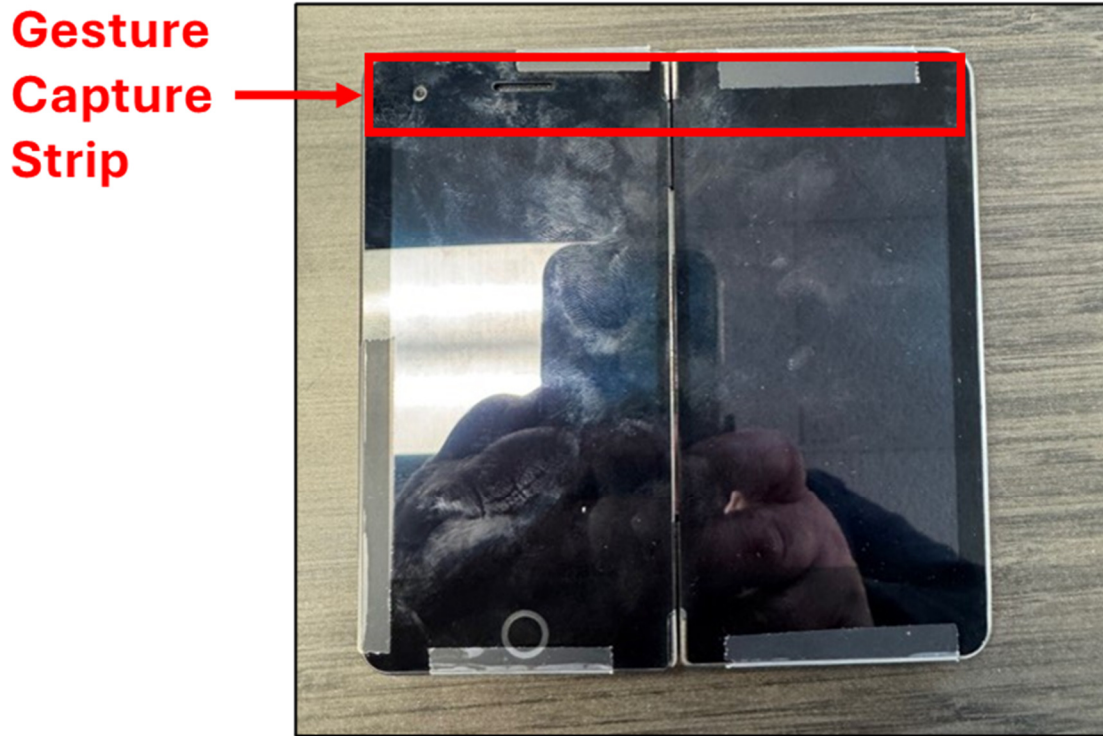


Exhibit 2018.

On January 17, 2011, Ron Cassar received an email from Rod Schrock detailing “an ad hoc multi-hour review of” an EV-2 handset. EX2036 [Conquest Software Review]; EX2002 [Cassar Decl.], ¶40. Thus, the email indicates testing was performed on an EV-2 handset by January 17, 2011. In the email, Rod Schrock states “the verdict is ... the software user experience is remarkable! It is simply more powerful than any alternative.” *Id.* This confirms Ron Cassar’s recollection that software was functional for its intended purpose on EV-2 prototypes prior to February 10, 2011. EX2002 [Cassar Decl.], ¶40.

On January 25, 2011, Sanjiv Sirpal and Ron Cassar received an email from Rod Schrock titled “EV-2 – Whole Lotta Use Case Refinement Needed.” EX2037; EX2001 [Sirpal Decl.], ¶38; EX2002 [Cassar Decl.], ¶42. In the email, Rod Schrock states “The EV2 units are now relatively functional smartphones.” *Id.* This confirms Sanjiv Sirpal and Ron Cassar’s recollection that, that, as of January 25, 2011, the EV-2 prototypes were functional for their intended purpose and testing was turning toward refining and improving the user experience rather than basic functionality of the phone. EX2001 [Sirpal Declaration], ¶38; EX2002 [Cassar Declaration], ¶42. While the email discusses several bugs, this is to be expected on a new prototype that was released within the last week or two. EX2002 [Cassar Declaration], ¶42. Moreover, the fact that none of the issues listed relate to the gesture functionality indicates the EV-2 units were operational for their intended purpose by January 25, 2011. EX2001 [Sirpal Decl.], ¶38.

In Sanjiv Sirpal’s recollection, that January 25, 2011 email from Ron Schrock (EX2037) triggered a new phase of the Imerj project. EX2001 [Sirpal Decl.], ¶82. Before this email, the project was geared toward establishing core functionality on the EV-1 and EV-2 prototypes (including making sure dual display apps such as browser, email, photo gallery, etc. were operational.) *Id.* After this email, the project turned “to the refined user experience stage of [the] design”

(i.e., polishing) to ensure the experience is “smooth and intuitive for the user.”

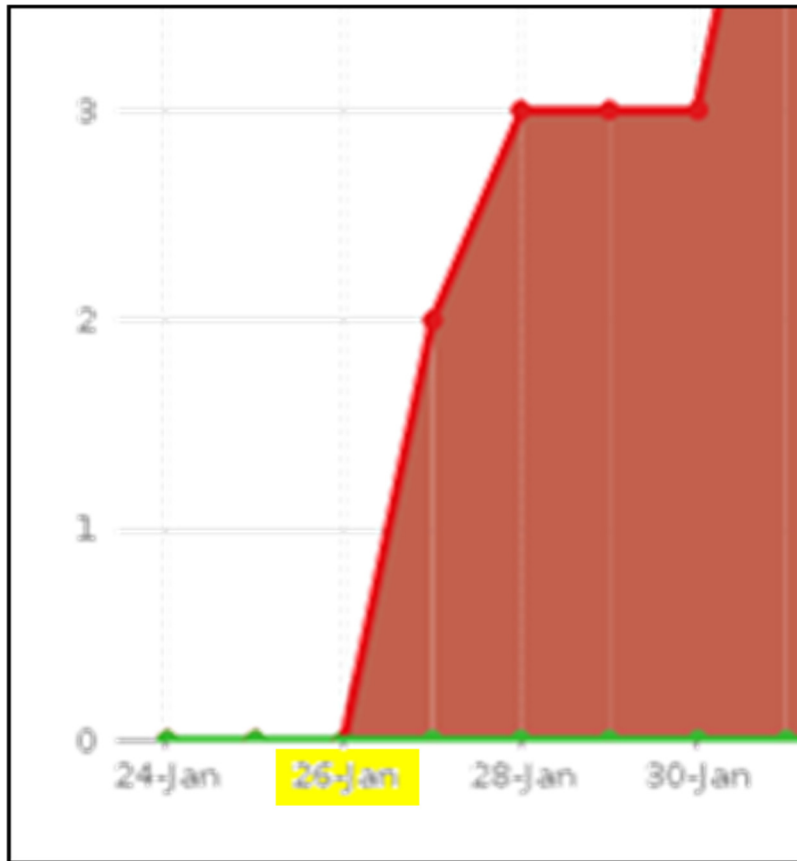
EX2037; EX2001 [Sirpal Decl.], ¶82.

The January 25, 2011 project turning point evidenced in EX2037 is corroborated by the user experience polish testing performed by the Tiger Team.

EX2001 [Sirpal Decl.], ¶83. The Tiger Team was created to “polish” the user experience for end users. EX2007 [UX Polish]. “Polish” in EX2007 refers to refinement that is done on mature products that have core functionality already implemented and already tested to show they work for their intended purpose.

EX2001 [Sirpal Decl.], ¶40; EX2002 [Cassar Decl.], ¶50; EX2003 [Becze Decl.], ¶¶28-29; EX2007 [UX Polish], 1.

As shown in the excerpt from EX2008 [Feb22_TigerTeamsToronto] below (discussed *Infra*, §V.D), user experience polish testing began the very next day on January 26, 2011:



EX2008, 1 (excerpted and annotated) (showing that the Tiger team began identifying Top Ten issues on January 26, 2011); 5 (same), 7 (same). Thus, as of January 25, 2011, the EV-2 prototypes had been tested sufficiently (“relatively functional smartphones”) to show they worked for their intended purpose of minimizing and maximizing between dual display and single display. EX2001 [Sirpal Decl.], ¶¶83.

D. Alternately, The Invention Was Actually Reduced To Practice No Later Than February 22, 2011

In the alternative, by February 22, 2011, the EV-2 prototypes had successfully implemented maximizing and minimizing between dual display and single display because members of the Imerj team had begun “polish” testing on the EV-2 prototypes. EX2001 [Sirpal Decl.], ¶39; EX2002 [Cassar Decl.], ¶; EX2003 [Becze Decl.], ¶28; EX2007 [UX Polish], EX2008 [Feb22_TigerTeamToronto].

The term “Polish” in EX2007 refers to refinement that is done on mature products that have core functionality already implemented and already tested to show they work for their intended purpose. EX2001 [Sirpal Decl.], ¶40; EX2002 [Cassar Decl.], ¶50; EX2003 [Becze Decl.], ¶¶28-29; EX2007 [UX Polish], 1. It is intended for refinement of the user experience and identifying corner case issues. EX2001 [Sirpal Decl.], ¶40; EX2002 [Cassar Decl.], ¶50; EX2003 [Becze Decl.], ¶29. By this point, core functionality like maximizing and minimizing windows in dual portrait mode was complete. EX2001 [Sirpal Decl.], ¶40; EX2002 [Cassar Decl.], ¶50; EX2003 [Becze Decl.], ¶29.

The type of issues being investigated by the Imerj Tiger Team confirm that the core functionality was already present. For example, EX2008 is an issue tracker from February 22, 2011 for issued identified by the Tiger Team since

January 26, 2011. EX2008 [Feb22_TigerTeamsToronto]. Page 4 of EX2008 is titled “WPC – Top Ten.” EX2008 [Feb22_TigerTeamsToronto], 4. The issues listed include “WPC gestures on capacitive strip still work in lock screen for dual screen applications” and “WPC Maximization and Scrolling graphics performance is very choppy on K35.” *Id.*, 4. These are the type of refinement and corner-case issues expected during the polishing process. EX2001 [Sirpal Decl.], ¶¶44-46; EX2002 [Cassar Decl.], ¶57; EX2003 [Becze Decl.], ¶31. They were not major bugs and in fact indicate gestures and maximization functionality was generally working on the prototypes. EX2001 [Sirpal Decl.], ¶¶46-47; EX2002 [Cassar Decl.], ¶57; EX2003 [Becze Decl.], ¶51. Ron Cassar, who was responsible for assigning many of the issues identified in EX2008 confirmed that if maximizing or minimizing dual display applications existed, he would have flagged those issues as “Top Ten” issues. EX2002 [Cassar Decl.], ¶¶55, 58. Sanjiv Sirpal, who led the Tiger Teams, similarly confirmed that he would have expected such issues to have been flagged because they were much more important than the issues identified in EX2008. EX2001 [Sirpal Decl.]; ¶45.

Accordingly, by no later than February 22, 2011, EV-2 prototypes had been tested to confirm they were operational for their intended purpose.

1. Diligence Was Continuous From Before February 10, 2011 Through February 22, 2011

There was more than reasonably continuous diligence on the EV-2 prototypes from before February 10, 2011 through February 22, 2011. The entire Imerj team was working on a daily basis throughout 2010 and 2011 testing and developing the EV-2 prototype. EX2002 [Cassar Decl.], ¶5; EX2003 [Becze Decl.], ¶5. Ron Cassar testified that during the entire time period from October 2010 through February 2011, he was working on or managing the development and testing of the Imerj software on a daily or near-daily basis. EX2002 [Cassar Decl.], ¶60.

EX2008 [Feb22_TigerTeamToronto] corroborates this diligence. As discussed above, EX2008 is an issue tracker for the Imerj project's internal Tiger Team of user experience testers that shows Top Ten issues being reported, assigned, and resolved on a near-daily basis during the time period of January 26, 2007 through February 22, 2007. EX2008 [Feb22_TigerTeamsToronto], 1, 3, 5, 7, 9; *see also* EX2001 [Sirpal Decl.], ¶44; EX2002 [Cassar Decl.], ¶55; EX2003 [Becze Decl.], ¶¶31-32. Short summaries of the issues identified, the team member assigned to resolve the issue, the team member that reported the issue, the priority and the issue are shown at pages 2, 4, 6, 8 and 10 of the EX2007. An example of the "Top Ten" open issues for WPC as of February 22, 2011 is shown below:

WPC – Top Ten						
Top 10 Issues						
Issue Type	Key	Summary	Assignee	Reporter	Priority	Status
SSA-1102 Bug	SSA-1102	Button LEDs do not indicate that the desktop has focus	Ron Cassar	Paul Reeves	Major	Open
SSA-1592 Bug	SSA-1592	When in LD, block WPC events on the bottom screen when keyboard is displayed	Ron Cassar	Martin Gimpl	Unknown	Open
SSA-1569 Bug	SSA-1569	WPC gestures on capacitive strip still work in lock screen for dual screen applications	Ron Cassar	David Tay	Unknown	Open
SSA-1521 Bug	SSA-1521	WPC: applications on right screen are in view when half open the device after reveal Desktop in PS	Ron Cassar	Luke Sun	Unknown	Open
SSA-1402 Bug	SSA-1402	WPC Maximization and Scrolling graphics performance is very choppy on K35	Ron Cassar	David Tay	Unknown	Open
Generated at Tue Feb 22 15:37:26 PST 2011 by Sanjiv Sirpal using JIRA 4.2#587.						

EX2008 [Feb22_TigerTeamsToronto], 4.

EX2007 [Tiger Team UX Polish] explains how the Tiger Team operated. EX2007 shows roughly 40 team members drawn from the Imerj software development, design and QA teams were spread across eight Tiger Teams to identify issues on a daily basis with the daily EV-2 builds. EX2007 [Tiger Team Kick Off], 4; *see also* EX2001 [Sirpal Decl.], ¶41; EX2002 [Cassar Decl.], ¶52. The Tiger Team leaders (shown in the top column of EX2007 page 4) were required to “schedule **daily review of the findings** with the team and assign owners.” *Id.*, 5 (emphasis in original). These teams met for “daily review of the

findings” and to “assign owners” to resolve the issues. *Id.*; EX2001 [Sirpal Decl.], ¶42; *see also* EX2002 [Cassar Decl.], ¶53. The daily responsibilities included “discovery” (i.e., identifying user experience issues), “Prioritize” (i.e., assigning the more serious issues to a “Top Ten” list of outstanding issues), “Triage and Assignments” (i.e., assigning the issues to engineers to resolve) and “Fix” (i.e., resolving the issues). EX2007 [Tiger Team Kick-Off], 5. Thus, Tiger Team members were using the EV-2 prototypes on a daily basis to report and fix issues. EX2001 [Sirpal Decl.], ¶41-42; EX2002 [Cassar Decl.], ¶53. There were also other members of the Imerj project involved in testing during this timeframe. EX2002 [Cassar Decl.], ¶¶51-52.

Moreover, the Imerj project used the JIRA project management software to track and resolve software development issues. EX2002 [Cassar Decl.], ¶¶54-59. Exhibits 2040-2087 are several dozen examples of thousands of JIRA reports generated over the course of the Imerj project on a daily basis as software issues were logged and resolved. EX2002 [Cassar Decl.], ¶59. Reports were generated based on various actions, such as team members logging issues, assigning issues to software engineers to resolve, and closing the report when the issue was resolved. EX2002 [Cassar Decl.], ¶59. These records were generated and stored as part of regular conducted business on the Imerj project. EX2002 [Cassar Decl.], ¶59.

EXS2041 and 2064-2087 are dated from February 1, 2011 through February 22, 2011 and further demonstrate daily diligence for that period. EX2002 [Cassar Decl.], ¶60. During the period of February 11, 2011 through February 22, 2011, an average of 11-12 cases (i.e., new issues reported) were opened every day. EX2002 [Cassar Decl.], ¶61. Thus, there was daily diligence from February 10 to February 22, 2011 in the form of dozens of team members, testing the EV-2 prototypes, logging issues, assigning issues, and resolving issues.

VI. THE EV-1 AND EV-2 PROTOTYPES CONTAIN ALL LIMITATIONS OF THE CHALLENGED CLAIMS

As discussed above, the same functionality for minimizing and maximizing between dual display and single display was implemented and functional on both EV-1 and EV-2 Prototypes. *Supra*, §C. This functionality was implemented in accordance with the design specifications provided by Sanjiv Sirpal and his design team. *Supra*, §B. The chart below shows how this functionality maps to the challenged claims:

Claim	Exemplary Evidence of Earlier Invention
1. A method for controlling a display of a device, comprising: presenting a first page of a first application on a first display of the device, wherein the first	As explained by Sanjiv Sirpal: EV-1 and EV-2 both had this functionality. For example, the EV-1 and EV-2 prototypes both permitted two pages from an application (e.g., an internet browsing application (“Browser”) with a website viewer page and a page with bookmarks and other controls) to be open on

page is an auxiliary page;
 presenting a second page of the first application on a second display of the device, wherein the second page is a primary page, wherein the first and second pages present different content and are distinct pages, and wherein the auxiliary page is a child of the primary page;
 receiving a first input from a user, wherein the first input includes an input to minimize the first application to one of the first and second displays of the device, wherein the second page of the first application is displayed by one of the first display of the device and the second display of the device, and wherein the first page of the first application is not displayed.

two different screens at the same time. The EV-1 and EV-2 prototypes allows a user input to minimize the auxiliary page (e.g., the bookmarks and other controls) while the primary page (e.g., the website viewer page) remains open on one of the two screens. Moreover, the website viewer page could be moved between the two screens on the EV-1 and EV-2 prototypes. Exhibit 2006 [UX Overview], 15, 30, 31, 34-36, 45-49, 53, 79, 118, 119, 129; Exhibit 2012 [Window Management – Interaction Design], 8-23; Exhibit 2013 [Browser – Interaction Design], 33, 34, 44. Also, EV-1 and EV-2 both implemented WPC specification Exhibit 2012 [Window Management – Interaction Design] which provides, at page 16, examples “1” and “2” that each include a first page “1.2” of a first application shown in a first display and a second page “1.1” of the first application shown in a second display. Exhibit 2012, 16. The first page “1.1” is a primary/parent page and the second page “1.2” is a child of the first page “1.1”. Exhibit 2012, 6 (“1.1 is the parent of 1.2”). In each example on page 16, an input is received (“D” or “F”) to minimize the application and in response to the input only the second page “1.1” is displayed. Exhibit 2012, 16. In example “1” the second page “1.1” is displayed by the first display, and in example “2” the second page “1.1” is displayed by the second display. Id.

EX2001 [Sirpal Decl.], ¶53.

This is corroborated by the Imerj specifications and documentation cited above in Section V.C (EXS2006,

	2012, 2013) and further corroborated by EX2022 (showing minimization of child page), EX2023 (showing maximization of child page), Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶¶28, 29, 64, 65 (describing how the Imerj smartphones could maximize and minimize child pages repeatedly); EX2003 [Becze Decl.] ¶¶12, 20, 22, 25, 29, 31.
2. The method of claim 1, wherein the first input from the user is received in a gesture capture region of the device, and wherein the gesture capture region is included as part of at least one of the first and second displays of the device.	As explained by Sanjiv Sirpal: The Imerj EV-1 and EV-2 had a gesture capture bar running across the top of both screens. The user could minimize a page by performing a swipe gesture for the screen to be minimized in the direction of the screen that is not minimized. For example, swiping on the gesture capture bar for the first screen toward the second screen would minimize the page displayed on the first screen. The gesture capture bar is included as part of at least one of the screens. <i>Supra</i>, ¶11; Exhibit 2006 [UX Overview], 15, 30, 31, 34-36, 45-49, 53, 79, 118, 119, 129; Exhibit 2012 [Window Management – Interaction Design], 8-23; Exhibit 2013 [Browser – Interaction Design], 33, 34, 44. EX2001 [Sirpal Decl.], ¶55. <i>See also id.</i>, ¶62 (addressing similar limitation for claim 14).

	This is corroborated by the Imerj documentation cited above in Section V.C (EXS2006, 2012, 2013) and further corroborated by EX2022 and EX2023 (showing user input as a gesture in a gesture capture region of the SmartPad), Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶¶13-14, 26-29, 67; EX2003 [Becze Decl.], ¶¶9-10. <i>See, e.g.</i>, EX2002 [Cassar Decl.], ¶26: 
4. The method of claim 1, wherein after receiving the first input a first page of a second application is presented by the first display.	As explained by Sanjiv Sirpal: The Imerj EV-1 and EV-2 prototypes could display a second application on a screen after a child page of the first application had been minimized. For example, when the bookmarks and other controls page is minimized, the screen may show the phone dialer app or an email inbox if those windows are already up. Exhibit 2006 [UX Overview], 15, 30, 31, 34-36, 45-49, 53, 79, 118, 119, 129; Exhibit 2012 [Window

	Management – Interaction Design], 8-23; Exhibit 2013 [Browser – Interaction Design], 33, 34, 44. Also, EV-1 and EV-2 both implemented WPC specification Exhibit 2012 [Window Management – Interaction Design] which provides, at page 16, example “2” which was discussed above with respect to claim 1. Exhibit 2012, 16. In this example “2”, after the input “D” or “F” a desktop “D2” is presented by the first display. <i>Id.</i> When there is another application in the stack, a first page of that application will be displayed instead of desktop “D2” by the first display in example “2” as discussed above. <i>Id.</i> EX2001 [Sirpal Decl.], ¶56. This is corroborated by the Imerj documentation cited above in Section V.C (EXS2006, 2012, 2013) and further corroborated by Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶¶29 (“When the application page was minimized, the display would either display the desktop or a second application”), 68; EX2003 [Becze Decl.], ¶¶12, 20, 25.
6. The method of claim 1, wherein the device is oriented such that the first and second displays are presented in a dual portrait	As explained by Sanjiv Sirpal: This is essentially the swiping gesture described above to minimize a page. To minimize an application window (e.g., email, web browser, etc.), the user swipes the gesture capture bar on

format, and wherein the first input includes a gesture that is input from a side of the device corresponding the first display towards a side of the device corresponding to the second display.	the display that is to be minimized and moves the swipe toward a second screen. EV-1 and EV-2 prototypes had this functionality. Exhibit 2006 [UX Overview], 15, 30, 31, 34-36, 45-49, 53, 79, 118, 119, 129; Exhibit 2012 [Window Management – Interaction Design], 8-23; Exhibit 2013 [Browser – Interaction Design], 33, 34, 44. Also, EV-1 and EV-2 both implemented WPC specification Exhibit 2012 [Window Management – Interaction Design] which provides, at page 16, example “2” which was discussed above with respect to claim 1. Exhibit 2012, 16. In this example “2”, the device is oriented in a dual portrait format and the first input (“D” or “F”) includes a gesture input from the side of the device corresponding to the first display (the side where “1.2” is initially shown) towards a side of the device corresponding to the second display (the side where “1.1” is initially shown). <i>Id.</i> EX2001 [Sirpal Decl.], ¶57. This is corroborated by the Imerj documentation cited above in Section V.C (EXS2006, 2012, 2013) and further corroborated by EX2022 and EX2023 (showing user input as a gesture in a gesture capture region of a SmartPad in dual portrait format), Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶¶29, 69 (“The EV-1 and EV-2 could be in dual portrait
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	mode and receive a first input that is a gesture from the side of a left display moving toward the right display. This is essentially the long drag gesture described above to minimize a page.”); EX2003 [Becze Decl.], ¶¶20 (dual portrait functional on EV-1), 25 (dual portrait functional on EV-2).
9. The method of claim 1, wherein the first application is a web browser, and wherein the primary page is a content page that includes web content.	As explained by Sanjiv Sirpal: EV-1 and EV-2 both had this functionality and had a web browser that was dual screen capable with a primary page that is a content page that includes web content. <i>Supra</i>, ¶¶13, 21-23, 33, 34, 53, 74, 80, 82; Exhibit 2013 [Browser – Interaction Design], 34 (figure showing child control page on left and primary page that is content page on the right side, with the primary content page including web content shown at “Browser Canvas” (identified as “6” in the figure)). EX2001 [Sirpal Decl.], ¶54. This is corroborated by the Imerj documentation cited above in Section V.C (EXS2006, 2012, 2013) and further corroborated by EX2022 and EX2023 (showing a dual screen web browser application with a

	primary page with web content), Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶¶17, 28, 33, 35, 64, 65-66 (browser content is part of primary page), 66 (dual portrait mode minimization and maximization available for web browser), 75; EX2003 [Becze Decl.], ¶¶12.
10. The method of claim 1, further comprising: after receiving the first input, receiving a second input from the user, wherein the second input includes an input to maximize the first application to both of the first and second displays of the device, wherein the first page of the first application is presented on the first display of the device and the second page is displayed on the second display of the device.	As explained by Sanjiv Sirpal: In this context, maximizing means maximizing both pages of the application so that the first page (the child or auxiliary page) is presented on the first display and the second page (the parent or primary page) is present on the second display. That is, restoring the child or auxiliary page to its original open position. Imerj EV-1 and EV-2 prototypes had this functionality. Exhibit 2006 [UX Overview], 15, 30, 31, 34-36, 45-49, 53, 79, 118, 119, 129; Exhibit 2012 [Window Management – Interaction Design], 8-23; Exhibit 2013 [Browser – Interaction Design], 33, 34, 44. Also, EV-1 and EV-2 both implemented WPC specification Exhibit 2012 [Window Management – Interaction Design] which provides, at page 16, examples “1” and “2” discussed above with respect to claim 1. Exhibit 2012, 16. The minimized states at the end of examples “1” and “2” on page 16 match the starting states of examples “2” and “1” on page 13, respectively. <i>Id.</i>, 13, 16. The second input of claim 10 is met by the “D” input of examples “2” and “1” on page 13 which each result in the first page “1.2” of the first

	application being shown on the first display and the second page “1.1” being shown on the second display (i.e., restoring the child or auxiliary page to its original open/displayed position), as recited in claim 10. <i>Id.</i>, 13. EX2001 [Sirpal Decl.], ¶58. This is corroborated by the Imerj documentation cited above in Section V.C (EXS2006, 2012, 2013) and further corroborated by and further corroborated by EX2023 (showing user input maximizing the web browser application to both displays), Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶¶29, 70 (“The EV-1 and EV-2 prototypes could receive a second input that maximizes an application across both display screens. ... Maximizing and minimizing the dual portrait mode could be repeated indefinitely on EV-1 and EV-2 prototypes.”); EX2003 [Becze Decl.] ¶12, 20, 25, 29, 31.
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	In any event, as with Claim 10 discussed above in this claim chart, the Petition basically admits Seo discloses neither the fourth input being received “after” the third input, nor the third input being received “after” the first and second inputs. Petition at 37 (“Seo discloses first opening the detailed messaging screen 820 (figure 8A) and then closing it (figure 8B)”) (emphasis added). The Petition argues a POSITA would have been motivated to reverse the order of operations disclosed in Seo so a user could “review the chain of messages with that contact,” but that does not mean Seo actually disclosed reversing the order as claimed. Petition at 43. Even if Petitioner were correct, Patent Owner only needs to demonstrate prior invention of so much of the claimed subject matter as is actually disclosed by Seo. <i>In re Stryker</i>, 435 F.2d 1340, 168 USPQ 372 (CCPA 1971).
12. The method of claim 10, further comprising:	As explained by Sanjiv Sirpal: [This] was accomplished by swiping from the first screen toward the second screen to

after receiving the first and second inputs, receiving a third input from the user dismissing the first page of the application, wherein one of a first page of a second application or a desktop is presented by the first display of the device; after receiving the third input, receiving a fourth input from the user to maximize the first application to the first and second displays of the device, wherein the second display of the device presents the second page of the first application, and wherein the first display of the device presents the first page of the first application.	minimize the first page of an application. Once the first page (e.g., the bookmarks and other controls page) is minimized, the first display will show either a second application (e.g., a phone dialer, email inbox, etc.) if one is open, or a desktop if no applications are open on the first display. Exhibit 2006 [UX Overview], 15, 30, 31, 34-36, 45-49, 53, 79, 118, 119, 129; Exhibit 2012 [Window Management – Interaction Design], 8-23; Exhibit 2013 [Browser – Interaction Design], 33, 34, 44. Also, EV-1 and EV-2 both implemented WPC specification Exhibit 2012 [Window Management – Interaction Design] which provides, at page 13, examples “1” and “2” discussed above with respect to claims 1 and 10. Exhibit 2012, 13. The ending/maximized states at the end of examples “1” and “2” on page 13 are the same, with first page “1.2” on the first display and second page “1.1” on the second display. <i>Id.</i>, 13. The third input of claim 12 is met by the “D” or “F” input of example “2” on page 16, which results in the first page “1.2” being dismissed (no longer displayed on the first display) and in its place a desktop “D2” is shown by the first display. <i>Id.</i>, 16. The fourth input of claim 12 is met by the input “D” of example “1” on page 13 which results in the first application being maximized to its initial state: the second display presents the second page “1.1” of the first application and the first display presents the first page “1.2” of the first application. <i>Id.</i>, 13. EX2001 [Sirpal Decl.], ¶60. <i>See also</i> EX2006 [UX Overview], 79:
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Portrait Dual Screen



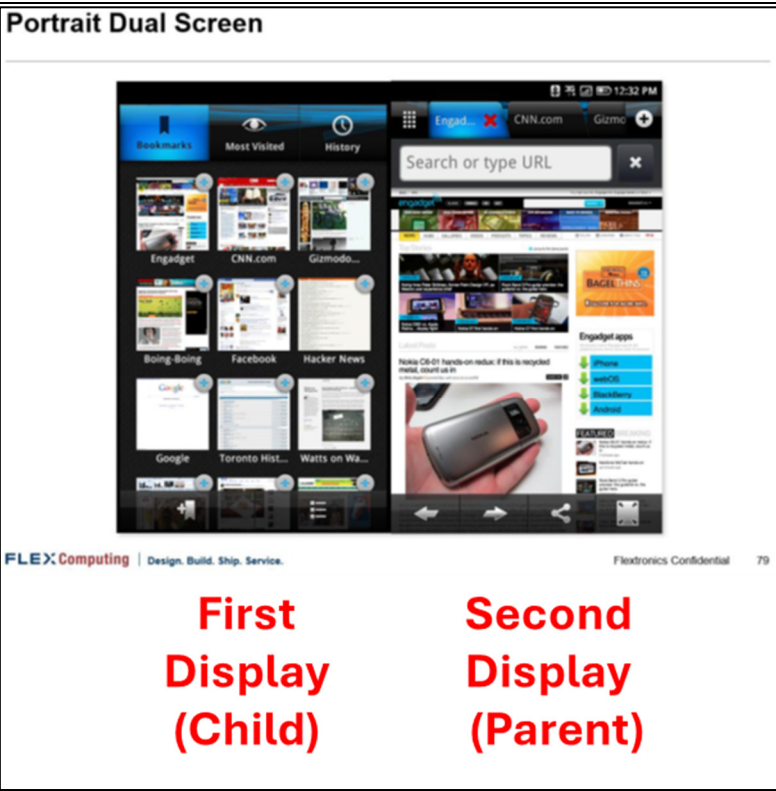
**First
Display
(Child)**

**Second
Display
(Parent)**

This is corroborated by the Imerj documentation cited above in Section V.C (EXS2006, 2012, 2013) and further corroborated by Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶¶29 (“When the application page was minimized, the display would either display the desktop or a second application”), 70 (“Maximizing and minimizing the dual portrait mode could be repeated indefinitely on EV-1 and EV-2

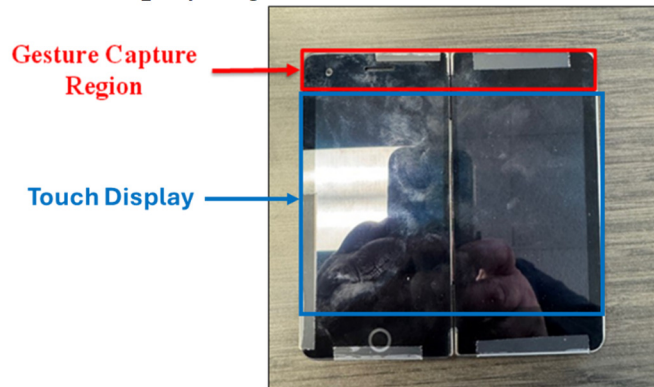
	prototypes.”), 71; EX2003 [Becze Decl.] ¶¶12, 20, 25, 29, 31. In any event, as with Claim 10 discussed above in this claim chart, the Petition basically admits Seo discloses neither the fourth input being received “after” the third input, nor the third input being received “after” the first and second inputs. Petition at 37 (“Seo discloses first opening the detailed messaging screen 820 (figure 8A) and then closing it (figure 8B)”) (emphasis added). The Petition argues a POSITA would have been motivated to reverse the order of operations disclosed in Seo so a user could “review the chain of messages with that contact,” but that does not mean Seo actually disclosed reversing the order as claimed. Petition at 43. Even if Petitioner were correct, Patent Owner only needs to demonstrate prior invention of so much of the claimed subject matter as
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	is actually disclosed by Seo. <i>In re Stryker</i> , 435 F.2d 1340, 168 USPQ 372 (CCPA 1971).
13. The method of claim 1, wherein the first display of the device is the left hand display while the device is in a dual-portrait mode, and wherein the second display of the device is the right hand display while the device is in the dual-portrait mode.	As explained by Sanjiv Sirpal: Both the EV-1 and EV-2 prototypes each could operate in dual screen portrait mode with its first display being the left display and its second display being the right display and the Browser application was a dual-screen capable application that operated in dual screen portrait mode on the left/right displays as provided in the claim. <i>Supra</i>, ¶13, 21-23; Exhibit 2006 [UX Overview], 15, 30, 31, 34-36, 45-49, 53, 79, 118, 119, 129; Exhibit 2012 [Window Management – Interaction Design], 8-23; Exhibit 2013 [Browser – Interaction Design], 33, 34, 44. EX2001 [Sirpal Decl.], ¶61. <i>See also</i> EX2006 [UX Overview], 79:

	Portrait Dual Screen 
	This is corroborated by the Imerj documentation cited above Section V.C (EXS2006, 2012, 2013) and further corroborated by EX2022 and EX2023 (showing the first display (the bookmark page) on the left and the second display (the web content) on the right), Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶¶29, 69, 75; EX2003 [Becze Decl.] ¶¶8, 12, 20, 25, 29, 31.
14. A device, comprising:	As explained by Sanjiv Sirpal:

a first display,
including:
a touch display,
wherein the touch
display is located within
a first area of the first
display;
a gesture capture
region, wherein the
gesture capture region
is located within a
second area of the first
display;
a second display,
including:
a second touch display,
wherein the second
touch display is located
within a first area of the
second display;
a second gesture
capture region, wherein
the second gesture
capture region is
located within a second
area of the second
display memory;

The EV-1 and EV-2 prototypes had these components. Each display had a gesture capture region along the top of the display and a touch display encompassing most of the display below the gesture capture region. *Supra*, ¶11, 12. EV-1 and EV-2 prototypes had two displays, with each display having a touch display and gesture capture region. Exhibit 2017 [EV-1 photo], Exhibit 2018 [EV-2 photo]. Each display had a gesture capture region along the top of the display and a touch display encompassing most of the display below the gesture capture region. The photo below is an EV-2 prototype with the gesture capture region annotated in red and the touch display region annotated in blue:



EX2001 [Sirpal Decl.], ¶62. *See also id.*, ¶55

(addressing similar limitation for claim 2).

This is corroborated by the Imerj documentation cited above Section V.C (EXS2006, 2012, 2013) and further corroborated by Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶¶72-73 (stating that gesture capture

	regions and touch displays were present on EV-1 and EV-2); EX2003 [Becze Decl.], ¶20. In any event, Seo does not disclose presenting the child page (the second page) after presentation of its parent (the first page) is discontinued as claimed. The Petition argues such action would have been obvious from Seo. Petition at 71. Even if Petitioner were correct, Patent Owner only needs to demonstrate prior invention of so much of the claimed subject matter as is actually disclosed by Seo. <i>In re Stryker</i>, 435 F.2d 1340, 168 USPQ 372 (CCPA 1971).
a processor in communication with the first display, second display, and memory; application programming stored in the memory and executed by the processor, wherein the application programming is operable to:	As explained by Sanjiv Sirpal: The EV-1 and EV-2 prototypes both had processors and memories, as well as programming stored in the memory that allowed for touch and gesture inputs. EX2001 [Sirpal Decl.], ¶63. This is corroborated by Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶74 (“The EV-1 and EV-2

	prototypes both had processors and memories); EX2003 [Becze Decl.], ¶17.
present a first page of a first application in a first portion of the first display; present a second page of the first application in a second portion of the second display, wherein the first and second pages present different content and are distinct pages, and wherein the second page is a child of the first page;	This limitation is comparable to claim 1 and was present on the EV-1 and EV-2 prototypes for the reasons discussed above in this claim chart for claim 1. EX2001 [Sirpal Decl.], ¶¶53, 64. Sanjiv Sirpal's testimony is corroborated by the Imerj documentation cited above with respect to claim 1 and further corroborated by Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶¶28, 75; EX2003 [Becze Decl.] ¶¶12, 20, 29, 31.
receive input entered by a user in the gesture capture region;	This limitation is similar to functionality in claims 1 and 2 and was present on the EV-1 and EV-2 prototypes for the reasons discussed above for claim 1 in this claim chart. EX2001 [Sirpal Decl.], ¶¶53, 65. Sanjiv Sirpal's testimony is corroborated by the Imerj documentation cited above with respect to claims 1 and 2 and further corroborated by Ron Cassar and Ed

	Becze. EX2002 [Cassar Decl.], ¶¶28, 75; EX2003 [Becze Decl.], ¶¶9, 10.
in response to a first input entered by the user to minimize the first application to one of the first and second portions of the display, present the second page of the first application in one of the first and second portions of the display and discontinue the presentation of the first page of the application.	As explained by Sanjiv Sirpal: This is similar to the functionality described in claim 1 and was present in EV-1 and EV-2 prototypes for the reasons discussed above, with the difference being that the child remains displayed and the parent is no longer displayed, which would occur on the Imerj prototypes when, for example, a modal is active on the child page when the minimization is performed. Exhibit 2006 [UX Overview], 53; Exhibit 2012 [Window Management – Interaction Design], 20; Exhibit 2013 [Browser – Interaction Design], 44. Also, EV-1 and EV-2 both implemented WPC specification Exhibit 2012 [Window Management – Interaction Design] which provides, at page 21, examples “2A” and “2B” that provide this functionality of claim 14. Exhibit 2012, 21. Each of these examples begin with the same state: a first page “1.2” of a first application shown in a first display (left side) and a second page “1.3” of the first application shown in a second display (right side), the two pages being distinct pages showing different content. <i>Id.</i> The second page “1.3” is a child of the first page “1.2”. Exhibit 2012, 6. In each of these examples (“2A” and “2B”) on page 21, an input is received (“D”) to minimize the application and in response to the input only the second page “1.3” is displayed, and the first page “1.2” is no longer displayed. Exhibit 2012, 21. In example “2A” the second page “1.3” is displayed by the second display, and in example

	“2B” the second page “1.3” is displayed by the first display. <i>Id.</i> EX2001 [Sirpal Decl.], ¶¶66. This is corroborated by the Imerj documentation cited above in Section V.C (EXS2006, 2012, 2013) and further corroborated by Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶¶28, 76 (“The EV-1 and EV-2 prototypes had the ability for user input to minimize a parent application page while the child application remained maximized. One example I recall is modal views in the child page.”); 77 (discussing that photo gallery app minimized the parent page); EX2003 [Becze Decl.] ¶¶12, 20, 25.
18. A non-transitory computer readable medium having stored thereon computer-executable instructions, the computer-executable instructions causing a processor to execute a method for selectively presenting an application across a display of a device, the	As explained by Sanjiv Sirpal: I understand Claim 18 to include functionality similar to claims 1 and 14 and which was present on the EV-1 and EV-2 prototypes as discussed above. That is, where the first display shows a child page of an application and the second display shows a parent page of the application, and a first input from the user minimizes the first page (i.e., the parent) but leaves the second page (i.e., the child). As discussed above, minimizing a first page on a

computer-executable instructions comprising: instructions to display a first page of a first application on a first display portion of the device; instructions to display a second page of the first application on a second display portion of the device, wherein the first and second pages present different content and are distinct pages, and wherein the second page is a child of the first page; in response to a first input received from a user to minimize the first application to one of the first and second display portions of the device, display the second page of the first application on one of the first and second display portions of the device and discontinue the display of the first page of the application.	first display was accomplished in EV-1 and EV-2 prototypes by a gesture starting in the first screen and swiping toward the second screen. Also, EV-1 and EV-2 both implemented WPC specification Exhibit 2012 [Window Management – Interaction Design] which provides, at page 21, examples “2A” and “2B” that provide this functionality of claim 18. Exhibit 2012, 21. Each of these examples begin with the same state: a first page “1.2” of a first application shown in a first display portion (left side) and a second page “1.3” of the first application shown in a second display portion (right side), the two pages being distinct pages showing different content. <i>Id.</i> The second page “1.3” is a child of the first page “1.2”. Exhibit 2012, 6. In each if these examples (“2A” and “2B”) on page 21, an input is received (“D”) to minimize the application and in response to the input only the second page “1.3” is displayed, and the first page “1.2” is no longer displayed. Exhibit 2012, 21. In example “2A” the second page “1.3” is displayed by the second display, and in example “2B” the second page “1.3” is displayed by the first display. <i>Id.</i> The second page “1.3” is therefore displayed on one of the first display portion (example “2B” on page 21) and the second display portion (example “2A” on page 21), as recited in claim 18. <i>Id.</i> EX2001 [Sirpal Decl.], ¶67. This is corroborated by the Imerj documentation cited above in Section V.C (EXS2006, 2012, 2013) and
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	further corroborated by Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶¶28, 76-77 (discussing modal view and photo gallery application minimize the parent page); EX2003 [Becze Decl.] ¶¶12, 20, 22, 25, 29, 31.
19. The computer readable medium of claim 18, wherein the device includes multiple displays, wherein the first display portion of the device includes a first display of the multiple displays, wherein the second display portion of the device includes a second display of the multiple displays, and wherein in response to one of the first input and a second input received from the user the second page of the first application is displayed on the first display of the device.	As explained by Sanjiv Sirpal: EV-1 and EV-2 prototypes had this functionality. EV-1 and EV-2 prototypes each had multiple displays and this functionality (switching the second page of an application (i.e., the child) from a second display to a first display) was accomplished in EV-1 and EV-2 prototypes by swiping on the gesture capture region from the second display toward the first display. EV-1 and EV-2 both implemented WPC specification Exhibit 2012 [Window Management – Interaction Design] which provides, at page 21, examples “2A” and “2B” that provide the functionality of claim 18 discussed above. Exhibit 2012, 21. At the end of example “2B” the second page “1.3” is displayed on the first display in response to the first input, which meets “in response to one of the first input and the second input” recited in claim 19 where it is in response to the first input. <i>Id.</i> At the end of example “2A” on page 21 the second page “1.3” is displayed on the second display, which matches the initial state of example “3” on page 15. <i>Id.</i>, 15, 21. The second input of claim 19 is met by the “F” input of example “3” on page 15 because, in response to that “F” input the second page “1.3” is

	displayed on the second display, as recited in claim 19. <i>Id.</i>, 15. EX2001 [Sirpal Decl.], ¶68. This is corroborated by the Imerj documentation cited above in Section V.C (EXS2006, 2012, 2013) and further corroborated by Ron Cassar and Ed Becze. EX2002 [Cassar Decl.], ¶¶28, 72, 76 (“The EV-1 and EV-2 prototypes had the ability for user input to minimize a parent application page while the child application remained maximized. One example I recall is modal views in the child page.”), 77; EX2003 [Becze Decl.] ¶¶12, 18, 20, 25, 29, 31.
20. The computer readable medium of claim 19, wherein in response to an input received from the user to maximize the first application the first page of the first application is displayed on the first display of the device and the second page of the application is displayed	As explained by Sanjiv Sirpal: This was accomplished in EV-1 and EV-2 prototypes by swiping the gesture region to maximize the application to both displays. Exhibit 2006 [UX Overview], 15, 30, 31, 34-36, 45-49, 53, 79, 118, 119, 129; Exhibit 2012 [Window Management – Interaction Design], 8-23; Exhibit 2013 [Browser – Interaction Design], 33, 34, 44. EV-1 and EV-2 both implemented WPC specification Exhibit 2012 [Window Management – Interaction Design] which provides example “2B” on page 21 and example “3” on page 15 which provide the

on the second display of the device.	functionality of claim 19, as discussed above. The end states of example “2B” on page 21 and example “3” on page 15 are the same: the second page “1.3” is displayed on the first display. <i>Id.</i>, 15, 21. The “input received to maximize the first application” of claim 20 is met by “D” input of example “1” on page 21. <i>Id.</i>, 21. Example “1” on page 21 starts where claim 19 left off: second page “1.3” displayed by the first display and in response to input “D” of example “1” on page 21 the first page “1.2” of the first application is displayed on the first display (left side) and the second page “1.3” of the application is displayed on the second display (right side)... . EX2001 [Sirpal Decl.], ¶68. This is corroborated by the Imerj documentation cited above in Section V.C (EXS2006, 2012, 2013) and further corroborated by Ron Cassar and Ed Becze. <i>See, e.g.</i>, [Cassar Decl.], ¶77 (gallery application maximizes both pages to both displays as recited in claim 20 from a state where the gallery application was minimized to show only the child page); [Becze Decl.], ¶¶20 (gesture functionality for “maximizing apps in dual portrait mode” was functional on EV-1
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	prototypes), 25 (gesture functionality for “maximizing apps in dual portrait mode” was functional on EV-2 prototypes).
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VII. THE PETITION FAILS TO PRESENT ANY OBVIOUSNESS RATIONALE FOR CLAIMS 14 AND 18-20

Because the Petition provides no rationale for obviousness of the penultimate limitation in Claims 14 and 18, Petitioner cannot prevail on Claims 14 or 18, or on dependent claims 19-20.

Claim 14 and 18 each end by reciting that, upon minimization, the second page (the recited “child” page) is presented while presentation of the first page (the parent page) is discontinued. That is basically the opposite of Claim 1’s minimization function, wherein a second page (the parent page) is presented while presentation of a first page (the recited “child” page) is discontinued. In other words, after displaying a parent page and a child page on separate displays (or display portions in the case of Claim 18), Claim 1 minimizes the child page whereas Claims 14 and 18 minimize the parent page.

The Petition’s only argument for obviousness of the minimization function recited in Claims 14 and 18 is that it is the same as Claim 1. Petition, 71 (“Seo discloses, suggests, and/or renders obvious this claim limitation for the same

reasons discussed for claim element 1[d].”); Petition, 73 (“Seo discloses and/or suggests the claimed instructions for the reasons discussed for claim elements 1[d] and 14[m]”). But the Petition never attempts any justification for obviousness of minimizing the parent page (as recited in Claims 14 and 18) instead of the child page (as recited in Claim 1).

Therefore, even if the swear-behind of Claims 14 and 18-20 presented herein were insufficient (it is not), the Petition’s ground challenging Claims 14 and 18-20 could not support institution regardless.

VIII. CONCLUSION

The Board should deny institution because the challenged claims were invented prior to the filing of the Seo reference and also because Petitioners provided no rationale for obviousness of Claims 14 or 18-20 regardless.

Dated: February 28, 2025

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CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITS

This Patent Owner's Preliminary Response ("POPR") consists of 13,377 words, excluding table of contents, table of authorities, certificate of service, this certificate, or table of exhibits. The POPR complies with the type-volume limitation of 14,000 words as set forth in 37 C.F.R. § 42.24. In preparing this certificate, counsel has relied on the word count of the word-processing system used to prepare the paper (Microsoft Word).

Dated: February 28, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6, the undersigned certifies that on February 28, 2025, a copy of the foregoing documents **PATENT OWNER PRELIMINARY RESPONSE AND EXHIBITS** were served by electronic mail, as consented to by Petitioners, upon the following:

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