

# Exhibit L

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UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN JOSE DIVISION

APPLE INC., a California corporation,  
Plaintiff,

v.

SAMSUNG ELECTRONICS CO., LTD., A  
Korean business entity; SAMSUNG  
ELECTRONICS AMERICA, INC., a New York  
corporation; SAMSUNG  
TELECOMMUNICATIONS AMERICA, LLC, a  
Delaware limited liability company,  
Defendants.

Case No. 11-cv-01846-LHK

**EXPERT REPORT OF KARAN  
SINGH, PH.D. REGARDING  
INFRINGEMENT OF U.S.  
PATENTS NOS. 7,864,163,  
7,844,915 AND 7,853,891**

**\*\*CONFIDENTIAL – CONTAINS MATERIAL DESIGNATED AS HIGHLY  
CONFIDENTIAL – ATTORNEYS’ EYES ONLY PURSUANT  
TO A PROTECTIVE ORDER\*\***

1     **I.     INTRODUCTION**

2             1.       I, Dr. Karan Singh, have been asked by counsel for Apple Inc. (“Apple”) to  
3 provide an opinion in the above-captioned case. I understand that Apple has alleged that  
4 Defendants Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., and Samsung  
5 Telecommunications America, LLC (collectively “Samsung”) have infringed various patents  
6 assigned to Apple. I have been asked to provide opinions as to whether Samsung has infringed  
7 United States Patents Nos. 7,864,163 (the “’163 patent), 7,844,915 (the “’915 patent) and  
8 7,853,891 (the “’891 patent”). My opinions are set forth below in this Report and in the  
9 accompanying exhibits.

10            2.       I submit this expert Report in compliance with Federal Rule of Civil Procedure  
11 26(a)(2). I reserve the right to supplement or amend this Report pursuant to Rule 26(e) and as  
12 otherwise provided if additional data or other information that affects my opinions becomes  
13 available. I expect to testify at trial regarding the matters expressed in this Report and any  
14 supplemental Reports that I may prepare for this litigation. I also may prepare and rely on  
15 audiovisual aids to demonstrate various aspects of my testimony at trial. I also expect to testify  
16 with respect to any matters addressed by any expert testifying on behalf of Samsung, if asked to  
17 do so.

18            3.       I am being compensated for my work in connection with this matter at my current  
19 standard consulting rate of \$450 per hour. I am separately being reimbursed for any out-of-  
20 pocket expenses. My compensation is not based in any way on the outcome of the litigation or  
21 the nature of the opinions that I express.

22     **II.     QUALIFICATIONS**

23            4.       Here, I provide a brief summary of my qualifications. I received my Bachelor of  
24 Technology degree in Computer Science from the Indian Institute of Technology in 1991. I was  
25 awarded a Master of Science degree in 1992, and a Ph.D. in 1995, both in Computer and  
26 Information Science, from Ohio State University. I can read and program fluently in object-  
27 oriented programming languages, such as C++ and Java. My qualifications and experience are  
28 stated more fully in my curriculum vitae, which includes a list of all my honours, patents,

1 presentations, grants, and publications from the last five years, and is attached to this Report as  
2 Exhibit 1.

3 5. In 1994, I was invited to conduct research at the Advanced Telecommunications  
4 Research laboratory in Kyoto, Japan. During this time I researched virtual reality technology,  
5 specifically designing graphical environments in which human characters could interact with  
6 computing systems.

7 6. My Ph.D. dissertation, which I presented in 1995, was on creating representations  
8 of humans which could interact in graphical environments.

9 7. In 1995, I joined Alias Wavefront in Toronto, Canada. While there I designed  
10 character animation and facial modeling tools for the first release of Maya, which is a software  
11 system for computer graphical modeling, animation, and rendering which won a technical Oscar  
12 in 2003, one of only 38 such awards since 1930. This software, which I worked on for more than  
13 two years, is still the premiere software package today for these functions. I worked at Alias  
14 Wavefront until 1999.

15 8. I have worked with Chris Landreth, a director of animated films, since I started  
16 with Alias Wavefront in 1995. Chris and I worked together on the design of Maya, and have  
17 subsequently worked on a number of film projects. Notable among these projects is the short film  
18 "Ryan," which won an Oscar for Best Animated Short in 2005.

19 9. Later in 1999, I joined a start-up company in California called Paraform Inc.  
20 While there I worked to develop a system which transformed data from real objects which had  
21 been scanned using lasers into useable digital models for downstream applications.

22 10. For several months in 1999 I was a Visiting Professor of Computer Science at the  
23 University of Otago in New Zealand. During that time I taught and conducted research in  
24 computer graphics.

25 11. Since 2002, I have been an Associate Professor of Computer Science at the  
26 University of Toronto where I co-direct a graphics and human computer interaction laboratory  
27 dgp (dynamic graphics project). I have conducted research and taught classes in graphics and in  
28 human computer interaction. During this period, I have also undertaken consulting projects with

1 various companies in the computer graphics and design industries. Since 2002, I have also been  
2 the Chief Scientist at Geometry Systems, which is a company which designs software for the  
3 reverse engineering of physical objects into usable digital models. I also co-founded Arcestra,  
4 Inc. in 2006, which is a software service for conceptualizing and visualizing architectural  
5 interiors.

6 12. My current research focus is on interaction techniques for pen and touch based  
7 devices inspired by a sketching metaphor.

8 13. I have previously testified by deposition as an expert in proceedings before the  
9 International Trade Commission in the ITC Investigation In re Certain Electronic Digital Media  
10 Devices and Components Thereof, Inv. No. 337-TA-796 on behalf of complainant Apple.

### 11 **III. MATERIALS CONSIDERED**

12 14. In forming my opinions and views expressed in this Report, I reviewed the '163  
13 patent and its file history, the '915 patent and its file history, and the '891 patent and its file  
14 history.

15 15. I have also examined all of the following Samsung products, which are sometimes  
16 referred to in this Report as the "Samsung Accused Products": Acclaim, Captivate, Continuum,  
17 Droid Charge, Epic 4G, Exhibit 4G, Fascinate, Galaxy Ace, Galaxy Prevail, Galaxy S (i9000),  
18 Galaxy S 4G, Galaxy S II (including the i9100, T-Mobile, AT&T, Epic 4G Touch and Skyrocket  
19 variants), Galaxy S Showcase (i500), Galaxy Tab 7.0, Galaxy Tab 10.1,<sup>1</sup> Gem, Gravity Smart,  
20 Indulge, Infuse 4G, Intercept, Mesmerize, Nexus S, Nexus S 4G, Replenish, Sidekick, Transform,  
21 and Vibrant.

22 16. In addition, I have reviewed portions of Samsung's website regarding most of  
23 these products. I have also reviewed portions of the user manuals for these products. Attached as  
24 Exhibit 2 is a chart that lists the Bates numbers where true and correct copies of printouts from  
25 www.samsung.com of user guides and technical specifications for various Samsung Accused  
26 Products have been produced.

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27 <sup>1</sup> Galaxy Tab 10.1 refers to both the WiFi and LTE versions.  
28

1           17. I have also reviewed portions of the publicly available Android source code and  
2 related documentation available at the Android developers website located at the following URL:  
3 <http://developer.android.com/index.html>, as well as portions of the Samsung proprietary source  
4 code that were produced by Samsung in this litigation prior to the close of fact discovery on  
5 March 8, 2012. I have been informed that although Apple requested a production of all of the  
6 Samsung source code for all of the Samsung Accused Products and that Samsung was ordered by  
7 the Court to produce it by December 31, 2011, that Samsung produced source code only for a  
8 subset of those products. Moreover, I understand that for those Accused Products for which  
9 Samsung has produced source code, it produced only one version per Accused Product, even if  
10 that product ran different versions of Samsung’s code over time. It is my further understanding  
11 that Samsung has produced representative examples of the different versions of its source code  
12 that were based upon Android releases 2.1, 2.2, 2.3 and 3.1, and that Samsung has represented,  
13 subject to certain conditions, that the source code for any other version of each Accused Product  
14 that was not produced does not differ in any material way for purposes of this litigation with  
15 respect to the three patents I am addressing, from the source code that it has produced.<sup>2</sup>

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17           <sup>2</sup> For all three patents discussed in this Report, I understand that Samsung has represented  
18 that the source code it produced on December 31, 2011 (on which my Report is based) is  
19 representative of all versions, through February 14, 2012, of software on the following Accused  
20 Products: Captivate, Continuum, Epic 4G, Exhibit 4G, Fascinate, Galaxy Ace Showcase, Galaxy  
S 4G, Gravity Smart, Indulge, Intercept, Mesmerize, Nexus, Nexus S, Nexus S 4G, Replenish,  
Showcase Galaxy S, Sidekick, Transform, Vibrant, and the Galaxy Tab.

21           I understand that Samsung has further represented that, as to source code accused of  
22 infringing the ’915 patent, the code it produced on December 31, 2011 (on which my Report is  
based) is representative of all versions of software on all of the Accused Products.

23           As to source code accused of infringing the ’163 and ’891 patents, I understand that  
24 Samsung has recently represented that the code it produced on December 31, 2011 (on which my  
Report is based) is representative of all versions of software on Accused Products released before  
25 December 23, 2011. I understand that, in an email dated March 10, 2012, counsel for Samsung  
provided notice that Samsung would be disclosing new versions of source code. I also  
26 understand that counsel for Samsung described the code as “design-arounds” for the ’891 and  
’163 patents. I have not reviewed this late-produced code, which I understand was produced on  
27 or around March 12, 2012, as of the date of this Report and therefore cannot offer any opinion at  
this time on whether it in fact reflects a “design-around” that avoids infringement of either the  
’891 or the ’163 patent.

1           18.     In forming the opinions in this Report, I have reviewed all of the material cited in  
2 this Report, as well as the documents, things and materials listed in Exhibit 3. I also had  
3 discussions with Bas Ording and Scott Herz, Apple employees listed as inventors on the ’891  
4 and ’915 patents, respectively.

5           19.     If called to testify or to give additional opinions regarding this matter, I reserve the  
6 right to rely upon additional materials that may be provided to me or that are relied upon by any  
7 of Samsung’s experts or witnesses.

8     **IV.    LEGAL PRINCIPLES**

9           20.     I have not been asked to offer an opinion on the law; however, as an expert  
10 assisting the Court in determining infringement, I understand that I am obliged to follow existing  
11 law. I have therefore been asked to apply the following legal principles to my analysis of  
12 infringement:

13           21.     I understand that to determine whether there is infringement of a patent: (1) the  
14 claims of the patent must be construed; and (2) the properly construed claims must then be  
15 compared with the accused products.

16           22.     I understand that the parties have proposed differing constructions of certain terms  
17 in the ’915 and ’891 patents, and that the parties may have differing constructions of terms that  
18 were not part of the claim construction hearing, but that no claim construction Order has been  
19 issued. Because no claim construction has been issued by the Court, I have interpreted the claims  
20 as one of ordinary skill in the art would have at the time the relevant patent was filed in light of its  
21 claim language, specification, and prosecution history.

22           23.     I further understand that the claims should be construed from the standpoint of a  
23 hypothetical person of ordinary skill in the art as of the invention date of the asserted patent. I  
24 understand that claim construction is a matter of law and will be determined by the Court. I  
25 reserve the right to modify my opinions if needed following the Court’s issuance of a claim  
26 construction Order.

27           24.     As the second step in the infringement analysis, I understand that the properly  
28 construed claim must be compared to the accused products. I understand that an accused product

1 may infringe a claim either literally or equivalently. I understand from counsel that literal  
2 infringement exists when the accused product embodies each and every limitation of a given  
3 asserted claim.

4 25. I understand that infringement requires that every limitation of a claim be met,  
5 either literally or equivalently, by the accused device.

6 26. I understand that one test for determining equivalence is to determine whether the  
7 differences between the claimed limitation and the accused product are insubstantial. I  
8 understand that another test for determining equivalence is to examine whether the step used by  
9 the accused product performs substantially the same function in substantially the same way to  
10 achieve substantially the same result as the claimed step.

11 27. I understand that to prove direct infringement of an apparatus or system claim, a  
12 plaintiff must show that a defendant “makes, uses, offers to sell, or sells,” within the United  
13 States, or imports into the United States, an accused device that reads on every limitation of the  
14 patent claim.<sup>3</sup>

15 28. I understand that a device or method literally and directly infringes a claim of a  
16 patent if all of the asserted claim elements are found in or performed by the accused device or  
17 method. I understand that a device may be found to infringe an apparatus claim if it is reasonably  
18 capable of satisfying the claim limitations, even if it is also capable of operating in non-infringing  
19 modes. For method patent claims, I understand that direct infringement occurs when someone  
20 performs all of the steps of the claim.

21 29. I understand that to literally infringe a method claim, the product must perform  
22 every step of the claim. If a product does not literally perform a step of the claim, it can still  
23 infringe under the doctrine of equivalents if the step it performs is insubstantially different from  
24 the claimed step or if it performs substantially the same function to achieve substantially the same

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25  
26 <sup>3</sup> At various places in this Report, I may refer interchangeably to Samsung Accused  
27 Products, or to the use of Accused Products, infringing a claim, meeting all the limitations of a  
28 claim, or practicing the limitations of a claim. In so doing, I intend to be offering opinions about  
the Accused Products and the methods that they perform, and not to offer opinions about whether  
any particular Accused Product was sold or used in the United States.



1 result, in substantially the same way as in the claimed step. I further understand that infringement  
2 of a method claim can be either direct or indirect. I understand that an indirect infringement  
3 occurs either through inducement, where a party induces another to engage in acts that constitute  
4 direct infringement, or through contributory infringement, where a party sells an article that is  
5 made for use in an infringement of the patent’s claims or, put otherwise, is not a staple article of  
6 commerce that has substantial non-infringing uses.

7 30. I have been informed that “means plus function” claims are construed to cover the  
8 corresponding structure, material, or acts described in the specification for performing the  
9 specified function and equivalents thereof. Therefore, I understand that the literal scope of a  
10 means plus function limitation includes equivalents to the structure described in specification. I  
11 understand that the inquiry for structural equivalence is whether the accused structure performs  
12 the claimed function in substantially the same way to achieve substantially the same result as the  
13 corresponding structure described in the specification.

14 **V. DETAILED OPINION REGARDING THE ’163 PATENT**

15 **A. Summary of the ’163 Patent**

16 31. Apple’s ’163 patent is titled “Portable Electronic Device, Method, and Graphical  
17 User Interface for Displaying Structured Electronic Documents.” It claims methods and  
18 apparatuses for displaying structured electronic documents, such as web pages, on a touch screen  
19 display, and navigating in them using touch gestures. The invention of the ’163 patent allows a  
20 user to navigate easily around a structured electronic document by tapping or double tapping on  
21 boxes of content in that document. The ’163 patent describes enlarging or translating the  
22 electronic document, in response to a tap gesture, so that the tapped box of content is substantially  
23 centered on the touch screen display. Tapping on a previously enlarged box can result in  
24 zooming back out, including to the original scale. Other gestures, such as a finger swipe or a “de-  
25 pinch” gesture, can also result in translating or scaling of the electronic document.

26 32. A person of ordinary skill in the art at the time the patent application that led to the  
27 ’163 patent was filed would have had a bachelor’s degree in computer science or electrical  
28 engineering, or the equivalent, and one or more years of experience working on designing and/or

1 implementing user interfaces. I have interpreted the ’163 patent claims according to how I  
2 believe such a person of ordinary skill would have understood the claims in 2006.

3 **B. Apple’s Practice Of The ’163 Patent**

4 33. I have examined a number of Apple products, including the iPhone 4S, iPhone 4,  
5 iPhone 3GS, iPhone 3G, iPhone, iPad 2, and iPad. It is my opinion that each of these products  
6 practices the claims of the ’163 patent. For example, with Apple’s iPhone 4, a user can open the  
7 Safari application and load a web page, such as the *New York Times* home page  
8 (www.nytimes.com). The iPhone 4 displays the *New York Times* home page which is a  
9 structured electronic document that includes several boxes of content on its touch screen display.  
10 The iPhone 4 detects a user’s double tap gesture (two taps on the touch screen in quick  
11 succession) on a box of content, and it responds to that gesture by determining which box was  
12 tapped and then enlarging and substantially centering that box on the screen. If the user proceeds  
13 to double tap on a second box of content on the web page, the iPhone 4 responds by substantially  
14 centering that second box on the screen. If the user then double taps again on the second box  
15 which is already enlarged and centered from the user’s previous actions the iPhone 4 responds  
16 by zooming out, reducing the size of the web page to its pre-enlargement scale.

17 34. Based on my examination of the aforementioned Apple products, I conclude that  
18 they practice the asserted apparatus and system claims of the ’163 patent, and their ordinary and  
19 intended use practices the asserted method claims of the ’163 patent. I have confirmed the  
20 behavior I saw on the iPhone 4 and other Apple products by examining portions of the source  
21 code for Apple’s iOS operating [REDACTED]  
22 [REDACTED] as well as the Event Handling Guide for iOS  
23 (available at [http://developer.apple.com/library/ios/#documentation/EventHandling/](http://developer.apple.com/library/ios/#documentation/EventHandling/Conceptual/EventHandlingiPhoneOS/Introduction/Introduction.html#//apple_ref/doc/uid/TP40009541)  
24 [Conceptual/EventHandlingiPhoneOS/Introduction/Introduction.html#//apple\\_ref/doc/uid/TP4000](http://developer.apple.com/library/ios/#documentation/EventHandling/Conceptual/EventHandlingiPhoneOS/Introduction/Introduction.html#//apple_ref/doc/uid/TP40009541)  
25 [9541](http://developer.apple.com/library/ios/#documentation/EventHandling/Conceptual/EventHandlingiPhoneOS/Introduction/Introduction.html#//apple_ref/doc/uid/TP40009541)).

26 35. My examination was further confirmed by my review of the testimony of Scott  
27 Forstall, one of the inventors of the ’163 patent. Mr. Forstall testified that at least the iPhone,  
28 iPad, and iPod Touch practice the ’163 patent (Forstall Dep. Tr. at 24:8–24:16). He then walked

1 through a demonstration of some double-tap zooming elements of claim 2 of the ’163 patent,  
2 confirming that the iPhone demonstrated in his deposition exhibited behavior meeting certain  
3 elements of that claim (Forstall Dep. Tr. at 24:17 27:10).

4 **C. Priority Date of the ’163 Patent**

5 36. I intend to rely upon the documentary evidence and testimony of one or more of  
6 the named co-inventors of the ’163 patent or other witnesses to testify regarding facts relevant to  
7 the conception and reduction to practice of the claimed invention prior to the filing date of the  
8 patent.

9 37. I have reviewed the documentary evidence regarding the design and  
10 implementation work done on the inventions claimed in the ’163 patent, including the deposition  
11 transcripts of Scott Forstall, Chris Blumenberg, and Richard Williamson, emails regarding  
12 technology demonstrations and planned and completed development tasks, as well as code check-  
13 in logs. From that evidence, it appears that the claims of the ’163 patent that I analyze below  
14 were conceived of by Andre Boule, Scott Forstall, Greg Christie, Stephen O. Lemay, Imran  
15 Chaudhri, Richard Williamson, Chris Blumenberg, and Marcel van Os in or before March 2006,  
16 and reduced to practice in March/April 2006. [REDACTED]

17 [REDACTED]  
18 [REDACTED]  
19 [REDACTED]  
20 [REDACTED]  
21 [REDACTED]  
22 [REDACTED]  
23 [REDACTED]  
24 [REDACTED]  
25 [REDACTED]  
26 [REDACTED]  
27 [REDACTED]  
28 [REDACTED]

1 [REDACTED]

2 [REDACTED] I understand that the asserted claims were also constructively reduced  
3 to practice in a provisional patent application filed on September 6, 2006 and in U.S. Patent  
4 Application No. 11/850,013 filed September 4, 2007. Documents relating to these facts are found  
5 in, for example: APLNDC00016628; APLNDC00019636-637; APLNDC00019638;  
6 APLNDC0001200348-353; APLNDC0001200354-360; APLNDC0001200361-373;  
7 APLNDC0001200374; APLNDC0000019634; APLNDC-X0000002313-2319; and  
8 APLNDCX0000004557-4561.

9 **D. Samsung’s Infringement of the ’163 Patent**

10 38. In the discussion that follows, I analyze whether certain Samsung Accused  
11 Products embody the apparatus claims of the ’163 patent and whether the ordinary and intended  
12 use of the Samsung Accused Products would practice the method claims of the patent. For  
13 purposes of this section of my Report, the “Accused Products” include the following Samsung  
14 products: Acclaim, Captivate, Continuum, Droid Charge, Epic 4G, Exhibit 4G, Fascinate, Galaxy  
15 Ace, Galaxy Prevail, Galaxy S (i9000), Galaxy S 4G, Galaxy S II (including the i9100, T-Mobile,  
16 AT&T, Epic 4G Touch and Skyrocket variants), Galaxy S Showcase (i500), Galaxy Tab 7.0,  
17 Galaxy Tab 10.1, Gem, Gravity Smart, Indulge, Infuse 4G, Intercept, Mesmerize, Nexus S, Nexus  
18 S 4G, Replenish, Sidekick, Transform, and Vibrant.

19 39. In performing this analysis I reviewed the ’163 patent and its file history, tested the  
20 operation of these Samsung Accused Products, reviewed source code that Samsung produced  
21 prior to the March 8 fact discovery cutoff, and reviewed other materials described in this Report.  
22 Because the Samsung source code is built upon the foundation of publicly-available Android code,  
23 I reviewed portions of that Android code and its accompanying documentation. I have analyzed  
24 Samsung source code on at least one Accused Product representative of each major release of  
25 Android that appears on the Accused Products. I reviewed source code that implements the  
26 accused functionalities of the ’163 patent on, among other devices, the Samsung Captivate  
27 (Android 2.1), the Samsung Vibrant, (Android 2.2), the Samsung Galaxy S II (Android 2.3), and  
28 the Samsung Galaxy Tab 10.1 (Android 3.1). I have compared portions of the relevant code on

1 each of these devices to analogous code (where available) on other Accused Products running that  
2 version, as well as the publicly available version of each major Android release. Based on those  
3 comparisons, I conclude that, for each major Android release, all of the Accused Products based  
4 on that release implement the accused functionalities of the ’163 patent in substantially the same  
5 way as the representative device for that release whose source code I have analyzed and cited in  
6 this Report.

7 40. In the paragraphs that follow, I will set forth the claims of the ’163 patent for  
8 which it is my opinion that Samsung Accused Products, or the ordinary and intended use of  
9 Samsung Accused Products, meets every limitation of the claim.

10 41. By “ordinary and intended use” in this section of my Report, I mean actions that  
11 virtually every user of a Samsung Accused Product would perform when using the Accused  
12 Product, and which Samsung encouraged and intended the user to perform. For example,  
13 manuals included with Samsung Accused Products instruct users to “[t]ap the screen twice to  
14 zoom in or out” when viewing a web page in the Browser application. (*See, e.g.*, APLNDC-  
15 Y0000058046, APLNDC-Y0000060424, APLNDC-Y0000061493, APLNDC-Y0000061697,  
16 APLNDC-Y0000061866, APLNDC-Y0000063918, APLNDC-Y0000065351, APLNDC-  
17 Y0000066627, APLNDC-Y0000065800.) In addition, each of the Samsung Accused Products,  
18 with the exception of the Galaxy Tab 10.1, includes a “tool tip” (i.e., contextual instructions to the  
19 user in a pop-up window) that is programmed to appear automatically when a user first uses the  
20 Browser application. The tool tip displays the text “Tip: double tap to zoom in and out.”<sup>4</sup> Once a  
21 user zooms in using a double tap, it is overwhelmingly likely given the relatively small size of  
22 the displays of the Accused Products and typical practice in using touch screen devices that he  
23 will tap again on a different box, resulting in centering on that box, as he attempts to navigate  
24

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25 <sup>4</sup> Exemplary code that triggers this tool tip message in Android 2.3 devices, such as the  
26 Galaxy S II, appears at SAMNDCA-C000008649, line 8197 and SAMNDCA-C000008646, line  
27 902. Similar code for Android 2.2 devices, exemplified by the Samsung Vibrant, appears at  
28 SAMNDCA-C000008648, line 5672 and SAMNDCA-C000008645, line 1487. Similar code for  
Android 2.1 devices, exemplified by the Samsung Captivate, appears at SAMNDCA-  
C000008306, line 4263 and SAMNDCA-C000008634, line 1390.

1 around the displayed web page using touch gestures like the double tap described in the manuals  
2 and on-screen tool tip. Accordingly, it is my opinion that all or virtually all users of the Samsung  
3 Accused products would engage in direct infringement of the '163 patent. Because Samsung  
4 encouraged and intended this direct infringement by end users, it is my opinion that the Samsung  
5 defendants have indirectly infringed the method claims of the '163 patent discussed below.

6 42. With respect to the claims of the '163 patent that claim an apparatus, device, or  
7 medium, it is my opinion that a Samsung defendant who makes, uses, sells, imports or offers to  
8 sell the Samsung Accused Product in the United States has engaged in direct infringement of  
9 the '163 claims discussed below.

10 43. Attached as Exhibits 4 and 5 are exemplary claim charts that illustrate the  
11 infringement of the claims below by the Galaxy Tab 10.1 (Exhibit 4) and the Galaxy S II  
12 (Exhibit 5). Where source code is cited in the Galaxy S II claim chart (corresponding to Android  
13 2.3), reference is also made to analogous code in Android 2.2 (as exemplified by the Samsung  
14 Vibrant) and Android 2.1 (as exemplified by the Samsung Captivate).

15 44. **Claim 2.** Claim 2 of the '163 patent recites:

16 A computer-implemented method, comprising:

17 [a] at a portable electronic device with a touch screen display;

18 [b] displaying at least a portion of a structured electronic document  
19 on the touch screen display, wherein the structured electronic  
document comprises a plurality of boxes of content;

20 [c] detecting a first gesture at a location on the displayed portion of  
21 the structured electronic document;

22 [d] determining a first box in the plurality of boxes at the location  
of the first gesture;

23 [e] enlarging and translating the structured electronic document so  
24 that the first box is substantially centered on the touch screen  
display;

25 [f] while the first box is enlarged, a second gesture is detected on a  
26 second box other than the first box; and

27 [g] in response to detecting the second gesture, the structured  
28 electronic document is translated so that the second box is  
substantially centered on the touch screen display.

1           45.     In my opinion, the Samsung Accused Products meet each and every limitation of  
2 claim 2 either literally or, in the alternative, under the doctrine of equivalents.

3           46.     **Claim 2, Preamble:** The preamble of claim 2 recites: “A computer-implemented  
4 method.”<sup>5</sup>

5           47.     The Samsung Accused Products are mobile computing devices with processors  
6 that run the Android software platform and implement a number of methods of displaying  
7 structured electronic documents. As Samsung describes its own products, they are mobile  
8 computing devices with the following features:

- 9           • Galaxy S II: a “1.5 GHz, Dual Core (Qualcomm Snapdragon S3)” processor (Ex.  
10           6 at APLNDC-Y0000066880);
- 11           • Galaxy Tab 10.1: a “1GHz Dual Core Nvidia Tegra2 Processor” (Ex. 7 at  
12           APLNDC-Y0000066821).

13           48.     All of the Samsung Accused Products are either smartphones (like the Galaxy S II)  
14 or tablet computers (like the Galaxy Tab 10.1). These devices employ processors and run  
15 software that performs functions typically performed on computers, such as displaying structured  
16 electronic documents. Therefore, the ordinary and intended use of the Samsung Accused  
17 Products meets the preamble of claim 2: “[a] computer-implemented method.”

18           49.     To the extent that the preamble is found to be a limitation and is not met literally,  
19 in my opinion it is met under the doctrine of equivalents because the processors and relevant  
20 portions of the Android software of each of the Samsung Accused Products are insubstantially  
21 different from a computer-implemented method as recited in claim 2.

22           50.     In particular, relevant portions of the processors and Android software of each of  
23 the Samsung Accused Products perform substantially the same function of implementing a  
24 method for displaying structured electronic documents, such as web pages, on a touch screen  
25 display, and navigating in them using touch gestures, as the computer-implemented method of the

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27           <sup>5</sup> I understand that a preamble may or may not limit a claim depending on how it is used  
28 within the context of the claims. Because the preamble is clearly met within the Samsung  
Accused Products, I had no need to consider whether this particular preamble is a limitation.

1 ’163 patent. In addition, the processors and relevant portions of the Android software of the  
2 Samsung Accused Products perform that function in substantially the same way by the execution  
3 of computer instructions with a processor. Finally, both the processors and relevant portions of  
4 Android software, and the recited method achieve substantially the same result of displaying  
5 structured electronic documents, such as web pages, on a touch screen display, which the user can  
6 navigate using touch gestures.

7 51. **Claim 2, Element [a]:** Claim 2 recites “at a portable electronic device with a  
8 touch screen display.”

9 52. The ordinary and intended use of the Samsung Accused Products performs the  
10 claimed method “at a portable electronic device with a touch screen display.” For example, the  
11 Galaxy S II user manual states that the Galaxy S II is a phone, or portable electronic device, with  
12 a touch screen display:

13 **Features of Your Phone**

14 Your [REDACTED] is lightweight, easy-to-use and offers many  
15 significant features. The following list outlines a few of the  
16 features included in your phone.

- 17 • Touch screen with virtual (on-screen) QWERTY keyboard
- 18 • High Speed Packet Access Plus (HSPA+) delivering data speeds faster  
19 than the current 3G network technology.
- Android 2.3, Gingerbread Platform
- Compatible with Adobe® Flash® technology
- Wi-Fi® Capability
- USB Tethering-capable

20 (Ex. 8 at APLNDC-Y0000060923.) By way of further example, the Galaxy Tab 10.1 user  
21 manual describes a portable electronic “device” with a touch screen:

22 **Section 2: Understanding Your Device**

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23 This section outlines key features of your [REDACTED] and describes  
24 the screen and the icons that appear when the device is in use. It  
25 also shows how to navigate through the device.

26 **Features**

- 27 • 10.1-inch WXGA TFT (PLS) LCD touch screen
- 28 • Android™ 3.2, Honeycomb
- Android Market™ for access to over 250,000 Apps
- Full HTML Web Browser



1 (Ex. 9 at APLNDC-Y0000061396.)

2 53. Each of the other Samsung Accused Products is also a portable electronic device  
3 with a touch screen display. Therefore, the ordinary and intended use of the Samsung Accused  
4 Products infringes this element of claim 2.

5 54. To the extent that this limitation is not met literally, in my opinion it is met under  
6 the doctrine of equivalents because the portable devices with touch screen displays of the ’163  
7 Samsung Accused Products perform substantially the same function of implementing a method  
8 for displaying structured electronic documents, such as web pages, on a touch screen display, and  
9 navigating in them using touch gestures, as the portable electronic device with touch screen  
10 display of the ’163 patent.

11 55. In addition, Samsung Accused Products perform that function in substantially the  
12 same way by executing computer instructions with a processor. Finally, the Samsung Accused  
13 Products achieve substantially the same result by enabling a user to interact with the presented  
14 information.

15 56. **Claim 2, Element [b]:** Claim 2 recites “displaying at least a portion of a structured  
16 electronic document on the touch screen display, wherein the structured electronic document  
17 comprises a plurality of boxes of content.”

18 57. The ordinary and intended use of the Samsung Accused Products meets the claim  
19 limitation “displaying at least a portion of a structured electronic document on the touch screen  
20 display, wherein the structured electronic document comprises a plurality of boxes of content.”  
21 Each of the Samsung Accused Products includes a Browser application for displaying web pages  
22 written in HyperText Markup Language (HTML). For example, the user manuals for the Galaxy  
23 S II and the Galaxy Tab 10.1 describe the capabilities of the Browser application on those  
24 devices:



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## Web

Your phone is equipped with a Google browser to navigate the mobile web. This section explains how to navigate the browser and use the basic features.

### Accessing the Internet




To access the Browser:

- ▶ From the Home screen, tap  (Applications) →  (Web).

Galaxy S II user manual excerpt (Ex. 8 at APLNDC-Y0000061077.)

## Browser

Your device is equipped with a full HTML Browser that allows you to access the internet.

1. From the Home screen, tap  (Browser).  
– or –  
From a Home screen, tap  (Apps) →  (Browser).  
The Most visited screen displays.
2. Tap an entry, such as Google. The Google home screen displays.

Galaxy Tab 10.1 user manual excerpt (Ex. 9 at APLNDC-Y0000061493.)

58. The Browser application on the Samsung Accused Products uses the WebView Android class to display web pages written in HTML. (See <http://developer.android.com/reference/android/webkit/WebView.html>.) HTML is a markup language that employs various “tags” (such as <html>, <head>, <body>, <img>, among many others) to structure and delimit a web page’s content. These tags indicate where different sections of a web page begin and end, and they define and delimit elements like images, paragraphs, headings, and links. (See, e.g., Exhibit 10, HTML source code for [www.nytimes.com](http://www.nytimes.com).) HTML documents displayed in the Browser application, therefore, are structured electronic documents. The figures below show the Browser application on the Galaxy S II and the Galaxy Tab 10.1 displaying a portion of a structured electronic document in this case, the *New York Times* home page on the touch screen displays of those devices.

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Fig. 1: Galaxy S II Browser displaying www.nytimes.com

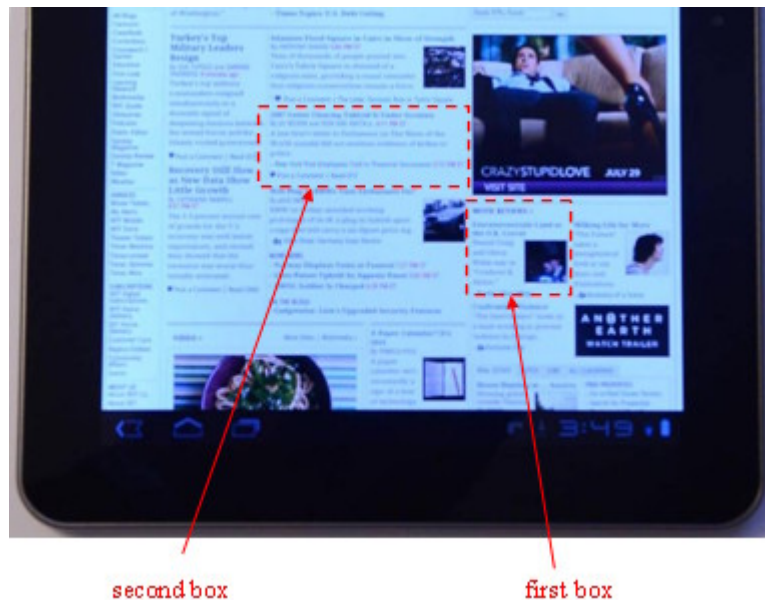


Fig. 2: Galaxy Tab 10.1 Browser displaying www.nytimes.com

59. As Figures 1 and 2 above show, a web page displayed in the Browser application on the Samsung Accused Products can include a plurality of boxes of content. In Figures 1 and 2, the boxes of content on www.nytimes.com have been highlighted for illustrative purposes with dashed rectangles. These illustrative boxes may not exactly match the boxes in the structured

1 electronic document. The boxes contain headlines and snippets of images and text related to  
2 news articles and other *New York Times* features. Like the rest of the web page structure, these  
3 boxes of content are defined by the HTML of the displayed web page. In my opinion, the  
4 ordinary and intended use of the Samsung Accused Products meets this recitation of claim 2.

5         60. To the extent that this limitation is not met literally, in my opinion it is met under  
6 the doctrine of equivalents because the relevant operations of the Browser application of each of  
7 the Samsung Accused Products in displaying at least a portion of a structured electronic  
8 document on the touch screen display is insubstantially different from the recited method step in  
9 claim 2.

10         61. In particular, the relevant operations of the Browser application of each of the  
11 Samsung Accused Products performs substantially the same function of displaying at least a  
12 portion of a structured electronic document on the touch screen display, wherein the structured  
13 electronic document comprises a plurality of boxes of content. In addition, the relevant  
14 operations of the Browser application of each of the Samsung Accused Products performs that  
15 function in substantially the same way by executing computer instructions with a processor to  
16 display at least a portion of a structured document. Finally, the relevant operations of the  
17 Browser application of the Samsung Accused Products achieve substantially the same result by  
18 displaying at least a portion of an electronic structured document composed of multiple elements  
19 such as images, paragraphs, headings, and links.

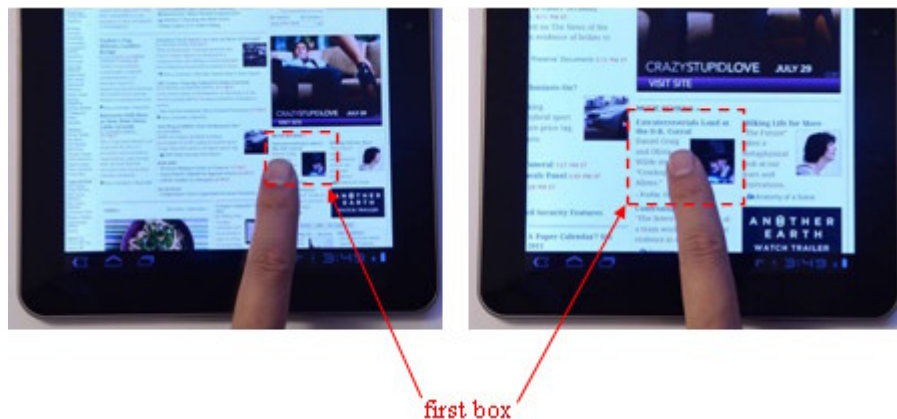
20         62. **Claim 2, Element [c]:** Claim 2 recites “detecting a first gesture at a location on  
21 the displayed portion of the structured electronic document.”

22         63. The ordinary and intended use of the Samsung Accused Products meets the claim  
23 limitation “detecting a first gesture at a location on the displayed portion of the structured  
24 electronic document.” When a structured electronic document, such as a web page in the  
25 Browser application, is displayed on the touch screen, a user can touch the screen at different  
26 locations on the document to interact with it. For example, as the discussion below of the  
27 remaining elements of claim 2 illustrates in greater detail, tapping at a location on a web page  
28 displayed in the Browser causes each Samsung Accused Product to respond by enlarging and

1 translating the web page based on the location of the user’s tap. It is apparent that each Samsung  
2 Accused Product detects a user’s gesture because it responds to it. The figures below, and the  
3 videos attached as Exhibits 11a and 12a,<sup>6</sup> show the Galaxy S II and Galaxy Tab 10.1 devices  
4 detecting a user’s tap input:



16 Fig. 3: Galaxy S II Browser detecting a first gesture



26 <sup>6</sup> For the remainder of this section, I will refer to the videos in Exhibits 11 and 12, which  
27 demonstrate the '163 patent features on the Galaxy Tab 10.1 and the Galaxy S II. Analogous  
28 videos showing the same features on the Samsung Vibrant are attached as Exhibit 13, and videos  
showing the same features on the Samsung Galaxy S Showcase are attached as Exhibit 14.

Fig. 4: Galaxy Tab 10.1 Browser detecting a first gesture

64. In my opinion, the ordinary and intended use of the Samsung Accused Products meets this recitation of claim 2.

65. To the extent that this limitation is not met literally, in my opinion it is met under the doctrine of equivalents because the relevant operations of the Browser application of the Samsung Accused Products in detecting a first gesture on the display portion of a structured document, namely a webpage, are insubstantially different from the recited method step in claim 2.

66. In particular, the Browser application of the Samsung Accused Products perform substantially the same function of detecting a first gesture at a location on the displayed portion of the structured electronic document as recited in the ’163 patent. In addition, the Samsung Accused Products perform that function in substantially the same way by executing computer instructions with a processor. Finally, the Samsung Accused Products achieve substantially the same result by detecting gestures on a portion of a structured web page.

67. **Claim 2, Element [d]:** Claim 2 recites “determining a first box in the plurality of boxes at the location of the first gesture.”

68. The ordinary and intended use of the Samsung Accused Products meets the claim limitation “determining a first box in the plurality of boxes at the location of the first gesture.” The Samsung Accused Products all contain computer code that uses the HTML-derived structure of the displayed web page to determine the box of content at the location of the user’s touch.

69. For example, the Galaxy Tab 10.1 executes the zoomToReadingLevel() method in the ZoomManager class when a user double taps on a box of content while the displayed web page is fully zoomed out. (See SAMNDCA-C000002402; SAMNDCA-C000002406.) The zoomToReadingLevel() method then calls the nativeGetBlockLeftEdge() method of the associated WebView object (SAMNDCA-C000002406, line 1146), which ultimately returns the location of the left edge of the box at the location of the user’s touch. The nativeGetBlockLeftEdge() finds the left edge of the touched box by calling methods that traverse

1 a set of nodes corresponding to the web page’s HTML-derived structure. (See SAMNDCA-  
2 C000003597 to -3598 (nativeGetBlockLeftEdge() and getBlockLeftEdge() in WebView.cpp);  
3 SAMNDCA-C000003625 to -3626 (getBlockLeftEdge() and findAt() in CachedRoot.cpp);  
4 SAMNDCA-C000003648 (findBestAt(), findBestFrameAt(), and findBestHitAt() in  
5 CachedFrame.cpp).)

6 70. Based on my inspection of Samsung source code for each major release of  
7 Android running on the Samsung Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I believe that  
8 each Samsung Accused Product includes similar computer code that determines the touched box  
9 based on the HTML-derived structure of the displayed web page. The claim chart in Exhibit 5  
10 identifies analogous code that satisfies this element in Android 2.3, 2.2, and 2.1. Therefore, it is  
11 my opinion that each of the Samsung Accused Products meets this recitation of claim 2.

12 71. To the extent that this limitation is not met literally, in my opinion it is met under  
13 the doctrine of equivalents because the relevant operations of the Android software in  
14 determining a first box among a plurality of boxes at the first location of an initial touch gesture  
15 of each of the Samsung Accused Products are insubstantially different from the recited method  
16 step.

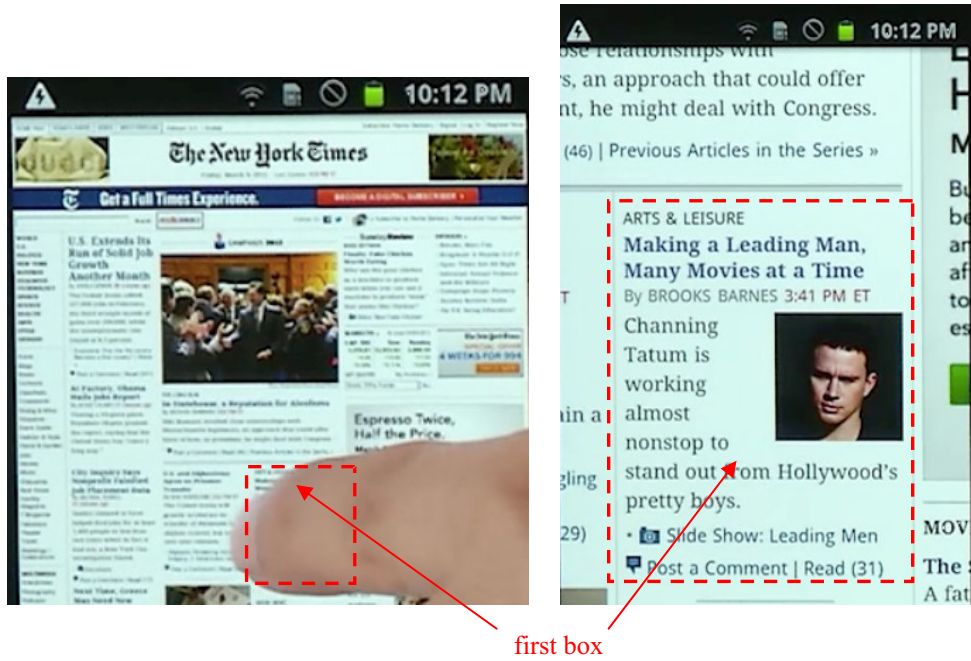
17 72. In particular, the relevant operations of the Android software of each of the  
18 Samsung Accused Products performs substantially the same function as recited in claim 2,  
19 determining the touched box based on the HTML-derived structure of the displayed web page. In  
20 addition, the Android software of each of the Samsung Accused Products performs that function  
21 in substantially the same way by executing computer instructions in a processor. Finally, the  
22 Android software of the Samsung Accused Products achieves substantially the same result by  
23 determining the box in a webpage touched by the user.

24 73. **Claim 2, Element [e]:** Claim 2 recites “enlarging and translating the structured  
25 electronic document so that the first box is substantially centered on the touch screen display.”

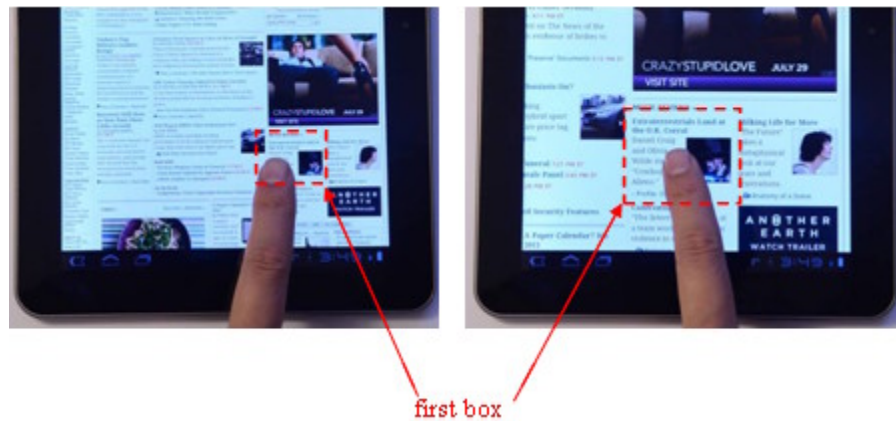
26 74. The ordinary and intended use of the Samsung Accused Products meets the claim  
27 limitation “enlarging and translating the structured electronic document so that the first box is  
28 substantially centered on the touch screen display.” When a web page is displayed in the Browser



1 application of the Samsung Accused Products, double tapping on a box of content causes the  
2 tapped box to be enlarged and substantially centered on the touch screen display. For example,  
3 the figures below, as well as the videos attached as Exhibits 11a and 12a, show the Galaxy S II  
4 and Galaxy Tab 10.1 devices enlarging and translating a web page in response to a double tap  
5 gesture:



17 Fig. 5: Galaxy S II Browser enlarging and translating the structured electronic document



26 Fig. 6: Galaxy Tab 10.1 Browser enlarging and translating the structured electronic document



1           75. My review of Samsung source code running on the Samsung Accused Products  
2 confirms that they respond to a double tap gesture in the Browser by enlarging and translating the  
3 structured electronic document so that the first box is substantially centered on the touch screen  
4 display. For example, upon receiving user touch input, the Galaxy Tab 10.1 executes the  
5 handleTouchEventCommon() method of the WebView class, which calls the handleDoubleTap()  
6 method of the ZoomManager class if the touch input is a double tap. (See SAMNDCA-  
7 C000002377, line 7689.) The handleDoubleTap() method, in turn, calls zoomToReadingLevel()  
8 if the double tap occurs when the web page is fully zoomed out. (See SAMNDCA-C000002403,  
9 line 1030.) The zoomToReadingLevel() method first determines the touched box as outlined  
10 above in element [d] of this claim (see SAMNDCA-C000002406, line 1146), and then it adjusts  
11 the zoom center as necessary to substantially center the touched box on the touch screen display.  
12 (See SAMNDCA-C000002406, lines 1147-59.) Finally, zoomToReadingLevel() calls  
13 startZoomAnimation() with the scale parameter set to readingScale. (SAMNDCA-C000002406,  
14 1164-66.) This causes the touched box to be enlarged, via a call in startZoomAnimation() to  
15 setZoomScale(). (See SAMNDCA-C000003690.)

16           76. Based on my inspection of Samsung source code for each major release of  
17 Android running on the Samsung Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I believe that  
18 each Samsung Accused Product includes similar computer code that responds to a double tap  
19 gesture in the Browser by enlarging and translating the structured electronic document so that the  
20 first box is substantially centered on the touch screen display. The claim chart in Exhibit 5  
21 identifies analogous code that satisfies this element in Android 2.3, 2.2, and 2.1. In my opinion,  
22 each of the Samsung Accused Products meets this recitation of claim 2.

23           77. **Claim 2, Element [f]:** Claim 2 recites “while the first box is enlarged, detecting a  
24 second gesture is detected on a second box other than the first box.”

25           78. The ordinary and intended use of the Samsung Accused Products meets the claim  
26 limitation “while the first box is enlarged, a second gesture is detected on a second box other than  
27 the first box.” After the actions corresponding to the claim elements above have enlarged the first  
28 box as previously described, a user can, while the first box is enlarged, touch the screen at the

1 location of a second box other than the first box. It is apparent that each Samsung Accused  
2 Product detects a user's gesture on the second box, because as detailed further in element [g] of  
3 this claim each device responds to such a gesture. The figures below, and the videos attached  
4 as Exhibits 11a and 12a, show the Galaxy S II and Galaxy Tab 10.1 devices detecting a user's tap  
5 gesture on a second box:

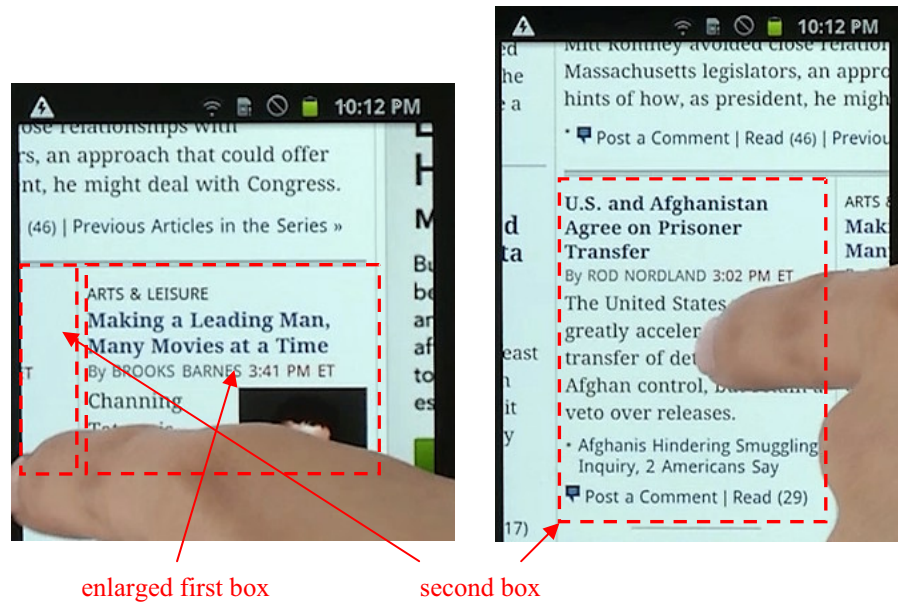


Fig. 7: Galaxy S II Browser detecting a second gesture

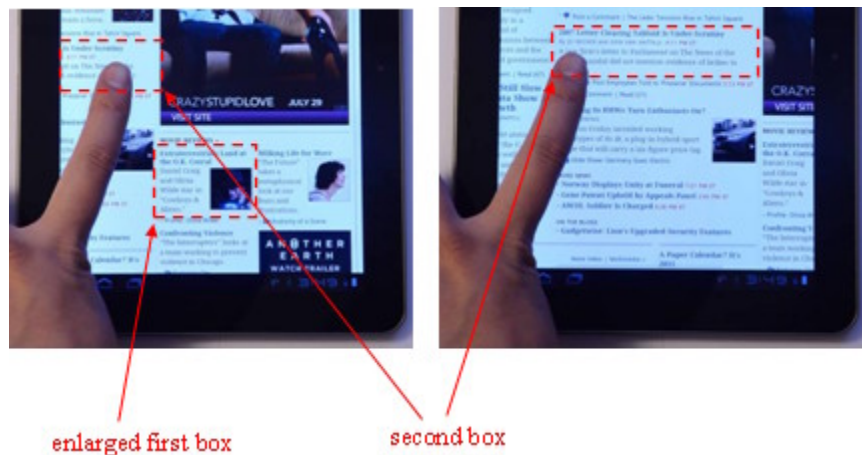


Fig. 8: Galaxy Tab 10.1 Browser detecting a second gesture

79. In my opinion, each of the Samsung Accused Products meets this limitation of  
claim 2.

1           80.     To the extent that this limitation is not met literally, in my opinion it is met under  
2 the doctrine of equivalents because the relevant operations of the Samsung Accused Products in  
3 detecting a second gesture on a second box in a structured document while the first box is  
4 enlarged are insubstantially different from the recited method step.

5           81.     In particular, the relevant operations of the Samsung Accused Products perform  
6 substantially the same function of detecting a second gesture, namely the user’s touch, on a  
7 second box other than the first box, while the first box is enlarged as recited in claim 2. In  
8 addition, the relevant operations of the Samsung Accused Products perform that function in  
9 substantially the same way by executing computer instructions with a processor. Finally, the  
10 relevant operations of the Samsung Accused Products achieve substantially the same result by  
11 responding to the user’s touch on the screen at the location of a second box other than the first  
12 box, while the first box is enlarged.

13           82.     **Claim 2, Element [g]:** Claim 2 recites “in response to detecting the second  
14 gesture, the structured electronic document is translated so that the second box is substantially  
15 centered on the touch screen display.”

16           83.     The ordinary and intended use of the Samsung Accused Products meets the claim  
17 limitation “in response to detecting the second gesture, the structured electronic document is  
18 translated so that the second box is substantially centered on the touch screen display.” When a  
19 web page is displayed in the Browser application of the Samsung Accused Products, and the user  
20 has already enlarged and substantially centered a first box by double tapping on it, tapping on a  
21 second box of content causes that web page to translate such that that box is substantially  
22 centered on the screen. For example, the figures below, as well as the videos attached as Exhibits  
23 11a and 12a, show the Galaxy S II and Galaxy Tab 10.1 devices substantially centering a second  
24 box on the screen in response to a tap gesture:

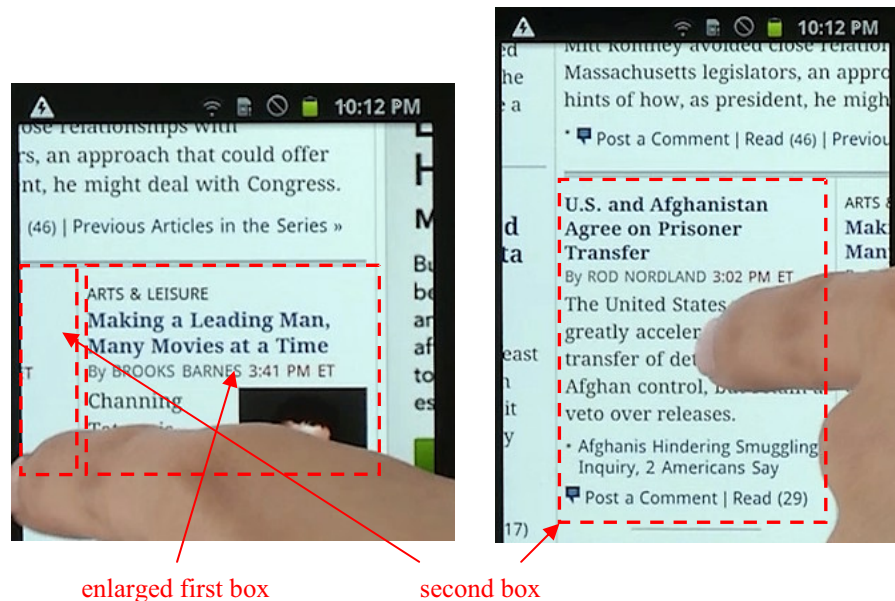


Fig. 9: Galaxy S II Browser substantially centering a second box on the screen

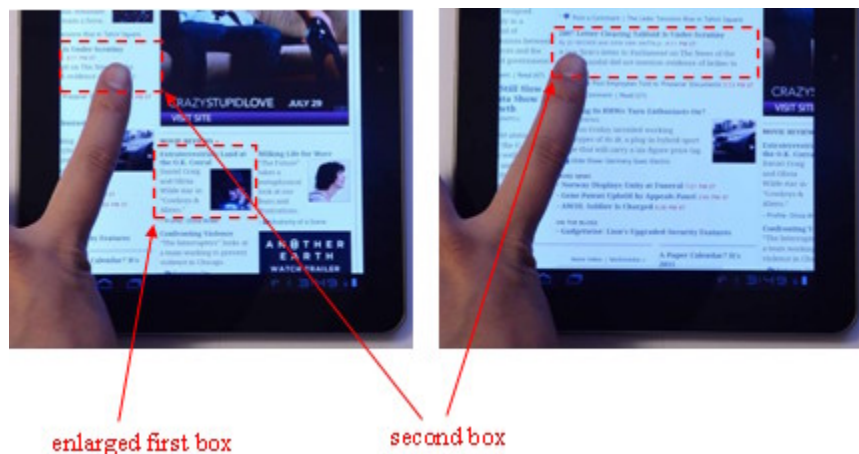


Fig. 10: Galaxy Tab 10.1 Browser substantially centering a second box on the screen

84. My review of Samsung source code running on the Samsung Accused Products confirms that they respond to a tap gesture on a second box by substantially centering that second box on the touch screen. For example, the Galaxy Tab 10.1 executes the doShortPress() method in the WebView class when the user lifts up from a single tap on the second box. (SAMNDCA-C000002369, line 7319.) The doShortPress() method, in turn, calls doMotionUp() (SAMNDCA-C000002440, line 9564), which calls nativeMotionUp() in the WebView.cpp file (SAMNDCA-

1 C000002441, line 9570). The nativeMotionUp() method calls motionUp() (SAMNDCA-  
2 C000002442, line 2515), which checks for the center of the tapped box (SAMNDCA-  
3 C000002443, line 1106) and then calls scrollBy() to translate the web page to substantially center  
4 the tapped box on the screen. (SAMNDCA-C000002443, line 1108).

5 85. Based on my inspection of Samsung source code for each major release of  
6 Android running on the Samsung Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I believe that  
7 each Samsung Accused Product includes similar computer code that responds to a tap gesture on  
8 a second box by substantially centering that second box on the touch screen. The claim chart in  
9 Exhibit 5 identifies analogous code that satisfies this element in Android 2.3, 2.2, and 2.1. In my  
10 opinion, each of the Samsung Accused Products meets this recitation of claim 2.

11 86. To the extent that this limitation is not met literally, in my opinion it is met under  
12 the doctrine of equivalents because the relevant operations of the Android software of the  
13 Samsung Accused Products in translating the structured document so that the second box is  
14 substantially centered in response to a tap on the display are insubstantially different from the  
15 recited method step.

16 87. In particular, the relevant operations of the Android software of the Samsung  
17 Accused Products perform substantially the same function as recited in claim 2, translating the  
18 structured document so that the second box is substantially centered on the touch screen display  
19 in response to detecting the second gesture, namely a tap by the user. In addition, the relevant  
20 operations of the Android software of the Samsung Accused Products perform that function in  
21 substantially the same way by executing computer instructions with a processor. Finally, the  
22 relevant operations of the Android software of the Samsung Accused Products achieve  
23 substantially the same result by substantially centering a second box in response to a tap by the  
24 user.

25 88. Based on the foregoing analysis of documents, source code, and the operation of  
26 the Samsung Accused Products, I conclude that each and every element of claim 2 is met by the  
27 ordinary and intended use of the Samsung Accused Products. Therefore, the ordinary and  
28 intended use of the Samsung Accused Products infringes claim 2.

1           89.    **Claim 4.** Claim 4 of the '163 patent recites:

2                   The method of claim 2, wherein the structured electronic document  
3                   is a web page.

4           90.    Claim 4 depends from claim 2 and further requires that the structured electronic  
5           document is a web page. The analysis of claim 2, elements 3-7, above, demonstrates how the  
6           ordinary and intended use of Samsung Accused Products infringe claim 2 when the structured  
7           electronic document is a web page accessed in each Samsung Accused Product's Browser  
8           application.

9           91.    Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
10           Accused Products infringes claim 4.

11           92.    **Claim 5.** Claim 5 of the '163 patent recites:

12                   The method of claim 2, wherein the structured electronic document  
13                   is an HTML or XML document.

14           93.    Claim 5 depends from claim 2 and further requires that the structured electronic  
15           document is an HTML or XML document. The analysis of claim 2, element 2, above,  
16           demonstrates how the ordinary and intended use of Samsung Accused Products infringe claim 2  
17           when the structured electronic document is an HTML document accessed in each Samsung  
18           Accused Product's Browser application.

19           94.    Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
20           Accused Products literally infringes claim 5.

21           95.    To the extent that this limitation is not met literally, in my opinion it is met under  
22           the doctrine of equivalents because the structured electronic documents accessed by the Browser  
23           application of the Samsung Accused Products are insubstantially different from an HTML or  
24           XML document as recited in claim 5.

25           96.    In particular, the structured electronic documents accessed by the Browser  
26           application of the Samsung Accused Products perform substantially the same function of  
27           displaying information in a plurality of boxes, using HTML documents. In addition, the  
28           structured electronic documents accessed by the Browser application of the Samsung Accused  
29           Products perform that function in substantially the same way by executing computer instructions

1 in a processor. Finally the structured documents accessed by the Browser application of the  
2 Samsung Accused Products achieve substantially the same result by presenting electronic  
3 structured documents in HTML format.

4 97. **Claim 6.** Claim 6 of the ’163 patent recites:

5 The method of claim 2, wherein:

6 [a] the structured electronic document has a document width and a  
7 document length;

8 [b] the touch screen display has a display width; and

9 [c] displaying at least a portion of the structured electronic  
10 document comprises scaling the document width to fit within the  
display width independent of the document length.

11 98. Claim 6 depends from claim 2 and further requires that [a] the structured electronic  
12 document has a document width and a document length, [b] the touch screen display has a display  
13 width, and [c] displaying the document comprises scaling the document width to fit within the  
14 display width independent of the document length. The ordinary and intended use of Samsung  
15 Accused Products meets each and every limitation of claim 6 either literally or, in the alternative,  
16 under the doctrine of equivalents.

17 99. **Claim 6, Element [a]:** The ordinary and intended use of the Samsung Accused  
18 Products meets the limitation “the structured electronic document has a document width and a  
19 document length.” Each of the Samsung Accused Products has computer code that keeps track of  
20 the document width and document length of a web page accessed in the Browser application. For  
21 example, on the Galaxy Tab 10.1, the WebView object that corresponds to the displayed web  
22 page includes a getContentWidth() method that returns the width of the web page document, and  
23 a getContentHeight() method that returns the length of the web page document. (*See, e.g.,*  
24 SAMNDCA-C000002404 (calling these methods to calculate width and length of the web page  
25 document).)

26 100. Based on my inspection of Samsung source code for each major release of  
27 Android running on the Samsung Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I believe that  
28 each Samsung Accused Product includes similar computer code that tracks the document width

1 and document length of a web page. The claim chart in Exhibit 5 identifies analogous code that  
2 satisfies this element in Android 2.3. In my opinion, each of the Samsung Accused Products  
3 meets this recitation of claim 6.

4 101. To the extent that this limitation is not met literally, in my opinion it is met under  
5 the doctrine of equivalents because the structured electronic documents accessed by the Browser  
6 application of the Samsung Accused Products are insubstantially different from the structured  
7 electronic documents as described in claim 6.

8 102. In particular, the structured documents accessed by the Browser application of the  
9 Samsung Accused Products perform substantially the same function of having a document width  
10 and document length as the structured documents of the ’163 patent. In addition, the structured  
11 documents accessed by the Browser application of the Samsung Accused Products perform that  
12 function in substantially the same way by executing computer instructions with a processor.  
13 Finally, the structured documents accessed by the Browser application of the Samsung Accused  
14 Products achieve substantially the same result by enabling the information in the document to be  
15 displayed for the user.

16 103. **Claim 6, Element [b]:** The ordinary and intended use of the Samsung Accused  
17 Products meets the limitation “the touch screen display has a display width.” Each of the  
18 Samsung Accused Products has computer code that keeps track of the device’s display width.  
19 For example, on the Galaxy Tab 10.1, the Display class includes a getWidth() method that,  
20 according to the accompanying comment, “[r]eturns the raw width of the display, in pixels.”  
21 (SAMNDCA-C000002492.)

22 104. Based on my inspection of Samsung source code for each major release of  
23 Android running on the Samsung Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I believe that  
24 each Samsung Accused Product includes similar computer code that tracks the touch screen  
25 display width. The claim chart in Exhibit 5 identifies analogous code that satisfies this element in  
26 Android 2.3, 2.2, and 2.1. In my opinion, each of the Samsung Accused Products meets this  
27 recitation of claim 6.  
28



1           105. To the extent that this limitation is not met literally, in my opinion it is met under  
2 the doctrine of equivalents because the touch screens of the Samsung Accused Products are  
3 insubstantially different from the touch screens described in claim 6 in that they have a display  
4 width.

5           106. In particular, the touch screens of the Samsung Accused Products perform  
6 substantially the same function as the touch screens of the ’163 patent, displaying information  
7 that a user can interact with via touch gestures in an area with a set width. In addition, the touch  
8 screens of the Samsung Accused Products perform that function in substantially the same way by  
9 implementing computer code that tracks the touch screen display width. Finally, the touch screen  
10 displays of the Samsung Accused Products achieve substantially the same result by displaying  
11 information on a touch screen with a set width.

12           107. **Claim 6, Element [c]:** The ordinary and intended use of the Samsung Accused  
13 Products meets the limitation “displaying at least a portion of the structured electronic document  
14 comprises scaling the document width to fit within the display width independent of the  
15 document length.” When each Accused Product displays a web page in the Browser application,  
16 the web page is displayed, when it first loads, such that the document width fits exactly within the  
17 display width, regardless of the document length. The web page is scaled appropriately to  
18 accomplish this. For example, the figures below show the Galaxy S II and the Galaxy Tab 10.1  
19 displaying a web page such that the web page width is scaled to fit within (and fill) the display  
20 width, without regard to the web page’s length:



1 Fig. 11: Galaxy S II Browser scaling the document width to fit within the display width  
2 independent of the document length  
3



12 Fig. 12: Galaxy Tab 10.1 Browser scaling the document width to fit within the display width  
13 independent of the document length

14 108. My review of Samsung source code running on the Samsung Accused Products  
15 confirms that the Browser application scales the document width to fit within the display width  
16 independent of document length. For example, on the Galaxy Tab 10.1, the onSizeChanged()  
17 method of the ZoomManager class calls getZoomOverviewScale() to calculate the scale of the  
18 web page when it is fully zoomed out, as it is when the Browser application first loads.  
19 (SAMNDCA-C000002413, line 1455.) The getZoomOverviewScale() method calculates the  
20 scale for the web page as a function of only the document width. (See SAMNDCA-C000002404,  
21 line 1044). Because the document length is not involved in this calculation of the scaling factor,  
22 the scaling that occurs based on it is independent of document length.

23 109. Based on my inspection of Samsung source code for each major release of  
24 Android running on the Samsung Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I believe that  
25 each Samsung Accused Product includes similar computer code that scales the document width to  
26 fit within the display width independent of the document length. The claim chart in Exhibit 5  
27 identifies analogous code that satisfies this element in Android 2.3, 2.2, and 2.1. In my opinion,  
28 each of the Samsung Accused Products meets this recitation of claim 6.

1           110. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
2 Accused Products literally infringes claim 6.

3           111. To the extent that this limitation is not met literally, in my opinion it is met under  
4 the doctrine of equivalents because the relevant operations of the Browser application of the  
5 Samsung Accused Products that scale electronic document width to fit the display are  
6 insubstantially different from the recited method step.

7           112. In particular, the relevant operations of the Browser application of the Samsung  
8 Accused Products perform substantially the same function as the recited method step, scaling the  
9 structured electronic document width to fit within the display width independent of the document  
10 length. In addition, the relevant operations of the Browser application of the Samsung Accused  
11 Products achieve substantially the same result by scaling the width of electronic documents to fit  
12 the display screen width independent of the length of the document.

13           113. **Claim 7.** Claim 7 of the ’163 patent recites:

14                   The method of claim 6, wherein:

15                   [a] the touch screen display is rectangular with a short axis and a  
16                   long axis;

17                   [b] the display width corresponds to the short axis when the  
18                   structured electronic document is seen in portrait view; and the  
19                   display width corresponds to the long axis when the structured  
20                   electronic document is seen in landscape view.

21           114. Claim 7 depends from claim 6 and further requires that [a] the touch screen display  
22 is rectangular with a short axis and a long axis, [b] the display width corresponds to the short axis  
23 when the structured electronic document is seen in portrait view; and the display width  
24 corresponds to the long axis when the structured electronic document is seen in landscape view.  
25 The ordinary and intended use of Samsung Accused Products meets each and every limitation of  
26 claim 7.

27           115. **Claim 7, Element [a]:** The ordinary and intended use of the Samsung Accused  
28 Products meets the limitation “the touch screen display is rectangular with a short axis and a long  
axis.” Inspection of the Samsung Accused Products makes plain that each has a rectangular touch  
screen display with a short and a long axis, as Figures 11 and 12 exemplify for the Galaxy S II

1 and Galaxy Tab 10.1 devices. In my opinion, each of the ordinary and intended use of Samsung  
2 Accused Products meets this recitation of claim 7.

3 116. To the extent that this limitation is not met literally, in my opinion it is met under  
4 the doctrine of equivalents because the touch screen display of the Samsung Accused Products  
5 are insubstantially different from the touch screen display as described in claim 7.

6 117. In particular, the touch screen displays of the Samsung Accused Products perform  
7 substantially the same function of displaying information in a defined area as the touch screen  
8 displays of the ’163 patent. In addition, the touch screen displays of the Samsung Accused  
9 Products perform that function in substantially the same way by having a rectangular shape with a  
10 short axis and a long axis. Finally, the touch screen displays of the Samsung Accused Products  
11 achieve substantially the same result by presenting information on a rectangular screen.

12 118. **Claim 7, Element [b]:** The ordinary and intended use of the Samsung Accused  
13 Products meets the limitation “the display width corresponds to the short axis when the structured  
14 electronic document is seen in portrait view; and the display width corresponds to the long axis  
15 when the structured electronic document is seen in landscape view.” Each of the Samsung  
16 Accused Products has computer code that takes account of the device’s rotation whether portrait  
17 or landscape orientation in the method that returns the display width. For example, on the  
18 Galaxy Tab 10.1, the getWidth() method in the Display class includes the following comment in  
19 the source code: “Returns the raw width of the display, in pixels. . . . This value is adjusted for  
20 you based on the current rotation of the display.” (SAMNDCA-C000002492.) As shown in  
21 Figures 11 and 12 above and in the videos attached as Exhibits 11c and 12c,<sup>7</sup> the Browser  
22 application on the Samsung Accused Products scales a web page to fit within the short axis in  
23 portrait view and to fit within the long axis in landscape view. In my opinion, each of the  
24 Samsung Accused Products meets this recitation of claim 7.

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25  
26  
27 <sup>7</sup> Video attached as Exhibit 13c shows the same features demonstrated on the Samsung  
28 Vibrant and the Samsung Galaxy S Showcase.

1           119. Based on my inspection of Samsung source code for each major release of  
2 Android running on the Samsung Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I believe that  
3 each Samsung Accused Product includes similar computer code that orients the display width  
4 according to portrait and landscape views. The claim chart in Exhibit 5 identifies analogous code  
5 that satisfies this element in Android 2.3, 2.2, and 2.1. In my opinion, each of the Samsung  
6 Accused Products meets this recitation of claim 6.

7           120. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
8 Accused Products literally infringes claim 7.

9           121. To the extent that this limitation is not met literally, in my opinion it is met under  
10 the doctrine of equivalents because the relevant operations of the Samsung Accused Products in  
11 displaying structured documents in portrait and landscape views are insubstantially different from  
12 the recited method step.

13           122. In particular, the relevant operations of the Samsung Accused Products perform  
14 substantially the same function as the recited method step, corresponding the display width to the  
15 short axis when the structured electronic document is seen in portrait view, and corresponding the  
16 display width to the long axis when the structured electronic document is seen in landscape view.  
17 In addition, the relevant operations of the Samsung Accused Products perform that function in  
18 substantially the same way by executing computer instructions with a processor. Finally, the  
19 relevant operations of the Samsung Accused Products achieve substantially the same result by  
20 displaying content in landscape view, or portrait view, depending on the orientation and rotation  
21 of the device.

22           123. **Claim 8.** Claim 8 of the ’163 patent recites:

23           The method of claim 2, wherein the plurality of boxes are defined  
24           by a style sheet language.

25           124. Claim 8 depends from claim 2 and further requires that the plurality of boxes are  
26 defined by a style sheet language. Each of the Samsung Accused Products includes a Browser  
27 application capable of displaying web pages via the WebView class that define boxes of  
28 content using Cascading Style Sheets (CSS). (*See*

1 <http://developer.android.com/reference/android/webkit/WebView.html> (“Starting with API Level  
2 5 (Android 2.0), WebView supports DOM, CSS, and meta tag features . . . .”) CSS is a style  
3 sheet language. (See Ex. 15, Cascading Style Sheets Specification (“CSS 2.1 is a style sheet  
4 language . . . .”).) The source code for the web page used to demonstrate the elements of claim 2  
5 above, [www.nytimes.com](http://www.nytimes.com), confirms that that web page uses CSS to define the plurality of boxes  
6 displayed. (See Ex. 10, source code for [www.nytimes.com](http://www.nytimes.com).)

7 125. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
8 Accused Products literally infringes claim 8.

9 126. To the extent that this limitation is not met literally, in my opinion it is met under  
10 the doctrine of equivalents because the relevant operations of the Browser application of each  
11 Samsung Accused Product that define the plurality of boxes in a structured document are  
12 insubstantially different from the method recited in claim 8.

13 127. In particular, the relevant operations of the Browser application of each Samsung  
14 Accused Product perform substantially the same function as the recited method step, defining the  
15 plurality of boxes by CSS. In addition, the relevant operations of the Browser application of each  
16 Samsung Accused Product perform that function in substantially the same way by executing  
17 computer instructions with a processor. Finally, the relevant operations of the Browser  
18 application of the Samsung Accused Products achieve substantially the same result by defining  
19 the boxes of an electronic structured document with CSS.

20 128. **Claim 9.** Claim 9 of the ’163 patent recites:

21 The method of claim 8, wherein the style sheet language is a  
22 cascading style sheet language.

23 129. Claim 9 depends from claim 8 and further requires that the style sheet language is  
24 a cascading style sheet language. The example of Cascading Style Sheets used to demonstrate  
25 infringement of claim 8 above is a cascading style sheet language.

26 130. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
27 Accused Products literally infringes claim 9.

1           131. To the extent that this limitation is not met literally, in my opinion it is met under  
2 the doctrine of equivalents because the cascading style sheet language used by the Browser  
3 application of the Samsung Accused Products is insubstantially different from the cascading style  
4 sheet language as recited in claim 9

5           132. In particular, the cascading style sheet language used by the Browser application  
6 of the Samsung Accused Products perform substantially the same function of defining the  
7 plurality of boxes to be displayed as the cascading style sheet language of the 163 patent. In  
8 addition, the cascading style sheet language used by the Browser application of the Samsung  
9 Accused Products perform that function in substantially the same way, by providing computer  
10 instructions. Finally, the cascading style sheet language used by the Browser application of the  
11 Samsung Accused Products achieve substantially the same result by defining the boxes of  
12 structured electronic documents.

13           133. **Claim 10.** Claim 10 of the '163 patent recites:

14                     The method of claim 2, wherein the first gesture is a finger gesture.

15           134. Claim 10 depends from claim 2 and further requires that the first gesture is a finger  
16 gesture. Figures 3 and 4 in the analysis of claim 2, above, as well as the videos attached as  
17 Exhibits 11a and 12a, show infringement of claim 2 where the first gesture is performed by the  
18 user with a finger. The first gesture is therefore a finger gesture. All of the Samsung Accused  
19 Products detect and respond to a similar first gesture with a finger.

20           135. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
21 Accused Products infringes claim 10.

22           136. **Claim 12.** Claim 12 of the '163 patent recites:

23                     The method of claim 2, wherein the first gesture is a tap gesture.

24           137. Claim 12 depends from claim 2 and further requires that the first gesture is a tap  
25 gesture. The videos attached as Exhibits 11a and 12a, show infringement of claim 2 where the  
26 first gesture is a double tap by the user on the touch screen display. The first gesture is therefore  
27 a tap gesture. All of the Samsung Accused Products detect and respond to a similar tap first  
28 gesture.

1           138. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
2 Accused Products infringes claim 12.

3           139. **Claim 13.** Claim 13 of the '163 patent recites:

4                     The method of claim 12, wherein the first gesture is a double tap  
5                     with a single finger, a double tap with two fingers, a single tap with  
6                     a single finger, or a single tap with two fingers.

7           140. Claim 13 depends from claim 12 and further requires that the first gesture is a  
8 double tap with a single finger, a double tap with two fingers, a single tap with a single finger, or  
9 a single tap with two fingers. The videos attached as Exhibits 11a and 12a, show infringement of  
10 claim 2 where the first gesture is a double tap by the user on the touch screen display. All of the  
11 Samsung Accused Products detect and respond to a similar double tap first gesture.

12           141. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
13 Accused Products infringes claim 13.

14           142. **Claim 17.** Claim 17 of the '163 patent recites:

15                     The method of claim 2, wherein enlarging and translating the  
16                     structured electronic document comprises displaying at least a  
17                     portion of the second box of the plurality of boxes of content on the  
18                     touch screen display.

19           143. Claim 17 depends from claim 2 and further requires that at least a portion of the  
20 second box of content be displayed on the touch screen after enlarging and translating the  
21 structured electronic document. Figures 7 and 8 in the analysis of claim 2, above, as well as the  
22 videos attached as Exhibits 11a and 12a, show the Galaxy S II and Galaxy Tab 10.1 displaying at  
23 least a portion of the second box of content after a double tap gesture causes enlarging and  
24 translating of the first box. All of the Samsung Accused Products operate similarly in this regard.

25           144. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
26 Accused Products literally infringes claim 17.

27           145. To the extent that this limitation is not met literally, in my opinion it is met under  
28 the doctrine of equivalents because the relevant operations of the Browser application of the  
Samsung Accused Products which enlarge and translate structured electronic documents are  
insubstantially different from the recited method step.



1           146. In particular, the relevant operations of the Browser application of the Samsung  
2 Accused Products provide substantially the same function as the recited method step, displaying  
3 at least a portion of the second box of content after a double tap gesture causes enlarging and  
4 translating of the first box. In addition, the relevant operations of the Browser application  
5 perform that function in substantially the same way by executing computer instructions with a  
6 processor. Finally, the relevant operations of the Browser application of the Samsung Accused  
7 Products achieve substantially the same result by displaying at least a portion of a second box  
8 after enlarging a box of a structured document.

9           147. **Claim 18.** Claim 18 of the '163 patent recites:

10                   The method of claim 2, wherein enlarging comprises expanding the  
11                   first box so that the width of the first box is substantially the same  
                    as the width of the touch screen display.

12           148. Claim 18 depends from claim 2 and further requires that enlarging comprises  
13 expanding the first box so that the width of the first box is substantially the same as the width of  
14 the touch screen display. Figure 5 and the video attached as Exhibit 11a show this behavior on  
15 the Galaxy S II in demonstrating the infringement of claim 2. Based upon my observation of  
16 each of the Samsung Accused Products in operation, I believe that all of the Samsung Accused  
17 Products, with the exception of the Galaxy Tab 10.1, similarly expand the first box, in response to  
18 a double tap gesture, so that it is substantially the same width as the touch screen display.

19           149. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
20 Accused Products, with the exception of the Galaxy Tab 10.1, literally infringes claim 18.

21           150. To the extent that this limitation is not met literally, in my opinion it is met under  
22 the doctrine of equivalents because the relevant operations of the Browser application in the  
23 Samsung Accused Products which enlarge and expand the first box of a structured document to  
24 the width of the touch screen display are insubstantially different from the recited method step.

25           151. In particular, the relevant operations of the Samsung Accused Products perform  
26 substantially the same function of expanding the first box, in response to a double tap gesture, so  
27 that it is substantially the same width as the touch screen display. In addition, the Samsung  
28 Accused Products perform that function in substantially the same way by executing computer

1 instructions with a processor. Finally, the Browser application of the Samsung Accused Products  
2 achieve substantially the same result by enlarging and expanding the box of the structured  
3 document to fit the display screen in response to the user's gesture.

4 152. **Claim 27.** Claim 27 of the '163 patent recites:

5 The method of claim 2, including:

6 detecting a third gesture on the enlarged second box; and in  
7 response to detecting the third gesture, reducing in size the  
8 displayed portion of the structured electronic document.

9 153. Claim 27 depends from claim 2 and further requires detecting a third gesture on  
10 the second enlarged box and reducing the size of the displayed portion of the structured electronic  
11 document in response to it. The videos attached as Exhibits 11a and 12a, show the Galaxy S II  
12 and Galaxy Tab 10.1 detecting a third gesture, a double tap, on the second enlarged box and  
13 zooming out in response. Based upon my observation of each of the Samsung Accused Products  
14 in operation, I believe that all of the Samsung Accused Products, with the exception of the Galaxy  
15 S II Epic 4G Touch, similarly detect and respond to a double tap on the second enlarged box by  
16 zooming out as shown in Exhibits 11a and 12a. My review of Samsung's source code  
17 implementing this feature is discussed in connection with claim 28 below.

18 154. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
19 Accused Products, with the exception of the Galaxy S II Epic 4G Touch, literally infringes claim  
20 27.

21 155. To the extent that this limitation is not met literally, in my opinion it is met under  
22 the doctrine of equivalents because the relevant operations of the Samsung Accused Products that  
23 detect a third gesture, namely a double tap, on the second enlarged box and zoom out in response,  
24 are insubstantially different from the recited method step.

25 156. In particular, the relevant operations of the Samsung Accused Products perform  
26 substantially the same function as the recited method step, detecting a third gesture on the  
27 enlarged second box, which is a double tap, and in response to detecting the third gesture,  
28 reducing in size the displayed portion of the structured electronic document. In addition, the  
relevant operations of the Samsung Accused Products perform that function in substantially the

1 same way by executing computer instructions with a processor. Finally, the relevant operations  
2 of the Samsung Accused Products achieve substantially the same result by enabling a user to  
3 reduce the size of the previously enlarged displayed portion of the structured electronic  
4 document.

5 157. **Claim 28.** Claim 28 of the ’163 patent recites:

6 The method of claim 27, wherein the first box returns to its size  
7 prior to being enlarged.

8 158. Claim 28 depends from claim 27 and further requires that the first box returns to  
9 its size prior to being enlarged. The videos referenced in demonstrating infringement of claim 27,  
10 exhibits 11a and 12a, also show, for the Galaxy S II and Galaxy Tab 10.1 devices, that the  
11 reduction in size in response to the third gesture returns the web page including the first box of  
12 content to its pre-enlargement size. I have confirmed similar behavior by observing each of the  
13 Samsung Accused Products, with the exception of the Galaxy S II Epic 4G Touch, in operation.

14 159. My review of Samsung source code running on the Samsung Accused Products  
15 confirms that the reduction in size in response to the third gesture returns the web page  
16 including the first box of content to its pre-enlargement size. For example, the Galaxy Tab 10.1  
17 executes the handleDoubleTap() method of the ZoomManager class when it detects the third  
18 gesture (a double tap). (SAMNDCA-C000002402 to -C000002403). The code detects that the  
19 device is not in “overview” mode due to the earlier enlargement of the web page (in response to  
20 the first gesture), which causes it to call zoomToOverview(). (SAMNDCA-C000002403, lines  
21 1027-28.) The zoomToOverview() method (SAMNDCA-C000002403 to -C000002406) returns  
22 the web page to the “overview” scale, which corresponds to its size as noted in claim 6, element  
23 [c] above prior to being enlarged.

24 160. Based on my inspection of Samsung source code for each major release of  
25 Android running on the Samsung Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I believe that  
26 each Samsung Accused Product includes similar computer code returns the web page, including  
27 the first box, to its pre-enlargement size in response to the third gesture. The claim chart in  
28 Exhibit 5 identifies analogous code that satisfies this element in Android 2.3, 2.2, and 2.1.

1           161. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
2 Accused Products, with the exception of the Galaxy S II Epic 4G Touch, literally infringes claim  
3 28.

4           162. To the extent that this limitation is not met literally, in my opinion it is met under  
5 the doctrine of equivalents because the relevant operations of the Android software of the  
6 Samsung Accused Products that returns a box in a structured document to its pre-enlargement  
7 size in response to a touch gesture are insubstantially different from the recited method step.

8           163. In particular, the relevant operations of the Android software of the Samsung  
9 Accused Products perform substantially the same function as the recited method step, returning  
10 the first box to its size prior to being enlarged. In addition, the relevant operations of the Android  
11 software perform that function in substantially the same way, by executing computer instructions  
12 with a processor. Finally, the relevant operations of the Android software of the Samsung  
13 Accused Products achieve substantially the same result by returning an enlarged box in a  
14 structured document to its pre-enlargement size.

15           164. **Claim 29.** Claim 29 of the '163 patent recites:

16           The method of claim 27, wherein the third gesture and the first  
17           gesture are the same type of gesture.

18           165. Claim 29 depends from claim 27 and further requires that third gesture and the  
19 first gesture are the same type of gesture. As explained in the analysis of claims 2 and 27 above,  
20 and depicted, for the Galaxy S II and Galaxy Tab 10.1 devices, in the videos attached as Exhibits  
21 11a and 12a, both the first gesture which causes the initial enlargement and translation of the  
22 first box of content and the third gesture which zooms back out are double tap gestures.  
23 They are therefore the same type of gesture. All of the Samsung Accused Products, with the  
24 exception of the Galaxy S II Epic 4G Touch, exhibit this same identity of the first and third  
25 gestures (both are double taps).

26           166. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
27 Accused Products, with the exception of the Galaxy S II Epic 4G Touch, infringes claim 29.

28           167. **Claim 30.** Claim 30 of the '163 patent recites:

1                   The method of claim 27, wherein the third gesture is a finger  
2                   gesture.

3                   168.    Claim 30 depends from claim 27 and further requires that the third gesture is a  
4                   finger gesture. The videos attached as Exhibits 11a and 12a, show infringement of claim 27  
5                   where the third gesture is performed by the user with a finger. The third gesture is therefore a  
6                   finger gesture. All of the Samsung Accused Products, with the exception of the Galaxy S II Epic  
7                   4G Touch, detect and respond to a similar third gesture with a finger.

8                   169.    Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
9                   Accused Products, with the exception of the Galaxy S II Epic 4G Touch, infringes claim 30.

10                  170.    **Claim 32.** Claim 32 of the '163 patent recites:

11                               The method of claim 27, wherein the third gesture is a tap gesture.

12                  171.    Claim 32 depends from claim 27 and further requires that the third gesture is a tap  
13                  gesture. The videos attached as Exhibits 11a and 12a, show infringement of claim 27 where the  
14                  third gesture is a double tap by the user on the touch screen display. The third gesture is therefore  
15                  a tap gesture. All of the Samsung Accused Products, with the exception of the Galaxy S II Epic  
16                  4G Touch, detect and respond to a similar tap third gesture.

17                  172.    Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
18                  Accused Products, with the exception of the Galaxy S II Epic 4G Touch, infringes claim 32.

19                  173.    **Claim 33.** Claim 33 of the '163 patent recites:

20                               The method of claim 32, wherein the third gesture is a double tap  
21                               with a single finger, a double tap with two fingers, a single tap with  
22                               a single finger, or a single tap with two fingers.

23                  174.    Claim 33 depends from claim 32 and further requires that the third gesture is a  
24                  double tap with a single finger, a double tap with two fingers, a single tap with a single finger, or  
25                  a single tap with two fingers. The videos attached as Exhibits 11a and 12a, show infringement of  
26                  claim 32 where the third gesture is a double tap with a single finger by the user on the touch  
27                  screen display. All of the Samsung Accused Products, with the exception of the Galaxy S II Epic  
28                  4G Touch, detect and respond to a similar double tap third gesture.

1           175. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
2 Accused Products, with the exception of the Galaxy S II Epic 4G Touch, infringes claim 33.

3           176. **Claim 34.** Claim 34 of the ’163 patent recites:

4                     The method of claim 2, wherein the second gesture and the first  
5                     gesture are the same type of gesture.

6           177. Claim 34 depends from claim 2 and further requires that second gesture and the  
7 first gesture are the same type of gesture. As explained in the analysis of claim 2 above, and  
8 depicted, for the Galaxy S II and Galaxy Tab 10.1 devices, in the videos attached as Exhibits 11a  
9 and 12a, both the first gesture and the second gesture are finger gestures. Both are also tap  
10 gestures. They are therefore the same type of gesture. All of the Samsung Accused Products are  
11 similar in the sense that both the first gesture and the second gesture can be finger gestures, or  
12 both can be tap gestures.

13           178. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
14 Accused Products infringes claim 34.

15           179. **Claim 35.** Claim 35 of the ’163 patent recites:

16                     The method of claim 2, wherein the second gesture is a finger  
17                     gesture.

18           180. Claim 35 depends from claim 2 and further requires that the second gesture is a  
19 finger gesture. Figures 9 and 10 in the analysis of claim 2, above, as well as the videos attached  
20 as Exhibits 11a and 12a, show infringement of claim 2 where the second gesture is performed by  
21 the user with a finger. The second gesture is therefore a finger gesture. All of the Samsung  
22 Accused Products detect and respond to a similar second gesture with a finger.

23           181. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
24 Accused Products infringes claim 35.

25           182. **Claim 37.** Claim 37 of the ’163 patent recites:

26                     The method of claim 2, wherein the second gesture is a tap gesture.

27           183. Claim 37 depends from claim 2 and further requires that the second gesture is a tap  
28 gesture. The video attached as Exhibits 11a and 12a, show infringement of claim 2 where the  
second gesture is a single tap (on the Galaxy Tab 10.1) or double tap (on the Galaxy S II) by the

1 user on the touch screen display. The second gesture is therefore a tap gesture. All of the  
2 Samsung Accused Products detect and respond to a similar tap second gesture.

3 184. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
4 Accused Products infringes claim 37.

5 185. **Claim 38.** Claim 38 of the '163 patent recites:

6 The method of claim 37, wherein the second gesture is a double tap  
7 with a single finger, a double tap with two fingers, a single tap with  
8 a single finger, or a single tap with two fingers.

9 186. Claim 38 depends from claim 37 and further requires that the second gesture is a  
10 double tap with a single finger, a double tap with two fingers, a single tap with a single finger, or  
11 a single tap with two fingers. The video attached as Exhibits 11a and 12a, show infringement of  
12 claim 37 where the second gesture is a single tap with a single finger (on the Galaxy Tab 10.1) or  
13 a double tap with a single finger (on the Galaxy S II) by the user on the touch screen display. All  
14 of the Samsung Accused Products detect and respond to similar single or double tap gestures with  
15 a single finger.

16 187. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
17 Accused Products infringes claim 38.

18 188. **Claim 39.** Claim 39 of the '163 patent recites:

19 The method of claim 2, including:

20 detecting a swipe gesture on the touch screen display; and in  
21 response to detecting the swipe gesture, translating the displayed  
22 portion of the structured electronic document on the touch screen  
23 display.

24 189. Claim 39 depends from claim 2 and further requires detecting a swipe gesture and  
25 responding by translating the displayed portion of the structured electronic document on the touch  
26 screen display. The figures below, and the videos attached as Exhibits 11b and 12b,<sup>8</sup> show the  
27 Galaxy S II and Galaxy Tab 10.1 detecting a swipe gesture and responding by translating the web  
28 page displayed in the Browser application:

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<sup>8</sup> Videos attached as Exhibits 13b and 14b show the same features demonstrated on the Samsung Vibrant and the Samsung Galaxy S Showcase.

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Fig. 13: Galaxy S II Browser detecting and responding to a swipe gesture



Fig. 14: Galaxy Tab 10.1 Browser detecting and responding to a swipe gesture

190. Based upon my observation of each of the Samsung Accused Products in operation, I believe that all of the Samsung Accused Products similarly detect and respond to a swipe gesture by translating, or scrolling, the displayed web page.

191. My review of Samsung source code running on the Samsung Accused Products confirms that the Browser application on each Samsung Accused Product detects and responds to a one-fingered swipe gesture by translating, or scrolling, the displayed web page. I describe in



1 greater detail the source code that accomplishes detecting and responding to a single-finger  
2 scrolling, such as the swipe gesture described in this claim, in my analysis of claim 1 of the '915  
3 patent. I incorporate that source code discussion here by reference.

4 192. Based on the foregoing analysis, I conclude that the ordinary and intended use of  
5 the Samsung Accused Products literally infringes claim 39.

6 193. To the extent that this limitation is not met literally, in my opinion it is met under  
7 the doctrine of equivalents because the relevant operations of the Samsung Accused Products that  
8 detect and respond to a swipe gesture by translating, or scrolling, the web page, are  
9 insubstantially different from the recited method step.

10 194. In particular, the relevant operations of the Samsung Accused Products perform  
11 substantially the same function of detecting a swipe gesture on the touch screen display, and in  
12 response to that swipe gesture translating, or scrolling the displayed web page. In addition, the  
13 relevant operations of the Samsung Accused Products perform that function in substantially the  
14 same way by executing computer instructions with a processor. Finally, the relevant operations  
15 of the Samsung Accused Products achieve substantially the same result by detecting a swipe  
16 gesture, and translating, or scrolling the displayed web page.

17 195. **Claim 40.** Claim 40 of the '163 patent recites:

18 The method of claim 39, wherein translating comprises vertical,  
19 horizontal, or diagonal movement of the structured electronic  
document on the touch screen display.

20 196. Claim 40 depends from claim 39 and further requires that the translating comprises  
21 vertical, horizontal, or diagonal movement of the structured electronic document on the touch  
22 screen display. The example used to demonstrate infringement of claim 39 above shows vertical  
23 movement of a web page in the Browser application in response to a finger swipe gesture. That  
24 analysis therefore satisfies the additional limitation of this claim.

25 197. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
26 Accused Products literally infringes claim 40.

27 198. To the extent that this limitation is not met literally, in my opinion it is met under  
28 the doctrine of equivalents because the relevant operations of the Samsung Accused Products that

1 translate a finger swipe gesture on the display screen into vertical movement of a web page is are  
2 insubstantially different from the recited method step.

3 199. In particular, the relevant operations of the Samsung Accused Products perform  
4 substantially the same function as the recited method step, translating a finger swipe gesture into  
5 vertical movement of a structured electronic document on the touch screen display. In addition,  
6 the relevant operations of the Samsung Accused Products perform that function in substantially  
7 the same way by executing computer instructions with a processor. Finally, the relevant  
8 operations of the Samsung Accused Products achieve substantially the same result by responding  
9 to a finger swipe gesture by translating that gesture into vertical movement of the structured  
10 electronic document on the touch screen display.

11 200. **Claim 41.** Claim 41 of the ’163 patent recites:

12 The method of claim 39, wherein the swipe gesture is a finger  
13 gesture.

14 201. Claim 41 depends from claim 39 and further requires that the swipe gesture is a  
15 finger gesture. Figures 13 and 14 in the analysis of claim 39, above, as well as the videos  
16 attached as Exhibits 11b and 12b, show infringement of claim 39 where the swipe gesture is  
17 performed by the user with a finger. The swipe gesture is therefore a finger gesture. All of the  
18 Samsung Accused Products detect and respond to a similar swipe gesture with a finger.

19 202. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
20 Accused Products infringes claim 41.

21 203. **Claim 47.** Claim 47 of the ’163 patent recites:

22 The method of claim 2, including:

23 detecting a change in orientation of the device, in response to  
24 detecting the change in orientation of the device, rotating the  
displayed portion of the structured electronic document on the  
touch screen display by 90 degrees.

25 204. Claim 47 depends from claim 2 and further requires detecting a change in  
26 orientation of the device and responding by rotating the displayed portion of the structured  
27 electronic document on the touch screen display by 90 degrees. The videos attached as Exhibits  
28 11c and 12c, show the Galaxy S II and Galaxy Tab 10.1 rotating a web page displayed in the

1 Browser application by 90 degrees in response to a change in orientation of the device. In  
2 addition, Figures 11 and 12 above show the Galaxy S II and Galaxy Tab 10.1 displaying a web  
3 page before and after a change in orientation of the devices. Figures 11 and 12 show that the  
4 displayed web page rotates by 90 degrees in response to the orientation change.

5 205. Based upon my observation of each of the Samsung Accused Products in  
6 operation, I believe that all of the Samsung Accused Products similarly rotate a web page  
7 displayed in the Browser application by 90 degrees in response to a change in orientation of the  
8 device, as shown in Exhibits 11c and 12c and Figures 11 and 12.

9 206. Accordingly, it is my opinion that the ordinary and intended use of the Samsung  
10 Accused Products literally infringes claim 47.

11 207. To the extent that this limitation is not met literally, in my opinion it is met under  
12 the doctrine of equivalents because the relevant operations of the Samsung Accused Products that  
13 rotate the displayed portion of the structured electronic document on the touch screen display in  
14 response to the orientation of the device are insubstantially different from the recited method step.

15 208. In particular, the relevant operations of the Samsung Accused Products perform  
16 substantially the same function as the recited method step, rotating the displayed portion of the  
17 structured electronic document 90 degrees on the touch screen display in response to change in  
18 the orientation of the device. In addition, the relevant operations of the Samsung Accused  
19 Products perform that function in substantially the same way by executing computer instructions  
20 with a processor. Finally, the relevant operations of the Accuse products achieve substantially  
21 the same result by rotating the displayed portion of the structured electronic document in response  
22 to a change in the orientation of the device.

23 209. **Claim 48.** Claim 48 of the '163 patent recites:

24 The method of claim 2, including:

25 detecting a multi-finger de-pinch gesture on the touch screen  
26 display, in response to detecting the multi-finger de-pinch gesture,  
27 enlarging a portion of the displayed portion of the structured  
28 electronic document on the touch screen display in accordance with  
a position of the multi-finger de-pinch gesture and an amount of  
finger movement in the multi-finger de-pinch gesture.

1           210. Claim 48 depends from claim 2 and further requires detecting a multi-finger de-  
2 pinch gesture and responding by enlarging a portion of the displayed portion of the structured  
3 electronic document on the touch screen display in accordance with a position of the multi-finger  
4 de-pinch gesture and an amount of finger movement in the multi-finger de-pinch gesture. The  
5 figures below, and the videos attached as Exhibits 11b and 12b, show the Galaxy S II and Galaxy  
6 Tab 10.1 detecting two-finger de-pinch gesture and responding by scaling the web page displayed  
7 in the Browser application based on the position of the de-pinch and the finger movement in it:



17           Fig. 15: Galaxy S II Browser detecting and responding to a de-pinch gesture



1            Fig. 16: Galaxy Tab 10.1 Browser detecting and responding to a de-pinch gesture

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3            211.    Based upon my observation of each of the Samsung Accused Products in  
4 operation, I believe that all of the Samsung Accused Products similarly detect and respond to a  
5 de-pinch gesture by scaling the web page based on the position of the de-pinch and the finger  
6 movement in it.

7            212.    My review of Samsung source code running on the Samsung Accused Products  
8 confirms that the Browser application on each Samsung Accused Product detects and responds to  
9 a two-fingered de-pinch gesture by scaling the web page based on the position of the de-pinch  
10 and the finger movement in it. I describe in greater detail the source code that accomplishes  
11 detecting and responding to a such a de-pinch gesture in my analysis of claim 1 of the '915  
12 patent. I incorporate that source code discussion here by reference.

13            213.    Accordingly, I conclude that the ordinary and intended use of the Samsung  
14 Accused Products literally infringes claim 48.

15            214.    To the extent that this limitation is not met literally, in my opinion it is met under  
16 the doctrine of equivalents because the relevant operations of the Browser application of the  
17 Samsung Accused Products that detect and respond to a two-fingered de-pinch gesture by scaling  
18 the web page based on the position of the de-pinch and the finger movement in it are  
19 unsubstantially different from the recited method step.

20            215.    In particular, the relevant operations of the Browser application of the Samsung  
21 Accused Products perform substantially the same function as the recited method step, detecting  
22 and responding to a de-pinch gesture by scaling the web page based on the position of the de-  
23 pinch and the finger movement in it. In addition, the relevant operations of the Browser  
24 application of the Samsung Accused Products perform that function in substantially the same way  
25 by executing computer instructions with a processor. Finally, the relevant operations of the  
26 Browser application of the Samsung Accused Products achieve substantially the same result by  
27 detecting and responding to a de-pinch gesture on the display screen by scaling the web page  
28 based on the position of the de-pinch and the finger movement in it.

1           216.   **Claim 49.** Claim 49 of the ’163 patent recites:

2                   A graphical user interface on a portable electronic device with a  
3                   touch screen display, comprising:

4                   [a] at least a portion of a structured electronic document, wherein  
5                   the structured electronic document comprises a plurality of boxes of  
6                   content; wherein:

7                   [b] in response to detecting a first gesture at a location on the  
8                   portion of the structured electronic document: a first box in the  
9                   plurality of boxes at the location of the first gesture is determined;

10                  [c] the structured electronic document is enlarged and translated so  
11                  that the first box is substantially centered on the touch screen  
12                  display;

13                  [d] while the first box is enlarged, a second gesture is detected on a  
14                  second box other than the first box; and

15                  [e] in response to detecting the second gesture, the structured  
16                  electronic document is translated so that the second box is  
17                  substantially centered on the touch screen display.

18           217.   **Claim 49, Preamble:** The preamble of claim 49 recites: “A graphical user  
19   interface on a portable electronic device with a touch screen display.” As discussed in the context  
20   of the preamble and element [a] of claim 2 above, all of the Samsung Accused Products are either  
21   smartphones (like the Galaxy S II) or tablet computers (like the Galaxy Tab 10.1) with touch  
22   screen displays. Each includes a graphical user interface, such as the Browser application user  
23   interface showing in Figures 1 and 2. Therefore the Samsung Accused Products meet the  
24   preamble of claim 49.

25           218.   To the extent that the preamble is found to be a limitation, and the limitation is not  
26   met literally, in my opinion it is met under the doctrine of equivalents because the Samsung  
27   Accused Products are all portable electronic devices with touch screen displays that have a  
28   graphical user interface, which are insubstantially different from the graphical user interface on a  
29   portable electronic device with a touch screen display as recited in claim 49

30           219.   In particular, the Samsung Accused Products perform substantially the same  
31   function of having a graphical user interface on a portable electronic devices with touch screen  
32   display as the graphical user interface of claim 49. In addition, the graphical user interface of the  
33   Samsung Accused Products performs that function in substantially the same way, by executing

1 computer instructions with a processor. Finally, the graphical user interface of the Samsung  
2 Accused Products achieve substantially the same result by having a graphical user interface on a  
3 portable electronic device with a touch screen display.

4       220.   **Claim 49, Element [a]:** Claim 49 recites: “at least a portion of a structured  
5 electronic document, wherein the structured electronic document comprises a plurality of boxes  
6 of content.”

7       221.   The Samsung Accused Products meet the claim limitation “at least a portion of a  
8 structured electronic document, wherein the structured electronic document comprises a plurality  
9 of boxes of content.” This is the same limitation present in element [b] of claim 2. The Samsung  
10 Accused Products accordingly meet this recitation of claim 49 for the reasons discussed above in  
11 connection with element [b] of claim 2 (as depicted, in particular, in Figures 1 and 2).

12       222.   **Claim 49, Element [b]:** Claim 49 recites: “in response to detecting a first gesture  
13 at a location on the portion of the structured electronic document: a first box in the plurality of  
14 boxes at the location of the first gesture is determined.”

15       223.   The Samsung Accused Products meet the claim limitation “at least a portion of a  
16 structured electronic document, wherein the structured electronic document comprises a plurality  
17 of boxes of content.” This limitation is equivalent to elements [c] and [d] of claim 2. The  
18 Samsung Accused Products accordingly meet this recitation of claim 49 for the reasons discussed  
19 above in connection with elements [c] and [d] of claim 2 (as depicted, in particular, in Figures 3  
20 and 4 and the videos in Exhibits 11a and 12a).

21       224.   **Claim 49, Element [c]:** Claim 49 recites: “the structured electronic document is  
22 enlarged and translated so that the first box is substantially centered on the touch screen display.”

23       225.   The Samsung Accused Products meet the claim limitation “the structured  
24 electronic document is enlarged and translated so that the first box is substantially centered on the  
25 touch screen display.” This limitation is equivalent to element [e] of claim 2. The Samsung  
26 Accused Products accordingly meet this recitation of claim 49 for the reasons discussed above in  
27 connection with element [e] of claim 2 (as depicted, in particular, in Figures 5 and 6 and the  
28 videos in Exhibits 11a and 12a).

1           226.   **Claim 49, Element [d]:** Claim 49 recites: “while the first box is enlarged, a  
2 second gesture is detected on a second box other than the first box.”

3           227.   The Samsung Accused Products meet the claim limitation “while the first box is  
4 enlarged, a second gesture is detected on a second box other than the first box.” This is the same  
5 limitation present in element [f] of claim 2. The Samsung Accused Products accordingly meet  
6 this recitation of claim 49 for the reasons discussed above in connection with element [f] of claim  
7 2 (as depicted, in particular, in Figures 7 and 8 and the videos in Exhibits 11a and 12a).

8           228.   **Claim 49, Element [e]:** Claim 49 recites “in response to detecting the second  
9 gesture, the structured electronic document is translated so that the second box is substantially  
10 centered on the touch screen display.”

11           229.   The Samsung Accused Products meet the claim limitation “in response to  
12 detecting the second gesture, the structured electronic document is translated so that the second  
13 box is substantially centered on the touch screen display.” This is the same limitation present in  
14 element [g] of claim 2. The Samsung Accused Products accordingly meet this recitation of claim  
15 49 for the reasons discussed above in connection with element [g] of claim 2 (as depicted, in  
16 particular, in Figures 9 and 10 and the videos in Exhibits 11a and 12a).

17           230.   I conclude that the Samsung Accused Products meet each and every element of  
18 claim 49 either literally or, in the alternative, under the doctrine of equivalents as described in the  
19 discussion of claim 2. Therefore, the Samsung Accused Products infringe claim 49.

20           231.   **Claim 50.** Claim 50 of the ’163 patent Recites:

21                   A portable electronic device, comprising:

22                   [a] a touch screen display;

23                   [b] one or more processors;

24                   [c] memory; and

25                   [d] one or more programs, wherein the one or more programs are  
26 stored in the memory and configured to be executed by the one or  
more processors, the one or more programs including:

27                   [e] instructions for displaying at least a portion of a structured  
28 electronic document on the touch screen display, wherein the



- 1           structured electronic document comprises a plurality of boxes of
- 2           content;
- 3           [f] instructions for detecting a first gesture at a location on the
- 4           displayed portion of the structured electronic document;
- 5           [g] instructions for determining a first box in the plurality of boxes
- 6           at the location of the first gesture;
- 7           [h] instructions for enlarging and translating the structured
- 8           electronic document so that the first box is substantially centered on
- 9           the touch screen display;
- 10          [i] instruction for, while the first box is enlarged, a second gesture
- 11          is detected on a second box other than the first box; and
- 12          [j] instructions for, in response to detecting the second gesture, the
- 13          structured electronic document is translated so that the second box
- 14          is substantially centered on the touch screen display.

15           232.   **Claim 50, Preamble:** The preamble of claim 50 recites: “a portable electronic  
16 device.” As described in the discussion of element [a] of claim 2, each of the Samsung Accused  
17 Products is a portable electronic device. The Samsung Accused Products accordingly meet the  
18 preamble of claim 50 for the reasons discussed above in connection with element [a] of claim 2.

19           233.   **Claim 50, Element [a]:** Claim 50 recites: “a touch screen display.” As described  
20 in the discussion of element [a] of claim 2, each of the Samsung Accused Products has a touch  
21 screen display. The Samsung Accused Products accordingly meet this recitation of claim 50 for  
22 the reasons discussed above in connection with element [a] of claim 2.

23           234.   **Claim 50, Element [b]:** Claim 50 recites: “one or more processors.” As described  
24 in the discussion of the claim 2 preamble, the Samsung Accused Products are mobile computing  
25 devices with processors that run the Android software platform. The Samsung Accused Products  
26 accordingly meet this recitation of claim 50 for the reasons discussed above in connection with  
27 the preamble to claim 2.

28           235.   **Claim 50, Element [c]:** Claim 50 recites: “memory.” The Samsung Accused  
Products contain memory. As Samsung describes its own products, they come equipped with the  
following features:

- Galaxy S II: “16GB built-in memory (on-board)” (Ex. 8 at APLNDC-Y0000060923);

- Galaxy Tab 10.1: “16GB built-in memory (on-board)” (Ex. 9 at APLNDC-Y0000061396).

236. All of the Samsung Accused Products similarly contain memory. Therefore each of the Samsung Accused Products meets this recitation of claim 50.

237. **Claim 50, Element [d]:** Claim 50 recites: “one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors.”

238. The Samsung Accused Products meet the claim limitation “one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors.” As discussed above in connection with claim 2, each of the Samsung Accused Products includes an application called “Browser,” which displays web pages written in HTML. The Browser on each Accused Product is (or includes) a program that is stored in the memory of each Accused Product and configured to be executed by its processor. This is how computers generally operate, and thus it is how the Accused Products, which are computers, perform (among other methods) the computer-implemented method discussed above in reference to Samsung’s infringement of claim 2. I have reviewed source code associated with the claims of the ’163 patent. Based on my knowledge of how computers generally operate, I believe that a copy of this source code (or some part of it) is compiled to produce machine-readable instructions which are stored in the memory of each Accused Product and configured to be executed by its processor to implement the programs that the source code describes. The particular instructions produced by compilation of the source code relevant to this claim are discussed below. Based on the foregoing, it is my opinion that the Samsung Accused Products meet this recitation of claim 50.

239. **Claim 50, Element [e]:** Claim 50 recites that the one or more programs include: “instructions for displaying at least a portion of a structured electronic document on the touch screen display, wherein the structured electronic document comprises a plurality of boxes of content.”

1           240. The Samsung Accused Products meet the claim limitation “instructions for  
2 displaying at least a portion of a structured electronic document, wherein the structured electronic  
3 document comprises a plurality of boxes of content.” This element requires instructions for  
4 performing the same limitation present in element [b] of claim 2. The Samsung Accused  
5 Products accordingly meet this recitation of claim 50 for the reasons discussed above in  
6 connection with element [b] of claim 2 (as depicted, in particular, in Figures 1 and 2). Because  
7 the Samsung Accused Products all perform element [b] of claim 2, they must have instructions  
8 for doing so. As explained above in connection with element [d] of this claim, computers, such  
9 as the Samsung Accused Products, must execute instructions to accomplish the tasks they are  
10 programmed to perform. Moreover, I have analyzed Samsung’s source code associated with  
11 claim 2 that I believe is compiled into machine-readable instructions that perform the method that  
12 claim 2 describes. Accordingly, it is my opinion that each of the Samsung Accused Products  
13 meets this recitation of claim 50.

14           241. **Claim 50, Element [f]:** Claim 50 recites that the one or more programs include:  
15 “instructions for detecting a first gesture at a location on the displayed portion of the structured  
16 electronic document.”

17           242. The Samsung Accused Products meet the claim limitation “instructions for  
18 detecting a first gesture at a location on the displayed portion of the structured electronic  
19 document.” This element requires instructions for performing the same limitation present in  
20 element [c] of claim 2. The Samsung Accused Products accordingly meet this recitation of claim  
21 50 for the reasons discussed above in connection with element [c] of claim 2 (as depicted, in  
22 particular, in Figures 3 and 4 and the videos in Exhibits 11a and 12a). Because the Samsung  
23 Accused Products all perform element [c] of claim 2, they must have instructions for doing so.  
24 As explained above in connection with element [d] of this claim, computers, such as the Samsung  
25 Accused Products, must execute instructions to accomplish the tasks they are programmed to  
26 perform. Moreover, I have analyzed Samsung’s source code associated with claim 2 that I  
27 believe is compiled into machine-readable instructions that perform the method that claim 2  
28

1 describes. Accordingly, it is my opinion that each of the Samsung Accused Products meets this  
2 recitation of claim 50.

3           243.   **Claim 50, Element [g]:** Claim 50 recites that the one or more programs include:  
4 “instructions for determining a first box in the plurality of boxes at the location of the first  
5 gesture.”

6           244.   The Samsung Accused Products meet the claim limitation “instructions for  
7 determining a first box in the plurality of boxes at the location of the first gesture.” This element  
8 requires instructions for performing the same limitation present in element [d] of claim 2. The  
9 Samsung Accused Products accordingly meet this recitation of claim 50 for the reasons discussed  
10 above in connection with element [d] of claim 2. Because the Samsung Accused Products all  
11 perform element [d] of claim 2, they must have instructions for doing so. As explained above in  
12 connection with element [d] of this claim, computers, such as the Samsung Accused Products,  
13 must execute instructions to accomplish the tasks they are programmed to perform. Moreover, I  
14 have analyzed Samsung’s source code associated with claim 2 (including, in particular, the code  
15 identified in the discussion of element [d] of claim 2 and in the claim charts in Exhibits 4 and 5)  
16 that I believe is compiled into machine-readable instructions that perform the method that claim 2  
17 describes. Accordingly, it is my opinion that each of the Samsung Accused Products meets this  
18 recitation of claim 50.

19           245.   **Claim 50, Element [h]:** Claim 50 recites that the one or more programs include:  
20 “instructions for enlarging and translating the structured electronic document so that the first box  
21 is substantially centered on the touch screen display.”

22           246.   The Samsung Accused Products meet the claim limitation “instructions for  
23 enlarging and translating the structured electronic document so that the first box is substantially  
24 centered on the touch screen display.” This element requires instructions for performing the same  
25 limitation present in element [e] of claim 2. The Samsung Accused Products accordingly meet  
26 this recitation of claim 50 for the reasons discussed above in connection with element [e] of claim  
27 2 (as depicted, in particular, in Figures 5 and 6 and the videos in Exhibits 11a and 12a). Because  
28 the Samsung Accused Products all perform element [e] of claim 2, they must have instructions for

1 doing so. As explained above in connection with element [d] of this claim, computers, such as  
2 the Samsung Accused Products, must execute instructions to accomplish the tasks they are  
3 programmed to perform. Moreover, I have analyzed Samsung’s source code associated with  
4 claim 2 (including, in particular, the code identified in the discussion of element [e] of claim 2  
5 and in the claim charts in Exhibits 4 and 5) that I believe is compiled into machine-readable  
6 instructions that perform the method that claim 2 describes. Accordingly, it is my opinion that  
7 each of the Samsung Accused Products meets this recitation of claim 50.

8           247.   **Claim 50, Element [i]:** Claim 50 recites that the one or more programs include:  
9 “instructions for, while the first box is enlarged, a second gesture is detected on a second box  
10 other than the first box.”

11           248.   The Samsung Accused Products meet the claim limitation “instructions for, while  
12 the first box is enlarged, a second gesture is detected on a second box other than the first box.”  
13 This element requires instructions for performing the same limitation present in element [f] of  
14 claim 2. The Samsung Accused Products accordingly meet this recitation of claim 50 for the  
15 reasons discussed above in connection with element [f] of claim 2 (as depicted, in particular, in  
16 Figures 7 and 8 and the videos in Exhibits 11a and 12a). Because the Samsung Accused Products  
17 all perform element [f] of claim 2, they must have instructions for doing so. As explained above  
18 in connection with element [d] of this claim, computers, such as the Samsung Accused Products,  
19 must execute instructions to accomplish the tasks they are programmed to perform. Moreover, I  
20 have analyzed Samsung’s source code associated with claim 2 that I believe is compiled into  
21 machine-readable instructions that perform the method that claim 2 describes. Accordingly, it is  
22 my opinion that each of the Samsung Accused Products meets this recitation of claim 50.

23           249.   **Claim 50, Element [j]:** Claim 50 recites that the one or more programs include:  
24 “instructions for, in response to detecting the second gesture, the structured electronic document  
25 is translated so that the second box is substantially centered on the touch screen display.”

26           250.   The Samsung Accused Products meet the claim limitation “instructions for, in  
27 response to detecting the second gesture, the structured electronic document is translated so that  
28 the second box is substantially centered on the touch screen display.” This element requires

1 instructions for performing the same limitation present in element [g] of claim 2. The Samsung  
2 Accused Products accordingly meet this recitation of claim 50 for the reasons discussed above in  
3 connection with element [g] of claim 2 (as depicted, in particular, in Figures 9 and 10 and the  
4 videos in Exhibits 11a and 12a). Because the Samsung Accused Products all perform element [g]  
5 of claim 2, they must have instructions for doing so. As explained above in connection with  
6 element [d] of this claim, computers, such as the Samsung Accused Products, must execute  
7 instructions to accomplish the tasks they are programmed to perform. Moreover, I have analyzed  
8 Samsung's source code associated with claim 2 (including, in particular, the code identified in the  
9 discussion of element [g] of claim 2 and in the claim charts in Exhibits 4 and 5) that I believe is  
10 compiled into machine-readable instructions that perform the method that claim 2 describes.  
11 Accordingly, it is my opinion that each of the Samsung Accused Products meets this recitation of  
12 claim 50.

13           251. I conclude that the Samsung Accused Products meet each and every element of  
14 claim 50 either literally or, in the alternative, under the doctrine of equivalents as described in the  
15 discussion of claim 2. Therefore, the Samsung Accused Products infringe claim 50.

16           252. **Claim 51.** Claim 51 of the '163 patent Recites:

17                   A non-transitory computer readable storage medium storing one or  
18                   more programs, the one or more programs comprising instructions,  
19                   which when executed by a portable electronic device with a touch  
                    screen display, cause the device to:

20                   [a] display at least a portion of a structured electronic document on  
21                   the touch screen display, wherein the structured electronic  
                    document comprises a plurality of boxes of content;

22                   [b] detect a first gesture at a location on the displayed portion of the  
                    structured electronic document;

23                   [c] determine a first box in the plurality of boxes at the location of  
24                   the first gesture;

25                   [d] enlarge and translate the structured electronic document so that  
                    the first box is substantially centered on the touch screen display;

26                   [e] while the first box is enlarged, detect a second gesture on a  
27                   second box other than the first box; and  
28

1 [f] in response to detecting the second gesture, translate the  
2 structured electronic document so that the second box substantially  
centered on the touch screen display.

3 253. **Claim 51, Preamble:** The preamble of claim 51 recites: “A non-transitory  
4 computer readable storage medium storing one or more programs, the one or more programs  
5 comprising instructions, which when executed by a portable electronic device with a touch screen  
6 display” cause the device to execute the steps described below.

7 254. As described in the discussion of the preamble and element [a] of claim 2, each  
8 Samsung Accused Product is a mobile computing device with a processor that has a touch screen.  
9 Furthermore, as described in the discussion of elements [c] and [d] of Claim 50, each Samsung  
10 Accused Product has programs comprising instructions, like the Browser application, that are  
11 stored in its memory and configured to be executed by its processor. Therefore, it is my opinion  
12 that each of the Samsung Accused Products meets this recitation of claim 51.

13 255. To the extent that the preamble is found to be a limitation and is not met literally,  
14 in my opinion it is met under the doctrine of equivalents because the processors and relevant  
15 portions of the Android software of each of the Samsung Accused Products is insubstantially  
16 different from a computer-implemented method as recited in claim 51.

17 256. In particular, relevant portions of the processors and Android software of each of  
18 the Samsung Accused Products performs substantially the same function of implementing a  
19 method for displaying structured electronic documents, such as web pages, on a touch screen  
20 display, and navigating in them using touch gestures as the computer-implemented method of the  
21 ’163 patent. In addition, the processors and relevant portions of the Android software of the  
22 Samsung Accused Products perform that function in substantially the same way by the execution  
23 of computer instructions with a processor. Finally, both the processors and relevant portions of  
24 Android software, and the recited method achieve substantially the same result of displaying  
25 structured electronic documents, such as web pages, on a touch screen display, which the user can  
26 navigate using touch gestures.

27 257. **Claim 51, Elements [a] through [f]:** Elements [a] through [f] of claim 51  
28 describe the steps carried out by a device when it executes, on its processor, programs stored as

1 instructions on a computer readable storage medium. These elements of claim 51 correspond  
2 exactly to the “instructions” specified, respectively, in elements [e] through [j] of claim 50.  
3 Claim 50 simply refers to the instructions that are executed, while claim 51 refers to the results of  
4 executing those same instructions. The Samsung Accused Products accordingly meet the  
5 recitations of elements [a] through [f] of claim 51 for the reasons discussed above in connection,  
6 respectively, with elements [e] through [j] of claim 50.

7         258. I conclude that the Samsung Accused Products meet each and every element of  
8 claim 51 either literally or, in the alternative, under the doctrine of equivalents as described in the  
9 discussion of claim 2. Therefore, the Samsung Accused Products infringe claim 51.

10         259. **Claim 52:** Claim 52 of the ‘163 patent recites:

11                 A portable electronic device with a touch screen display,  
12                 comprising:

13                 [a] means for displaying at least a portion of a structured electronic  
14                 document on the touch screen display, wherein the structured  
15                 electronic document comprises a plurality of boxes of content;

16                 [b] means for detecting a first gesture at a location on the displayed  
17                 portion of the structured electronic document;

18                 [c] means for determining a first box in the plurality of boxes at the  
19                 location of the first gesture;

20                 [d] means for enlarging and translating the structured electronic  
21                 document so that the first box is substantially centered on the touch  
22                 screen display;

23                 [e] means for, while the first box is enlarged, a second gesture is  
24                 detected on a second box other than the first box; and

25                 [f] means for, in response to detecting the second gesture, the  
26                 structured electronic document is translated so that the second box  
27                 is substantially centered on the touch screen display.

28         260. **Claim 52, Preamble:** The preamble of claim 52 recites: “A portable electronic  
device with a touch screen display.” As described in the discussion of element [a] of claim 2,  
each of the Samsung Accused Products is a portable electronic device with a touch screen  
display. The Samsung Accused Products accordingly meet the preamble of claim 52 for the  
reasons discussed above in connection with element [a] of claim 2.



1           261.   **Claim 52, Element [a]:** Claim 52 recites: “means for displaying at least a portion  
2 of a structured electronic document on the touch screen display, wherein the structured electronic  
3 document comprises a plurality of boxes of content.” Each of the Samsung Accused Products  
4 displays a structured electronic document that comprises a plurality of boxes of content, as  
5 discussed above in connection with element [b] of Claim 2.

6           262.   I have been informed that the “means for displaying a structured electronic  
7 document on a touch screen display” limitation is in “means plus function” form and is governed  
8 by section 112.6. The function is displaying at least a portion of a structured electronic document  
9 on the touch screen display. The corresponding structure is a touch screen display coupled to one  
10 or more special or general purpose processors programmed with special-purpose software to  
11 execute an algorithm, the special-purpose software including computer instructions for displaying  
12 at least a portion of a structured electronic document on the touch screen display.

13           263.   As discussed above with respect to claim 50, each of the Accused Products  
14 includes a touch screen display coupled to a processor programmed with special purpose software  
15 to display at least a portion of a structured electronic document on the touch screen display. The  
16 Accused Products perform the claimed function in manner equivalent to the manner described in  
17 the specification. *See, e.g.*, ’163 patent at 2:28-3:27; 6:17-22; 18:38-21:25; FIGS. 1A-B, 5A-H,  
18 6A-C.

19           264.   **Claim 52, Element [b]:** Claim 52 recites: “means for detecting a first gesture at a  
20 location on the displayed portion of the structured electronic document.” I have been informed  
21 that this limitation is in “means plus function” form and is governed by section 112.6. The  
22 function is detecting a first gesture at a location on the displayed portion of the structured  
23 electronic document. The corresponding structure is a touch screen display coupled to one or  
24 more special or general purpose processors programmed with special-purpose software to execute  
25 an algorithm, the special-purpose software including computer instructions for detecting a first  
26 gesture at a location on the displayed portion of the structured electronic document.

27           265.   As discussed above with respect to claim 50, each of the Accused Products  
28 includes a touch screen display coupled to a processor programmed with special purpose software

1 to detect a first gesture at a location on the displayed portion of the structured electronic  
2 document. The Accused Products perform the claimed function in manner equivalent to the  
3 manner described in the specification. *See, e.g.*, ’163 patent at 2:28-44; 2:66-3:27; 6:17-22; 7:50-  
4 8:47; 10:42-61; 18:38-19:14, 20:24-21:25; FIGS. 1A-B, 5A-H, 6A-C.

5       266. **Claim 52, Element [c]:** Claim 52 recites: “means for determining a first box in the  
6 plurality of boxes at the location of the first gesture.” I have been informed that this limitation is  
7 in “means plus function” form and is governed by section 112.6. The function is determining a  
8 first box in the plurality of boxes at the location of the first gesture. The corresponding structure  
9 is one or more special or general purpose processors programmed with special-purpose software  
10 to execute an algorithm, the special-purpose software including computer instructions for  
11 determining a first box in the plurality of boxes at the location of the first gesture.

12       267. As discussed above with respect to claim 50, each of the Accused Products  
13 includes a processor programmed with special purpose software to determine a first box in the  
14 plurality of boxes at the location of the first gesture. The Accused Products perform the claimed  
15 function in manner equivalent to the manner described in the specification. *See, e.g.*, ’163 patent  
16 at 2:28-3:27; 6:17-22; 18:38-19:30, 20:52-61, 21:9-37; FIGS. 1A-B, 5A-H, 6A-C.

17       268. **Claim 52, Element [d]:** Claim 52 recites: “means for enlarging and translating the  
18 structured electronic document so that the first box is substantially centered on the touch screen  
19 display.” I have been informed that this limitation is in “means plus function” form and is  
20 governed by section 112.6. The function is enlarging and translating the structured electronic  
21 document so that the first box is substantially centered on the touch screen display. The  
22 corresponding structure is a touch screen display coupled to one or more special or general  
23 purpose processors programmed with special-purpose software to execute an algorithm, the  
24 special-purpose software including computer instructions for enlarging and translating the  
25 structured electronic document so that the first box is substantially centered on the touch screen  
26 display.

27       269. As discussed above with respect to claim 50, each of the Accused Products  
28 includes a touch screen display coupled to a processor programmed with special purpose software

1 to enlarge and translate the structured electronic document so that the first box is substantially  
2 centered on the touch screen display. The Accused Products perform the claimed function in  
3 manner equivalent to the manner described in the specification. *See, e.g.*, ’163 patent at 2:28-  
4 3:27; 6:17-22; 18:38-20:23, 21:10-40; FIGS. 1A-B, 5A-H, 6A-C.

5       270. **Claim 52, Element [e]:** Claim 52 recites “means for, while the first box is  
6 enlarged, a second gesture is detected on a second box other than the first box.” I have been  
7 informed that this limitation is in “means plus function” form and is governed by section 112.6.  
8 The function is while the first box is enlarged, detecting a second gesture on a second box other  
9 than the first box. The corresponding structure is a touch screen display coupled to one or more  
10 special or general purpose processors programmed with special-purpose software to execute an  
11 algorithm, the special-purpose software including computer instructions for, while the first box is  
12 enlarged, detecting a second gesture on a second box other than the first box.

13       271. As discussed above with respect to claim 50, each of the Accused Products  
14 includes a touch screen display coupled to a processor programmed with special purpose  
15 software, while the first box is enlarged, to detect a second gesture on a second box other than the  
16 first box. The Accused Products perform the claimed function in manner equivalent to the  
17 manner described in the specification. *See, e.g.*, ’163 patent at 2:28-44; 2:66-3:13; 6:17-22;  
18 18:38-21:25; FIGS. 1A-B, 6A-C.

19       272. **Claim 52, Element [f]:** Claim 52 recites “means for, in response to detecting the  
20 second gesture, the structured electronic document is translated so that the second box is  
21 substantially centered on the touch screen display.” I have been informed that this limitation is in  
22 “means plus function” form and is governed by section 112.6. The function is in response to  
23 detecting the second gesture, the structured electronic document is translated so that the second  
24 box is substantially centered on the touch screen display. The corresponding structure is a touch  
25 screen display coupled to one or more special or general purpose processors programmed with  
26 special-purpose software to execute an algorithm, the special-purpose software including  
27 computer instructions for, in response to detecting the second gesture, translating the structured  
28 electronic document so that the second box is substantially centered on the touch screen display.

1           273. As discussed above with respect to claim 50, each of the Accused Products  
2 includes a touch screen display coupled to a processor programmed with special purpose  
3 software, in response to detecting the second gesture, to translate the structured electronic  
4 document so that the second box is substantially centered on the touch screen display. The  
5 Accused Products perform the claimed function in manner equivalent to the manner described in  
6 the specification. *See, e.g.*, ’163 patent at 2:28-44; 2:66-3:13; 6:17-22; 18:38-21:25; FIGS. 1A-B,  
7 6A-C.

8           274. I conclude that the Samsung Accused Products, which contain structures  
9 equivalent to those in the ’163 patent to perform all the functions in claim 52, meet each and  
10 every element of claim 52 either literally or, in the alternative, under the doctrine of equivalents.  
11 Therefore, the Samsung Accused Products infringe claim 52.

12           **E. Samsung’s Emulation Of The Features Of The ’163 Patent**

13           275. I have also reviewed a number of documents produced by Samsung in this  
14 litigation, including analyses of features in Apple products and email messages. Based on my  
15 review of these documents, it appears that Samsung studied a number of Apple products that  
16 embody the asserted claims of the ’163 patent, recognized the benefits of the ’163 patent, and  
17 implemented the features of the ’163 patent in Samsung products.

18           276. In December 2009, Samsung’s C.E.O. issued “instruction items” for 2010, stating,  
19 “going forward our comparison standard is Apple iPhone. In High End cases, evaluate with  
20 iPhone standard.” (SAMNDCA10907803.) The then-principal engineer of Samsung’s Mobile R  
21 & D, Dongsub Kim, reiterated this sentiment in an email to several at the company, saying,  
22 “Henceforth our standard for comparison is the Apple iPhone.” (SAMNDCA1097800.)

23           277. Earlier in 2009, Samsung conducted a “Browser Zooming Methods UX  
24 Exploration Study.” (SAMNDCA11104115.) There, it concluded that it must “Adopt Double-  
25 Tap as a supplementary zooming method...The UX of iPhone can be used as a design  
26 benchmark.”

27           278. A presentation entitled “Relative Evaluation Report on S1, iPhone” by the  
28 “Product Engineering Team Software Inspection Group” at Samsung shows that Samsung

1 modeled the embodiment of the “second gesture” element of the ’163 patent in its Galaxy S  
2 devices after that element’s embodiment in the iPhone. (SAMNDCA00203880,  
3 SAMNDCA00203937.) This document observes that, on the iPhone, “[w]hen a different point is  
4 tapped after enlarging, the screen moves to the tapped screen and shows the enlarged screen,”  
5 while the Galaxy S prototype merely “shrinks back to the original screen” instead of translating to  
6 center on an enlarged view of a second box. (SAMNDCA00203937.) The slide concludes that  
7 Samsung “[n]eed[s] to supplement the double tapping enlargement/shrinkage feature” as an  
8 “[i]mprovement” for the Galaxy S prototype, to match the iPhone’s embodiment of the “second  
9 gesture” element of the ’163 patent. (*Id.*)

10 279. Documents produced by Samsung show that Samsung referred repeatedly to Apple  
11 products in developing and improving the double-tap zooming features of the ’163 patent in its  
12 products. Samsung tested some of the Samsung Accused Products using Apple products  
13 embodying the ’163 patent as benchmarks, creating charts measuring the smoothness, response  
14 time, and feel of the ’163 patent’s double-tap zooming features. (SAMNDCA00229399;  
15 SAMNDCA00229410; SAMNDCA00229449; SAMNDCA00525359; S-ITC-003524055; S-ITC-  
16 003680299.)

17 280. Samsung also developed patches to attempt to improve functionality covered by  
18 the ’163 patent in its products to meet the superior performance of Apple’s ’163-embodiment  
19 products. An email from Sangheon Kim to Jaegwan Shin shows that even after one patch was  
20 applied to Samsung’s P7500 prototype, there was a “Double Tap problem...Initial response time  
21 is slow....zoom animation is not smooth like in the iPad2, and it feels slow and wobbles slightly  
22 from left/right.” (SAMNDCA00201783.)

23 **F. A Non-Infringing Alternative Design for Navigating Structured Electronic**  
24 **Documents**

25 281. Samsung could have chosen other methods to implement the ability to navigate  
26 around structured electronic documents using touch gestures, but they would not have been as  
27 elegant or intuitive. One of the Samsung documents already discussed above the “Relative  
28 Evaluation Report” at SAMNDCA00203880 highlights one possible alternative to using the

1 features of the ’163 patent, although this alternative is, in my opinion, less appealing to users.  
2 The Browser on a smartphone or tablet computer could be programmed to use gestures to zoom  
3 in and out on portions of a structured web page without the additional ability, once zoomed in, to  
4 use a “second gesture” (in the language of the ’163 patent) to translate to a different box of  
5 content. This appears, from Samsung’s own Relative Evaluation Report (SAMNDCA00203880  
6 at SAMNDCA00203937), to be precisely how a Galaxy S prototype functioned before it imitated  
7 ’163 functionality from an Apple iPhone: the prototype allowed zooming in and zooming out, but  
8 translation to a second box of content via a second gesture in the zoomed in state was not  
9 possible. Samsung itself assessed this alternative functionality as inferior – it proposed an  
10 “[i]mprovement” to “supplement the double tapping enlargement/shrinkage feature” to include all  
11 of the ’163 patent’s features. (*Id.*) I agree that the ’163 functionality is superior.

## 12 **VI. DETAILED OPINION REGARDING THE ’915 PATENT**

### 13 **A. Summary of the ’915 Patent**

14 282. The ’915 patent is entitled “Application Programming Interfaces for Scrolling  
15 Operations.” The application that resulted in the ’915 Patent was filed on January 7, 2007.

16 283. The ’915 patent is generally directed to methods and apparatus for responding to  
17 user inputs on a touch-sensitive display integrated with a device. The asserted claims of the ’915  
18 patent recite methods and apparatus that distinguish between a single-input point that is  
19 interpreted as a “scroll operation” and two or more input points that are interpreted as a “gesture  
20 operation.”

21 284. The Background of the Disclosure section of the specification explains that various  
22 devices such as electronic devices, computing systems, portable devices, and handheld devices  
23 have software applications and application programming interfaces or “APIs” that interface  
24 between the software applications and user interface software to provide a user of the device with  
25 certain features and operations. [’915 patent, col. 1:7-8, 33-37.]

26 285. The specification further explains that various types of electronic devices, such as  
27 portable devices and handheld devices, have a limited display size, user interface, software, API  
28 interface and/or processing capability which limit the ease of use of the devices. User interfaces

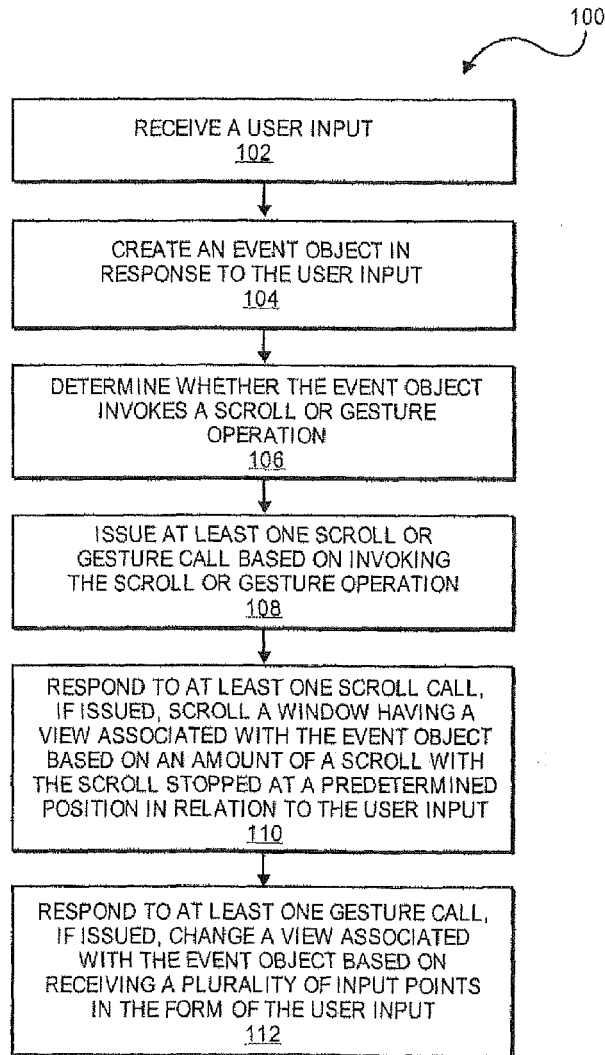
1 of devices implement APIs in order to provide requested functionality and features, such as  
2 scrolling, selecting, gesturing, and animating operations for a display of the device. The ’915  
3 patent explains that one issue with these user interfaces is that they can have difficulty  
4 interpreting the various types of user inputs and providing the intended functionality associated  
5 with the user inputs. [’915 patent, col. 1:48-55.]

6           286. The ’915 patent proposes a method for responding to a user input of a device, such  
7 as a portable electronic device (e.g., cellular phone, media player, multi-touch tablet device), in  
8 order to implement and distinguish between various desired input operations for a user interface,  
9 such as a scrolling operation and a multi-finger gesture operation. [’915 patent, col. 6:20-60.]

10           287. Figure 1 of the ’915 patent illustrates one embodiment of a method for responding  
11 to a user input of a data processing device that is covered by claims 1, 8 and 15.

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**FIG. 1**

The method 100 begins by receiving a user input at block 102. [’915 patent, col. 6:32-34.] The user input may be from an input key, button, wheel, touch, or other means for interacting with the device. [’915 patent, col. 6:34-36.] The method 100 next creates an event object in response to the user input at block 104. [’915 patent, col. 6:36-37.] The method 100 determines whether the event object invokes a scroll or gesture operation at block 106. [’915 patent, col. 6:37-39.] The ’915 patent explains, for example, that a single touch that drags a distance across a display of the device may be interpreted as a scroll operation, and that in one embodiment, a two or more finger



1 touch of the display may be interpreted as a gesture operation. [’915 patent, col. 6:39-41.]  
2 Determining whether the event object invokes a scroll or gesture operation may also be based on  
3 receiving a drag user input for a certain time period. [’915 patent, col. 6:41-46.] The method 100  
4 next issues at least one scroll or gesture call based on invoking the scroll or gesture operation at  
5 block 108. [’915 patent, col. 6:46-48.] If a scroll call is issued, the method 100 responds by  
6 scrolling a window having a view (e.g., web, text, or image content) associated with the event  
7 object based on an amount of a scroll with the scroll stopped at a predetermined position in  
8 relation to the user input, as shown in block 110. [’915 patent, col. 6:48-53.] For example, an  
9 input may end at a certain position on a display of the device, and the scrolling may continue until  
10 reaching a predetermined position in relation to the last input received from the user. [’915  
11 patent, col. 6:53-56.] Finally, at block 112, the method 100 responds to at least one gesture call,  
12 if issued, by changing a view associated with the event object based on receiving a plurality of  
13 input points in the form of the user input at block 112. [’915 patent, col. 6:56-60.] Changing the  
14 view may involve scaling the view associated with the event object by zooming in or zooming out  
15 based on receiving the user input. [’915 patent, col. 7:4-10.]

16           288. Figures 6A-D illustrate the process of scrolling content on a display and  
17 “rubberbanding” when a scrolling region exceeds a window edge. [’915 patent, col. 8:61-67.] As  
18 the ’915 patent explains, the user interface may display “a portion of a list of emails,” as shown in  
19 Fig. 6A. [’915 patent, col. 9:13-14.]

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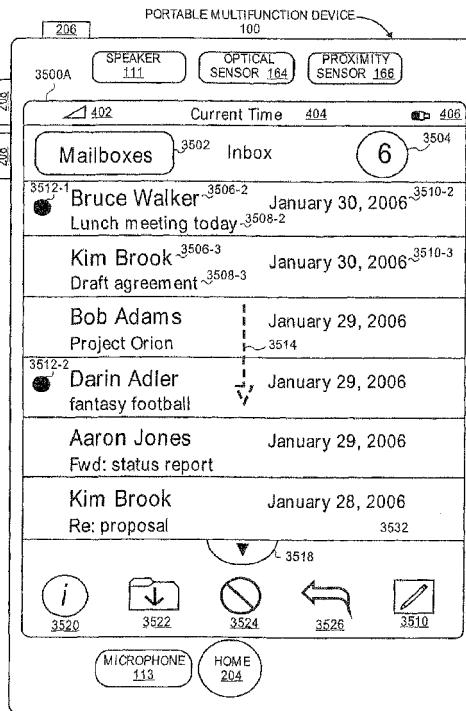


FIG. 6A

289. A user may scroll the list vertically (e.g., in the direction of arrow 3514) so that a different portion of the list is displayed, as shown in Fig. 6B. [’915 patent, col. 9:10-27.]

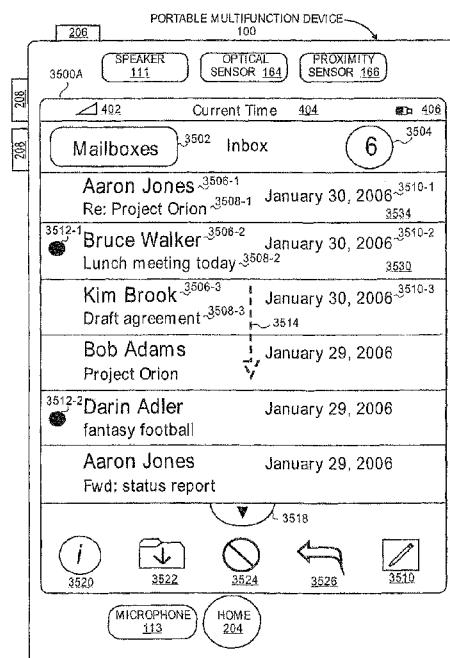


FIG. 6B

1 If the user continues to scroll past the terminus of the list, then an area beyond the edge of the list  
2 may be displayed (area 3536), as illustrated in Fig. 6C. [’915 patent, col. 9:29-38.]

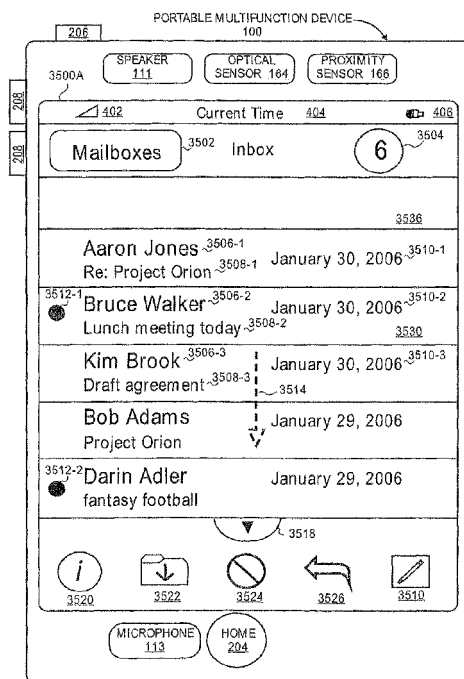


FIG. 6C

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16 290. Once the vertical swipe is complete, e.g. the user lifts his/her finger off of the  
17 touch screen display, the list scrolls back in the opposite direction until the area beyond the  
18 terminus of the list is no longer displayed, as illustrated in Fig. 6D. [’915 patent, col. 9:39-46.]

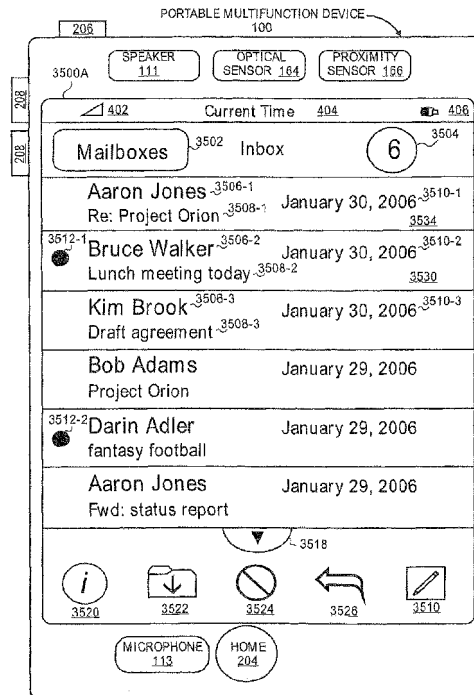
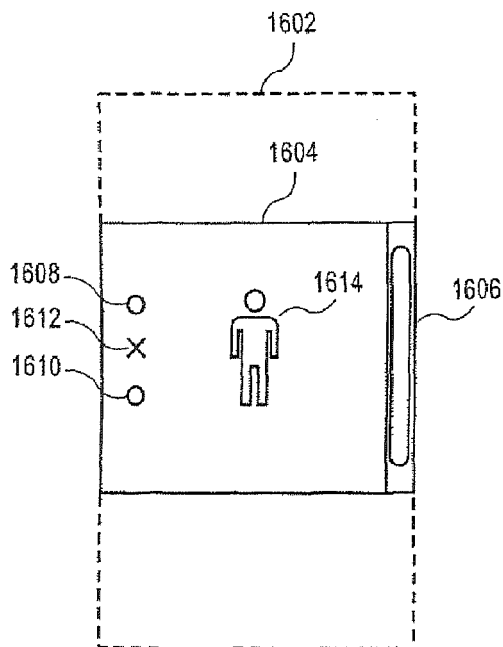


FIG. 6D

291. Figures 16A-C illustrate the process of scaling (e.g., zooming) content on a display in response to a multi-input point gesture. [’915 patent, col. 13:37 col. 14:24.] As the ’915 patent explains, in certain embodiments, a user input in the form of two or more input points (e.g., two fingers) moves together or apart to invoke a gesture event that performs a scaling transform on the view associated with the user input. [’915 patent, col. 13:37-40.]

292. FIG. 16A illustrates a display 1604 of a device having a first scaling factor of a view 1616. A user input (e.g., two fingers 1608 and 1610 moving toward each other) associated with the view 1614 is interpreted as a gesture event to zoom in. [’915 patent, col. 13:52-57.]

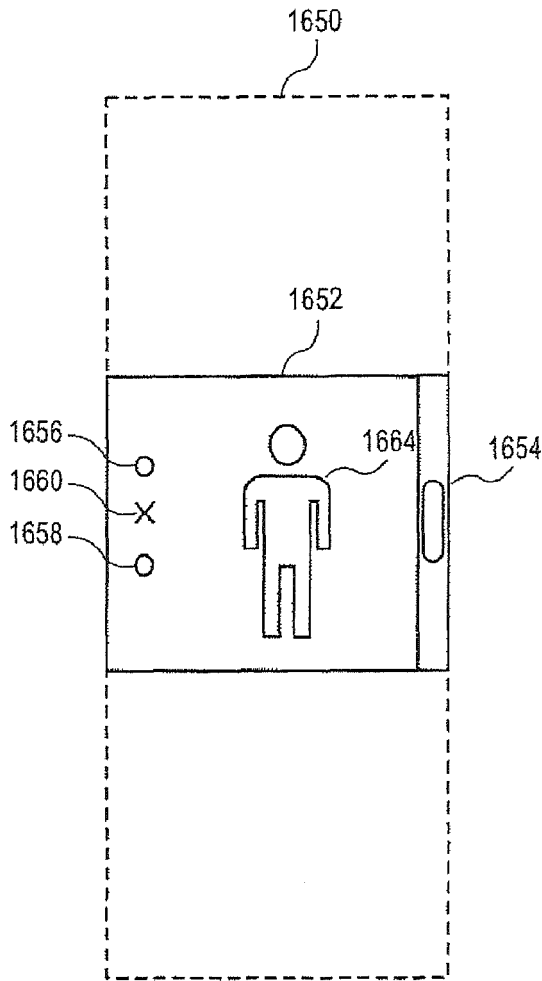
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**FIG. 16A**

293. The gesture operation zooms in from view 1614 to view 1664 having a second scale factor as illustrated in Figure 16B. ['915 patent, col. 13:52-57.] The dashed regions 1602 and 1650 represent the total area of the content with the only content being displayed in the display area 1604 and 1652. ['915 patent, col. 13:57-59.]

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**FIG. 16B**

294. In performing the scaling transform from Figure 16A to Figure 16B in this embodiment, the center of the gesture event, center 1612 for Figure 16A and center 1660 for Figure 16B, remains in the same position with respect to the display 1604. [’915 patent, col. 13:59-63.] In the embodiment, the scroll indicator 1606 also shrinks to become scroll indicator 1654 during the transform to indicate that a smaller portion of the total content 1650 is being displayed on display 1604 as a result of the zoom in operation. [’915 patent, col. 13:63-66.] The dashed region 1650 is larger than the dashed region 1602 to represent that a larger portion of content is not being displayed on display 1652 in FIG. 16B as a result of the zoom in operation. [’915 patent, col. 13:67 col. 14:3.] The ’915 patent also teaches that in some embodiments, the

1 scale factor of a view can be reduced (e.g., from scale factor of 2X to 1X) by moving a pair of  
2 input points (e.g., fingers) together. [’915 patent, col. 14:4-24; Fig. 16C.]

3 **B. Apple’s Practice of the ’915 Patent**

4 295. My use of Apple’s iPhone and iPad products, along with my review of related  
5 materials detailing their operations, confirms that Apple’s products practice the claims of the ’915  
6 patent. It is readily apparent that Apple’s products have touch-sensitive displays that permit  
7 single-touch scrolling, with the amount of scrolling determined by the user input (with scroll-  
8 indicators at the content edge of windows); multi-touch gestures such as pinch zooming, with the  
9 direction and amount of zooming based on user input, or the rotation of a view based on user  
10 input; and rubberbanding by a predetermined amount when scrolling exceeds a window edge.

11 296. Related materials confirm that these features are implemented via objects  
12 generated in response to user input. For example, the “Event Handling Guide for iOS,” explains  
13 how the “Multi-Touch Interface of iPhones, iPads, and iPod touches” generates event “objects”  
14 when users touch their displays, which in turn call various functions, based on the characteristic  
15 of the touch. (Guide at 6, 9 (“An event is an object that represents a user action detected by  
16 hardware on the devices . . . for example, a finger touching the screen.”); see Guide at 16-36  
17 generally.) The Guide explains that “a pinch-close gesture has two touches,” while there are also  
18 “single-finger gestures” such as “a drag.” (Guide at 17.) Supported “gestures include tapping  
19 (one or multiple times), pinching (to zoom a view in or out), swiping, panning or dragging a view,  
20 and using two fingers to rotate a view.” (Guide at 18, 40.) And the Guide describes the “Gesture  
21 Recognizers” specific to pinch-zooming, dragging, swiping, and rotating, along with exemplary  
22 code for handling such gestures. (Guide at 40-45.) iOS uses the number of touches, location of  
23 touches, duration of touches, and distance between touches to distinguish between and implement  
24 these various features. (Guide at 17-20, 27, 40-45.)

25 297. The testimony of one of the inventors of the ’915 patent confirms that Apple’s  
26 products practice the claims of the ’915 patent. At his deposition, Andrew Platzer confirmed that  
27 Apple’s products have touch-sensitive displays that permit rubberbanding, single-touch scrolling,  
28 multi-touch gestures (including pinch-zoom or “scaling”), and create event objects in response to

1 user input. (Platzer Depo. (Oct. 18, 2011) Tr. at 37, 45, 51, 70, 72, 80-81, 84-85, 96, 108, 112-13,  
2 118.)

3 298. Accordingly, it is my opinion that Apple’s touch screen products practice the  
4 asserted claims of the ’915 patent, and their ordinary and intended use practices the asserted  
5 method claims of the ’915 patent.

6 **C. Priority Date of the ’915 Patent**

7 299. I intend to rely upon the documentary evidence and testimony of the named  
8 inventors of the ’915 patent or other witnesses to testify regarding facts relevant to the conception  
9 and reduction of to practice of the claimed invention prior to the filing date of the patent.

10 300. I have reviewed the documentary evidence regarding the design and  
11 implementation work done on the inventions claimed in the ’915 patent, including the deposition  
12 transcript of Andrew Platzer and Scott Herz, and source code. (*See* Platzer Depo. Tr. (Oct. 18,  
13 2011) at 118-120; Herz Depo. Tr. (Oct. 14, 2011) at 148.) From that evidence, it appears that the  
14 claims of the ’915 patent were conceived no later than the summer and fall of 2005, and that the  
15 asserted claims were wholly or substantially reduced to practice by the fall of 2005. [REDACTED]

16 [REDACTED]  
17 [REDACTED]  
18 [REDACTED]  
19 [REDACTED]  
20 [REDACTED]

21 [REDACTED] I also understand the claims were constructively reduced to  
22 practice on January 7, 2007 in U.S. Patent Application No. 11/620,717. Documents relating to  
23 these facts are found in, for example: APL-ITC796-0000079762-768; APL-ITC796-0000079776-  
24 787; APL-ITC796-0000079794-801; APL-ITC796-0000079816-821; and APL-ITC796-  
25 0000079825-830.

26 **D. Samsung’s Infringement of the ’915 Patent**

27 301. In the discussion that follows, I analyze whether certain Samsung products  
28 embody the apparatus claims of the ’915 patent and whether the ordinary and intended use of the



1 Samsung Accused Products would practice the method claims of the patent. For purposes of this  
2 section of my Report, the “Samsung Accused Products” include all of the following Samsung  
3 products: Acclaim, Captivate, Continuum, Droid Charge, Epic 4G, Exhibit 4G, Fascinate, Galaxy  
4 Ace, Galaxy Prevail, Galaxy S (i9000), Galaxy S 4G, Galaxy S II (including the i9100, T-Mobile,  
5 AT&T, Epic 4G Touch and Skyrocket variants), Galaxy S Showcase (i500), Galaxy Tab 7.0,  
6 Galaxy Tab 10.1, Gem, Gravity Smart, Indulge, Infuse 4G, Intercept, Mesmerize, Nexus S, Nexus  
7 S 4G, Replenish, Sidekick, Transform, and Vibrant.

8         302. In performing this analysis I reviewed the ’915 patent and its file history, tested the  
9 operation of these Samsung Accused Products, reviewed source code that Samsung produced  
10 prior to the March 8 fact discovery cutoff, and reviewed other materials described in this Report.  
11 Because the Samsung source code is built upon the foundation of publicly-available Android  
12 code, I reviewed portions of that Android code and its accompanying documentation. I have  
13 analyzed Samsung source code on at least one Accused Product representative of each major  
14 release of Android that appears on the Accused Products. I reviewed source code that  
15 implements the accused functionalities of the ’915 patent on, among other devices, the Samsung  
16 Captivate (Android 2.1), the Samsung Vibrant, (Android 2.2), the Samsung Galaxy S II (Android  
17 2.3), and the Samsung Galaxy Tab 10.1 (Android 3.1). I have compared portions of the relevant  
18 code on each of these devices to analogous code (where available) on other Accused Products  
19 running that version, as well as the publicly available version of each major Android release.  
20 Based on those comparisons, I conclude that, for each major Android release, all of the Accused  
21 Products based on that release implement the accused functionalities of the ’915 patent in  
22 substantially the same way as the representative device for that release whose source code I have  
23 analyzed and cited in this Report.

24         303. In the paragraphs that follow, I will set forth the claims of the ’915 patent for  
25 which it is my opinion that Samsung Accused Products, or the ordinary and intended use of  
26 Samsung Accused Products, meets every limitation of the claim.

27         304. By “ordinary and intended use” in this section of my Report, I mean actions that  
28 virtually every user of a Samsung Accused Product would perform when using the Accused

1 Product, and which Samsung encouraged and intended the user to perform. For example,  
2 manuals included with Samsung Accused Products instruct users to use a finger to scroll and two  
3 or more fingers to zoom. (*See, e.g.*, APLNDC-Y0000057563, APLNDC-Y0000058568-569,  
4 APLNDC-Y0000060382, APLNDC-Y0000061404, APLNDC-Y0000065325.) In addition, the  
5 ordinary use of each Accused Device involves using one-finger scroll and two-finger zoom.  
6 Accordingly, it is my opinion that all or virtually all users of the Samsung Accused products  
7 would engage in direct infringement of the ’915 patent. Because Samsung encouraged and  
8 intended this direct infringement by end users, it is my opinion that the Samsung defendants have  
9 indirectly infringed the method claims of the ’915 patent discussed below.

10 305. Attached as Exhibits 16 and 17 are exemplary claim charts that illustrate the  
11 infringement of the claims below by the Galaxy Tab 10.1 (Exhibit 16) and the Galaxy S II  
12 (Exhibit 17). Where source code is cited in the Galaxy S II claim chart (corresponding to  
13 Android 2.3), reference is also made to analogous code in Android 2.2 (as exemplified by the  
14 Samsung Vibrant) and Android 2.1 (as exemplified by the Samsung Captivate).

15 306. **Claim 1.** Claim 1 recites:

16 A machine implemented method for scrolling on a touch-sensitive  
17 display of a device comprising:

18 [a] receiving a user input, the user input is one or more input points  
19 applied to the touch-sensitive display that is integrated with the  
20 device;

21 [b] creating an event object in response to the user input;

22 [c] determining whether the event object invokes a scroll or gesture  
23 operation by distinguishing between a single input point applied to  
24 the touch-sensitive display that is interpreted as the scroll operation  
25 and two or more input points applied to the touch-sensitive display  
26 that are interpreted as the gesture operation;

27 [d] issuing at least one scroll or gesture call based on invoking the  
28 scroll or gesture operation;

[e] responding to at least one scroll call, if issued, by scrolling a  
window having a view associated with the event object based on an  
amount of a scroll with the scroll stopped at a predetermined  
position in relation to the user input; and

[f] responding to at least one gesture call, if issued, by scaling the  
view associated with the event object based on receiving the two or

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more input points in the form of the user input.

307. In my opinion, each of the Accused Products meets each and every limitation of claim 1 of the ’915 patent literally and, in the alternative, under the doctrine of equivalents, as explained below. Videos of various Accused Products performing the limitations of this claim are included in Exhibit 18 (Galaxy Tab 10.1), Exhibit 19 (Galaxy S II), Exhibit 20 (Vibrant), and Exhibit 21 (Captivate).

308. **Claim 1 – Preamble: “A machine implemented method for scrolling on a touch-sensitive display of a device comprising.”** Each of the Accused Products is either a smartphone or tablet running a version of the Android operating system. Each ’915 Accused Product, which includes a touch-sensitive display, performs a machine implemented method for scrolling on the touch-sensitive display.

309. For example, the Galaxy Tab 10.1 includes a touch-sensitive display and performs a machine implemented method for scrolling on the touch-sensitive display. Below is an illustration of the Galaxy Tab 10.1 scrolling an image on the touch-sensitive display:



(Scroll operation when one input point is applied.)



(Gesture operation when two or more input points are applied.)

310. For example, the Galaxy S II includes a touch-sensitive display and performs a machine implemented method for scrolling on the touch-sensitive display.



(Scroll operation when one input point is applied.)

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(Gesture operation when two or more input points are applied.)

1 311. User manuals for Samsung products teach users how to scroll. For example, the  
2 user manual for the Epic 4G includes the following description:

3 Navigation and Customization

4 The Epic 4G™ is touch-sensitive, and this allows you to  
5 not only select an onscreen option with a single tap,  
6 but also scroll through long menu lists. Simply slide up  
7 and down through the display with your fingertip.

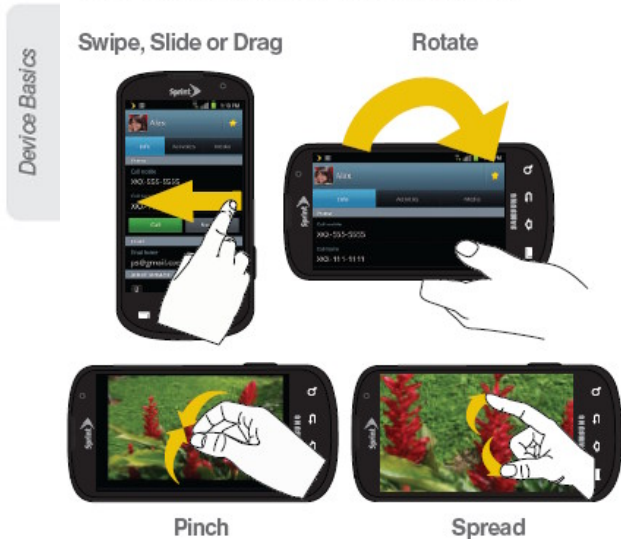
8 *Tip:* Some menu options are also accessed by pressing and  
9 holding an onscreen item, such as a Contact entry from  
10 the Contacts tab.

11 Getting Around Your Device

12 Move Around Your Device’s Menus and Screens

- 13 ● **Tap:** When you want to type using the onscreen  
14 keyboard, select items such as application and  
15 settings icons, or press onscreen buttons, simply tap  
16 them with your finger. A light touch works best.
- 17 ● **Press and hold:** To open the available options for an  
18 item (for example, a link in a Web page), simply  
19 press and hold the item.
- 20 ● **Flick:** Move your finger in lighter, quicker strokes than  
21 swiping. This finger gesture is always used in a  
22 vertical motion, such as when flicking through  
23 contacts or a message list.

- 24 ● **Swipe or slide:** Quickly drag your finger vertically or  
25 horizontally across the screen.
- 26 ● **Drag:** Press and hold your finger with some pressure  
27 before you start to move it. Do not release your finger  
28 until you have reached the target position.



2A. Device Basics 27

16 312. In the manual displayed above, a Swipe, Slide, or Drag, all of which invoke a  
17 scroll operation, are distinguished from a Pinch or Spread, which invoke a gesture operation.

18 313. To the extent that the preamble is found to be a limitation and is not met literally,  
19 in my opinion it is met under the doctrine of equivalents because each of the Accused Products  
20 perform steps insubstantially different from scrolling on a touch-sensitive display of a device, and  
21 accomplishes the same function in the same way to achieve the same result.

22 314. **Claim 1 – Element [a]** “receiving a user input, the user input is one or more  
23 input points applied to the touch-sensitive display that is integrated with the device.” In my  
24 opinion, each of the Accused Products performs this step of claim 1.

25 315. The Accused Products receive a user input. The user input includes one or more  
26 input points (one or more fingers) applied to the touch-sensitive display that is integrated with the  
27 Samsung device.

1           316. For example, the Galaxy Tab 10.1 receives user a user input with one input point  
2 (one finger) applied to the touch-sensitive display as illustrated above. I also note that the touch-  
3 sensitive display is integrated into the Galaxy Tab 10.1.

4           317. For example, the Galaxy S II receives a user input with one input point (one  
5 finger) applied to the touch-sensitive display as shown above. The touch-sensitive display is  
6 integrated into the Galaxy S II.

7           318. Based on my observations of the Accused Products, as well as my analysis of the  
8 source code for each major release of Android running on the Accused Products (Android 2.1,  
9 2.2, 2.3, and 3.1), I have determined that each Accused Product receives a user input, where the  
10 user input is one or more input points applied to the touch-sensitive display that is integrated with  
11 the device. The claim chart in Exhibit 17 identifies analogous code that satisfies this element in  
12 Android 2.1, 2.2, and 2.3.

13           319. To the extent that this limitation is not met literally, in my opinion it is met under  
14 the doctrine of equivalents because each of the Accused Products perform steps insubstantially  
15 different from machines receiving a user input, the user input is one or more input points applied  
16 to the touch-sensitive display that is integrated with the device, and accomplishes the same  
17 function in the same way to achieve the same result.

18           320. **Claim 1 – Element [b] “creating an event object in response to the user**  
19 **input.”** In my opinion, each of the Accused Products performs this step of claim 1.

20           321. Each of the Accused Products, via the Android platform on which they operate,  
21 creates an event object in response to the user input.

22           322. Under the public Android platform, a MotionEvent object is created in response to  
23 a touch on the touch screen. ([http://developer.android.com/reference/android/view/](http://developer.android.com/reference/android/view/MotionEvent.html)  
24 [MotionEvent.html](http://developer.android.com/reference/android/view/MotionEvent.html).)

25           323. I have confirmed the public Android code also appears in the Accused Products.  
26 For example, in the Galaxy Tab 10.1 tablet, which runs a version of Android 3.1, the user input is  
27 processed by the device driver, which passes the input into user space and parses it into an event  
28 object referred to as the “MotionEvent” object. This object is an event object created by the

1 method InputConsumer::populateMotionEvent(). (See  
2 frameworks/base/libs/ui/inputTransport.cpp:683-712 [SAMNDCA-C000002822]; see also  
3 frameworks/base/libs/ui/input.cpp:351-382 [SAMNDCA-C000002830 to -C000002831]  
4 (MotionEvent::initialize() method)).

5 324. Based on my observations of the Accused Products, as well as my analysis of the  
6 source code for each major release of Android running on the Accused Products (Android 2.1,  
7 2.2, 2.3, and 3.1), I have determined that each Accused Product practices includes similar  
8 computer code that creates an event object in response to user input. The claim chart in Exhibit  
9 17 identifies analogous code that satisfies this element in Android 2.1, 2.2, and 2.3.

10 325. Furthermore, Ioi Lam confirmed at his 30(b)(6) deposition that the Android  
11 Platform has “event objects.” See Ioi Lam Depo. Tr., Mar. 8, 2012 (75:17-76:23).

12 326. To the extent that this limitation is not met literally, in my opinion it is met under  
13 the doctrine of equivalents because each of the Accused Products perform steps insubstantially  
14 different from creating an event object in response to the user input, and accomplishes the same  
15 function in the same way to achieve the same result.

16 327. **Claim 1 – Element [c]: “determining whether the event object invokes a scroll**  
17 **or gesture operation by distinguishing between a single input point applied to the touch-**  
18 **sensitive display that is interpreted as the scroll operation and two or more input points**  
19 **applied to the touch-sensitive display that are interpreted as the gesture operation”** In my  
20 opinion, each of the Accused Products performs this step of claim 1.

21 328. The Accused Products determine whether an event object invokes a scroll or  
22 gesture operation by distinguishing between a single input point (one finger) applied to the touch-  
23 sensitive display that is interpreted as the scroll operation and two or more input points (more  
24 than one finger) applied to the touch-sensitive display that are interpreted as the gesture operation.

25 329. For example, the Galaxy Tab 10.1 tablet distinguishes between a scroll operation  
26 when one finger is applied to the touch-sensitive display and a gesture operation when two or  
27 more fingers are applied to the touch-sensitive display.

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(Scroll operation when one input point is applied.)



(Gesture operation when two or more input points are applied.)

330. For example, the Galaxy S II phone distinguishes between a scroll operation when one finger is applied to the touch-sensitive display and a gesture operation when two or more fingers are applied to the touch-sensitive display, as illustrated below:

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(Scroll operation when one input point is applied.)



(Gesture operation when two or more input points are applied.)

331. For example, in the Galaxy Tab 10.1 tablet, which runs Android 3.1, the WebView class’s handleQueuedMotionEvent() method interprets the input points associated with the MotionEvent object it processes. The handleQueueMotionEvent() method distinguishes between a single input point (ev.getPointerCount == 1) and two or more input points (ev.getPointerCount > 1). (See WebView.java:10281-10314 [SAMDNCA-C000002857].) If one input point is

1 detected, the contact is interpreted as a scroll operation in `handleTouchEventCommon()`. (*See*  
2 `WebView.java:10312` [SAMNDCA-C000002857].) If two or more input points are detected, the  
3 contact is interpreted as a gesture operation via a call to `handleMultiTouchInWebView()`. (*See*  
4 `WebView.java:10302` [SAMNDCA-C000002857]; `WebView.java:7887-7944` [SAMNDCA-  
5 C000002858].)

6 332. Based on my inspection of Samsung source code for each major release of  
7 Android running on the Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I have determined that  
8 each Accused Product includes similar computer code that distinguishes between a single input  
9 point (one finger) applied to the touch-sensitive display that is interpreted as the scroll operation  
10 and two or more input points (more than one finger) applied to the touch-sensitive display that are  
11 interpreted as the gesture operation. The claim chart in Exhibit 17 identifies analogous code that  
12 satisfies this element in Android 2.1, 2.2, and 2.3.

13 333. To the extent that this limitation is not met literally, in my opinion it is met under  
14 the doctrine of equivalents because each of the Accused Products perform steps insubstantially  
15 different from determining whether the event object invokes a scroll or gesture operation by  
16 distinguishing between a single input point applied to the touch-sensitive display that is  
17 interpreted as the scroll operation and two or more input points applied to the touch-sensitive  
18 display that are interpreted as the gesture operation, and accomplishes the same function in the  
19 same way to achieve the same result.

20 334. **Claim 1 – Element [d]: “issuing at least one scroll or gesture call based on**  
21 **invoking the scroll or gesture operation.”** Each of the Accused Products issues a scroll call or  
22 a gesture call based on invoking the scroll or gesture operation.

23 335. For example, as illustrated below, the Galaxy 10.1 tablet issues a scroll call when  
24 the scroll operation is invoked. Alternatively, the tablet issues a gesture call when the gesture  
25 operation is invoked.

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(Scroll call when scroll operation is invoked.)



(Gesture call (scaling) when gesture operation is invoked.)

336. For example, the Galaxy S 2 phone issues a scroll call when the scroll operation is invoked.

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(Scroll operation when one input point is applied.)

337. The phone issues a gesture call when the gesture operation is invoked.



(Gesture operation when two or more input points are applied.)

338. For example, in the Galaxy 10.1 tablet, if one input point is detected, `handleQueuedMotionEvent()` will call `handleTouchEventCommon()` (`WebView.java:10312` [`SAMNDCA-C000002926`]), which issues a scroll call to `doDrag()` or `doFling()`.

1 (WebView.java:7617, 7772 [SAMNDCA-C000002926, -C000002930]) If two or more input  
2 points are detected, the contact is interpreted as a gesture operation and a call to  
3 handleMultiTouchInWebView() is made. (See WebView.java:10302 [SAMNDCA-  
4 C000002857]; WebView.java:7887-7944 [SAMNDCA-C000002858].)

5 339. Based on my inspection of Samsung source code for each major release of  
6 Android running on the Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I have determined that  
7 each Accused Product includes similar computer code that issues at least one scroll or gesture call  
8 based on invoking the scroll or gesture operation. The claim chart in Exhibit 17 identifies  
9 analogous code that satisfies this element in Android 2.1, 2.2, and 2.3.

10 340. To the extent that this limitation is not met literally, in my opinion it is met under  
11 the doctrine of equivalents because each of the Accused Products perform steps insubstantially  
12 different from issuing at least one scroll or gesture call based on invoking the scroll or gesture  
13 operation, and accomplishes the same function in the same way to achieve the same result.

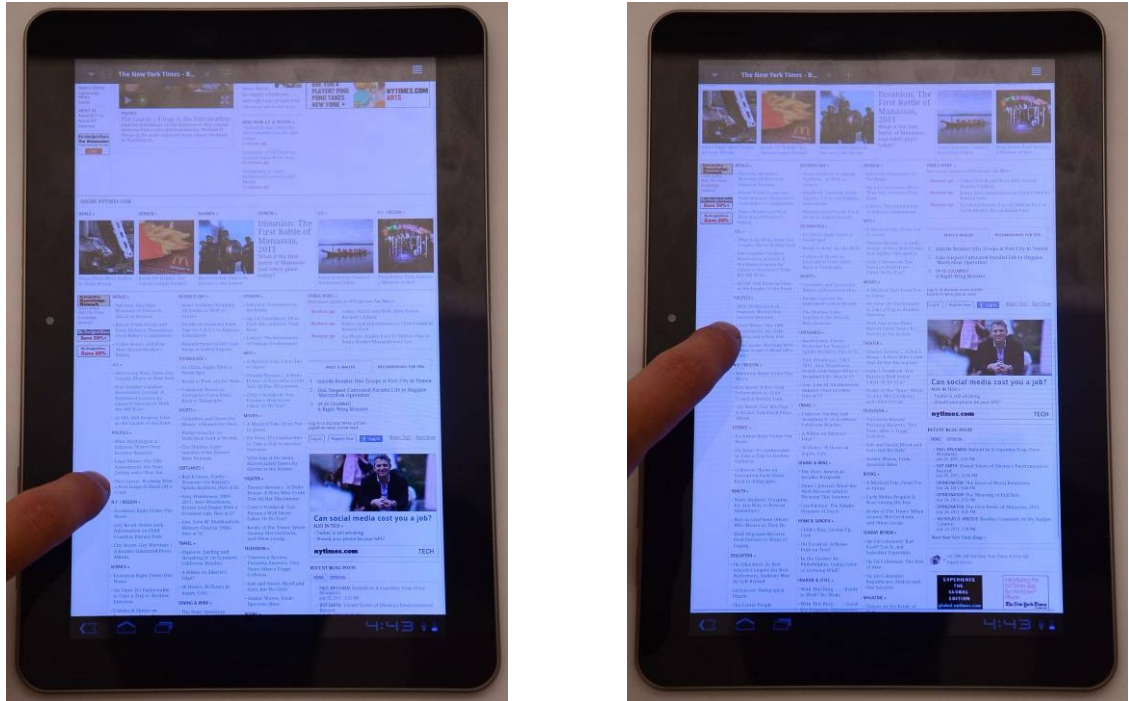
14 341. **Claim 1 – Element [e] “responding to at least one scroll call, if issued, by**  
15 **scrolling a window having a view associated with the event object based on an amount of a**  
16 **scroll with the scroll stopped at a predetermined position in relation to the user input.”**

17 Each of the Accused Products responds to a scroll call, if issued, by scrolling a window having a  
18 view associated with the event object based on an amount of a scroll with the scroll stopped at a  
19 predetermined position in relation to the user input.

20 342. For example, the Galaxy 10.1 tablet will respond to at least one scroll call by  
21 scrolling a window having a view associated with the MotionEvent object, based on an amount of  
22 a scroll with the scroll stopped at a predetermined position in relation to the user input, as  
23 illustrated below.



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(Screenshot of the Samsung Galaxy Tab 10.1 scrolling an image.)

343. For example, the Galaxy S2 phone will respond to at least one scroll call by scrolling a window having a view associated with the MotionEvent based on an amount of a scroll with the scroll stopped at a predetermined position in relation to the user input, as illustrated below.



1           344. For example, in the Galaxy 10.1 tablet, the `handleTouchEventCommon()` method  
2 calls `doFling()` for a scroll operation. (*See* `WebView.java:7272-7821` [SAMNDCA-C000002919  
3 to C000002931] (call done at 7772).) `doFling()` then calls the `Overscroller.fling()` method. (*See*  
4 `WebView.java:9236-9376` [SAMNDCA-C000002932 to C000002935].) `Overscroller.fling()`  
5 itself calls two instances of the `SplineOverScroller` class, each of which is responsible for  
6 scrolling in one axis (i.e., one scrolls horizontally and the other scrolls vertically). (*See*  
7 `OverScroller.java:406-448` [SAMNDCA-C000002945].) The `SplineOverScroller` class thus  
8 maintains state information for the fling. (*See id.*)

9           345. The `SplineOverScroller` class tracks the start points, start time, duration, total  
10 distance, and the final position for the fling. (`OverScroller.java:748-782` [SAMNDCA-  
11 C000002952 to C000002953].) The `SplineOverScroller.fling()` function thus determines the  
12 final position of the fling before beginning the fling operation begins.

13           346. The actual rendering of the fling occurs subsequently as part of the drawing cycle.  
14 At the end of an event processing cycle, the method `computeScroll()` is called to compute which  
15 part of the view should be rendered to the user. (*See* `WebView.java:3568-3654` [SAMNDCA-  
16 C000002958 to C000002959].) The `computeScroll()` method uses the `SplineOverScroller` class  
17 to extract the state information for the fling. (*See id.*) Afterwards, it calls  
18 `WebView.overScrollBy()` to scroll the content this method calculates maximums for the  
19 distance the user can scroll beyond the edge of the content and whether content should be fixed to  
20 a particular axis. (*See id.*; *see also* `View.java:11663-11715` [SAMNDCA-C000002960 to  
21 C000002961] (`WebView.overScrollBy()`)). `onOverScrollBy()` itself calls `onOverScroller()` to  
22 ensure the intended scroll coordinates are valid and then calls `View.scrollTo()` to invoke the scroll  
23 operation. (*See* `View.java:11663-11715` [SAMNDCA-C000002960 to C000002961];  
24 `WebView.java:3130-3162` [SAMDNCA-2962].) `View.scrollTo()` scrolls the window (setting  
25 `mScrollX` and `mScrollY`) based on the amount of a scroll with the scroll stopped at a  
26 “predetermined position in relation to the user input.” (*See* `WebView.java:3130-3162`  
27 [SAMDNCA-2962].)



1           347.   Alternatively, it is my opinion that the scroll stops at a “predetermined position in  
2 relation to the user input” because after the mScrollX and mScrollY fields are set (or determined),  
3 the WebView.onDraw() method is subsequently called to translate and draw the view shown to  
4 the user. (See WebView.java:4261-4418 [SAMNDCA-C000002965 to C000002968] (with call  
5 to trackFPS() at 4416); WebView.java:8757-8791 [SAMNDCA-C000002964] (trackFPS()  
6 translates based on mScrollX and mScrollY then draws).)

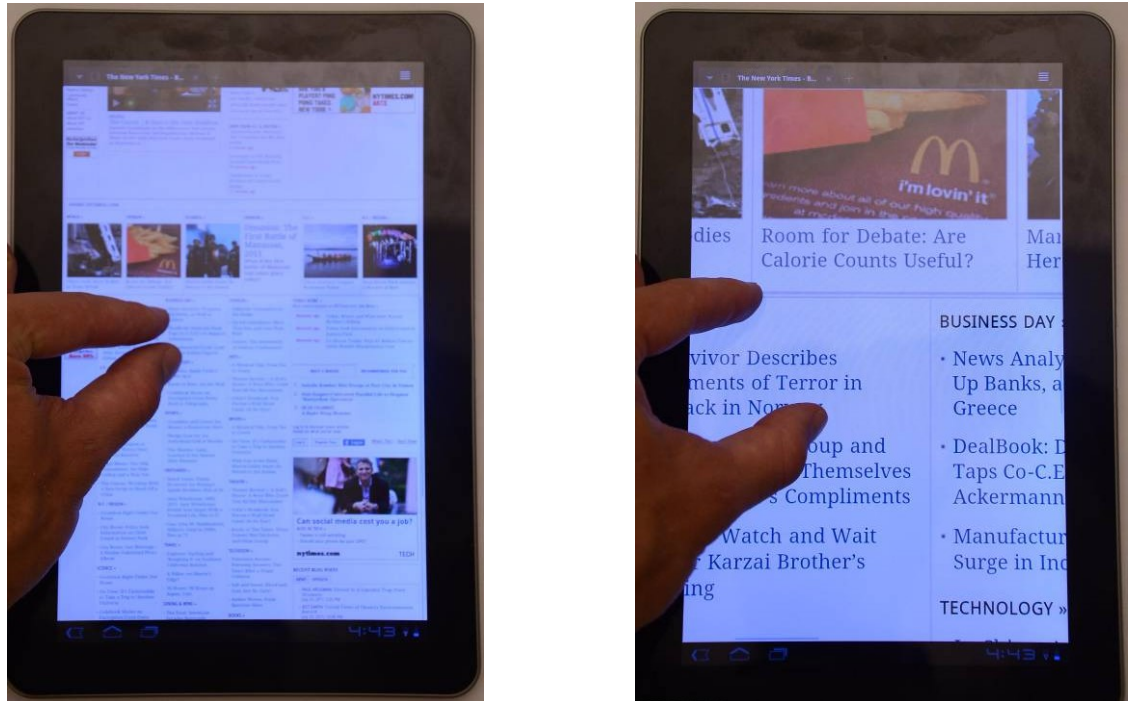
7           348.   Based on my inspection of Samsung source code for each major release of  
8 Android running on the Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I have determined that  
9 each Accused Product includes similar computer code that responds to at least one scroll call by  
10 scrolling a window having a view associated with the MotionEvent based on an amount of a  
11 scroll with the scroll stopped at a predetermined position in relation to the user input. The claim  
12 chart in Exhibit 17 identifies analogous code that satisfies this element in Android 2.1, 2.2, and  
13 2.3.

14           349.   To the extent that this limitation is not met literally, in my opinion it is met under  
15 the doctrine of equivalents because each of the Accused Products perform steps insubstantially  
16 different from responding to at least one scroll call, if issued, by scrolling a window having a  
17 view associated with the event object based on an amount of a scroll with the scroll stopped at a  
18 predetermined position in relation to the user input, and accomplishes the same function in the  
19 same way to achieve the same result.

20           350.   **Claim 1 – Element [f] “responding to at least one gesture call, if issued, by**  
21 **scaling the view associated with the event object based on receiving the two or more input**  
22 **points in the form of the user input.”** Each of the Accused Products responds to a gesture call,  
23 if issued, by calling the view associated with the event object based on receiving the two or more  
24 input points in the form of the user input.

25           351.   For example, the Galaxy 10.1 tablet will respond to at least one gesture call by  
26 scaling the view (zooming) associated with the MotionEvent object based on receiving two or  
27 more input points in the form of the user input, as illustrated below.

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(Screenshot of the Samsung Galaxy Tab 10.1 scaling an image.)

352. For example, the Galaxy S 2 phone will respond to at least one gesture call by scaling the view (zooming) by scaling the view associated with the MotionEvent object based on receiving two or more input points in the form of the user input.

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353. For example, in the Galaxy 10.1 tablet, the `handleMultiTouchInWebView()` method calls the `WebViewScaleGestureDetector.onTouchEvent()` method to perform the scaling (zoom) operation using the `MotionEvent` object information, which includes the two or more input points touching the screen. (See `WebViewScaleGestureDetector.java:189` [SAMNDCA-C000002905].) `onTouchEvent()` calls `setContext()`, which records information about the position of the two input points corresponding, for example, to the user’s fingers on the screen (`WebviewScaleGestureDetector.java:581-630` [SAMNDCA-C000002524 to -C000002525]). As the user moves his fingers relative to one another as in, for example, a pinching or de-pinching gesture the `handleScale()` method of the `ZoomManager` class calls the `WebviewScaleGestureDetector`’s `getScaleFactor()` method to calculate the scale factor based on the ratio of the current distance between the fingers and the previous distance between them (as of the last time the touch screen was polled for input). (`ZoomManager.java:1323` [SAMNDCA-C000002410]; `WebScaleGestureDetector.java:763-768` [SAMNDCA-C000002528].)

1 handleScale() then calls setZoomScale(), which uses the calculated scale factor to scale the  
2 WebView and all of its child views. ZoomManager.java:1372 [SAMNDCA-C000002411];  
3 ZoomManager.java:851-949 [SAMNDCA-C000002399 to -C000002402].)

4 354. Based on my inspection of Samsung source code for each major release of  
5 Android running on the Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I have determined that  
6 each Accused Product includes similar computer code that responds to at least one gesture call, if  
7 issued, by scaling the view associated with the event object based on receiving the two or more  
8 input points in the form of the user input. The claim chart in Exhibit 17 identifies analogous code  
9 that satisfies this element in Android 2.1, 2.2, and 2.3.

10 355. To the extent that this limitation is not met literally, in my opinion it is met under  
11 the doctrine of equivalents because each of the Accused Products perform steps insubstantially  
12 different from responding to at least one gesture call, if issued, by scaling the view associated  
13 with the event object based on receiving the two or more input points in the form of the user  
14 input, and accomplishes the same function in the same way to achieve the same result.

15 356. **Claim 2.** Claim 2 recites:

16 The method as in claim 1, further comprising:

17 rubberbanding a scrolling region displayed within the window by a  
18 predetermined maximum displacement when the scrolling region  
exceeds a window edge based on the scroll.

19 357. The following Accused Products infringe claim 1 and also rubberband a scrolling  
20 region displayed within the window by a predetermined maximum displacement when the  
21 scrolling region exceeds a window edge based on the scroll: Exhibit 4G; Galaxy Ace; Galaxy S  
22 II (i9100, AT&T, and Epic 4G Touch variants); Galaxy Tab 7.0; Galaxy Tab 10.1; and Gravity  
23 Smart.

24 358. For example, the Samsung Galaxy Tab 10.1 rubberbands a scrolling region  
25 displayed within the window by a predetermined maximum displacement when the scrolling  
26 region exceeds a window edge based on the scroll, as illustrated below.  
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(Screenshots of the Samsung Galaxy Tab 10.1 rubberbanding upon dragging an image.)

359. For example, the predetermined maximum displacement is defined in the Galaxy Tab 10.1 tablet source code to be 1/6 the height and 1/6 the width of the screen for a fling (i.e., a quick, flicking motion of the user’s finger on the screen that causes the view to scroll a predetermined distance without further user input). The `handleTouchEventCommon()` method calls `doFling()`. (See `WebView.java:7272-7821` [SAMNDCA-C000002919 to -C000002931] (call done at 7772).) In the `doFling()` method, if the `isElasticEffectEnabled()` method returns a true value (i.e., if the device is configured to “rubberband”) the variables “overX” and “overY” are set to 1/6 the screen width and 1/6 the screen height, respectively. (See `WebView.java:9236-9376` [SAMNDCA-C000002932-2935] (particularly lines 9350-9361).) The overX and overY variables are then passed to the `Overscroller.fling()` method, and they set the maximum amount for rubberbanding displacement. (See *id.*)

360. To the extent that this limitation is not met literally, in my opinion it is met under the doctrine of equivalents because each of the Accused Products perform steps insubstantially different from rubberbanding a scrolling region displayed within the window by a predetermined maximum displacement when the scrolling region exceeds a window edge based on the scroll, and accomplishes the same function in the same way to achieve the same result.

1           361.   **Claim 3.** Claim 3 recites:

2                   The method as in claim 1, further comprising:

3                   attaching scroll indicators to a content edge of the window.

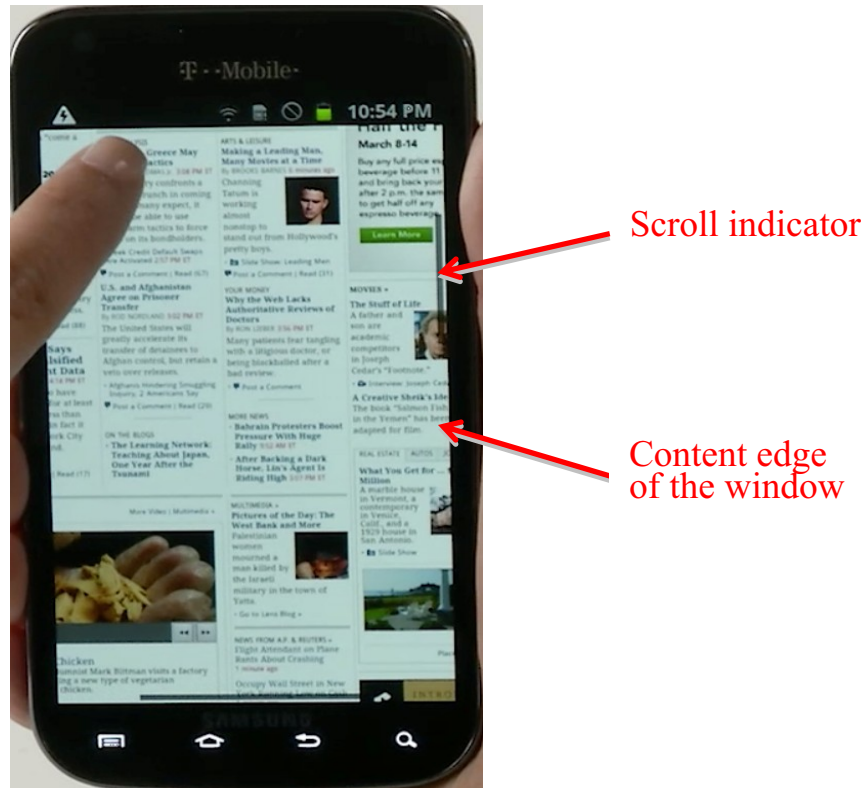
4           362.   The following Accused Products attach scroll indicators to a content edge of the  
5 window: Acclaim, Captivate, Continuum, Droid Charge, Epic 4G, Exhibit 4G, Fascinate, Galaxy  
6 Ace, Galaxy Prevail, Galaxy S (i9000), Galaxy S 4G, Galaxy S II (including its T-Mobile,  
7 AT&T, Epic 4G Touch and AT&T Skyrocket versions), Galaxy S Showcase (i500), Galaxy Tab  
8 7.0, Galaxy Tab 10.1, Gem, Gravity Smart, Indulge, Infuse 4G, Intercept, Mesmerize, Nexus S,  
9 Nexus S 4G, Replenish, Sidekick, Transform, and Vibrant. The videos in Exhibits 18 through 21  
10 show the Galaxy Tab 10.1, the Galaxy S II, the Vibrant, and the Captivate attaching scroll  
11 indicators to a content edge of the window.

12           363.   For example, the Galaxy Tab 10.1 attaches scroll indicators to the content edge of  
13 the window, as illustrated below.





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3 364. For example, the Galaxy S II attaches scroll indicators to the content edge of the  
4 window, as illustrated below.



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19 365. To the extent that this limitation is not met literally, in my opinion it is met under  
20 the doctrine of equivalents because each of the Accused Products perform steps insubstantially  
21 different from attaching scroll indicators to a content edge of the window, and accomplishes the  
22 same function in the same way to achieve the same result.

23 366. **Claim 4.** Claim 4 of the '915 Patent recites:

24 The method as in claim 1, further comprising:  
25 attaching scroll indicators to the window edge.

26 367. The following Accused Products attach scroll indicators to the window edge:

27 Acclaim, Captivate, Continuum, Droid Charge, Epic 4G, Exhibit 4G, Fascinate, Galaxy Ace,  
28 Galaxy Prevail, Galaxy S (i9000), Galaxy S 4G, Galaxy S II, (including its T-Mobile, AT&T,

1 Epic 4G Touch and AT&T Skyrocket versions), Galaxy S Showcase (i500), Galaxy Tab 7.0,  
2 Galaxy Tab 10.1, Gem, Gravity Smart, Indulge, Infuse 4G, Intercept, Mesmerize, Nexus S, Nexus  
3 S 4G, Replenish, Sidekick, Transform, and Vibrant. The videos in Exhibits 18 through 21 show  
4 the Galaxy Tab 10.1, the Galaxy S II, the Vibrant, and the Captivate attaching scroll indicators to  
5 the window edge.

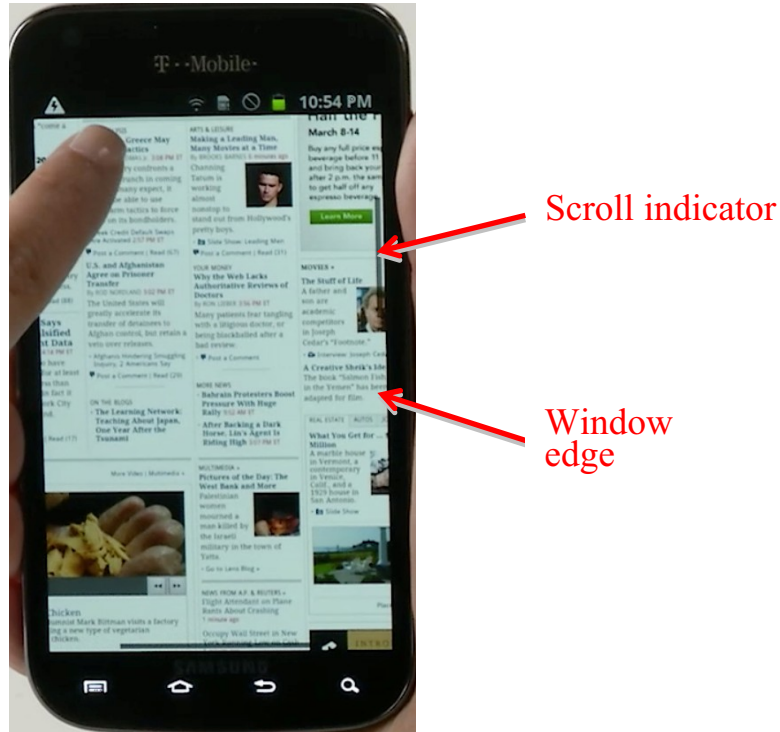
6 368. For example, the Galaxy Tab 10.1 attaches scroll indicators to the window edge, as  
7 illustrated below:



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22 (Screenshot of the Samsung Galaxy Tab 10.1 attaching a scroll indicator to the window edge.)



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4 369. For example, the Galaxy S II attaches scroll indicators to the window edge, as  
5 illustrated below.



19 370. To the extent that this limitation is not met literally, in my opinion it is met under  
20 the doctrine of equivalents because each of the Accused Products perform steps insubstantially  
21 different from attaching scroll indicators to the window edge, and accomplishes the same function  
22 in the same way to achieve the same result.

23 371. **Claim 5.** Claim 5 of the '915 Patent recites:

24 The method as in claim 1, wherein determining whether the event  
25 object invokes a scroll or gesture operation is based on receiving a  
26 drag user input for a certain time period.

27 372. Each of the Accused Products determines whether the event object invokes a scroll  
28 or gesture operation based on receiving a drag user input for a certain time period.

1           373. For example, the Galaxy Tab 10.1 tablet determines whether the event object  
2 invokes the scroll operation based on receiving a drag user input for a certain time period. The  
3 handleTouchEventCommon() invokes the fling operation based on the user scrolling within a  
4 certain period of time. (See WebView.java:7758 [SAMDNCA00002919 to C000002931].)

5           374. Based on my inspection of Samsung source code for each major release of  
6 Android running on the Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I have determined that  
7 each Accused Product includes similar computer code that determines whether the event object  
8 invokes a scroll or gesture operation is based on receiving a drag user input for a certain time  
9 period. The claim chart in Exhibit 17 identifies analogous code that satisfies this element in  
10 Android 2.1, 2.2, and 2.3.

11           375. To the extent that this limitation is not met literally, in my opinion it is met under  
12 the doctrine of equivalents because each of the Accused Products perform steps insubstantially  
13 different from invoking a scroll or gesture operation is based on receiving a drag user input for a  
14 certain time period, and accomplishes the same function in the same way to achieve the same  
15 result.

16           376. **Claim 6.** Claim 6 recites:

17                   The method as in claim 1, further comprising:

18                   responding to at least one gesture call, if issued, by rotating a view  
19                   associated with the event object based on receiving a plurality of  
                      input points in the form of the user input.

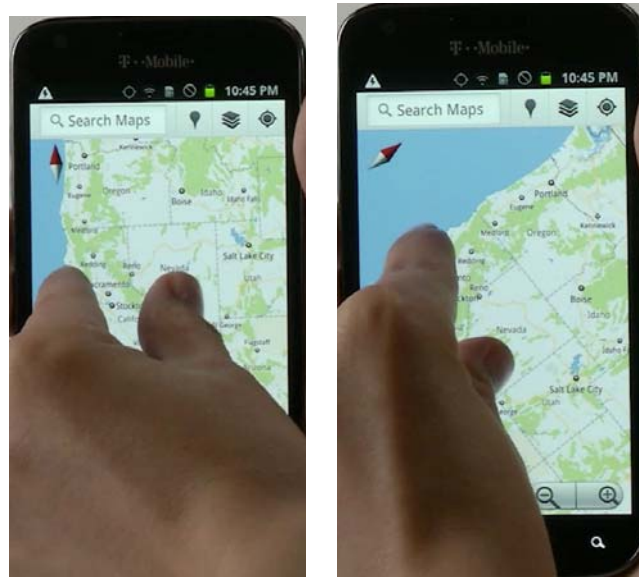
20           377. The following Accused Products respond to at least one gesture call, if issued, by  
21 rotating a view associated with the event object based on receiving a plurality of input points in  
22 the form of the user input: Galaxy S II (including its Epic 4G Touch and AT&T Skyrocket  
23 versions), Galaxy Tab 10.1, Nexus S, and Nexus S 4G. A video of the Galaxy Tab 10.1  
24 performing the limitations of this claim is attached as Exhibit 22, and a video of the Galaxy S II  
25 performing the limitations of this claim is attached as Exhibit 23.

26           378. For example, the Galaxy Tab 10.1 responds to at least one gesture call, if issued,  
27 by rotating a view associated with the event object based on receiving a plurality of input points  
28 (plurality of fingers) in the form of the user input.

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379. For example, the Galaxy S II responds to at least one gesture call, if issued, by rotating a view associated with the event object based on receiving a plurality of input points (plurality of fingers) in the form of the user input.



380. To the extent that this limitation is not met literally, in my opinion it is met under the doctrine of equivalents because each of the Accused Products perform steps insubstantially different from responding to at least one gesture call, if issued, by rotating a view associated with the event object based on receiving a plurality of input points in the form of the user input, and accomplishes the same function in the same way to achieve the same result.

381. **Claim 7.** Claim 7 recites:

1           The method as in claim 1, wherein the device is one of: a data  
2           processing device, a portable device, a portable data processing  
3           device, a multi touch device, a multi touch portable device, a  
4           wireless device, and a cell phone.

5           382.   Each of the Accused Products is a portable data processing device, a multi touch  
6           device, a multi touch portable device, a wireless device, and a cell phone.

7           383.   To the extent that this limitation is not met literally, in my opinion it is met under  
8           the doctrine of equivalents because each of the Accused Products is insubstantially different from  
9           a multi touch portable device, and accomplishes the same function in the same way to achieve the  
10          same result.

11          384.   **Claim 8.** Claim 8 recites:

12                   A machine readable storage medium storing executable program  
13                   instructions which when executed cause a data processing system to  
14                   perform a method comprising:

15                   [a] receiving a user input, the user input is one or more input points  
16                   applied to a touch-sensitive display that is integrated with the data  
17                   processing system;

18                   [b] creating an event object in response to the user input;

19                   [c] determining whether the event object invokes a scroll or gesture  
20                   operation by distinguishing between a single input point applied to  
21                   the touch-sensitive display that is interpreted as the scroll operation  
22                   and two or more input points applied to the touch-sensitive display  
23                   that are interpreted as the gesture operation

24                   [d] issuing at least one scroll or gesture call based on invoking the  
25                   scroll or gesture operation;

26                   [e] responding to at least one scroll call, if issued, by scrolling a  
27                   window having a view associated with the event object;

28                   [f] responding to at least one gesture call, if issued, by scaling the  
29                   view associated with the event object based on receiving the two or  
30                   more input points in the form of the user input.

31          385.   **Claim 8 – Preamble “A machine readable storage medium storing executable**  
32          **program instructions which when executed cause a data processing system to perform a**  
33          **method comprising.”** Each of the Accused Products is either a smartphone or tablet running a  
34          version of the Android operating system, which includes a data processing system. Each ’915  
35          Accused Product includes a computer readable storage medium storing executable program

1 instructions which when executed cause the data processing system to perform the method  
2 described in claim 8.

3           386.   **Claim 8 – Element [a] “receiving a user input, the user input is one or more**  
4 **input points applied to a touch-sensitive display that is integrated with the data processing**  
5 **system.”** In my opinion, each of the Accused Products includes a machine readable storage  
6 medium storing executable program instructions which when executed cause a data processing  
7 system to receive a user input, where the user input is one or more input points applied to a touch-  
8 sensitive display that is integrated with the data processing system, for the same reasons as  
9 explained with respect to claim 1, above.

10           387.   **Claim 8 – Element [b] “creating an event object in response to the user**  
11 **input.”** In my opinion, each of the Accused Products includes a machine readable storage  
12 medium storing executable program instructions which when executed cause a data processing  
13 system to create an event object in response to the user input, for the same reasons as explained  
14 with respect to claim 1.

15           388.   **Claim 8 – Element [c] “determining whether the event object invokes a scroll**  
16 **or gesture operation by distinguishing between a single input point applied to the touch-**  
17 **sensitive display that is interpreted as the scroll operation and two or more input points**  
18 **applied to the touch-sensitive display that are interpreted as the gesture operation.”** In my  
19 opinion, each of the Accused Products includes a machine readable storage medium storing  
20 executable program instructions which when executed cause a data processing system to  
21 determine whether the event object invokes a scroll or gesture operation by distinguishing  
22 between a single input point applied to the touch-sensitive display that is interpreted as the scroll  
23 operation and two or more input points applied to the touch-sensitive display that are interpreted  
24 as the gesture operation, for the same reasons as explained with respect to claim 1.

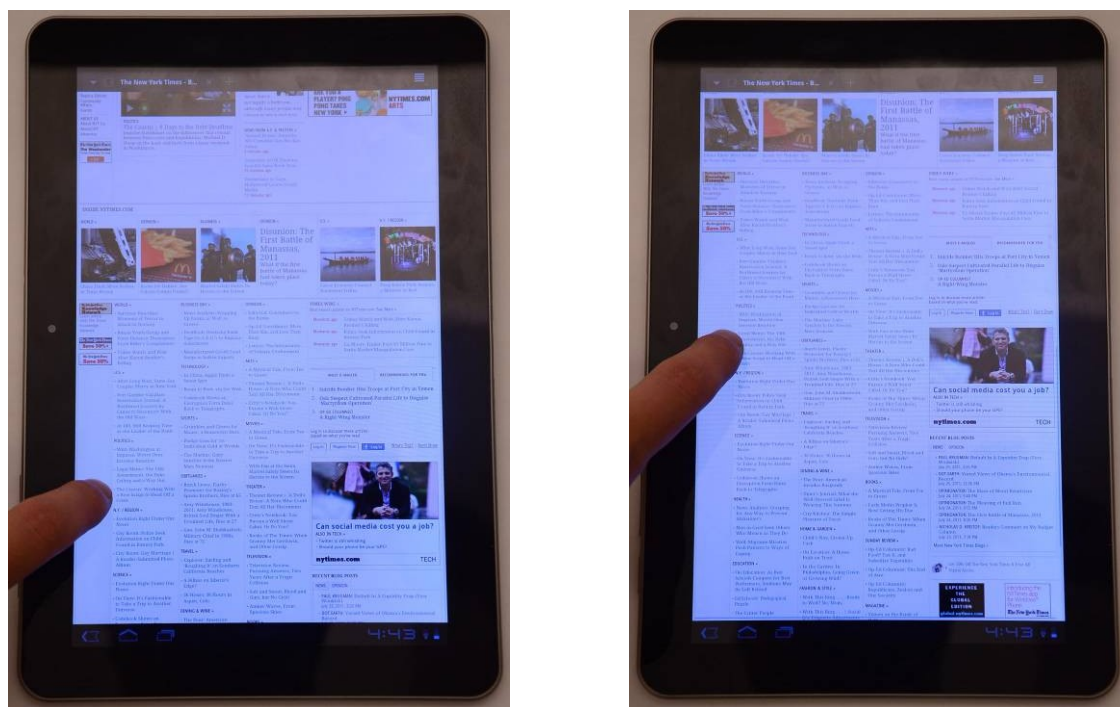
25           389.   **Claim 8 – Element [d] “issuing at least one scroll or gesture call based on**  
26 **invoking the scroll or gesture operation.”** In my opinion, each of the Accused Products  
27 includes a machine readable storage medium storing executable program instructions which when  
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1 executed cause a data processing system to issue at least one scroll or gesture call based on  
2 invoking the scroll or gesture operation, for the same reasons as explained with respect to claim 1.

3       390.   **Claim 8 – Element [e] “responding to at least one scroll call, if issued, by**  
4 **scrolling a window having a view associated with the event object.”** In my opinion, each of  
5 the Accused Products includes a machine readable storage medium storing executable program  
6 instructions which when executed cause a data processing system to respond to at least one scroll  
7 call, if issued, by scrolling a window having a view associated with the event object.

8       391.   Each of the Accused Products responds to a scroll call, if issued, by scrolling a  
9 window having a view associated with the event object based on an amount of a scroll with the  
10 scroll stopped at a predetermined position in relation to the user input.

11       392.   For example, the Galaxy 10.1 tablet will respond to at least one scroll call by  
12 scrolling a window having a view associated with the MotionEvent object, as illustrated below.



25  
26 (Screenshot of the Samsung Galaxy Tab 10.1 scrolling an image.)

1           393. For example, the Galaxy S2 phone will respond to at least one scroll call by  
2 scrolling a window having a view associated with the MotionEvent object, as illustrated below.



12           394. For example, in the Galaxy 10.1 tablet, the handleTouchEventCommon() method  
13 calls doFling() for a scroll operation. (See WebView.java:7272-7821 [SAMNDCA-C000002919  
14 to C000002931] (call done at 7772).) doFling() then calls the Overscroller.fling() method. (See  
15 WebView.java:9236-9376 [SAMNDCA-C000002932 to C000002935].) Overscroller.fling()  
16 itself calls two instances of the SplineOverScroller class, each of which is responsible for  
17 scrolling in one axis (i.e., one scrolls horizontally and the other scrolls vertically). (See  
18 OverScroller.java:406-448 [SAMNDCA-C000002945].) The SplineOverScroller class thus  
19 maintains state information for the fling. (See *id.*)

20           395. The actual rendering of the fling occurs subsequently as part of the drawing cycle.  
21 At the end of an event processing cycle, the method computeScroll() is called to compute which  
22 part of the view should be rendered to the user. (See WebView.java:3568-3654 [SAMNDCA-  
23 C000002958 to C000002959].) The computeScroll() method uses the SplineOverScroller class  
24 to extract the state information for the fling. (See *id.*) Afterwards, it calls  
25 WebView.overScrollBy() to scroll the content this method calculates maximums for the  
26 distance the user can scroll beyond the edge of the content and whether content should be fixed to  
27 a particular axis. (See *id.*; see also View.java:11663-11715 [SAMNDCA-C000002960 to  
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1 C000002961] (WebView.overScrollBy()).) onOverScrollBy() itself calls onOverScroller() to  
2 ensure the intended scroll coordinates are valid and then calls View.scrollTo() to invoke the scroll  
3 operation. (See View.java:11663-11715 [SAMNDCA-C000002960 to C000002961];  
4 WebView.java:3130-3162 [SAMDNCA-2962].) View.scrollTo() scrolls the window (setting  
5 mScrollX and mScrollY) based on the amount of a scroll with the scroll stopped at a  
6 “predetermined position in relation to the user input.” (See WebView.java:3130-3162  
7 [SAMDNCA-2962].)

8 396. Based on my inspection of Samsung source code for each major release of  
9 Android running on the Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I have determined that  
10 each Accused Product includes similar computer code that responds to at least one scroll call by  
11 scrolling a window having a view associated with the MotionEvent object.

12 397. To the extent that this limitation is not met literally, in my opinion it is met under  
13 the doctrine of equivalents because each of the Accused Products perform steps insubstantially  
14 different from responding to at least one scroll call, if issued, by scrolling a window having a  
15 view associated with the event object, and accomplishes the same function in the same way to  
16 achieve the same result.

17 398. **Claim 8 – Element [f] “responding to at least one gesture call, if issued, by**  
18 **scaling the view associated with the event object based on receiving the two or more input**  
19 **points in the form of the user input.”** In my opinion, each of the Accused Products includes a  
20 machine readable storage medium storing executable program instructions which when executed  
21 cause a data processing system to respond to at least one gesture call, if issued, by scaling the  
22 view associated with the event object based on receiving the two or more input points in the form  
23 of the user input, for the same reasons as explained with respect to claim 1.

24 399. **Claim 9.** Claim 9 recites:

25 The medium as in claim 8, further comprising:

26 rubberbanding a scrolling region displayed within the window by a  
27 predetermined maximum displacement when the scrolled region  
28 exceeds a window edge based on the scroll.



1           400. Claim 9 claims the media as in claim 8 and adds a limitation analogous to  
2 dependent claim 2 requiring “rubberbanding.” Accordingly, the same Accused Products  
3 discussed in connection with claim 2 infringe claim 8 for the reasons discussed in connection with  
4 claim 2.

5           401. **Claim 10.** Claim 10 recites:

6                   The medium as in claim 8, further comprising:  
7                   attaching scroll indicators to a content edge of the view.

8           402. Claim 10 claims the media as in claim 8 and adds a limitation analogous to  
9 dependent claim 3 requiring “attaching scroll indicators to a content edge of the view.”  
10 Accordingly, the same Accused Products discussed in connection with claim 3 infringe claim 9  
11 for the reasons discussed in connection with claim 3.

12           403. **Claim 11.** Claim 11 recites:

13                   The medium as in claim 8, further comprising:  
14                   attaching scroll indicators to a window edge of the view.

15           404. Claim 11 claims the media as in claim 8 and adds a limitation analogous to  
16 dependent claim 4 requiring “attaching scroll indicators to a window edge of the view.”  
17 Accordingly, the Accused Products discussed in connection with claim 4 infringe claim 10 for the  
18 reasons discussed in connection with claim 4.

19           405. **Claim 12.** Claim 12 recites:

20                   The medium as in claim 8, wherein determining whether the event  
21                   object invokes a scroll or gesture operation is based on receiving a  
                    drag user input for a certain time period.

22           406. Claim 12 claims the media as in claim 8 and adds a limitation analogous to  
23 dependent claim 5 wherein “determining whether the event object invokes a scroll or gesture  
24 operation is based on receiving a drag user input for a certain time period.” Accordingly, the  
25 Accused Products discussed in connection with claim 5 infringe claim 12 for the reasons  
26 discussed in connection with claim 5.

27           407. **Claim 13.** Claim 13 recites:

28                   The medium as in claim 8, further comprising:

1                    Responding to at least one gesture call, if issued, by rotating a view  
2                    associated with the event object based on receiving a plurality of  
                         input points in the form of the user input.

3                    408.    Claim 13 claims the media as in claim 8 and adds a limitation analogous to  
4                    dependent claim 6 further comprising “responding to at least one gesture call, if issued, by  
5                    rotating a view associated with the event object based on receiving a plurality of input points in  
6                    the form of the user input.” Accordingly, the Accused Products discussed in connection with  
7                    claim 6 infringe claim 13 for the reasons discussed in connection with claim 6.

8                    409.    **Claim 14.** Claim 14 recites:

9                                       The medium as in claim 8, wherein the data processing system is  
10                                       one of: a data processing device, a portable device, a portable data  
11                                       processing device, a multi touch device, a multi touch portable  
                         device, a wireless device, and a cell phone.

12                    410.    Claim 14 claims the media as in claim 8 and adds a limitation analogous to  
13                    dependent claim 7 wherein the data processing system may be a “multi touch portable device.”  
14                    Accordingly, the Accused Products discussed in connection with claim 7 infringe claim 14 for the  
15                    reasons discussed in connection with claim 7.

16                    411.    **Claim 15.** Claim 15 recites:

17                                       An apparatus, comprising:

18                                       [a] means for receiving, through a hardware device, a user input on  
19                                       a touch-sensitive display of the apparatus, the user input is one or  
                         more input points applied to the touch-sensitive display that is  
                         integrated with the apparatus;

20                                       [b] means for creating an event object in response to the user input;

21                                       [c] means for determining whether the event object invokes a scroll  
22                                       or gesture operation by distinguishing between a single input point  
23                                       applied to the touch-sensitive display that is interpreted as the scroll  
                         operation and two or more input points applied to the touch-  
                         sensitive display that are interpreted as the gesture operation;

24                                       [d] means for issuing at least one scroll or gesture call based on  
25                                       invoking the scroll or gesture operation;

26                                       [e] means for responding to at least one scroll call, if issued, by  
27                                       scrolling a window having a view associated with the event object;  
                         and

28                                       [f] means for responding to at least one gesture call, if issued, by  
                         scaling the view associated with the event object based on receiving

1           the two or more input points in the form of the user input.

2           412.   **Claim 15 – Preamble “An apparatus, comprising:”** Claim 15 is directed to an  
3 apparatus. Each of the Accused Products is an apparatus.

4           413.   **Claim 15 – element [a] “means for receiving, through a hardware device, a**  
5 **user input on a touch-sensitive display of the apparatus, the user input is one or more input**  
6 **points applied to the touch-sensitive display that is integrated with the apparatus.”** I have  
7 been informed that the limitation “means for receiving, through a hardware device, a user input  
8 on a touch-sensitive display of the apparatus” is in “means plus function” form and is governed  
9 by section 112.6. The function is receiving, through a hardware device, a user input on a touch-  
10 sensitive display of the apparatus. The corresponding structure is one or more special or general  
11 purpose processors programmed with special-purpose software to execute an algorithm, the  
12 special-purpose software including computer instructions for receiving, through a hardware  
13 device, a user input on a touch-sensitive display of the apparatus.

14           414.   As discussed above, each of the Accused Products includes a processor  
15 programmed to execute an algorithm to receive, through a touch screen, a user input. The  
16 Accused Products perform the claimed function in manner equivalent to the manner described in  
17 the specification. *See, e.g.*, ’915 Patent at 1:59-67, 2:37-42, 4:29-6:32, 6:33-36, 12:19-13:40,  
18 21:10-56, 22:5-16, 22:42-48; FIGS. 1, 13, 14, 32, and 33A-C.

19           415.   Claim 15 element [a] also requires that the user input is one or more input points  
20 applied to the touch-sensitive display that is integrated with the apparatus. As explained above,  
21 each of the Accused Products receives user input in the form of one or more inputs points applied  
22 to the touch-sensitive display integrated with the apparatus.

23           416.   **Claim 15 – element [b] “means for creating an event object in response to the**  
24 **user input.”** I have been informed that this limitation is in “means plus function” form and is  
25 governed by section 112.6. The function is creating an event object in response to the user input.  
26 The corresponding structure is one or more special or general purpose processors programmed  
27

1 with special-purpose software to execute an algorithm, the special-purpose software including  
2 computer instructions for creating an event object in response to the user input.

3 417. As discussed above, each of the Accused Products includes a processor  
4 programmed to execute an algorithm for creating an event object in response to the user input.  
5 The Accused Products perform the claimed function in manner equivalent to the manner  
6 described in the specification. *See, e.g.*, ’915 Patent at 1:59-67, 2:37-42, 4:29-6:37, 12:30-32,  
7 21:10-56, 22:5-16, 22:42-48; FIGS. 1, 13, 32, and 33A-C.

8 418. **Claim 15 – element [c] “means for determining whether the event object**  
9 **invokes a scroll or gesture operation by distinguishing between a single input point applied**  
10 **to the touch-sensitive display that is interpreted as the scroll operation and two or more**  
11 **input points applied to the touch-sensitive display that are interpreted as the gesture**  
12 **operation.”** I have been informed that this limitation is in “means plus function” form and is  
13 governed by section 112.6. The function is determining whether the event object invokes a scroll  
14 or gesture operation by distinguishing between a single input point applied to the touch-sensitive  
15 display that is interpreted as the scroll operation and two or more input points applied to the  
16 touch-sensitive display that are interpreted as the gesture operation. The corresponding structure  
17 is one or more special or general purpose processors programmed with special-purpose software  
18 to execute an algorithm, the special-purpose software including computer instructions for  
19 determining whether the event object invokes a scroll or gesture operation by distinguishing  
20 between a single input point applied to the touch-sensitive display that is interpreted as the scroll  
21 operation and two or more input points applied to the touch-sensitive display that are interpreted  
22 as the gesture operation.

23 419. As discussed above, each of the Accused Products includes a processor  
24 programmed to execute an algorithm for determining whether the event object invokes a scroll or  
25 gesture operation by distinguishing between a single input point applied to the touch-sensitive  
26 display that is interpreted as the scroll operation and two or more input points applied to the  
27 touch-sensitive display that are interpreted as the gesture operation. The Accused Products  
28 perform the claimed function in manner equivalent to the manner described in the specification.

1 *See, e.g.*, ’915 Patent at 1:59-67, 2:22-29, 2:37-42, 4:29-6:32, 6:37-48, 6:57-60, 9:61-11:13,  
2 12:19-14:40, 21:10-56, 22:5-16, 22:42-48; FIGS. 1, 7-10, 13, 14, 32, and 33A-C.

3       420. **Claim 15 – element [d] “means for issuing at least one scroll or gesture call**  
4 **based on invoking the scroll or gesture operation.”** I have been informed that this limitation is  
5 in “means plus function” form and is governed by section 112.6. The function is issuing at least  
6 one scroll or gesture call based on invoking the scroll or gesture operation. The corresponding  
7 structure is one or more special or general purpose processors programmed with special-purpose  
8 software to execute an algorithm, the special-purpose software including computer instructions  
9 for issuing at least one scroll or gesture call based on invoking the scroll or gesture operation.

10       421. As discussed above, each of the Accused Products includes a processor  
11 programmed to execute an algorithm for issuing at least one scroll or gesture call based on  
12 invoking the scroll or gesture operation. The Accused Products perform the claimed function in  
13 manner equivalent to the manner described in the specification. *See, e.g.*, ’915 Patent at 1:59-67,  
14 2:22-29, 2:37-42, 4:29-6:32, 6:46-48, 9:61-11:13, 12:19-28, 12:34-37, 13:21-50, 21:10-56, 22:5-  
15 16, 22:42-48; FIGS. 1, 7-10, 13, 14, 32, and 33A-C.

16       422. **Claim 15 – element [e] “means for responding to at least one scroll call, if**  
17 **issued, by scrolling a window having a view associated with the event object.”** I have been  
18 informed that this limitation is in “means plus function” form and is governed by section 112.6.  
19 The function is responding to at least one scroll call, if issued, by scrolling a window having a  
20 view associated with the event object. The corresponding structure is a display coupled with one  
21 or more special or general purpose processors programmed with special-purpose software to  
22 execute an algorithm, the special-purpose software including computer instructions for  
23 responding to at least one scroll call, if issued, by scrolling a window having a view associated  
24 with the event object.

25       423. As discussed above, each of the Accused Products includes a display and a  
26 processor programmed to execute an algorithm for responding to at least one scroll call, if issued,  
27 by scrolling a window having a view associated with the event object. The Accused Products  
28 perform the claimed function in manner equivalent to the manner described in the specification.

1 See, e.g., ’915 Patent at 1:59-67, 2:37-42, 4:29-6:32, 6:46-56, 8:4-25, 9:61-11:13, 18:25-19:61,  
2 20:50-21:56, 22:5-16, 22:42-48; FIGS. 1, 4, 7-10, 28, 29, 30A-B, 32, and 33A-C.

3 424. **Claim 15 – element [f]** “means for responding to at least one gesture call, if  
4 issued, by scaling the view associated with the event object based on receiving the two or  
5 more input points in the form of the user input.” I have been informed that this limitation is in  
6 “means plus function” form and is governed by section 112.6. The function is responding to at  
7 least one gesture call, if issued, by scaling the view associated with the event object based on  
8 receiving the two or more input points in the form of the user input. The corresponding structure  
9 is a display coupled with one or more special or general purpose processors programmed with  
10 special-purpose software to execute an algorithm, the special-purpose software including  
11 computer instructions for responding to at least one gesture call, if issued, by scaling the view  
12 associated with the event object based on receiving the two or more input points in the form of  
13 the user input.

14 425. As discussed above, each of the Accused Products includes a display and a  
15 processor programmed to execute an algorithm for responding to at least one gesture call, if  
16 issued, by scaling the view associated with the event object based on receiving the two or more  
17 input points in the form of the user input. The Accused Products perform the claimed function in  
18 manner equivalent to the manner described in the specification. See, e.g., ’915 Patent at 1:59-67,  
19 2:22-29, 2:37-42, 4:29-6:32, 6:57-60, 8:4-25, 12:19-14:40, 18:25-19:61, 20:50-21:56, 22:5-16,  
20 22:42-48; FIGS. 1, 4, 13-15, 16A-C, 28-29, 30A-B, 32, and 33A-C.

21 426. In summary, in my opinion each of the Accused Products is an apparatus that  
22 practices Claim 15. To the extent that this claim is not met literally, in my opinion it is met under  
23 the doctrine of equivalents because each of the Accused Products accomplishes the same function  
24 in the same way to achieve the same result.

25 427. **Claim 16.** Claim 16 recites:

26 The apparatus as in claim 15, further comprising: means for  
27 rubberbanding a scrolling region displayed within the window by a  
28 predetermined maximum displacement when the scrolling region  
exceeds a window edge based on the scroll.

1           428. Claim 16 claims the apparatus as in claim 15 and adds a limitation analogous to  
2 dependent claim 2 further comprising “means for rubberbanding a scrolling region displayed  
3 within the window by a predetermined maximum displacement when the scrolling region exceeds  
4 a window edge based on the scroll.” Accordingly, the Accused Products discussed in connection  
5 with claim 2 infringe claim 16 for the reasons discussed in connection with claim 2.

6           429. I have been informed that this limitation is in “means plus function” form and is  
7 governed by section 112.6. The function is rubberbanding a scrolling region displayed within the  
8 window by a predetermined maximum displacement when the scrolling region exceeds a window  
9 edge based on the scroll. The corresponding structure is a display coupled with one or more  
10 special or general purpose processors programmed with special-purpose software to execute an  
11 algorithm, the special-purpose software including computer instructions for rubberbanding a  
12 scrolling region displayed within the window by a predetermined maximum displacement when  
13 the scrolling region exceeds a window edge based on the scroll.

14           430. As discussed above, each of the above-listed products includes a display and a  
15 processor programmed to execute an algorithm for rubberbanding a scrolling region displayed  
16 within the window by a predetermined maximum displacement when the scrolling region exceeds  
17 a window edge based on the scroll. The above-listed products perform the claimed function in  
18 manner equivalent to the manner described in the specification. *See, e.g.*, ’915 Patent at 1:59-67,  
19 2:11-21, 2:37-42, 4:29-6:32, 7:46-8:3-25, 8:61-9:60, 18:25-19:61, 20:50-21:56, 22:5-16, 22:21-  
20 26, 22:42-48, 22:53-58; FIGS. 1, 3, 4, 6A-D, 28, 29, 30A-B, 32, and 33A-C.

21           431. In summary, in my opinion each of the above-listed products is an apparatus that  
22 practices Claim 16. To the extent that this claim is not met literally, in my opinion it is met under  
23 the doctrine of equivalents because each of the above-listed products accomplishes the same  
24 function in the same way to achieve the same result.

25           432. **Claim 17.** Claim 17 recites:

26                   The apparatus as in claim 15, further comprising: means for  
27                   attaching scroll indicators to a content edge of the window.  
28

1           433. Claim 17 claims the apparatus in claim 15 and adds a limitation analogous to  
2 dependent claim 3 further comprising “means for attaching scroll indicators to a content edge  
3 of the window.” Accordingly, the Accused Products discussed in connection with claim 3  
4 infringe claim 17 for the reasons discussed in connection with claim 3.

5           434. I have been informed that this limitation is in “means plus function” form and is  
6 governed by section 112.6. The function is attaching scroll indicators to a content edge of the  
7 window. The corresponding structure is a display coupled with one or more special or general  
8 purpose processors programmed with special-purpose software to execute an algorithm, the  
9 special-purpose software including computer instructions for attaching scroll indicators to a  
10 content edge of the window.

11           435. As discussed above, each of the above-listed products includes a display and a  
12 processor programmed to execute an algorithm for attaching scroll indicators to a content edge of  
13 the window. The above-listed products perform the claimed function in manner equivalent to the  
14 manner described in the specification. *See, e.g.*, ’915 Patent at 1:59-67, 2:11-21, 2:37-42, 4:29-  
15 6:32, 7:46-8:3-25, 8:61-9:60, 18:25-19:61, 20:50-21:56, 22:5-16, 22:21-26, 22:42-48, 22:53-58;  
16 FIGS. 1, 3, 4, 6A-D, 28, 29, 30A-B, 32, and 33A-C.

17           436. In summary, in my opinion each of the above-listed products is an apparatus that  
18 practices Claim 17. To the extent that this claim is not met literally, in my opinion it is met under  
19 the doctrine of equivalents because each of the above-listed products accomplishes the same  
20 function in the same way to achieve the same result.

21           437. **Claim 18.** Claim 18 recites:

22           The apparatus as in claim 15, further comprising: means for  
23           attaching scroll indicators to the window edge.

24           438. Claim 18 claims the apparatus in claim 15 and adds a limitation analogous to  
25 dependent claim 4 further comprising “means for attaching scroll indicators to the window edge.”  
26 Accordingly, the Accused Products discussed in connection with claim 4 infringe claim 18 for the  
27 reasons discussed in connection with claim 4.



1           439. I have been informed that this limitation is in “means plus function” form and is  
2 governed by section 112.6. The function is attaching scroll indicators to the window edge. The  
3 corresponding structure is a display coupled with one or more special or general purpose  
4 processors programmed with special-purpose software to execute an algorithm, the special-  
5 purpose software including computer instructions for attaching scroll indicators to the window  
6 edge.

7           440. As discussed above, each of the above-listed products includes a display and a  
8 processor programmed to execute an algorithm for attaching scroll indicators to the window edge.  
9 The above-listed products perform the claimed function in manner equivalent to the manner  
10 described in the specification. *See, e.g.*, ’915 Patent at 1:59-67, 2:11-21, 2:37-42, 4:29-6:32,  
11 7:46-8:3-25, 8:61-9:60, 18:25-19:61, 20:50-21:56, 22:5-16, 22:21-26, 22:42-48, 22:53-58; FIGS.  
12 1, 3, 4, 6A-D, 28, 29, 30A-B, 32, and 33A-C.

13           441. In summary, in my opinion each of the above-listed products is an apparatus that  
14 practices Claim 18. To the extent that this claim is not met literally, in my opinion it is met under  
15 the doctrine of equivalents because each of the above-listed products accomplishes the same  
16 function in the same way to achieve the same result.

17           442. **Claim 19.** Claim 19 recites:

18           The apparatus as in claim 15, wherein determining whether the  
19           event object invokes a scroll or gesture operation is based on  
20           receiving a drag user input for a certain time period.

21           443. Claim 19 claims the apparatus in claim 15 and adds a limitation analogous to  
22 dependent claim 5 wherein “determining whether the event object invokes a scroll or gesture  
23 operation is based on receiving a drag user input for a certain time period.” Accordingly, the  
24 Accused Products discussed in connection with claim 5 infringe claim 19 for the reasons  
25 discussed in connection with claim 5. To the extent that this claim is not met literally, in my  
26 opinion it is met under the doctrine of equivalents because each of the Accused Products  
27 accomplishes the same function in the same way to achieve the same result.

28           444. **Claim 20.** Claim 20 recites:

1           The apparatus as in claim 15, further comprising: means for  
2           responding to at least one gesture call, if issued, by rotating a view  
3           associated with the event object based on receiving a plurality of  
4           input points in the form of the user input.

5           445.    Claim 20 claims the apparatus in claim 15 and adds a limitation analogous to  
6           dependent claim 6 further comprising “means for responding to at least one gesture call, if issued,  
7           by rotating a view associated with the event object based on receiving a plurality of input points  
8           in the form of the user input.” Accordingly, the Accused Products discussed in connection with  
9           claim 6 infringe claim 20 for the reasons discussed in connection with claim 6.

10           446.    I have been informed that this limitation is in “means plus function” form and is  
11           governed by section 112.6. The function is responding to at least one gesture call, if issued, by  
12           rotating a view associated with the event object based on receiving a plurality of input points in  
13           the form of the user input. The corresponding structure is a display coupled with one or more  
14           special or general purpose processors programmed with special-purpose software to execute an  
15           algorithm, the special-purpose software including computer instructions for responding to at least  
16           one gesture call, if issued, by rotating a view associated with the event object based on receiving a  
17           plurality of input points in the form of the user input.

18           447.    As discussed above with respect to Claim 13, each of the Accused Products  
19           discussed in Claim 13 includes a processor programmed to execute an algorithm for responding  
20           to at least one gesture call, if issued, by rotating a view associated with the event object based on  
21           receiving a plurality of input points in the form of the user input. These Accused Products  
22           perform the claimed function in manner equivalent to the manner described in the specification.  
23           *See, e.g.,* ’915 Patent at 1:59-67, 2:37-42, 4:29-6:37, 12:30-32, 21:10-56, 22:5-16, 22:42-48;  
24           FIGS. 1, 13, 32, and 33A-C. To the extent that this claim is not met literally, in my opinion it is  
25           met under the doctrine of equivalents because each of the above-listed products accomplishes the  
26           same function in the same way to achieve the same result.

27           448.    **Claim 21.** Claim 21 recites:

28           The apparatus as in claim 15, wherein the apparatus is one of: a  
              data processing device, a portable device, a portable data processing  
              device, a multi touch device, a multi touch portable device, a  
              wireless device, and a cell phone.

1           449. Claim 21 claims an apparatus in claim 15 and adds a limitation analogous to claim  
2 7, “wherein the apparatus is one of: a data processing device, a portable device, a portable data  
3 processing device, a multi touch device, a multi touch portable device, a wireless device, and a  
4 cell phone.” Accordingly, the Accused Products discussed in connection with claim 7 infringe  
5 claim 21 for the reasons discussed in connection with claim 6. To the extent that this claim is not  
6 met literally, in my opinion it is met under the doctrine of equivalents because each of the above-  
7 listed products accomplishes the same function in the same way to achieve the same result.

8           **E. Samsung’s Devices Have Been Modeled on Apple’s iOS**

9           450. Based on documents that I have reviewed, Samsung appears to have modeled the  
10 scrolling, pinch zoom and rotation features in its products after those in Apple’s iOS.

11           451. In December 2009, Samsung’s C.E.O. issued “instruction items” for 2010, stating  
12 that “going forward our comparison standard is Apple iPhone. In High End cases, evaluate with  
13 iPhone standard.” (SAMNDCA10907803.) The then principal engineer of Samsung’s Mobile R  
14 & D, Dongsub Kim, reiterated this sentiment in an email to several at the company, saying,  
15 “Henceforth our standard for comparison is the Apple iPhone.” (SAMNDCA1097800 at -801.)

16           452. In an email from Senior Designer Eunjung Chang in December 2009 to an  
17 undisclosed number of recipients, Chang summarized the results of a UX informational meeting  
18 with several European subsidiaries. Chang reported that many “strongly request multi-touch  
19 (pinch interaction).” (SAMNDCA10015268 at -273.) Furthermore, several at the meeting  
20 informed about “the market’s need for this [pinch interaction] in a variety of features such as a  
21 browser, game, photo. “They feel that whether this is installed in a product is an important factor  
22 when customers make purchases because it is convenient and fun.” Others went as far as to say  
23 the pinch interaction was “absolutely necessary for multimedia contents and Internet browsing.”  
24 (*Id.*)

25           453. In February 2011, Tae Woo Rhim stated, “Enabling zoom in all mobile versions is  
26 a directive from Head of Verification group.” (S-ITC-003401550.)

27           454. Many Samsung documents show that Samsung measured the implementation of  
28 pinch zoom and scrolling on its phones against Apple’s products. Usually, these head-to-head

1 comparisons are in the form of charts measuring smoothness, response time, and feel of these  
2 features. (SAMNDCA00229419; SAMNDCA00229399; SAMNDCA00201351;  
3 SAMNDCA00201642; SAMNDCA00229449; SAMNDCA00525362; SAMNDCA00525359; S-  
4 ITC-003680292 at -299; S-ITC-003409246 at -253; S-ITC-003524055.)

5 455. Samsung developed patches to improve zoom and scroll functionality in  
6 comparison to Apple. After one such U1 browser scrolling patch was applied to a Samsung  
7 product, Ioi Lam wrote Jaegwan Shin saying, “initial response for scroll looks good. However,  
8 they feel like zoom-in is a little bit heavy compared to iPhone after applying the patch.”  
9 (SAMNCA00229440.)

10 **F. The ’915 Patent Could Not Be Designed Around Without Rendering the**  
11 **Accused Products Much Less Useable**

12 456. I have been asked to consider whether the Accused Products could be re-designed  
13 so that they do not infringe the ’915 patent. In my opinion, any such re-design would make the  
14 Accused Products much less useable, render them inconvenient for users, and deprive them of  
15 intuitive functionality that smartphone and tablet users have come to expect.

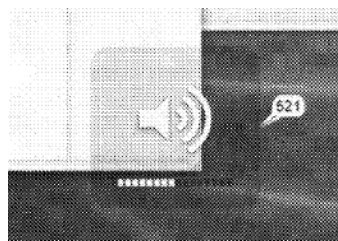
16 457. The ’915 patent provides functionality that is central to all of the Accused  
17 Products: the ability to distinguish automatically between a one-finger scroll call and a two-  
18 finger gesture such as a zoom or rotate gesture. This functionality is highly intuitive; indeed,  
19 many users who experiment with devices equipped with this functionality immediately  
20 understand how to use them without any explanation. Scrolling, zooming and rotating are among  
21 the most common actions users take with the Accused Products, and are used in multiple  
22 applications.

23 458. Potential alternative designs that do not practice the ’915 patent would be far less  
24 useful. A smartphone that required users to press a key in order to zoom or un-zoom, for  
25 example, would be much less intuitive and would provide a much less satisfying user experience.  
26 than devices that practice the ’915 patent.

**VII. DETAILED OPINION REGARDING THE ’891 PATENT**

**A. Summary of the ’891 Patent**

459. Apple’s ’891 patent, titled “Method and Apparatus for Displaying a Window for a User Interface” claims methods and an apparatus for providing a visual overlay of information that automatically disappears. I have been informed that the claims of the ’891 patent discussed in this Report were conceived of by Imran Chaudri and Bas Ording in 2000, and that the claims were wholly or substantially reduced to practice in March 2001. Apple Inc.’s Fifth Am. Obj. and Response to Samsung’s Interrogatory No. 1 to Apple, 3:12-17; Ording Dep. 130:8-134:2, Oct. 25, 2011. The application that resulted in the issuance of the patent was filed February 1, 2008 and the patent claims priority to an application filed July 10, 2002. The invention in this patent may be most familiar to mobile device users as a volume adjustment indicator or “pop-up window,” depicted below.



’891 patent Fig. 17

460. After appearing briefly (and in the same position on the screen) this type of window then automatically disappears without a user having to, for example, click an “X” button on the corner of the window. The window is displayed independently of a position of a cursor on the screen.

461. The ’891 patent discloses and claims different embodiments of this basic invention. The user interface window, referred to as a “first window,” may open in response to a user input or as a result of some other occurrence, and then closes automatically in response to the expiration of a timer or upon the occurrence of some other condition. In some embodiments the timer can be restarted by a second user input. Depending upon the embodiment, the “first window” may or may not be capable of being closed by a user’s input. In some but not all

1   embodiments, the “first window” is translucent so that a “second window” is visible underneath  
2   the first window. In some but not all embodiments the first window closes by “fading out.” In  
3   sum, the ’891 patent discloses and claims a variety of useful ways for providing unobtrusive  
4   visual feedback in a digital processing system, such as a desktop or laptop computer, a  
5   smartphone, or a tablet computer.

6           462. In my opinion, a person of ordinary skill in the relevant art of the ’891 patent at the  
7   time of the invention would have a Bachelor’s degree in computer science or electrical  
8   engineering or an equivalent, and one or more years experience working on designing and/or  
9   implementing user interfaces. I have interpreted the ’891 patent claims according to how I  
10  believe such a person of ordinary skill would have understood the claims at the time of the  
11  invention in light of the patent specification and file history. In addition, I have applied the  
12  parties’ agreed definition that “starting a timer” means “initiating a time-keeping process.”

13           **B. Apple’s Practice of the ’891 Patent**

14           463. Although according to the testimony of the co-inventors of the ’891 patent the  
15  invention was originally implemented in Apple’s notebook computers, it is my opinion that  
16  Apple’s iPhone and iPad products practice one or more of the asserted claims of the ’891 patent.  
17  In Apple’s iPhone and iPad products, when the user touches the volume button, a translucent  
18  “first window” appears on top of the “second window” displaying a different application.  
19  Touching the volume button starts a timer, and the volume window “fades out” when the timer  
20  expires. A repeated touch on the volume control extends the time the volume window is open.  
21  Finally, the volume window in the Apple iPhones and iPad appears centered horizontally on the  
22  display, independently of the position of a cursor on the screen. The video attached as Exhibit 24,  
23  which was shown in Apple’s *Markman* Tutorial, as well as the screenshot of it below, show the  
24  features of the ’891 patent demonstrated on an iPhone 4. The deposition of Bas Ording, an  
25  inventor on the ’891 patent, confirmed that Apple practices it. (Ording Dep. Tr. at 149:17-24.)  
26  Apple’s products embody one or more of the asserted apparatus and system claims of the ’891  
27  patent, and their ordinary and intended use practices one or more of the asserted method claims of  
28  the ’891 patent, which are discussed in greater detail below.

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**C. Samsung’s Infringement of the ’891 Patent**

464. In the discussion that follows, I analyze whether certain Samsung Accused Products embody the apparatus claims of the ’891 patent and whether the ordinary and intended use of the Samsung Accused Products would practice the method claims of the patent. For purposes of this section of my Report, the “Samsung Accused Products” include the following: Acclaim, Captivate, Continuum, Droid Charge, Epic 4G, Exhibit 4G, Fascinate, Galaxy Ace, Galaxy Prevail, Galaxy S (i9000), Galaxy S 4G, Galaxy S II (including the i9100, T-Mobile, AT&T, Epic 4G Touch and Skyrocket variants), Galaxy S Showcase (i500), Galaxy Tab 7.0, Galaxy Tab 10.1, Gem, Gravity Smart, Indulge, Infuse 4G, Intercept, Mesmerize, Nexus S, Nexus S 4G, Replenish, Sidekick, Transform, and Vibrant.

465. In performing this analysis I reviewed the ’891 patent and its file history, tested the operation of these Samsung Accused Products, reviewed source code that Samsung produced prior to the March 8 fact discovery cutoff, and reviewed other materials described in this Report. Because the Samsung source code is built upon the foundation of publicly-available Android code, I reviewed portions of that Android code and its accompanying documentation. I have analyzed Samsung source code on at least one Accused Product representative of each major release of

1 Android that appears on the Accused Products. I reviewed source code that implements the  
2 accused functionalities of the ’891 patent on, among other devices, the Samsung Captivate  
3 (Android 2.1), the Samsung Vibrant, (Android 2.2), the Samsung Galaxy S II (Android 2.3), and  
4 the Samsung Galaxy Tab 10.1 (Android 3.1). I have compared portions of the relevant code on  
5 each of these devices to analogous code (where available) on other Accused Products running that  
6 version, as well as the publicly available version of each major Android release. Based on those  
7 comparisons, I conclude that, for each major Android release, all of the Accused Products based  
8 on that release implement the accused functionalities of the ’891 patent in substantially the same  
9 way as the representative device for that release whose source code I have analyzed and cited in  
10 this Report.

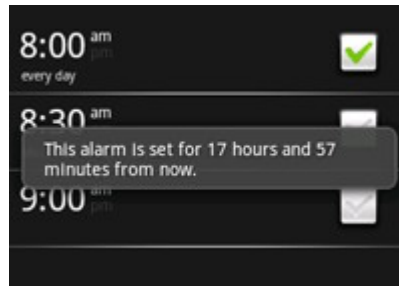
11           466. Two features provided in the Android code, “toast” notifications (for all the  
12 Samsung Accused Products other than the Galaxy Tab 10.1) and “dialogs” (for the Galaxy Tab  
13 10.1) are particularly relevant to the analysis of the Samsung source code in the context of  
14 the ’891 patent, and I therefore present a short summary of those Android features before  
15 discussing the ’891 claims and the Samsung code in detail.

16           467. The relevant Samsung code for all of the Samsung Accused Products other than  
17 the Galaxy Tab 10.1 uses “toast” notifications to implement the display for volume adjustment.  
18 Android Developers ([developer.android.com](http://developer.android.com)), which is the official site for Android developers,  
19 explains the function of “toast” notifications as follows:

20                   A toast notification is a message that pops up on the surface of the  
21                   window. It only fills the amount of space required for the message  
22                   and the user’s current activity remains visible and interactive. The  
                    notification automatically fades in and out, and does not accept  
                    interaction events.

23                   The screenshot below shows an example toast notification from the  
24                   Alarm application. Once an alarm is turned on, a toast is displayed  
                    to assure you that the alarm was set.





See <http://developer.android.com/guide/topics/ui/notifiers/toasts.html>.

468. As the description and image above confirm, a “toast” (1) is a window displayed on the screen in response to user input (such as setting an alarm or adjusting volume), (2) is displayed concurrently with a portion of a second window, (3) closes automatically, by fading out, rather than in response to user input, and (4) does not respond to input from the user. An alternative, more general mechanism for performing the same function as a “toast” in Android is the “dialog,” which Samsung uses in the Galaxy Tab 10.1.

469. A “dialog” (1) is a window displayed on the screen in response to user input, (2) is displayed concurrently with a portion of a second window showing underlying activity, and (3) accepts user input. Samsung use of “toast” notifications and “dialogs” to display and close windows in connection with user inputs to adjust the volume levels of its Accused Products are discussed in greater detail below.

470. In the paragraphs that follow, I will set forth the claims of the ’891 patent for which it is my opinion that Samsung Accused Products, or the ordinary and intended use of Samsung Accused Products, meets every limitation of the claim. By “ordinary and intended use” in this section of my Report, I mean actions that virtually every user of a Samsung Accused Product would perform when using the Accused Product, and which Samsung encouraged and intended the user to perform. As discussed in greater detail below, any user touching the volume button on a Samsung Accused product would trigger an automatic series of steps that would practice all the method steps of almost all of the asserted method claims. In addition, a user often would touch the volume button while some other application window was being displayed, thus infringing the dependent “second application window” claims. Any user who happened to tap the

1 button twice, a very common occurrence in either moving the volume up or down (for example,  
2 in muting the ringer, a very common user action), would practice the dependent claims for  
3 “restarting” a timer. Accordingly, it is my opinion that all or virtually all users of the Samsung  
4 Accused products would engage in direct infringement of the ’891 patent.

5 471. In addition, the volume button in the Samsung Accused Products discussed below  
6 does not have a non-infringing use. Virtually any input using the volume button causes the  
7 performance of all of the steps of one or more of the method claims of the ’891 patent. The  
8 volume button is one of a small number of physical buttons on the Samsung Accused Products,  
9 and Samsung’s user manuals for the Samsung Accused Products instruct users on the location of  
10 the volume button and the touching of that button that automatically causes the performance of  
11 the steps of the method claims as discussed below. Based on these facts, and for the other reasons  
12 stated in this Report, it is my opinion that the Samsung defendants have indirectly infringed the  
13 method claims of the ’891 patent discussed below.

14 472. With respect to the claims of the ’891 patent that claim an apparatus, device,  
15 system or media, it is my opinion that a Samsung defendant who makes, uses, sells, imports or  
16 offers to sell the Samsung Accused Product in the United States has engaged in direct  
17 infringement of the ’891 claims discussed below.

18 473. Attached as Exhibits 25 and 26 are exemplary claim charts that illustrate the  
19 infringement of the claims below by the Galaxy Tab 10.1 (Exhibit 25) and the Galaxy Prevail  
20 (Exhibit 26). Where source code is cited in the Galaxy Prevail claim chart, reference is made to  
21 Android 2.3 (as exemplified by the Galaxy S II), Android 2.2 (as exemplified by the Samsung  
22 Vibrant) and Android 2.1 (as exemplified by the Samsung Captivate).

23 474. **Claim 1.** Claim 1 of the ’891 patent recites:

24 A method to display a user interface window for a digital  
25 processing system, the method comprising:

26 [a] displaying a first window in response to receiving a first input  
27 from a user input device of the digital processing system which is  
28 capable of displaying at least a portion of a second window  
concurrently with the first window on a screen;

[b] starting a timer; and

1 [c] closing the first window in response to a determination that the  
2 timer expired;

3 [d] wherein the first window does not close in response to any input  
4 from a user input device of the digital processing system, wherein  
5 the first window has been displayed independently from a position  
6 of a cursor on the screen

7 475. In my opinion, the ordinary and intended use of the following Samsung Accused  
8 Products: Acclaim, Captivate, Continuum, Droid Charge, Epic 4G, Exhibit 4G, Fascinate,  
9 Galaxy Ace, Galaxy Prevail, Galaxy S (i9000), Galaxy S 4G, Galaxy S II (including the i9100, T-  
10 Mobile, AT&T, Epic 4G Touch and Skyrocket variants), Galaxy S Showcase (i500), Galaxy Tab  
11 7.0, Gem, Gravity Smart, Indulge, Infuse 4G, Intercept, Mesmerize, Nexus S, Nexus S 4G,  
12 Replenish, Sidekick, Transform, and Vibrant (all of the Samsung Accused Products other than the  
13 Galaxy Tab 10.1) literally infringes claim 1 of the ’891 patent.

14 476. **Claim 1, Preamble: “A method to display a user interface window for a**  
15 **digital processing system, the method comprising:”** All the Samsung Accused Products are  
16 digital processing systems containing a CPU, memory, and operating system software and  
17 application programs. For example, the Samsung Galaxy S II phones contain a “1.5 GHz, Dual  
18 Core (Qualcomm Snapdragon S3)” processor (Ex. 6 at APLNDC-Y0000066880); and the Galaxy  
19 Tab 10.1 contains a “1GHz Dual Core Nvidia Tegra2 Processor” (Ex. 7 at APLNDC-  
20 Y0000066821). The earlier Galaxy phones also contained processors. These systems run  
21 variations of the Android operating system and a variety of application programs.

22 477. All of the Samsung Accused Products are either smartphones (like the Galaxy S II)  
23 or tablet computers (like the Galaxy Tab 10.1). These devices employ processors and run  
24 software that performs functions typically performed on computers. The Samsung Accused  
25 Products all display user interface windows that convey information to the user and allow the user  
26 to interact with the system. Therefore, the ordinary and intended use of all the Samsung Accused  
27 Products meets the preamble of claim 1.<sup>9</sup>

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28 <sup>9</sup> I understand that the preamble of a patent claim may or may not be construed as a claim  
limitation. I offer no opinion on that issue in my Report, since the Samsung Accused Products all  
meet the recitations in the preambles of the various asserted claims.

1           478.   **Claim 1, Element [a] “displaying a first window in response to receiving a**  
2 **first input from a user input device of the digital processing system which is capable of**  
3 **displaying at least a portion of a second window concurrently with the first window on a**  
4 **screen;”** Based upon my personal observation, all the Samsung Accused Products display “a first  
5 window in response to receiving a first input from a user input device of the digital processing  
6 system,” such as by displaying a Volume window in response to receiving user input from a user  
7 input device (e.g. the volume key) of the Samsung digital processing system. The video attached  
8 as Exhibit 27 demonstrates this element on a Galaxy Prevail.

9           479.   All the Samsung Accused Products also display “at least a portion of a second  
10 window” such as a Messaging Window, a Browser window, or the window of an application  
11 program “concurrently with the first window” (e.g. the volume window) on the screen. For  
12 example, shown below is a photo of the Samsung Galaxy Prevail mobile phone, which is  
13 representative of the Samsung Accused Products with respect to the independent claims of the  
14 ’891 patent. The Galaxy Prevail phone also infringes certain dependent claims, such as those  
15 requiring a “translucent” first window, or that the window close by “fading out,” and is  
16 representative of the subset of the Samsung Accused Product phones that infringe those claims.



25           480.   **Claim 1, Element [b] “starting a timer” and [c] “closing the first window in**  
26 **response to a determination that the timer expired;”** Based upon my observation of the  
27 Samsung Accused Products in operation and my review of the source code produced by Samsung  
28 prior to the close of fact discovery in this litigation, all of the Samsung Accused Products “start a

1 timer” and then “close the first window [e.g. the Volume window] in response to a determination  
2 that the timer expired.” I have observed that the Volume window appears to stay on for  
3 approximately two seconds in response to a single user input to the volume control button, and  
4 my review of the Samsung source code indicates that the Volume window closes in response to a  
5 determination that the timer has expired.

6 481. The accused Samsung smartphone products running variations of the Android 2.1,  
7 2.2 and 2.3 operating systems display and then automatically close the Volume window using a  
8 series of software instructions. When the user touches a volume adjustment button, the method  
9 PhoneWindowManager.handleVolumeKey is called. (SAMNDCA-C000007049; SAMNDCA-  
10 C000007258; SAMNDCA-C000007337.)<sup>10</sup> The handleVolumeKey() method invokes, through  
11 adjustSuggestedStreamVolume(), the AudioService.adjustStreamVolume() method.  
12 (SAMNDCA-C000007050; SAMNDCA-C000007259; SAMNDCA-C000007347.) The  
13 adjustStreamVolume() method determines how to handle the event, depending upon whether the  
14 adjustment is up or down. Other methods are invoked and an MSG\_VOLUME\_CHANGED  
15 message is sent that is eventually processed by the VolumePanel.onVolumeChanged() method.  
16 (SAMNDCA-C000007064; SAMNDCA-C000007270; SAMNDCA-C000007388.) This, in turn,  
17 through onVolumeChanged(), invokes the onShowVolumeChnaged() method, which adjusts the  
18 user interface to display a “first window” via mToast.show(). (SAMNDCA-C000007056;  
19 SAMNDCA-C000007264; SAMNDCA-C000007382.) Before the mToast.show() method is  
20 called to display the Volume window, the Toast.setDuration() method is called to set the timer for  
21 the Toast. (*Id.*) The handleTimeout() method of the NotificationManagerService class calls the  
22 cancelToastLocked() method (SAMNDCA-C000007090; SAMNDCA-C000007294;  
23 SAMNDCA-C000007411), which calls the ToastRecord.callback.hide() method to cause the  
24 “Toast” (the Volume window) to disappear from the display as a result of the determination that

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26 <sup>10</sup> The citations in this section of my Report that are composed of three Bates pages refer,  
27 respectively, to the locations of the referenced source code either at the page of the start of the  
28 method or at the page of a particular relevant line in Android 2.3 (as exemplified by the Galaxy  
S II), Android 2.2 (as exemplified by the Vibrant), and Android 2.1 (as exemplified by the  
Captive).

1 the timer has expired. (SAMNDCA-C000007089; SAMNDCA-C000007294; SAMNDCA-  
2 C000007411.)

3           482. **Claim 1 Element [d] “wherein the first window does not close in response to**  
4 **any input from a user input device of the digital processing system, wherein the first**  
5 **window has been displayed independently from a position of a cursor on the screen.”** Based  
6 upon my observation of the Samsung Accused Products in operation and source code review, for  
7 all of the Samsung products accused of infringing claim 1 (namely, all of the Samsung Accused  
8 Products other than the Galaxy Tab 10.1), “the first window does not close in response to any  
9 input from a user input device of the digital processing system.”<sup>11</sup> (The ’891 patent specification  
10 makes clear that shutting off power to the digital processing system is not a “user input from a  
11 user input device” as contemplated by this claim. (’891 patent at 7:37-47.))

12           483. Finally, claim 1 requires that “the first window has been displayed independently  
13 from a position of a cursor on a screen.” Under Apple’s proposed construction of this claim  
14 limitation, all the Samsung Accused Products meet this limitation as well. For example, the  
15 Volume window appears at the same position on the screen (horizontally centered near the top of  
16 the screen) if a text entry cursor is positioned at the left edge, center, or right edge of a text-entry  
17 bar, and the Volume window is displayed independently of whether the cursor or text entry bar  
18 associated with an application displayed in the “second window” is positioned at the top, center,  
19 or other location on the screen. For example, the location of a Toast window, such as that used to  
20 display the Volume window in Android 2.x, is controlled by the Toast’s “gravity.” When a new  
21 Toast is constructed, its gravity is set to “Gravity.CENTER\_HORIZONTAL |  
22 Gravity.BOTTOM,” which sets its default position to be horizontally centered near the bottom of  
23 the screen. (SAMNDCA-C000007066.) Before the Toast is displayed, a call to setGravity()  
24 modifies the vertical component of its placement to be near the top of the screen (SAMNDCA-  
25 C000007060), but there is no component of its default or modified position that depends on a

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27 <sup>11</sup> In the Galaxy Tab 10.1, when the VolumePanel is displayed, the user can touch the  
28 “New Tab” control on the touch screen to cause the VolumePanel to close prior to the expiration  
of the timer.

1 position of a cursor on a screen. The Toast is therefore displayed independently from such a  
2 cursor position. Accordingly, use of the volume control button for its ordinary and intended  
3 purpose in all of the Samsung Accused Products accused of infringing claim 1 literally performs  
4 every limitation of claim 1 of the ’891 patent.

5 484. Although it is my opinion that the ordinary and intended use of the Samsung  
6 Accused Products as described above literally infringes claim 1, in the alternative it is my opinion  
7 that such use would infringe under the doctrine of equivalents. I have been instructed by counsel  
8 not to apply the doctrine of equivalents to element [d] of claim 1. With respect to the preamble  
9 and elements [a] through [c] of claim 1, it is my opinion that the Samsung Accused Products  
10 perform substantially the same functions, in substantially the same way, to achieve substantially  
11 the same results as in those claim elements, and that any differences between the operation of the  
12 Samsung Accused Products and those claim elements is insubstantial.

13 485. **Claim 2.** Claim 2 recites:

14 A method as in claim 1 wherein the first window is translucent; and  
15 the portion of the second window is visible while under the first  
window.

16 486. The ordinary and intended use of four Samsung Accused Products infringes  
17 dependent claim 2 of the ’891 patent. Claim 2 of the ’891 patent depends from claim 1, adding  
18 the limitation “wherein the first window is translucent; and the portion of the second window is  
19 visible while under the first window.” Samsung’s accused Acclaim, Intercept, Galaxy Prevail  
20 and Nexus S phones that infringe claim 1 also have translucent Volume windows that allow the  
21 second window to be seen while under the Volume window. For example, the video attached as  
22 Exhibit 28 shows the translucent Volume window on the Galaxy Prevail. Accordingly, the  
23 ordinary and intended use of these four Samsung Accused Products literally infringes claim 2.

24 487. Although it is my opinion that the ordinary and intended use of the Samsung  
25 Accused Products as described above literally infringes claim 2, in the alternative it is my opinion  
26 that such use would infringe under the doctrine of equivalents. It is my opinion that these  
27 Samsung Accused Products perform substantially the same functions, in substantially the same  
28 way, to achieve substantially the same results as in the limitation added in claim 2, and that any

1 differences between the operation of the Samsung Accused Products and that limitation is  
2 insubstantial.

3       488.   **Claim 5.** Claim 5 recites:

4               A method as in claim 1 wherein said closing the first window  
5               comprises: fading out an image of the first window.

6       489.   Claim 5 depends from claim 1 “wherein said closing of the first window  
7       comprises: fading out an image of the first window.” Based upon my observation of the Samsung  
8       Accused Products in operation, the Volume window “first window” fades out rather than  
9       disappearing immediately or abruptly upon the expiration of the timer in the following Samsung  
10       Accused Products that also infringe claim 1: Captivate, Continuum, Droid Charge, Epic 4G,  
11       Exhibit 4G, Fascinate, Galaxy Prevail, Galaxy S 4G, Galaxy S II (including the i9100, T-Mobile,  
12       AT&T, Epic 4G Touch and Skyrocket variants), Galaxy S Showcase (i500), Galaxy Tab 7.0,  
13       Gem, Indulge, Infuse 4G, Mesmerize, Nexus S, Nexus S 4G, Replenish, and Vibrant.  
14       Accordingly, use of the volume control button for its ordinary and intended purpose in all of these  
15       Samsung Accused Products performs every limitation of claim 5 of the ’891 patent and thus  
16       literally infringes the claim.

17       490.   Although it is my opinion that the ordinary and intended use of the Samsung  
18       Accused Products as described above literally infringes claim 5, in the alternative it is my opinion  
19       that such use would infringe under the doctrine of equivalents. It is my opinion that these  
20       Samsung Accused Products perform substantially the same functions, in substantially the same  
21       way, to achieve substantially the same results as in the limitation added in claim 5, and that any  
22       differences between the operation of the Samsung Accused Products and that limitation is  
23       insubstantial.

24       491.   **Claim 6.** Claim 6 recites:

25               A method as in claim 1 wherein the second window, if displayed,  
26               does close in response to an input from a user input device of the  
27               digital processing system.



1           492. The ordinary and intended use of all of the Samsung Accused Products that  
2 infringe claim 1 also literally infringes dependent claim 6 of the ’891 Patent. Claim 6 of the ’891  
3 patent depends from claim 1, adding the limitation “wherein the second window, if displayed,  
4 does close in response to an input from a user input device of the digital processing system.”  
5 Based upon my observations of the Samsung Accused Products, all of the products whose use  
6 infringes claim 1 also meet the additional limitation of claim 6. In all the Samsung Accused  
7 Products, a “second window” (such as a Messaging Window, Browser window, or other  
8 application window) can be closed by input from a user input device, for example by tapping on  
9 the Home icon.

10           493. Although it is my opinion that the ordinary and intended use of the Samsung  
11 Accused Products as described above literally infringes claim 6, in the alternative it is my opinion  
12 that such use would infringe under the doctrine of equivalents. It is my opinion that these  
13 Samsung Accused Products perform substantially the same functions, in substantially the same  
14 way, to achieve substantially the same results as in the limitation added in claim 7, and that any  
15 differences between the operation of the Samsung Accused Products and that limitation is  
16 insubstantial.

17           494. **Claim 14.** Claim 14 recites:

18           A method as in claim 1 further comprising: determining a position  
19           on a display of the digital processing system independent of a  
20           position of a cursor on the display; wherein the first window is  
                  displayed at the position.

21           495. The ordinary and intended use of all of the Samsung Accused Products that  
22 infringe claim 1 also literally infringes dependent claim 14 of the ’891 Patent. Claim 14 of the  
23 ’891 patent depends from claim 1, adding the limitation: “determining a position on a display of  
24 the digital processing system independent of a position of a cursor on the display; wherein the  
25 first window is displayed at the position.” As discussed above in connection with claim 1 of the  
26 ’891 patent, I have observed that the position of the Volume window “first window” is  
27 independent of the position of a cursor on the display. Moreover, the source code produced by  
28 Samsung relating to the drawing of the “first window” demonstrates that the location of the

1 window is determined, independent of a position of a cursor on the display, by the “gravity” of  
2 the associated Toast, as discussed above in connection with element [d] of claim 1.

3 496. Although it is my opinion that the ordinary and intended use of the Samsung  
4 Accused Products as described above literally infringes claim 14, in the alternative it is my  
5 opinion that such use would infringe under the doctrine of equivalents. It is my opinion that these  
6 Samsung Accused Products perform substantially the same functions, in substantially the same  
7 way, to achieve substantially the same results as in the limitations added in claim 14, and that any  
8 differences between the operation of the Samsung Accused Products and those limitations is  
9 insubstantial.

10 497. **Claim 15.** Claim 15 recites:

11 A method as in claim 14 wherein the position is centered  
12 horizontally on the display.

13 498. The ordinary and intended use of all of the Samsung Accused Products that  
14 infringe claim 1 also literally infringes dependent claim 15 of the ’891 Patent. Claim 15 of the  
15 ’891 patent depends from claim 14, adding the limitation “wherein the position [of the first  
16 window] is centered horizontally on the display.” All of the Samsung Accused Products have a  
17 Volume window “first window” that is horizontally centered on the display. As discussed above  
18 in connection with element [d] of claim 1, the position-determining “gravity” of the Toast  
19 associated with the Volume window is set to “Gravity.CENTER\_HORIZONTAL |  
20 Gravity.BOTTOM” when the Toast is constructed, which sets its default position to be  
21 horizontally centered near the bottom of the screen. (SAMNDCA-C000007066.) Before the  
22 Toast is displayed, a call to setGravity() modifies the vertical component of its placement to be  
23 near the top of the screen (SAMNDCA-C000007060), but neither this call to setGravity() nor  
24 anything else alters the horizontal centering imposed when the Toast was constructed. The Toast  
25 is therefore centered horizontally on the display when it is shown. Accordingly, the ordinary and  
26 intended use of the Samsung Accused Products that infringe claim 1 also literally infringes claim  
27 15.  
28

1           499. Although it is my opinion that the ordinary and intended use of the Samsung  
2 Accused Products as described above literally infringes claim 15, in the alternative it is my  
3 opinion that such use would infringe under the doctrine of equivalents. It is my opinion that these  
4 Samsung Accused Products perform substantially the same functions, in substantially the same  
5 way, to achieve substantially the same results as in the limitation added in claim 15, and that any  
6 differences between the operation of the Samsung Accused Products and that limitation is  
7 insubstantial.

8           500. **Claim 16.** Claim 16 recites:

9                   A method as in claim 1 further comprising: restarting the timer in  
10                   response to receiving a second input for the first window.

11           501. The ordinary and intended use of all of the Samsung Accused Products that  
12 infringe claim 1 also infringes dependent claim 16 of the '891 Patent. Claim 16 of the '891 patent  
13 depends from claim 1, adding the limitation “restarting the timer in response to receiving a  
14 second input for the first window.” In all the Samsung Accused Products, I observed that an  
15 additional tap on the volume control button causes the Volume window “first window” to be  
16 displayed for the same approximately two-second duration following the additional tap as occurs  
17 following an initial tap. The source code produced by Samsung indicates that the sequence of  
18 instructions that includes setting the timer for the “Toast” Volume window is initiated by the  
19 same handleVolumeKey() and Toast.show() methods on initial and subsequent touches of the  
20 volume button, as discussed in connection with element [c] of claim 1 above. On each  
21 subsequent press of the volume button, the onShowVolumeChanged() method calls  
22 mToast.setDuration(Toast.LENGTH\_SHORT), which restarts the timer that ultimately dismisses  
23 the Toast by adding to it the duration of Toast.LENGTH\_SHORT. (SAMNDCA-C000007056;  
24 SAMNDCA-C000007264; SAMNDCA-C000007382.) Accordingly, the ordinary and intended  
25 use of the Samsung Accused Products that infringe claim 1 also literally infringes claim 16.

26           502. Although it is my opinion that the ordinary and intended use of the Samsung  
27 Accused Products as described above literally infringes claim 16, in the alternative it is my  
28 opinion that such use would infringe under the doctrine of equivalents. It is my opinion that these

1 Samsung Accused Products perform substantially the same functions, in substantially the same  
2 way, to achieve substantially the same results as in the limitation added in claim 16, and that any  
3 differences between the operation of the Samsung Accused Products and that limitation is  
4 insubstantial.

5 503. **Claim 17.** Claim 17 recites:

6 A method as in claim 16 wherein the second input is received from  
7 a user input device of the digital processing system.

8 504. The ordinary and intended use of all of the Samsung Accused Products that  
9 infringe claim 1 also infringes dependent claim 17 of the ’891 Patent. Claim 17 of the ’891 patent  
10 depends from claim 16, adding the limitation “wherein the second input is received from a user  
11 input device of the device of the digital processing system.” As noted in the previous paragraph,  
12 a ‘second input’ is received from the volume control button, which is a “user input device of the  
13 digital processing system.” Accordingly, the ordinary and intended use of the Samsung Accused  
14 Products that infringe claim 1 also literally infringes claim 17.

15 505. Although it is my opinion that the ordinary and intended use of the Samsung  
16 Accused Products as described above literally infringes claim 17, in the alternative it is my  
17 opinion that such use would infringe under the doctrine of equivalents. It is my opinion that these  
18 Samsung Accused Products perform substantially the same functions, in substantially the same  
19 way, to achieve substantially the same results as in the limitation added in claim 17, and that any  
20 differences between the operation of the Samsung Accused Products and that limitation is  
21 insubstantial.

22 506. **Claim 18.** Claim 18 recites:

23 A method as in claim 16 wherein the first window is created by a  
24 first application and the second window is created by a second  
25 application, wherein the first application is different from the  
26 second application.

27 507. The ordinary and intended use of all of the Samsung Accused Products that  
28 infringe claim 1 also infringes dependent claim 18 of the ’891 Patent. Claim 18 of the ’891 patent  
depends from claim 16, adding the limitation “wherein the first window is created by a first  
application and the second window is created by a second application, wherein the first

1 application is different from the second application.” In all the Samsung Accused Products the  
2 “first window” is created by a “first application program” such as the Android AudioManager  
3 service,<sup>12</sup> while the “second window” is created by a second, different application, such as the  
4 Messaging application or the Browser application. In light of the fact that the ’891 specification  
5 uses a volume control window as an example of a “first window created by a first application,” a  
6 person of ordinary skill would understand that the AudioManager service constitutes a “first  
7 application.” A person of ordinary skill in the art would understand applications like the Browser  
8 to be a different “second application” that creates a “second window.” Accordingly, the ordinary  
9 and intended use of the Samsung Accused Products that infringe claim 1 also literally infringes  
10 claim 18.

11 508. Although it is my opinion that the ordinary and intended use of the Samsung  
12 Accused Products as described above literally infringes claim 18, in the alternative it is my  
13 opinion that such use would infringe under the doctrine of equivalents. It is my opinion that these  
14 Samsung Accused Products perform substantially the same functions, in substantially the same  
15 way, to achieve substantially the same results as in the limitation added in claim 18, and that any  
16 differences between the operation of the Samsung Accused Products and that limitation is  
17 insubstantial.

18 509. **Claim 19.** Claim 19 recites:

19 A method as in claim 1 wherein the user input device is one of:

- 20 a) a keyboard;
- 21 b) a mouse;
- 22 c) a track ball;
- 23 d) a touch pad;
- 24 e) a touch screen;
- 25 f) a joy stick; and

---

26  
27 <sup>12</sup> In Android, a “service” is, according to the official Android Developer’s Guide, “an  
28 application component that can perform long-running operations in the background.”  
([http://developer.android.com/guide/topics/fundamentals/ services.html](http://developer.android.com/guide/topics/fundamentals/services.html)).

1                   g) a button.

2           510.    The ordinary and intended use of all of the Samsung Accused Products that  
3 infringe claim 1 also infringes dependent claim 19 of the ’891 Patent. Claim 19 of the ’891 patent  
4 depends from claim 1, adding the limitation that the “user input device is one of” any of seven  
5 listed input devices, including: a) “a keyboard;” [...] e) “a touch screen;” [...] and g) “a button.”  
6 Because the Volume window “first window” in the Samsung Accused Products is displayed in  
7 response to user input via the volume control button, the ordinary and intended use of the  
8 Samsung Accused Products that infringe claim 1 also literally infringes claim 19.

9           511.    Although it is my opinion that the ordinary and intended use of the Samsung  
10 Accused Products as described above literally infringes claim 19, in the alternative it is my  
11 opinion that such use would infringe under the doctrine of equivalents. It is my opinion that these  
12 Samsung Accused Products perform substantially the same functions, in substantially the same  
13 way, to achieve substantially the same results as in the limitation added in claim 19, and that any  
14 differences between the operation of the Samsung Accused Products and that limitation is  
15 insubstantial.

16           512.    **Claim 20.** Claim 20 recites:

17                   A method to display a user interface window for a digital  
18                   processing system, the method comprising:  
19                   displaying a first window, the first window being translucent, at  
20                   least a portion of a second window being capable of being  
21                   displayed on the digital processing system under the first window,  
22                   the portion of the second window, when present, being visible  
23                   under the first window on a screen; and  
24                   closing the first window without user input, wherein the first  
25                   window has been displayed independent from a position of a cursor  
26                   on the screen.

27           513.    Claim 20 is similar to claim 2 of the ’891 patent, in that it requires that the first  
28 window is “translucent” so that a portion of the second window is visible under the first window.  
Unlike claim 2 (which depends from claim 1) claim 20 does not require that the first window is  
closed by the expiration of a timer, nor does it require that the first window cannot be closed by a  
user input device. The ordinary and intended use of five Samsung Accused Products that display

1 a “translucent” Volume window the Acclaim, Intercept, Galaxy Prevail and Nexus S phones,  
2 and the Galaxy Tab 10.1 tablet infringes claim 20. The ordinary and intended use of these four  
3 Samsung phones infringes claim 20 for the reasons discussed above at paragraphs 474-487 in  
4 connection with claims 1 and 2 of the ’891 patent. The Galaxy Tab 10.1 also displays a  
5 translucent Volume window “first window” (also known as the VolumePanel) as required by  
6 claim 20. All five of these Samsung Accused Products close the first window without user input  
7 when a timer expires.

8 514. For example, the Galaxy Tab 10.1 displays a Volume window with translucent  
9 pixels, as demonstrated in the video attached as Exhibit 29. I confirmed this in the relevant  
10 source code by inspection of the image resource used to generate the window. When the Dialog  
11 associated with the Volume window is constructed, a particular visual “theme” for the Dialog is  
12 specified. (SAMNDCA-C000008401.) The dialogTheme is mapped, in the file  
13 /frameworks/base/core/res/res/values/themes.xml, to “Theme.Holo.Dialog.” (SAMNDCA-  
14 C000008474.) This theme, in turn, specifies the image resource file that forms the basis for the  
15 Volume window, which is dialog\_full\_holo\_dark.9.png, located at /  
16 frameworks/base/core/res/res/drawable-hdpi/dialog\_full\_holo\_dark.9.png. (SAMNDCA-  
17 C000008489.) This image is in the PNG format, in which each pixel can be specified by color  
18 values (e.g., red, green, and blue) with an alpha value to specify the pixel’s transparency between  
19 fully opaque and fully transparent. (*See* Portable Network Graphics (PNG) Specification (Second  
20 Edition), *available at* <http://www.w3.org/TR/PNG/#4Concepts.PNGImage>.) I confirmed that  
21 some of the pixels of the image that forms the Volume window are translucent. A partial printout  
22 of pixel values of this image, prepared using the ImageMagick program, appears at SAMNDCA-  
23 C000008543 through SAMNDCA-C000008591.

24 515. The source code for opening and closing the “Toast” volume window without user  
25 input in response to the expiration of a timer for the Samsung phones was summarized in  
26 paragraphs 478-483 above in my discussion of claim 1. The Galaxy Tab 10.1 running variations  
27 of the Android 3.x operating system also displays a Volume window (called the VolumePanel),  
28 starts a timer, and closes the window upon the expiration of the timer. When the user touches a

1 volume adjustment input device the onShowVolumeChanged() method sets the volume display  
2 bar (the SeekBar) based on the new volume setting with a call to SeekBar.setProgress().  
3 (SAMNDCA-C000006860.). The small window that displays the VolumePanel is known as a  
4 “Dialog.” If the Dialog associated with the VolumePanel is not showing (as when the user first  
5 presses the volume adjustment button), a call to mDialog.show() displays it. (SAMNDCA-  
6 C000006863, line 547.) The VolumePanel.onProgressChanged() method calls the  
7 VolumePanel.resetTimeout() method to disable any pending timers and start a new timer  
8 (SAMNDCA-C000006868), which is set to expire based on the TIMEOUT\_DELAY constant  
9 value. (SAMNDCA-C000006867.) When the TIMEOUT\_DELAY has elapsed, a  
10 MSG\_TIMEOUT message is sent, which results in the mDialog.dismiss() method being called to  
11 cause the VolumePanel window to disappear without user input. (SAMNDCA-C000006867.)  
12 Accordingly, the ordinary and intended use of the Galaxy Tab 10.1 practices all of the limitations  
13 of claim 20 of the ’891 patent and therefore literally infringes this claim.

14           516. Although it is my opinion that the ordinary and intended use of the Samsung  
15 Accused Products as described above literally infringes claim 20, in the alternative it is my  
16 opinion that such use would infringe under the doctrine of equivalents. I have been instructed by  
17 counsel not to apply the doctrine of equivalents to the final subparagraph of claim 20. With  
18 respect to the preamble and the first subparagraphs of claim 20 quoted above, it is my opinion  
19 that the Samsung Accused Products perform substantially the same functions, in substantially the  
20 same way, to achieve substantially the same results as in those claim elements, and that any  
21 differences between the operation of the Samsung Accused Products and those claim elements is  
22 insubstantial.

23           517. **Claim 21.** Claim 21 recites:

24           A method as in claim 20 further comprising: starting a timer;  
25           wherein said closing the first window is in response to expiration of  
26           the timer.

27           518. The ordinary and intended use of the five Samsung Accused Products that infringe  
28 claim 20 also infringes dependent claim 21 of the ’891 Patent. Claim 21 of the ’891 patent  
depends from claim 20, adding the limitation “starting a timer; wherein said closing of the first



1 window is in response to expiration of a timer.” For the reasons discussed in connection with  
2 claims 1 and 20 above, all of the Samsung Accused Products start a timer, and the closing of the  
3 first window in all of the Samsung Accused Products occurs in response to the expiration of a  
4 timer. Accordingly, the ordinary and intended use of the five Samsung Accused Products that  
5 infringe claim 20 of the ’891 patent also literally infringes claim 21.

6 519. Although it is my opinion that the ordinary and intended use of the Samsung  
7 Accused Products as described above literally infringes claim 21, in the alternative it is my  
8 opinion that such use would infringe under the doctrine of equivalents. It is my opinion that these  
9 Samsung Accused Products perform substantially the same functions, in substantially the same  
10 way, to achieve substantially the same results as in the limitation added in claim 21, and that any  
11 differences between the operation of the Samsung Accused Products and that limitation is  
12 insubstantial.

13 520. **Claim 23.** Claim 23 recites:

14 A method as in claim 20 further comprising: determining whether  
15 or not a condition is met; wherein said closing the first window is in  
response to a determination that the condition is met.

16 521. The ordinary and intended use of the five Samsung Accused Products that infringe  
17 claim 20 also infringes dependent claim 23 of the ’891 Patent. Claim 23 of the ’891 patent  
18 depends from claim 20, further comprising “determining whether or not a condition is met;  
19 wherein said closing the first window is in response to a determination that the condition is met.”  
20 Because the Samsung Accused Products determine whether the condition of the expiration of a  
21 timer had been met, and close the first window if that condition has been met, the ordinary and  
22 intended use of the five Samsung Accused Products that infringe claim 20 also literally infringes  
23 claim 23.

24 522. Although it is my opinion that the ordinary and intended use of the Samsung  
25 Accused Products as described above literally infringes claim 23, in the alternative it is my  
26 opinion that such use would infringe under the doctrine of equivalents. It is my opinion that these  
27 Samsung Accused Products perform substantially the same functions, in substantially the same  
28 way, to achieve substantially the same results as in the limitations added in claim 23, and that any

1 differences between the operation of the Samsung Accused Products and those limitations is  
2 insubstantial.

3       523.   **Claim 24.** Claim 24 recites:

4                   A method as in claim 20 wherein said closing the first window  
5                   comprises: fading out an image of the first window.

6       524.   The ordinary and intended use of the Galaxy Tab 10.1, the Galaxy Prevail, and the  
7 Nexus S infringes dependent claim 24 of the ’891 patent. Claim 24 of the ’891 patent depends  
8 from claim 20, adding the limitation “wherein said closing the first window comprises: fading out  
9 an image of the first window.” Based upon my observation, the Galaxy Tab 10.1, Galaxy Prevail  
10 and Nexus S fade out the image of the first window when the window closes. (*See* Exs. 27-29.)  
11 Accordingly, the ordinary and intended use of these Samsung Accused Products also literally  
12 infringes dependent claim 24.

13       525.   Although it is my opinion that the ordinary and intended use of the Samsung  
14 Accused Products as described above literally infringes claim 24, in the alternative it is my  
15 opinion that such use would infringe under the doctrine of equivalents. It is my opinion that these  
16 Samsung Accused Products perform substantially the same functions, in substantially the same  
17 way, to achieve substantially the same results as in the limitation added in claim 24, and that any  
18 differences between the operation of the Samsung Accused Products and that limitation is  
19 insubstantial.

20       526.   **Claim 26.** Claim 26 recites:

21                   A machine readable media containing executable computer  
22                   program instructions which when executed by a digital processing  
23                   system cause said system to perform a method to display a user  
24                   interface window, the method comprising:

25                   [a] displaying a first window in response to receiving a first input  
26                   from a user input device of the digital processing system which is  
27                   capable of displaying at least a portion of a second window  
28                   concurrently with the first window on a screen;

                 [b] starting a timer; and

                 [c] closing the first window in response to a determination that the  
                 timer expired;

1 [d] wherein the first window does not close in response to any input  
2 from a user input device of the digital processing system, wherein  
3 the first window has been displayed independently from a position  
4 of a cursor on the screen.

5 527. All of the Samsung Accused Products whose use practices claim 1 of ’891 patent  
6 (namely, all the Samsung Accused Products other than the Galaxy Tab 10.1) also embody all of  
7 the limitations of independent claim 26 of the ’891 patent. Claim 26 in essence claims machine-  
8 readable media containing executable program instructions that cause a digital processing system  
9 to perform the steps listed in claim 1. As discussed above, all of the Samsung Accused Products  
10 are “digital processing systems” that contain machine-readable media containing executable  
11 program instructions that cause the systems to operate. Indeed, such instructions are necessary  
12 for the systems to perform the various methods of operation discussed above in connection with  
13 claim 1. I have also reviewed source code produced by Samsung prior to the close of fact  
14 discovery. Samsung’s source code must be compiled into executable program instructions that  
15 enable the Samsung Accused Products to operate as intended. Accordingly, for the reasons  
16 discussed above in connection with claim 1, all of the Samsung Accused Products other than the  
17 Galaxy Tab 10.1 literally infringe claim 26 of the ’891 patent.

18 528. Although it is my opinion that the Samsung Accused Products as described above  
19 literally infringe claim 26, in the alternative it is my opinion that they infringe under the doctrine  
20 of equivalents. I have been instructed by counsel not to apply the doctrine of equivalents to  
21 element [d] of claim 26. With respect to the preamble and elements [a] through [c] of claim 26, it  
22 is my opinion that the Samsung Accused Products perform substantially the same functions, in  
23 substantially the same way, to achieve substantially the same results as in those claim elements,  
24 and that any differences between the Samsung Accused Products and those claim elements is  
25 insubstantial.

26 529. **Claim 27.** Claim 27 recites as follows:

27 A media as in claim 26 wherein the first window is translucent; and  
28 the portion of the second window is visible while under the first  
window.

1           530. Four Samsung Accused Products infringe dependent claim 27. Claim 27 claims  
2 the media as in claim 26 and adds the limitation “wherein the first window is translucent; and the  
3 portion of the second window is visible while under the first window.” This limitation is  
4 analogous to dependent claim 2, which also requires a “translucent” first window. Accordingly,  
5 the four Samsung Accused Products discussed in connection with claim 2 the Acclaim,  
6 Intercept, Galaxy Prevail and Nexus S phones literally infringe claim 27 for the reasons  
7 discussed in connection with claim 2 at paragraph 486 above.

8           531. Although it is my opinion that the Samsung Accused Products as described above  
9 literally infringe claim 27, in the alternative it is my opinion that they infringe under the doctrine  
10 of equivalents. It is my opinion that the Samsung Accused Products perform substantially the  
11 same functions, in substantially the same way, to achieve substantially the same results as in the  
12 limitation added in claim 27, and that any differences between the Samsung Accused Products  
13 and the limitations added in claim 27 is insubstantial.

14           532. **Claim 30.** Claim 30 recites:

15           A media as in claim 26 wherein said closing the first window  
16           comprises: fading out an image of the first window.

17           533. Dependent claim 30 claims the media as in claim 26, adding the limitation  
18 “wherein closing the first window comprises: fading out an image of the first window.” This is in  
19 essence the same limitation added in claim 5, discussed at paragraph 489 above. Accordingly, the  
20 same Samsung Accused Products whose ordinary and intended use infringes claim 5 literally  
21 infringe claim 30 for the reasons discussed in connection with claim 26 at paragraph 527 and  
22 claim 5 at paragraph 489. Those Samsung Accused Products are: Captivate, Continuum, Droid  
23 Charge, Epic 4G, Exhibit 4G, Fascinate, Galaxy Prevail, Galaxy S 4G, Galaxy S II (including the  
24 i9100, T-Mobile, AT&T, Epic 4G Touch and Skyrocket variants), Galaxy S Showcase (i500),  
25 Galaxy Tab 7.0, Gem, Indulge, Infuse 4G, Mesmerize, Nexus S, Nexus S 4G, Replenish, and  
26 Vibrant.

27           534. Although it is my opinion that these Samsung Accused Products as described  
28 above literally infringe claim 30, in the alternative it is my opinion that they infringe under the

1 doctrine of equivalents. It is my opinion that these Samsung Accused Products perform  
2 substantially the same functions, in substantially the same way, to achieve substantially the same  
3 results as in the limitation added in claim 30, and that any differences between these Samsung  
4 Accused Products and the limitation added in claim 30 is insubstantial.

5 535. **Claim 31.** Claim 31 recites:

6 A media as in claim 26 wherein the second window, if displayed,  
7 does close in response to an input from a user input device of the  
8 digital processing system.

9 536. All the Samsung Accused Products that infringe claim 26 also infringe dependent  
10 claim 31 of the ’891 patent. Claim 31 of the ’891 patent claims the same media as in claim 26,  
11 adding the limitation “wherein the second window, if displayed, does close in response to an  
12 input from a user input device of the digital processing system.” This additional limitation is the  
13 same as the limitation added in dependent claim 6. For the reasons discussed in connection with  
14 claim 26 at paragraph 527 and claim 6 at paragraph 492 above, all the Samsung Accused Products  
15 that infringe claim 26 also literally infringe claim 31.

16 537. Although it is my opinion that these Samsung Accused Products as described  
17 above literally infringe claim 31, in the alternative it is my opinion that they infringe under the  
18 doctrine of equivalents. It is my opinion that these Samsung Accused Products perform  
19 substantially the same functions, in substantially the same way, to achieve substantially the same  
20 results as in the limitation added in claim 31, and that any differences between these Samsung  
21 Accused Products and the limitation added in claim 31 is insubstantial.

22 538. **Claim 39.** Claim 39 recites:

23 A media as in claim 26 wherein the method further comprises:  
24 determining a position on a display of the digital processing system  
25 independent of a position of a cursor on the display; wherein the  
26 first window is displayed at the position.

27 539. All the Samsung Accused Products that infringe claim 26 also infringe dependent  
28 claim 39 of the ’891 patent. Claim 39 of the ’891 patent claims the media as in claim 26, adding  
the limitation that the method further comprises: “determining a position on a display of the  
digital processing system independent of a position of a cursor on the display; wherein the first

1 window is displayed at the position.” This limitation is the same as the limitation added in claim  
2 14, discussed above at paragraph 495. For the reasons discussed above in connection with claim  
3 26 at paragraph 527 and in connection with claim 14 at paragraph 495, all the Samsung Accused  
4 Products that infringe claim 26 also literally infringe dependent claim 39.

5 540. **Claim 40.** Claim 40 recites:

6 A media as in claim 39 wherein the position is centered horizontally  
7 on the display.

8 541. All the Samsung Accused Products that infringe claim 26 also infringe dependent  
9 claim 40 of the ’891 patent. Claim 40 of the ’891 patent claims the same media as in claim 39,  
10 adding the limitation “wherein the position [of the first window] is centered horizontally on the  
11 display.” This additional limitation is the same as in claim 15, discussed above at paragraph 498.  
12 For the same reasons discussed in connection with claims 26 and 39 at paragraphs 527 and 539  
13 above and in connection with claim 15 at paragraph 498, all of the Samsung Accused Products  
14 that infringe claims 26 and 39 also literally infringe dependent claim 40.

15 542. Although it is my opinion that these Samsung Accused Products as described  
16 above literally infringe claim 40, in the alternative it is my opinion that they infringe under the  
17 doctrine of equivalents. It is my opinion that these Samsung Accused Products perform  
18 substantially the same functions, in substantially the same way, to achieve substantially the same  
19 results as in the limitation added in claim 40, and that any differences between these Samsung  
20 Accused Products and the limitation added in claim 40 is insubstantial.

21 543. **Claim 41.** Claim 41 recites:

22 A media as in claim 26 wherein the method further comprises:  
23 restarting the timer in response to receiving a second input for the  
24 first window.

25 544. All the Samsung Accused Products that infringe claim 26 also infringe dependent  
26 claim 41 of the ’891 patent. Claim 41 claims the same media as in claim 26, adding the limitation  
27 “wherein the method further comprises: restarting the timer in response to receiving a second  
28 input for the first window.” This additional limitation is the same as in dependent claim 16. For  
the reasons discussed in connection with claim 26 at paragraph 527 above and claim 16 at

1 paragraph 501 above, all of the Samsung Accused Products that infringe claim 26 also literally  
2 infringe dependent claim 41.

3 545. Although it is my opinion that these Samsung Accused Products as described  
4 above literally infringe claim 41, in the alternative it is my opinion that they infringe under the  
5 doctrine of equivalents. It is my opinion that these Samsung Accused Products perform  
6 substantially the same functions, in substantially the same way, to achieve substantially the same  
7 results as in the limitation added in claim 41, and that any differences between these Samsung  
8 Accused Products and the limitation added in claim 41 is insubstantial.

9 546. **Claim 42.** Claim 42 recites:

10 A media as in claim 41 wherein the second input is received from a  
11 user input device of the digital processing system.

12 547. All the Samsung Accused Products that infringe claims 26 and 41 also infringe  
13 dependent claim 42 of the '891 patent. Claim 42 claims the same media as in claim 41, adding  
14 the limitation “wherein the second input is received from a user input device of the digital  
15 processing system.” This additional limitation is the same as in dependent claim 17. For the  
16 reasons discussed in connection with claims 26 and 41 at paragraphs 527 and 544, and claim 17  
17 at paragraph 504 above, all of the Samsung Accused Products that infringe claims 26 and 41 also  
18 literally infringe dependent claim 42.

19 548. Although it is my opinion that these Samsung Accused Products as described  
20 above literally infringe claim 42, in the alternative it is my opinion that they infringe under the  
21 doctrine of equivalents. It is my opinion that these Samsung Accused Products perform  
22 substantially the same functions, in substantially the same way, to achieve substantially the same  
23 results as in the limitation added in claim 42, and that any differences between these Samsung  
24 Accused Products and the limitation added in claim 42 is insubstantial.

25 549. **Claim 43.** Claim 43 recites:

26 A machine readable media as in claim 41 wherein the first window  
27 is created by a first application and the second window is created by  
28 a second application, wherein the first application is different from  
the second application.

1           550. All the Samsung Accused Products that infringe claims 26 and 41 also infringe  
2 dependent claim 43 of the ’891 patent. Claim 43 claims the same media as in claim 41, adding  
3 the limitation “wherein the first window is created by a first application and the second window is  
4 created by a second application, wherein the first application is different from the second  
5 application.” This limitation is the same as the limitation added in dependent claim 18. For the  
6 reasons discussed in connection with claims 26 and 41 at paragraphs 527 and 544 and claim 18 at  
7 paragraph 507 above, all of the Samsung Accused Products that infringe claims 26 and 41 also  
8 literally infringe dependent claim 43.

9           551. Although it is my opinion that these Samsung Accused Products as described  
10 above literally infringe claim 43, in the alternative it is my opinion that they infringe under the  
11 doctrine of equivalents. It is my opinion that these Samsung Accused Products perform  
12 substantially the same functions, in substantially the same way, to achieve substantially the same  
13 results as in the limitation added in claim 43, and that any differences between these Samsung  
14 Accused Products and the limitation added in claim 43 is insubstantial.

15           552. **Claim 44.** Claim 44 recites:

16                   A media as in claim 26 wherein the user input device is one of:

- 17                   a) a keyboard;
- 18                   b) a mouse;
- 19                   c) a track ball;
- 20                   d) a touch pad;
- 21                   e) a touch screen;
- 22                   f) a joy stick; and
- 23                   g) a button.

24           553. All the Samsung Accused Products that infringe claim 26 also infringe dependent  
25 claim 44 of the ’891 patent. Claim 44 of the ’891 patent claim the media as in claim 26, adding  
26 the limitation that the “user input device is one of” any of seven listed input devices, including:  
27 a) “a keyboard;” [...] e) “a touch screen;” [...] and g) “a button.” This limitation is the same as  
28 the limitation added in dependent claim 19. For the reasons discussed in connection with claim



1 26 at paragraph 527 and claim 19 at paragraph 510 above, all of the Samsung Accused Products  
2 that infringe claim 26 also literally infringe dependent claim 44.

3 554. Although it is my opinion that these Samsung Accused Products as described  
4 above literally infringe claim 44, in the alternative it is my opinion that they infringe under the  
5 doctrine of equivalents. It is my opinion that these Samsung Accused Products perform  
6 substantially the same functions, in substantially the same way, to achieve substantially the same  
7 results as in the limitation added in claim 44, and that any differences between these Samsung  
8 Accused Products and the limitation added in claim 44 is insubstantial.

9 555. **Claim 45.** Claim 45 recites:

10 A machine readable media containing executable computer  
11 program instructions which when executed by a digital processing  
12 system cause said system to perform a method to display a user  
interface window, the method comprising:

13 [a] displaying a first window, the first window being translucent, at  
14 least a portion of a second window being capable of being  
15 displayed on the digital processing system under the first window,  
the portion of the second window, when present, being visible  
under the first window on a screen; and

16 [b] closing the first window without user input, wherein the first  
17 window has been displayed independent from a position of a cursor  
on the screen.

18 556. Five Samsung Accused Products infringe independent claim 45 of the '891 patent.  
19 Claim 45 in essence claims machine-readable media containing executable program instructions  
20 that cause a digital processing system to perform the steps listed in claim 20. All of the Samsung  
21 Accused Products are digital processing systems that contain machine-readable media containing  
22 executable program instructions that cause the systems to operate. Indeed, such instructions are  
23 necessary for the systems to perform the various methods of operation discussed above. I have  
24 also reviewed source code produced by Samsung prior to the close of fact discovery. Samsung’s  
25 source code must be compiled into executable program instructions that enable the Samsung  
26 Accused Products to operate as intended. Accordingly, for the reasons discussed in connection  
27 with claim 20 at paragraphs 513-515 above, five Samsung Accused Products that display a  
28 “translucent” first window, close the first window without user input, and display the first

1 window independent of the position of a cursor on the screen the Acclaim, Intercept, Galaxy  
2 Prevail and Nexus S phones, and the Galaxy Tab 10.1 tablet literally infringe claim 45 of  
3 the ’891 patent.

4 557. Although it is my opinion that the five Samsung Accused Products as described  
5 above literally infringes claim 45, in the alternative it is my opinion that they would infringe  
6 under the doctrine of equivalents. I have been instructed by counsel not to apply the doctrine of  
7 equivalents to element [b] of claim 45. With respect to the preamble and element [a] of claim 45  
8 quoted above, it is my opinion that the Samsung Accused Products perform substantially the same  
9 functions, in substantially the same way, to achieve substantially the same results as in those  
10 claim elements, and that any differences between the operation of the Samsung Accused Products  
11 and those claim elements is insubstantial.

12 558. **Claim 46.** Claim 46 recites:

13 A media as in claim 45 wherein the method further comprises:  
14 starting a timer; wherein said closing the first window is in  
response to expiration of the timer.

15 559. The five Samsung Accused Products that infringe independent claim 45 also  
16 infringe dependent claim 46. Claim 46 of the ’891 patent claims the same media as in claim 45,  
17 adding the limitation that the method further comprises: “starting a timer; wherein said closing of  
18 the first window is in response to expiration of a timer.” This additional limitation is the same as  
19 the limitation added in dependent claim 21. All of the Samsung Accused Products start a timer  
20 and close the first window in response to the expiration of a timer. For the reasons discussed in  
21 connection with claim 45 at paragraph 556 and claim 21 at paragraph 518 above, the five  
22 Samsung Accused Products that infringe claim 45 also literally infringe dependent claim 46.

23 560. Although it is my opinion that these Samsung Accused Products as described  
24 above literally infringe claim 46, in the alternative it is my opinion that they infringe under the  
25 doctrine of equivalents. It is my opinion that these Samsung Accused Products perform  
26 substantially the same functions, in substantially the same way, to achieve substantially the same  
27 results as in the limitation added in claim 46, and that any differences between these Samsung  
28 Accused Products and the limitation added in claim 46 is insubstantial.

1           561.   **Claim 48.** Claim 48 recites:

2                   A media as in claim 45 wherein the method further comprises:  
3                   determining whether or not a condition is met; wherein said closing  
4                   the first window is in response to a determination that the condition  
5                   is met.

6           562.   The five Samsung Accused Products that infringe independent claim 45 also  
7           infringe dependent claim 48. Claim 48 of the ’891 patent claims the same media as in claim 45,  
8           “wherein the method further comprises: determining whether or not a condition is met; wherein  
9           said closing the first window is in response to a determination that the condition is met.” This is  
10          in essence the same limitation added in dependent claim 23. Determining that a timer has expired  
11          is one method of determining whether a condition has been met. For the reasons discussed in  
12          connection with claim 45 at paragraph 556 and claim 23 at paragraph 521 above, the five  
13          Samsung Accused Products that infringe claim 45 also literally infringe dependent claim 48.

14          563.   Although it is my opinion that these Samsung Accused Products as described  
15          above literally infringe claim 48, in the alternative it is my opinion that they infringe under the  
16          doctrine of equivalents. It is my opinion that these Samsung Accused Products perform  
17          substantially the same functions, in substantially the same way, to achieve substantially the same  
18          results as in the limitation added in claim 48, and that any differences between these Samsung  
19          Accused Products and the limitation added in claim 48 is insubstantial.

20          564.   **Claim 49.** Claim 49 recites:

21                   A media as in claim 45 wherein said closing the first window  
22                   comprises: fading out an image of the first window.

23          565.   The Galaxy Tab 10.1, the Galaxy Prevail, and the Nexus S infringe dependent  
24          claim 49 of the ’891 patent. Claim 49 of the ’891 patent claims the media as in claim 45, adding  
25          the limitation “wherein said closing the first window comprises: fading out an image of the first  
26          window.” The limitation added in claim 49 is the same as the limitation added in dependent  
27          claim 24. For the reasons discussed in connection with claim 45 at paragraph 556 and claim 24 at  
28          paragraph 524 above, the Samsung Galaxy Tab 10.1, Galaxy Prevail and Nexus S all literally  
infringe dependent claim 49.

1           566. Although it is my opinion that these Samsung Accused Products as described  
2 above literally infringe claim 49, in the alternative it is my opinion that they infringe under the  
3 doctrine of equivalents. It is my opinion that these Samsung Accused Products perform  
4 substantially the same functions, in substantially the same way, to achieve substantially the same  
5 results as in the limitation added in claim 49, and that any differences between these Samsung  
6 Accused Products and the limitation added in claim 49 is insubstantial.

7           567. **Claim 51.** Claim 51 recites:

8                   A digital processing system to display a user interface window, the  
9                   system comprising:

10                   [a] means for displaying a first window in response to receiving a  
11                   first user input from a user input device of the digital processing  
12                   system, which is capable of displaying at least a portion of a second  
13                   window concurrently with the first window on a screen;

14                   [b] means for starting a timer; and

15                   [c] means for closing the first window in response to a  
16                   determination that the timer expired;

17                   [d] wherein the first window does not close in response to any input  
18                   from a user input device of the digital processing system, wherein  
19                   the first window has been displayed independently from a position  
20                   of a cursor on the screen.

21           568. In my opinion the same Samsung Accused Products that infringe claims 1 and 26,  
22 namely all of the Samsung Accused Products other than the Galaxy Tab 10.1, infringe claim 51.

23           569. **Claim 51, preamble: “A digital processing system to display a user interface**  
24 **window”:** For the reasons discussed in connection with claim 1 at paragraph 477 above, all of  
25 the Samsung Accused Products are “digital processing systems” that display a “user interface  
26 window.”

27           570. **Claim 51, Element [a] “means for displaying a first window in response to**  
28 **receiving a first user input from a user input device of the digital processing system, which**  
**is capable of displaying at least a portion of a second window concurrently with the first**  
**window on a screen;”.** I have been informed that this claim is a “means plus function” claim in  
which the patent specification must identify a structure corresponding to the “means” described in  
the claim. To infringe, the accused apparatus must have the same or equivalent structures that

1 performs the same functions recited in the claim. With respect to this element, the ’891  
2 specification discloses the following corresponding structures: A display device coupled to one  
3 or more special or general purpose processors programmed with special-purpose software, the  
4 special-purpose software including computer instructions for displaying a first window in  
5 response to receiving a first user input from a user input device of the digital processing system,  
6 which is capable of displaying at least a portion of a second window concurrently with the first  
7 window on a screen. (’891 patent, at: 4:28-5:31, 5:54-6:8, 6:21-25, 7:7-50, 8:16-49, 9:7-63;  
8 FIGS. 1, 7-11, 13, 14, 16-21). As discussed in connection with claim 1 at paragraph 479 above,  
9 all of the Samsung Accused Products have display devices coupled to computer processors  
10 programmed to run special purpose software (such as Samsung’s computer code produced in this  
11 litigation) that allows the systems to display a first window (e.g. the Volume window) in response  
12 to receiving a first user input on a user input device (the volume control button) while  
13 concurrently displaying at least a portion of a second window (e.g. a Messaging, Browser, or  
14 other application program window).

15       571. **Claim 51, Element [b] “means for starting a timer.”** With respect to this claim  
16 element, the ’891 specification discloses the following corresponding structure: One or more  
17 special or general purpose processors programmed with special-purpose software, the special-  
18 purpose software including computer instructions for starting a timer. (’891 patent at 4:28-5:31,  
19 5:54-6:8, 7:21-50, 8:16-49; FIGS. 1, 13, 14). As discussed in connection with claim 1 at  
20 paragraph 481 above, all of the Samsung Accused Products have computer processors  
21 programmed to run special purpose software (such as Samsung’s computer code produced in this  
22 litigation) that allows the systems to “start a timer.”

23       572. **Claim 51, Element [c] “means for closing the first window in response to a**  
24 **determination that the timer expired”.** With respect to this claim element, the ’891  
25 specification discloses the following corresponding structure: A display device coupled to one or  
26 more special or general purpose processors programmed with special-purpose software including  
27 computer instructions for closing a window in response to a determination that a timer has  
28 expired. (’891 patent at 4:28-5:31, 5:54-6:8, 6:21-25, 7:7-50, 8:16-49, 9:7-63; FIGS. 1, 7-11, 13,

1 14, 16-21). As discussed in connection with claim 1 at paragraph 481 above, all of the Samsung  
2 Accused Products have display devices coupled to computer processors programmed to run  
3 special purpose software (such as Samsung’s computer code produced in this litigation) that  
4 allows the systems to close the first window in response to a determination that the timer has  
5 expired.

6 573. **Claim 51, Element [d]: “wherein the first window does not close in response**  
7 **to any input from a user input device of the digital processing system, wherein the first**  
8 **window has been displayed independently from a position of a cursor on the screen.”** With  
9 respect to this claim element, the ’891 specification discloses the following corresponding  
10 structure: A display device coupled to one or more special or general purpose processors  
11 programmed with special-purpose software, the special-purpose software including computer  
12 instructions for closing a window without user input, wherein the first window has been displayed  
13 independently of the position of a cursor on the screen. (’891 patent at 2:42-3:14, 4:28-5:31,  
14 5:54-6:8, 6:21-40, 7:21-50, 8:4-49, 9:34-63; FIGS. 1, 12, 14, 16-21). As discussed in connection  
15 with claim 1 at paragraph 483 above, all of the Samsung Accused Products accused of infringing  
16 this claim have computer processors programmed to run special purpose software (such as  
17 Samsung’s computer code produced in this litigation) to display the first window independently  
18 from the position of a cursor on the screen where the first window does not close in response to  
19 any input from a user input device. For the reasons discussed above, all of the Samsung Accused  
20 Products accused of infringing this claim (all of the Samsung Accused Products other than the  
21 Galaxy Tab 10.1) have structures equivalent to those described in the ’891 patent that perform the  
22 functions set forth in claim 51, and therefore infringe this claim.

23 574. **Claim 52.** Claim 52 of the ’891 patent recites:

24 A digital processing system as in claim 51 wherein the first window  
25 is translucent; and the portion of the second window is visible while  
under the first window.

26 The structures described in the ’891 specification that perform these functions are the same as  
27 those for claim 51. Claim 52, like method claim 2, adds the limitation of a “translucent” first  
28 window. The Samsung Acclaim, Intercept, Galaxy Prevail and Nexus S phones that infringe

1 claim 51 also have translucent Volume windows that allow the second window to be seen while  
2 under the Volume window. These five Samsung Accused Products perform the functions recited  
3 in claim 52 using the same structures that are equivalent to those found in the '891 patent as in  
4 claim 51. These five Samsung Accused Products therefore infringe dependent claim 52.

5 575. **Claim 55.** Claim 55 of the '891 patent recites:

6 A digital processing system as in claim 51 wherein said means for  
7 closing the first window comprises: means for fading out an image  
in the first window.

8 With respect to this claim limitation, the '891 specification discloses the following corresponding  
9 structure: A display device coupled to one or more special or general purpose processors  
10 programmed with special-purpose software, the special-purpose software including computer  
11 instructions for fading out an image of a window. (4:28-5:31, 6:21-25, 7:21-50, 9:7-63; FIGS. 1,  
12 8-10, 12-14, 20, 21). The limitation of closing the first window comprising “fading out an image  
13 of the first window” also appears in method claim 5. All of the Samsung Accused Products  
14 discussed in connection with claim 5<sup>13</sup> perform the function of closing a first window by “fading  
15 out an image of the first window.” All of these Samsung Accused Products have display devices  
16 coupled to computer processors programmed to run special purpose software (such as Samsung’s  
17 computer code produced in this litigation) to perform the function of closing a first window by  
18 “fading out an image of the first window.” For the reasons discussed above, all of the Samsung  
19 Accused Products accused of infringing this claim have structures equivalent to those described in  
20 the '891 patent that perform the functions set forth in claim 55, and therefore infringe this claim.

21 576. **Claim 56.** Claim 56 recites:

22 A digital processing system as in claim 51 wherein the second  
23 window, if displayed, does close in response to an input from a user  
input device of the digital processing system.

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24  
25  
26 <sup>13</sup> Captivate, Continuum, Droid Charge, Epic 4G, Exhibit 4G, Fascinate, Galaxy Prevail,  
27 Galaxy S 4G, Galaxy S II (including the i9100, T-Mobile, AT&T, Epic 4G Touch and Skyrocket  
28 variants), Galaxy S Showcase (i500), Galaxy Tab 7.0, Gem, Indulge, Infuse 4G, Mesmerize,  
Nexus S, Nexus S 4G, Replenish, and Vibrant.

1 This limitation is very similar to the limitation in method claim 6 discussed above at paragraph  
2 492. With respect to this claim limitation, the ’891 specification discloses the following  
3 corresponding structure: A display device coupled to one or more special or general purpose  
4 processors programmed with special-purpose software to perform the functions described above  
5 in connection with claim 51, where the second window can be closed in response to input from a  
6 user. (’891 patent, at: 4:28-5:31, 5:54-6:8, 6:21-25, 7:7-50, 8:16-49, 9:7-63; FIGS. 1, 7-11, 13,  
7 14). For the reasons discussed above in connection with claim 51 at paragraphs 569-573 and in  
8 connection with method claim 6 at paragraph 492, all of the Samsung Accused Products accused  
9 of infringing claim 51 also infringe dependent claim 56. These Samsung Accused Products all  
10 have display devices coupled to computer processors programmed to run special purpose  
11 software (such as Samsung’s computer code produced in this litigation) to perform the functions  
12 described in claim 51 and also to close the “second window” in response to input from a user.  
13 For the reasons discussed above, these Samsung Accused Products infringe claim 56.

14         577.    **Claim 64.** Claim 64 recites:

15             A digital processing system as in claim 51 further comprising:  
16             means for determining a position on a display of the digital  
17             processing system independent of a position of a cursor on the  
18             display; wherein the first window is displayed at the position.

18         578.    This limitation in dependent claim 64 is very similar to the limitation in method  
19 claim 14 discussed above at paragraph 495. With respect to this claim limitation, the ’891  
20 specification discloses the following corresponding structure: A display device coupled to one or  
21 more special or general purpose processors programmed with special-purpose software to  
22 perform the functions described above in connection with claim 51, where the system is capable  
23 of determining a position on a display independent of a position of a cursor and displaying the  
24 first window at that position. (’891 patent, at: 4:28-5:31, 5:54-6:8, 6:21-25, 7:7-50, 8:16-49, 9:7-  
25 63; FIGS. 1, 7-11, 13, 14). For the reasons discussed above in connection with claim 51 at  
26 paragraphs 569-573 and in connection with method claim 14 at paragraph 495, all of the Samsung  
27 Accused Products accused of infringing claim 51 also infringe dependent claim 64. These  
28 Samsung Accused Products all have display devices coupled to computer processors programmed



1 to run special purpose software (such as Samsung’s computer code produced in this litigation) to  
2 perform the functions described in claim 51 and also to determine a position on a display  
3 independent of a position of a cursor and displaying the first window at that position. For the  
4 reasons discussed above, these Samsung Accused Products infringe claim 64.

5       579.   **Claim 65.** Claim 65 recites:

6               A digital processing system as in claim 64 wherein the position is  
7               centered horizontally on the display.

8       580.   This limitation in dependent claim 65 is very similar to the limitation in method  
9 claim 15 discussed above at paragraph 498. With respect to this claim limitation, the ’891  
10 specification discloses the following corresponding structure: A display device coupled to one or  
11 more special or general purpose processors programmed with special-purpose software to  
12 perform the functions described above in connection with claim 51, where the system is capable  
13 of determining a position on a display independent of a position of a cursor and displaying the  
14 first window at that position, and the first window is centered horizontally on the display. (’891  
15 patent, at: 4:28-5:31, 5:54-6:8, 6:21-25, 7:7-50, 8:16-49, 9:7-63; FIGS. 1, 7-11, 13, 14-20). For  
16 the reasons discussed above in connection with claim 51 at paragraphs 569-573 and in connection  
17 with method claim 15 at paragraph 498, all of the Samsung Accused Products accused of  
18 infringing claim 51 also infringe dependent claim 65. These Samsung Accused Products all have  
19 display devices coupled to computer processors programmed to run special purpose software  
20 (such as Samsung’s computer code produced in this litigation) to perform the functions described  
21 in claim 51 and also to determine a position on a display independent of a position of a cursor and  
22 displaying the first window at that position, and the window is centered horizontally on the  
23 display. For the reasons discussed above, these Samsung Accused Products infringe claim 65.

24       581.   **Claim 66.** Claim 66 recites:

25               A digital processing system as in claim 51 further comprising:  
26               means for restarting the timer in response to receiving a second  
                  input for the first window.

27       582.   This limitation in dependent claim 66 is very similar to the limitation in method  
28 claim 16 discussed above at paragraph 501. With respect to this claim limitation, the ’891

1 specification discloses the following corresponding structure: A display device coupled to one or  
2 more special or general purpose processors programmed with special-purpose software to  
3 perform the functions described above in connection with claim 51, where the system can restart  
4 the timer in response to receiving a second input for the first window. (’891 patent, at: 4:28-5:31,  
5 5:54-6:8, 6:21-25, 7:7-50, 8:16-49, 9:7-63; FIGS. 1, 7-11, 13, 14). For the reasons discussed  
6 above in connection with claim 51 at paragraphs 569-573 and in connection with method claim  
7 16 at paragraph 501, all of the Samsung Accused Products accused of infringing claim 51 also  
8 infringe dependent claim 66. These Samsung Accused Products all have display devices coupled  
9 to computer processors programmed to run special purpose software (such as Samsung’s  
10 computer code produced in this litigation) to perform the functions described in claim 51 and also  
11 to restart the timer in response to receiving a second input for the first window. For the reasons  
12 discussed above, these Samsung Accused Products infringe claim 66.

13           583.   **Claim 67.** Claim 67 recites:

14                   A digital processing system as in claim 66 wherein the second input  
15                   is received from a user input device of the digital processing  
                          system.

16           584.   This limitation in dependent claim 67 is very similar to the limitation in method  
17 claim 17 discussed above at paragraph 504. With respect to this claim limitation, the ’891  
18 specification discloses the following corresponding structure: A display device coupled to one or  
19 more special or general purpose processors programmed with special-purpose software to  
20 perform the functions described above in connection with claim 66, and a user input device such  
21 as a button to provide a second input to restart the timer. (’891 patent, at: 4:28-5:31, 5:54-6:8,  
22 6:21-25, 7:7-50, 8:16-49, 9:7-63; FIGS. 1, 7-11, 13, 14). For the reasons discussed above in  
23 connection with claim 66 at paragraph 582 and in connection with method claim 16 at paragraph  
24 501, all of the Samsung Accused Products accused of infringing claim 66 also infringe dependent  
25 claim 67. These Samsung Accused Products all have display devices coupled to computer  
26 processors programmed to run special purpose software (such as Samsung’s computer code  
27 produced in this litigation) to perform the functions described in claim 66 and also have user  
28

1 input devices such as volume buttons to provide a second input to restart the timer. For the  
2 reasons discussed above, these Samsung Accused Products infringe claim 66.

3       585.   **Claim 68.** Claim 68 recites:

4                   A digital processing system as in claim 66 wherein the first window  
5                   is created by a first application and the second window is created by  
6                   a second application, wherein the first application is different from  
7                   the second application.

8       586.   This limitation in dependent claim 68 is very similar to the limitation in method  
9       claim 18 discussed above at paragraph 507. With respect to this claim limitation, the ’891  
10       specification discloses the following corresponding structure: A display device coupled to one or  
11       more special or general purpose processors programmed with special-purpose software to  
12       perform the functions described above in connection with claim 66, where the first window and  
13       the second window are created by different applications. (’891 patent, at: 4:28-5:31, 5:54-6:8,  
14       6:21-25, 7:7-50, 8:16-49, 9:7-63; FIGS. 1, 7-11, 13, 14). For the reasons discussed above in  
15       connection with claim 66 at paragraph 582 and in connection with method claim 18 at paragraph  
16       507, all of the Samsung Accused Products accused of infringing claim 66 also infringe dependent  
17       claim 68. These Samsung Accused Products all have display devices coupled to computer  
18       processors programmed to run special purpose software (such as Samsung’s computer code  
19       produced in this litigation) to perform the functions described in claim 66 and have different  
20       applications to create the first window and the second window. For the reasons discussed above,  
21       these Samsung Accused Products infringe claim 68.

22       587.   **Claim 69.** Claim 69 recites:

23                   A digital processing system as in claim 51 wherein the user input  
24                   device is one of: a) a keyboard; b) a mouse; c) a track ball; d) a  
25                   touch pad; e) a touch screen; f) a joy stick; and g) a button.

26       588.   This limitation in dependent claim 69 is very similar to the limitation in method  
27       claim 19 discussed above at paragraph 510. With respect to this claim limitation, the ’891  
28       specification discloses the following corresponding structure: A display device coupled to one or  
29       more special or general purpose processors programmed with special-purpose software to  
30       perform the functions described above in connection with claim 51, and a user input device that

1 can be any of the seven devices listed in claim 69. ('891 patent, at: 4:28-5:31, 5:54-6:8, 6:21-25,  
2 7:7-50, 8:16-49, 9:7-63; FIGS. 1, 7-11, 13, 14). For the reasons discussed above in connection  
3 with claim 51 at paragraphs 569-573 and in connection with method claim 19 at paragraph 509,  
4 all of the Samsung Accused Products accused of infringing claim 51 also infringe dependent  
5 claim 69. These Samsung Accused Products all have display devices coupled to computer  
6 processors programmed to run special purpose software (such as Samsung’s computer code  
7 produced in this litigation) to perform the functions described in claim 51 and also have user  
8 input devices such as buttons and touch screens to provide user input. For the reasons discussed  
9 above, these Samsung Accused Products infringe claim 69.

10       589.   **Claim 70.** Claim 70 recites:

11               A digital processing system to display a user interface window, the  
12               system comprising:

13               [a] means for displaying a first window, the first window being  
14               translucent, at least a portion of a second window being capable of  
15               being displayed on the digital processing system under the first  
16               window, the portion of the second window, when present, being  
17               visible under the first window on a screen, and

18               [b] means for closing the first window without user input, wherein  
19               the first window has been displayed independent from a position of  
20               a first cursor on the screen.

21 This means plus function claim includes some of the elements of claim 52, in that it requires that  
22 the first window be translucent, but it does not require that the first window does not close in  
23 response to user input, or require that the first window closes in response to the expiration of a  
24 timer. Claim 70 in essence claims a system with the means for performing the same functions  
25 that are recited as steps of the method in claim 20, discussed above at paragraph 513. With  
26 respect to this claim, the '891 specification discloses the following corresponding structure: A  
27 display device coupled to one or more special or general purpose processors programmed with  
28 special-purpose software including computer instructions for displaying a first window  
independent of the position of a cursor on the screen, and for closing the first window without  
user input, where the first window is translucent and the second window can be seen under the  
first window. ('891 patent, at 4:28-5:31, 5:54-6:8, 6:21-40, 7:21-50, 8:4-49, 9:34-63; FIGS. 1,

1 12, 14-21). The same Samsung Accused Products discussed in connection with claim 20 the  
2 Acclaim, Intercept, Galaxy Prevail and Nexus S phones and the Galaxy Tab 10.1 tablet have  
3 display devices coupled to one or more special or general purpose processors programmed with  
4 special-purpose software to perform all the functions described in claim 70. See the discussion of  
5 claim 20 at paragraph 513 above. These five Samsung Accused Products all have structures that  
6 are equivalent to the structures described in the '891 patent that perform the functions recited in  
7 claim 70. Accordingly, these five Samsung Accused Products infringe claim 70.

8 590. **Claim 71.** Claim 71 recites:

9 A digital processing system as in claim 70 further comprising:

10 means for starting a timer;

11 wherein the first window is closed in response to the expiration of a  
12 timer.

13 The limitation added in dependent Claim 71 is analogous to the limitation added in method claim  
14 21. With respect to claim 71, the '891 patent discloses the same corresponding structures as in  
15 claims 51 and 70. The same Samsung Accused Products discussed in connection with claim 70  
16 the Acclaim, Intercept, Galaxy Prevail and Nexus S phones and the Galaxy Tab 10.1 tablet  
17 have display device coupled to one or more special or general purpose processors programmed  
18 with special-purpose software to perform the functions described in claim 70 and also to start a  
19 timer and close a first window in response to the expiration of the timer. See the discussion of  
20 claims 20, 21 and 70 at paragraphs 513-515, 518, and 589 above. The structures in these five  
21 Samsung Accused Products that perform the functions in claim 71 are equivalent to the structures  
22 that perform those functions as described in the '891 patent. Accordingly, these Samsung  
23 Accused Products infringe claim 71.

24 591. **Claim 73.** Claim 73 recites:

25 A digital processing system as in claim 70 further comprising:

26 means for determining whether or not a condition is met;

27 wherein the first window is closed in response to a determination  
28 that the condition is met.

1 The limitation added in dependent Claim 73 is analogous to the limitation added in method claim  
2 23. Because the five Samsung Accused Products that infringe claim 70 determine whether the  
3 condition of the expiration of a timer had been met, and close the first window if that condition  
4 has been met, they also perform the functions recited in claim 73. The corresponding structures  
5 in the '891 patent for claim 73 are the same as those for claim 70, discussed above. The five  
6 Samsung Accused Products that infringe claims 70 and 71 infringe claim 73 for the same reasons  
7 that they infringe claims 70 and 71. These Samsung Accused Products all have display devices  
8 coupled to one or more special or general purpose processors programmed with special-purpose  
9 software to perform all the functions described in claim 73 that are equivalent to the structures  
10 disclosed in the '891 patent that perform those functions.

11       592.   **Claim 74.** Claim 74 recites:

12           A digital processing system as in claim 70 wherein said means for  
13           closing the first window comprises:

14           means for fading out an image of the first window.

15 The limitation added in dependent Claim 74 is analogous to the limitation added in method claim  
16 24. With respect to this claim, the '891 specification discloses the following corresponding  
17 structure: A display device coupled to one or more special or general purpose processors  
18 programmed with special-purpose software, the special-purpose software including computer  
19 instructions for displaying a first window independent of the position of a cursor on the screen,  
20 and for closing the first window without user input, where the first window is translucent and the  
21 second window can be seen under the first window, and where closing the window comprises  
22 fading out an image of the first window. ('891 patent, at 4:28-5:31, 5:54-6:8, 6:21-40, 7:21-50,  
23 8:4-49, 9:34-63; FIGS. 1, 12, 14-21). The following Samsung Accused Products that infringe  
24 claim 70 the Galaxy Tab 10.1, Galaxy Prevail and Nexus S also fade out the image of the first  
25 window when the window closes, using display devices coupled to one or more special or general  
26 purpose processors programmed with special-purpose software to perform the functions described  
27 in claim 74. (See discussion of claim 24 at paragraph 524 above.) These structures are  
28

1 equivalent to the corresponding structures described in the '891 patent for performing the  
2 functions in claim 74. Accordingly, these three Samsung Accused Products infringe claim 74.

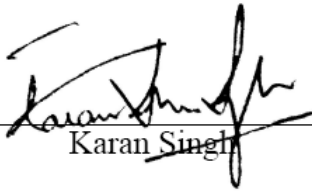
3 **VIII. CONCLUSION**

4 593. My opinions are subject to change based on additional opinions that Samsung's  
5 experts may present and information I may receive in the future or additional work I may  
6 perform. I reserve the right to supplement this Report with new information and/or documents  
7 that may be discovered or produced in this case, or to address any new claim constructions  
8 offered by Samsung or ordered by the court. With this in mind, based on the analysis I have  
9 conducted and for the reasons set forth above, I have preliminarily reached the conclusions and  
10 opinions in this Report.

11 594. In connection with my anticipated testimony in this action, I may use as exhibits  
12 various documents produced in this Action that refer or relate to the matters discussed in this  
13 Report. I have not yet selected the particular exhibits that might be used. In addition, I may  
14 create or assist in the creation of certain demonstrative exhibits to assist in the presentation of my  
15 testimony and opinions as described herein or to summarize the same or information cited in this  
16 Report. Again, those exhibits have not yet been created.

17  
18 Dated: March 22, 2012

/s/

  
Karan Singh