

Exhibit 2  
(Submitted Under Seal)

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

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  
  
**REBUTTAL EXPERT REPORT  
OF DR. KARAN SINGH, PH.D.  
REGARDING VALIDITY 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 additional opinions in the above-captioned case. I am the same Dr. Karan Singh  
4 who submitted an Expert Report regarding Samsung’s infringement of U.S. Patent Nos.  
5 7,864,163 (the “’163 patent”), 7,844,915 (the “’915 patent”) and 7,853,891 (the “’891  
6 patent”). I have been asked by counsel for Apple to review and respond to the opinions and  
7 assertions made in the Expert Report of Stephen Gray Regarding Invalidity of U.S. Patent  
8 Nos. 7,844,915 and 7,864,163 that generally concerns the validity of the ’163 and ’915  
9 patents, and the Expert Report of Trevor Darrell, Ph.D. Regarding the Invalidity of U.S.  
10 Patent Nos. 6,493,002 and 7,853,891 generally concerning the validity of the ’891 patent.

11    **II.    QUALIFICATIONS**

12           2.     I incorporate here by reference the description of my qualifications contained  
13 in my Expert Report Regarding Infringement of U.S. Patents Nos. 7,864,163, 7,844,915, and  
14 7,853,891. As in my earlier Expert Report, I am being compensated at my standard hourly  
15 consulting rate of \$450 and my compensation is in no way dependent upon the opinions I  
16 offer or upon the outcome of the litigation between Apple and Samsung.

17    **III.   MATERIALS REVIEWED**

18           3.     In forming the opinions provided in this Report, I considered the materials  
19 described in my Expert Report Regarding Infringement, the additional materials listed in  
20 Exhibit A to this Report, and any other materials referenced in this Report. In particular, I  
21 have reviewed the ’163, ’915 and ’891 patents and their file histories, the Expert Reports of  
22 Dr. Gray and Dr. Darrell and the exhibits to those Reports, at least to the extent they concern  
23 the ’163, ’915 and ’891 patents.

24           4.     I have also reviewed the Court’s claim construction Order dated April 4,  
25 2012, and I will follow the Court’s construction of claim terms for the ’915 and ’891 patents.  
26 I understand that the Court did not construe any claim terms for the ’163 patent. I reserve  
27 the right to rely on any additional information or materials that may be provided to me or  
28

1 that are relied on by any of Samsung's experts or witnesses, if called to testify or to give  
2 additional opinions regarding this matter.

3 5. I understand that discovery in this case is continuing, and I may consider  
4 additional facts and material produced through discovery to determine whether such  
5 additional material has an impact on my opinions. I may amend or supplement this Report  
6 as necessary based on such additional information. I reserve the right to supplement my  
7 Report if I receive additional information.

8 6. In addition to the materials specifically identified, I may provide further  
9 exhibits to be used at trial to support my opinions. For example, I may use as exhibits  
10 various documents produced in this Action that refer or relate to the matters discussed in this  
11 Report. I have not yet selected the particular exhibits that might be used. In addition, I may  
12 create or assist in the creation of certain demonstrative exhibits to assist in the presentation  
13 of my testimony and opinions as described herein or to summarize the same or information  
14 cited in this Report. Again, those exhibits have not yet been created.

15 7. Although I focus below on the particular alleged prior art references cited by  
16 Samsung's experts, I am also familiar more generally with the state of the art at the time that  
17 the inventions claimed in the '163, '915, and '891 patents were invented. I reserve the right  
18 to consider and testify about the general technological and marketplace background at the  
19 time of Apple's inventions to place my specific opinions below in context, and to respond to  
20 any arguments raised by Samsung's experts about the same.

21 **IV. UNDERSTANDING OF THE LAW**

22 8. I have not been asked to offer an opinion on the law; however, as an expert  
23 assisting the Court in determining patent validity, I understand that I am obliged to follow  
24 existing law. I have therefore been asked to apply the following legal principles to my  
25 analysis of patent validity:

26 9. My understanding of the law with respect to claim construction is set forth in  
27 my Expert Report Regarding Infringement. In addition, as noted above, I will apply any  
28

1 constructions adopted by the Court in its claim construction order for the '163, '915 and  
2 '891 patents.

3 10. I have been informed by counsel that by United States statute, a patent is  
4 presumed valid. I understand that the patent challenger bears the burden of proving  
5 invalidity of the patent by clear and convincing evidence.

6 11. I have been informed by counsel that, for a finding of invalidity of a patent  
7 under 35 U.S.C. § 102, which is known as “anticipation,” each and every element of a claim,  
8 as properly construed, must be found either explicitly or inherently in a single prior art  
9 reference, subject to the limitations imposed by § 102 in paragraphs (a)–(g). I understand  
10 that under principles of inherency, if the extrinsic evidence makes clear that the prior art  
11 necessarily functions in accordance with or includes the claimed limitations, it anticipates. I  
12 understand that inherency may not be established by probabilities or possibilities. I also  
13 understand that, in order to anticipate a patent claim, a prior art reference must also be  
14 enabling, such that a person of ordinary skill in the art could practice the invention without  
15 undue experimentation.

16 12. I have been informed by counsel that a claim is invalid under 35 U.S.C. §  
17 102(a) if the claimed invention was known or used by others in the U.S., or was patented or  
18 published anywhere, before the applicant's invention. I further have been informed that a  
19 claim is invalid under 35 U.S.C. § 102(b) if the invention was patented or published  
20 anywhere, or was in public use, on sale, or offered for sale in the United States, more than  
21 one year prior to the filing date of the patent application. And I have been informed that a  
22 patent claim is invalid under 35 U.S.C. § 102(e), if an invention described by that claim was  
23 described in a U.S. patent granted on an application for a patent by another that was filed in  
24 the U.S. before the date of invention for such a claim. A claim is also invalid, as I  
25 understand, under 35 U.S.C. § 102 (f) if the invention was invented by another prior to the  
26 claimed invention. It is also my understanding that a claim is invalid under 35 U.S.C. § 102  
27 (g)(2) if, prior to the date of invention for the claim, the invention was made in the U.S. by  
28 another who had not abandoned, suppressed or concealed the invention.

1           13.     I have been informed by counsel that a claimed invention is only unpatentable  
2 under 35 U.S.C. § 103 if the differences between the invention and the prior art are such that  
3 the subject matter as a whole would have been obvious at the time the invention was made to  
4 a person having ordinary skill in the art to which the subject matter pertains.

5           14.     In making a determination of obviousness, I understand that the following  
6 factors are to be considered: (1) the scope and content of the prior art; (2) the differences  
7 between the prior art and the claims at issue; (3) the level of ordinary skill in the art; and (4)  
8 objective evidence of non-obviousness. I understand that a claim of obviousness may be  
9 based on one or more references, taken in combination. I understand that a patent composed  
10 of several elements is not proved obvious merely by demonstrating that each of its elements  
11 was known in the prior art. There must be a reason for combining the elements in the  
12 manner claimed. That is, there must be a showing that a person of ordinary skill in the art at  
13 the time of the invention would have thought of either combining two or more references or  
14 of modifying a reference to achieve the claimed invention.

15           15.     In determining whether an invention is obvious, I understand that it is  
16 impermissible to engage in hindsight reconstruction of the claimed invention, using the  
17 applicant's invention as a template and selecting elements from the references to fill the  
18 gaps. In order for a combination of multiple references to be obvious, a person of ordinary  
19 skill in the art should have some reason to combine the references. When considering a  
20 reference for purposes of an obviousness analysis, the reference must be taken for everything  
21 it teaches, including information that diverges from or teaches away from the claimed  
22 invention.

23           16.     I also understand that a combination of known elements can be obvious when  
24 it does no more than yield predictable results. In other words, where it is obvious to try a  
25 particular combination of known elements to solve a problem and there are a finite number  
26 of known, predicable solutions, the result is likely the product not of innovation but of  
27 ordinary skill and common sense. At the same time, a finding of obviousness may not be  
28 proper where the prior art merely provides a person of ordinary skill in the art a promising

1 field for experimentation. I have further been informed that a proper obviousness analysis  
2 focuses on what was known or obvious to a person of ordinary skill in the art, not just to the  
3 patentee, at the time of the invention. I also understand that practical and common sense  
4 considerations should guide a proper obviousness analysis.

5 17. I also understand that the law distinguishes between one of ordinary skill in  
6 the art and inventors. Under this distinction, one should not go about determining  
7 obviousness by inquiring into what patentees or inventors would have known or would  
8 likely have done faced with the revelation of references. A person of ordinary skill in the art  
9 is one who thinks along the lines of conventional wisdom and is not one who undertakes to  
10 innovate.

11 18. I have been informed by counsel that secondary indicia of non-obviousness  
12 must be considered in an obviousness analysis. Such secondary indicia of non-obviousness  
13 may include, for example:

- 14 • long-felt and unmet need in the art that was satisfied by the invention of the
- 15 patent;
- 16 • failure of others to achieve the results of the invention;
- 17 • commercial success or lack thereof of the products and processes covered by
- 18 the invention;
- 19 • deliberate copying of the invention by others in the field; and
- 20 • praise of the invention by others skilled in the art.

21 19. I have been informed by counsel that the application for a patent must satisfy  
22 the written description requirement of 35 U.S.C. § 112. I have been informed that, to satisfy  
23 the written description as to a given claim, the disclosure must convey with reasonable  
24 clarity to those skilled in the art that, as of the filing date of the patent, the inventor was in  
25 possession of the invention as claimed.

26 20. I understand that a patent specification must conclude with one or more  
27 claims particularly pointing out and distinctly claiming the subject matter that the applicant  
28

1 regards as his or her invention. Claims are indefinite if they do not reasonably apprise those  
2 skilled in the relevant art of the applicant's intended scope of the invention when read in  
3 light of the specification. Claims that reasonably apprise those skilled in the art are,  
4 therefore, definite.

5 21. I understand that a claimed invention must be enabled. A claimed invention  
6 is enabled if a person of ordinary skill in the art, in light of everything that would be known  
7 to such a person and the information provided or incorporated by reference in the patent  
8 specification, would be able to make and use the invention without undue experimentation. I  
9 understand that a party challenging validity must prove indefiniteness, lack of a written  
10 description, or lack of enablement by clear and convincing evidence.

11 22. I understand that there are several significant dates that are relevant to my  
12 analysis. The first is the date of conception. Specifically, an invention is complete when the  
13 inventor(s) has formed a definite and permanent idea of the complete and operative  
14 invention, as it is to be applied in practice. I understand that conception must include every  
15 feature or limitation of the claimed invention.

16 23. A second significant date is that of reduction to practice. I understand that  
17 there are two types of reduction to practice. An actual reduction to practice requires that the  
18 inventor constructed an embodiment or performed a process that met all the limitations of  
19 the claim that would work for its intended purpose. A constructive reduction to practice is  
20 the filing of a patent application. I understand that for a patentee to be entitled to rely upon a  
21 conception date as of the date of invention for purposes of a prior art analysis, he or she must  
22 have been reasonably diligent from conception through reduction to practice.

23 24. The filing date of a patent is the date that the application for the patent was  
24 filed with the United States Patent and Trademark Office ("PTO"). That date is printed on  
25 the first page of the patent. I understand that, to claim the benefit of the date of an earlier  
26 patent application, the earlier application must disclose and support the subject matter of the  
27 Asserted Claims.

1           25.     In my opinion, a person of ordinary skill in the relevant art of the '163 and  
2           '891 patents at the time of those inventions would have a Bachelor's degree in computer  
3           science or electrical engineering, or the equivalent, and one or more years of experience  
4           working on designing and/or implementing user interfaces. A person of ordinary skill in the  
5           relevant art of the '915 patent at the time of the invention would have a Bachelor's degree in  
6           computer science or electrical engineering or an equivalent, and one or more years of  
7           experience working with electronic devices with touch screen displays. I meet these  
8           requirements for all three patents discussed in this Report. I have interpreted the '163, '915,  
9           and '891 patent claims according to how I believe a person of ordinary skill would have  
10          understood the claims at the time of the inventions in light of the patent specifications and  
11          file histories.

12          26.     My not analyzing or rebutting the asserted invalidity of any claim not asserted  
13          to be infringed in my Report Regarding Infringement should not be construed as an  
14          agreement or concession on invalidity. If the Court should determine that there is a case or  
15          controversy with respect to such claims, I reserve the right to respond to any invalidity  
16          arguments raised with respect to these claims by Samsung's experts.

17     **V.     THE ASSERTED CLAIMS OF THE '163 PATENT ARE VALID**

18          27.     As stated in my Report Regarding Infringement, I understand that the claims  
19          of the '163 patent that I analyze below were conceived of by Andre Boule, Scott Forstall,  
20          Greg Christie, Stephen O. Lemay, Imran Chaudhri, Richard Williamson, Chris Blumenberg,  
21          and Marcel van Os in or before March 2006, and reduced to practice in March/April 2006. I  
22          understand that the asserted claims were also constructively reduced to practice in a  
23          provisional patent application filed on September 6, 2006 and in U.S. Patent Application No.  
24          11/850,013 filed September 4, 2007.

25          28.     I have reviewed the Expert Report of Stephen Gray Regarding Invalidity of  
26          U.S. Patent Nos. 7,844,915 and 7,864,163, including its appendices and exhibits. Mr. Gray  
27          cites the following references to support his opinions that the asserted claims of the '163  
28          patent are invalid as anticipated: the LaunchTile Publication, the LaunchTile System, the

1 XNav System, U.S. Patent No. 7,327,349 to Robbins et al. (“Robbins”), U.S. Patent No.  
2 7,933,632 to Flynt et al. (“Flynt”), and U.S. Patent No. 6,211,856 to Choi et al. (“Choi”). Mr.  
3 Gray also cites these references in combination with six other named references to support his  
4 opinions that the asserted claims of the ’163 patent are invalid as obvious. For the reasons  
5 discussed below, it is my opinion that none of these prior art references anticipates any of the  
6 claims of the ’163 patent that I asserted were infringed in my Expert Report Regarding  
7 Infringement. Moreover it is my opinion that none of these references, alone or in  
8 combination with one another, renders the asserted claims obvious. Finally, it is my opinion  
9 that the asserted claims of the ’163 patent are not invalid for lack of written description or  
10 enablement, or for indefiniteness.

11 **A. The Asserted Claims of the ’163 Patent Are Not Anticipated or Rendered**  
12 **Obvious by the LaunchTile or XNav Systems or the LaunchTile Publication**

13 29. Three of the references that Mr. Gray asserts anticipate the ’163 patent—the  
14 LaunchTile System, the XNav System, and a publication entitled AppLens and LaunchTile:  
15 Two Designs for One-Handed Thumb Use on Small Devices (the “LaunchTile  
16 Publication”)—are closely related. I understand that the LaunchTile System is a prototype  
17 graphical user interface created by Benjamin Bederson and his colleagues for use on mobile  
18 devices such as Personal Digital Assistants and cell phones. (Bederson Decl. in Supp. of  
19 Samsung’s Opp. to Apple’s Mot. for Prelim. Inj. at 1.) The LaunchTile Publication describes  
20 how aspects of the LaunchTile System function. (*Id.*) The XNav System is a variant of the  
21 LaunchTile System that is adapted for use with different devices and operating systems.  
22 XNav is based on the same source code as LaunchTile, and it has many of the same features.  
23 (*Id.* at 7.)

24 30. Mr. Gray’s own description of LaunchTile, which applies equally to XNav,  
25 shows that LaunchTile’s functionality is fundamentally different from the functionality  
26 claimed in the ’163 patent. Mr. Gray describes LaunchTile as follows:

27 LaunchTile consisted of an “interactive zoomspace” consisting of  
28 36 application tiles, divided into nine zones of four tiles each. The  
LaunchTile Publication referred to this “zoomspace” as the

1                   “World.” When the entire zoomspace was in view, the LaunchTile  
2                   Publication referred to the view as “World View.”

3                   The zoomspace included a blue button (“Blue”) in the center of  
4                   each 4-tile “Zone” that could be selected by the user to enlarge and  
5                   translate the four tiles that were adjacent to the selection button.  
6                   When enlarged, the four tiles and the selection button [were]  
7                   referred to as the “Zone View[.]”

8                   From the Zone View, LaunchTile permit[ted] the user to select any  
9                   one of the 4 application tiles to launch the corresponding  
10                  application.

11                  (Gray Report at 89-90.) LaunchTile / XNav and the '163 patent address fundamentally different  
12                  problems: LaunchTile and XNav address the use of a fixed set of applications in a predefined  
13                  layout, whereas the '163 patent deals with the readability and navigation of arbitrarily sized and  
14                  structured documents on a small screen.

15                  31.       LaunchTile, as described above, discloses a method that purposely uses  
16                  abstraction to provide three different layers of information. At each layer (World, Zoom, and  
17                  Application) the system displays different content, which is distinct from the content in other  
18                  layers, notwithstanding the fact that symbolic links may exist between layers (such as text and  
19                  graphics that comprise, for example, an email icon in the Zone View launching a  
20                  corresponding, but separate, email Application). By contrast, the '163 patent claims a method  
21                  for viewing the content of the same structured electronic document effectively on a portable  
22                  device's screen, even when the screen does not naturally accommodate the document's size.  
23                  The '163 patent describes scaling and translating a structured electronic document to better  
24                  allow a user to focus on different portions of it, but it is, at all relevant times, the same  
25                  electronic document that is displayed on the screen. In contrast, moving to a different layer in  
26                  LaunchTile and XNav does not merely enlarge or translate a structured electronic document,  
27                  but instead displays different and additional content. For at least these reasons, LaunchTile  
28                  and XNav do not anticipate claims 2, 6-7, 10, 12-13, 17-18, 27, 29-30, 32-35, 37-41, or 49-52.  
29                  Mr. Gray's obviousness arguments that urge combinations with LaunchTile and XNav are  
30                  addressed below in connection with the claims to which they apply.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**1. Claim 2: “detecting a first gesture at a location on the displayed portion of the structured electronic document; determining a first box in the plurality of boxes at the location of the first gesture; enlarging and translating the structured electronic document so that the first box is substantially centered on the touch screen display”**

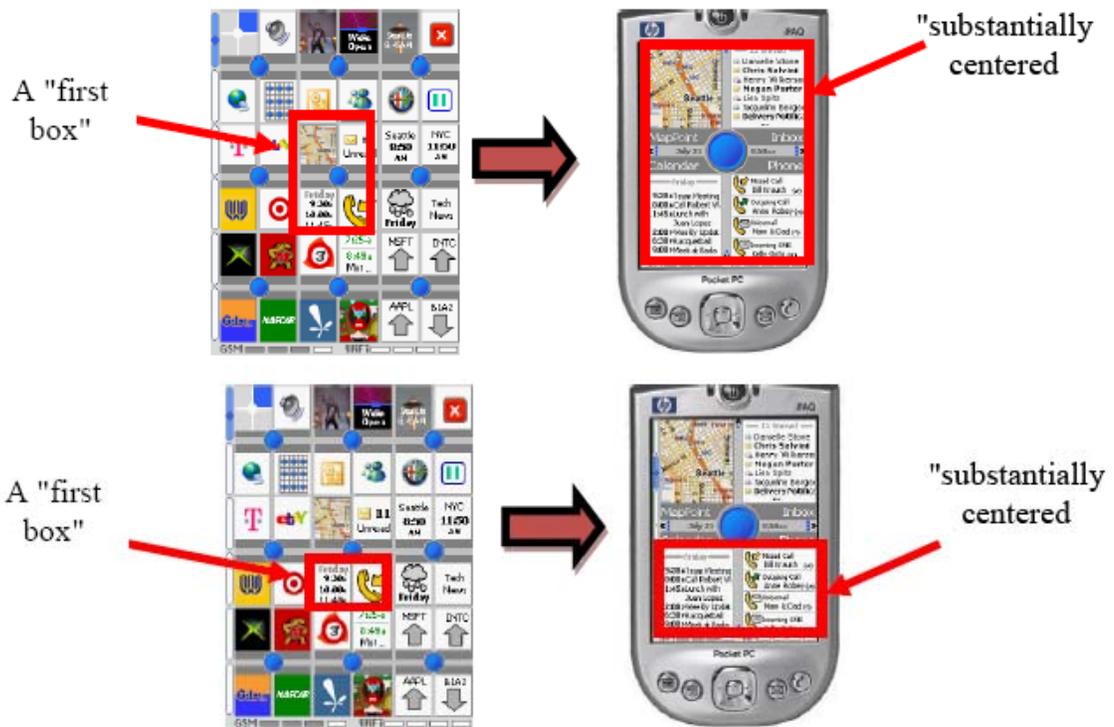
32. I disagree with Mr. Gray’s determination that LaunchTile and XNav disclose claim 2’s recitation of “detecting a first gesture at a location on the displayed portion of the structured electronic document; determining a first box in the plurality of boxes at the location of the first gesture; enlarging and translating the structured electronic document so that the first box is substantially centered on the touch screen display.”

33. The unambiguous language of claim 2 requires that the “structured electronic document” that is “enlarge[ed] and translate[ed]” (such that the enlarged portion of it is “substantially centered on the touch screen display”) must be the same structured electronic document that includes a location where “a first gesture” is detected and “a first box” is determined. LaunchTile and XNav fail to disclose this recitation of claim 2 because the different zoom levels in LaunchTile and XNav do not display the same structured electronic document. In LaunchTile and XNav, the “substantially centered” Zone View is entirely distinct from the World View, or portion of it, that is initially displayed and tapped on by the user.<sup>1</sup> Transitioning from the World View to the Zone View does not involve “enlarging and translating” a portion of the World View. Rather, a Zone View entirely replaces the World View that was previously displayed. This replacement functionality is apparent in all of the LaunchTile screenshots included in part [2b] of the claim chart attached as Appendix 7 to Mr. Gray’s report, which clearly show that the Zone View is not merely a translated and enlarged version of the World View, but entirely different content with a different visual appearance:

---

<sup>1</sup> I express no opinion as to whether the portions of the World View, Zone View, and Application View displayed by LaunchTile and XNav individually constitute “structured electronic documents” within the meaning of the ’163 patent. Because it is clear that the different Views display distinct content, they cannot be the same structured electronic document.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28



Note, for example, that the single phone icon in the World View becomes a list of calls in the Zone View; the email and calendar cells similarly become detailed lists in the Zone View where they were merely iconic representations in the World View. The difference is more than mere enlargement and translation; it is substitution of entirely different content.

34. A review of the XNav source code confirms that the Zone View displays different content, not merely an enlarged and translated version of content displayed in the World View. Specifically, the XNav code calls entirely different graphical assets when a transition is made from World View to Zone View, rather than enlarging the World View graphical assets. (See Landscape.cs in Bederson Decl. in Supp. of Samsung's Opp. to Apple's Mot. for Prelim. Inj., Ex. G (hereinafter XNav Source Code Exhibit).)

2. **Claim 2: "while the first box is enlarged, a second gesture is detected on a second box other than the first box; and in response to detecting the second gesture, the structured electronic document is translated so that the second box is substantially centered on the touch screen display"**

35. I disagree with Mr. Gray's determination that LaunchTile and XNav disclose claim 2's recitation of "while the first box is enlarged, a second gesture is detected on a

1 second box other than the first box; and in response to detecting the second gesture, the  
2 structured electronic document is translated so that the second box is substantially centered on  
3 the touch screen display.”

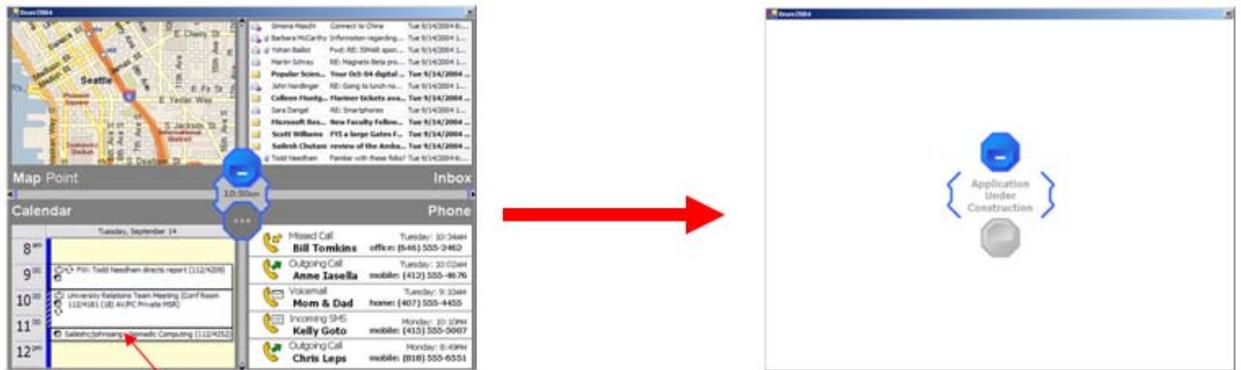
4 36. Mr. Gray provides the following support seeking to establish that LaunchTile  
5 and XNav disclose this recitation of claim 2:

6 In both the LaunchTile and XNav systems, the user “taps any of the  
7 4 notification tiles within Zone view to launch a corresponding  
8 application.” Therefore, in response to a second gesture (user tap) at  
9 the location of a second box (notification tile), “[a]n animated zoom  
fills the entire display . . . .” See LaunchTile Publication at 205.

10 (Gray Report Appendix 7 at 5.) Mr. Gray advances several alternative theories in part [2c] of the  
11 Appendix 7 claim chart that differ slightly in how the “first box” is defined or in the precise series  
12 of steps that precede tapping on a notification tile. But all of these alternatives define the “second  
13 box” as a notification tile in the Zone View, which is allegedly “substantially centered” when the  
14 user taps on it and launches the corresponding Application.

15 37. In my opinion, the transition from Zone View to Application View in  
16 LaunchTile and XNav fails to disclose this recitation of claim 2 for reasons analogous to those  
17 discussed in the previous section (there, in connection with the World View-to-Zone View  
18 transition): Zone View and Application View do not display the same structured electronic  
19 document. Rather, an Application, such as the email application that Mr. Gray uses as his  
20 example (Gray Report Appendix 7 at 5-8), displays content entirely distinct from anything  
21 displayed in the Zone View. As a result, any centering of content displayed in the  
22 Application View has no bearing on the “second box” defined in the Zone View, which is  
23 defined with respect to a different electronic document. The Application View displays  
24 separate content, which is not the result of merely “translat[ing],” as claim 2 requires, any  
25 electronic document visible in the Zone View. The unimplemented Applications in the  
26 LaunchTile and XNav prototypes—which include 33 of the 36 notification tiles (all except the  
27 email application that Mr. Gray uses as his example and two others)—provide the best  
28

1 illustration of the fact that the Zone View and the Application View display entirely distinct  
2 content. Selecting a notification tile in Zone View that corresponds to an unimplemented  
3 Application results in the display of a placeholder screen—shared by all of the  
4 unimplemented Applications—that says “Application Under Construction.” It is readily  
5 apparent that no notification tile in Zone View displays this text, so it cannot be the case that  
6 an Application View displaying this text is the result of merely “translat[ing]” any electronic  
7 document displayed in Zone View.



Select Calendar Application

15 As shown above, selecting the unimplemented Calendar Application in XNav brings up a  
16 mostly blank screen with the text “Application Under Construction” on it.

17 38. My review of XNav source code confirms that each Application View displays  
18 content distinct from anything displayed in Zone View. As with the transition from World  
19 View to Zone View, the transition from Zone View to display of an Application involves  
20 completely different graphical assets, rather than translation of the same graphical assets.  
21 (See Landscape.cs and EmailListNode.cs in XNav Source Code Exhibit.)

22 **3. Claim 4: “The method of claim 2, wherein the structured electronic**  
23 **document is a web page.”**

24 39. In my opinion, LaunchTile and XNav do not expressly or inherently practice  
25 the method of claim 2 wherein the structured electronic document is a web page.

26 40. I disagree with Mr. Gray’s assertion that it would have been obvious to one of  
27 ordinary skill in the art to combine LaunchTile with U.S. Patent Application 2002/0030699,  
28 filed by Van Ee (“Van Ee”), U.S. Patent Application 2004/0107403, filed by Tetzchner

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

[REDACTED]

**7. Claims 6-7.**

173. Claims 6-7 depend on claim 1 and are valid for at least the same reasons.

**8. Claims 8-14.**

174. Claims 8-14 are apparatus claims that are similar to the methods in claims 1-7. Mr. Gray fails to raise any new invalidity arguments for claims 8-14. In my opinion, each of these claims is valid for the reasons explained in claims 1-7 above.

**9. Claims 15-21.**

175. Claims 15-21 are apparatus claims that are similar to the methods in claims 1-7. Mr. Gray fails to raise any new invalidity arguments for claims 15-21. In my opinion, each of these claims is valid for the reasons explained in claims 1-7 above.

**B. The Asserted Claims of the ’915 Patent Are Not Anticipated by Japanese Patent Publication No. 2000-163031A (“Yosuhiro”)**

176. In my opinion, Yosuhiro does not anticipate or render obvious the ’915 patent.

**1. Claim 1: “creating an event object in response to the user input;”**

177. Yosuhiro fails to disclose “creating an event object in response to the user input.” Mr. Gray fails to cite any portion of Yosuhiro as disclosing this feature, and my careful review of Yosuhiro indicates that no event object is present. Mr. Gray instead alleges that “inherently, Yosuhiro had to store the user input data in an event object or other similar structure.” I understand that to establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is *necessarily present* in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. By acknowledging

1 that “Yosuhiro had to store the user input data in an event object *or other similar structure*,”  
2 Mr. Gray admits that an “event object” is only one of multiple structures that can be used by  
3 Yosuhiro. (Emphasis added.) For example, I note that Yosuhiro may not be designed or  
4 implemented using object-oriented programming, may not use an “event” recognition system  
5 to handle incoming data, or may not implement a unified API to handle “events.”  
6 Additionally, Yosuhiro would not be designed with an “event object” associated with a view,  
7 as explained further below. Indeed, Mr. Gray points out at paragraph 266 that he does not  
8 know of an “event object” that “invokes” a function, a position that is inconsistent with his  
9 position that an “event object” would inherently be the only way to handle this function.  
10 Thus, Yosuhiro fails to inherently disclose “creating an event object in response to the user  
11 input,” as required by claim 1.

12           **2. Claim 1: “determining whether the event object invokes a scroll or**  
13           **gesture operation by distinguishing between a single input point**  
14           **applied to the touch-sensitive display that is interpreted as the scroll**  
15           **operation and two or more input points applied to the touch-sensitive**  
16           **display that are interpreted as the gesture operation;”**

17           178. As explained above, Yosuhiro fails to disclose an “event object,” and thus also  
18 fails to disclose this feature of claim 1.

19           **3. Claim 1: “issuing at least one scroll or gesture call based on invoking**  
20           **the scroll or gesture operation;”**

21           179. Yosuhiro fails to disclose “at least one scroll or gesture call.” Mr. Gray fails to  
22 cite any portion of Yosuhiro as disclosing this feature, and my careful review of Yosuhiro  
23 indicates that no “scroll or gesture call” is present.

24           180. Mr. Gray instead alleges that “inherently, Yosuhiro had to issue at least one  
25 scroll or gesture call based on invoking the scroll or gesture operation in order for the system  
26 to work as described in the Yosuhiro application.” I understand that to establish inherency,  
27 the extrinsic evidence must make clear that the missing descriptive matter is *necessarily*  
28 *present* in the thing described in the reference, and that it would be so recognized by persons  
of ordinary skill. Issuing a “scroll or gesture call” is only one of many possible ways for  
causing a device to operate as described by Yosuhiro. For example, I note that Yosuhiro may

1           198. In contrast, SmartSkin discloses a touch-sensitive table on which an image is  
2 projected by a projector. (*See, e.g.*, Gray Report Ex. V (SmartSkin) at Figure 1.) The  
3 projector and the touch-sensitive table are not “integrated with the device,” and thus fail to  
4 disclose the “touch-sensitive display that is integrated with the device” as recited by claim 1.

5           **2. Claim 1: “creating an event object in response to the user input;”**

6           199. SmartSkin also fails to disclose “creating an event object in response to the  
7 user input.” Mr. Gray fails to cite any portion of SmartSkin as disclosing this feature.  
8 Instead, Mr. Gray alleges that “inherently, the SmartSkin system had to store the user input  
9 data in an event object or other similar structure.” By acknowledging that “the SmartSkin  
10 system had to store the user input data in an event object *or other similar structure*,” Mr. Gray  
11 admits that an “event object” is only one of multiple structures that can be used by the  
12 SmartSkin system. (Emphasis added.) Thus, SmartSkin fails to inherently disclose “creating  
13 an event object in response to the user input,” as required by claim 1.

14           **3. Claim 1: “determining whether the event object invokes a scroll or  
15 gesture operation by distinguishing between a single input point  
16 applied to the touch-sensitive display that is interpreted as the scroll  
17 operation and two or more input points applied to the touch-sensitive  
18 display that are interpreted as the gesture operation;”**

19           200. As explained above, SmartSkin fails to disclose an “event object,” and thus  
20 also fails to disclose this feature of claim 1.

21           **4. Claim 1: “issuing at least one scroll or gesture call based on invoking  
22 the scroll or gesture operation;”**

23           201. SmartSkin fails to disclose “at least one scroll or gesture call.” Mr. Gray fails  
24 to cite any portion of SmartSkin as disclosing this feature, and my careful review of  
25 SmartSkin indicates that no “scroll or gesture call” is present.

26           202. Mr. Gray instead alleges that “inherently, SmartSkin had to issue at least one  
27 scroll or gesture call based on invoking the scroll or gesture operation in order for the system  
28 to work as described in the SmartSkin paper.” I understand that to establish inherency, the  
extrinsic evidence must make clear that the missing descriptive matter is *necessarily present*  
in the thing described in the reference, and that it would be so recognized by persons of

1 ordinary skill. Issuing a “scroll or gesture call” is only one of many possible ways for  
2 causing a device to operate, as described by SmartSkin. For example, I note that SmartSkin  
3 may not be designed or implemented using object-oriented programming, may not use an  
4 “event” recognition system to handle incoming data, or may not implement a unified API to  
5 handle “events.” Additionally, SmartSkin may not be designed with an “event object”  
6 associated with a view, as explained further below. Indeed, Mr. Gray points out at paragraph  
7 266 of his report that he does not know of an “event object” that “invokes” a function, a  
8 position that is inconsistent with his position that an “event object” would inherently be the  
9 only way to handle this function. Thus, SmartSkin fails to inherently disclose “issuing at least  
10 one scroll or gesture call based on invoking the scroll or gesture operation,” as required by  
11 claim 1.

12           **5. Claim 1: “responding to at least one scroll call, if issued, by scrolling a**  
13           **window having a view associated with the event object based on an**  
14           **amount of a scroll with the scroll stopped at a predetermined position**  
              **in relation to the user input;”**

15           203. As explained above, SmartSkin fails to disclose an “event object” and “at least  
16 one scroll or gesture call,” and thus also fails to disclose this feature of claim 1.

17           204. Furthermore, SmartSkin fails to disclose a “view associated with the event  
18 object.” The ’915 patent describes a user interface system and an API that keep track of  
19 which window or view is contacted by a user input by associating event objects to a view.  
20 (*See, e.g.*, ’915 patent at 7:4-26.) The function call corresponding to the user input, *e.g.*, a  
21 gesture call, is sent to the software application associated with the view such that it is not  
22 necessary to determine which application should be activated each time a user input is  
23 received on a particular area of the display. (*See, e.g., id.* at 12:29-54.) In contrast,  
24 SmartSkin may be directed to a more primitive system that lacks the advanced feature of  
25 associating a view with an event object and a software application, as I explain above with  
26 respect to Yosuhiko. Therefore, in my opinion, SmartSkin fails to disclose a “view associated  
27 with the event object.”  
28

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

[REDACTED]

3. **Claim 1: “determining whether the event object invokes a scroll or gesture operation by distinguishing between a single input point 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;”**

223. Han fails to disclose this feature. At most, the Han TED video may show panning images using a single finger and scaling/rotating using multiple fingers. The Han video fails to disclose *how* the determination is made to pan or scale/rotate, let alone that the determination is made using the number of input points applied to the touch-sensitive table.

[REDACTED]

4. **Claim 1: “issuing at least one scroll or gesture call based on invoking the scroll or gesture operation;”**

225. Han fails to disclose “at least one scroll or gesture call.” [REDACTED]

226. Mr. Gray instead alleges that “inherently, the Jefferson Han multi-touch system had to issue at least one scroll or gesture call based on invoking the scroll or gesture

1 operation in order for the system to work as described in Han’s articles and videos.” I  
2 understand that to establish inherency, the extrinsic evidence must make clear that the missing  
3 descriptive matter is *necessarily present* in the thing described in the reference, and that it  
4 would be so recognized by persons of ordinary skill. Issuing a “scroll or gesture call” is only  
5 one of many possible ways for causing a device to operate as described by Han. For example,  
6 I note that Han may not be designed or implemented using object-oriented programming, may  
7 not use an “event” recognition system to handle incoming data, or may not implement a  
8 unified API to handle “events.” Indeed, Mr. Gray points out at paragraph 266 that he does not  
9 know of an “event object” that “invokes” a function, a position that is inconsistent with his  
10 position that an “event object” would inherently be the only way to handle this function.  
11 Thus, Han fails to inherently disclose “issuing at least one scroll or gesture call based on  
12 invoking the scroll or gesture operation,” as required by claim 1.

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

17           227. As explained above, Han fails to disclose an “event object” and “at least one  
18 scroll or gesture call,” and thus also fails to disclose this feature of claim 1.

19           228. Han fails to disclose “scrolling a window having a view associated with the  
20 event object based on an amount of a scroll with the scroll stopped at a predetermined  
21 position in relation to the user input,” as required by claim 1. (Emphasis added.) At best, Han  
22 shows that panning can be performed with one or more fingers, but fails to provide specific  
23 details regarding the stop location of the scroll with respect to the user input. (*See, e.g.*, Gray  
24 Report Ex. W (Han Multi-Touch Interactive Wall) at 1.)

25           **6. Claim 1: “responding to at least one gesture call, if issued, by scaling**  
26           **the view associated with the event object based on receiving the two or**  
27           **more input points in the form of the user input.”**

28           229. As explained above, Han fails to disclose an “event object” and “at least one  
scroll or gesture call,” and thus also fails to disclose this feature of claim 1.

1 commercially successful and have garnered widespread praise for their elegant and user-  
2 friendly interfaces.

3 **E. The Asserted Claims of the '891 Patent are Not Invalid as Indefinite Under 35**  
4 **U.S.C. § 112 ¶ 6**

5 310. I disagree with Dr. Darrell's opinion that claims 51-52, 55-56, 64-71, and 73-  
6 74 are indefinite because the specification of the '891 patent lacks corresponding structure to  
7 adequately identify the scope of these claims.

8 311. It is my opinion that there is sufficient disclosure of structure in the '891  
9 patent specification for performing the functionality claimed in these means-plus-function  
10 claims. I have identified the physical components (such as hardware) and the algorithmic  
11 components (such as flow diagrams) of structure in the '891 patent specification associated  
12 with each element of claims 51-52, 55-56, 64-71, and 73-74 in my Expert Report Regarding  
13 Infringement. (See Expert Report of Karan Singh, Ph.D. Regarding Infringement of U.S.  
14 Patents Nos. 7,864,163, 7,844,915 and 7,853,891 at 154-165.) The relevant disclosed  
15 structure includes at least the text at 2:42-3:14, 3:45-50, 4:28-5:31, 5:54-6:8, 6:21-40, 7:7-50,  
16 and 8:4-9:63 and Figures 1, and 7-21. This structure is, in my opinion, sufficient to render  
17 claims 51-52, 55-56, 64-71, and 73-74 definite, and therefore not invalid under 35 U.S.C. §  
18 112 ¶ 6.

19 Dated: April 16, 2012

20  
21 */s/ Karan Singh*  
22 \_\_\_\_\_  
23 Karan Singh  
24  
25  
26  
27  
28