

EXHIBIT 7
FILED UNDER SEAL

In The Matter Of:

APPLE INC., et al.

v.

SAMSUNG ELECTRONICS CO., LTD., et al.

KARAN SINGH- Vol. 2

April 27, 2012

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IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

--oOo--

APPLE INC. a California)
corporation,)
)
Plaintiff,)
)
vs.) 11-cv-01846-LHK
)
SAMSUNG ELECTRONICS CO.,)
LTD., a Korean corporation;)
SAMSUNG ELECTRONICS AMERICA,)
INC., a New York corporation;)
and SAMSUNG TELECOMMUNICATIONS)
AMERICA, LLC, a Delaware)
limited liability company,)
)
Defendants.)
_____)

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DEPOSITION OF
KARAN SINGH

APRIL 27, 2012

VOLUME II

(Pages 286 - 367)

REPORTED BY: SARAH LUCIA BRANN, CSR 3887

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I N D E X

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EXHIBITS MARKED FOR IDENTIFICATION

No.	Description	Page
Exhibit 8	United States Patent Number 7,844,915	291

--oOo--

1 --oOo--

2 Deposition of KARAN SINGH, taken by the
3 Defendant, at 555 Twin Dolphin Drive, Suite 500,
4 Redwood Shores, California, commencing at 9:39 a.m.,
5 on April 27, 2012, before SARAH LUCIA BRANN, CSR,
6 pursuant to Notice.

7 --oOo--

8 A P P E A R A N C E S

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26 ALSO PRESENT:

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28 --oOo--

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1 REDWOOD SHORES, CALIFORNIA; FRIDAY, APRIL 27, 2012

2 9:39 A.M.

3 --oOo--

08:09:09 4 P R O C E E D I N G S

09:39:03 5 THE VIDEOGRAPHER: Here begins Volume II,

09:39:05 6 Videotape Number 1, in the deposition of Karan

09:39:07 7 Singh. Today's date is April 27, 2012. The time on

09:39:11 8 the video monitor is 9:39 a.m. The court reporter

09:39:16 9 today is Sarah Brann of -- employed by Merrill Court

09:39:22 10 Reporting, San Francisco, California.

09:39:24 11 Counsel, please voice identify yourselves

09:39:26 12 and state whom you represent.

09:39:28 13 MR. BRIGGS: Todd Briggs from Quinn

09:39:30 14 Emanuel, representing Samsung.

09:39:34 15 MR. EDDON: Guy Eddon from Quinn Emanuel,

09:39:36 16 representing Samsung.

09:39:37 17 MR. MONACH: Andrew Monach from Morrison &

09:39:38 18 Foerster, representing Apple and the witness.

09:39:42 19 MR. MELAHN: Mark Melahn from Morrison &

09:39:44 20 Foerster representing Apple.

09:39:46 21 THE VIDEOGRAPHER: Please begin.

09:39:47 22 KARAN SINGH

09:39:47 23

09:39:47 24 called as a witness, who, having been previously

09:39:47 25 duly sworn, was examined and testified as follows:

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09:39:47 1 EXAMINATION BY MR. BRIGGS

09:39:47 2 MR. BRIGGS: Q. Dr. Singh, did you

09:39:48 3 discuss your testimony from yesterday with counsel

09:39:50 4 after the deposition?

09:39:52 5 MR. MONACH: I'll instruct the witness not

09:39:53 6 to answer.

09:40:02 7 I'm instructing you not to answer.

09:40:03 8 MR. BRIGGS: Q. I am not asking for any

09:40:06 9 substance or communications. I just want to know if

09:40:08 10 you discussed your testimony from yesterday with

09:40:11 11 counsel after the deposition.

09:40:12 12 MR. MONACH: And I am instructing him not

09:40:14 13 to answer, because the question contains subject

09:40:17 14 matter.

09:40:18 15 MR. BRIGGS: I am not asking for -- I am

09:40:20 16 just -- it's a yes-or-no question. Did you discuss?

09:40:24 17 MR. MONACH: And I'm instructing the

09:40:25 18 witness not to answer, based on Rule 26, work

09:40:28 19 product, et cetera.

09:40:31 20 MR. BRIGGS: Q. Are you going to follow

09:40:32 21 that instruction?

09:40:34 22 A. I'm -- I'm not -- I'm not -- I don't know

09:40:39 23 the exact procedure in this -- in this scenario, but

09:40:45 24 I'm -- I -- under clear sort of indication like that

09:40:52 25 from counsel, without any further understanding of

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09:40:57 1 the law, I would have to -- I would have to go based
09:41:00 2 on that.

09:41:01 3 Q. Did you discuss your testimony from
09:41:03 4 yesterday with any other person after your
09:41:08 5 deposition?

09:41:08 6 MR. MONACH: Other than counsel?

09:41:10 7 MR. BRIGGS: Other than counsel.

09:41:10 8 MR. MONACH: You can answer that question.

09:41:12 9 THE WITNESS: No.

09:41:12 10 (Deposition Exhibit 8

09:41:12 11 was marked for identification.)

09:41:16 12 MR. BRIGGS: Q. Let's turn to the last
09:41:18 13 patent we have to discuss, the '915 patent.

09:41:22 14 A. Okay.

09:41:24 15 Q. Here is a copy of the '915 that's been
09:41:27 16 marked as Exhibit 8, if you need to refer to it. We
09:41:30 17 have your two reports --

09:41:32 18 A. Yes.

09:41:32 19 Q. -- in front of you again, which are
09:41:37 20 Exhibit 1 and Exhibit 2, your infringement report
09:41:41 21 and your validity report.

09:41:47 22 Dr. Singh, what is the invention that is
09:41:49 23 claimed in the '915 patent?

09:41:51 24 MR. MONACH: I object to the form of the
09:41:52 25 question. Under the best evidence rule the claims

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09:41:57 1 are the best evidence of what the invention is.

09:41:59 2 Object to the extent it calls for a legal

09:42:02 3 conclusion. But the witness can give his own

09:42:04 4 impression or summarize generally what it's about.

09:42:15 5 THE WITNESS: Well, the precise inventions

09:42:17 6 of the '915 are provided by the claim language, the

09:42:23 7 claims of the '915. Generally speaking, the '915

09:42:34 8 talks about fluid techniques for navigation on touch

09:42:51 9 screen displays.

09:42:59 10 I just want to confirm something with

09:43:01 11 the -- yeah.

09:43:09 12 MR. BRIGGS: Q. So it's about fluid

09:43:11 13 navigation on touch screen displays?

09:43:14 14 A. On touch screen displays generally

09:43:16 15 speaking, yes.

09:43:17 16 Q. Can you be more specific?

09:43:21 17 MR. MONACH: Same objection. Go ahead.

09:43:25 18 THE WITNESS: It describes -- it describes

09:43:30 19 a set of techniques on how -- on how input received

09:43:38 20 on a touch screen display can be -- can be

09:43:45 21 interpreted by a program and used to perform various

09:43:55 22 navigation operations.

09:43:57 23 MR. BRIGGS: Q. Let's focus on the

09:43:58 24 independent claims.

09:43:59 25 A. Okay.

09:43:59 1 Q. Can you summarize what the independent
09:44:01 2 claims of the '915 capture?

09:44:05 3 MR. MONACH: Object to the form of the
09:44:06 4 question, for the reasons previously stated.

09:44:12 5 THE WITNESS: Well, a claim is quite
09:44:18 6 summarily put to begin with, so I would say the
09:44:23 7 independent claims essentially elucidate what they
09:44:27 8 capture quite -- quite clearly.

09:44:30 9 MR. BRIGGS: Q. If you were to explain to
09:44:36 10 the jury in plain English what the independent
09:44:39 11 claims of the '915 patent cover, how would you do
09:44:42 12 that?

09:44:42 13 MR. MONACH: Object to the form of the
09:44:44 14 question.

09:44:50 15 THE WITNESS: Well, if I had to describe
09:44:52 16 in a general sense claim one, for example, I would
09:44:59 17 describe it as -- as a method that would -- that on
09:45:14 18 receipt of user input on a touch sensitive display
09:45:23 19 would use an event programming protocol where views
09:45:35 20 that were -- that were associated with those events
09:46:01 21 would -- would interpret those events.

09:46:07 22 In particular they would use the -- sort
09:46:14 23 of they would use the number of touch -- the number
09:46:20 24 of touch points to distinguish between two different
09:46:26 25 kinds of operations that would be used for

09:46:30 1 navigation.

09:46:34 2 MR. BRIGGS: Q. So would you agree that a
09:46:35 3 key limitation in the claims of the '915 patent is
09:46:41 4 the requirement of distinguishing between a single
09:46:48 5 input point interpreted as scroll operation and two
09:46:52 6 or more input points that are interpreted as a
09:46:56 7 gesture operation?

09:46:58 8 MR. MONACH: Object to form and calling
09:47:01 9 for a legal conclusion.

09:47:03 10 THE WITNESS: Well, so I am not expressing
09:47:05 11 a legal opinion here, but I would understand that a
09:47:11 12 person of ordinary skill in the art, yes, would --
09:47:17 13 would understand that the number of touch -- touch
09:47:27 14 points should be taken into account.

09:47:34 15 MR. BRIGGS: Q. Now, the '915 patent was
09:47:37 16 applied for by Apple in January 2007; correct?

09:47:45 17 A. You mean the filing date?

09:47:46 18 Q. Correct.

09:47:48 19 A. Yes, I believe it says Jan. 7, 2007 on
09:47:51 20 the...

09:47:55 21 Q. And yesterday you testified that you were
09:47:57 22 working in the field of user interfaces at least as
09:48:02 23 early as 2002; correct?

09:48:06 24 A. Yes, that is correct.

09:48:08 25 Q. So before January of 2007 are you aware of

09:48:14 1 any systems, any touch screen systems, that would
09:48:19 2 distinguish between a single input point and two or
09:48:23 3 more input points?
09:48:35 4 A. There -- yes, there may have been systems
09:48:37 5 that perform such distinctions for various reasons.
09:48:45 6 Q. So you were aware of systems before
09:48:47 7 January 2007 that would distinguish between a single
09:48:51 8 input point and two or more input points; correct?
09:49:00 9 A. I believe that it is plausible that such
09:49:05 10 systems could have existed. I may not have
09:49:12 11 conclusively, you know, tested out precisely on
09:49:14 12 those systems firstly whether they actually perform
09:49:16 13 that distinguishing test and, if they did, then, you
09:49:23 14 know -- then what the ramifications of that were as
09:49:27 15 well. But it is plausible.
09:49:32 16 Q. Were you aware of any systems before
09:49:34 17 January of 2007 that would respond to single inputs,
09:49:42 18 single touch inputs and multiple touch inputs in
09:49:45 19 different ways?
09:49:49 20 A. Perhaps.
09:49:50 21 Q. What were those systems?
09:49:57 22 MR. MONACH: Objection. Assumes facts not
09:49:58 23 in evidence.
09:50:02 24 THE WITNESS: Well, there's -- I don't
09:50:11 25 know the exact dates, but -- but generally speaking

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09:50:16 1 the performing different -- different operations,
09:50:26 2 performing various operations based on -- based on
09:50:31 3 different kinds of input certainly could have
09:50:36 4 existed generally speaking in some flavor, some --
09:50:44 5 yeah, some systems could have existed.

09:50:47 6 MR. BRIGGS: Q. What were the names of
09:50:50 7 those systems?

09:50:51 8 MR. MONACH: Objection. Assumes facts not
09:50:53 9 in evidence.

09:50:57 10 THE WITNESS: Well, precise systems?
09:51:00 11 Precise individual systems? I'm not sure.

09:51:07 12 MR. BRIGGS: Q. You can't recall any
09:51:08 13 names of systems that --

09:51:11 14 A. Well, so, as I said, there have been --
09:51:16 15 there certainly -- it's certainly plausible that
09:51:21 16 there are -- there were systems that involved
09:51:26 17 showing a variety of operations in relationship to a
09:51:35 18 variety of different kinds of input.

09:51:41 19 However, if you're asking me for, you
09:51:46 20 know, a single specific system that indicated --
09:51:56 21 that indicated what -- that you could do different
09:52:01 22 operations perhaps based on -- on various kinds of
09:52:08 23 input and some other factors, I believe some -- some
09:52:13 24 systems -- in some flavor an example of the
09:52:20 25 system -- of such a system may have been -- may have

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09:52:25 1 been, let's say, for instance, the -- the SmartSkin
09:52:33 2 system that has been proposed as an example in --
09:52:39 3 again, I'm not sure what its priority date is. But
09:52:44 4 if it predates 2007, then it would be -- it would be
09:52:50 5 a plausible example.

09:52:52 6 Q. Before you became involved in this
09:52:54 7 litigation were you aware of the SmartSkin system?

09:53:02 8 A. Yeah, I believe I had heard of it at some
09:53:07 9 point. I believe there's -- there was a paper
09:53:12 10 published on it. I'm not sure exactly the
09:53:16 11 conference. But if it was the UIST conference,
09:53:19 12 that's a conference that I have published at myself
09:53:24 13 and go to from time to time.

09:53:26 14 Q. Before you became involved in this
09:53:29 15 litigation, were you aware of the DiamondTouch
09:53:34 16 system?

09:53:37 17 A. Yes, I was aware of it.

09:53:46 18 Q. And before you became involved in this
09:53:49 19 lawsuit were you aware of Jefferson Han or any of
09:53:52 20 the work that Jefferson Han did?

09:53:56 21 A. As in was I aware of him personally?

09:53:59 22 Q. Or his work in general.

09:54:01 23 A. Yes, in general.

09:54:03 24 Q. When did you first become aware of the
09:54:05 25 DiamondTouch system?

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09:54:09 1 A. Exactly I don't remember.

09:54:10 2 Q. Do you have any approximate idea?

09:54:19 3 A. It would be hard -- I would be hard pushed

09:54:24 4 to have a precise date. I vaguely recall. I would

09:54:33 5 be hard --

09:54:34 6 Q. Before 2005?

09:54:36 7 A. I really wouldn't -- one goes through such

09:54:38 8 a large volume of different kinds of research,

09:54:44 9 devices and projects and so on, that exact dates

09:54:47 10 would be difficult for me to...

09:54:50 11 Q. Before you became involved in this

09:54:51 12 litigation had you ever used a DiamondTouch system?

09:54:57 13 A. Actually personally used it?

09:54:59 14 Q. Right.

09:55:00 15 A. No.

09:55:01 16 Q. Have you ever seen videos of people using

09:55:04 17 it?

09:55:11 18 A. In the context of this litigation I have.

09:55:13 19 Q. Before this litigation had you ever seen

09:55:15 20 any videos?

09:55:16 21 MR. MONACH: Videos of DiamondTouch?

09:55:23 22 MR. BRIGGS: That's what we're talking

09:55:24 23 about.

09:55:25 24 THE WITNESS: I may have, but I don't have

09:55:27 25 any precise recollection. But I do have

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09:55:31 1 recollection of having seen videos in the context of
09:55:33 2 the litigation.

09:55:34 3 MR. BRIGGS: Q. Do you know an individual
09:55:37 4 named Cliff Forlines?

09:55:42 5 A. I don't know him well, but I do know of
09:55:44 6 him and I believe I may have -- I may have even met
09:55:50 7 him on occasion.

09:55:59 8 Q. How do you know of Mr. Forlines?

09:56:03 9 A. I believe Mr. Forlines was -- at some
09:56:14 10 point I believe he was an employee at Mitsubishi. I
09:56:21 11 believe at some point he was also a student in my
09:56:24 12 lab or in my department.

09:56:27 13 I'm not sure exactly -- I don't -- I don't
09:56:29 14 think he was a full-time student. I would be
09:56:32 15 conjecturing. But if -- you know, as to his status
09:56:36 16 of whether he was full time or part time. But I
09:56:39 17 think he certainly was involved with our lab at some
09:56:45 18 point, though not with me personally.

09:56:47 19 Q. Do you know an individual named Adam
09:56:49 20 Bogue?

09:56:53 21 A. Adam Bogue? No.

09:57:04 22 Q. Now, you believe you might have met
09:57:06 23 Mr. Forlines before?

09:57:09 24 A. Or at least been introduced to him, yes.

09:57:15 25 Q. And where did that happen?

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09:57:21 1 A. It would either have been at my lab or at
09:57:26 2 a conference.
09:57:28 3 Q. Now, do you understand that Mr. Forlines
09:57:31 4 works on touch screen systems?
09:57:33 5 MR. MONACH: Objection. Lack of
09:57:35 6 foundation.
09:57:41 7 THE WITNESS: Inasmuch as I believe there
09:57:43 8 is deposition testimony from him, yes.
09:57:45 9 MR. BRIGGS: Q. Have you reviewed
09:57:46 10 Mr. Forlines' deposition testimony?
09:57:58 11 A. I looked at, I guess, the portion that
09:58:00 12 was -- may have been cited in one of the reports.
09:58:05 13 Q. So you looked at certain portions of his
09:58:08 14 deposition testimony that was in your reports, but
09:58:11 15 you haven't sat down and read the entire transcript;
09:58:14 16 is that right?
09:58:15 17 A. His entire deposition transcript?
09:58:18 18 Q. Correct.
09:58:24 19 A. No.
09:58:33 20 Q. Have you ever met Jefferson Han?
09:58:45 21 A. Similarly, yes, I believe I may have met
09:58:47 22 him.
09:58:48 23 Q. Do you know where?
09:58:51 24 A. It would probably -- in this case it
09:58:54 25 probably would have been at a conference.

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09:58:55 1 Q. Do you know which conference?
09:59:02 2 A. It could be at any of a couple of
09:59:04 3 different conferences. I can -- yeah.
09:59:10 4 Q. Have you ever been to a conference called
09:59:12 5 the TED conference?
09:59:14 6 A. Personally? No.
09:59:18 7 Q. Do you know what that conference is?
09:59:25 8 A. Vaguely.
09:59:25 9 Q. What is it?
09:59:27 10 A. Well, it's -- I think it's a general
09:59:31 11 conference of talks and technology.
09:59:36 12 Q. And what's the focus of the technology at
09:59:38 13 the TED conferences?
09:59:41 14 MR. MONACH: Objection. Lack of
09:59:42 15 foundation. Compound. Assumes facts not in
09:59:48 16 evidence.
09:59:51 17 THE WITNESS: Precisely I don't know. I
09:59:52 18 have seen TED conferences on a variety of subjects
09:59:58 19 actually that are -- that also don't seem
10:00:03 20 necessarily related to technology. I mean, videos.
10:00:13 21 MR. BRIGGS: Q. Have you ever seen the
10:00:14 22 video of Jeff Han demonstrating a multi-touch device
10:00:20 23 at a TED conference in Monterey, California?
10:00:23 24 A. I have never attended a TED conference.
10:00:29 25 Q. Have you ever seen a video?

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10:00:31 1 A. I may have seen a video of Jeff Han
10:00:40 2 demonstrating a touch device. Whether that was a
10:00:44 3 demonstration taken at a TED conference in -- I
10:00:49 4 would -- I wouldn't know. But I probably have seen
10:00:53 5 some videos, or a video related.

10:00:57 6 Q. So do you know for sure whether or not you
10:01:00 7 have seen such a video?

10:01:08 8 A. A video of him demonstrating such a
10:01:11 9 device?

10:01:12 10 Q. Yes.

10:01:18 11 A. I believe there may have been one
10:01:19 12 submitted as one of the exhibits in -- in -- perhaps
10:01:24 13 in Mr. Gray's invalidity report.

10:01:28 14 Q. Did you review that video?

10:01:35 15 A. I probably looked at it.

10:01:36 16 Q. Sitting here today, you are not sure if
10:01:38 17 you looked at it or not?

10:01:40 18 A. No, I am pretty sure I would have looked
10:01:42 19 at it. I did go through the exhibits.

10:01:44 20 Q. How many times did you watch that video?

10:01:51 21 A. I would say at least once.

10:01:56 22 Q. But you are not sure if you watched it
10:01:59 23 more than once?

10:02:00 24 A. Well, I mean, it's a difficult question to
10:02:06 25 answer whether I watched it in its entirety more

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10:02:09 1 than once or whether I watched a small portion of it
10:02:15 2 multiple times. I may have looked at some portions.

10:02:18 3 Q. When did you first become aware of the
10:02:22 4 SmartSkin system?

10:02:25 5 A. Exactly I couldn't say. I mean, as I
10:02:30 6 said, I don't recall the exact date when the papers
10:02:42 7 may have been published, or the paper may have been
10:02:45 8 published, the one that is one of the exhibits, I
10:02:47 9 believe. But I would say sometime between then and
10:02:57 10 now.

10:02:59 11 Q. Does the DiamondTouch system distinguish
10:03:03 12 between scroll and gesture operations?

10:03:07 13 A. The DiamondTouch system --

10:03:10 14 MR. MONACH: Object to form.

10:03:21 15 THE WITNESS: Well, generally speaking
10:03:23 16 some -- the DiamondTouch had a variety of
10:03:29 17 different -- both hardware and software
10:03:32 18 configurations that were shown and displayed. So I
10:03:38 19 sort of need to know exactly which one. But
10:03:42 20 generally speaking, over some combination of them
10:03:45 21 there may have been scroll operations shown and
10:03:59 22 perhaps some gesture operations shown.

10:04:01 23 MR. BRIGGS: Q. So you agree that the
10:04:02 24 DiamondTouch system --

10:04:05 25 A. Or systems.

10:04:05 1 Q. -- or systems did distinguish between
10:04:14 2 scroll operations and gesture operations; correct?

10:04:17 3 MR. MONACH: Object to the form.
10:04:18 4 Mischaracterizes the prior testimony.

10:04:20 5 THE WITNESS: I mean, I express more
10:04:24 6 precise or detailed opinions in my report. I can --
10:04:27 7 I can read to you from there if you like. But
10:04:31 8 generally speaking certainly scroll operations -- I
10:04:40 9 think there were some examples of a scroll operation
10:04:45 10 that may have been shown, and an example of a
10:04:51 11 gesture operation.

10:04:55 12 MR. BRIGGS: Q. The Jeff Han system that
10:04:58 13 was shown on the video that you reviewed at least
10:05:02 14 once, did that system distinguish between a scroll
10:05:08 15 operation and a gesture operation?

10:05:13 16 A. So the question, at least as you phrased
10:05:16 17 it, is -- is a little -- it's difficult to answer,
10:05:27 18 because if a scroll operation and a gesture
10:05:30 19 operation are different operations, then, yes, as in
10:05:41 20 a scroll operation may have been shown. A gesture
10:05:45 21 operation may have been shown.

10:05:51 22 Q. How about the SmartSkin system? Did the
10:05:55 23 SmartSkin system distinguish between a scroll
10:05:58 24 operation and a gesture operation?

10:06:04 25 A. That one I would need to maybe double

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10:06:07 1 check with my report.

10:06:08 2 Q. If you don't know off the top of your
10:06:11 3 head, we can look at it later.

10:06:13 4 A. Okay. Fine.

10:06:17 5 Q. That's fine if you don't remember.

10:06:21 6 To the best of your knowledge, did Apple
10:06:24 7 invent touch screens?

10:06:27 8 MR. MONACH: Objection. Lack of
10:06:29 9 foundation.

10:06:33 10 THE WITNESS: I'm not sure.

10:06:37 11 MR. BRIGGS: Do you have any idea?

10:06:39 12 MR. MONACH: Same objection. Object to
10:06:40 13 form.

10:06:44 14 THE WITNESS: I believe it's a difficult
10:06:45 15 question to answer, because the -- I think sometimes
10:06:49 16 people quibble about what exactly constitutes or may
10:06:54 17 have constituted the first touch screen, so to
10:06:59 18 speak. So I -- I would prefer not to speculate.

10:07:03 19 MR. BRIGGS: Q. Did Apple invent
10:07:09 20 scrolling using touch screens?

10:07:18 21 A. When you talk about scrolling you refer to
10:07:20 22 the operation of navigation -- of navigating a
10:07:27 23 region of the display?

10:07:32 24 Q. Correct.

10:07:32 25 MR. MONACH: Objection. Lack of

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10:07:33 1 foundation.

10:07:34 2 THE WITNESS: I'm not -- I'm not certainly
10:07:36 3 sure. There have been also -- there are various
10:07:39 4 flavors of -- or ways by which you can go about
10:07:43 5 that. But I'm not -- yeah, I'm not sure.

10:07:47 6 MR. BRIGGS: Q. Did Apple invent
10:07:50 7 performing a gesture operation on a touch screen?

10:07:55 8 MR. MONACH: Object to form. Lack of
10:07:56 9 foundation.

10:08:09 10 THE WITNESS: In a general setting, taken
10:08:11 11 out of context, I couldn't say for sure.

10:08:15 12 MR. BRIGGS: Q. Did Apple invent zooming
10:08:21 13 on a touch screen?

10:08:22 14 MR. MONACH: Same objection.

10:08:36 15 THE WITNESS: In a completely general
10:08:40 16 sense, I couldn't say for sure.

10:08:41 17 MR. BRIGGS: Q. Did Apple invent tapping
10:08:45 18 on a touch screen?

10:08:48 19 MR. MONACH: Object -- objection. Lack of
10:08:50 20 foundation.

10:08:51 21 THE WITNESS: Again, in -- without more
10:08:55 22 context, in a very general setting, I couldn't say
10:08:58 23 for sure.

10:09:00 24 MR. BRIGGS: Q. Did Apple invent
10:09:04 25 distinguishing between a scroll and gesture

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10:09:08 1 operation on a touch screen?

10:09:21 2 A. I think that you would probably need to --
10:09:23 3 you would need to provide more context on -- on
10:09:33 4 what -- what constituted distinguishing.

10:09:35 5 Q. Did Apple invent distinguishing between a
10:09:39 6 single input point and multiple input points on a
10:09:43 7 touch screen?

10:09:48 8 A. Simply distinguishing them? I couldn't
10:09:51 9 say.

10:09:53 10 Q. Let's turn to claim 1 of the '915 patent.

10:10:18 11 A. Yes.

10:10:20 12 Q. The first limitation, or the first element
10:10:22 13 of claim 1 requires a touch-sensitive display that
10:10:31 14 is integrated with the device. What does that mean
10:10:33 15 to a person of ordinary skill in the art?

10:10:53 16 A. I believe that a person of ordinary skill
10:10:55 17 in the art would understand that the entity that was
10:11:04 18 receiving and -- receiving touch input and the
10:11:09 19 entity that was -- that was responsible for the --
10:11:13 20 that was responsible for the display were an
10:11:19 21 integrated unit.

10:11:26 22 Q. What do you mean by an integrated unit?

10:11:42 23 A. Well, one -- one way of talking about it
10:11:44 24 would be to say that they were part of the same
10:11:46 25 physical housing.

10:11:48 1 Q. Are there other ways to talk about it?

10:11:54 2 A. Well, at least that.

10:12:04 3 Q. So, it's at least the same physical

10:12:07 4 housing.

10:12:08 5 A. Mm-hmm.

10:12:10 6 Q. What more could it be than that?

10:12:31 7 A. Well, let's just say that, for starters.

10:12:34 8 Q. Okay. So your definition of integrated is

10:12:38 9 same physical housing in the context of the claims

10:12:41 10 of the '915 patent; is that correct?

10:12:56 11 A. Well, essentially -- I mean, there are

10:13:04 12 sort of examples -- essentially that the components

10:13:10 13 were -- yes, were together. The various components

10:13:14 14 were together in a single -- yeah, in a single

10:13:18 15 integrated device, in a single integrated housing.

10:13:32 16 Q. What in the claims or the specification or

10:13:36 17 the prosecution history for the '915 patent supports

10:13:42 18 that definition of integrated?

10:13:53 19 A. I just believe that that's how a person of

10:13:55 20 ordinary skill in the art would understand it.

10:13:57 21 There may be -- there may be certain other --

10:14:01 22 other -- you know, I mean, there are examples of --

10:14:05 23 of such devices shown in the specification. And

10:14:15 24 there -- there could be additional support for the

10:14:19 25 second. I can go through the patent, if you like,

10:14:22 1 to find...

10:14:24 2 Q. Just sitting here today, are you aware of
10:14:26 3 any definitions of integrated within the
10:14:28 4 specification or the prosecution history for the
10:14:30 5 '915 patent?

10:14:36 6 A. Well, there -- you know, as I pointed
10:14:39 7 to -- I can point to -- there are examples in the
10:14:41 8 figures. But I believe -- yeah, I believe there are
10:14:47 9 potentially other examples in the specification as
10:14:49 10 well. I seem to vaguely recall that. I could go
10:15:00 11 through it, if you like.

10:15:12 12 Q. Could integrated mean connected to?

10:15:17 13 MR. MONACH: Object to the form of the
10:15:18 14 question.

10:15:20 15 THE WITNESS: Connected to? Well, usually
10:15:30 16 if you want something to mean connected to, you
10:15:35 17 would just say connected to, is what -- in my
10:15:38 18 understanding a person of ordinary skill in the art
10:15:42 19 would use the term connected to usually to refer
10:15:45 20 to -- yeah. But again, you know, in -- it could,
10:15:53 21 or -- it depends on the context. It depends on
10:15:56 22 how -- what examples are suggested or provided.

10:16:07 23 MR. BRIGGS: Q. The next limitation in
10:16:09 24 claim 1 has a term "event object." Do you see that?

10:16:20 25 A. Yes.

10:16:21 1 Q. What is an object in the context of claim
10:16:27 2 1?

10:16:30 3 A. What an object, as -- in the context of
10:16:35 4 this patent and as a person of ordinary skill in the
10:16:43 5 art would understand is it's a programming construct
10:16:46 6 that -- that encapsulates some information and
10:16:54 7 functionality in a general setting.

10:16:57 8 Q. So it has two components, information and
10:17:03 9 functionality?

10:17:05 10 A. Not -- not necessarily. I mean, it could
10:17:09 11 have. It -- it could have one. It could have the
10:17:15 12 other. It could possibly have both.

10:17:28 13 Q. Now, in your opinion, does object refer or
10:17:33 14 is it connected in some way to the idea of
10:17:35 15 object-oriented programming?

10:17:37 16 A. Yes, I believe so.

10:17:40 17 Q. So would you say that the claims of the
10:17:43 18 '915 patent are limited to, or they would only read
10:17:48 19 on systems that use object-oriented programming?

10:18:05 20 A. Yes, I -- you could say that.

10:18:10 21 Q. What other type of programming is there
10:18:12 22 other than object-oriented programming? What would
10:18:16 23 you call that?

10:18:19 24 A. Procedural programming, logical
10:18:22 25 programming. There's -- there are a number of

10:18:29 1 various flavors of programs.

10:18:38 2 Q. So in your opinion the claims of the '915
10:18:41 3 patent would not cover procedural programming or
10:18:45 4 logical programming; is that correct?

10:18:53 5 A. Well, it would -- insomuch as -- I mean,
10:19:04 6 there are -- there are sort of various aspects over
10:19:11 7 here that are talked about as -- you know, there are
10:19:16 8 objects. There are events. So, it basically, to a
10:19:27 9 person of ordinary skill in the art, indicates a
10:19:30 10 particular -- a particular style of programming.

10:19:50 11 Q. So in your opinion, would the claims of
10:19:53 12 the '915 patent cover procedural programming or
10:19:56 13 logical programming?

10:20:04 14 A. It depends, because, you know, parts of an
10:20:08 15 object-oriented programming language can be
10:20:15 16 procedural as well. So you would really need to
10:20:18 17 look at the -- I think you would need to look at the
10:20:24 18 specification -- the code constructs to -- for a
10:20:29 19 person of ordinary skill in the art to get a sense
10:20:34 20 of whether -- you know, whether such a construct as
10:20:38 21 is suggested by the '915 claims is met.

10:20:46 22 Q. In your opinion, would the claims of the
10:20:48 23 '915 patent cover functional programming?

10:20:52 24 MR. MONACH: Object to form. Vague.

10:20:58 25 THE WITNESS: Again, you would need to

10:20:58 1 look at the particular -- the particular way the
10:21:04 2 programs were laid out.

10:21:10 3 MR. BRIGGS: Q. If a functional program
10:21:12 4 did not have any object-oriented aspects to it,
10:21:16 5 would the claims of the '915 patent cover that
10:21:19 6 functional program?

10:21:20 7 MR. MONACH: Objection. Incomplete
10:21:21 8 hypothetical.

10:21:31 9 THE WITNESS: Again, it would depend on --
10:21:33 10 there are various aspects coming -- you know,
10:21:38 11 mentioned over here. There's the concept of an
10:21:42 12 event as well as one of an object. So again, you
10:21:48 13 would really need to look at the specific -- the
10:21:51 14 specific implementation to draw a conclusion.

10:21:58 15 MR. BRIGGS: Q. But if a particular
10:21:59 16 program had no object-oriented aspects in it, would
10:22:05 17 the claims of the '915 patent cover that?

10:22:16 18 A. I would really need to see such a program
10:22:19 19 to be able to give you a clear opinion.

10:22:22 20 Q. So a program that did not have any
10:22:26 21 object-oriented aspects in it could potentially be
10:22:30 22 covered by the claims of the '915 patent? Is that
10:22:33 23 your testimony?

10:22:36 24 A. Could you repeat the question, please?

10:22:39 25 Q. So a program that did not have any

10:22:41 1 object-oriented aspects in it could potentially be
10:22:44 2 covered by the claims of the '915 patent?

10:22:52 3 A. Well, it would be unlikely, but I would --
10:22:56 4 it would be unlikely, but I would need to be able to
10:22:59 5 say something conclusively.

10:23:09 6 Q. What does the term "event object" mean in
10:23:14 7 the context of the '915 patent?

10:23:24 8 A. So event object, a person of ordinary
10:23:26 9 skill in the art would understand that to be a
10:23:29 10 programming construct that describes an
10:23:33 11 infrastructure of how input received by that
10:23:46 12 infrastructure is processed and passed to, I guess,
10:23:56 13 one or more application programs.

10:24:01 14 Q. In the context of a touch screen device,
10:24:03 15 what is an event object?

10:24:06 16 A. In the context of a touch screen and in
10:24:11 17 the context of the '915, an event object would
10:24:15 18 essentially relate to the programming construct that
10:24:33 19 processes touch events, and using sort of an
10:24:46 20 event-driven framework to application programs
10:24:49 21 running on -- on the device that was being
10:24:52 22 controlled by the touch screen.

10:24:54 23 Q. So would it be fair to say that the event
10:24:57 24 object collects or holds information about the
10:25:04 25 touches made on a touch screen?

10:25:11 1 A. And generally speaking and other auxiliary
10:25:15 2 information that might be related to it, times,
10:25:18 3 things like that.

10:25:19 4 Q. And then that event object can be passed
10:25:23 5 to application programs; is that correct?

10:25:27 6 A. In a general setting, typically.

10:25:39 7 Q. Now, the next limitation in claim 1, or
10:25:42 8 the next element of claim 1 uses a term "invokes."

10:25:47 9 A. Mm-hmm.

10:25:53 10 Q. Now, what does the term "invokes" mean in
10:25:57 11 the context of the '915 patent?

10:26:06 12 A. Sorry. I don't know whether you were
10:26:09 13 going to say more.

10:26:10 14 Q. No.

10:26:12 15 MR. MONACH: Object to the extent it calls
10:26:13 16 for a legal conclusion. You can give your
10:26:15 17 understanding.

10:26:19 18 THE WITNESS: So I'm not expressing a
10:26:22 19 legal opinion over here, but I would say invokes,
10:26:32 20 someone with ordinary skill in the art in this
10:26:38 21 context would understand that the program or the
10:26:45 22 view as suggested by the -- by the '915 claims
10:27:04 23 would -- that the event would cause this information
10:27:09 24 regarding the event and the event object to be
10:27:14 25 passed to the view associated with that event for

10:27:20 1 the processing.

10:27:25 2 MR. BRIGGS: Q. Now, that definition you
10:27:26 3 just provided for invokes, is that the same
10:27:33 4 definition that is commonly used in the art?

10:27:47 5 A. Well, in the art the word "invoke" is
10:27:56 6 often used loosely to indicate that a certain piece
10:28:02 7 of functionality is called in -- but -- in a very
10:28:11 8 general setting, as opposed to, yes, the invoking of
10:28:16 9 some functionality.

10:28:17 10 Q. So generally to computer scientists
10:28:20 11 invokes would mean calling a function.

10:28:27 12 A. Taken with no additional context at all,
10:28:31 13 perhaps.

10:28:40 14 Q. Have you ever taught classes to students
10:28:43 15 and used the term "invokes"?

10:28:58 16 A. It's typically not -- I mean, it's a word
10:29:00 17 that I have heard used, but personally I don't
10:29:05 18 recall that -- you know, it's not -- it's not like
10:29:08 19 one of my favorite words that I personally use a
10:29:14 20 lot.

10:29:17 21 Q. Have you ever described to a student or a
10:29:19 22 colleague, you know, the concept of invoking a
10:29:25 23 function?

10:29:27 24 A. I may have, but I couldn't give you -- I
10:29:32 25 can't recall a very specific instance where I said

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10:29:34 1 something exactly like this to a student or a
10:29:37 2 colleague.

10:29:38 3 Q. If you were going to teach one of your
10:29:39 4 students what invoking means, would you use the
10:29:44 5 definition "calling a function"?

10:29:49 6 MR. MONACH: Object to form.

10:29:53 7 THE WITNESS: As I have said, I think, you
10:29:54 8 know, if I was to just use the word -- if I was to
10:29:59 9 use the word "invoke," I would typically use it --
10:30:07 10 because to me it's sort of a loose term, I would
10:30:12 11 expect to provide further context where it would be
10:30:16 12 then clear to somebody as to what -- what I was
10:30:20 13 saying.

10:30:22 14 MR. BRIGGS: Q. Did you review the
10:30:25 15 inventor testimony for the '915 patent? In
10:30:34 16 particular Mr. Platzer's testimony.

10:30:36 17 A. I do recall, and I could just check with
10:30:41 18 my report to --

10:30:43 19 Q. Sure.

10:30:44 20 A. -- see where...

10:31:30 21 If you know where I may have referred to
10:31:33 22 it --

10:31:34 23 Q. I don't recall you referring to that --

10:31:36 24 A. Okay.

10:31:36 25 Q. -- specifically in your report.

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10:31:37 1 A. Okay. All right.

10:31:38 2 Q. Let me read you the testimony from
10:31:39 3 Mr. Platzter's deposition and then I'm going to ask
10:31:47 4 you a question about it.

10:31:50 5 "Q. Turning back to the claim, the claim
10:31:52 6 states 'determining whether the event object
10:31:54 7 invokes a scroll or gesture operation.' And my
10:32:00 8 question is what does it mean to invoke a
10:32:02 9 scroll or gesture operation?

10:32:07 10 "A. I'm not a lawyer, so I'm not
10:32:10 11 comfortable in defining invoke as far as the
10:32:13 12 patent is concerned. But in UIKit, as well as
10:32:17 13 what we would say invoke would mean, call a
10:32:21 14 particular function or a set of code that, you
10:32:25 15 know, is executed when the user scrolls or does
10:32:28 16 a gesture."

10:32:31 17 So do you agree with Mr. Platzter's
10:32:36 18 definition of invoke?

10:32:38 19 MR. MONACH: Object to the form of the
10:32:39 20 question. Object that it mischaracterizes his
10:32:42 21 testimony.

10:32:48 22 THE WITNESS: I don't disagree with it,
10:32:49 23 but I find that it's not a very well phrased or
10:32:53 24 complete -- it's not a very well put together
10:33:00 25 definition. I mean, there's lots of holes in the

10:33:08 1 way the sentence is even phrased.

10:33:10 2 MR. BRIGGS: Q. Would you agree that
10:33:11 3 invoke in general means to call a particular
10:33:17 4 function?

10:33:18 5 A. You know, hearing the statement that you
10:33:21 6 just read back to me from Mr. Platzter's deposition,
10:33:25 7 I would -- I would sort of understand that
10:33:28 8 essentially the UIKit that he refers to was in some
10:33:40 9 sense calling or -- yeah, calling some sort of
10:33:44 10 function with -- which had access to the event
10:33:49 11 information that would then be processed as he
10:33:55 12 states in terms of -- you know, for doing scroll
10:33:58 13 operations or gesture operations.

10:34:00 14 Q. And that's consistent with the meaning of
10:34:04 15 invoke that's used by computer scientists; correct?

10:34:11 16 A. Well, as I said, the -- the meaning as
10:34:22 17 used by computer scientists, typically I think
10:34:28 18 computer scientists would take a word like that and
10:34:33 19 provide some context to give you some clarity in
10:34:37 20 terms of what -- what -- what was being -- you know,
10:34:44 21 what was being referred to, what -- what information
10:34:48 22 was being passed with the functions that were
10:34:53 23 involved, and so on. I think, loosely speaking, it
10:34:56 24 relates to some piece of functionality that is being
10:35:01 25 called. But it -- it typically sort of almost

10:35:08 1 requires that you provide further -- further
10:35:11 2 context.

10:35:14 3 Q. So is it your testimony that in the
10:35:16 4 context of the '915 patent invoke does not mean
10:35:20 5 calling a function?

10:35:25 6 MR. MONACH: Objection. Vague.

10:35:26 7 THE WITNESS: In the context of the '915 I
10:35:31 8 am saying that it means that a function is called,
10:35:37 9 as Mr. Platzer seems to suggest. And, given the
10:35:47 10 additional context of the event object, that that
10:35:50 11 event object is in some sense both related to the
10:35:58 12 function that is called as well as part of the
10:36:04 13 information that is going to be accessible to
10:36:08 14 whichever programming entity is -- is going to use
10:36:13 15 that information.

10:36:24 16 MR. BRIGGS: Q. So in the context of the
10:36:25 17 '915 patent, your testimony is that "invoke"
10:36:29 18 involves -- it doesn't necessarily involve calling
10:36:36 19 the function, but it somehow relates to a function
10:36:44 20 call. I'm trying to see the distinction here.

10:36:48 21 A. Yes. So the fact that the context
10:36:56 22 provided for invoking in this is an event object.
10:36:59 23 The event object a person of ordinary skill in the
10:37:02 24 art would understand to be an event programming
10:37:07 25 protocol that typically has a particular mechanism

10:37:14 1 by which functions are called.

10:37:15 2 And within that setting I believe a person
10:37:22 3 of ordinary skill in the art would understand what
10:37:25 4 function it was that was being called and that the
10:37:28 5 information that was captured by the event object
10:37:30 6 would be available for processing.

10:37:35 7 Q. So is it your testimony that the use of
10:37:37 8 "invoke" in the claims of the '915 patent is
10:37:42 9 different than the way the term "invoke" would
10:37:48 10 typically be used by computer scientists?

10:37:52 11 MR. MONACH: Object to form.

10:37:54 12 THE WITNESS: I sort of feel that I have
10:37:55 13 already answered this question in the sense that I
10:37:58 14 have said that -- that I believe that the term just
10:38:03 15 by itself, invoke, would usually be embedded in
10:38:12 16 some -- some context that would provide clarity of
10:38:19 17 what the piece of functionality was, what
10:38:23 18 information it had access to, and that usually that
10:38:29 19 should be taken together with a word to decipher it,
10:38:34 20 and that with the context a person of ordinary skill
10:38:40 21 in the art should be able to decipher it without
10:38:44 22 ambiguity.

10:38:46 23 MR. BRIGGS: Q. Now, the definition you
10:38:50 24 are providing for invoke in the context of the '915
10:38:52 25 patent, have you ever used that definition for

10:38:54 1 invoke before this case?

10:38:59 2 MR. MONACH: Object to form.

10:39:03 3 THE WITNESS: Precisely that definition,
10:39:05 4 with that context of the -- the sentence construct
10:39:11 5 put that way, probably not. But equally possibly
10:39:20 6 something similar I could well have -- something
10:39:25 7 analogous I could have used.

10:39:29 8 MR. BRIGGS: Q. And you have been working
10:39:30 9 in the field of computer science since the early
10:39:34 10 1990s; is that correct?

10:39:38 11 A. At least.

10:39:41 12 Q. And you received your PhD in computer
10:39:43 13 science in 1995; is that correct?

10:39:48 14 A. As far as I remember, yes.

10:39:52 15 Q. What is a scroll operation as used in the
10:39:54 16 claims of the '915 patent?

10:40:01 17 A. A scroll operation, as I believe a person
10:40:08 18 of ordinary skill in the art would understand in the
10:40:11 19 context of the '915 patent, refers to an operation
10:40:18 20 that causes sort of the pure translation of content
10:40:28 21 that it is being applied to.

10:40:37 22 Q. By pure translation you mean -- can you
10:40:44 23 explain what that means?

10:40:47 24 A. Sure. Mathematically objects or entities
10:40:55 25 can undergo certain formation of transformations.

10:41:02 1 There's a whole hierarchy of them. There are
10:41:06 2 certain kinds of transformations called linear
10:41:09 3 transforms, which are things that transform straight
10:41:13 4 lines to straight lines. There are an even more
10:41:19 5 general case called non-linear transforms that would
10:41:23 6 turn a straight line into a curve. There are more
10:41:26 7 specific transforms called affine transforms that
10:41:30 8 have certain properties. A rotation is an example
10:41:36 9 of an affine transform.

10:41:41 10 Anyway, so there are various kinds of
10:41:43 11 transforms like that that have certain properties
10:41:44 12 that -- that are preserved.

10:41:47 13 A translation is a -- strictly a
10:41:51 14 translation or a pure translation is a specific form
10:41:56 15 of transformation that has certain mathematical
10:42:00 16 properties that are preserved before and after.

10:42:12 17 Q. What is a gesture operation, as that term
10:42:17 18 is used in the '915 patent?

10:42:20 19 A. A gesture operation, as I -- as a person
10:42:27 20 of ordinary skill in the art would understand in the
10:42:32 21 context of the '915 patent, is -- is -- is also a
10:42:39 22 transformation that gets applied to the content that
10:42:43 23 it is being applied to. It's a more -- it's a
10:42:47 24 different form of transformation from a pure
10:42:51 25 translation. And some examples of gesture

10:42:58 1 operations have been provided, one example being a
10:43:04 2 scaling transformation, a scale transformation.

10:43:08 3 Q. What does a scale transformation mean?

10:43:12 4 A. So a scale transformation is again
10:43:15 5 something that has a clear set of mathematical
10:43:19 6 properties, but for -- a layman definition of it
10:43:24 7 would refer to essentially an enlargement or an
10:43:29 8 increase in size or a zoom. These are -- these are
10:43:34 9 terms that you could attribute to a scale
10:43:40 10 transformation.

10:43:48 11 Q. Is a scroll a type of gesture?

10:43:51 12 MR. MONACH: Object to form.

10:43:57 13 THE WITNESS: A scroll --

10:43:59 14 MR. MONACH: Asked and answered.

10:44:07 15 THE WITNESS: You would have to -- given
10:44:09 16 that these terms are used in a specific context in
10:44:13 17 the '915 patent, I think you would need a little
10:44:16 18 more clarity in that question for me to really
10:44:19 19 answer it.

10:44:21 20 MR. BRIGGS: Q. Well, let's set aside the
10:44:23 21 '915 patent. And I'd like to know if, to a computer
10:44:32 22 scientist who has never been involved in this case
10:44:34 23 or looked at the '915 patent, would they say that a
10:44:37 24 scroll can be a gesture?

10:44:38 25 MR. MONACH: Objection. Asked and

10:44:40 1 answered yesterday.

10:44:44 2 THE WITNESS: A scroll -- I mean, as I
10:44:45 3 said, I have answered it yesterday. It might just
10:44:52 4 be simplest if we can read back my answer from
10:44:56 5 yesterday. I think essentially that's what I would
10:44:57 6 like to say it is. So --

10:44:59 7 MR. BRIGGS: Q. What was your answer from
10:45:01 8 yesterday?

10:45:02 9 A. Well, I don't remember the exact wording
10:45:05 10 of it. But I think a scroll typically refers to --
10:45:09 11 to a motion.

10:45:14 12 If you -- I think you have to talk about
10:45:17 13 it in terms of, you know, is the scroll -- I
10:45:22 14 think -- when -- you know, if you talk about it with
10:45:27 15 respect to -- if you talk about it with respect to
10:45:37 16 an -- you know, an element that you are applying a
10:45:44 17 scroll to. So if you are actually applying a scroll
10:45:47 18 to something, then it's essentially what I referred
10:45:50 19 to just a little bit earlier as a scroll operation.

10:45:58 20 Looked at in a general setting by itself,
10:46:01 21 it could indicate a motion of some kind, as well.
10:46:06 22 So I really think that, you know, you need to
10:46:10 23 provide it with some -- some clear context, if you
10:46:14 24 expect to have a clear understanding of what it is.

10:46:20 25 Q. Have you ever -- in all your years in the

10:46:23 1 field of computer science and user interfaces, have
10:46:26 2 you ever heard anybody say that a scroll can be a
10:46:32 3 gesture operation or that a scroll is a gesture
10:46:37 4 operation?

10:46:52 5 A. That's not a sentence, you know, by itself
10:46:54 6 that I would --

10:46:58 7 Q. I mean, have you --

10:46:59 8 A. -- see out of context. It's just -- it
10:47:05 9 would be a very -- you know, out of context it would
10:47:08 10 sort of be an odd sentence.

10:47:09 11 Q. If you walked up to Dr. Balakrishnan today
10:47:13 12 and you asked him, "Can a scroll be a gesture, or is
10:47:16 13 a scroll a type of a gesture?" what would he say?

10:47:19 14 MR. MONACH: Objection. Lack of
10:47:20 15 foundation. Vague.

10:47:21 16 THE WITNESS: He would tell me to explain
10:47:22 17 myself in clear terms.

10:47:26 18 MR. BRIGGS: Q. What if he asked you that
10:47:28 19 question, the same question? Is a scroll a gesture?

10:47:32 20 A. I would ask him to clarify himself, to be
10:47:38 21 precise.

10:47:38 22 Q. You would ask him if you were talking
10:47:40 23 about the '915 patent?

10:47:42 24 A. No, I -- I would just ask him to clarify
10:47:47 25 himself.

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10:47:47 1 Q. Okay. Can a user scroll with one input
10:47:51 2 point --
10:47:51 3 MR. MONACH: Objection.
10:47:52 4 MR. BRIGGS: Q. -- on a touch screen?
10:47:54 5 MR. MONACH: Objection. Vague.
10:47:55 6 Ambiguous.
10:48:07 7 THE WITNESS: I guess if the question that
10:48:08 8 you are trying to ask is whether a user can perform
10:48:13 9 a scroll operation with one input point --
10:48:18 10 MR. BRIGGS: Q. Let me ask that question.
10:48:20 11 A. Okay.
10:48:20 12 Q. That's a better phrasing.
10:48:21 13 A. Okay.
10:48:22 14 Q. Can a user perform a scroll operation
10:48:26 15 using one input point?
10:48:30 16 A. Conceptually, or in the context of the
10:48:36 17 '915 patent, or...
10:48:38 18 Q. How about on an Apple iPhone?
10:48:43 19 A. On an Apple iPhone, yes, I believe a user
10:48:49 20 could.
10:48:50 21 Q. Can a user perform a scroll operation
10:48:54 22 using two input points on an Apple iPhone?
10:48:58 23 MR. MONACH: Objection. Vague.
10:49:00 24 THE WITNESS: A scroll operation as I have
10:49:07 25 defined it, as being a pure translation?

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10:49:32 1 Not that I have personally inspected. Not
10:49:36 2 that I have seen.

10:49:37 3 MR. BRIGGS: Q. Do you think it's
10:49:39 4 possible for a user on some system to perform a
10:49:44 5 scroll operation using two fingers?

10:49:48 6 MR. MONACH: Objection. Vague and
10:49:49 7 ambiguous. Incomplete hypothetical.

10:49:52 8 THE WITNESS: Conceptually in a general
10:49:54 9 setting, to the extent that it's a hypothetical
10:49:58 10 question? Perhaps.

10:50:00 11 MR. BRIGGS: Q. And you could scroll with
10:50:02 12 three fingers as well; right?

10:50:04 13 MR. MONACH: Same objection.

10:50:05 14 THE WITNESS: You could perform a scroll
10:50:07 15 operation conceptually as -- conceptually as I have
10:50:13 16 defined a scroll operation, which is a pure
10:50:16 17 translation, potentially.

10:50:26 18 MR. BRIGGS: Q. In claim 1 of the '915
10:50:29 19 patent, if you look at the fifth element, there's a
10:50:37 20 phrase that states, "by scrolling a window having a
10:50:42 21 view associated with the event object."

10:50:50 22 A. Yes.

10:50:54 23 Q. What does that phrase mean to a person of
10:50:57 24 ordinary skill in the art?

10:51:01 25 A. So, again, within some event-driven

10:51:16 1 programming infrastructures there is -- there is the
10:51:25 2 ability to -- for windows or for views or regions,
10:51:36 3 to -- to associate themselves, to declare an
10:51:41 4 interest in certain events or event objects, and so
10:51:46 5 that when an event is received in that -- in that
10:51:50 6 region or in that window, that that information is
10:51:55 7 passed on to that particular -- that particular view
10:51:59 8 or window.

10:52:01 9 And in this context it would say -- it
10:52:04 10 would -- it would -- it would scroll that window, or
10:52:15 11 rather it would perform a strict translation of that
10:52:19 12 window. That's how I believe a person of ordinary
10:52:24 13 skill in the art...

10:52:26 14 Q. What does the term within that phrase
10:52:29 15 "associated with" mean?

10:52:33 16 A. Associated basically means that when --
10:52:40 17 when the event is -- when the event is received that
10:52:50 18 there is a connection between that event because of
10:52:58 19 its location and the -- and the entities that have
10:53:02 20 expressed an interest in that event.

10:53:13 21 Q. So it seems like you are using just the
10:53:16 22 plain meaning of "associated with."

10:53:18 23 A. Well, I am using the plain meaning of the
10:53:21 24 word "associate." However, in this context and in
10:53:24 25 the context of an event-driven programming

10:53:27 1 infrastructure, it would typically -- a person of
10:53:31 2 ordinary skill in the art would understand a
10:53:32 3 particular flow of programming construct that would
10:53:37 4 stem from that association.

10:53:50 5 Q. In your infringement report you have a
10:53:59 6 section that discusses Apple's practice of the '915
10:54:03 7 patent. And that starts on page 77 of your report,
10:54:22 8 paragraph 295. Do you remember writing this portion
10:54:58 9 of your report?

10:54:59 10 A. Yes.

10:55:03 11 Q. Now, my question is, when you determined
10:55:11 12 that Apple's products met the claim limitations in
10:55:17 13 the '915 patent, did you review any Apple source
10:55:23 14 code to reach your conclusion?

10:55:26 15 A. Yes.

10:55:28 16 Q. And where do you state that in your
10:55:31 17 report?

10:55:32 18 A. I would have to read through my report
10:55:35 19 to --

10:55:38 20 Q. It's --

10:55:39 21 A. -- to --

10:55:40 22 Q. This section is about a page long, so...

10:55:58 23 A. I may not have stated it in my report, but
10:56:02 24 I did review Apple source code.

10:56:05 25 Q. Did you need to review Apple source code

10:56:08 1 to reach the conclusion that Apple's products
10:56:11 2 practiced the claims of the '915 patent?
10:56:18 3 MR. MONACH: Object to form.
10:56:23 4 THE WITNESS: Well, a number of -- a
10:56:26 5 number of pieces of evidence led to my conclusion.
10:56:36 6 As I mentioned, the description of the event
10:56:39 7 handling guide in the iOS provides evidence of the
10:56:44 8 program -- program flow of the structure. I did
10:56:49 9 look for specific constructs in the Apple source
10:56:51 10 code, and in addition I believe I already mentioned
10:56:56 11 yesterday that I spoke to one of the Apple
10:57:03 12 inventors, engineers on this patent, to further
10:57:11 13 convince myself.
10:57:12 14 MR. BRIGGS: Q. Now, if you had not
10:57:14 15 looked at any Apple source code, would you be able
10:57:17 16 to reach the conclusion that Apple's products
10:57:20 17 practice any of the claims of the '915 patent?
10:57:24 18 MR. MONACH: Objection. Incomplete
10:57:25 19 hypothetical and vague.
10:57:31 20 THE WITNESS: It would depend on what
10:57:33 21 other evidence I had in forming my opinions. I
10:57:38 22 don't -- a number of pieces of information put
10:57:49 23 together can, you know, can help form a conclusive
10:57:53 24 opinion.
10:57:53 25 MR. BRIGGS: Q. But it's not necessary to

10:57:54 1 look at the source code to determine whether -- or
10:58:00 2 for you wasn't necessary to look -- strike that.
10:58:03 3 For you, you didn't find it necessary to
10:58:06 4 look at Apple's source code to determine whether the
10:58:13 5 iPhone and iPad products practiced any of the claims
10:58:16 6 of the '915 patent; is that correct?
10:58:19 7 MR. MONACH: Object to the form of the
10:58:20 8 question.
10:58:21 9 THE WITNESS: I believe I said that I did
10:58:22 10 look at Apple source code.
10:58:30 11 MR. BRIGGS: Q. Yes, but that was not
10:58:32 12 necessary to reach the conclusion that Apple's
10:58:39 13 iPhone or iPad products practiced any of the claims
10:58:44 14 of the '915 patent; correct?
10:58:46 15 MR. MONACH: Objection. Incomplete
10:58:47 16 hypothetical. Vague.
10:58:48 17 THE WITNESS: I believe that's somewhat of
10:58:49 18 a hypothetical question, because, given that I did
10:58:52 19 do it, had I not done it I would have had to
10:58:54 20 reanalyze my opinions in the -- in the light of
10:58:57 21 whatever other pieces of evidence I had to -- to --
10:59:02 22 to decide whether in my mind that was -- that was
10:59:05 23 conclusive enough or whether I needed more.
10:59:09 24 MR. BRIGGS: Q. Well, if it was necessary
10:59:10 25 to look at Apple's source code, why didn't you

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10:59:13 1 include that in this section of your report?

10:59:18 2 MR. MONACH: Objection to form. Assumes
10:59:21 3 facts not in evidence.

10:59:32 4 THE WITNESS: Well, I, as I said, there
10:59:35 5 were a number of -- are a number of things that I
10:59:40 6 took into account. And as a person of ordinary
10:59:49 7 skill in the art that works in this area, generally
10:59:55 8 in the report there are -- there are pieces of
10:59:59 9 knowledge and understanding that don't necessarily
11:00:02 10 always make it into -- into your report. That
11:00:11 11 doesn't -- that doesn't say that they do not have a
11:00:17 12 bearing in the formation of your opinions.

11:00:27 13 MR. BRIGGS: Q. Do you have any evidence
11:00:29 14 that Samsung has practiced the method claims that
11:00:35 15 are asserted in the '915 patent?

11:00:41 16 MR. MONACH: Objection. Vague.

11:00:44 17 THE WITNESS: I am sorry. Could you
11:00:45 18 repeat the question, please?

11:00:47 19 MR. BRIGGS: Q. Do you have any evidence
11:00:48 20 that Samsung has performed the method claims in the
11:00:55 21 '915 patent?

11:00:57 22 MR. MONACH: Same objection.

11:00:59 23 THE WITNESS: When you say Samsung, you
11:01:00 24 mean Samsung employees? Because when you say
11:01:03 25 performed, it typically means that there is a person

11:01:06 1 that performs it.

11:01:09 2 MR. BRIGGS: Q. Let me ask you this
11:01:10 3 question. Are you alleging that Samsung directly
11:01:12 4 infringes the method claims of the '915 patent?

11:01:19 5 A. I believe that is a question we have gone
11:01:22 6 over in the context of the '163 and '891 patents.
11:01:26 7 And my answer is essentially the same, that I
11:01:29 8 believe the functionality of the claims is present
11:01:40 9 on Samsung accused products. And if I read from my
11:01:50 10 report, I -- can you point me at one of the method
11:02:10 11 claims from the patent?

11:02:12 12 Q. Claim 1.

11:02:36 13 A. Right. So, as -- as I state, in addition
11:02:41 14 to having the functionality on the Samsung accused
11:02:46 15 products, I believe the ordinary and intended use of
11:02:50 16 the product would require -- would involve users
11:02:59 17 actually performing those -- that piece of
11:03:04 18 function -- that functionality or those claims.

11:03:07 19 There is evidence that I provided in terms
11:03:09 20 of user manuals and tool tips that essentially show
11:03:17 21 the usage of the functionality that is described in
11:03:19 22 the '91 claims -- '915 claims. And so I believe
11:03:25 23 that it is quite likely that people would, in their
11:03:33 24 ordinary and intended use, perform that
11:03:37 25 functionality.

11:03:39 1 Q. So your theory of infringement on the
11:03:42 2 method claims for the '915 patent is the same as
11:03:45 3 your theory of infringement for the method claims of
11:03:49 4 the '163 patent and the '891 patent we discussed
11:03:53 5 yesterday?

11:03:54 6 MR. MONACH: Object to form.

11:03:55 7 MR. BRIGGS: Q. It's based on ordinary
11:03:56 8 and intended use; is that correct?

11:03:58 9 A. By and large.

11:04:01 10 Q. Okay. Now, in your infringement report,
11:04:18 11 you state that Samsung infringes claim 1; correct?

11:04:52 12 A. Yes.

11:04:54 13 Q. And what do you identify as the event
11:04:58 14 object in Samsung's products?

11:05:07 15 A. I believe I would have it in detail in my
11:05:11 16 claim charts, that there is a summary of it provided
11:05:15 17 in the report, but if you were to give me my claim
11:05:19 18 charts, I would be able to give you -- give it to
11:05:25 19 you in more precise detail.

11:05:27 20 Q. I actually think it's in your report.

11:05:29 21 A. Oh, is it in my report?

11:05:31 22 Q. If you look at page 85, paragraph 322 and
11:05:36 23 the surrounding paragraphs.

11:05:38 24 A. Mm-hmm. Yes. I believe it would be a
11:05:44 25 motion event object.

11:05:48 1 Q. So your position is that the event object
11:05:51 2 limitation in the claims is met by the motion event
11:05:55 3 object in Samsung's products; correct?
11:06:00 4 A. That is correct.
11:06:01 5 Q. Okay. What is the motion event object?
11:06:08 6 How would you describe it?
11:06:09 7 MR. MONACH: Objection. Vague.
11:06:25 8 THE WITNESS: It's an event object that
11:06:27 9 captures touch input on the touch screen. The
11:06:38 10 precise definitions I have pointed to in the -- in
11:06:42 11 the HTML web page, and I would be happy to look at
11:06:49 12 them to give you a more precise definition.
11:06:54 13 MR. BRIGGS: Q. What information is
11:06:55 14 stored in a motion event object?
11:07:00 15 A. Again, I would probably need to look at
11:07:02 16 the -- the object specification to -- to give you
11:07:12 17 more precise or conclusive answers. But generally
11:07:15 18 in such objects you would have information
11:07:19 19 regarding -- regarding the touches, the touch times,
11:07:25 20 the locations, those sort of things.
11:07:30 21 Q. What methods are within the motion event
11:07:33 22 object?
11:07:35 23 MR. MONACH: Object to form.
11:07:42 24 THE WITNESS: Again, I would need to look
11:07:44 25 at the precise specification of the -- of the object

11:07:48 1 to -- to give you a conclusive answer. But
11:07:54 2 generally speaking there would be methods to access
11:08:01 3 those pieces of information.
11:08:05 4 MR. BRIGGS: Q. Are there any methods in
11:08:07 5 the motion event object that invoke a scroll
11:08:11 6 operation?
11:08:14 7 A. As I have already answered many times in
11:08:23 8 the context of the '915 patent, the -- the -- the
11:08:30 9 use -- the use of the phrase where the event object
11:08:35 10 invokes in the context of an event-driven
11:08:41 11 programming infrastructure would relate to, in this
11:08:43 12 context, the view in this case, I believe, of a
11:08:52 13 class called web view receiving -- receiving the
11:09:01 14 event information via a function that is called on
11:09:07 15 touch event, I believe, that the motion event is a
11:09:16 16 part of, as a part of being -- I believe it's one of
11:09:19 17 the parameters of that function.
11:09:22 18 And all of this that I am mentioning is
11:09:25 19 off the top of my head. If you -- if you wanted me
11:09:29 20 to say so completely conclusively, I would need to
11:09:33 21 actually run through the -- the precise claim trace
11:09:39 22 to corroborate that.
11:09:43 23 Q. So back to my original question. Are
11:09:46 24 there any methods in the motion event object that
11:09:49 25 invoke a scroll operation?

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11:10:03 1 MR. MONACH: Object to form.

11:10:04 2 THE WITNESS: I believe that you would
11:10:04 3 need to describe the phrase "invoke a scroll
11:10:09 4 operation" very specifically in a context that would
11:10:12 5 require elaboration of that question for me to be
11:10:14 6 able to answer it in any way that might not be
11:10:18 7 misconstrued.

11:10:19 8 MR. BRIGGS: Q. So your answer would
11:10:21 9 depend on the precise definition of invoke; correct?

11:10:26 10 A. It would depend on what a person of
11:10:32 11 ordinary skill in the art would understand, given
11:10:37 12 the context of the '915 patent.

11:10:43 13 Q. Let's assume that invoke means call. In
11:10:51 14 that case are there any methods in the motion event
11:10:55 15 object that invoke a scroll operation?

11:10:57 16 MR. MONACH: Objection. Vague.

11:11:01 17 THE WITNESS: I believe that that's --
11:11:05 18 that's sort of a hypothetical question, where you
11:11:07 19 are assuming the -- taking a word completely out of
11:11:13 20 context, assigning an arbitrary meaning to it, and
11:11:19 21 then asking a hypothetical question based on that.
11:11:23 22 And in that sense --

11:11:25 23 I am sorry. You were going to say
11:11:27 24 something?

11:11:28 25 MR. BRIGGS: Q. Well, I am surprised that

11:11:29 1 you say that's an arbitrary meaning of -- saying
11:11:33 2 that invoke means call, that's not arbitrary.

11:11:38 3 A. That's --

11:11:39 4 MR. MONACH: Object to the form or the
11:11:40 5 colloquy. Maybe we should start over. If you have
11:11:43 6 a question to pose to the witness, the witness can
11:11:47 7 answer the question.

11:11:48 8 But whatever his facial expression may be,
11:11:50 9 you are entitled to finish your answer.

11:11:53 10 THE WITNESS: Okay. So I apologize.
11:11:54 11 Perhaps that was not exactly the way I may have
11:11:58 12 intended to word it. But essentially what I wanted
11:12:00 13 to say is that, if you were to take the term
11:12:10 14 "invoke" out of what I believe its context should be
11:12:16 15 and ask the hypothetical question as to whether
11:12:19 16 there was a method inside the motion event object
11:12:30 17 itself, I would say there is not.

11:12:32 18 MR. BRIGGS: Q. So, just so it's clear
11:12:34 19 for the record, if invoke means call, your position
11:12:40 20 is that there are no methods in the motion event
11:12:44 21 object that would invoke a scroll operation;
11:12:47 22 correct?

11:12:47 23 MR. MONACH: Object to form.

11:12:52 24 THE WITNESS: Well, firstly -- I believe I
11:12:59 25 have sort of answered that question. I have said

11:13:03 1 that I believe that it's a hypothetical question. I
11:13:08 2 do not see any reason for taking this term out of
11:13:14 3 its context, as I would expect a person of ordinary
11:13:20 4 skill in the art to understand it within an
11:13:25 5 event-driven programming infrastructure, where
11:13:29 6 typically the event object essentially by itself
11:13:36 7 encapsulates information.

11:13:38 8 So if you were to take it out of context
11:13:43 9 and construe it that way, and then ask me
11:13:46 10 hypothetically whether that would be the case,
11:13:51 11 then -- then, no, there would not be such a thing
11:13:57 12 within the motion object class.

11:14:00 13 MR. BRIGGS: Q. Again, let's assume that
11:14:04 14 invoke means call. Are there any methods in the
11:14:07 15 motion event object that invoke a gesture operation?

11:14:19 16 A. Insomuch as that question is taken out of
11:14:25 17 its context and looked at in this hypothetical
11:14:37 18 setting where the motion object is, yes -- no, there
11:14:49 19 would not.

11:14:51 20 Q. No, there would not be any methods in the
11:14:54 21 motion event object that invoke a gesture operation?

11:14:58 22 MR. MONACH: Object to the form of the
11:14:59 23 question.

11:15:02 24 THE WITNESS: In the hypothetical scenario
11:15:04 25 that you were to use what I believe is -- is a term,

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11:15:11 1 "invoke," that would need to be taken with its
11:15:15 2 context in the context of an event object-driven
11:15:19 3 programming infrastructure, then no. If you take it
11:15:24 4 out of context, then no.

11:15:30 5 MR. BRIGGS: Q. Have you reviewed
11:15:31 6 Dr. Gray's expert report on non-infringement of the
11:15:37 7 '915 patent?

11:15:38 8 A. Yes.

11:15:41 9 Q. And do you understand that Dr. Gray takes
11:15:44 10 the position that one of ordinary skill in the art
11:15:47 11 would understand invoke to mean call?

11:15:55 12 A. I would need to read exactly what he said.
11:15:59 13 But generally speaking there was something to that
11:16:01 14 effect.

11:16:03 15 Q. So there's a disagreement between you and
11:16:09 16 Dr. Gray about the meaning of invoke as that term is
11:16:15 17 used in the '915 patent; correct?

11:16:20 18 A. You mean Mr. Gray.

11:16:21 19 Q. Mr. Gray, correct.

11:16:22 20 A. Yes, I believe there is a disagreement.

11:16:31 21 Q. And if Mr. Gray's position is correct,
11:16:40 22 there would be no infringement by Samsung's products
11:16:44 23 of the '915 patent; right?

11:16:47 24 MR. MONACH: Object to the form of the
11:16:49 25 question as vague and ambiguous and an incomplete

11:16:52 1 hypothetical with respect to type of infringement.

11:16:57 2 THE WITNESS: We have been focused on a
11:16:59 3 single claim limitation over here. So it would be
11:17:04 4 difficult for me to say anything about the
11:17:08 5 over-arching question of Samsung's accused products
11:17:11 6 based on these hypothetical scenarios, looking at a
11:17:14 7 very specific single claim limitation.

11:17:17 8 MR. BRIGGS: Q. Well, let's look at claim
11:17:18 9 1 of the '915 patent.

11:17:22 10 If Mr. Gray's interpretation of the term
11:17:26 11 "invoke" is accepted by the court, would you agree
11:17:33 12 that there would be no infringement of claim 1 by
11:17:37 13 Samsung's products?

11:17:39 14 MR. MONACH: Object as vague, whether you
11:17:40 15 are referring to literal or doctrine of equivalence
11:17:44 16 or both.

11:17:48 17 THE WITNESS: I would need you to -- to
11:17:53 18 specify what form of infringement you were referring
11:17:56 19 to, for starters.

11:18:01 20 MR. BRIGGS: Q. If Mr. Gray's
11:18:02 21 interpretation of the term "invoke" is accepted by
11:18:06 22 the court, would you agree that there would be no
11:18:08 23 literal infringement of claim 1 by Samsung's
11:18:12 24 products?

11:18:14 25 MR. MONACH: Objection. Vague.

11:18:19 1 THE WITNESS: I would need to reanalyze
11:18:23 2 the products under that construction to provide a
11:18:28 3 conclusive answer. But even were you to take that
11:18:36 4 construction, I believe that claim 1 would still be
11:18:44 5 infringing under the doctrine of equivalence.

11:18:47 6 MR. BRIGGS: Q. But you would agree that
11:18:48 7 there would be no literal infringement; correct?

11:18:51 8 A. No, I said I would have to reanalyze the
11:18:54 9 products, given -- I have currently performed an
11:18:57 10 analysis of the products, given a construction that
11:19:02 11 I believe a person of ordinary skill in the art
11:19:07 12 would understand the -- the claim language to mean.

11:19:13 13 If you are imposing a different
11:19:16 14 construction on me, I would need to -- need to
11:19:21 15 reanalyze things under that scenario.

11:19:24 16 Q. Have you ever carefully reviewed the
11:19:28 17 motion event object?

11:19:31 18 MR. MONACH: Objection. Vague.

11:19:35 19 THE WITNESS: I have reviewed it in as
11:19:37 20 much as I deem necessary.

11:19:43 21 MR. BRIGGS: Q. Do you remember ever
11:19:44 22 seeing in the motion event object any methods that
11:19:49 23 call a scroll operation or -- or any methods that
11:19:56 24 call a gesture operation?

11:20:01 25 A. Not that I recall.

11:20:05 1 Q. So let's assume that there are no such
11:20:07 2 methods in the motion event object. If that is
11:20:10 3 true, and if Mr. Gray's construction for invoke were
11:20:18 4 accepted by the court, would you agree that claim 1
11:20:24 5 of the '915 patent is not literally infringed by
11:20:28 6 Samsung's products?

11:20:30 7 MR. MONACH: Objection. Vague.

11:20:32 8 THE WITNESS: I would need to look at the
11:20:33 9 trace again carefully to answer this question
11:20:36 10 conclusively.

11:20:39 11 MR. BRIGGS: Q. But based on my
11:20:40 12 hypothetical, how would you answer the question?

11:20:43 13 MR. MONACH: Same objection.

11:20:43 14 THE WITNESS: Well, on the hypothetical, I
11:20:50 15 would answer the question hypothetically.

11:20:53 16 MR. BRIGGS: Q. What's your hypothetical
11:20:54 17 answer?

11:20:55 18 A. Maybe.

11:20:57 19 Q. Maybe no literal infringement?

11:20:59 20 A. Maybe no, maybe yes, depending on how
11:21:05 21 exactly the code and its flow was laid out, based on
11:21:15 22 the new construction that you would give me.

11:21:17 23 Q. You also mentioned that there may be --
11:21:22 24 there may still be infringement in your opinion
11:21:25 25 under the doctrine of equivalence.

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11:21:27 1 A. Yes.

11:21:27 2 Q. Can you explain that for me?

11:21:30 3 A. Sure. I believe the -- the claim as -- as

11:21:46 4 described by -- the claim language as I pointed out

11:21:52 5 describes the window or view receiving event

11:22:03 6 information that it then processes to process

11:22:08 7 that -- the event of information that the --

11:22:18 8 Excuse me. I will start over.

11:22:20 9 Q. Okay.

11:22:35 10 A. I believe that the -- the claim

11:22:41 11 describes -- describes an -- the use of an

11:22:51 12 event-driven, object-driven infrastructure. And the

11:22:56 13 use of it is essentially the medium by which -- by

11:23:02 14 which scroll or gesture operations were performed.

11:23:08 15 Were this medium in this situation to be

11:23:16 16 produced using a different sort of, in some sense,

11:23:23 17 flow of logic, in the end the -- the actual

11:23:30 18 operations that would be performed, the

11:23:33 19 determination, would be all substantially

11:23:37 20 equivalent. They would be substantially the same.

11:23:42 21 Q. Now, did you provide that description in

11:23:46 22 your report, the one you just testified as to?

11:23:49 23 A. I believe in my report I -- well, let me

11:23:52 24 see exactly what I said in my report.

11:25:27 25 Right. So as I say in paragraph 333, "To

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11:25:33 1 the extent that this limitation is not met
11:25:36 2 literally, in my opinion it is met under the
11:25:37 3 doctrine of equivalents because each of the Accused
11:25:40 4 Products perform steps insubstantially different
11:25:42 5 from determining whether the event object invokes a
11:25:47 6 scroll or gesture operation by distinguishing
11:25:50 7 between a single input point applied to the
11:25:51 8 touch-sensitive display that is interpreted as the
11:25:54 9 scroll operation and two or more input points
11:25:56 10 applied to the touch-sensitive display that are
11:26:00 11 interpreted as the gesture operation, and
11:26:03 12 accomplishes the same function in the same way to
11:26:06 13 achieve the same result."

11:26:08 14 MR. BRIGGS: Let's take a break.

11:26:09 15 THE VIDEOGRAPHER: This marks the end of
11:26:10 16 Tape Number 1 in the deposition of Karan Singh,
11:26:15 17 Volume II. Going off the record, the time is 11:26.

11:33:07 18 (Recess taken from 11:26 to 11:42.)

11:41:37 19 THE VIDEOGRAPHER: This marks the
11:41:38 20 beginning of Tape Number 2 in the deposition of
11:41:42 21 Karan Singh, Volume II. Going back on the record,
11:41:45 22 the time is 11:42.

11:41:51 23 MR. BRIGGS: Q. Dr. Singh, let's turn to
11:41:53 24 your rebuttal report.

11:41:55 25 A. Yes.

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11:42:06 1 Q. And if you turn to page 56, that's where
11:42:08 2 you begin your discussion of the '915 patent.
11:42:11 3 A. Yes.
11:42:14 4 Q. And you understand that Dr. Gray -- I am
11:42:18 5 sorry -- Mr. Gray has provided the opinion that the
11:42:25 6 asserted claims of the '915 patent are anticipated
11:42:32 7 by the DiamondTouch system?
11:42:35 8 A. Mm-hmm.
11:42:37 9 Q. And you disagree with that opinion;
11:42:38 10 correct?
11:42:39 11 A. Yes.
11:42:40 12 Q. So what are the reasons you disagree with
11:42:42 13 his opinion?
11:42:55 14 A. I provided a detailed description based on
11:42:58 15 the claims. But generally speaking the DiamondTouch
11:43:09 16 describes navigation and interaction on -- on a
11:43:16 17 touch screen display that is not integrated as the
11:43:21 18 claims of the '915 patent require, at least.
11:43:29 19 Q. Can you describe why DiamondTouch is not
11:43:32 20 integrated?
11:43:40 21 A. Well, it would be speculative as to why
11:43:47 22 the inventors chose that design. But in general
11:43:52 23 it's a design that involves sort of a touch surface
11:44:09 24 that typically sort of rests on a table and that has
11:44:13 25 a display that projects information on top of it

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11:44:18 1 from above, and then people sort of interact with
11:44:23 2 that display. So there are a number of different
11:44:31 3 components that are situated in a very different
11:44:37 4 schematic from -- from that suggested by the '915.

11:44:41 5 Q. What components in DiamondTouch are not,
11:44:46 6 in your opinion, integrated with the main touch
11:44:50 7 display?

11:44:51 8 MR. MONACH: Objection. Assumes facts not
11:44:53 9 in evidence regarding the nature of the DiamondTouch
11:44:59 10 display.

11:45:06 11 THE WITNESS: Well, the DiamondTouch has a
11:45:08 12 number of, firstly, hardware configurations. So it
11:45:13 13 would be difficult to say exactly for which one
11:45:18 14 without knowing the specific hardware
11:45:21 15 specifications. But in general -- generally they
11:45:25 16 all have at least a table that has an overlaid touch
11:45:40 17 sensor, and then a projector which is a separate
11:45:47 18 component that I believe by design is set up to
11:45:58 19 project onto the surface from above, and sort of, by
11:46:02 20 virtue of that, needs to be physically separate,
11:46:05 21 because you need a throw to be able to project
11:46:11 22 light, at least probably has a computer that drives
11:46:14 23 it, and maybe a mouse or a keyboard additionally.

11:46:24 24 MR. BRIGGS: Q. So your position is that
11:46:26 25 the DiamondTouch system is not integrated because,

11:46:29 1 first of all, there's a separate projector, and then
11:46:37 2 possibly a separate computer?

11:46:43 3 A. Well, particularly the touch input and
11:46:53 4 the -- and the entity responsible for the display
11:46:58 5 are disparate, at least, by design.

11:47:07 6 Q. So in other words, the projector is not
11:47:11 7 integrated with the touch table; is that correct?

11:47:16 8 A. That is correct.

11:47:17 9 Q. They are two separate components?

11:47:19 10 A. That's right.

11:47:19 11 Q. How is the projector connected to the
11:47:25 12 table?

11:47:29 13 A. Light.

11:47:30 14 Q. Is there a physical connection between the
11:47:32 15 two?

11:47:33 16 A. Between the table and the projector?
11:47:41 17 Probably not directly. That is, it projects light.
11:47:44 18 The projector projects light onto the table.

11:47:49 19 Q. What else does the projector do?

11:47:54 20 A. Well, the projector is probably connected
11:47:56 21 to a computer. And the -- and the table is also
11:48:02 22 connected to a computer.

11:48:03 23 Q. Have you ever inspected a DiamondTouch
11:48:07 24 system in person?

11:48:15 25 A. A specific hardware configuration of the

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11:48:17 1 DiamondTouch?

11:48:18 2 Q. Correct.

11:48:19 3 A. I may have seen such a system. I have
11:48:21 4 inspected specifications of them in cited documents.

11:48:37 5 Q. So have you ever physically been in the
11:48:38 6 same room as a DiamondTouch system, any DiamondTouch
11:48:43 7 system?

11:48:44 8 A. I may have.

11:48:50 9 Q. When you were preparing your report, did
11:48:52 10 you make any efforts to personally inspect a
11:48:55 11 DiamondTouch system?

11:49:01 12 A. No, I relied on the hardware descriptions
11:49:04 13 and specifications that were provided to me in the
11:49:06 14 cited documents. And I assumed that they were
11:49:12 15 accurate and that they were describing what the
11:49:15 16 components that the system -- how it was set up,
11:49:20 17 just like everything else that they were citing.

11:49:25 18 Q. Did those documents that you reviewed, did
11:49:28 19 they describe how the projector -- or what the
11:49:32 20 projector was connected to?

11:49:38 21 A. I would have to look at the papers in
11:49:41 22 detail. But generally speaking the projector would
11:49:49 23 have been connected to some kind of computational
11:49:52 24 device that was -- that was displaying -- that was
11:49:55 25 causing the images that the projector projected to

11:50:01 1 be displayed.

11:50:02 2 Q. Do you know if the projector was connected
11:50:10 3 to the table?

11:50:11 4 A. As to precisely whether the physical table
11:50:16 5 or whether the table through the computational
11:50:28 6 device, I would have to look at the specification
11:50:32 7 precisely, but I do not believe that that would
11:50:36 8 be -- that is relevant.

11:50:50 9 Q. Why wouldn't it be obvious to one of
11:50:53 10 ordinary skill in the art to take the DiamondTouch
11:50:57 11 system and the concepts disclosed by the
11:50:59 12 DiamondTouch system and integrate it into a single
11:51:03 13 device?

11:51:10 14 A. Well, as I can understand, given some of
11:51:12 15 the DiamondTouch techniques and the interaction
11:51:17 16 techniques, it's sort of aiming at a vision where --
11:51:25 17 where your table is really the notion of -- of -- of
11:51:33 18 tables. As we know there are images where -- where
11:51:39 19 in -- in the various documents and systems, where
11:51:43 20 people are talking about placing coffee mugs and
11:51:49 21 cups, and so on, on the table with the additional --
11:51:56 22 with the additional use of being able to have light
11:52:02 23 from the projector projected onto them.

11:52:06 24 So in some sense the design is exploiting
11:52:09 25 and utilizing the fact that this is a projection

11:52:14 1 system where the projection is coming from above and
11:52:18 2 this is the surface that you interact with.

11:52:23 3 I don't -- so for that reason I don't see
11:52:26 4 any reason for being able, or wanting, to combine
11:52:33 5 them or integrate them, because there is value in
11:52:37 6 them being -- in them being separate.

11:52:43 7 In addition, just the physicality of a
11:52:46 8 projection system requires a certain throw. So you
11:52:49 9 would need to have somewhat of a large, yeah, large
11:52:59 10 installation.

11:53:03 11 Q. Would it be -- would it be predictable if
11:53:06 12 you were running the application -- if you take
11:53:08 13 the -- strike that.

11:53:10 14 If you take the applications that were
11:53:11 15 running on the DiamondTouch system, such as the
11:53:14 16 Mandelbrot, DTMouse, and tablecloth applications,
11:53:21 17 and you modified them so they could run on a single
11:53:25 18 integrated touch screen device, would that be a
11:53:28 19 predictable thing to do?

11:53:31 20 MR. MONACH: Object to the form of the
11:53:32 21 question as possibly including document error,
11:53:36 22 applications that are not in fact in the prior art
11:53:38 23 disclosures.

11:53:39 24 Further object that the question is
11:53:41 25 compound and vague and an incomplete hypothetical.

11:53:44 1 THE WITNESS: It might be -- it would be
11:53:52 2 easier to answer this question if you could sort of
11:53:53 3 maybe simplify the question or maybe break it down
11:53:58 4 into a few questions.

11:54:02 5 MR. BRIGGS: Q. Are you familiar with the
11:54:03 6 Mandelbrot application?

11:54:05 7 A. Yes.

11:54:06 8 Q. Is it necessary to use an overhead
11:54:09 9 projection touch screen system with the Mandelbrot
11:54:13 10 application?

11:54:14 11 A. Well, as I recall, the Mandelbrot
11:54:18 12 application involved a very large screen display,
11:54:21 13 and it involved a table and overhead projector. So,
11:54:26 14 I mean, it was a fairly composite application.

11:54:31 15 Q. Why couldn't one of skill in the art use
11:54:34 16 the Mandelbrot application on an integrated touch
11:54:40 17 screen?

11:54:40 18 MR. MONACH: Objection. Vague and
11:54:41 19 ambiguous. Incomplete hypothetical.

11:54:59 20 THE WITNESS: I don't see any clear reason
11:55:02 21 for wanting to use -- use the Mandelbrot application
11:55:06 22 on an integrated touch screen display. The program
11:55:16 23 was -- it's designed to be shown as an application
11:55:23 24 of an overhead projection device.

11:55:29 25 MR. BRIGGS: Q. What about the Mandelbrot

11:55:32 1 application would limit its use to an overhead
11:55:36 2 projection device?

11:55:38 3 MR. MONACH: Object to the form of the
11:55:39 4 question.

11:56:01 5 THE WITNESS: Hypothetically, inasmuch as
11:56:03 6 it's a hypothetical question, you could attempt to
11:56:11 7 create such a program on an integrated touch device.
11:56:22 8 However, I -- yeah, I don't see any clear reason to
11:56:25 9 do so.

11:56:26 10 MR. BRIGGS: Q. So there's nothing that
11:56:27 11 would prevent one with skill in the art from
11:56:35 12 incorporating the Mandelbrot application into an
11:56:39 13 integrated touch screen device; correct?

11:56:42 14 MR. MONACH: Objection. Incomplete
11:56:43 15 hypothetical.

11:56:44 16 THE WITNESS: Well, you would have to look
11:56:45 17 into the parameters of the particular Mandelbrot
11:56:48 18 application, sort of the resources that they -- that
11:56:51 19 they -- that they use, the form of display that they
11:56:55 20 apply, and see whether it would make sense to
11:57:02 21 consider such a -- consider such a transfer.

11:57:13 22 MR. BRIGGS: Q. Are you familiar with the
11:57:14 23 DTMouse application that ran on the DiamondTouch
11:57:17 24 system?

11:57:19 25 A. Yes.

11:57:19 1 Q. Is there anything about the DTMouse
11:57:21 2 application that would limit its use to an overhead
11:57:26 3 projection device?
11:57:32 4 A. I would have to look at the DTMouse in a
11:57:35 5 little more detail to refresh my mind as to how
11:57:44 6 exactly it operated.
11:57:45 7 Q. How do you recall the DTMouse program
11:57:48 8 operating?
11:57:48 9 A. Well, it provided some kind of mouse-like
11:57:52 10 functionality, but I would really need to...
11:57:58 11 Q. What kind of mouse-like functionality did
11:58:01 12 it provide?
11:58:03 13 A. I would need to look into my report to
11:58:06 14 provide -- to give you a good answer on that.
11:58:08 15 Q. So sitting here right now, without looking
11:58:10 16 at your report, you can't tell me what type of
11:58:13 17 functionality DTMouse provided?
11:58:21 18 A. Well, I have definitely reviewed it. I
11:58:26 19 would just like to refresh -- I would need to
11:58:29 20 refresh my mind on it. I have been through, and I
11:58:32 21 have looked at a fairly large volume of material
11:58:42 22 over the course of this.
11:58:43 23 Q. Are you familiar with the tablecloth
11:58:45 24 application that ran on the DiamondTouch systems?
11:58:47 25 A. Yes.

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11:58:53 1 Q. And what did the tablecloth -- what
11:58:56 2 functionality did the tablecloth application
11:58:59 3 provide?

11:59:00 4 A. I believe the tablecloth provided some
11:59:02 5 sort of navigational functionality.

11:59:07 6 Q. What about the tablecloth application
11:59:11 7 would limit its use to an overhead projection
11:59:14 8 device?

11:59:15 9 MR. MONACH: Object to the form of the
11:59:16 10 question.

11:59:17 11 THE WITNESS: I would need to review
11:59:20 12 the -- that particular application in detail to see
11:59:23 13 what resources it used and, you know, what its
11:59:29 14 design rationale was.

11:59:30 15 MR. BRIGGS: Q. But sitting here right
11:59:31 16 now, you don't know if there's anything that would
11:59:35 17 limit the tablecloth application to an overhead
11:59:40 18 projection device?

11:59:42 19 A. I could review it and answer that question
11:59:44 20 for you if you would like me to.

11:59:47 21 Q. But you can't provide me with any -- any
11:59:51 22 reasons right now?

11:59:54 23 A. I can review it and...

12:00:09 24 Q. Let's turn to paragraph 166 of your
12:00:12 25 rebuttal report.

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12:00:40 1 A. Yes.

12:00:41 2 Q. Now, in this paragraph you appear to
12:00:43 3 provide a reason why the DiamondTouch system is not
12:00:53 4 anticipatory to the claims of the '915 patent. Can
12:00:57 5 you explain what that reason is?

12:01:01 6 A. Specifically in paragraph 166?

12:01:03 7 Q. Yes.

12:01:09 8 A. Well, in paragraph 166 essentially I
12:01:16 9 was -- Mr. Gray had provided a citation to a section
12:01:23 10 of code from a DiamondTouch embodiment.

12:01:29 11 And when I analyzed that code, I was able
12:01:35 12 to see the use of an event object as -- what
12:01:45 13 appeared to be an event object as -- as suggested.
12:01:52 14 But there didn't seem to be, to me, at least over
12:01:58 15 there, a clear connection between -- between the
12:02:05 16 event object and -- and the view that would process
12:02:08 17 that. To the extent that Mr. Gray is able to show
12:02:16 18 that such a thing could be possible, I believe 166
12:02:23 19 is saying that, given what was disclosed, I felt it
12:02:27 20 was not completely conclusive.

12:02:32 21 Q. Would you expect, if you took a closer
12:02:34 22 look at the DiamondTouch code, to find an
12:02:39 23 association that would meet the limitation of the
12:02:42 24 claim?

12:02:47 25 MR. MONACH: Objection. Lack of

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12:02:47 1 foundation. Calls for speculation.

12:02:51 2 THE WITNESS: Well, as I said,

12:02:52 3 speculatively I -- it was not explicitly disclosed

12:02:58 4 as such. I am not precluding that it could not be

12:03:02 5 the case.

12:03:03 6 MR. BRIGGS: Q. I mean, is it logically

12:03:06 7 probable from a computer scientist's perspective

12:03:09 8 that this limitation would not be met by the

12:03:15 9 DiamondTouch system?

12:03:17 10 MR. MONACH: Object to the form of the

12:03:18 11 question.

12:03:23 12 THE WITNESS: It is plausible that it

12:03:25 13 could or could not be, could or could not be met.

12:03:32 14 As I said, I -- it was not explicitly disclosed, but

12:03:40 15 it is plausible that one such -- one connection

12:03:46 16 might exist.

12:03:48 17 MR. BRIGGS: Q. It's extremely likely,

12:03:49 18 isn't it?

12:03:50 19 MR. MONACH: Objection. Lack of

12:03:51 20 foundation and calls for speculation.

12:03:55 21 THE WITNESS: It's plausible.

12:03:58 22 MR. BRIGGS: Q. Very likely?

12:03:59 23 MR. MONACH: Same objection.

12:04:00 24 THE WITNESS: Same answer.

12:04:03 25 MR. BRIGGS: Q. Do you think there's a

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12:04:04 1 50 percent chance?

12:04:08 2 MR. MONACH: Objection. Lack of
12:04:09 3 foundation. Calls for speculation.

12:04:11 4 THE WITNESS: You are asking me to
12:04:11 5 speculate on something that was not explicitly
12:04:15 6 disclosed. I -- I have said that it is plausible,
12:04:19 7 but without the fact that it was explicitly
12:04:25 8 disclosed.

12:04:26 9 MR. BRIGGS: Q. You agree that the
12:04:28 10 DiamondTouch system creates an event object;
12:04:33 11 correct?

12:04:34 12 MR. MONACH: Object to the form of the
12:04:36 13 question. Vague as to which DiamondTouch system.

12:04:39 14 THE WITNESS: I would believe that a
12:04:42 15 DiamondTouch embodiment has what appears to be an
12:04:48 16 event object.

12:04:49 17 MR. BRIGGS: Q. And you also agree that
12:04:52 18 scroll operations could be performed on the
12:04:53 19 DiamondTouch system; correct?

12:05:00 20 A. Scroll operations could be performed on a
12:05:05 21 DiamondTouch system.

12:05:06 22 Q. Okay. So if event objects were tracking
12:05:10 23 the user input, isn't it necessary that the event
12:05:20 24 object would have to be associated with a scroll
12:05:23 25 operation in the DiamondTouch system?

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12:05:35 1 A. The event object --

12:05:37 2 Could you repeat the question?

12:05:42 3 Q. All I am trying to get at here is, we know

12:05:45 4 that the DiamondTouch system created event objects;

12:05:48 5 correct?

12:05:50 6 A. Yes.

12:05:50 7 Q. And we know that it allowed for scrolling;

12:05:54 8 correct?

12:05:55 9 A. (Nods head.)

12:05:56 10 Q. So somewhere in the system there must be

12:05:57 11 an association between the event object and the

12:05:59 12 scrolling; correct?

12:06:01 13 MR. MONACH: Object to form.

12:06:02 14 THE WITNESS: It would -- it could depend

12:06:06 15 on the event object infrastructure that -- the event

12:06:13 16 programming infrastructure that that specific

12:06:16 17 DiamondTouch embodiment would support.

12:06:26 18 One could conceive of a scenario where

12:06:30 19 specific views or regions or windows were not

12:06:34 20 explicitly associated with events. So it is -- it

12:06:45 21 is possible that that were not the case, and I

12:06:54 22 didn't see it explicitly disclosed to be the case.

12:07:02 23 MR. BRIGGS: Q. But it would be highly

12:07:03 24 unlikely that there would be absolutely no

12:07:06 25 associations in the whole system between event

12:07:08 1 objects and scrolling; correct?

12:07:12 2 MR. MONACH: Object to the form of the
12:07:13 3 question.

12:07:19 4 THE WITNESS: I believe we were talking
12:07:20 5 about event objects and views in this paragraph, not
12:07:29 6 event objects and scrolling.

12:07:31 7 MR. BRIGGS: Q. Well, the claim
12:07:32 8 limitation states "scrolling of window having a view
12:07:36 9 associated with the event object."

12:07:40 10 A. Right. But what I am referring to in 166
12:07:45 11 is -- talks about the specific association of views,
12:07:56 12 not scrolling.

12:08:01 13 Q. So do you believe it would be highly
12:08:03 14 likely that an event object would be associated with
12:08:07 15 a view in the DiamondTouch system?

12:08:09 16 MR. MONACH: Objection. Lack of
12:08:10 17 foundation and calls for -- sorry.

12:08:13 18 Lack of foundation and calls for
12:08:15 19 speculation.

12:08:16 20 THE WITNESS: As I said in what I was
12:08:20 21 pointed at, it was not explicitly disclosed to be
12:08:23 22 the case. It is plausible that it may be the case.

12:08:42 23 MR. BRIGGS: Q. In paragraph 167 you
12:08:44 24 address claim 2.

12:08:45 25 A. Yes.

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12:08:48 1 Q. Now, do you agree that the DTFlash
12:08:50 2 application discloses rubber banding?

12:09:07 3 MR. MONACH: Objection. Vague and
12:09:07 4 incomplete hypothetical.

12:09:15 5 THE WITNESS: In a general sense some
12:09:18 6 configuration of the DTFlash may talk about a
12:09:25 7 general notion of rubber banding.

12:09:29 8 MR. BRIGGS: Q. So you agree that DTFlash
12:09:32 9 does disclose the general notion of rubber banding;
12:09:36 10 right?

12:09:36 11 MR. MONACH: Object to the form of the
12:09:37 12 question. Vague.

12:09:46 13 THE WITNESS: I would need to look at the
12:09:50 14 source in detail to give you sort of a conclusive
12:09:54 15 representation of what aspect of rubber banding that
12:09:58 16 it may capture, but there is a general notion,
12:10:01 17 without being able to provide a conclusive
12:10:07 18 definition.

12:10:11 19 MR. BRIGGS: Q. Let's turn to paragraph
12:10:12 20 169 of your report, where you address claim 3. And
12:10:16 21 this claim involves attaching scroll indicators to a
12:10:22 22 content edge of a window.

12:10:25 23 Now, do you agree that the DTMouse
12:10:31 24 application discloses scroll indicators that are
12:10:36 25 attached to a window?

12:10:42 1 A. There would be -- some embodiment of the
12:10:44 2 DTMouse might -- might -- might show scroll
12:10:51 3 indicators. I would need to review that application
12:10:53 4 in detail to give you a conclusive answer on what
12:11:00 5 form.

12:11:06 6 Q. But your belief is, sitting here today,
12:11:10 7 that some embodiment of the DTMouse application
12:11:14 8 discloses attaching scroll indicators?

12:11:17 9 A. Perhaps in some form. But if you would
12:11:21 10 like me to answer that conclusively, then I would
12:11:24 11 like to kind of review that to see exactly what they
12:11:29 12 were doing.

12:11:35 13 Q. Let's turn to paragraph 171, and that's
12:11:40 14 where you address claim 5, which states
12:11:44 15 "Determining" -- states in part, "Determining
12:11:47 16 whether the event object invokes a scroll or gesture
12:11:52 17 operation is based on receiving a drag user input
12:11:56 18 for a certain time period."

12:11:58 19 Now isn't it true that the DiamondTouch
12:12:01 20 system discloses that limitation?

12:12:03 21 A. Which? The DiamondTouch discloses claim
12:12:07 22 5?

12:12:08 23 Q. Yes.

12:12:10 24 A. No, I believe paragraph 177 suggests why
12:12:14 25 it does not disclose.

12:12:16 1 Q. And why is that?

12:12:26 2 A. Well, as I say, the DiamondTouch -- the
12:12:30 3 portion pointed to me that talks about an
12:12:35 4 mForgivingTime is not used to determine whether the
12:12:40 5 event object invokes a scroll or gesture. It's a
12:12:46 6 time interval that -- it's just a time interval,
12:12:52 7 like a marker in time, within which you may choose
12:13:01 8 to -- to interpret your decision, all the while
12:13:09 9 performing scrolls and/or -- scrolls or gesture
12:13:13 10 operations.

12:13:14 11 So I don't see that time interval in
12:13:20 12 itself being -- being used to determine whether a
12:13:31 13 scroll or gesture operation is performed.

12:13:40 14 Q. So do you believe the DiamondTouch
12:13:42 15 system -- even if you believe that this particular
12:13:44 16 portion of code doesn't meet this claim limitation,
12:13:46 17 do you believe that something else in the
12:13:49 18 DiamondTouch system could meet this claim
12:13:53 19 limitation?

12:13:55 20 A. Well, nothing that was disclosed to me.

12:13:56 21 Q. But based on your expertise in the field,
12:13:58 22 would you expect there to be code that performs this
12:14:02 23 limitation?

12:14:02 24 MR. MONACH: Object to the form of the
12:14:04 25 question as lacking in foundation and calling for

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12:14:06 1 speculation.

12:14:08 2 THE WITNESS: That would be --

12:14:08 3 MR. MONACH: Vague.

12:14:09 4 I am sorry. I didn't mean to talk over

12:14:11 5 you.

12:14:12 6 THE WITNESS: No, that's fine.

12:14:14 7 That would be highly speculative.

12:14:16 8 MR. MONACH: I think we're -- completed

12:14:18 9 our time. But can we get an official check from the

12:14:24 10 gentleman who is running the clock?

12:14:30 11 MR. BRIGGS: And we won't count this time;

12:14:30 12 right?

12:14:32 13 MR. MONACH: Excuse me.

12:14:33 14 THE VIDEOGRAPHER: I am sorry.

12:14:33 15 MR. MONACH: By my calculation, we have

12:14:34 16 completed 10 and a half hours on the clock.

12:14:36 17 THE VIDEOGRAPHER: Going off the record,

12:14:38 18 the time is 12:15.

12:14:42 19 (Recess taken from 12:15 to 12:17.)

12:16:34 20 THE VIDEOGRAPHER: We are back on the

12:16:35 21 record. The time is 12:17.

12:16:39 22 MR. BRIGGS: So we have been on the record

12:16:41 23 now, I guess, 10 hours and 32 minutes. And Apple's

12:16:49 24 counsel has taken the position that the deposition

12:16:51 25 has to end now.

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12:16:54 1 I still have additional questions, but I
12:16:57 2 will stop my questioning now, based on Apple's
12:17:02 3 counsel's refusal to let the deposition go forward.

12:17:05 4 MR. MONACH: Well, as long as you are
12:17:06 5 going to phrase it that way, Quinn Emanuel has taken
12:17:10 6 the position that no expert deposition should go
12:17:15 7 more than seven hours. As part of a negotiation in
12:17:17 8 which our side got some additional time for a
12:17:20 9 witness covering four patents, we agreed to provide
12:17:24 10 Professor Singh, who is covering three patents, for
12:17:27 11 a day and a half.

12:17:28 12 We showed up at 9:00 o'clock at the
12:17:31 13 scheduled time yesterday, waited two hours, and
12:17:34 14 started at 11:00 a.m., due to some miscommunication
12:17:38 15 between Samsung's counsel and the reporting firm,
12:17:40 16 came back here until, I believe, sometime after
12:17:43 17 9:00 p.m., and then have -- the witness has
12:17:49 18 graciously gone through two minutes longer than the
12:17:51 19 agreed-upon maximum time for the deposition.

12:17:54 20 And based on that, I am stating that the
12:17:56 21 deposition is over. Thank you.

12:17:58 22 MR. BRIGGS: Thank you, Dr. Singh.

12:18:00 23 THE WITNESS: Thank you.

12:18:01 24 THE VIDEOGRAPHER: This marks the end of
12:18:02 25 Tape Number 2 in the deposition of Karan Singh,

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12:18:05 1 Volume II.

12:18:06 2 Going off the record, the time is 12:18.

12:18:09 3 (Whereupon, the deposition was

12:18:09 4 concluded at 12:18 p.m.)

12:18:09 5 --oOo--

12:18:09 6 I declare under penalty of perjury the

12:18:09 7 foregoing is true and correct. Subscribed at

12:18:09 8 _____, California, this ____ day

12:18:09 9 of _____, 2012.

12:18:09 10 _____

12:18:09 11 Karan Singh

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1 CERTIFICATE OF REPORTER

2 I, SARAH LUCIA BRANN, a Certified
3 Shorthand Reporter, hereby certify that the witness
4 in the foregoing deposition was by me duly sworn to
5 tell the truth, the whole truth, and nothing but the
6 truth in the within-entitled cause;

7 That said deposition was taken in
8 shorthand by me, a disinterested person, at the time
9 and place therein stated, and that the testimony of
10 the said witness was thereafter reduced to
11 typewriting, by computer, under my direction and
12 supervision;

13 That before completion of the deposition,
14 review of the transcript [] was [X] was not
15 requested. If requested, any changes made by the
16 deponent (and provided to the reporter) during the
17 period allowed are appended hereto.

18 I further certify that I am not of counsel
19 or attorney for either or any of the parties to the
20 said deposition, nor in any way interested in the
21 event of this cause, and that I am not related to
22 any of the parties thereto.

23 DATED: April 30, 2012

24 _____
25 SARAH LUCIA BRANN, CSR No. 3887