

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO. LTD.,
SAMSUNG ELECTRONICS AMERICA, INC.
and GOOGLE LLC
Petitioners,
v.
EYESMATCH LTD.,
Patent Owner.

Case No. IPR2024-00810
U.S. Patent No. 8,982,110

REMOTE VIDEOCONFERENCE DEPOSITION OF
LINA KARAM, PH.D.
February 26, 2025

Reported by:

Anne E. Vosburgh, CSR-6804, RPR, CRR

Job No. 1283510

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On February 26, 2025, commencing at approximately 7:30 a.m. Mountain Time, the remote videoconference deposition of LINA KARAM, PH.D., was held before and stenographically reported by Anne E. Vosburgh, Certified Shorthand Reporter No. 6804, Registered Professional Reporter, Certified Realtime Reporter, Notary Public, LiveNote Reporter.

All attorneys participating in this deposition acknowledge and agree not to object to the use of this transcript on the basis that the reporter is not physically present in the deposition room and will be reporting remotely, and that in lieu of an official oath administered in person, by swearing remotely, the Witness verbally declares their testimony in this matter under penalty of perjury.

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REMOTE APPEARANCES:

FOR PETITIONER SAMSUNG:

BAKER BOTTS LLP
30 Rockefeller Plaza
New York, NY 10112
(212) 408-2500
BY: MARGARET M. WELSH, ESQ.
margaret.welsh@bakerbotts.com

- and -

BAKER BOTTS LLP
401 South 1st Street
Austin, TX 78704
(512) 322-2500
BY: JOSE VILLARREAL, ESQ.
jose.villarreal@bakerbotts.com

FOR PETITIONER GOOGLE:

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP
901 New York Avenue, NW
Washington, DC 20001
(202) 408-4000
BY: SYDNEY R. KESTLE, ESQ.
sydney.kestle@finnegan.com

- and -

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP
Two Seaport Lane
Boston, MA 02210-2001
(617)646 1626
BY: XIRUI ZHANG, PH.D., ESQ.
xirui.zhang@finnegan.com

Page 4

1-25

REMOTE APPEARANCES (Continued):

FOR THE PATENT OWNER:

TENSEGRITY LAW GROUP
555 Twin Dolphin Drive
Suite 650
Redwood Shores, CA 94065
(650) 802-6000
BY: NATASHA SAPUTO, ESQ.
natasha.saputo@tensegritylawgroup.com
BY: WILLIAM NELSON, ESQ.
william.nelson@tensegritylawgroup.com

ALSO PRESENT:

Videographer, Solomon Swensen

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I N D E X

----- EXAMINATIONS -----

WITNESS: LINA KARAM, PH.D.

Examination by Ms. Saputo	9
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Re-Examination by Ms. Saputo	265

----- MARKED EXHIBITS -----

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Exhibit 1	LinkedIn profile of Lina Karam	14
Exhibit 2	US Patent Number 8,982,109, dated March 17, 2015	17
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Exhibit 4	US Patent Number 8,982,110, dated March 17, 2015	18
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Page 6 1 EXHIBITS (Continued): 2 3 Exhibit 6 Declaration of Expert Lina 20 4 Karam re US Patent Number 5 8,982,109 6 Exhibit 7 Declaration of Expert Lina 20 7 Karam re US Patent Number 8 8,982,110 9 Exhibit 8 Claim Construction Order 45 10 Exhibit 9 US Patent Application 53 11 Publication, Rosenberg, 12 02/22/2007 13 Exhibit 10 Patent Application Gazette, 112 14 01/11/2007, Nakazawa 15 Exhibit 11 Laid-open Disclosure Public 119 16 Patent Bulletin, 08/12/2010, 17 Hatanaka 18 Exhibit 12 U.S. Patent Number 9,355,585, 132 19 05/31/2016, Tripathi 20 Exhibit 13 U.S. Patent Number 6,816,187, 148 21 11/09/2004, Iwai 22 Exhibit 14 U.S. Patent Application 150 23 Publication, 12/01/2011, Kubota 24 Exhibit 15 U.S. Patent Application 151 25 Publication, 10/02/2008, Cho	Page 8 1 Remote Videoconference Deposition 2 February 26, 2025, 7:30 a.m. Mountain Time 3 ----- 4 PROCEEDINGS 5 ----- 6 THE VIDEOGRAPHER: We are now on 7 the record. This begins videotape 8 number 1 in the deposition of Dr. Lina 9 Karam in the matter of EyesMatch vs. 10 Samsung Electronics Co. Ltd., et al. 11 Today is February 26th, 2025, and 12 the time is 7:34 a.m. MST. 13 This deposition is being taken 14 remotely via Zoom. 15 The videographer is Solomon 16 Swensen of Magna Legal Services, and the 17 court reporter is Anne Vosburgh of Magna 18 Legal Services. 19 Will counsel and all parties 20 state their appearances and whom they 21 represent, and the court reporter may 22 swear in the witness. 23 MS. SAPUTO: Natasha Saputo on 24 behalf of Tensegrity Law Group and the 25 patent owner.
Page 7 1 EXHIBITS (Continued): 2 3 Exhibit 16 U.S. Patent Application 153 4 Publication, 03/22/2007, Park 5 Exhibit 17 U.S. Patent Application 165 6 Publication, 10/16/2008, 7 Kuranov 8 Exhibit 18 U.S. Patent Application 166 9 Publication, 04/12/2007, Chang 10 Exhibit 19 PCT, International Publication 167 11 Number WO 2006/108279, 12 10/19/2006, Lizée 13 Exhibit 20 U.S. Patent Application 196 14 Publication, 12/08/2011, Haan 15 Exhibit 21 U.S. Patent Application 219 16 Publication, 02/22/2007, 17 Rosenberg 18 Exhibit 22 U.S. Patent Application 232 19 Publication, 10/06/2011, 20 Geisner 21 Exhibit 24 Article, "Software Architecture 248 22 for Computer Vision: Beyond 23 Pipes and Filters," July 2003, 24 Francois 25 (EXHIBITS ATTACHED)	Page 9 1 And also with me today is William 2 Nelson, also of Tensegrity Law Group, on 3 behalf of the patent owner. 4 MS. WELSH: Margaret Welsh with 5 Baker Botts on behalf of Samsung 6 Electronics Co. and Samsung Electronics 7 America, the petitioners. 8 And also with me today is 9 Jose Villarreal of Baker Botts. 10 MS. ZHANG: Xirui Zhang, and with 11 me today is Sydney Kestle, we're both 12 from the Finnegan law firm, here on 13 behalf of Petitioner Google. 14 (Clarification by the reporter.) 15 LINA KARAM, PH.D., 16 (Having been called to appear via 17 videoconference, was sworn remotely, 18 pursuant to agreement of counsel.) 19 --- 20 EXAMINATION 21 BY MS. SAPUTO: 22 Q. Good morning. Would you please 23 state your full legal name for the record. 24 A. Lina J. Karam, or Lina Jamil 25 Karam.

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Page 10 1 Q. I'm going to review a few 2 housekeeping matters before we get started. 3 So from time to time your lawyer 4 may object. This is to preserve the 5 objections for the record. Unless your lawyer 6 instructs you not to answer, you need to 7 answer the question. 8 Try to listen until I finish my 9 question, and I'll give you the same courtesy 10 for your answers. 11 Please answer with words so your 12 responses can be reflected in the record. 13 Nonverbal responses are hard for the court 14 reporter to get down. 15 If you have any questions about 16 what I ask you, please ask me to clarify. 17 Otherwise, it's going to be assumed that you 18 heard the question, you understood it, and 19 you're answering it in kind. 20 If you need a break, please let 21 me know. But all I ask is that you finish 22 answering any pending questions before we take 23 a break. 24 Is there any reason you cannot 25 testify truthfully, accurately, and completely	Page 12 1 half days. So I would say like a few days, 2 like two, three days. 3 Q. Okay. Did you meet with anybody 4 else to prepare for your deposition today? 5 A. No. 6 Q. Did you make any -- sorry, go 7 ahead. 8 A. Just a clarification. 9 They were like from both counsel 10 teams, like because you know you have remote 11 depositions -- remote presence. So some 12 people from the law firms, Finnegan and 13 Baker Botts, were also available. I don't 14 recall all the names. 15 Q. Understood. 16 Did you make any phone calls or 17 write any emails as part of your preparation 18 for today? 19 A. No. 20 Q. So this is going to be a 21 yes-or-no question. 22 Did you review any documents in 23 preparation for today? 24 A. Could you repeat your question, 25 please?
Page 11 1 today? 2 A. No, no reason. 3 Q. Okay. Without reviewing the 4 substance of any communications that you had 5 with counsel, did you do anything to prepare 6 for your testimony today? 7 A. Yeah. I went over my declaration 8 and exhibit in my declaration, and in addition 9 to the prep session with counsel. 10 Q. Okay. And who did you meet with? 11 A. I met with the Baker Botts 12 counsel, Margaret Welsh and Jose, and other 13 also on the team. 14 Q. Okay. 15 A. And also the Finnegan, Xirui and 16 Sydney. 17 Q. Okay. And when did you meet with 18 them? 19 A. I met with them over the last 20 two days, and also the week before, we had a 21 couple of sessions too. 22 Q. Okay. And for about how long do 23 you think you prepared with them? 24 A. With them, I mean, it was 25 two days. And then the other session were	Page 13 1 Q. So it's a yes-or-no question. 2 Did you review any documents in 3 preparation for today other than your 4 declaration? 5 MS. WELSH: Just answer "yes" or 6 "no." 7 A. Yes. 8 BY MS. SAPUTO: 9 Q. Who identified the documents you 10 reviewed? 11 A. The document I reviewed are 12 listed in my declaration. They are part of 13 the exhibit list. 14 Q. Okay. So those are the documents 15 that you reviewed in preparation for your 16 testimony today? 17 A. Yeah. 18 Q. Okay. Did you review any 19 documents that were not listed in your 20 declaration? 21 A. No. 22 Q. Okay. 23 Yes-or-no question: Did you 24 select any documents to review with attorneys 25 that were not in your declaration?

Page 14 1 A. Clarification. Do you mean not 2 listed in my declaration? 3 Q. Yeah, not listed. 4 A. No. 5 Q. Okay. 6 A. A moment, please, because I need 7 to turn off my phone. I remembered my phone 8 ringer is on. 9 Is it possible to do that? 10 Q. Yes. 11 A. Okay. Thank you. 12 MS. SAPUTO: Okay. So if you 13 have AgileLaw open, you should see a 14 number of exhibits that I've premarked 15 because we're going to go through a lot 16 of them today. 17 And the first one everyone should 18 see is Exhibit Number 1, which is your 19 LinkedIn profile. 20 (LinkedIn profile of Lina Karam, 21 marked as Exhibit 1.) 22 (Discussion held off the record.) 23 A. I do have everything printed. I 24 would prefer to use my paper copy. 25	Page 16 1 that you provided as part of your declaration, 2 is that up to date and accurate? Do you have 3 any additions that you would need to make as 4 of today? 5 MS. WELSH: Objection to form. 6 A. Could you repeat the question, 7 please. 8 BY MS. SAPUTO: 9 Q. So as part of your declaration 10 that you submitted in the IPR, you have your 11 resume or curriculum vitae. Is that up to 12 date and accurate? 13 A. Can I -- I would like to clarify 14 something. The top skills there are not 15 accurate in the LinkedIn profile. 16 Q. In the LinkedIn profile? 17 A. Yes. 18 Q. How so? 19 A. The CV top skills are listed. 20 These are the accurate ones. These do not 21 reflect my top skills. 22 Q. So you would say your curriculum 23 vitae that you provided as part of your 24 declaration are accurate and complete? 25 MS. WELSH: Objection to form.
Page 15 1 BY MS. SAPUTO: 2 Q. Oh, yes, you can look at the 3 paper copy. But hopefully everybody has 4 AgileLaw up. 5 MR. NELSON: For what it's worth, 6 I can see Exhibit 1. I don't know if 7 Margaret and Jose and others can. 8 MS. WELSH: Okay. We can see it 9 now. 10 BY MS. SAPUTO: 11 Q. Okay. So Exhibit Number 1 is a 12 PDF of your LinkedIn profile; is that correct? 13 A. I can't answer this from memory 14 because I didn't prepare that. I didn't 15 supply this. 16 Q. Okay. 17 A. So I don't know who did that. 18 Q. Okay. So I'll represent to you 19 that this is a PDF of your LinkedIn profile 20 that I pulled from LinkedIn. 21 If you could just take a look. 22 Is the information in this accurate? 23 A. I would say reasonably, 24 reasonably accurate. 25 Q. Okay. And the curriculum vitae	Page 17 1 A. I do have a revised version 2 because by the time like some time passed, 3 basically, and I do have an updated CV. So 4 it's -- at the time of my declaration, it was 5 reasonably accurate, my CV, on there. 6 LinkedIn, they select whatever 7 they want. These top skills listed there are 8 indeed not my top skills. 9 MS. SAPUTO: Okay. I'm going to 10 mark Exhibit Number 2, which is going to 11 be a copy of US Patent Number 8,982,109. 12 (US Patent Number 8,982,109, dated 13 March 17, 2015, marked as 14 Exhibit 2.) 15 BY MS. SAPUTO: 16 Q. Are you able to see that? 17 A. Could you repeat, Exhibit 2 is 18 what? 19 Q. Is the '109 patent. 20 A. I'm sorry, this -- can we zoom? 21 Okay. I can see it now. 22 Q. Okay. So today I'm going to be 23 referring to the '109 patent. And when I 24 refer to the '109 patent, I'm going to be 25 referring to this patent that's marked

Page 18 1 Exhibit 2. 2 Do you understand that? 3 A. Yes. 4 (Claim 1 of US Patent Number 5 8,982,109, marked as Exhibit 3.) 6 BY MS. SAPUTO: 7 Q. Marked as Exhibit 3 is Claim 1 of 8 the '109 patent. It's broken out by 9 limitation, according to the petition in the 10 '109 IPR. 11 So we might be referring to 12 limitations today, like limitation 1(c) of the 13 '109 patent, and I will be referring to this 14 document that you see in Exhibit 3. 15 Do you understand? 16 A. No. I need some clarification. 17 Exhibit 3 is like the next document? 18 Okay. Yeah. Thank you. I see, 19 yeah. 20 MS. SAPUTO: Marked as Exhibit 4 21 is US Patent Number 8,982,110. 22 (US Patent Number 8,982,110, dated 23 March 17, 2015, marked as 24 Exhibit 4.) 25	Page 20 1 (Off-the-record discussion held.) 2 MS. SAPUTO: Okay. So I'm going 3 to mark now as Exhibit 6 your declaration 4 in the '109 IPR, the '109 patent IPR. 5 (Declaration of Expert Lina Karam 6 re US Patent Number 8,982,109, 7 marked as Exhibit 6.) 8 BY MS. SAPUTO: 9 Q. Do you see Exhibit Number 6? 10 A. Yes. 11 MS. SAPUTO: And I'm going to 12 mark as Exhibit Number 7 a copy of your 13 expert declaration in the '110 IPR. 14 (Declaration of Expert Lina Karam 15 re US Patent Number 8,982,110, 16 marked as Exhibit 7.) 17 BY MS. SAPUTO: 18 Q. Do you understand that you're 19 here today to testify in your capacity as 20 petitioner's expert in IPR 2024-00856 and IPR 21 2024-00810? 22 A. Like, I don't recall the IPR 23 number for the '109. It's not listed on my 24 declaration, so I can't answer from memory. 25 If you could show me the petition.
Page 19 1 BY MS. SAPUTO: 2 Q. So today I'm going to be 3 referring to the '110 patent. And when I 4 refer to the '110 patent, I'm going to be 5 referring to this document marked as 6 Exhibit 4. 7 Do you understand? 8 A. Yes. 9 MS. SAPUTO: Marked as 10 Exhibit 5 -- I'm sorry, and I think 11 I misspoke. It's the '110 patent is what 12 I mean, the '110 patent. 13 So marked as Exhibit Number 5 is 14 Claim 1 of the '110 patent that's broken 15 out by limitation according to the 16 petition in the '110 IPR. 17 (Claim 1 of US Patent Number 18 8,982,110, marked as Exhibit 5.) 19 BY MS. SAPUTO: 20 Q. So today, when we talk about 21 limitations of Claim 1 from the '110 patent, 22 I'm going to be referring to this document 23 marked as Exhibit Number 5. 24 Do you understand that? 25 A. Yes.	Page 21 1 Q. Okay. I'll do it this way. 2 So do you understand you're here 3 today to testify in your capacity as 4 petitioner's expert in the '109 IPR? 5 A. Yes. 6 Q. And do you understand you're here 7 today to testify in your capacity as 8 petitioner's expert in the '110 IPR? 9 A. Yes. 10 Q. Let's start with some just 11 general camera principles or properties of 12 cameras. 13 So let's imagine a person is 14 taking a picture of a building. How would 15 that person change the point of view of the 16 picture? If they were standing in front of 17 the building and holding their camera up to 18 take a picture of the building, how would that 19 person change the point of view of the 20 picture? 21 MS. WELSH: Objection, form. 22 A. Could you repeat the question? 23 BY MS. SAPUTO: 24 Q. Sure. 25 So if a person is taking a

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Page 22 1 picture of a building and they're standing in 2 front of the building and they wanted to 3 change the point of view of the pictures that 4 they're taking, what would they do in order to 5 change the point of view of the picture? 6 A. So point of view -- so to change 7 the point of view of the picture, you're 8 saying? 9 Q. Uh-huh. 10 A. There are different ways to do 11 it. But one example is to just move the 12 camera around, move it to another location. 13 That's one way. 14 Q. Okay. What would be another way? 15 A. There are different ways, but 16 this is like one way. 17 Q. So physically moving the camera 18 to a different location? 19 A. Yes. 20 Q. Could you rotate the camera? 21 Would that change its point of view? 22 MS. WELSH: Objection, form. 23 A. You know, out of context like 24 that, I have to have more context. And -- if 25 you're rotating the camera, usually your hand	Page 24 1 answer your question. 2 Q. Okay. Let's take a look at your 3 declaration in the '109 -- your '109 4 declaration, which is Exhibit Number 6. 5 Do you have that in front of you? 6 A. Yes. And I do have the paper 7 copy. 8 Q. That's fine. 9 Okay. So in your declaration, 10 you discuss, for example, point of view with 11 respect to various of the references. 12 When you were opining regarding 13 point of view, what definition of "point of 14 view" were you using? 15 MS. WELSH: Objection, form. 16 A. Could you please point me out 17 where in my declaration? 18 BY MS. SAPUTO: 19 Q. Sure. 20 So let's look at your declaration 21 in -- for example, paragraph 48, you're 22 referring to a reference there. 23 And the heading is "Transforming 24 Camera-Captured Images to Match a Camera Point 25 of View to a Virtual Mirror Point of View
Page 23 1 is shaking and it might change the point of 2 view of the camera. 3 BY MS. SAPUTO: 4 Q. Let's say there was no hand 5 shaking and you were able to perfectly rotate 6 the camera without hand shaking. Let's say 7 you rotated the camera 180 degrees. Would 8 that change the point of view? 9 A. It depends also how the context 10 and -- and within the context, what context. 11 So we have to look at the context of how do 12 you -- what point of view you're talking 13 about. 14 Is this like the point of view 15 as -- in any of the patents? If not, would 16 you refer me to which patent you're talking 17 about? 18 Because point of view can be 19 point of view. I'm giving you my point of 20 view and opinion. It could be based on 21 context, how you define point of view. 22 So if we stick to the context of 23 the '109 and '110 patent, and if you can point 24 me to the point of view you're talking about 25 there and provide some definition, I can	Page 25 1 Matching User's Viewpoint Was Well Known." 2 So when you were opining in your 3 declaration regarding point of view, what 4 definition of point of view were you using? 5 A. So paragraph 48 of the 6 declaration? 7 Q. Uh-huh. 8 A. One moment. 9 If we look at Figure 2, like on 10 page 31 of the declaration, which is part of 11 paragraph 49, you can see we're referring to 12 Francois here in this paragraph. 13 So talking about Francois, 14 Exhibit 1035 of my declaration, and you can 15 see an illustration of what Francois also 16 refers to as point of view. 17 You have the user viewpoint. 18 This is the point of view. And you have the 19 virtual viewpoint in there. So it's 20 illustrated in Figure 2. 21 Is this what you're asking about? 22 Q. No. 23 So what I'm asking is when you 24 opined on point of view throughout your 25 declarations, what -- when you used that term,

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Page 26 1 what was your understanding of that term? 2 MS. WELSH: Objection, form. 3 A. As I state in my declaration, I'm 4 referring also to Francois. So this is one 5 understanding of the point of view. I mean, 6 it's characterized as illustrated in Figure 2 7 in my declaration. User viewpoint is the user 8 point of view. 9 BY MS. SAPUTO: 10 Q. Okay. So going back to the 11 example, so with -- strike that. 12 Okay. Let's take a look at 13 paragraph 128 of your declaration. 14 Are you there? 15 A. Not yet. 16 I'm there now. 17 Q. Okay. So here in paragraph 128, 18 you say: 19 "A person of ordinary skill in 20 the art would have understood that 21 Rosenberg's camera positioned above 22 the screen and aimed downward would 23 cause the camera's point of view" -- 24 blah, blah, blah. 25 So the camera's point of view --	Page 28 1 A. So the camera point of view, one 2 way to represent it is the principal axis of 3 the camera. So you have the camera center and 4 you have the principal axis. 5 And we have the Background 6 section in '110 illustrating what that is, 7 like, when we model a camera. 8 And there, that's going to be 9 like the line inside of the camera, if you 10 want to just use, like, a nontechnical term 11 here. 12 Q. Okay. 13 A. And that principal axis gives you 14 at what angle the camera is, how it's tilted 15 from the horizontal or whatever reference you 16 want to measure it. 17 Q. Okay. So if I were to rotate the 18 camera, would it change -- that principal 19 axis, would it change the line of sight? 20 A. Again, the context is it depends 21 how you're rotating it. 22 Q. Okay. So if I rotate it 90 23 degrees? 24 MS. WELSH: Objection to form. 25 A. Because you could be rotating the
Page 27 1 when you say "the camera's point of view," 2 what do you mean? 3 A. I mean, this is consistent. I 4 believe -- one moment -- in my '110, because 5 within the context in here, in '110, 6 I provided background about the camera. 7 And just one moment to see like 8 whether we discussed also the camera point of 9 view there so that I could refer you to that 10 background also, and we go from there. One 11 moment. 12 So here, it's referring to 128 in 13 here. 14 Q. So you're -- I'm sorry. When you 15 say "it's referring to 128," what are you 16 saying? 17 A. In the '109 declaration because 18 otherwise I would -- in the '109 declaration, 19 referring to that. 20 So the question, to understand 21 and rephrase clearly, you're asking about what 22 I referred to in -- what do I mean by saying 23 camera's point of view to be at an angle from 24 the user's point of view; is that right? 25 Q. Yes.	Page 29 1 camera by scanning, okay? And when you rotate 2 the camera by scanning, indeed, you're 3 changing also the line of sight. 4 BY MS. SAPUTO: 5 Q. What do you mean by "scanning"? 6 A. Meaning you could be doing 7 360 degrees, you know, when you have like -- 8 and you're going around with your camera and 9 you're rotating. 10 When you're rotating that way, 11 you know, there are different ways of rotating 12 a camera. 13 Q. Okay. Can you give me an example 14 of rotating the camera where -- so -- strike 15 that. 16 Is it a correct statement that 17 not all rotations of the camera would result 18 in a change in the point of view of the 19 camera? 20 MS. WELSH: Objection, form. 21 A. I don't want to, like, here 22 consider all these cases. If you point me out 23 to my declaration where I'm discussing this 24 rotation and not changing the point of view, 25 you know, I --

Page 30 1 But you ask me a question about 2 if you rotate it doesn't change. There are 3 rotations that do change. That's what I can 4 answer. 5 BY MS. SAPUTO: 6 Q. Okay. So let's say I have a 7 camera. It's fixed on a tripod. I rotate the 8 camera 90 degrees in a horizontal direction. 9 Have I changed the -- have I 10 changed the camera's point of view? 11 MS. WELSH: Objection, form. 12 A. You know, there are different 13 ways of what -- you have to define everything. 14 In that, you know, you have to define -- 15 I cannot really now -- I don't want to do this 16 hypothetical example because the geometry 17 should be different. I need to see it in 18 front of me and so forth. 19 I don't feel comfortable, like, 20 answering this hypothetical question without 21 coordinates, the geometry. 22 BY MS. SAPUTO: 23 Q. Okay. Let me try again. 24 Camera is fixed on a tripod. 25 I rotate the camera 10 degrees in a vertical	Page 32 1 to the declaration, what flip, and where this 2 is discussed? Because it depends how you do 3 the flip, you know. 4 Q. What do you mean, "it depends on 5 how you do the flip"? 6 A. You could flip things different 7 way. I mean, you could flip -- so you said 8 like around the vertical axis? 9 Q. Yeah. So if I have an image -- I 10 have my image. I have a vertical axis. 11 I flip it left-right. I do a left-right 12 inversion. 13 A. Uh-huh. 14 Q. Does that change point of view? 15 "Yes" or "no"? 16 MS. WELSH: Same objection. 17 A. I would have to really imagine 18 the geometry of the camera and things. So I 19 can't now really quite -- I have to think 20 about that because I could not consider your 21 question -- 22 I mean, unless you point me to my 23 declaration where we discuss the point of view 24 in terms of flip, because the geometry there 25 is important to consider in terms of the
Page 31 1 direction. 2 Have I changed the camera's point 3 of view? 4 A. Excuse me? Can you repeat your 5 question? 6 Q. Uh-huh. 7 A camera is fixed on a tripod. 8 I rotate the camera 10 degrees vertically. 9 Have I changed the camera's point 10 of view? 11 A. So you're tilting the camera 12 angle? 13 Q. Yes. Yes. 14 A. So, like, the point of view would 15 change because of the tilt. Yeah, here it's 16 more clear. 17 Q. Okay. If I have an image that I 18 took of a building, like I took a picture of a 19 building and I performed a left-right flip 20 about a vertical axis, does that change the 21 image's point of view? 22 MS. WELSH: Objection, form. 23 A. So I don't quite understand the 24 question in here. The flip -- you know, like 25 I said, can you give me the context, point me	Page 33 1 geometry of the camera and so forth. 2 And it's three-dimensional 3 geometry, so I would have to -- I don't want 4 to just to answer, like, without having the 5 geometry represented and so forth. 6 BY MS. SAPUTO: 7 Q. What aspect of the geometry would 8 you need to know with respect to like a flat, 9 like, 2D-image, like a picture, right? You 10 have just a picture in front of you and you 11 flipped it. 12 What geometry would you need to 13 know to know whether the point of view is 14 changed? 15 A. It's not the image 2D. I mean, 16 you're taking a 3D world image and it's 17 becoming 2D. 18 So you're looking at the 3D world 19 and the 3D geometry of the camera. And this 20 would get projected into 2D. 21 So you have to take into account 22 the 3D geometry and how the camera is 23 positioned and what different things, whether 24 this situation would happen under what. 25 It's very important to have

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Page 34 1 things represented and in front for me to be 2 able to answer your question because it's a 3D 3 geometry, just not 2D only. 4 Q. So depending on the geometry, is 5 what you're telling -- so depending on the 6 geometry, flipping along a vertical axis, 7 left-right inversion, left-right flip, could 8 change the point of view? 9 MS. WELSH: Objection to form. 10 A. I'm not saying that. 11 BY MS. SAPUTO: 12 Q. But you can't rule it out, right? 13 You said you need to know the geometry? 14 MS. WELSH: Objection, form. 15 A. I'm saying for me to answer -- 16 I really didn't consider this question you're 17 asking me like this, you know. And I need -- 18 if you want -- for me to answer, I have to 19 mathematically, like, look at the geometry, 20 the 3D geometry. 21 Unless you can point me out to a 22 figure in my thing where we have the 3D 23 geometry there or in my declaration, that 24 particular situation, and we could look at 25 that.	Page 36 1 images -- you need to give me the context. 2 Where did these images come from -- did these 3 images come from? 4 BY MS. SAPUTO: 5 Q. So I have cameras located around 6 a building, different locations. All the 7 cameras are pointed towards the building, but 8 they are at different locations around the 9 building. 10 If I stitched those images 11 together, right? So I have these source 12 images that are coming from the cameras at 13 fixed locations. If I stitched those images 14 together to create a composite image, does 15 that necessarily result in an image, a 16 composite image that has a different point of 17 view than the cameras that captured those 18 images? 19 MS. WELSH: Same objections. 20 A. I'm not -- what I can say is 21 typically, when you stitch images, is you're 22 going to represent another camera as the other 23 camera you're having and it's going to result 24 in a new camera located at a different point 25 of view, like a virtual camera with a
Page 35 1 BY MS. SAPUTO: 2 Q. So, sitting here today, unless 3 you see the geometry, you're telling me you 4 cannot rule out that flipping along the 5 vertical axis, left-right flip, could change 6 point of view. 7 It might be possible. You don't 8 know? 9 MS. WELSH: Objection to form of 10 the question. 11 Let me -- just pause for my 12 objection. 13 A. I cannot answer now this 14 question. I would need to think about it, and 15 I would need -- so I cannot answer this. I 16 did not consider it in my declaration, this 17 example you're asking. 18 BY MS. SAPUTO: 19 Q. Does stitching together images 20 from different cameras located at different 21 locations to create a composite image 22 necessarily result in an image that has a 23 different point of view? 24 MS. WELSH: Objection, form. 25 A. So your question is if stitching	Page 37 1 different field of view, okay? That's the -- 2 BY MS. SAPUTO: 3 Q. So the field of view would be 4 different. 5 Would you say the point of view 6 would be different? 7 A. Typically, yes, at least like 8 because you're telling me with cameras and 9 stuff, yeah. 10 Q. So going back to my tripod -- 11 camera on a tripod example. If I'm taking a 12 picture of the building and I wanted to change 13 the field of view of the picture that I'm 14 going to take with the camera, can you give me 15 an example of how I could change the field of 16 view using that example? 17 A. You could, like, have the camera 18 moved back, or you could have the camera moved 19 to the front or so. That would change the 20 field of view. That's one example. 21 Q. Okay. Would tilting the camera 22 change the field of view? 23 A. Yeah, tilting the camera would 24 change -- like, typically would change the 25 field of view.

Page 38 1 Q. If I took a picture of a building 2 and I printed out that picture, and then 3 I performed a left-right flip, like -- or 4 let's say I didn't print it out. I looked at 5 it on a display, right? And I want to flip it 6 on a vertical axis, left-right flip. That 7 wouldn't change the field of view, would it? 8 MS. WELSH: Objection, form. 9 A. This -- it's like a -- this one 10 is not relevant -- the question is not 11 applicable. You know, you cannot, like, talk 12 in here about doesn't change the -- it's not 13 up -- you know, I cannot answer your question 14 like that so... 15 BY MS. SAPUTO: 16 Q. So help me understand. What do 17 you mean by "it's not applicable"? 18 Meaning that, like, yeah, if you 19 left-right flip it, of course, it wouldn't 20 change field of view. It's the same image. 21 The field of view hasn't moved. Is that what 22 you're saying? 23 What do you mean, it's not 24 applicable? 25 A. I believe here, like, what's	Page 40 1 declaration we're talking about in terms of 2 the 3D world and the camera there. So I 3 would, like, have them think more, like 4 brainstorm. 5 What are you trying to do here, 6 achieve? And what's the purpose of this 7 question? And how useful is it? 8 That's how I go with it. There 9 should be a purpose for the question. And we 10 can discuss this and understand better the 11 math or whatever. 12 BY MS. SAPUTO: 13 Q. So you don't know the answer to 14 my question? 15 A. I'm not saying that. I'm saying 16 it's a hypothetical situation that you're 17 bringing that I did not consider in my 18 declaration, and it's not clear -- your 19 question is not clear to me and ambiguous. So 20 I cannot answer an ambiguous question. 21 Q. Okay. What makes my question 22 ambiguous? 23 A. You're flipping and, you know, 24 you want to see the point of view and 25 various -- and here, like, on the screen
Page 39 1 happening is we're talking about a 3D world 2 with a physical thing, and a camera with a 3 field of view, for example, you're telling me. 4 And then you're saying I'm 5 looking at the display and so forth. So it's 6 not applicable to the 3D geometry we're 7 talking about. 8 And these are scenarios you're 9 bringing that I did not consider in my 10 declaration. And they're hypothetical. So I 11 don't feel comfortable just here, you know, 12 answering such things without the, like, full 13 context, without the -- 14 You know, if you give me things 15 in the physical world more, make this more -- 16 I could answer and -- yeah. 17 Q. So if a student came to you and 18 said, you know, "Professor, I have -- I have 19 this image that I took. I'm going to flip it 20 about a vertical axis. I'm going to flip it 21 left-right flip. Professor, will that change 22 the field of view of the picture I took?" 23 You couldn't answer that? 24 MS. WELSH: Objection, form. 25 A. It's not relevant to the	Page 41 1 you're flipping and... 2 Q. So we'll back it up. 3 Professor, I've taken a picture. 4 I have this picture. I took it of a building. 5 I want to flip it, according to left-right 6 flip, on a vertical axis. Professor, will 7 that change the point of view of the 8 picture -- I'm sorry, field of view of the 9 picture I took? 10 MS. WELSH: Objection, form. 11 And, Counsel, we've allowed a lot 12 of leeway with this questioning, but it 13 doesn't appear to be related to her 14 declarations. 15 So please relate them to her 16 declarations. Otherwise we can call the 17 board and talk about the scope of this 18 deposition. 19 MS. SAPUTO: So I can't ask an 20 expert on camera technology basic 21 principles about cameras? Is that what 22 you're telling me, Counsel? 23 Because she opined that she's an 24 expert on camera -- general principles of 25 cameras. These patents are based on

Page 42 1 general principles of cameras, and you're 2 telling me I'm not allowed to ask her 3 questions about that? 4 She opined on field of view. She 5 opined on point of view. I'm not allowed 6 to ask her questions about that? 7 MS. WELSH: We gave you a lot of 8 leeway. And if you can relate it to the 9 declaration, that would be great and help 10 to move this forward. 11 That's what Dr. Karam has 12 testified on, that she's here to talk 13 about her declaration. 14 MS. SAPUTO: Well, we'll keep 15 that in mind when you ask our expert 16 questions, Counsel. 17 BY MS. SAPUTO: 18 Q. All right. Let's turn to the 19 '109 patent. 20 So in paragraph 68 of your 21 declaration of the '109, you list materials 22 that you considered in writing your 23 declaration. 24 Did you consider any other 25 materials in forming the opinions contained in	Page 44 1 reviewing the claims of the '109 patent, 2 correct? 3 A. Yes, the plain and ordinary 4 meaning. But I'm aware of the construction 5 that was issued by the district court of -- 6 like more later, after my declaration. 7 And these also are consistent 8 with the understanding. So my opinions still 9 are valid under the district court 10 construction. 11 Q. And you said that you're aware of 12 the claim construction order in the district 13 court litigation. 14 A. Yes. 15 Q. How are you aware of it? 16 A. Like, I was provided the document 17 and I looked at the document, reviewed it. 18 Q. You testified that you didn't 19 look at any other materials other than the 20 materials that were listed in your 21 declarations in preparation for your 22 deposition today. 23 So do you want to amend that 24 answer to say that you also looked at the 25 claim construction declaration? Did you look
Page 43 1 your declaration? 2 A. I'm going there. 3 To my knowledge, this is the 4 exhibits that I considered in writing my 5 declaration. I did not consider other 6 documents. 7 Q. All right. 8 So paragraphs 56 and 57 of your 9 declaration in the '109 IPR are under the 10 heading "Claim Construction." 11 Do you see that? 12 A. I couldn't hear the number, like 13 you said 56 or 66? 14 Q. 56 and 57. 15 A. Yes. 16 Q. So do these paragraphs accurately 17 reflect the standard you applied in reviewing 18 the prior art in the '109 IPR? 19 A. I'm going through to see, like... 20 So when I had my declaration, 21 I considered the plain and ordinary meaning of 22 the terms in the declaration. 23 Q. All right. 24 And these paragraphs also 25 accurately reflect the standard you applied in	Page 45 1 at anything -- sorry, the claim construction 2 order? 3 A. Yeah. I did look at the claim 4 construction order. Thank you. 5 Q. Anything else that you looked at 6 or considered? 7 A. I do not believe so. 8 MS. SAPUTO: So I'm going to mark 9 as Exhibit 8 the claim construction order 10 from the district court litigation. 11 (Claim Construction Order, marked 12 as Exhibit 8.) 13 BY MS. SAPUTO: 14 Q. Did you read Samsung's claim 15 construction briefing from the district court 16 litigation? 17 A. Can we see Exhibit 8? I don't 18 know what's happening with my computer. One 19 moment. 20 Let's see Exhibit 8. This is the 21 exhibit I reviewed. I didn't review other. 22 Q. So did you read Samsung's claim 23 construction briefing from the district court 24 litigation? 25 A. If it's not in this document,

Page 46 1 then I didn't read it. No. Yeah. 2 No, I did not. 3 Q. And did you read Samsung's expert 4 declaration in support of its claim 5 construction briefing in the district court 6 litigation? 7 A. No. 8 Q. And did you read EyesMatch's 9 claim construction briefing from the district 10 court litigation? 11 A. No. 12 Q. So some terms from Claim 1, 13 limitation 1(c) of the '109 patent were 14 construed in the district court litigation. 15 And so that's -- limitation 1(c), 16 you'll see we have it -- I believe it's 17 Exhibit 3. You can take a look at the 18 language from limitation 1(c). 19 And limitation 1(c) reads: 20 "Applying a transformation 21 mapping to the image to modify the 22 image such that it appears to mimic 23 a reflection of a mirror." 24 Do you see that? 25 A. Yes.	Page 48 1 proposed by Samsung and was ultimately adopted 2 by the district court. 3 Were you aware of Samsung's 4 construction in the district court litigation 5 prior to providing your opinions in this 6 declaration? 7 MS. WELSH: Objection, form. 8 A. No. 9 BY MS. SAPUTO: 10 Q. And this construction in the 11 district court litigation, the one that was 12 proposed by Samsung, is not the construction 13 you applied in analyzing whether the prior art 14 in the IPR renders the claims of the '109 15 patent unpatentable, correct? 16 MS. WELSH: Objection, form. 17 A. Could you rephrase the question? 18 BY MS. SAPUTO: 19 Q. Sure. 20 A. It's a long one. 21 Q. You didn't apply the specific 22 claim construction in offering your opinions 23 in your declaration in the '109 IPR; is that 24 correct? 25 MS. WELSH: Same objection.
Page 47 1 Q. So now I'm going to have you turn 2 back to the claim construction order in the 3 district court litigation, which is Exhibit 8. 4 And on page 14 of that claim 5 construction order, the district court 6 construed the term "transformation mapping" to 7 be "a selected set of image transformations." 8 Do you see that? 9 A. Yes. 10 Q. And now we're going to look at 11 the other part of limitation 1(c) that was 12 construed, which is on page 19 of that claim 13 construction order. 14 And "It appears to mimic a 15 reflection of a mirror" was construed in the 16 district court litigation as "an image where 17 the user sees their reversed reflection 18 appearing at roughly double the distance from 19 the camera and the reflection maintains 20 roughly the same size regardless of the user 21 movement." 22 Do you see that? 23 A. Yes. 24 Q. And since this construction -- 25 and this construction was one that was	Page 49 1 A. I did apply -- this is consistent 2 with my declaration, and I do have the 3 background -- you can look at the background 4 in my '109 declaration. It illustrates this. 5 So let me pull it -- one moment. 6 So if we go to the technology 7 background -- so if you go to paragraph 43, 8 and also on page 24/25 of my declaration for 9 the '109 patent, you can see Figure 1(b) 10 there, like on page 25 of the '109 11 declaration, my '109 declaration, illustrating 12 this same principle. 13 This is what's known as like in 14 Straka, Exhibit 1023 in my declaration, as 15 prior art. For the '109 and '110, it's prior 16 art. 17 And it does show Figure 1(b), 18 which looks like Figure 5(b) of the '109 19 patent, which is also prior art because it's 20 the background. This is in the background of 21 '109. And '109 also assert that this is prior 22 art. 23 And a POSITA would know that. 24 So these figures are consistent 25 with the claim construction that was issued by

Page 50 1 the district court. 2 BY MS. SAPUTO: 3 Q. So my question is a little bit 4 different. It's a yes-or-no question. 5 Did you apply this construction 6 from the district court when analyzing whether 7 the prior art references disclosed 8 limitation 1(c)? 9 MS. WELSH: Objection, form. 10 A. My opinions are consistent in 11 this -- with this construction. 12 BY MS. SAPUTO: 13 Q. But you didn't affirmatively 14 apply that construction, correct? 15 MS. WELSH: Same objection. 16 A. We have the broader -- like, my 17 opinion were the broader context. But this 18 construction is embodied with what I applied. 19 So it is -- so my opinion applied to it. 20 Maybe to give you more 21 clarification, if you say "office furniture," 22 it could be a chair or a desk, but still it's 23 office furniture. 24 So this -- the claim construction 25 is comprised with my opinion applied to it.	Page 52 1 are consistent with this construction, which 2 I'm showing on page 25 of my declaration. 3 Q. All right. 4 So on page 28 of the claim 5 construction order, the district court 6 construed the limitation 1(h), which is 7 "varying the rate at which the nonordered 8 steps are performed on the series of images 9 according to the distance." 10 Do you see that? 11 A. Yes. 12 Q. Okay. So the district court 13 construed that to mean "varying the rate at 14 which one or more nonordered steps are 15 performed on the series of images according to 16 distance." 17 You didn't apply that 18 construction in analyzing whether the prior 19 art renders the claims of the '109 patent 20 unpatentable, correct? 21 MS. WELSH: Objection, form. 22 A. The opinions of my declaration 23 are consistent with this construction. 24 MS. SAPUTO: Okay. Let's now 25 look at Exhibit Number 9, which is the
Page 51 1 It's my -- the plain and ordinary meaning can 2 be broader, but my opinion on that is still 3 consistent with this. 4 BY MS. SAPUTO: 5 Q. The district court didn't give 6 this term plain and ordinary meaning, and you 7 applied plain and ordinary meaning. 8 So again, yes-or-no question: 9 Did you apply this particular construction in 10 your analysis? 11 MS. WELSH: Objection to form. 12 Asked and answered. 13 A. My opinions are consistent with 14 this. That's the -- that's my answer. And it 15 does -- 16 BY MS. SAPUTO: 17 Q. That's not my question, so -- 18 okay. 19 A. I did apply the plain and 20 ordinary meaning which includes this, which 21 I'm showing on page 25 of my declaration. 22 This is what a POSITA understand a word is. 23 And this is what I -- I'm showing 24 it in the background, so I did apply this 25 construction. I did take this -- my opinions	Page 53 1 Rosenberg reference, which is the IPR 2 exhibit in the '109 IPR 1005. 3 It's going to be Exhibit Number 9 4 for us here today. 5 (US Patent Application 6 Publication, Rosenberg, 7 02/22/2007, marked as Exhibit 9.) 8 BY MS. SAPUTO: 9 Q. Okay. Do you have the Rosenberg 10 reference? 11 A. Yes. 12 Q. Okay. Rosenberg discloses a 13 digital mirror system that emulates a 14 traditional mirror by displaying real-time 15 video images of a user; is that correct? 16 A. Could you -- 17 Q. Yeah. I can point you to 18 paragraph 71 of your declaration. 19 So I'm going to repeat my 20 question. 21 A. 71. One moment. 22 Yes. 23 Q. Okay. So Rosenberg discloses a 24 digital mirror system that emulates a 25 traditional mirror by displaying real-time

Page 54 1 video images of a user; is that correct? 2 A. Yeah. This is my declaration, 3 paragraph 71 also. 4 Q. Okay. So Rosenberg's system 5 discloses a display with a screen and a 6 digital video camera mounted above or behind 7 the screen; is that correct? 8 A. Yes. 9 Q. Okay. So let's look at the 10 Rosenberg reference itself. 11 We're going to look at 12 paragraph 61. 13 A. Could you please repeat the 14 paragraph number. 15 Q. 61. 16 Okay. So about in the middle of 17 the paragraph, it says: 18 "In a preferred embodiment, the 19 camera is positioned such that it is 20 horizontally centered with respect 21 to the screen area of display 200." 22 A. One moment. I need some time for 23 the screen. One moment. Because I have the 24 paper, but also I'm going there on my screen 25 because maybe I'm -- thank you.	Page 56 1 Q. Okay. So do you agree that 2 Rosenberg regards a basic embodiment to be one 3 in which the physical placement of the camera 4 is mounting it directly above the screen area 5 of the display? 6 A. Yes. 7 Q. Okay. And do you agree that 8 Rosenberg states that more advanced 9 embodiments have the camera physically placed 10 within the screen area of the display? 11 A. Yeah. 12 Q. Okay. So now we're going to go 13 to paragraph 27 of Rosenberg. 14 And we're going to go to almost 15 the bottom of that paragraph, the last two 16 sentences. It starts with "However." 17 A. Okay. It's 27 -- I'm going 18 there. So it's paragraph -- which one? 19 Q. Paragraph 27. 20 A. Okay. One moment. 21 Okay. 22 Q. And it's all the way at the 23 bottom. It's almost at the end of the 24 paragraph, the last two sentences, and it 25 starts with "However."
Page 55 1 So 61. Where in 61? 2 Q. So it's about the middle of the 3 paragraph. So if you see this second 4 number 200, it's after that. It starts "In a 5 preferred embodiment"? 6 A. Okay. Sure. 7 Q. (Reading.) So: 8 "In a preferred embodiment, the 9 camera is positioned such that it is 10 horizontally centered with respect 11 to the screen area of display 200. 12 In basic embodiments, the camera is 13 mounted directly above the screen 14 area of the display 200, generally 15 near the horizontal center. In more 16 advanced embodiments, the camera is 17 mounted within the screen area of 18 the display 200 itself, 19 approximately at eye level of 20 typical users, positioned behind the 21 display surface and aimed through a 22 transparent portion of the display 23 200." 24 Do you see that? 25 A. Yes.	Page 57 1 A. Yes. 2 Q. Okay. It says: 3 "However, embodiments which have 4 a camera mounted above the screen 5 area may still be configured to 6 provide an effective image, but the 7 vantage point will simply be 8 slightly higher than the eye-level 9 vantage point with which users are 10 familiar. This raised vantage point 11 is sometimes advantageous, giving 12 users an increased view of the top 13 of their head, an area that is often 14 the focus of hair brushing." 15 Do you see that? 16 A. I see that. 17 Q. Okay. So is it correct that 18 Rosenberg does not try to adjust the vantage 19 point of this basic embodiment by digital or 20 computer processing means? 21 MS. WELSH: Objection, form. 22 A. This does not like -- this -- so 23 could you -- so could you repeat the question? 24 I'm sorry. Like, Rosenberg what -- could 25 you --

Page 58 1 BY MS. SAPUTO: 2 Q. So Rosenberg does not disclose 3 trying to adjust the vantage point of this 4 basic embodiment, the basic embodiment being 5 the one where the camera is mounted above the 6 display, above the screen. 7 He does not disclose trying to 8 adjust that vantage point by computer 9 processing means, correct? 10 MS. WELSH: Same objection. 11 A. You know, it does not explicitly 12 disclose. But I can point you to other places 13 in Rosenberg where a POSITA would understand 14 that Rosenberg -- this is -- this is a feature 15 that Rosenberg -- like the invention 16 discloses. 17 You know, for example -- one 18 moment. 19 The paragraph that talks about 20 Figure 5 in Rosenberg -- let me find that. 21 If you go to Figure 5 in 22 Rosenberg -- 23 BY MS. SAPUTO: 24 Q. Okay. 25 A. -- you can see that.	Page 60 1 a representation -- like just the third 2 sentence: 3 "A representation of that 4 real-time video image is then 5 displayed upon the wall-mounted 6 screen of the digital mirror with a 7 displayed size and scaling such that 8 it appears like a traditional 9 life-size mirror image." 10 So indeed a POSITA would 11 understand that Rosenberg is teaching and 12 disclosing his invention is capable or is 13 teaching, disclosing his invention can make 14 the person see himself or herself as appearing 15 in a traditional life-size mirror. 16 And a POSITA would understand the 17 traditional life-size mirror to have the 18 characteristics as construed in the Court and 19 as also on page 25, the background that I 20 showed. 21 Q. So now my question: Rosenberg 22 doesn't disclose, though, trying to adjust the 23 vantage point of the camera. 24 A. You could have -- 25 Q. So Rosenberg is saying we're
Page 59 1 And let's go to the paragraph 2 that talks about it, the paragraph that talks 3 about Figure 5. It may be in my declaration. 4 If you know the paragraph -- if 5 you can see also the paragraph, feel free to 6 point me out to the paragraph. 7 Q. Paragraph 77 in Rosenberg refers 8 to Figure 5. 9 A. Okay. Okay. So let's go there. 10 Yeah. So paragraph 77, you can 11 see that paragraph is talking about Figure 5. 12 Q. Uh-huh. 13 A. And it says: 14 "Illustrates a computer rendering 15 of a human user standing in front of 16 a wall-mounted embodiment of the 17 advanced digital mirror system 502." 18 So in this advanced digital 19 mirror system, 502, you could see in that 20 embodiment, Figure 5, the camera is placed on 21 top of the display and it's calling it 22 "advanced digital mirror." And a computer is 23 used to do processing to render that person 24 there. 25 And if we go down this paragraph,	Page 61 1 taking -- we have a video of you. We're using 2 a computer to display it on a digital screen. 3 But Rosenberg doesn't disclose 4 using the computer processing to actually 5 change that vantage point, to change the 6 angle -- 7 A. Go ahead, sorry. 8 A POSITA would understand in this 9 paragraph that Rosenberg does indeed disclose 10 that when Rosenberg is saying "such that it 11 appears like a traditional life-size mirror 12 image" in this. 13 The other one -- you have 14 different embodiment in Rosenberg and 15 different applications. 16 You could not adjust it and then 17 you see your head. 18 But if you want to see a 19 traditional life-size mirror image, you need 20 to adjust it. 21 Indeed, a POSITA would understand 22 that, given this disclosure, given what's 23 shown in all the illustration, like referring 24 to that picture on the -- the camera on the 25 top, like in the figure -- the illustration

Page 62 1 here, the relevant illustration. 2 And this is what Rosenberg calls 3 "traditional mirror emulation mode." 4 So emulation indeed Rosenberg is 5 adjusting to have the traditional mirror 6 emulation. 7 Q. So what would a POSITA understand 8 traditional mirror emulation to be? What 9 would it include? 10 A. Okay. So traditional mirror 11 emulation, you understand with the traditional 12 mirror is to have the same characteristics of 13 a mirror. 14 Q. And what are those? 15 A. Excuse me? 16 Q. What are those? What are the 17 traditional characteristics of a mirror? 18 A. You have the flipping. You have 19 the same size. You have the double the 20 distance as we show in the background. That's 21 the traditional mirror. At least, yeah, at 22 least we have those. 23 Q. Right. But there's no -- none of 24 what you just disclosed includes changing the 25 vantage point, right?	Page 64 1 disclose -- is it in here in the four corners 2 of this document that emulating a traditional 3 mirror includes changing vantage point? 4 A. A POSITA would understand that. 5 However, Rosenberg does not explicitly talk 6 about how to achieve this. That's why in my 7 declaration we have the combination. But a 8 POSITA would be motivated to look at prior art 9 that disclosed how to do this. 10 Q. Because Rosenberg doesn't 11 explicitly disclose it, correct? 12 A. Excuse me? 13 Q. Rosenberg does not explicitly 14 disclose changing the vantage point, correct? 15 Like, using a transformation to change the 16 vantage point; is that correct? 17 A. It's not explicitly disclosed. 18 Q. Okay. Let's look at 19 paragraph 27. But we're going to go up. It's 20 going to be in the middle. It states, "In 21 more advanced embodiments." 22 It's going to be several 23 sentences up from the sentence we just looked 24 at. 25 A. 27?
Page 63 1 So if I'm looking down at a 2 mirror, that's what's going to be reflected at 3 me. 4 So if a camera is looking down 5 and it displays on the screen, there's no 6 reason to change it, right? Like there's 7 no -- that's what -- if I was looking down at 8 a mirror, that's what it would look like. 9 So I guess my question to you is: 10 Rosenberg doesn't disclose any specific image 11 transformation to accomplish a change in 12 vantage point? 13 A. In this -- in paragraph 77, a 14 POSITA would understand that Rosenberg, 15 through the computer rendering, the emulation 16 of the traditional life-size mirror is 17 disclosing making transformation to have these 18 characteristics. 19 You have to adjust the tilt of 20 the camera so that you have the same size and 21 all these characteristics we are talking 22 about. 23 Q. So what a POSITA would understand 24 isn't my question. 25 Rosenberg -- does Rosenberg	Page 65 1 Q. Uh-huh. Paragraph 27 of 2 Rosenberg. 3 A. Okay. And then -- 4 Q. The sentence starts with "In more 5 advanced embodiments, the camera is mounted." 6 A. One moment. So is this near the 7 top more? 8 Q. It is near the middle of the 9 page. 10 A. Yes. I found it. 11 Q. So it says: 12 "In more advanced embodiments, 13 the camera is mounted within the 14 screen area of the display itself, 15 approximately at eye level of 16 typical users, for example, 17 positioned behind the display 18 surface and aimed through a 19 transparent portion of the display. 20 Such embedded-camera embodiments 21 provide a superior arrangement 22 because they provide the user with a 23 natural and accurate visual 24 perspective of himself or herself as 25 compared to a traditional mirror."

Page 66 1 Do you see that? 2 A. Yes. 3 Q. Okay. So now we're going to flip 4 over to paragraph 75 in Rosenberg and we're 5 going to look at the second sentence there. 6 And it says: 7 "Unlike the embodiments shown in 8 Figure 3 where the camera is mounted 9 above the display screen" -- 10 A. I didn't find it yet. 11 Q. 75. It's the second sentence. 12 A. Okay. Thank you. 13 Q. (Reading.) 14 "Unlike the embodiment shown in 15 Figure 3 where the camera is mounted 16 above the display screen, the 17 embodiment shown in Figure 4 has a 18 camera 402 mounted within the screen 19 area. Such embodiments may be 20 preferred because they yield more 21 realistic replications of 22 traditional mirrors because the 23 displayed image that is from a 24 vantage point that is straight 25 ahead. Such embodiments of the	Page 68 1 Okay. If you look at the third 2 sentence in that 75: 3 "Such embodiments may be 4 preferred" -- may, so not are 5 preferred, so may be preferred -- 6 "because" -- it's not saying placing 7 the camera -- "because they yield 8 more realistic replications of 9 traditional mirrors because the 10 displayed image that is from a 11 vantage that is straight ahead." 12 So Rosenberg is disclosing that 13 what is preferred is to have a more -- like 14 the eye-level feature of the traditional 15 mirror to be more closer to the traditional 16 mirror. And this would give it to you. 17 That said, a POSITA would also 18 understand that we need this -- like, 19 Rosenberg is teaching that the preferred is to 20 have the eye level that we have, like you're 21 seeing a mirror reflected -- a reflected 22 image, and you have the -- your eye level, the 23 eye of sight is -- you can look at the front 24 facing if you're looking at the thing. 25 So that's the preferred. And
Page 67 1 present invention often strive to 2 achieve placement of the camera 402 3 such that the image captured by the 4 camera 402 is taken from a vantage 5 point that is centered horizontally 6 with respect to the display screen 7 and at an elevation vertically that 8 generally corresponds with a user's 9 typical eye level. In this way, the 10 user is looking straight at the 11 camera 402 when standing centered 12 before the digital mirror screen." 13 Do you see that? 14 A. Yes. 15 Q. Okay. Do you agree that 16 Rosenberg discloses that physical placement of 17 the camera within the display screen is 18 preferred? 19 A. So one moment. So let me see how 20 it's written here. I have to -- based on your 21 question, just to go over -- based on this 22 paragraph, 75, you're asking this question. 23 Is that right? 24 Q. Yes. 25 A. Okay. Just give me a moment.	Page 69 1 saying that, such embodiment of Figure 4 may 2 be preferred because it gives this, okay? 3 That said, we know that people 4 can be at different -- taller or like shorter. 5 To have a camera in this display, it's not 6 going to match the eye level of everybody and 7 for sure not. 8 So this is maybe preferred. It's 9 not, you know, in here. But what Rosenberg is 10 disclosing here is that eye level, that's 11 what's preferred. What's preferred is to have 12 something more accurately emulating a 13 traditional mirror. 14 Q. And Rosenberg achieves -- 15 achieves eye level, like he achieves as close 16 to eye level or approximates eye level as 17 closely as possible by physically placing the 18 mirror within the display screen; is that 19 correct? 20 A. That's one way, one embodiment. 21 But if you look at all the 22 illustration -- and remember, please, if you 23 go to -- if you go -- except for Figure 4, if 24 you go to other figures, like from Figure 3 to 25 Figure -- I'm going to tell you -- to

Page 70 1 Figure 12. 2 Figure 3 to Figure 12, which are 3 mainly the mirror, illustrating the 4 mirror-mimicking display, all of them except 5 one of these illustrations have the camera on 6 the top. All of them. 7 This is like -- this is like 8 really what -- like if Rosenberg wants to 9 emphasize just place the camera in the scene, 10 why do we have, out of all the 11 mirror-mimicking display, all of them are with 12 the camera at the top. 13 So here we have -- one, two, 14 three, four, five, six, seven, eight, nine, 15 ten -- ten illustrations of the 16 mirror-mimicking with only one of them showing 17 the camera in the center and all of the others 18 are showing the camera at the top. 19 This is very important 20 embodiment. And I showed you also the 21 paragraph talking about Figure 5 and saying 22 the user seeing himself or herself appearing 23 like in a traditional mirror. 24 So indeed, the POSITA would 25 understand that Rosenberg is teaching	Page 72 1 necessarily always see myself at eye level. 2 Like if I'm looking down or my head is looking 3 in another direction, right, that isn't 4 corrected, right? Like, the mirror doesn't 5 change that for me. 6 So is that a requirement of 7 mirror mimicking? Is that a requirement of a 8 traditional mirror? 9 A. What we're saying, if you're 10 looking straight at the mirror, let's say 11 mirror, you could look straight at it too, you 12 know; is that right? 13 When you do that, you have to 14 have the -- approximately the characteristic 15 that belongs to a traditional mirror, which 16 are also in the court construction, district 17 court construction, what a POSITA would 18 understand based on the prior art, which is 19 also -- I talk in my background declaration -- 20 the declaration Background section for the 21 '109 illustrates that the prior art did indeed 22 discuss the characteristic of a mirror, like 23 Straka, and it's illustrated in my 24 declaration. 25 Q. But it says nothing in -- about
Page 71 1 mirror-mimicking with the camera placed on top 2 and with the computer doing the rendering and 3 processing to get it as close as possible 4 to -- roughly, and to be like 5 mirror-mimicking. 6 Q. So does mirror-mimicking include 7 a transformation to change the angle that the 8 user is looking at the mirror -- at the 9 camera? 10 A. Paragraph 77, a POSITA would 11 understand traditional life-sized mirror. 12 That's the understanding of the life-size 13 mirror so -- 14 Q. So anytime -- so you -- scratch 15 that. 16 So are you telling me that 17 anytime a system seeks to emulate a 18 traditional mirror, it must ensure that the 19 user appears to be facing the mirror at 20 eye level? 21 A. Or approximately at eye level, as 22 close as possible, especially when we talk 23 about traditional mirror. 24 Q. So -- but when I look in a 25 traditional mirror, do -- is that -- I don't	Page 73 1 making sure that the user -- their eye level, 2 it matches and appears horizontally. Straka 3 didn't talk about that. 4 A. Same size. When you say "same 5 size." Okay? 6 Q. Oh, but what I'm asking you about 7 in Rosenberg -- okay, so the camera is mounted 8 up here. Rosenberg does not disclose any 9 transformation that would change the fact that 10 the camera is pointing -- that the image 11 that's going to be displayed on the screen is 12 going to be the top of my head -- 13 A. I respectfully -- 14 Q. -- more than like the front of my 15 face. 16 A. I respectfully disagree. I 17 showed you in 77 -- 18 Q. No. I'm sorry. You testified 19 that Rosenberg does not explicitly disclose 20 that. 21 Are you going to change your 22 testimony now? 23 A. Explicitly. But a POSITA would 24 understand -- 25 Q. I'm not asking you what a POSITA

Page 74 1 would understand. I'm asking you to answer 2 the questions that I'm asking you. 3 I'm asking you specifically about 4 Rosenberg. What does Rosenberg disclose? 5 A. Rosenberg discloses, not 6 explicitly. In 77, it's clearly disclosed, 7 okay? When I -- when you say one, you don't 8 have to say it's an integer. We know like 9 one -- or whatever. 10 Like when you say something that 11 a POSITA would understand, you don't have 12 really to put the details. I mean, that's the 13 thing about the POSITA also. 14 So here it's disclosed. Yes, it 15 is disclosed. Explicitly like this or that, 16 Rosenberg doesn't provide detail. That's why 17 a POSITA would be motivated. 18 How can I have this traditional 19 life-size mirror? And seeing all the 20 illustration with the camera on the top except 21 one in Rosenberg; and knowing also the 22 problems that comes with the camera and the 23 display. 24 The main thing in Rosenberg, the 25 preferred, is to have that lifelike	Page 76 1 at 9:12 a.m. 2 BY MS. SAPUTO: 3 Q. Returning to Rosenberg, if you 4 look at, for example, paragraph 39 of 5 Rosenberg, Rosenberg discloses a mirror image 6 freeze mode in which the user can selectively 7 freeze a current mirror image of the user, and 8 then it's statically displayed on the device; 9 is that correct? 10 A. I need to look at it. 39? 11 Q. Yes, please. 12 A. Yes. 13 Q. Okay. And then let's look at 14 paragraph 44 of Rosenberg. And this is one 15 where Rosenberg is disclosing mirror image 16 buffering mode. 17 And this is a mode in which a 18 certain number of real-time images of the user 19 are stored and then the user can play them 20 back. Is that correct? 21 A. One moment. 22 Yes. 23 Q. Okay. Now we're going to turn to 24 paragraph 48 of Rosenberg. 25 And this is a paragraph in which
Page 75 1 traditional mirror, not really to put the 2 camera in display. 3 If you could have the lifelike -- 4 so the preferred is to have that. And he says 5 may be preferred the other one, to get this, 6 okay? 7 But in 77, the Figure 5, and 8 talking about the illustrations there, the 9 POSITA would understand, indeed, that 10 Rosenberg is disclosing the characteristic of 11 a traditional mirror, and would seek to see 12 other prior art that would explicitly disclose 13 how to achieve that. 14 MS. SAPUTO: Okay. Let's take a 15 break. 16 Can we do 10 minutes? Is that 17 okay with everyone? 18 MS. WELSH: That works for us. 19 THE WITNESS: Yeah. That works. 20 Thank you. 21 THE VIDEOGRAPHER: We're going 22 off the record at 8:59 a.m. 23 (Recess taken.) 24 THE VIDEOGRAPHER: This begins 25 media unit 2, and we are on the record	Page 77 1 Rosenberg discloses multi-view mirroring mode 2 in which a composite of the user is created 3 based on frozen or buffered images; is that 4 correct? 5 A. One moment, please. 6 Okay, yes. 7 Q. Okay. And Rosenberg discloses a 8 zoom-in and zoom-out functionality; is that 9 correct? 10 A. Could you point me out? 11 Q. Sure. 12 So, for example, paragraph -- 13 let's see -- I think paragraph -- I can give 14 you the right paragraph number. 15 Just in the abstract, it says "an 16 image zoom feature," and then also -- uh-huh. 17 And then also paragraph 25. It's 18 in the middle of the paragraph, second column. 19 A. Uh-huh. 20 Q. So you agree, Rosenberg discloses 21 a zoom-in and zoom-out feature? 22 A. Yes. 23 Q. All right. 24 And then paragraph 100 also 25 discloses the zoom feature; is that correct?

Page 78 1 A. 26? 2 Q. I'm sorry, 100. 3 A. 100. 4 Yep. Yes. 5 Q. So the zoom-in functionality 6 disclosed in Rosenberg is based on a user's 7 affirmative commands; is that correct? 8 A. Could you point me to -- is it in 9 paragraph 100, whether it's just like -- 10 Q. Yes, please, paragraph 100. 11 A. Okay. 12 Q. So the zoom-in functionality in 13 Rosenberg is based on the user's affirmative 14 commands; is that correct? 15 A. In this, like, embodiment. 16 Q. Is there anywhere in Rosenberg 17 where the zoom-in functionality is not based 18 on affirmative commands? 19 A. I cannot remember to answer the 20 question. 21 Q. Did you point to anything in your 22 declaration regarding the zoom functionality 23 being based on anything aside from affirmative 24 commands? 25 A. One moment. Could you point me	Page 80 1 mode would do the zooming or rescaling or zoom 2 in/zoom out, whatever you want to call it. We 3 call it resizing/rescaling also. 4 So unless you want to define what 5 you mean by "zoom" in here, but you have 6 rescaling, which can be zooming in/out, so 7 that the size would stay constant so as to 8 emulate the traditional mirror. And this is 9 explicitly disclosed in Rosenberg. 10 That said, on top of that, this 11 paragraph 100 is talking about after you are 12 like emulating a mirror, maybe the user 13 doesn't want the mirror and has asked you to 14 augment the mirror through further zooming. 15 So this is where the verbal 16 command comes in, "zoom more." 17 So I believe we can see the 18 illustration in Rosenberg in this like -- so 19 if you go to Rosenberg, Figure 10, for 20 example, and Figure 11. Figures 10 and 11 21 illustrate the zoom in/zoom out, which could 22 be starting from the mirror-mimicking which is 23 automated, the other one. 24 And then the -- for example, in 25 Figure 10, the user doesn't want the
Page 79 1 to, in my declaration, where I talk about 2 zoom? Or I can look myself and find it. 3 Q. So I'll move on to the next 4 question. 5 Rosenberg does not disclose zoom 6 based on the user's distance to the camera; is 7 that correct? 8 A. Based on the paragraph 77, to be 9 able to be like traditional mirror, the POSITA 10 would understand the size is being adjusted. 11 That is resizing. 12 Rosenberg does disclose resizing 13 and rescaling. 14 Q. So my question is whether 15 Rosenberg explicitly discloses zoom 16 functionality based on the user's distance to 17 the camera. 18 A. The resizing, yes. This is 19 explicitly disclosed. So you have to resize 20 to be emulating a mirror. 21 On top of that, if you want to 22 have more and not emulate a mirror, the user 23 can actually zoom in more to change the 24 mirror. 25 So automatically, the automated	Page 81 1 mirror-mimicking. This is like an augmented 2 mirror. And we say "zoom in," based on verbal 3 command or other command according to 4 paragraph 100 for that embodiment. 5 And that's what you get, 6 Figure 10. 7 Q. Are image resizing and image 8 scaling the same thing? 9 A. You can use them interchangeably 10 here, in this context, yeah. 11 Q. In the context of Rosenberg, it's 12 your opinion that you can use image resizing 13 and image scaling interchangeably? 14 A. I don't know whether Rosenberg 15 defined an -- I don't recall from memory. 16 If you point me out to the 17 specific use of scaling in the specification, 18 I know people can define things differently. 19 Based on context, it can mean something else. 20 Q. Well, I'm asking you, as you read 21 this reference. You've opined on it. 22 A. Yes. 23 Q. Are resizing -- you were using 24 the terms "resizing" and "scaling." 25 Are you saying they're

Page 82 1 interchangeable terms in the context of 2 Rosenberg? 3 A. Can you point me to my 4 declaration? I didn't memorize all these 5 nuances. 6 So if you point me to the 7 specific part where I'm using "resizing" and 8 where I'm using "scaling" and -- so that I can 9 better answer your question. 10 Q. Well, in your answer just now, 11 you used the terms "resizing" and "scaling." 12 It seemed that you were using those 13 interchangeably. 14 Is it your opinion that those are 15 terms that you can use interchangeably? 16 A. It depends on the context. In 17 the field we could use scaling, resizing. But 18 Rosenberg, it depends on the context, you 19 know, where it's being used and how people are 20 using it. So that's why -- 21 Q. Well, I -- please go ahead. I'm 22 sorry. I interrupted you. 23 A. Yeah. For when I use scaling, I 24 was using it to say resizing, also. Me, now. 25 Q. Okay. Thank you.	Page 84 1 too. You're scaling. 2 Q. So is the zoom disclosed in 3 paragraph 100 of Rosenberg, can that be 4 considered scaling? 5 A. When you zoom, you scale. You 6 resize. 7 Q. Rosenberg discloses inverting the 8 image, meaning a left-right flip about the 9 vertical axis. Is that correct? 10 A. Yes. 11 Q. And as we discussed earlier, 12 Samsung advocated for a particular 13 construction of "it appears to mimic a 14 reflection of a mirror" that was adopted in 15 the district court litigation. 16 Is it correct that your testimony 17 was that you have not read Dr. Myler's 18 declaration in support of that construction? 19 A. I have not read Dr. Myler's 20 declaration. 21 Q. And were you aware of Samsung's 22 claim construction position in the district 23 court litigation when you offered your 24 opinions in the declaration in the '109 IPR? 25 A. I was not aware of that position.
Page 83 1 Okay. So you referred to 2 paragraph 77 of Rosenberg. In paragraph 77 is 3 there a disclosure of resizing or scaling 4 based on distance of the user to the mirror? 5 A. I'm going back to paragraph 77. 6 Just one moment. 7 If you look in the middle of the 8 paragraph, it's written: 9 "With a displayed size and 10 scaling such that it appears like a 11 traditional life-size mirror image 12 503." 13 A POSITA would understand that 14 that scaling adapts to the distance so that 15 you appear as a traditional life-size mirror 16 image. 17 Q. Is scaling the same as zooming, 18 zooming in on an image, as disclosed in 19 Rosenberg? 20 A. It depends on the context also 21 and how you build an interface. I could be 22 building a package where zoom means something 23 other than that. So it depends on the context 24 in here. 25 With zooming, you have scaling,	Page 85 1 Q. And Samsung's particular 2 construction, and the construction that was 3 adopted in the district court litigation, that 4 specific construction is not part of your 5 declaration in the '109 IPR; is that correct? 6 MS. WELSH: Objection, form. 7 A. This is not correct. I disagree. 8 As I showed you, I mean, my opinions are 9 consistent also with this claim construction 10 too. It doesn't change that. I mean, it 11 encompasses this, and a POSITA would 12 understand that. 13 And I showed you the Background 14 section, also, illustrating that based on 15 prior art. 16 BY MS. SAPUTO: 17 Q. The definition -- the 18 construction, the definition that was 19 advocated by Samsung and subsequently adopted 20 by the district court, like, those words, that 21 definition, does not appear in your 22 declaration; is that correct? 23 A. Could you -- could you kind of 24 tell me what words do not appear in my 25 declaration?

Page 86 1 Q. Sure. 2 The words from the claim 3 construction -- the words that Samsung 4 advocated for the claim construction, meaning 5 the ones that we discussed earlier, which were 6 "it appears to mimic a mirror." 7 And so the specific definition 8 that is not in your declaration is: 9 "An image where the user sees 10 their reversed reflection appearing 11 at roughly double the distance from 12 the camera, and the reflection 13 maintains roughly the same size 14 regardless of the user movement." 15 Those words do not appear in your 16 declaration; is that correct? 17 A. I would like to -- in order to 18 answer your question, I would like to point 19 you to page 18 and like to -- to page 24 and 20 25, again, of my declaration. 21 So you could see paragraph 43 22 also; this mirror effect was well-known to a 23 person of ordinary skill in the art. 24 And the illustration here are 25 also disclosing these words, whatever you want	Page 88 1 Q. Straka is not prior art as you've 2 opined renders the claims of the '109 patent 3 unpatentable; is that correct? 4 A. Excuse me? 5 Q. Straka that you're referring to 6 in your declaration on pages -- that is not 7 prior art that you have offered an opinion 8 renders the claims unpatentable; is that 9 correct? 10 A. It's not part of the grounds, but 11 it's part of the -- what a POSITA understands 12 as prior art. 13 So a POSITA, when we say 14 "mirror," or "traditional mirror," based on 15 the prior art, a POSITA has access to all the 16 prior art would understand this is the mirror 17 effect. 18 On the grounds, though, for the 19 claims, Straka was not used for the grounds. 20 Although -- but this would reflect the POSITA 21 knowledge as prior art. 22 Q. Aside from left-right inversion, 23 Rosenberg doesn't disclose any other 24 computerized transformation of an image; is 25 that correct?
Page 87 1 to call it, words. The illustration are 2 disclosing those. 3 The mirror effect was one also 4 where -- for example, in paragraph 43, we say, 5 for example, as Straka explained: 6 "A virtual mirror needs to 7 simulate the properties of any 8 mirror as accurately as possible. 9 When standing in front of a mirror 10 at a distance D, the mirror image of 11 oneself appears exactly at the same 12 distance but behind the mirror. 13 However, even though this distance 14 can change, the size of the user in 15 the mirror image when projected on 16 the mirror surface stays constant." 17 Okay? Stays constant. 18 And here it has the height of the 19 user, meaning the mirror -- we need to just 20 have the height to see the full-size image of 21 the user. And provided 1B. 22 So what would -- so we can see, 23 same size is there, double the distance is 24 there, the flipping. Also, they appear all 25 over the -- my declaration also is there.	Page 89 1 A. Rosenberg discloses resizing and 2 scaling. 3 Q. Is resizing and rescaling a 4 transformation? 5 A. Yes, it is. 6 Q. Nowhere in your declaration do 7 you provide an opinion that Rosenberg, in 8 combination with any other reference, would 9 disclose mirror-mimicking by generating an 10 image of the user -- scratch that. 11 Does Rosenberg disclose varying 12 the frame rate based on the user's distance to 13 the display? 14 A. I cannot really answer from 15 memory. If you point me to a specific part, 16 I'm asking question. But -- or point me to my 17 declaration. Because like -- or whether -- if 18 it's in my ground or not on Rosenberg, and we 19 can go there, I could answer these questions. 20 Q. You have offered no opinion that 21 Rosenberg discloses varying the frame rate 22 based on user's distance to the display; is 23 that correct? 24 A. Let me go to that section. One 25 moment.

Page 90 1 This is which claim element? 2 Q. This is limitation 1 -- let me 3 make sure I get it right -- 1(h). 1(h). 4 A. I did offer my opinion on 1(h) in 5 the ground 1 and the other grounds, and 6 Rosenberg in combination with Nakazawa. 7 Q. Right. But Rosenberg itself, 8 alone, by itself, not in combination with 9 anything, do you offer an opinion that 10 Rosenberg by itself discloses varying the 11 frame rate based on the user's distance from 12 the display? 13 A. I believe I do, but let me look 14 at -- let me just find it and point your 15 attention to it. 16 So if you go to paragraph 152 -- 17 Q. Yes. 18 A. -- this is where I discuss that 19 and show Rosenberg by itself -- how Rosenberg 20 discloses -- and I give an example on 21 page 116. 22 Q. Which paragraph? 23 A. So it's paragraph 152. But on 24 116 I give an example -- on page 116. So 25 paragraph 152, page 116 of my declaration.	Page 92 1 Rosenberg talks about, including, for example, 2 conserving power and so forth, when the user 3 is at a certain distance from the display, the 4 mirror-mimicking mode would start. 5 If the user is farther from the 6 display, then that mode would stop. And you 7 have a digital picture frame display. 8 And the user can be moving in and 9 out. And by doing that, you have -- the frame 10 rate would change. I mean, it's obvious. The 11 varying rate of the processing would change. 12 Q. The varying rate of the 13 processing would change. 14 A. Based on the distance of the 15 user, as taught by Rosenberg. 16 Q. So in your example, it's 17 switching between modes; is that correct? 18 A. Rosenberg calls them modes, yeah, 19 two modes, one in which the transformations 20 are performed, called mirror mode, and one, 21 the picture display frame where these 22 transformations basically are not performed. 23 Q. But these disclosures are based 24 on turning on or off varying modes of the 25 display, not varying the processes within any
Page 91 1 And for the record, when I refer 2 to a page, I refer to the actual page of the 3 PDF. I'm not referring to the pages of the 4 exhibit. Does that make sense? Like, that 5 is -- 6 Q. Yes. Uh-huh. I understand. 7 Thank you. 8 But even in your example, this 9 isn't based on a disclosure in Rosenberg that 10 is -- that shows varying the rate for 11 performing a process or steps based on the 12 user's distance to the mirror? 13 A. The teaching of Rosenberg, a 14 POSITA would understand this varying rate 15 because, like Rosenberg discloses that the 16 system can switch between two modes, the 17 mirror mode and a digital picture frame mode, 18 where during the digital picture frame mode, 19 in that case, the processing operation steps 20 are not performed, whereas when you switch to 21 the mirror mode, they are performed. 22 And this is based on the user 23 distance. So when the user is in a zone in 24 the vicinity of the display, then the mirror, 25 in order to -- for various advantages that	Page 93 1 one mode; is that correct? 2 A. That's -- you know, I wouldn't 3 say this, because Rosenberg also talks about 4 reducing power, okay, and minimizing the 5 power. 6 We can go to these paragraphs 7 about reducing power. 8 And in our grounds, in 9 combination, we give like grounds for that, 10 for a POSITA to know how to conserve that 11 power based on the prior art and how it's 12 obvious that by varying the rate of the 13 processing step even in the mirror-mimicking 14 mode. 15 Q. So in these examples in 16 Rosenberg, which I think what you're pulling 17 from is paragraphs like 25 and 76, where they 18 talk about proximity detection and then 19 turning on or off varying modes of the 20 display. 21 A. I'm going there. To 25 and 26? 22 Q. 25 and 76. 23 A. Oh, 75 and 76, or just 76? 24 Q. So 25, 2-5, and 76. 25 A. Okay.

Page 94 1 Q. So these are two instances where 2 Rosenberg is talking about detecting the 3 presence of a user and then switching modes if 4 the user isn't detected. 5 A. I would like to take a look at 6 those if you want to -- do you want to ask me 7 a question about this or -- should I take a 8 look at it? 9 Q. I'm going to ask you a question. 10 Let's just talk about your declaration then, 11 the example in your declaration. 12 A. Okay. 13 Q. It's not really a distance, 14 right? It's a binary, whether or not the user 15 is present or not present? 16 A. I disagree with that. 17 Q. How so? 18 A. Because like if you're close 19 enough to the display, the mirror-mimicking, 20 you're still present but far. So there is a 21 proximity sensor. 22 That's why you need the proximity 23 sensor, to know how -- if you're not there, 24 you don't need the proximity sensor. All you 25 can do, are you in the image of the camera.	Page 96 1 A. No, you wanted to ask -- excuse 2 me. You said you were going to ask me about 3 the example in my declaration, so... 4 Q. Yeah, in your declaration, on 5 page 151 -- I'm sorry, paragraph 151. 6 A. Okay. One moment. 151, okay. 7 Q. So your opinion here is -- well, 8 you discuss that Rosenberg discloses that the 9 system will switch modes depending on whether 10 or not the user is present in front of the 11 display. 12 So is proximity to the display 13 sufficient to meet the requirement that the 14 user's distance is being determined, that 15 varying the rate at which the steps are 16 performed is based on the user's distance? 17 MS. WELSH: Objection, form. 18 A. So what I'm saying here, like in 19 paragraph 152, like the '109 patent, Rosenberg 20 discloses that its system automatically 21 engages the digital mirror state when the user 22 approaches -- so approaches or stands in front 23 of the display within a certain distance. 24 So there is this "within a 25 certain distance."
Page 95 1 Why you need the proximity sensor 2 is because the user is, in fact, there, but 3 far enough from the display, and that's why 4 the processing can stop. 5 Q. So in this context, proximity is 6 sufficient to determine a user's distance to 7 meet that -- 8 A. I didn't understand. 9 Q. I'm going to reframe the 10 question. 11 So are you saying in this 12 context, proximity detection is sufficient to 13 meet the requirement of -- based on a user's 14 distance? 15 A. Let's look at my declaration, 16 what I'm saying this, because I don't want to 17 answer from memory, like -- only it's like 18 addressing it here in that paragraph. 19 Which paragraph was it? I'm 20 sorry. Like, you wanted to ask me about -- 21 what I just -- can you point it back -- 22 Q. 76. 23 A. Okay, 76. In my declaration? 24 Q. Oh, you wanted to look at your -- 25 okay.	Page 97 1 And I'm referencing some 2 paragraph in Rosenberg. I would like to go 3 there to be able to better answer your 4 question, to answer the "within a certain 5 distance," which requires distance measurement 6 then -- no? -- when you're saying "within a 7 certain distance." 8 So I would like to refer to what 9 this -- what I'm referring to in my 10 declaration here to better answer your 11 question. 12 So like for the sake of time -- 13 I mean, I can -- this is like -- this 14 paragraph -- 15 Q. Okay. So -- 16 A. -- Rosenberg. Now to answer your 17 question. 18 Paragraph 32 on page 4 of 19 Rosenberg. 20 Rosenberg discloses: 21 "This auto-activation feature is 22 generally enabled by the proximity 23 and/or motion sensors sending data 24 to the processor, indicating that an 25 object has come within a certain

Page 98 1 region before the display screen." 2 So within a certain region and 3 within a certain distance. 4 It's not only being in front of 5 the display, but also coming within a certain 6 region and the display is one embodiment 7 that's disclosed in Rosenberg. And to know 8 you're within a certain region, you have to 9 estimate a distance -- you know, it could be 10 done this way. 11 And I have other -- this is just 12 the second paragraph here in the declaration, 13 but I have, like, a lot of other paragraph, 14 33, 54 to 56, 69 to 73, 109, 104 -- we could 15 look at them to see also more. 16 I have to look at them to see 17 what's discussed in all these embodiments of 18 Rosenberg if you want me to answer your 19 question more. I answered it to the best of 20 my knowledge. 21 BY MS. SAPUTO: 22 Q. Okay. Within a given mode of 23 Rosenberg, so we talked about the mirror mode, 24 the mirror image freeze mode. We talked about 25 the mirror image buffering mode. We talked	Page 100 1 POSITA would understand these have to operate 2 together. 3 Now, Rosenberg has referred to 4 the mode, you know. That said, the system 5 operation encompasses both of these modes 6 necessarily, okay? 7 And given that, we can call it 8 "mode" here. I can call it a supermode, the 9 mode where we have the mirror-mimicking, which 10 also has the display. Because a user wouldn't 11 be there and then suddenly would come there. 12 And a user is not going to just keep standing; 13 he's going to leave. 14 So necessarily these modes are 15 operating as a system together and, therefore, 16 necessarily, if you want to consider something 17 operating as a system together, a mode, I 18 would call it a mode. 19 And given that within this 20 operation of a system, the rate is indeed 21 varied. 22 Q. So my question is different. 23 Within a given mode of Rosenberg, 24 as Rosenberg has identified them, there is no 25 disclosure of varying the rate of step based
Page 99 1 about multi-view mirroring mode. 2 Within any one of those modes of 3 Rosenberg, Rosenberg does not disclose varying 4 the rates of performing those steps based on 5 distance; is that correct? 6 A. I disagree with that. In my 7 declaration, I clearly opine that Rosenberg 8 does disclose varying the rate, and I give an 9 example. And this is from a POSITA 10 understanding, and also what's disclosed in 11 Rosenberg. 12 Q. Your declaration does not opine 13 that there is a mode of Rosenberg in which the 14 rate of performing the processing steps is 15 varied based on distance; is that correct? 16 A. It is the operation of Rosenberg. 17 For example, the mode cannot function -- they 18 have to be together. So it's -- I would call 19 this a supermode, okay? 20 The mode of the mirror mimic mode 21 and the mode -- the display mode, these are 22 necessary together. The user has to be not 23 there and then come there or -- and has to go. 24 So this is a single mode, I would 25 say. It's called "mode" in Rosenberg, but a	Page 101 1 on distance; is that correct? 2 A. I cannot -- there might be some 3 embodiments in Rosenberg where he discloses 4 all there is, like not explicit -- and maybe 5 there is explicit. I can't answer from 6 memory, but I can answer on what I relied on 7 in my declaration. 8 I didn't rely on, you know -- in 9 my declaration I relied on from a POSITA and 10 what's understood, how the system operates, 11 whether -- and I know Rosenberg also wants to 12 conserve power and the disclosure of this. 13 And we do have as part of the 14 grounds, also, later in my declaration, how 15 Rosenberg motivates a POSITA to look into 16 prior art to do that and to achieve that. 17 Q. Your declaration does not 18 disclose varying the rate of steps based on 19 distance within a single mode; is that 20 correct? 21 MS. WELSH: Objection, form. 22 A. It does, but in combination with 23 other prior art. 24 Rosenberg does not explicitly -- 25 like we had to -- we have a combination.

Page 102 1 Rosenberg -- based on Rosenberg explicitly 2 disclosing the conserving power, and also 3 disclosing the system operation, how it 4 operates, a POSITA would understand the rate 5 is varying. So I don't -- 6 Even in a mode of the 7 mirror-mimicking mode, we show that the 8 POSITA -- like Rosenberg is teaching 9 conserving power, and how explicitly this is 10 done would rely on other references -- other 11 prior art, other exhibits a POSITA is 12 motivated to combine. 13 BY MS. SAPUTO: 14 Q. And you rely on that combination 15 because you agree that Rosenberg does not 16 disclose varying the rate of steps based on 17 distance within a single mode, correct? 18 A. I cannot answer from memory. I 19 know the power conservation mode would rely on 20 other references in my declaration and that's 21 what I planned on and that's what I put. 22 That said, I didn't memorize 23 Rosenberg. 24 And if you want me to go through 25 Rosenberg now and read it through, that is the	Page 104 1 that I have read your declaration in the '109. 2 And I can tell you that the phrase "appears at 3 roughly double the distance from the camera" 4 appears nowhere in your declaration. 5 And I can also tell you that 6 nowhere in your declaration does the phrase 7 "appears at roughly the same size regardless 8 of the user's movement" appear in your 9 declaration. 10 So I'm going to ask you, did you 11 provide an opinion in your declaration that 12 Rosenberg, in combination with any other 13 reference, would disclose mimicking a mirror 14 by generating an image of the user that 15 appears at roughly double the distance from 16 the camera? 17 MS. WELSH: Objection, form. 18 A. So I -- yeah, I'm sorry. 19 I respectfully disagree. As 20 I told you, I have the background -- technical 21 background to lay down what a POSITA 22 understands. 23 And I've already referred to it 24 several times, but I can refer to it again. 25 On page 24 and 25 of my declaration -- let me
Page 103 1 only way I can answer your question. I can't 2 answer it from memory. 3 Maybe Rosenberg has an embodiment 4 there, disclosed in there, but I didn't use 5 that for like the mirror-mimicking mode only 6 and power conservation. 7 Q. Nowhere in your declaration do 8 you provide an opinion that Rosenberg, in 9 combination with any other reference, would 10 disclose mimicking a mirror by generating an 11 image of a user that appears at roughly double 12 the distance from the camera, right? 13 MS. WELSH: Objection, form. 14 A. So I'm not sure. Could you point 15 me to my declaration? Because like out of 16 memory -- because I have a lot of embodiments, 17 grounds here, and we're discussing two 18 patents, two declarations. 19 So it's hard for me to remember 20 everything like this when asked. Maybe if you 21 point me to -- say "In here," you know, I 22 would appreciate that. 23 BY MS. SAPUTO: 24 Q. Okay. So give me one second. 25 So I'm going to represent to you	Page 105 1 make sure it's the right pages. I'm going 2 there again. 3 So, yeah, there we are talking 4 about roughly. 5 So on page 24 Straka explains 6 when referencing the prior art that that's 7 what a POSITA would understand of the mirror 8 effect. 9 "A virtual mirror needs to 10 simulate the properties of a real 11 mirror as accurately as possible. 12 When standing in front of a mirror 13 at a distance, D, the mirror image 14 appears exactly at the same 15 distance, but behind the mirror." 16 This is stating at double the 17 distance from the user. 18 "However, even though this 19 distance can change, the size of the 20 user in the mirror image when 21 projected on the mirror surface 22 stays constant." 23 So that's saying, in other words, 24 another way to say the same size, roughly the 25 same size. So we are saying this.

Page 106 1 So I respectfully disagree. 2 And based on that, I don't have 3 to repeat this -- so when we say "traditional 4 mirror," when Rosenberg says "traditional life 5 mirror," this is what the prior art is saying. 6 The POSITA would understand that, 7 that a virtual mirror needs to simulate the 8 properties of a real mirror as accurately as 9 possible, and people know the real mirror 10 effect based on the prior art that's disclosed 11 here. 12 So I do disclose in my 13 declaration these aspects of a mirror. 14 BY MS. SAPUTO: 15 Q. So when you're reading 16 references, any time that the reference says 17 "we mirror the image" -- 18 A. Could you repeat that last word? 19 I -- 20 Q. We mirror the image. We mirror 21 the image. We have a camera. We're going to 22 mirror the image. Would you assume that when 23 they say they're going to mirror the image 24 that they're going to implement the properties 25 disclosed here or that you reference here from	Page 108 1 mirror. 2 When I opined in my declaration 3 that Rosenberg disclosed a traditional mirror, 4 I'm saying so. I'm saying it appears at 5 double the distance. A POSITA would 6 understand that this means appearing at the 7 characteristic as Straka. 8 BY MS. SAPUTO: 9 Q. But that -- 10 A. The same size, the traditional 11 mirror mode. 12 A POSITA would understand what a 13 traditional mirror mode -- which I also stated 14 in my declaration as the background, you know. 15 And also, I'm linking it to 16 Rosenberg here, on paragraph 43 -- to 17 simulate -- look. So it's very clear. On 18 page 25 of my declaration, page 25: 19 "To simulate this mirror effect 20 using a digital camera, Straka sets 21 a focal length of a virtual mirror 22 to be twice the user-mirror 23 distance. So too does Rosenberg 24 disclose a digital mirror system 25 that simulates a real mirror."
Page 107 1 Straka on pages 24 and 25 of your declaration? 2 MS. WELSH: Objection, form. 3 A. It's based on the context, how 4 the mirror is used, and we have to look at the 5 whole context. 6 The traditional mirror, 7 conventional mirror, if it's said like this, 8 I take it to be -- and, again, looking at the 9 context. If they define the spec conventional 10 mirror to be something else in the prior art, 11 in that particular reference I would take what 12 they defined then -- no? -- because they 13 changed the thing. 14 But if it's not defined, the 15 traditional mirror, conventional mirror, this 16 refers to the Straka definition. 17 BY MS. SAPUTO: 18 Q. In your declaration you don't 19 offer the opinion that the combination of 20 Rosenberg and Nakazawa would generate an image 21 that appears at roughly double the distance 22 from the camera, correct? 23 MS. WELSH: Objection, form. 24 A. As I mentioned, we have Straka 25 that clearly said it appears in traditional	Page 109 1 And we just defined what 2 simulates a real mirror in the paragraph 3 preceding this. See Rosenberg paragraph 25 to 4 27 -- sorry, 27 to 28: 5 "Rosenberg discloses scaling 6 real-time video images captured by 7 the camera so that they appear like 8 traditional life-size mirror 9 images." 10 So -- and also we're talking 11 about to simulate a real mirror. We're using 12 the same term as Straka. Straka is saying a 13 virtual mirror to simulate the properties of a 14 real mirror, and these are the properties. 15 So it's very -- so I do disclose 16 that, or I do state that. 17 Q. You state it in the Background 18 section, correct? 19 A. But this is the thing, when we 20 say traditional life mirror images, because 21 that background serves for the rest. Instead 22 of repeating, we have several backgrounds. 23 When we say traditional mirror 24 image, real image, a real mirror, this -- 25 we're saying this refers, i.e., Straka

Page 110 1 definition, you know, a POSITA would 2 understand that. 3 Q. All right. 4 So it's your position that 5 anytime you use the word "traditional mirror" 6 in your declaration, you mean that it has the 7 properties of being flipped, being roughly the 8 same size regardless of user distance to the 9 mirror, and having the reflection appear at 10 approximately double the distance from the 11 mirror. 12 Is that your position? 13 MS. WELSH: Objection, form. 14 A. If we're using just traditional 15 real mirror, I have to see. Otherwise, we're 16 defining the context. So it shouldn't be 17 taken out of context. 18 Here it's clear, Rosenberg, we're 19 saying, discloses as Straka teaches. It's 20 like just the same paragraph, by the way. 21 So does Rosenberg -- we say so 22 too does Rosenberg disclose a digital mirror 23 system that simulates a real mirror, you know. 24 So, you know, it is clearly referencing that. 25 And Rosenberg, by saying -- and	Page 112 1 that's what Rosenberg is disclosing. 2 Rosenberg does not give detail, 3 however, how to start the transformation. 4 And that's why a POSITA would be 5 motivated to look at other prior art, to see 6 how to do this in detail. 7 BY MS. SAPUTO: 8 Q. But the transformations that 9 Rosenberg explicitly discloses, explicitly 10 calls out in his application, is flipping and 11 scaling, correct? 12 A. These are explicitly called out. 13 Flipping and scaling are explicitly called 14 out, sure, in Rosenberg. 15 MS. SAPUTO: Let's go to -- we're 16 going to go to Exhibit Number 10, which 17 is Nakazawa. 18 (Patent Application Gazette, 19 01/11/2007, Nakazawa, marked as 20 Exhibit 10.) 21 BY MS. SAPUTO: 22 Q. Do you see that? 23 A. There is some -- excuse me. 24 There is some window covering part of my -- 25 how can we -- I don't want to install this
Page 111 1 we're referencing the paragraph and we're 2 saying 77, traditional life-size mirror 3 images. 4 BY MS. SAPUTO: 5 Q. I'm going to ask one more time. 6 Rosenberg itself only discloses 7 flipping and scaling as a way to emulate a 8 traditional mirror -- explicitly discloses 9 only flipping and scaling as a way to emulate 10 a traditional mirror. 11 Do you agree? 12 MS. WELSH: Objection, form. 13 A. I -- I disagree. Explicitly he 14 says basically -- and in paragraph 55, that 15 transformation needs to be done -- like the 16 computer emulation. 17 Emulation includes processing, 18 includes transformation. When you say 19 "computer rendering," this is also saying 20 transforming so that you emulate the 21 traditional mirror. 22 And a POSITA would understand you 23 need to transform to emulate the traditional 24 mirror. A POSITA would understand a 25 traditional mirror has these properties. So	Page 113 1 one. Okay. 2 Q. Let me know when you're there. 3 A. Yes. I have the exhibit and it 4 is there on the screen. 5 Q. So now we're going to turn to 6 paragraph 76 of your declaration. It 7 discusses Nakazawa. 8 So in your declaration discussing 9 Nakazawa in paragraph 76, you agree that 10 Nakazawa discloses a photographing device, and 11 that the photographing device corrects 12 deviations in the orientation and/or line of 13 light in a captured image when, one, the 14 camera is located above or below a display, 15 and, two, a user looks at her image in the 16 display during image capture; is that correct? 17 A. I believe so. It's reasonably -- 18 yeah, it's correct. 19 Q. Okay. And then Nakazawa itself, 20 paragraph 7 of Nakazawa, states that "It's 21 directed to a photographing device that is 22 capable of image correction so that the line 23 of sight of the captured image and the 24 displayed image are aligned." 25 Do you see that?

Page 114 1 A. One moment because I was looking 2 at page 7 instead of paragraph 7 of Nakazawa. 3 So I'm just now going there. I went there 4 now. 5 Okay. Yes. 6 Q. And Nakazawa discloses the 7 photographing device can be a mobile phone 8 equipped with like a mobile camera, correct? 9 A. Where is that? 10 Q. Paragraph 30. Also Figure 1. 11 A. One moment. 12 Yeah. 13 Q. Also paragraph 30, Nakazawa 14 discloses the photographing device has "an 15 image-correcting unit to correct orientation 16 deviation of a face image," correct? 17 A. One moment. 18 Which one is that? 19 Q. Paragraph 30. 20 A. Yeah. 21 Q. And it says that the device has 22 "an image-correcting unit that corrects 23 orientation deviation of a face image"? 24 A. Oh, yeah. Okay. Yeah. 25 Q. Okay. You agree.	Page 116 1 A. I do not recall that. 2 Q. Do you opine in your declaration 3 that Nakazawa discloses that the image of the 4 person will be left-right flipped? 5 A. Not that I remember. 6 Q. Nakazawa does not disclose any 7 techniques to make an image resemble one 8 captured by a conventional mirror; is that 9 correct? 10 A. If the flip is missing, if that's 11 what you mean, the conventional mirror in your 12 question? 13 Q. Yes. 14 A. Yeah. So if Nakazawa doesn't 15 talk about the flip, then it's not -- Nakazawa 16 is not disclosing the conventional mirror. 17 Q. All right. 18 And again, as we discussed, 19 Samsung advocated for a construction that 20 appears to reflect an image of a mirror that 21 we've discussed. 22 And you have not offered an 23 opinion as to whether Nakazawa discloses that 24 the displayed image will appear at roughly 25 double the distance from the camera; is that
Page 115 1 And then Nakazawa also discloses 2 in that paragraph "a distance-measuring unit 3 to measure the distance between the user and 4 the device"; is that correct? 5 A. Yes. 6 Q. Now we're going to turn to 7 paragraph 35. And we're going to look at the 8 last sentence. 9 And it says: 10 "This shows that if the distance 11 from the photographing unit 101 to 12 the photograph subject (user) 13 differs, the angle of the face 14 oriented towards the display 15 unit 103 will change, and in order 16 to correct for this, naturally, the 17 degree of magnification must be 18 varied to correct the deviation in 19 face orientation." 20 Is that correct? Do you see 21 that? 22 A. I see that. 23 Q. Does Nakazawa disclose that the 24 image of the person being captured will be 25 left-right flipped about a vertical axis?	Page 117 1 correct? 2 MS. WELSH: Objection, form. 3 A. I do not believe that in my 4 declaration I explicitly offered that opinion. 5 BY MS. SAPUTO: 6 Q. Okay. And you offered no opinion 7 that Nakazawa discloses the user's image will 8 appear at roughly the same size regardless of 9 the user's movements, correct? 10 A. I believe I talk about some of 11 this in my declaration. I talk about it. 12 I offered an opinion about that. That's what 13 I recall. 14 Q. That the user's image in Nakazawa 15 will appear at roughly the same size 16 regardless of the user's movement? 17 MS. WELSH: Same objection. 18 A. Excuse me, regardless of what? I 19 didn't hear. 20 BY MS. SAPUTO: 21 Q. Regardless of the user's 22 movement? 23 A. That is like -- because there are 24 several here, also figures and embodiments in 25 Nakazawa, I wouldn't really, you know, it

Page 118 1 might like -- I wouldn't remember from memory, 2 but I remember I talked about resizing in 3 my -- in Nakazawa and resizing the face and so 4 forth. 5 I don't want to answer from 6 memory, so I'll strike that. 7 If you point me to my 8 declaration, I could look at this, or if you 9 give me time to look at my declaration, then I 10 can answer better your question. 11 Q. Nakazawa does not disclose 12 varying the rate of performing any processes 13 or steps based on the user's distance to the 14 display; is that correct? 15 A. I don't want to answer from 16 memory this. 17 Q. Did you offer an opinion? 18 A. I could look quickly to see. One 19 moment. 20 Like we were there anyhow, so it 21 shouldn't take a long time. We were at that 22 paragraph where it discussed -- 23 Q. I will direct you to -- you 24 discuss this particular limitation in 25 paragraph -- starting on page 113.	Page 120 1 which is Hatanaka. 2 So let's take a look at that, and 3 then I'm going to point you to your 4 declaration at paragraph 81. 5 (Laid-open Disclosure Public 6 Patent Bulletin, 08/12/2010, 7 Hatanaka, marked as Exhibit 11.) 8 BY MS. SAPUTO: 9 Q. In your declaration, 10 paragraph 81, you would agree now that 11 Hatanaka discloses a method for reducing 12 image-data-related processing throughput for 13 an image communication system that displays 14 video images, correct? 15 A. Yes. 16 Q. So Hatanaka discloses an image 17 communication system, right? 18 A. It has a disclosure for an image 19 communication system, in addition to other 20 things. 21 Q. Right. And that image 22 communication system encodes images, it 23 decodes the images, and it outputs the decoded 24 images -- outputs the decoded images to 25 viewers; is that correct?
Page 119 1 A. Yes. So one moment. 2 Okay. So in my declaration, in 3 those paragraphs for that claim element -- so 4 the question, again, just to be accurate here, 5 what was the question again? 6 Could you -- 7 Q. So nowhere in these paragraphs 8 concerning limitation 1(h) do you describe 9 Nakazawa as disclosing varying the rate of 10 performing any processes or steps based on the 11 user's system; is that correct? 12 A. Rosenberg-Nakazawa combination, 13 with relying on Rosenberg more for that, yeah. 14 Q. So Nakazawa does not disclose it? 15 A. I can't say this because I can't 16 say what I relied on. Nakazawa. 17 Q. Okay. So your opinion -- your 18 opinion does not rely on Nakazawa to disclose 19 limitation 1(h); is that correct? 20 A. To disclose the varying rate 21 limitation, no. It's combined with Nakazawa. 22 So this transformation are not happening in 23 the display framework, meaning like also it's 24 other part of the process. 25 Q. I have just admitted Exhibit 11,	Page 121 1 A. Yes. So the -- yep. These are 2 sometimes including decoding processing steps 3 before outputting to the displays. 4 Q. Hatanaka also discloses that the 5 image communication system has a viewer 6 detection means for measuring the distance 7 between the viewer and the representation 8 apparatus, such as the display screen, 9 correct? 10 A. Yes. 11 Q. Hatanaka discloses that encoding 12 is based on the results of measuring the 13 distance between the viewer and the 14 representation apparatus; is that correct? 15 A. Including -- can you be more 16 specific? 17 Q. So if we look at paragraph 9 of 18 Hatanaka, it says: 19 "An encoding-content setting 20 means for setting the content of the 21 encoding performed by the 22 above-mentioned encoding means 23 according to the result detected by 24 the above-mentioned viewer detection 25 means."

Page 122 1 So what I'm asking is: Is it 2 correct that Hatanaka discloses encoding is 3 based on the results of measuring the distance 4 between the viewer and the representation 5 apparatus? 6 A. So were you reading the last 7 element, like 3, like in paragraph 3? 8 Q. Yes. 9 A. Because I -- 10 Q. Oh, yes. 11 A. If I could just read that 12 because... 13 Q. Okay. 14 A. So what was the question now? So 15 encoding-content setting means -- 16 Q. So the encoding is performed -- 17 the encoding is performed based on the results 18 of measuring the distance between the viewer 19 and the representation apparatus. 20 A. Yeah, it's affected by this, 21 yeah. 22 Q. Okay. And you also agree that as 23 the viewer's distance from the representation 24 apparatus increases, so as the viewer gets 25 farther away, the encoding is done to reduce	Page 124 1 that are being encoded and displayed? 2 A. Excuse me? Could you rephrase 3 your question? 4 Q. That camera -- 5 A. Or could you repeat? 6 Q. That camera is being used to 7 detect the viewer. It's not being used to 8 capture images that are subsequently included 9 and displayed; is that correct? 10 A. I respectfully disagree with that 11 because that system can be -- can be capturing 12 the user and displaying also, like in the 13 mirror-mimicking display or whatever, or 14 augmented. 15 So you could have the system, 16 like a television. And that camera is like 17 part of this. And the content has the user. 18 It's like where we see in the prior art. 19 So Hatanaka doesn't say the 20 system cannot operate this way. So that's -- 21 Q. But -- go ahead. 22 A. Hatanaka can be used in this way. 23 And Hatanaka does not disclose that, oh, the 24 camera is at the remote site. The camera can 25 be at the same site where the user is, can be
Page 123 1 the amount of encoding throughput; is that 2 correct? 3 A. But could we -- the phrase that 4 was in Nakazawa -- in my declaration, I 5 remember I talked about that. 6 Q. Uh-huh. 7 A. But to answer your question... 8 Q. Sure. Paragraph 37 of Hatanaka. 9 The third sentence says: 10 "For example, Assessment part 42 11 adjusts the content to be encoded in such a 12 way as to reduce the amount of encoding 13 throughput and the amount of post-encoding 14 data as viewing distance D increases." 15 A. Yes. 16 Q. Okay. Does Hatanaka disclose 17 that the images that are being encoded and 18 displayed are captured by the system? 19 A. One moment. I have to look 20 and -- 21 We do have a camera, so Figure 1, 22 so they are captured by the system. 23 Q. Isn't that camera used to 24 determine the distance of the viewer to the 25 display device rather than to capture images	Page 125 1 capturing the content on the user and 2 displaying it on a display. 3 And in that case, when the camera 4 is capturing, it encodes, for throughput 5 purposes, streaming purpose to the TV -- not 6 streaming, like to send the display. It can 7 be encoding and then buffering at the right 8 rate and adapting the rate and the encoding 9 based on -- based on the content and based on 10 the distance of the user and so forth. 11 Q. You offer no opinion that 12 Hatanaka discloses emulating a traditional 13 mirror, correct? 14 A. I do not -- I don't -- I don't 15 think like I offer that opinion that Hatanaka 16 is like disclosing emulating a mirror. 17 Q. Okay. And you offer no opinion 18 that Hatanaka captures the images that it 19 ultimately encodes and displays? 20 A. I do offer that opinion. It's in 21 my declaration. 22 Q. Where in your declaration is 23 that? 24 A. It is under the combination 25 grounds.

Page 126 1 One moment. Where is it? Yeah. 2 Q. In your paragraph discussing 3 Hatanaka -- providing an overview of Hatanaka 4 and then discussing the reference, you offer 5 no opinion that Hatanaka captures the images 6 that it encodes and displays? 7 A. But I don't say it doesn't. And 8 then later I do say it does explicitly, later 9 in the grounds. And I say this. 10 Here it's a general overview, 11 just of the system. I don't say what it's 12 capturing even. I just say capture video 13 images, you know. 14 And the video images can be of 15 the viewer itself, which I mention later in my 16 declaration. I didn't want to maybe have 17 repetitive content here. So it is there and 18 it applies. 19 The overview also is very 20 consistent with that. And we can go to where 21 I state this. 22 One moment. I just have to find 23 the Hatanaka ground, which page it is. One 24 moment. 25 We can go to --	Page 128 1 Rosenberg there, but it does really do this. 2 And I do discuss this in detail 3 in my declaration, saying when the user, 4 especially in a mirror-mimicking when the user 5 itself is being captured by the camera, in 6 that case, I talk about the distance to the 7 display would be the distance to the camera. 8 It's very -- I discuss this in 9 detail in my declaration. I need a moment to 10 find it. 11 One moment -- unless you can 12 point me out to this. 13 Q. I can't point you to it because 14 it's not there. 15 A. It is there. But I need some 16 time to find it. I just need some time. 17 You asked me where is it in your 18 declaration and I just need some time. Maybe 19 can I have a few minutes to find it, please? 20 MS. SAPUTO: Yeah. We're going 21 to take a ten-minute break. 22 THE WITNESS: Ten-minute break? 23 Okay. 24 MS. WELSH: Okay. Should we go 25 off the record?
Page 127 1 Q. So -- 2 A. Yeah. So it's page 139, 147 in 3 my declaration there. But, you know, 139. 4 Just one moment to answer your 5 question. 6 You had a specific question. You 7 asked me where in my declaration, so I would 8 like to answer your question. 9 Q. I'll point you to paragraph 200. 10 So for Independent Claim 1, which 11 is the claim that -- it's page 147 of your 12 declaration, paragraph 200. You refer back to 13 your discussion of Rosenberg and Nakazawa. 14 You do not rely on Hatanaka at all for 15 capturing an image. 16 A. You're saying "capturing." The 17 motivation to combine, all I'm saying is like 18 we're capturing an image of the combination. 19 Even where you see Nakazawa, it's still 20 applicable. This is analogous to Hatanaka. 21 So Hatanaka has the capture. But 22 Nakazawa and Rosenberg -- but we could use the 23 Hatanaka capture of Rosenberg in Hatanaka. 24 Hatanaka is analogous and it has 25 a capture, and I want to use the capture of	Page 129 1 MS. SAPUTO: Please. 2 THE VIDEOGRAPHER: We're going 3 off the record at 10:29 a.m. 4 (Lunch recess taken.) 5 ----- 6 AFTERNOON SESSION 7 ----- 8 THE VIDEOGRAPHER: This begins 9 media number 3. Back on the record 10 at 11:04. 11 BY MS. SAPUTO: 12 Q. Let's take a look at your 13 declaration, paragraph 124. 14 So starting at paragraph 124 15 through paragraph 129, you're discussing 16 Rosenberg and Nakazawa with respect to 17 limitation 1(c). 18 Do you see that? 19 A. Yes. 20 Q. It's true, isn't it, that nowhere 21 in these paragraphs do you state that a person 22 of skill in the art would rely on their 23 background knowledge to supply the image 24 transformations necessary to generate an image 25 that appears at double the distance to the

Page 130 1 user or to generate an image that appears at 2 roughly the same size regardless of user 3 movement? 4 MS. WELSH: Objection, form. 5 A. This declaration, I gave it based 6 on a POSITA and based on the knowledge of the 7 POSITA. 8 So that by itself is a statement. 9 BY MS. SAPUTO: 10 Q. But in these paragraphs, you 11 don't actually say that a POSITA -- you said: 12 "In my opinion, Rosenberg in view 13 of Nakazawa renders obvious this 14 claim limitation." 15 A. So 124? Okay. Thank you. 16 Q. Right. Right. 17 You don't state that -- your 18 opinion isn't that Rosenberg in view of 19 Nakazawa in combination with the knowledge of 20 the POSITA renders obvious this claim 21 limitation. 22 You just say that in your 23 opinion, Rosenberg in view of Nakazawa renders 24 it obvious. 25 A. I respectfully disagree with that	Page 132 1 which is Exhibit 11, I believe. 2 So looking at your declaration, 3 paragraph 200, it is true, isn't it, that you 4 don't rely on Hatanaka to establish 5 limitation 1(c); is that correct? 6 A. 1-3? 7 Q. 1(c). 1(c). 8 A. 1(c) to 1(g) -- okay. I'm 9 reading this paragraph. 10 In the declaration, for 11 Independent Claim 1, I'm relying on Rosenberg 12 in view of Nakazawa for -- to disclose -- to 13 render obvious this claim limitation. 14 Q. So it's correct, then, that you 15 do not rely on Hatanaka to establish 16 limitation 1(c), correct? 17 A. Correct. 18 Q. All right. 19 MS. SAPUTO: I'm going to do the 20 next exhibit, which is Tripathi. 21 (U.S. Patent Number 9,355,585, 22 05/31/2016, Tripathi, marked as 23 Exhibit 12.) 24 BY MS. SAPUTO: 25 Q. So we're going to turn to your
Page 131 1 because I'm rendering my opinion as a POSITA 2 here. So all my opinions are from the eyes of 3 a person with ordinary skill in the art. 4 Q. And you maintain that position 5 even though in all the combinations you 6 describe, you never state that the POSITA's 7 background knowledge would supply the 8 techniques necessary to generate these images 9 that appear to mimic a traditional mirror? 10 MS. WELSH: Objection, form. 11 A. I really didn't get the question. 12 It was a long sentence. That's why. 13 BY MS. SAPUTO: 14 Q. So throughout your declaration, 15 your formatting of your opinions regarding 16 these combinations is: In my opinion, 17 reference -- in view of reference renders 18 obvious a particular claim limitation, and you 19 don't mention a POSITA. 20 So it's your position that you're 21 offering the opinion as a POSITA? 22 A. Yes. All these opinions are 23 offered as a POSITA. And that's what I stated 24 at the beginning of my declaration. 25 Q. Let's take a look at that again,	Page 133 1 declaration, paragraph 88. 2 You would agree that Tripathi 3 discloses a display system that monitors the 4 content to be displayed and adjusts the 5 display frame rate, the refresh rate, in 6 response to a type of content, correct? 7 A. I just got there. I'm reading 8 quickly. 9 Yes. 10 Q. All right. 11 Let's turn, then, to your 12 declaration at paragraph 220. 13 Let me know when you get there. 14 A. I am there. 15 Q. Okay. So here you offer no 16 opinion that Tripathi meets limitation 1(c); 17 is that correct? 18 A. Correct. 19 Q. Okay. Tripathi discloses an 20 electronic device with a display that's 21 operable to display content using an 22 adjustable frame rate; is that correct? 23 A. Could you please point me where 24 you're reading, because -- 25 Q. Sure. So I'm looking at

Page 134 1 Tripathi, Column 3, lines 53 through 67. 2 A. 53 to 57? Okay. 3 Q. To 67. 4 A. Okay. Thank you. 5 Q. Uh-huh. 6 A. And you were reading which lines? 7 Q. So 53 to 67, so I'll read them 8 for you. 9 A. Okay. All of them, okay. 10 Q. Yeah, yeah. "Electronic device 11 10" -- 12 A. Okay. Uh-huh. 13 Q. Yeah. 14 A. Okay. 15 Q. Okay. So you agree it discloses 16 an electronic device with a display that's 17 operable to display content using an 18 adjustable frame rate, correct? 19 A. The adjustable frame rate in this 20 paragraph is later, no? 21 Q. Column 3, right at the end. The 22 last -- from 65 to 67. 23 A. Yeah. Thank you. 24 "Display 14 may be a frame rate 25 display operable to display content	Page 136 1 Is that correct? 2 A. So you're reading -- like you 3 read paragraph 42 through -- 4 Q. No. I was summarizing it. 5 A. So you were saying -- you were 6 summarizing by saying -- 7 Q. I'm summarizing by saying it 8 discloses the electronic device includes 9 circuitry that monitors various attributes of 10 the operation of the device, such as activity 11 of the frame bugger, types of display content, 12 user input signals from the touchscreen, and 13 device power supply. 14 Would you agree with that 15 statement? 16 A. Yeah. Under certain embodiments 17 here, it's "may be" because it's -- here, the 18 way it's disclosed, it may be used. May be. 19 So it could be used for that. 20 Q. Okay. So I'm going to look at 21 Column 10. 22 A. Same exhibit? 23 Q. Same exhibit, yeah. Tripathi, 24 Column 10, lines 40 through 50. And I'll just 25 read it. I'll read it verbatim.
Page 135 1 using an adjustable frame rate." 2 Yeah, that is what it says. 3 Q. All right. 4 So now we're going to turn to 5 Column 5, and we're going to look at lines 28 6 through 36. 7 And so my question is: It 8 discloses -- Tripathi discloses that the 9 electronic device has a monitoring circuitry 10 to monitor the operation of the electronic 11 device, right? 12 A. Yes. 13 Q. Okay. And then lines -- same 14 column, 5, lines 42 through 51, describes -- 15 yeah, same column, 42 through 51, is 16 describing more about the circuitry. 17 It says: 18 "Tripathi discloses that the 19 electronic device includes circuitry 20 that monitors various attributes of 21 the operation of the device, such as 22 activity of the frame bugger, types 23 of display content, user input 24 signals from a touchscreen, and 25 device power supply."	Page 137 1 A. Okay. 2 Q. So: 3 "During operation of a device 4 such as device 10, the user input 5 may be provided to device 10 e.g., 6 using input/output components such 7 as buttons, keyboards, or touch 8 sensor electrodes in the display 9 that generate a change in display 10 content to be displayed. Examples 11 of user input that may generate a 12 change in display content includes 13 swiping a finger across the display 14 to scroll through text or pinching 15 the display with multiple fingers to 16 zoom into or out of a map or other 17 image. Illustrative steps that may 18 be used in studying a display frame 19 rate based on detected user input to 20 a device are shown in Figure 13." 21 Okay. So let's take a look at 22 Figure 13. 23 And so if you look at Figure 13, 24 it shows that the frame rate can be adjusted 25 based on user input initiated change in

Page 138 1 display content. 2 Do you see that? That's the last 3 box. 4 A. The last box? Yeah. Take 5 suitable action -- the last box says: 6 "Take suitable action for 7 adjusting display frame rate for 8 user input initiated change in 9 display content." 10 Yeah. 11 Q. And above that box, the second 12 box, the middle box notes that the user 13 input -- or "Detect user input, e.g., touch, 14 tap, swipe, pinch, swirl, or other touch 15 gestures." 16 Do you see that? 17 A. Yes. 18 Q. Okay. Would you agree that 19 what -- the examples given in Figure 13 are 20 all affirmative physical actions by the user? 21 A. In Figure 13? The e.g., which is 22 such as examples given are initiated by the 23 user, as like physical activity or actions. 24 Q. Okay. 25 A. Or gestures.	Page 140 1 A. Thank you. 2 I would like to point you out at 3 Figure 10, on page 160 of my declaration, and 4 also there is text associated with it. But 5 maybe this is illustrative of what I'm also 6 stating -- part of what I'm stating in regard 7 to this question. 8 So Tripathi discloses, as I state 9 in my declaration, like on paragraph 223, 10 actually, here, that Tripathi discloses: 11 Adjusting the display frame rate based on the 12 type of video display content, including 13 reducing the display frame rate for static 14 content or increasing it for dynamic content. 15 And then if you look at 16 Figure 10, you could see Figure 10 and the 17 text starting "Display content." 18 So you are in this case 19 monitoring if you have the user in front of 20 the display, so you can monitor the distance 21 if there is any distance change can be part of 22 knowing if it is static or dynamic, whether 23 the user is moving or not. 24 So this discloses, based on the 25 distance, the dynamic content. Also you
Page 139 1 Q. Tripathi does not provide an 2 example of varying the frame rate based on the 3 user's distance to the display; is that 4 correct? 5 A. Again, I cannot recall from 6 memory. We could look at whether I relied on 7 this in my declaration or not. 8 Q. Okay. 9 A. Otherwise I have to look through 10 Tripathi. 11 Q. Okay. We'll look at your 12 declaration then. 13 A. Okay. Thank you. 14 Q. So we were at paragraph 221 15 through 224. 16 A. 221 through 224? 17 Q. Uh-huh. 221 through 224. 18 In these paragraphs, you offer no 19 opinion that Tripathi discloses varying the 20 frame rate based on the user's distance. 21 A. Would you give me like a little 22 bit, like, time just to -- 23 Q. Uh-huh, to review? 24 A. Yes. 25 Q. Let me know when you're ready.	Page 141 1 monitor the user's distance change within the 2 vicinity to know whether there is motion. 3 So if there is motion, you 4 have -- if the user is moving, you're 5 monitoring the distance in order to know 6 dynamic or not, in addition to other things 7 you are monitoring. 8 But this is important element, to 9 monitor the distance to know whether it's 10 static or dynamic. So this is what I'm -- 11 what's in this part of the declaration in this 12 paragraph. 13 And also in Figure 11, I just 14 want to point out, there is also vector 15 motion. Vector motion is also distance 16 changes, but it also relate to that. 17 So you're monitoring changes, 18 motion, which you can monitor based on the 19 distance of the user -- distance changes. 20 Q. Is movement equivalent to 21 distance? 22 A. If you're going to monitor 23 something is dynamic or not, the changes of 24 distance is part of that. When you're moving, 25 part of it is changing your distance.

Page 142 1 Some aspect you don't have to 2 change your distance, but if you want to 3 detect dynamic content, you have to -- a 4 solution would be -- that way you have to take 5 distance into account. 6 Otherwise, you might not really 7 be detecting dynamic content. You could stay 8 still and moving, but this is one part of 9 dynamic content. 10 To detect dynamic content here, 11 you have to incorporate distance and motion 12 and position changes. 13 Q. Do you have to, though? Like, to 14 detect motion, why do I have to determine 15 distance? Why do I have to detect distance? 16 A. It's the change of distance. So 17 it's based on the distance. So it is based on 18 the distance. If it's correlated to the 19 distance, it's based on the distance. 20 Q. How so? 21 So if I stand in front of a 22 camera and I just move my hands up and down 23 like this, my distance towards the camera 24 isn't changing, but it can still detect my 25 motion, right?	Page 144 1 is disclosing according to the distance. 2 It doesn't have to disclose in 3 all cases, understand. If there are cases to 4 detect the content, it's according to the 5 distance is disclosing that claim element. 6 Q. Does Tripathi disclose a camera? 7 A. I didn't hear your question. 8 Q. Does Tripathi disclose a camera? 9 A. I have to look at Tripathi to 10 see. 11 Q. Let me ask you another question. 12 Your assumption based on dynamic 13 or static content is that Tripathi is 14 detecting a user moving. Why isn't static or 15 dynamic content something that is being fed 16 into Tripathi's system? 17 It's not necessarily something 18 that's being captured by Tripathi's system; 19 isn't that correct? 20 A. This is a different embodiment. 21 Within our combination, we are combining 22 Tripathi, the application, as the user being 23 in front of the display and being captured. 24 And Tripathi supports that 25 situation. Tripathi does not teach away from
Page 143 1 It doesn't have to know how close 2 I am to the camera, and detecting that I'm 3 moving doesn't mean that I'm moving towards or 4 farther away from the camera, does it? 5 A. To detect dynamic content, the 6 situation are going to occur where you're 7 moving out of your place, and you need to 8 detect that. 9 That's why -- 10 Q. Do you need to, though? Is that 11 necessary? 12 A. This is according to the distance 13 changes. It encompasses that. 14 Tripathi doesn't say "Don't do 15 this." So anytime you move, it's according to 16 the motion -- it's a distance change, whatever 17 you want to call it. 18 Motion, other than sitting still 19 and moving body parts, motion of the whole 20 body, it's going to occur in a dynamic content 21 and you want to detect that because Tripathi 22 is teaching detecting dynamic content. 23 So this includes also out of your 24 position. And this corresponds to changing 25 the distance. And within that embodiment, it	Page 145 1 having that. 2 So in this case, you could -- you 3 are capturing content. So the content is 4 there and being analyzed as static or dynamic. 5 You can have another embodiment 6 where the content is stored and you're only 7 analyzing display. But this is not -- I mean, 8 this is not the embodiment. 9 But we're focusing on that 10 application that's supported also by Tripathi 11 where we have the video content that's being 12 captured and then sent to be analyzed when a 13 user is standing -- is capturing the 14 environment in front of the display such as in 15 a mirror-mimicking display. 16 And Tripathi is being integrated 17 and combined with Rosenberg and Nakazawa. 18 Q. So in the context of Tripathi, 19 it's your opinion that in order to detect 20 movement or static -- or dynamic content, like 21 a user moving, is equivalent to determining 22 distance? 23 A. I'm not saying that. I'm saying 24 it has -- if you want to detect static, you 25 have to detect static. Change -- if there is

Page 146 1 no change of distance, it's also static. 2 Or if you want to detect 3 dynamic -- because you could say dynamic or 4 not. 5 So in dynamic, you have to take 6 into account also change in distance because 7 that would be also dynamic content. There's 8 another dynamic content that's not based on 9 this. 10 But to detect dynamic, you have 11 to have the distance there. It should be part 12 of it. That's what I'm saying. 13 Q. It should be, but does it have to 14 be is my question? 15 A. Yeah. Detect dynamic content, 16 all kinds of dynamic content. Then it has to 17 be according to the distance. You would have 18 also change of distance is dynamic. 19 Q. So let's say I have just a basic 20 motion sensor, you know, like those 21 nightlights that you walk past and they turn 22 on because you walked past them. It detects 23 motion, but it doesn't detect distance, right? 24 So it will change my -- like, 25 let's say I have a system. It detects	Page 148 1 So it is like changes of distance, that 2 incorporates changes in distance. 3 So it is according to the 4 distance because when the distance is 5 changing, the movement is due to a distance 6 change, that's according to the distance then. 7 MS. SAPUTO: Okay. I'm going to 8 introduce the next exhibit, which is 9 Exhibit Number 13. It's the Iwai 10 reference. 11 (U.S. Patent Number 6,816,187, 12 11/09/2004, Iwai, marked as 13 Exhibit 13.) 14 BY MS. SAPUTO: 15 Q. And I'm going to just direct you 16 to the abstract. 17 Would you agree with the 18 statement that Iwai is directed to calibration 19 of a digital camera -- 20 MS. WELSH: I don't think 21 Exhibit 13 is loaded yet. 22 MS. SAPUTO: Oh, it hasn't loaded 23 yet? I'm sorry. 24 THE WITNESS: Should we refresh 25 the page?
Page 147 1 movement only. It doesn't detect distance. 2 It just detects movement. And it will adjust 3 the frame rate whether it detects movement or 4 not. 5 A. You have to tell me more 6 information, how it's detecting the movement. 7 Because detecting the movement can be based 8 also on different things and different 9 scenarios and can be based on a distance. 10 For example, in a situation where 11 you're moving towards something, you know, 12 towards something or like -- I mean, sometimes 13 it's more -- you have to more give me -- like 14 give me the context and give me what are you 15 using here and more specifics. 16 Q. Okay. Is it your opinion that in 17 order to detect movement, you necessarily have 18 to detect distance? 19 A. My opinion for dynamic content, 20 if you want to detect all types of dynamic 21 content -- and here Tripathi doesn't say 22 "detect only this dynamic content." It's 23 "detect dynamic content." 24 You have to take -- it will be 25 cases where it's according to the distance.	Page 149 1 MS. SAPUTO: Try now, Margaret. 2 MS. WELSH: Okay. Now it's 3 loaded. 4 MS. SAPUTO: Okay. Excellent. 5 BY MS. SAPUTO: 6 Q. Okay. And we're just going to 7 take a look at the abstract. 8 A. One moment. I'm looking for my 9 paper. Okay. 10 Q. All right. Would you agree with 11 the statement that Iwai is directing the 12 calibration of a digital camera based on 13 registration between a base image and a 14 picked-up image? 15 A. In the abstract, it talks about 16 camera calibration and a picked-up image and a 17 base image. 18 Q. Okay. I'm going to point you to 19 paragraph 235 of your declaration. 20 Let me know when you're there. 21 A. I'm there. 22 Q. Okay. It's correct that you 23 offer no opinion as to whether Iwai meets 24 limitation 1(c), correct? 25 A. That's correct.

Page 150 1 Q. And you also offer no opinion as 2 to whether Iwai meets limitation 1(h), 3 correct? 4 A. This is correct. 5 MS. SAPUTO: Okay. We're going 6 to go to the next exhibit, which is 7 Exhibit 14. And that's going to be the 8 Kubota reference. 9 (U.S. Patent Application 10 Publication, 12/01/2011, Kubota, 11 marked as Exhibit 14.) 12 BY MS. SAPUTO: 13 Q. And we're going to take a look at 14 paragraph 11. 15 A. 11? 16 Q. Uh-huh. Paragraph 11. 17 A. Okay. 18 Q. And just to kind of jog our 19 memory about what this reference is about, 20 paragraph 11 says: 21 "It is therefore an object of the 22 present invention to provide a 23 liquid crystal display device 24 capable of optimally setting the 25 backlight control according to the	Page 152 1 Correct? 2 A. Yes. 3 Q. So let's now go to paragraph 259 4 of your declaration. 5 Is it correct that you offer no 6 opinion as to whether Cho meets limitations 7 1(c) or 1(h)? 8 A. Yes. 9 MS. WELSH: I'm sorry, Counsel. 10 Are you on paragraph 259, Dependent 11 Claim 10? 12 MS. SAPUTO: Yeah. 13 BY MS. SAPUTO: 14 Q. It's not 1(c). You don't 15 provide, you just -- you treat the Claim 1 16 altogether in one paragraph? That's what I've 17 been pointing to for these past couple of 18 references. 19 You don't have a breakdown for 20 limitation 1(c) for any of these. You just 21 discuss the method of Claim 1 further 22 comprising -- so you don't break it down by 23 limitation? 24 A. 259 is here. You don't see it? 25 MS. WELSH: It's not talking
Page 151 1 viewing environment and the image 2 display mode." 3 Do you see that? 4 A. Yes. 5 Q. So now we're going to take a look 6 at your declaration, paragraph 251. 7 A. Yes. 8 Q. You offer no opinion that Kubota 9 meets either limitations 1(c) or 1(h); is that 10 correct? 11 A. This is correct. 12 MS. SAPUTO: Okay. The next 13 exhibit is going to be the Cho reference. 14 (U.S. Patent Application 15 Publication, 10/02/2008, Cho, 16 marked as Exhibit 15.) 17 BY MS. SAPUTO: 18 Q. And we're just going to take a 19 look at actually paragraph 97 of your 20 declaration, talking about Cho. 21 A. 97? 22 Q. Correct. And you state here: 23 "Cho discloses a digital camera 24 capable of correcting wide-angle 25 distortion of a subject image."	Page 153 1 about Claim 1 though, is it? 2 A. No, but whether I'm offering an 3 opinion about whether Cho discloses 1(c). 4 Is this the question? 5 BY MS. SAPUTO: 6 Q. Yeah. You don't rely on Cho for 7 any portion of Claim 1. You're just relying 8 on Cho for Dependent Claim 10? 9 A. Yes. So that's the question, no? 10 Q. You're just relying on Cho for 11 Dependent Claim 10. You're not relying on Cho 12 for limitation 1 at all -- or for Claim 1 at 13 all? 14 A. Yeah. I didn't opine on that. 15 Q. Okay. You -- 16 A. No, this doesn't mean I would -- 17 in future, if something came up, I wouldn't 18 consider also that reference. But in the 19 current declaration, I don't. 20 Q. Yes. You do not offer an opinion 21 on that? 22 A. I do not offer an opinion on 23 that. That's correct. 24 MS. SAPUTO: Okay. So we're 25 going to go to Park next, which is

Page 154 1 Exhibit 16. 2 (U.S. Patent Application 3 Publication, 03/22/2007, Park, 4 marked as Exhibit 16.) 5 BY MS. SAPUTO: 6 Q. And we're just going to look at 7 paragraph 105 of your declaration. 8 A. 16 is loaded. This is Park. 9 Okay. So -- and where in my 10 declaration? 11 Q. Paragraph 105. 12 And in paragraph 105 you state: 13 "Park discloses correcting 14 perspective distortion in an image 15 captured by a camera above or below 16 the user." 17 Correct? 18 A. Yes. 19 Q. And so in the declaration, 264 -- 20 A. Uh-huh. I'm there. 21 Q. Is it correct that you offer no 22 opinion as to whether Park meets Claim 1? 23 A. 264? 24 Q. Uh-huh. 25 A. The thing about Park -- because	Page 156 1 That's what I remember, but I have to find 2 that. 3 Q. Do you know if you relied on Park 4 for limitation 1(c)? 5 A. One moment. I need like a little 6 bit of time to check whether something in 7 Park -- just like give me time. 8 Because I know, like for 9 limitation 1(c), which is applying a 10 transformation mapping, in my declaration 11 I give also -- I refer in relation to that, to 12 Park, that the POSITA would know this can be 13 implemented as a matrix. 14 I refer to Park. This is in my 15 declaration. If you want, I can find it for 16 you. 17 Q. No. Let's go back to your 18 earlier testimony. 19 You agree that Park doesn't 20 disclose mimicking or traditional mirror; is 21 that correct? 22 A. Talk about Park? Talked about 23 Nakazawa, I guess. We just introduced Park 24 now. 25 Q. My apologies. Let's take a look
Page 155 1 we're referencing Park in different places of 2 the declaration. And this -- where we say 3 also Park, like, we're referencing Park as a 4 prior art, example Park here and there. 5 So I'm relying on Park somehow in 6 different parts of my declaration, not only 7 here. 8 Q. Okay. You do not disclose in 9 your declaration an opinion that Park 10 discloses limitation 1(c); is that correct? 11 A. I don't see it here on this 12 paragraph, like on this portion. 13 If you're talking -- so let's put 14 it this way. In paragraph 261 to, like -- 15 yeah, especially 264 to, I guess, 267, I'm not 16 offering an opinion. 17 Q. Okay. And let's take a look back 18 at the actual breakout of limitation 1(c), 19 which is on paragraph 124 -- 20 A. Okay. Thank you. 21 Q. -- to 129. 22 You offer no opinion that Park 23 discloses limitation 1(c), correct? 24 A. I offer an opinion that, as Park 25 shows, that it's an image transformation.	Page 157 1 at Park. 2 A. Uh-huh. 3 Q. Does Park disclose mirroring a 4 user's image? 5 A. Like if you -- again, like 6 because I would have then to look at Park, 7 like the whole thing. 8 But in my declaration, whether I 9 opine on this, and I could look at the 10 overview of Park. 11 Q. Okay. 12 A. So if you want to look at my 13 declaration. 14 Q. Okay. Then let's go back to 15 paragraphs 124 to 129. 16 Is there anything about Park in 17 these paragraphs with respect to 1(c)? 18 A. 124 mention, okay. 19 Yeah, there is, page 99, on 20 paragraph -- in paragraph 127, page 99. You 21 can see the last sentence here. 22 Q. Okay. 23 A. You know, Figure 24(c), 9(b), 24 also discussing how a person of ordinary skill 25 in the art would have understood that

Page 158 1 Nakazawa's transformation mapping would be 2 implemented using a transformation metric. 3 Park, Exhibit 1016, paragraph 53, 4 then paragraphs 59 to 62, and also Figure 78, 5 teaching a similar image correction as a 6 prospective transformation, that is a type of 7 geometric transformation. 8 So I rely on Park. 9 Q. Okay. So let's take a look at 10 those. 11 Do those disclosures of Park -- 12 A. These paragraphs, you mean? 13 Q. Yes. 14 These paragraphs in Park, are you 15 relying on them to opine that Park discloses 16 mimicking a mirror? 17 A. On these paragraphs, you mean? 18 Q. Park has a compensation unit, 19 correct? 20 A. Yes. 21 Q. Does Park disclose mimicking a 22 mirror? 23 A. In these paragraphs, you ask me? 24 Because I don't -- I didn't memorize Park. 25 Q. So, sitting here today, you don't	Page 160 1 paragraph 59, which you also relied on. 2 A. So it's written there. 3 "It's to be understood that these 4 are non-limiting examples to 5 facilitate the understanding of the 6 present embodiment, and other 7 diverse techniques can be used for 8 the image compensation." 9 Q. Right. 10 A. It doesn't -- you know, like, 11 yeah, like the characteristic. 12 Q. Is the image compensation in Park 13 mimicking a mirror? 14 A. In this paragraph, it doesn't 15 specifically disclose that. That's what I'm 16 saying. 17 Q. Park doesn't disclose -- Park 18 discloses tilt compensation. 19 Do you agree? 20 A. Excuse me? 21 Q. Park discloses tilt compensation. 22 Do you agree? 23 A. Park discloses that, yeah, tilt 24 compensation. 25 Q. You understand that the image
Page 159 1 know whether or not Park discloses mimicking a 2 mirror? 3 A. I don't want to answer from 4 memory. We have a lot of references, like 5 we're doing two declarations and so forth. 6 So I don't want to insert an 7 embodiment with Park -- I don't want to answer 8 from memory, okay? That's what it is. I'm 9 not saying -- you have to point me out whether 10 I opine on this in my declaration or not, 11 I prefer, or what I'm relying on. 12 Q. Okay. Let's take a look at 13 paragraph 53. 14 A. Okay. I did look at that. 15 Q. Okay. Does paragraph 53 disclose 16 mimicking a mirror? 17 A. The conventional mirror, like 18 with all these characteristics we talked 19 about, such as flipping, double the distance, 20 same size, no? 21 Q. Yes. Does it disclose mimicking 22 a conventional mirror? 23 A. It does not specifically disclose 24 that. 25 Q. Okay. Let's look at	Page 161 1 compensation Park refers to is referring to 2 tilt compensation? 3 A. Yes. 4 Q. So the image compensation in Park 5 refers to tilt compensation. 6 Tilt compensation is not 7 mimicking a traditional mirror? 8 A. It's one part of the traditional 9 mirror. 10 Q. But Park does not disclose -- 11 A. You could use it to mimic -- you 12 could use that as part of mimicking a 13 traditional mirror. 14 Q. Park doesn't disclose maintaining 15 the same size of the image regardless of the 16 user's movement, correct? 17 A. I cannot answer this question, 18 again, like because Park -- let me tell you, 19 for example -- for example, when you read like 20 patent applications or patent issues or 21 whatever, at the end of the day, saying these 22 are only a list of embodiment, but you could 23 use it in various application, and a POSITA 24 would understand that. 25 And also, it might -- Park might

Page 162 1 be -- you know, so I don't want to opine in 2 general. I prefer to say, hey, did you use it 3 for this in your declaration, or support, or 4 to point me out to this, does this say 5 compensating to -- 6 Q. So -- 7 A. You have to be more specific. 8 Q. Okay. You're telling me you 9 don't know where it is in your declaration. 10 I point you to the patent; you tell me you 11 can't find it. 12 So I'm asking you what does Park 13 disclose specifically, not like he says, oh, 14 there could be applications. 15 I'm asking you specifically. I'm 16 not asking you generalities. I'm asking 17 specifically. 18 Park doesn't disclose flipping an 19 image, does he? 20 MS. WELSH: Objection, form. 21 A. I have to correct something. 22 I didn't say I couldn't find it in my 23 declaration. I found what you asked me about, 24 you see? 25 And I didn't tell you I can't	Page 164 1 represented in this matrix form too, as shown 2 in the background, also, of like -- of like 3 one of my declarations. 4 So that said -- I mean, indeed, 5 Park in here discloses a geometric 6 transformation that takes this form. And the 7 application is still correct. 8 But that same geometric 9 transformation, with the right parameters, can 10 be also done to flip the image. 11 Q. You're aware of no disclosure in 12 Park that discloses maintaining the same size 13 of the image regardless of the user's 14 movement? 15 Sitting here today, right now. 16 A. I didn't opine on Park, and I 17 didn't rely on Park in my declaration for 18 basically like the -- you know, in this way 19 we're reporting now. 20 That said, that same one can be 21 used to scale. That geometric transformation 22 in Park can be used too as a resize also 23 operation and can be used to maintain. 24 That said, this is not -- 25 I didn't rely on this paragraph in my
Page 163 1 find in Park. 2 If you want me to find in Park, 3 I can read Park, okay? 4 But for me to answer from memory, 5 indeed, I cannot answer from memory. I tell 6 you that, yes. That's what I told you. 7 But I didn't tell you I didn't 8 find it in my declaration, nor did I tell you 9 I didn't find it in Park or can't. 10 I can, indeed, if you give me 11 time. 12 Do you want me to spend one hour 13 reading? So that's why it's up to you. 14 BY MS. SAPUTO: 15 Q. You're aware of no disclosure in 16 Park right now that discloses flipping the 17 image? 18 As of right now, sitting here, 19 you're not aware of a disclosure in Park 20 that -- 21 A. Not specifically, but a POSITA 22 would know that this transformation, equation 23 1.1, that this geometric transformation 24 encompass flipping too. 25 You can flip it and be	Page 165 1 declaration. You point out to the 127, this 2 one. Park was referred to -- to state that a 3 POSITA would know that Nakazawa's 4 transformation can be implemented as a matrix 5 also. 6 Q. You're aware of no disclosure in 7 Park that the image needs to appear to be at 8 double the distance from the camera, correct? 9 A. Not that I recall. 10 MS. SAPUTO: Let's go to the next 11 exhibit, Kuranov. 12 (U.S. Patent Application 13 Publication, 10/16/2008, Kuranov, 14 marked as Exhibit 17.) 15 A. I don't see it yet. 16 Oh, 17? 17 BY MS. SAPUTO: 18 Q. Yeah. Do you have it? 19 Are you there? 20 A. Yes. 21 Q. All right. 22 So going to paragraph 271 in your 23 declaration, is it correct that you rely on 24 Kuranov for only the additional limitations of 25 Claim 13 and not the preamble?

Page 166 1 A. Yes. 2 Q. So it is correct that you offer 3 no opinion as to whether Kuranov meets 4 limitation -- or Claim 1? 5 A. Claim 1 by itself without the 6 additional? 7 Q. Uh-huh. Just Claim 1. 8 A. One moment. 9 Yeah. This is for the -- I rely 10 on this for the additional limitation. 11 MS. SAPUTO: Okay. Next exhibit 12 is Chang, which is -- it's going to be 13 Exhibit 18. 14 (U.S. Patent Application 15 Publication, 04/12/2007, Chang, 16 marked as Exhibit 18.) 17 BY MS. SAPUTO: 18 Q. I'm looking at paragraph 288 of 19 your declaration. 20 Do you rely -- do you rely on 21 Kuranov to establish limitation 1? 22 A. I'm sorry? 23 Q. So Dependent Claim 15, which 24 you're opining on starting at paragraph 288, 25 depends on Claim 14, which depends on Claim 1.	Page 168 1 going to do Lizée next, which is going to 2 be Exhibit 19. 3 (PCT, International Publication 4 Number WO 2006/108279, 10/19/2006, 5 Lizée, marked as Exhibit 19.) 6 A. I didn't hear that last sentence. 7 BY MS. SAPUTO: 8 Q. Lizée is going to be Exhibit 19. 9 So we just -- 10 A. Exhibit 19. 11 Q. Exhibit 19 is Lizée. 12 I'm going to pull up -- or we're 13 going to now look at paragraph 307 of your 14 declaration. 15 MS. WELSH: I think we need a 16 minute to find it. 17 MS. SAPUTO: Okay. 18 A. Which paragraph in my 19 declaration? 20 BY MS. SAPUTO: 21 Q. 307. 22 Let me know when you're there. 23 A. Yeah, I'm there. 24 Q. Okay. So here, is it correct 25 that you are opining -- or you're offering an
Page 167 1 And so my question to you is: 2 Are you relying on Kuranov only with respect 3 to the additional limitations of Claim 15 and 4 not with respect to its dependency on Claim 1? 5 A. Yeah. I'm opining for that 6 limitation, Claim 14, and using Kuranov -- 7 relying on Kuranov. 8 Q. Okay. And then let's go to 9 paragraph 294 -- 10 A. 294? 11 Q. Yeah, paragraph 294 in your 12 declaration, which is the preamble for 13 Dependent Claim 16, the method of Claim 1. 14 Is it correct that you are not 15 relying on Chang for -- to establish Claim 1? 16 A. Excuse me. I'm not relying on 17 Kuranov or Chang? You mentioned -- 18 Q. Just Chang. Just Chang. We're 19 just talking about Chang for Dependent 20 Claim 16. 21 You're relying on Chang only for 22 the additional limitations of Claim 16. 23 You're not relying on Chang for the preamble? 24 A. Yeah, this is correct. 25 MS. SAPUTO: All right. We're	Page 169 1 opinion as to whether Lizée meets the 2 additional claims -- or additional limitations 3 of Claim 18? 4 You are not offering an opinion 5 as to whether Lizée meets the preamble of 6 Claim 18, which is the method of Claim 1? 7 A. Additional limitation of 8 Claim 18, yeah. 9 MS. SAPUTO: Okay. Let's take 10 like a five-minute break. 11 THE WITNESS: Okay. Thank you. 12 THE VIDEOGRAPHER: We are going 13 off the record at 12:01 p.m. 14 (Recess taken.) 15 THE VIDEOGRAPHER: We're back on 16 the record at 12:12 p.m. 17 BY MS. SAPUTO: 18 Q. Taking a look at your declaration 19 for the '109 IPR, paragraphs 124 to 129. 20 A. So this is which one, the '109? 21 Q. '109, yes. Just let me know when 22 you're there. The one that we have been 23 looking at. 24 A. And which paragraphs? 25 Q. 124 through 129.

Page 170 1 A. I'm there. 2 Q. There's no discussion of Straka 3 from the Background section in these 4 paragraphs where you discuss your opinion that 5 the combination of Rosenberg and Nakazawa make 6 limitation 1(c) obvious, correct? 7 A. I discussed Straka in my 8 background. I think I answered this question. 9 I already answered. 10 So I did describe background, 11 Straka, what a real mirror, and even in the 12 context of Rosenberg. 13 And that's what a POSITA would 14 understand. This would be consistent with the 15 understanding of the POSITA. 16 And also we're offering here the 17 opinion. We don't have to repeat. It's 18 obvious that we discussed that and stated what 19 a POSITA would understand and referred to 20 Rosenberg. 21 So this is still my answer. 22 Q. And my question is: Straka is 23 not mentioned in these paragraphs, correct? 24 A. So paragraph 124 to -- 25 Q. 129.	Page 172 1 POSITA would lead them to generate images that 2 are -- that appear to be double the distance 3 of the user to the mirror and approximately 4 the same size, regardless of the user's 5 movement? 6 MS. WELSH: Objection, form. 7 Asked and answered. 8 A. Not -- basically, we mentioned we 9 are building, and this was discussed before in 10 Straka on how to generate, even by placing the 11 camera with a focal length that's equal to 12 double distance. 13 This was like in detail 14 discussed, and we're building here on this. 15 It's not repeated in these paragraphs. 16 BY MS. SAPUTO: 17 Q. So let's turn to the '110 patent. 18 And we'll discuss your opinions with respect 19 to the '110 patent IPR. 20 So in your expert declaration, 21 let's take a look at the Technology 22 Background, which starts on page 31. 23 Let me know when you're there. 24 A. I am there. 25 Q. Okay. So your Background section
Page 171 1 A. -- 129? 2 Q. Uh-huh. 3 A. In these paragraphs, Straka is 4 not explicitly mentioned. But when we mention 5 a POSITA -- we're mentioning a POSITA. 6 Q. Okay. There's no discussion in 7 these paragraphs of how the knowledge of a 8 POSITA would lead them to generate images that 9 are double the distance, correct? 10 MS. WELSH: Objection, form. 11 A. This is building on what we 12 discussed before that Rosenberg teaches the 13 embodiment for, and also the camera is on top 14 of the display, traditional, seeing a 15 reflection, like seeing as if the user is in 16 front of a traditional mirror. 17 So it's building on this. And 18 the POSITA has that knowledge, which we 19 already also stated very explicitly just 20 before there, yes. 21 So it is building on that. It's 22 not repeated in this paragraph. 23 BY MS. SAPUTO: 24 Q. So there is no discussion in 25 these paragraphs about how the knowledge of a	Page 173 1 goes from paragraph 42 through paragraph 67. 2 In these paragraphs, you discuss 3 Straka? 4 A. So the question is whether Straka 5 is here? 6 Q. Yes. You don't discuss -- let me 7 rephrase the question. 8 In these paragraphs, 9 paragraphs 42 through 67, which is your 10 Background section for your declaration, you 11 do not discuss Straka in these paragraphs; is 12 that correct? 13 A. One moment. 14 Do I discuss -- I want to see if 15 I discuss anything related to '109 of Straka 16 also. 17 I mean, the simpler way to answer 18 this question, you can go to the exhibit list. 19 Q. Paragraph 21 is the list of 20 exhibits that you looked at. 21 A. So we don't -- Straka is not 22 listed here. 23 Q. So would you agree that you do 24 not discuss Straka in the Background section 25 for the '110 patent?

Page 174 1 A. Yes. 2 Q. All right. 3 There is no discussion in the 4 Background section from paragraphs 42 through 5 67 of a POSITA's knowledge of a conventional 6 mirror; is that correct? 7 A. That's -- like I need to look to 8 answer because I believe I refer to the '109 9 patent, which is integrated by reference in 10 the '110. 11 So the '109 patent is integrated 12 within '110. And the background, the '109, 13 applies to '110. And I just -- and also, the 14 '109 claims in its background -- or indicates, 15 discloses, like to use the term. 16 So the '109 patent discloses in 17 its background that it was a POSITA, prior art 18 what a mirror is. And Figure 5B is there. 19 And I believe I have Figure 5B in the 20 declaration also. 21 But in any case, the '109 22 background is also a background that a POSITA 23 would have. And this discusses the 24 characteristic -- what's known about the 25 characteristic of a mirror, which is '109	Page 176 1 like the '109 also discloses that it was prior 2 art, what a mirror is. 3 So I also -- when I say POSITA, 4 the POSITA would know the characteristic of 5 mirror because it's a prior art and a POSITA 6 would know that. 7 And this is also indicated 8 explicitly in the '109 patent that it is prior 9 art. 10 So when I say POSITA, my opinion 11 is POSITA is -- under this fact, that the 12 POSITA knows what a mirror is and its 13 characteristics, which are these. 14 And also, we do have -- we have 15 illustration at least here for Figure 8, like 16 on page 50 of the '109 patent, and also 17 Figure -- and there are -- maybe I have other 18 figures, but at least now on these pages, 19 page 54 we have Figure 6. 20 And in the text also on 21 Figure 54, I say here and I state: The '109 22 patent also explains that transformation 23 mapping essentially assigns -- okay. And that 24 if -- and I talk about transformation that 25 mimics a mirror reflection.
Page 175 1 prior art, double the distance, and so forth. 2 Q. But that discussion of what a 3 POSITA of the '109 patent would know is not in 4 your declaration for the '110 patent, correct? 5 MS. WELSH: Objection, form. 6 A. I think it is, but I need to find 7 it. 8 I referred to the '109 as being 9 in the background of the '110. Let me look. 10 One moment. 11 BY MS. SAPUTO: 12 Q. Paragraph 71, you refer to the 13 incorporation by reference. 14 A. I'm looking also on my table of 15 contents. Just one moment. 16 71 you want me to mention? 17 Q. Paragraph 71 is where you mention 18 that the '109 patent is incorporated by 19 reference. But what I don't -- what is not 20 there is there's no incorporation of your 21 opinions as to what a POSITA of the '109 22 patent would know in the '110 declaration; is 23 that correct? 24 A. The POSITA would know -- when 25 I'm -- for my declaration, it's not that --	Page 177 1 And I'm referring to sections of 2 the '109 patent about the mimicking the mirror 3 reflection in this declaration, according to 4 my recollection. 5 I could go further, but that is 6 what it is. 7 Q. Okay. My question is: Your 8 opinions as to what a POSITA of the '109 9 patent would know regarding traditional 10 mirrors is not in your '110 declaration 11 explicitly. It is not here in the 12 declaration. 13 You cannot point me to it, 14 correct? 15 MS. WELSH: Objection, form. 16 A. I need, like, time to look. But 17 I believe, referring to the '109 patent, 18 I state what a POSITA knows from the prior art 19 there, like in terms of the mirror properties. 20 I need some time to look through 21 my declaration to tell you where. 22 So I'm referencing on page 52, 23 '109 at 126, 131, and stating there "The '109 24 patent discloses methods for causing a 25 computerized flat panel display system to

Page 178 1 behave similarly to a mirror." 2 And I'm referencing '109 at 3 Column 126 to 131. And -- in addition to 4 other things I'm referencing, but this is one 5 I'd like to check. 6 So in that reference that I'm 7 referencing explicitly in my declaration at 8 Exhibit '109, 126 to 131, which is referencing 9 similarly to a mirror. 10 And if we go to that -- 11 BY MS. SAPUTO: 12 Q. Can you tell me what paragraph 13 you're on again? 14 A. 76. 15 Q. In your declaration? Okay. 16 A. I'm making a lot of references to 17 '109. So I would need to check -- and I'm 18 referencing different figures and different 19 embodiments in Exhibit -- '109. 20 Q. The '109 patent is not the 21 knowledge of a POSITA, right? 22 A. The prior art background 23 explicitly -- the background and prior art is. 24 Q. The '109 patent isn't prior art 25 to the '110 patent, is it?	Page 180 1 declaration. 2 I need to be given time to 3 find -- to look at the references that I'm 4 referencing here. 5 Q. You're not aware of any explicit 6 discussion in your declaration for the '110 7 patent of generating an image in which the 8 user appears at double the distance from the 9 camera; is that correct? 10 A. Whenever we say "conventional 11 mirror" or "traditional mirror," like without 12 construing it in a context explicitly, this is 13 like the POSITA knowledge of what a mirror is 14 and its characteristics, which includes double 15 the distance, that includes the flipping, it 16 includes the same size. 17 Q. So my question was different. My 18 question was: You're not aware of any express 19 discussion in your declaration for the '110 of 20 generating an image in which the user appears 21 at double the distance from the camera? 22 MS. WELSH: Objection, form. 23 A. I'm not going to answer out of 24 memory, like: You're not aware in your 25 declaration.
Page 179 1 A. No. I am saying there is a 2 Background section in '109 that -- '109 3 indicates explicitly that this is prior art, 4 you see, so... 5 And including the knowledge of 6 the characteristic of a mirror. It's a prior 7 art, how a mirror behaves. 8 So I specifically do not agree 9 with your question, to answer it, that I'm 10 referencing '109, the background and what the 11 prior art is, the prior art section. 12 And you could see in 13 paragraph 67, saying, in reference, "such that 14 the digital screen replaces a conventional 15 mirror," and referencing this section, for 16 example -- that's one example, and I'm 17 referencing others. 18 Column 14 to 15, which also goes 19 back to the background and saying a 20 conventional mirror needs to have eye to 21 eye -- same eye, which will be the same size. 22 So I'm referencing different 23 portions of the '109 background also that 24 reflects my opinion in this paragraph, at 25 least in other -- also part of this '110	Page 181 1 If you point me to specific 2 grounds and specific parts, I could look at 3 this and tell you yes or no. 4 BY MS. SAPUTO: 5 Q. So if I tell you that the phrase 6 "double the distance" is not anywhere in your 7 '110 declaration -- I'm going to reask the 8 question. 9 You're not aware of any express 10 discussion in your declaration for the '110 11 patent of generating an image in which the 12 user appears at double the distance from the 13 camera; is that correct? 14 MS. WELSH: Objection, form. 15 A. Again, you're stating that. I 16 would say you're stating that, okay? 17 I cannot answer such a question 18 without specifically pointing out to places 19 because my declaration is big and -- yeah. I 20 don't want to answer it from memory. 21 BY MS. SAPUTO: 22 Q. So I can tell you it's not there. 23 But this is your one chance to get it on the 24 record. 25 So do you provide an express

Page 182 1 discussion of it or not? 2 MS. WELSH: Objection. 3 A. I provide sufficient discussion 4 that's consistent with the POSITA's 5 understanding and that of a traditional 6 mirror, which has these characteristics, 7 including double the distance, same size, 8 flipping. 9 BY MS. SAPUTO: 10 Q. And that would be your testimony 11 even if there's no explicit discussion of 12 double the distance? 13 That's your testimony, and that's 14 going to continue to be your testimony? 15 MS. WELSH: Objection, form. 16 A. That's what you're saying. You 17 have to be more specific. 18 Your question is ambiguous, you 19 know? 20 BY MS. SAPUTO: 21 Q. How -- 22 A. What is it? A sentence 23 containing the words "double the distance," 24 that word, "double the distance," like, what 25 is it?	Page 184 1 disclosure on that aspect. 2 BY MS. SAPUTO: 3 Q. Okay. Can you point me to where? 4 A. And this is one part, okay? 5 If you go to page 214, Figure 2B 6 there, or Figure 3. This shows we have 7 discussed -- in the paragraph, we talk 8 about -- I talk about it and describe it. 9 And this is maintaining the same 10 size independent of the distance. 11 Q. And that's with respect to Lizee, 12 correct? 13 A. I'm showing you the Lizee ground, 14 depending on Lizee. 15 Q. Any other example that you can 16 find? 17 MS. WELSH: Objection. 18 A. I found this example. If you 19 want to point me to something and ask about 20 it, I'd be happy to -- as you know, the 21 declaration is like big, and this is like 22 specifically said there. Yes, I do. 23 BY MS. SAPUTO: 24 Q. Let's look at paragraph 21 of 25 your declaration.
Page 183 1 Explicit disclosure can come in 2 different forms. 3 Q. So my question to you is: Do you 4 use the term and discuss in your declaration 5 how the '110 patent generates an image in 6 which the user appears at double the distance 7 from the camera? Those words, "double the 8 distance." 9 Do you discuss that? 10 A. I don't recall that, okay? I 11 don't recall, so... 12 Q. And in your declaration, is there 13 express discussion for the '110 patent of 14 generating an image that maintains roughly the 15 same size? 16 A. We do have some grounds that 17 discuss this. It does discuss part of the 18 grounds. 19 Q. Roughly the same size, regardless 20 of movement? 21 MS. WELSH: Objection. 22 A. I would have to be given some 23 time on look at the grounds, basically, to 24 answer your question. 25 We do have discussion and	Page 185 1 This is the list of materials 2 that you considered in forming your opinions 3 that make up this declaration. 4 Do these paragraphs accurately -- 5 sorry. 6 Does this paragraph accurately 7 list all of the materials that you considered 8 in forming your opinions contained in this 9 declaration? 10 MS. WELSH: Objection. 11 A. I'm looking. 12 So I say that these are the 13 materials I used in my declaration to opine 14 on. 15 BY MS. SAPUTO: 16 Q. Any other materials that are not 17 listed here that you relied on? 18 MS. WELSH: Objection. 19 A. The knowledge of a POSITA. 20 BY MS. SAPUTO: 21 Q. And that's not listed here? 22 A. The prior art, like knowledge of 23 a POSITA based on the prior art. 24 Q. You did not incorporate by 25 reference your declaration from the '109

Page 186 1 patent, correct? 2 MS. WELSH: Objection. 3 A. That's correct. But Exhibit 1022 4 and 1021 and -- this Exhibit 1021 is the '109 5 patent. So I have it there. 6 BY MS. SAPUTO: 7 Q. The '109 patent is not the same 8 thing as a knowledge of the POSITA, right? 9 A. The '109 patent is integrated 10 within the '110 by reference. 11 And the '109 patent has a 12 Background section talking clearly about the 13 prior art, and that's the knowledge of the 14 POSITA there being disclosed. 15 Q. Let's look at paragraphs 25 16 through 29 of your declaration, and also 17 paragraph 92. 18 A. Paragraph 92? 19 Q. Paragraph 92, as well as 20 paragraphs 25 through 29. 21 A. Okay. 92, as well as 25 to 29. 22 Okay. 23 Q. Okay. Do these paragraphs 24 accurately reflect the standard you applied in 25 reviewing the prior art in the '110 IPR?	Page 188 1 discussed the claim construction order in the 2 district court litigation? 3 A. Yes, I do. 4 Q. So some terms from Claim 1 of the 5 '110 patent were construed in the district 6 court litigation. 7 So we're going to talk about some 8 terms that are from limitation 1(f). 9 And you can find limitation 1(f) 10 broken down in Exhibit Number 5. And you can 11 find the claim construction order as Exhibit 12 Number 8. 13 So let's look at the claim 14 language for limitation 1(f), which is: 15 "Wherein during mirror tracking 16 mode the processor utilizes the 17 angle of the images captured by the 18 camera and applies parametric input 19 for a mapping transformation that 20 changes imaging perspective of the 21 images captured by the camera." 22 So in the district court 23 litigation -- this is Exhibit 8, on page 41. 24 Let me know when you're there. 25 A. I'm there.
Page 187 1 MS. WELSH: Objection. 2 A. I'm not a lawyer, as you know. 3 And these are the standards that were given to 4 me, and I applied the standards I say -- I put 5 in my declaration. But I was instructed on 6 the law. 7 BY MS. SAPUTO: 8 Q. And these paragraphs accurately 9 reflect the standard you applied in reviewing 10 the claims of the '110 patent, correct? 11 A. To the best -- 12 MS. WELSH: Objection. 13 A. So the question was? 14 BY MS. SAPUTO: 15 Q. Do these paragraphs accurately 16 reflect the standard you applied in reviewing 17 the claims of the '110 patent? 18 MS. WELSH: Same objection. 19 A. I need just to look at the 20 paragraph. 21 Yes, to the best of my knowledge 22 or abilities. 23 BY MS. SAPUTO: 24 Q. All right. 25 Do you recall earlier that we	Page 189 1 Q. Okay. The district court 2 construed the term "mirror tracking mode." 3 And they construed it as: 4 "A mode of operation in which the 5 user sees the reverse reflection 6 appearing at roughly double the 7 distance from the camera, and the 8 reflection maintains roughly the 9 same size, regardless of user 10 movement." 11 Do you see that? 12 A. Yes. 13 Q. This is not the construction you 14 applied in analyzing whether the prior art 15 renders the claims of the '110 patent 16 unpatentable, correct? 17 MS. WELSH: Objection to form. 18 A. I respectfully disagree with 19 that. 20 As I mentioned, like, the POSITA 21 knows how a mirror characteristic is. Mirrors 22 are well-known in the art, as also explicitly 23 indicated in the Background section of the 24 '109 patent, that this is prior art. 25 And my opinions are consistent

Page 190 1 with how the district court construed this. 2 BY MS. SAPUTO: 3 Q. In paragraph 92 of your 4 declaration, you state that "I have applied 5 the ordinary and customary meaning of a 6 claim." 7 Do you see that? 8 A. Yes. 9 Q. That is different from the 10 construction on page 41 of the claim 11 construction order, right? 12 MS. WELSH: Objection, form. 13 A. I respectfully disagree because 14 this encompasses this, the district court 15 construction. 16 So the district court 17 construction is consistent with what is 18 applied, the ordinary and customary meaning as 19 seen by a POSITA. 20 BY MS. SAPUTO: 21 Q. When you say "encompasses," it 22 means that the plain meaning of mirror 23 tracking mode -- the plain meaning, or the 24 ordinary and customary meaning, it encompasses 25 this construction.	Page 192 1 Q. Is your testimony that the plain 2 and ordinary meaning of mirror tracking mode 3 is a mode of operation in which the user sees 4 the reversed reflection appearing at roughly 5 double the distance from the camera and the 6 reflection maintains roughly the same size 7 regardless of user movement? 8 MS. WELSH: Objection, form. 9 A. I want to say that in -- for 10 these claim elements, the prior art we -- 11 I refer to or relied on in my declaration, 12 they do disclose a mirror tracking mode having 13 these characteristics. 14 There is other -- in addition to 15 also disclosing -- there are other, like prior 16 art also, they do disclose that, like in 17 certain embodiments, in addition to disclosing 18 something else. 19 But what I provide in my 20 declaration for grounds and prior art 21 embodiments do disclose these characteristics, 22 especially when we talk about conventional 23 mirror, traditional mirror. 24 BY MS. SAPUTO: 25 Q. So my question is very specific.
Page 191 1 Do you mean the construction that 2 you applied is broader or the understanding 3 you applied is broader than the construction? 4 MS. WELSH: Objection, form. 5 A. In my embodiments, I cover -- or 6 in my grounds, I cover this construction; like 7 a traditional mirror, conventional mirror, 8 it's consistent with that. For some elements, 9 it's also some enhanced mirror. 10 So it depends which elements 11 we're talking about. Here, it's for this 12 element, my opinions are consistent with 13 traditional mirror. 14 BY MS. SAPUTO: 15 Q. So I'm not asking you about 16 consistent. I'm asking whether you applied 17 this construction. 18 A. The grounds I provided are 19 consistent with the district court claim 20 construction. 21 The prior art -- 22 Yeah. Go ahead, please. 23 Q. No, no. Please continue. 24 A. I already also talked a lot about 25 that. So, yeah.	Page 193 1 Is the plain and ordinary meaning you applied 2 to mirror tracking mode in doing your analysis 3 in the '110 declaration this construction from 4 the district court? 5 MS. WELSH: Objection. 6 BY MS. SAPUTO: 7 Q. Is that the meaning you applied? 8 A. When I did my declaration, 9 I didn't have the court construction. 10 So it's the broad and ordinary 11 meaning, mirror tracking mode. It's more 12 general than that, but it encompasses that. 13 So that means that I have 14 embodiments also covering these 15 characteristics and grounds, by prior art -- 16 showing prior art does cover. 17 It's like when I talked about, 18 like, office furniture. You know, if you 19 construe it to a chair -- and I'm talking 20 about office furniture -- it includes the 21 chair, and I could show embodiments with the 22 chair so it's still consistent. 23 Q. Let's look at limitation 1(c) of 24 the '110 patent. 25 Limitation 1(c) reads:

Page 194 1 "Operating the processor to apply 2 adaptive transformation mapping to 3 the stream of images captured by the 4 camera to generate modified images 5 that appear to be captured from a 6 different point of view of the 7 camera's actual point of view." 8 And this limitation was construed 9 by the district court. And that's going to be 10 on page 37 of the claim construction order. 11 A. Okay. 12 Q. And so adaptive transformation 13 mapping, 1(c), was construed to be 14 continuously variable transformation mapping. 15 Do you see that? 16 A. Yes, I see that. 17 Q. That's not the construction you 18 applied in analyzing whether the prior art 19 renders the claims in the '110 patent 20 unpatentable, correct? 21 MS. WELSH: Objection. 22 A. I respectfully disagree. 23 In the specification of the '110 24 patent, they define this adaptive 25 transformation using this, "i.e.," and I	Page 196 1 BY MS. SAPUTO: 2 Q. Nowhere in your declaration do 3 you describe how any reference discloses 4 continuously variable -- continuously variable 5 transformation mapping, do you? 6 MS. WELSH: Objection. 7 A. I do not recall whether I did or 8 not. I do not recall. 9 MS. SAPUTO: All right. Let's 10 look at the first reference, which is 11 Haan. I think you should have 12 Exhibit 20. 13 (U.S. Patent Application 14 Publication, 12/08/2011, Haan, 15 marked as Exhibit 20.) 16 BY MS. SAPUTO: 17 Q. We'll take a look at your 18 declaration describing Haan first, paragraph 19 94. 20 A. Paragraph 194? 21 Q. 94, 94. 22 A. Yes. 23 Q. So in your declaration -- based 24 on your declaration, you would agree that Haan 25 discloses a mirror device with a display and a
Page 195 1 mention that in my declaration. 2 And there, it's saying, "i.e. 3 continuously variable transformation mapping." 4 So they use that. 5 And so based on the specification 6 of the '110 patent, I took that to be meaning 7 this. 8 BY MS. SAPUTO: 9 Q. So the plain and ordinary meaning 10 of adaptive transformation mapping is 11 continuously variable transformation mapping? 12 MS. WELSH: Objection. 13 A. So as informed by the 14 specification. I used the plain and ordinary 15 meaning. 16 But this is consistent with also 17 the continuously variable transformation 18 mapping. It is like -- this is how it's 19 phrased. You have to say what's continuously 20 here. 21 So whatever the -- I took the 22 plain and ordinary meaning for that, which is 23 the same as taking the plain and ordinary 24 meaning for the other one. 25	Page 197 1 camera to record an image of a user, correct? 2 A. Yes. 3 Q. Okay. Now let's turn at Haan and 4 look at paragraph 9 of Haan. Let me know when 5 you're there. 6 Let me know when you're there. 7 A. Yeah, I'm there. 8 Q. So Haan also discloses that the 9 mirror device determines the position of a 10 body part in relation to the display screen of 11 the mirror device; is that correct? 12 A. Yes. 13 Q. And then going to the next 14 paragraph, paragraph 10: Based on this 15 position of the user's body part, the mirror 16 device modifies the viewpoint from which the 17 displayed image is recorded; is that correct? 18 A. Yes. 19 Q. Okay. In paragraph 26 -- let me 20 know when you're there -- Haan discloses what 21 he calls a simple embodiment, and he discloses 22 that the cameras can be physically moved. 23 Do you see that? 24 A. Yes. 25 Q. So in the next paragraph, 27,

Page 198 1 Haan discloses what he calls more 2 sophisticated embodiments in which the 3 position of the camera can be obtained by 4 combining electronically the images of more 5 than one camera, such that a virtual camera 6 position can be made. 7 Do you see that? 8 A. Yes. 9 Q. Okay. So now we're going to go 10 to paragraph 72. 11 A. 72? 12 Q. Yes. 13 Haan states -- I think it's the 14 second-to-the-last sentence -- or, I guess, 15 the third-to-the-last sentence: 16 "Within embodiments of the 17 invention, the displayed image is 18 magnified as a function of the 19 distance to the mirror device. 20 Typically, a viewer holds and 21 maintains a certain distance to the 22 mirror. When he or she wants to 23 take a better look at a detail, he 24 or she reduces the distance to the 25 mirror."	Page 200 1 does, isn't it? 2 A. To answer your question, I would 3 like to point your attention -- and to put it 4 in context in here. One moment. 5 I would like to put your 6 attention to Haan paragraph 0063. 7 So -- and this is setting -- so 8 in 63, Haan teaches: 9 "The amplification of the 10 rotation" -- which applies to the 11 magnification too -- "should be 12 great enough to have an appreciable 13 effect, yet not so great that the 14 enlargement of view and amplified 15 rotation would not be perceived by 16 the user intuitively as using a 17 normal mirror." 18 So Haan teaches -- 19 Q. Uh-huh. 20 A. Haan teaches different 21 embodiments, but Haan is here saying that like 22 that is recommending -- so this is the 23 preferred thing -- and teaching, disclosing, 24 that the effect should not be negated, that 25 the user should still be seeing himself or
Page 199 1 Do you see that? 2 A. Yeah. Let me read it because it 3 was read fast. And I was looking at the top 4 when you started reading. When you said 5 "middle," then I was going there. 6 Just one moment. 7 Figure 7. Okay. So I have to go 8 to Figure 7. Okay. 9 Q. All right. 10 So now we're going to take a look 11 at paragraph 76. 12 A. 70? 13 Q. 76. 14 A. 76? 15 Q. Uh-huh. 16 All right. So we're going to 17 look in the middle of the paragraph there and 18 it's going to say: 19 "In embodiment there can be a 20 range of distances for which the 21 magnification factor is less than 22 1." 23 A. Yes. 24 Q. Okay. This disclosure in Haan is 25 different than what a conventional mirror	Page 201 1 herself as if they are looking at a normal 2 mirror. 3 Q. And did you offer an opinion as 4 to what that would be, what a POSITA would 5 regard that to be? 6 MS. WELSH: Objection. 7 A. Oh, I believe so, yeah. 8 BY MS. SAPUTO: 9 Q. Can you point me to that? 10 A. Like normal mirror, like based on 11 the POSITA and the grounds and the references, 12 we're saying is the normal mirror, what a 13 POSITA understands a mirror characteristic to 14 be. 15 Q. But there's no disclosure -- 16 there's no opinion in your declaration 17 regarding this paragraph, correct? 18 MS. WELSH: Objection. 19 A. Regarding 0063? I don't remember 20 where I -- mentioning this paragraph or not. 21 But I'm aware of -- like, I'm -- I don't know 22 where in my declaration. 23 If you want to point me to it.. 24 BY MS. SAPUTO: 25 Q. So you have a discussion of Haan

Page 202 1 in your declaration. But do you have a 2 discussion of what a POSITA would regard 3 paragraph 63 to mean? 4 A. A POSITA would know that a normal 5 mirror -- and I'm offering my opinion here as 6 a POSITA -- would know a normal mirror to have 7 the mirror characteristics. That's the normal 8 mirror, you know. 9 That's the plain and ordinary 10 meaning of the term to have the characteristic 11 as construed by the district court. That's a 12 normal mirror. 13 Q. That opinion isn't in your 14 declaration, is it? 15 MS. WELSH: Objection. 16 A. I cannot -- I do not recall that. 17 But as a POSITA, I'm offering that opinion, 18 normal, traditional -- referencing the '109 19 patent, what a normal is, I believe I have a 20 lot of -- I'm referencing to the prior art 21 section, the '109, which explicitly indicates 22 what a POSITA understands a mirror is too. 23 So this is my disclosure or my 24 opinion in the declaration as a POSITA. And I 25 am -- through these references to the prior	Page 204 1 user's image will change as the user's 2 distance from the camera changes. Isn't that 3 correct? 4 A. This is like confusing, like 5 question in here. The magnification factor, 6 you mean? 7 But also I want to understand 8 your question better. What do you mean by 9 "magnification" in your question? 10 Q. Haan discusses magnification and 11 a magnification factor. 12 I'm asking you: Haan, reading 13 Haan as a POSITA, as an expert, Haan is 14 disclosing that the user's image is going to 15 change its magnification, and the 16 magnification factor of the user's image is 17 going to change as the user's distance from 18 the camera changes; isn't that correct? 19 Isn't that what these paragraphs 20 disclose? 21 MS. WELSH: Objection, form. 22 A. I mean, in 72 it's saying 23 basically that the magnification of the -- 24 yeah, it does say this in 72, yeah. 25
Page 203 1 art, I'm making that statement. 2 BY MS. SAPUTO: 3 Q. Haan is disclosing that the 4 magnification of the user's image will change 5 as the user's distance from the camera 6 changes, correct? 7 MS. WELSH: Objection. 8 A. Could you point also to the 9 paragraph that you are -- because there's many 10 embodiments in Haan. 11 BY MS. SAPUTO: 12 Q. Let's look at paragraph 72. That 13 third sentence from the end: 14 "Within the embodiments of the 15 invention, the displayed image is 16 magnified as a function of the 17 distance to the mirror device." 18 A. Yes. 19 Q. And then paragraph 76 states: 20 "In embodiments there can be a 21 range of distances for which the 22 magnification factor is less than 23 1." 24 So, again, my question is: Haan 25 is disclosing that the magnification of the	Page 205 1 BY MS. SAPUTO: 2 Q. This means that the size of the 3 user's image would not appear roughly the same 4 size, as the user's distance from the camera 5 changed, correct? 6 MS. WELSH: Objection. 7 A. I'm referring to 63. 8 Approximately, it would be. 9 That's what -- in some 10 embodiments and in some ranges of distances 11 also, the -- it's going to appear like a 12 mirror, and this is computer-generated also. 13 So you do have resizing happening 14 to make it appear like a mirror first. On top 15 of that, you could add magnification. But 16 this is approximate. 17 But Haan, according to 18 paragraph 63, teaches part of some embodiments 19 in here that the magnification, rotation, or 20 that effect you do should not be so great, and 21 you need to keep it such that the user 22 intuitively perceive it as using a normal 23 mirror. 24 So the user is seeing the same 25 size. So it would be approximately roughly

Page 206 1 the same size. So this is consistent with the 2 district court construction. It doesn't have 3 to be exactly the same size. 4 BY MS. SAPUTO: 5 Q. Paragraph 63 talks about 6 rotation, not magnification. 7 A. It's the same -- a POSITA would 8 understand this applies to also the 9 magnification. You want the user to be 10 looking as if perceiving a normal mirror. 11 And that's an example, rotation 12 or any effect you do shouldn't be -- to make 13 it should be preferably not exaggerated so 14 much in some embodiments here, preferably -- 15 and that's what he's teaching here because you 16 like to have the user still look and feel -- 17 to have a good experience, user experience, 18 and feel as if using a normal mirror. 19 There is augmented mirror 20 embodiments too, which is different than a 21 normal mirror embodiments. 22 Q. Haan specifically says the 23 amplification and rotation. Haan doesn't have 24 a paragraph saying the magnification should be 25 perceived by the user intuitively as using a	Page 208 1 yeah, in this embodiment. 2 BY MS. SAPUTO: 3 Q. That opinion is not in your 4 report, is it? 5 MS. WELSH: Objection. 6 A. I'm not, like -- which opinion is 7 not in my report? 8 BY MS. SAPUTO: 9 Q. The opinion that you just offered 10 me, that a POSITA would understand 11 paragraph 63 to apply to magnification. 12 That's not in your report, is it? 13 A. When we talk about a normal 14 mirror and Haan is preferably recommending 15 like to have the user, despite the 16 transformation, look a the normal mirror. And 17 as a POSITA, that's -- a normal mirror, it is 18 what I refer to in my declaration. It has a 19 normal mirror characteristics, okay? 20 I didn't specifically state 63, a 21 POSITA -- I didn't explicitly, I guess, 22 discuss as you're saying, like the -- in my 23 declaration. But as a POSITA, a POSITA would 24 understand that. 25 Q. So it's your testimony that you
Page 207 1 normal mirror? 2 A. A POSITA would understand -- 3 Yeah, is there a question or a 4 statement? 5 Q. That's right. Isn't that right? 6 Like, he has a paragraph, paragraph 63, about 7 amplification of rotation should be perceived 8 by the user intuitively as using a normal 9 mirror. 10 There's no such disclosure, is 11 there, in Haan of magnification? 12 MS. WELSH: Objection. 13 A. The POSITA will understand this 14 applies to any effect that you are adding 15 disclosed by Haan. 16 And I would have to go through 17 the other also paragraph before to see the 18 context in here. 19 But in here, as an example, 20 talking about one transformation. A POSITA 21 would understand that Haan say: Hey, don't 22 exaggerate this. The users still perceive 23 this as a normal mirror, whether its rotation 24 or magnification or any transformation that 25 you want to use as enhancement, especially --	Page 209 1 don't even say in your report that this is 2 what a POSITA would understand from reading 3 paragraph 63? 4 MS. WELSH: Objection. 5 A. I didn't get the question. Could 6 you, like, restate it? 7 BY MS. SAPUTO: 8 Q. In your report you did not say 9 that this is what a POSITA would understand 10 from reading paragraph 63, correct? 11 MS. WELSH: Objection. 12 A. I don't recall from memory what 13 everything is in my declaration, okay? I'll 14 have to look at what I put at 63 in my 15 declaration in order to more accurately answer 16 your question, to see. 17 And if you can point me out to -- 18 if you think, like, somewhere where you find 19 that I'm referencing 63 -- 20 BY MS. SAPUTO: 21 Q. I'm telling you it's not there. 22 A. The other part you told me was 23 not there and it was there. And something 24 else you told me was not there and it was 25 there, so I can't rely on it.

Page 210 1 Q. Then you shouldn't ask me. 2 A. Excuse me? 3 Q. Then you shouldn't ask me to find 4 it for you. 5 A. No, no. I mean, I know, like, 6 you are saying -- like maybe you know. It 7 doesn't mean that you don't know that -- you 8 cannot point me if you saw it. So it doesn't 9 mean. But when you say it's not there, it's 10 not clear. 11 I'm sure you didn't memorize my 12 declaration either, but -- 13 Q. I did not, no. 14 A. Yeah, exactly. So that's what 15 I'm saying. 16 Q. Okay. So as of now, could you 17 tell me whether or not your report provides an 18 opinion that a POSITA would understand from 19 paragraph 63 that this disclosure would be 20 applied to magnification as of now? Could you 21 tell me? 22 A. As of now, I do not recall. 23 MS. WELSH: Objection. 24 A. Sorry. 25	Page 212 1 Q. Is that a correct statement? 2 MS. WELSH: Objection. 3 A. This is a statement -- incorrect 4 in what way? Could you point out to what? 5 BY MS. SAPUTO: 6 Q. Is it correct that magnification 7 is equivalent to moving a camera with fixed 8 magnification closer to the object? 9 A. In the context of this embodiment 10 in Haan, this is his magnification, okay? So 11 resizing, scaling, magnification. It's 12 equivalent to moving the camera closer to the 13 object. Yeah, you can obtain the 14 magnification this way. 15 Q. Magnifying an object and -- 16 magnifying an image and physically moving a 17 camera closer to the object doesn't result in 18 the same image, does it? It's not the same 19 thing. 20 MS. WELSH: Objection. 21 A. What do you mean by that? Could 22 you be more specific? 23 BY MS. SAPUTO: 24 Q. Sure. 25 So let's say I'm taking a picture
Page 211 1 BY MS. SAPUTO: 2 Q. All right. 3 Let's look at paragraph 73. And 4 I'm interested in the third sentence. 5 A. You are interested in -- 6 Q. The third sentence. Paragraph 73 7 of Haan, yes. 8 And I'll give you a minute so you 9 can read the whole thing, but I'm particularly 10 interested in that third sentence. 11 Okay. Let me know when you're 12 ready. 13 A. Okay. 14 Q. So the third sentence says: 15 "It is remarked that 16 magnification is, in fact, 17 equivalent to moving a camera with 18 its magnification closer to the 19 object. So all applications can be 20 seen, in fact, as changing the point 21 of view, or in other words, the 22 position of the camera, be it a real 23 camera or a virtual camera." 24 Do you see that? 25 A. Yes.	Page 213 1 of a coffee shop. I am standing, let's say, 2 10 feet away from the coffee shop, taking a 3 picture. 4 Let's say that there is, behind 5 the coffee shop, an enormous ruler that goes 6 up into the sky. 7 My line of sight from the center 8 point of my camera, like looking out at the 9 coffee shop, is going to hit a certain point 10 on that ruler, right? That's the picture I'm 11 taking. 12 If I move closer, so like let's 13 say now I'm four feet away from the coffee 14 shop, that -- the focal point of my camera, 15 the center point of my camera, its line of 16 sight is going to hit a different part of the 17 ruler because I've moved closer now. More of 18 the building is blocking that ruler because 19 I'm closer. 20 So there's a change, right? 21 Like, there's a change in the background that 22 I can see because now I'm closer to the 23 building, and the building is blocking more of 24 my background. 25 But let's say I'm 10 feet away

Page 214 1 again. I'm taking that picture. And then we 2 just take that picture and we, like, zoom in 3 on it, right, like you can do on your iPhone. 4 You just zoom in on it. I'm not getting a 5 different picture. The background is not 6 changing. I'm just like focusing in on one 7 aspect of that picture. That's what I'm 8 doing. 9 So physically moving towards the 10 object and taking a picture and simply zooming 11 in on the picture are two different things. 12 They're not the same. They're not equivalent. 13 Is that correct? 14 MS. WELSH: Objection. 15 A. I can't -- we don't have the full 16 context and that's not what basically Haan is 17 talking about in here. 18 BY MS. SAPUTO: 19 Q. What is he talking about? 20 A. We do give in our background -- I 21 could refer you to the background where we 22 discuss in the technology background how 23 the -- how the camera, you can zoom in, or you 24 can keep the same size by also having the -- 25 for example, if you have the -- you have to	Page 216 1 Or vice versa. If they're moving back, now 2 the camera, they're going to appear smaller. 3 So to keep the same size, you 4 have the camera going forward, is this example 5 here, this scenario. You can take different 6 scenarios that represent different things. 7 Q. How is magnification, though, 8 equivalent to moving the camera? 9 MS. WELSH: Objection. 10 A. I'm reading here. 11 It depends on the case and 12 scenario, and within this embodiment de Haan, 13 for his application, it's equivalent for him. 14 You could have like a background, 15 if you want, that -- so -- and the word 16 "equivalent" here, how he's using it, you 17 could achieve -- from also from the prior art, 18 you could achieve magnification or scaling by 19 moving the camera forward. Scaling is 20 achieved. 21 It's not -- this doesn't say, 22 hey, you have to keep all the background the 23 same. It's not saying that. 24 It's saying magnification will 25 occur when you move the camera. Also view.
Page 215 1 see -- you have to be within the focal -- the 2 field of view of the camera first. 3 The subject -- this applies to, 4 under a certain context, especially in this 5 application, especially if you want the full 6 body to stay there or that image to stay there 7 or whatever object you like to stay there that 8 you're focusing on, you see? 9 And we give in the background 10 also about that. One example would be suppose 11 a person -- and they use it in film. Suppose 12 a person is coming towards the camera, okay? 13 When they're coming towards the camera, 14 they're going to appear larger -- no? -- as 15 they're coming close. 16 Q. Uh-huh. 17 A. Now, if you want to keep this 18 same size of that person as they're moving 19 towards, what you could do is roll back the 20 camera. Instead of moving, you roll back. 21 You see what I mean? 22 Q. Uh-huh. 23 A. I've just given an example. 24 Because then you're resizing, when you move 25 back, they're going to shrink back, you see.	Page 217 1 You could achieve magnification this way. 2 BY MS. SAPUTO: 3 Q. Thank you. 4 So your testimony is that in some 5 cases, magnification is equivalent to physical 6 movement of the camera? 7 A. I'm not saying -- 8 MS. WELSH: Objection. 9 A. Yes, I'm sorry. 10 So I'm not saying that. I'm 11 saying it depends on -- what I said is moving 12 the camera closer would result in change of 13 size, magnification or attenuation, which is 14 magnification at a factor at less than 1 or 15 greater than 1. 16 When you move the camera due to 17 its -- how the camera operates and the 18 perspective of the camera, transformation is 19 going to change the size and the scale. 20 Some magnification is going to 21 occur. That's what I said. 22 BY MS. SAPUTO: 23 Q. So size would get bigger in both 24 instances. But other things also change, 25 right, like --

Page 218 1 A. Well, not -- we're not talking 2 about that. It depends on the situation. 3 Let me give you a situation where 4 you have -- like in the figure in de Haan. We 5 go to figure in de Haan, like Figure 1. The 6 background is flat, okay? 7 I mean, if you -- the background 8 is not going to change if it's like very big, 9 flat background. In this case -- like just 10 I'm giving you an example. Or you could 11 remove the background, also process that. 12 So it depends on the application 13 I'm trying to do, you see? And... 14 Q. So your testimony is 15 magnification -- so magnification is 16 equivalent to physical movement of the camera 17 in some cases? 18 A. I'm not using the word 19 "equivalent" when I said that. 20 What I said, when you move the 21 camera back and forth, as stated by de Haan, 22 scaling is going to occur. Resizing is going 23 to occur. 24 If -- assuming, however, that the 25 object you're looking at is static too -- you	Page 220 1 A. Yes. 2 Q. And Rosenberg, as you mentioned 3 in your declaration, paragraph 71, discloses a 4 digital mirror system that emulates a 5 traditional mirror by displaying real-time 6 video images of a user. 7 MS. WELSH: What -- 8 MS. SAPUTO: 71. 9 A. 71 of like my declaration? 10 BY MS. SAPUTO: 11 Q. Of your declaration. 12 A. Oh, page or paragraph? 13 Q. Hold on. I might have had the 14 wrong -- sorry, I had the wrong declaration. 15 Wrong declaration. Just give me a second. 16 This is Rosenberg at 109 -- 17 sorry, your -- paragraph 109 in your 18 declaration for '110. 19 A. One moment. 20 I am there. 21 Q. Okay. So just kind of giving you 22 a refresher, Rosenberg discloses a digital 23 mirror system that emulates a traditional 24 mirror. It displays video images of a user. 25 Do you agree?
Page 219 1 see, that has a lot of assumption. I mean, 2 whatever de Haan is saying, a POSITA would 3 understand the context of de Haan, which is 4 like somebody -- you know, based on the 5 embodiment that he's discussing. 6 If somebody is moving and you're 7 moving the camera, I show you that the person 8 stays the same size, but -- actually because 9 the camera is moving to keep that same size. 10 So it depends on the context. 11 That's what I'm saying. It depends on the 12 application. 13 And that's why it cannot be a 14 question out of context like that. 15 Q. Let's look at Rosenberg. We're 16 going to look at it again, so it's going to be 17 an additional exhibit. It's going to be 18 Exhibit Number 21. 19 (U.S. Patent Application 20 Publication, 02/22/2007, 21 Rosenberg, marked as Exhibit 21.) 22 BY MS. SAPUTO: 23 Q. And we discussed Rosenberg 24 earlier regarding the '109 IPR. 25 Do you recall?	Page 221 1 A. Yes. 2 Q. So let's take a look at some 3 paragraphs in Rosenberg for reference. 4 Paragraph 28. 5 A. Can we have like a break after 6 this? 7 Q. Sure, yeah. 8 A. So paragraph what? 9 Q. 28? 10 A. 28 in my -- in Rosenberg? 11 Q. In Rosenberg, yes. 12 So in paragraph 28 and 29, 13 Rosenberg discloses physical movement of the 14 camera to change the angle of the image being 15 captured; is that correct? 16 A. I have to read through the 17 paragraphs. 18 You mentioned 28 and 29; is that 19 correct? 20 Q. Yes. 28 and 29. 21 A. And these are like big 22 paragraphs, so I have to see what they are 23 saying. 24 Unless I'm saying -- you can 25 quote my declaration and I'm saying something

Page 222 1 there, like. 2 Q. Can I ask more generally if you 3 recall that Rosenberg discloses physical 4 movement of the camera to change the angle of 5 an image? 6 A. I know there is some exhibit 7 disclosing this, and perhaps it is Rosenberg, 8 but could you point me in this paragraph where 9 it says this? 10 Q. Sure. 11 A. So I don't have that. 12 Q. So paragraph 28, in the second 13 sentence: 14 "Such embodiments of the present 15 invention often strive to achieve 16 placement of the camera such that 17 the image captured by the camera is 18 taken from a vantage point that is 19 centered horizontally with respect 20 to the display screen and at an 21 elevation vertically that generally 22 corresponds with a user's typical 23 eye level." 24 And then in paragraph 29, it 25 says:	Page 224 1 camera in this. 2 And then it continues: 3 "This region of removed screen 4 would generally appear as a blacked 5 out portion of the mirror image, as 6 if a small block dot was cut into a 7 real mirror to allow light to pass 8 through it. With proper optics, 9 this dead region of the mirror 10 display" -- and you don't want your 11 whole mirror to be dead if you move 12 the camera -- "can be very small, 13 for example." 14 So definitely here, Rosenberg is 15 not teaching moving any camera. He's 16 teaching -- 17 Just let me finish, please. 18 He's teaching placing a mirror 19 fixed in the center by actually removing part 20 of the screen and having a hole in it. 21 Q. I misspoke. So thank you for 22 correcting me. 23 Would you agree that Rosenberg 24 discloses physical placement of the camera to 25 change the angle of the image that is being
Page 223 1 "In other embodiments, the camera 2 is positioned behind the display 3 screen and captures images through 4 an active area of the screen during 5 off cycles when the digital mirror 6 imagery is not displayed." 7 So in these two paragraphs, based 8 on these two paragraphs, would you agree that 9 Rosenberg's system -- or Rosenberg discloses 10 physical movement of the camera to change the 11 angle of the image being captured? 12 A. No. 13 Let me tell you something. Like 14 in paragraph 28, he said there are many ways 15 to do that, no? 16 So if you go down like at the 17 end, like the seventh before the last, "In 18 some embodiments a small region of active 19 screen area is removed to allow the camera to 20 capture an image through the screen surface." 21 This means it's fixed. It's not 22 moving at all. So it's a fixed camera. You 23 remove the screen and you put it there, plug 24 it, assuming maybe some application. I don't 25 know. So there is no mere movement of the	Page 225 1 captured? 2 MS. WELSH: Objection. 3 A. Here, he's doing that so that if 4 it -- if he's lucky, Rosenberg, and you have a 5 user exactly at where the camera is placed, so 6 the eye level is, like, at the camera level 7 and at the right distance to keep it with the 8 camera because as you move, your angle with 9 the camera will change. If I move too close, 10 it's going to be below me. 11 So if I'm -- if Rosenberg is 12 lucky, for the person to be at the optimal 13 distance with the optimal height, then what 14 Rosenberg is teaching is there is no problem 15 then, you don't have to correct anything 16 because you get the perfect picture. That's 17 what he's teaching. There's no correction of 18 any tilt or any angle here. 19 What he is saying is you'll be 20 basically sad because you're lucky to be at 21 the right distance with the right height. In 22 practice, it doesn't occur, and POSITA would 23 know that typically people have different 24 levels and height and different distances and 25 would be motivated to have a more -- a

Page 226 1 solution that would allow dealing with all 2 these situations without having to cut the 3 screen -- and I disclose this in my 4 declaration. 5 BY MS. SAPUTO: 6 Q. So Rosenberg does think that he's 7 achieved a good solution by trying to place 8 the camera centered horizontally with respect 9 to the display screen at an elevation that 10 generally corresponds with typical eye level? 11 MS. WELSH: Objection, form. 12 A. For the present application, if 13 you know, hey, this is for this population on 14 average, like, they correspond, on average, 15 and depending on an application where you're 16 going to be standing here to, for example, for 17 shopping. 18 So it could be 19 application-specific. 20 And that's why a POSITA would be 21 motivated because one of the embodiments -- 22 and, again, 10 out of -- 9 out of the 10 23 illustrations of Rosenberg, they show -- it 24 shows the camera at the top of the display. 25 And Rosenberg discloses that	Page 228 1 A. One moment. 2 What was the question? 3 Q. My question is whether -- my 4 question is: Rosenberg does not disclose 5 digital computer processing to change the 6 angle of the image being captured, correct? 7 MS. WELSH: Objection. 8 A. I believe we discussed this 9 question before and I referred you to 10 paragraph 55 in Rosenberg and we had the 11 discussion about it. 12 And a POSITA from that would 13 understand -- so Rosenberg does not explicitly 14 say how to perform this correction. 15 BY MS. SAPUTO: 16 Q. Are you referring to paragraph 55 17 in Rosenberg? 18 A. One moment. We'll see if this is 19 the paragraph. 20 Number 1 for Figure 5. 21 Q. Figure 5? 22 A. Figure 5, yeah. The Figure 5 23 paragraph, which was -- what was that 24 paragraph? Let me find it. 25 77 for Figure 5.
Page 227 1 within this embodiment, Figure 5, that a 2 person would perceive as if standing at a 3 traditional mirror and also flipping, scaling. 4 A POSITA would be motivated to do 5 that, to have an applicable -- a solution 6 applicable to a broad range of applications, 7 so more advantageous. 8 MS. WELSH: Counsel, is now a 9 good time for a break? 10 MS. SAPUTO: Yep. Let's do it. 11 THE VIDEOGRAPHER: We're going 12 off the record at 1:34 p.m. 13 (Recess taken.) 14 THE VIDEOGRAPHER: This begins 15 media unit 4. And we're back on the 16 record at 1:50 p.m. 17 BY MS. SAPUTO: 18 Q. Rosenberg does not disclose 19 digital computer processing to change the 20 angle of the image being captured, correct? 21 MS. WELSH: Objection. 22 A. One moment. So you want us to -- 23 it's Rosenberg, the exhibit? 24 BY MS. SAPUTO: 25 Q. Yes, Rosenberg, the exhibit.	Page 229 1 Q. Okay. 2 A. So -- and I refer you -- the 3 Figure 5 is the embodiment where the camera is 4 on the top. So the 77 is related to this 5 placement. 6 And -- and with this placement, 7 where you have the camera tilted, the last 8 sentence of this paragraph says: 9 "The user 501 standing before the 10 visual display is given the visual 11 impression that he or she is 12 standing before a traditional wall 13 mirror, viewing a traditional mirror 14 image of himself or herself." 15 So a POSITA would understand that 16 that image has a traditional mirror 17 characteristic. And already Rosenberg said 18 that is the -- I'm not sure if before -- if 19 you had a camera. 20 And here he's saying with this 21 embodiment and placement, you could achieve 22 this traditional mirror. 23 But -- so a POSITA would 24 understand that there is correction happening 25 for this image to be as a traditional mirror

Page 230 1 and would -- however, and would look to the 2 prior art to see how it can be -- how the user 3 can do that. 4 And this is the combination -- 5 this is the combination I have in my 6 declaration, that the POSITA would be 7 motivated from the teaching of Rosenberg. 8 Q. But you agree that there is not 9 an express disclosure in Rosenberg of how to 10 accomplish this transformation, correct? 11 MS. WELSH: Objection. 12 A. An express disclosure of how to 13 accomplish which transformation? 14 BY MS. SAPUTO: 15 Q. The transformation that you said 16 regarding the tilt. 17 A. No explicit, yeah, expressed -- 18 expression. 19 Q. And you -- in paragraph 27, at 20 the very end of paragraph 27, it's talking 21 about a situation like we see in Figure 5 22 where the camera is mounted at the top of the 23 screen, and it says: 24 "However, embodiments which have 25 a camera mounted above the screen	Page 232 1 the POSITA would understand to achieve and to 2 have a more traditional mirror -- traditional 3 mirror image, a mimicking image, if the tilt 4 is -- if the tilt distortion is too much, you 5 need to correct it. 6 Now, if it's like you have -- if 7 it's like roughly approximating in here, like, 8 it has an advantage also. You don't have to 9 correct and you could -- then you can see 10 other things of what you want to see, if you 11 like to do that. 12 It has that advantage. You could 13 switch between correcting and not correcting 14 then between these embodiments. It can have 15 that advantage. 16 BY MS. SAPUTO: 17 Q. Okay. We're going to go to 18 Exhibit 22, which is the Geisner reference. 19 I'm going to direct you to your 20 declaration. 21 A. Which one? 22 Q. Exhibit 22. I just put it up. 23 (U.S. Patent Application 24 Publication, 10/06/2011, Geisner, 25 marked as Exhibit 22.)
Page 231 1 area may still be configured to 2 provide an effective image, but the 3 vantage point will simply be 4 slightly higher than the eye level 5 vantage point with which users are 6 familiar. This raised vantage point 7 is sometimes advantageous, giving 8 users an increased view of the top 9 of their head, an area that is often 10 the focus of hair brushing." 11 So given this disclosure saying 12 that there's going to be a vantage point 13 that's slightly higher, that's not eye level, 14 and that, in fact, it could be advantageous, 15 you're saying that a POSITA would understand 16 that there's correction -- there's digital -- 17 there's digital correction going on of that 18 angle problem? 19 MS. WELSH: Objection, form. 20 A. There are different embodiments 21 in Rosenberg, and it's "s," with an "s," 22 embodiments. There also, that is basing it on 23 embodiments. 24 The one on 77 in Figure 5, in 25 that particular embodiment and explanation,	Page 233 1 BY MS. SAPUTO: 2 Q. Okay. And I'm going to direct 3 you to your declaration, paragraph 124. 4 Geisner is directed to a tracking 5 system that captures user motions and executes 6 the shopping application, allowing a user to 7 manipulate an on-screen representation of the 8 user. 9 Do you agree? 10 A. Yes. 11 Q. Okay. Geisner's on-screen 12 representation of a user does not appear as a 13 reflection of a user in a conventional mirror, 14 correct? 15 MS. WELSH: Objection. 16 A. I respectfully disagree with 17 that. This is -- 18 BY MS. SAPUTO: 19 Q. Do you have that opinion? 20 A. That's what I'm saying. 21 Q. I'm sorry. Can you repeat that? 22 A. I said I respectfully disagree 23 with this. 24 Q. Where is it disclosed in Geisner 25 that the on-screen representation would appear

Page 234 1 as a reflection of a user in a conventional 2 mirror? 3 A. Figure 9 in Geisner. 4 And if you go to my 5 declaration -- 6 One moment. 7 Here, Figure 9. 8 Q. Respectfully, I don't see 9 anything in paragraphs 126 or 127 which 10 discuss Figure 9 that disclose that the 11 on-screen representation of the user appears 12 as a reflection in a conventional mirror? 13 A. You're saying which paragraph in 14 what document? 15 Q. In Geisner, paragraphs 126 and 16 127 discuss Figure 9. 17 A. Okay. But -- one moment. I want 18 to -- I'm flipping to -- it shows -- Figure 9 19 shows a flipped image, like in a shopping and 20 retail. And the user, they want to see 21 themselves. So -- and the Figure 9 shows 22 reverse flipped image that's lifelike, also 23 same size as the person, or lifelike. 24 Q. Okay. 25 A. And I'm illustrating this in the	Page 236 1 A. Yes. 2 Q. And in paragraph 103 in 3 Geisner -- 4 A. Which one, please? 5 Q. 103 in Geisner. 6 In the middle of the paragraph, 7 it says: 8 "In one embodiment, each user 9 will be asked to identify himself or 10 herself by standing in front of the 11 system so that depth images and/or 12 visual images can be obtained from 13 multiple angles for that user. For 14 example, the user may be asked to 15 stand in front of the camera, turn 16 around, and make various poses while 17 depth images and visual images are 18 obtained." 19 So Geisner discloses physical 20 placement of cameras to view the scene being 21 captured from different angles. 22 We saw that in paragraph 39, 23 correct? 24 A. In some embodiments, yes. 25 Q. Yes. Okay.
Page 235 1 declaration, also, so I was trying to look at 2 that. I have Figure 9. But I'm illustrating 3 the flipping there, but -- so Figure 9 does 4 disclose a flipped image. 5 And when you're going shopping 6 and you want to try clothes -- and in light 7 also of the disclosure of Figure 9, so, like, 8 you're going to be -- want to have a mirror 9 image. But Figure 9 discloses that in 10 Geisner. 11 Q. Let's look at paragraph 39 of 12 Geisner. 13 A. Of Geisner? 14 Q. Yes, please. 15 A. 39. 16 Q. 39, yes. 17 It says: 18 "According to another embodiment, 19 the capture device may include two 20 or more physically separated cameras 21 that may view a scene from different 22 angles to obtain visual stereo data 23 that may be resolved to generate 24 depth information." 25 Do you see that?	Page 237 1 And in another embodiment here 2 disclosed in paragraph 103, we see that 3 Geisner discloses physical movement of the 4 person being captured to change the 5 perspective of the person being captured, 6 correct? 7 A. Yeah, but you should -- you 8 should see the context. If you keep reading 9 that, this is to create a biometric of the 10 user for enrollment. 11 So this is, like, to enroll, to 12 log into the system so you're into the system 13 of Rosenberg [sic] for identification, not for 14 later. 15 So when you come into this, in 16 order for you -- it's like logging in. So if 17 this is -- this is a different application, a 18 different embodiment. 19 So if you go back to 20 paragraph 103, for example, if you continue 21 reading: 22 "After the system obtains enough 23 depth and/or visual images, the 24 system will create a set of 25 identifying data from the images

Page 238 1 that uniquely identifies the user. 2 The system will create a unique 3 identification and associate that 4 unique identification with on-screen 5 representation or other objects in 6 the application. After a user is 7 enrolled, the system will track." 8 So you have to enroll so that you 9 can have your preferences, if you want, and 10 retrieve some data maybe you recorded. 11 So it's a separate application. 12 It's good to know the context. 13 Q. But Geisner doesn't disclose 14 digital processing to change the apparent 15 point of view of the image being captured, 16 right? 17 MS. WELSH: Objection. 18 A. I could refer to my declaration 19 of Geisner. 20 Geisner relates to processing and 21 displays an image processing and displays -- 22 so what was the question? 23 BY MS. SAPUTO: 24 Q. Does Geisner -- Geisner does not 25 disclose using computer processing to change	Page 240 1 the camera's actual point of view. 2 And, for example, Geisner discloses 3 applying a scaling transformation to 4 the images with targets as described 5 in the section paragraph 312." 6 We can go there. 7 So in 312, going to the -- on 8 page 210 of my declaration: 9 "Geisner discloses other 10 transformation, including resizing 11 and positioning." 12 And this is paragraph 0062 in 13 Geisner. 14 "When the target is a human, the 15 features of target may be altered by 16 applying different transformation 17 here, like color, position, and 18 scaling for the target." 19 Q. That's not changing the angle, 20 right? 21 MS. WELSH: Objection. 22 A. We have positioning also, and 23 also scaling -- 24 So your question was about the 25 point of view; is that right?
Page 239 1 the apparent point of view of the image being 2 captured? 3 A. I disagree with that. There are 4 a lot of disclosure in Geisner to change 5 different views, different things, to process 6 the image differently. 7 Q. Where in your declaration do you 8 point to Geisner using computer processing to 9 change the apparent point of view? 10 And it relates to limitation -- 11 I want to point you to the right one. 12 A. Let me look at my declaration and 13 see what I have on that on Geisner, if I opine 14 on this or how I stated it, if I relied on 15 this in my declaration. 16 Q. 1(c). It's 1(c). 17 A. Okay. 18 Q. And so it's on paragraph -- 19 A. What paragraph, please? 20 Q. -- 323. 21 A. In example -- in 323, I state in 22 here: 23 "Geisner discloses generating 24 images that appear to be captured 25 from a different point of view of	Page 241 1 BY MS. SAPUTO: 2 Q. A different point of view than 3 the camera's actual point of view. 4 A. Yeah. I mean, the point of view, 5 the center of a camera, if it moves, also 6 you're changing the point of view. It's not 7 only -- it can be angled. It can be the 8 center of the camera moving back or forth. 9 This is the point of view changing also. 10 Q. But Geisner doesn't disclose that 11 with a computer. He discloses physically 12 moving the camera, like locating it in a 13 different position, mounting at different 14 places. He discloses having the user move 15 around to get different angles, but he doesn't 16 disclose digital processing to change the 17 angle of the image being captured? 18 A. I disagree -- 19 MS. WELSH: Objection. 20 A. Sorry. 21 So basically, the scaling here 22 using the processing, this paragraph 0062 23 because it may be altered by applying 24 different transformation, like color, 25 positioning, scaling to the target. This is

Page 242 1 using computer processing. 2 BY MS. SAPUTO: 3 Q. That doesn't change the point of 4 view, does it? Changing the color of hair 5 doesn't change the point of view? 6 A. Positioning changes. Scaling 7 does change it also. 8 Q. Scaling changes point of view? 9 A. Yes, the center of the camera. 10 And furthermore, if we continue 11 on paragraph 313, Geisner further discloses 12 rotation transformation, okay? 13 And we discussed that, so that's 14 in there. 15 Q. Okay. Let's go to Exhibit 23. 16 A. 323? 17 Q. Exhibit 23. That's going to be 18 the Lizee reference. And we discussed this 19 with regard to the '109 IPR earlier. 20 A. Yes. 21 Q. So as you recall, it discloses a 22 virtual present system that has an image 23 capture device that captures an image of the 24 user and a competing device that generates a 25 virtual representation of the user and	Page 244 1 avatar, correct? 2 A. I disagree with that. 3 Q. Let's look at paragraph 73. 4 A. In Lizee? 5 Q. Yes. Paragraph 73 says: 6 "Also, the use of a silhouette 7 image" -- 8 A. Hang on. 9 Q. (Reading.) 10 -- "20 provides for the easy 11 harmonization of the projected image 12 26 in a stylized virtual environment 13 22. For instance, it would be 14 harder to respect the artistic 15 direction of the virtual environment 16 22 if an actual image was used to 17 overlay the virtual environment 18 graphic. 19 "Furthermore, while true image 20 overlays may be intimidating for 21 some users, the use of silhouettes, 22 while still providing an adequate 23 identification of the user on the 24 screen 18 provides a less 25 threatening experience accessible to
Page 243 1 presents it on the display. 2 And that is in paragraph 12. 3 A. Paragraph 12 of Geisner? 4 Q. Yeah. 5 So you agree it's a virtual 6 present system. It has an image capture 7 device. It captures an image of a user. It 8 has a computing device that generates a 9 virtual representation of the user and 10 presents it on a display? 11 A. Yes. 12 Q. Okay. Lizee also discloses that 13 the virtual representation comprises a 14 mirrored silhouette transformation of the 15 user, correct? 16 A. Yeah, in that 0012 paragraph. 17 Q. All right. 18 Lizee does not use the user's 19 actual image to generate the user's avatar; is 20 that correct? 21 MS. WELSH: Objection. 22 A. Could you restate your question. 23 BY MS. SAPUTO: 24 Q. Lizee does not disclose using the 25 user's actual image to generate the user's	Page 245 1 all." 2 Do you see that? 3 A. Yes, I see it. 4 Q. Okay. So based on this 5 paragraph, is it still your opinion that Lizee 6 uses a user's actual image to generate the 7 user's avatar? 8 MS. WELSH: Objection, form. 9 A. It's still my opinion that you 10 use the actual user and you process it to 11 generate -- to generate. So it is based on 12 the user's image, yes. 13 BY MS. SAPUTO: 14 Q. So what do you understand Lizee 15 to mean in paragraph 73 by "if an actual image 16 was used to overlay the virtual environment"? 17 What do you understand that to mean then? 18 Because he's not doing that. He's saying 19 we're not doing that. 20 So what do you understand that to 21 mean? 22 A. So this is -- 23 MS. WELSH: Objection. 24 A. So this is like -- this is one 25 example and one application and one for this.

Page 246 1 That said, this doesn't 2 correspond to your question. Maybe you're 3 asking this question, but the way you're 4 asking it is not -- still my answer is the 5 correct one. 6 BY MS. SAPUTO: 7 Q. Okay. Well, enlighten me how my 8 question is not lining up with what I'm 9 pointing to. 10 MS. WELSH: Objection, form. 11 A. Could you restate your question? 12 BY MS. SAPUTO: 13 Q. Yeah. 14 So could you explain to me 15 what -- when you say -- I'm trying to make 16 sure I have the right -- when you say "this 17 doesn't correspond to your question." 18 So explain to me how this doesn't 19 correspond to my question. 20 A. So restate your question so that 21 it's more -- I can explain it to you. 22 Q. Okay. So the user's actual image 23 is not the user's avatar; is that correct? 24 A. So this is a different question, 25 the one you're asking now.	Page 248 1 I would say this is not my image 2 either. So you have to be specific in what 3 you're asking. 4 It is derived from the user 5 image. It represents the user because it was 6 taken by taking the actual user image and the 7 actual user image was processed to display 8 this. 9 BY MS. SAPUTO: 10 Q. Does the user in Lizée see their 11 image as they would see it in a conventional 12 mirror? 13 A. Could you please ask your 14 question. I didn't hear the first part. 15 Q. Would the user in Lizée see their 16 image as it would be displayed in a 17 conventional mirror? 18 MS. WELSH: Objection. 19 A. No. There are some aspects, they 20 see it, but it's not like the conventional 21 mirror we talked about. 22 MS. SAPUTO: All right. Let's go 23 now to Exhibit 24, which is going to be 24 Francois. 25 (Article, "Software Architecture
Page 247 1 So it has the -- so here in this 2 paragraph in the 0012 Lizée teaches using a 3 silhouette that has the same orientation of 4 the user and is derived from the user image. 5 It represents the user. It states, like, 6 "representing the user and derived from the 7 user image." 8 So that's what Lizée -- Lizée -- 9 Lizée teaches. 10 Q. The avatar is not the user's 11 image, correct? 12 MS. WELSH: Objection, form. 13 A. Look. I mean, when you take a 14 photo of me, when we have a camera, okay, 15 things are process-enhanced. Is this my 16 image? Maybe this is not my actual color. 17 The camera does a different variation. 18 Even when you take a photo of the 19 sunset, do you get the sunset like you are 20 seeing it with your eyes? So what is the user 21 image at the end of the day? 22 The silhouette is obtained by 23 taking the user image and displaying a photo 24 that's based on that user image, that 25 represents that user.	Page 249 1 for Computer Vision: Beyond Pipes 2 and Filters," July 2003, Francois, 3 marked as Exhibit 24.) 4 BY MS. SAPUTO: 5 Q. So Francois discloses a virtual 6 handheld mirror simulation. 7 Do you agree? 8 A. Discloses a handheld mirror? 9 Q. Simulation. 10 A. Yes. 11 Q. In Section 4.3, which is page 13 12 of the document -- 13 A. Yes. 14 Q. -- it states towards the end 15 that: 16 "The current prototype system 17 (see Figure 12) is comprised of an 18 LCD screen manipulated by the 19 user" -- 20 A. I don't know where you're 21 reading. 22 Q. It is the last two sentences of 23 the paragraph. 24 A. Because 4.3 has several 25 paragraphs.

Page 250 1 Q. Yes. 2 A. Page 13 of -- 3 Q. Page 13, yes. Page 13 or 4.3. 4 A. So are you reading the current 5 prototype system or the continuous input video 6 or where is it? 7 Q. We are reading the current 8 prototype system. 9 A. Okay. 10 Q. Yeah. 11 -- "(see Figure 12) is comprised 12 of an LCD screen manipulated by the 13 user, a single camera fixed on the 14 screen, and a tracking device. The 15 continuous input video stream and 16 tracking data is used to synthesize 17 in real-time a continuous video 18 stream displayed on the LCD screen. 19 The synthesized video stream is a 20 close approximation of what the user 21 would see on the screen surface if 22 it were a real mirror." 23 Do you see that? 24 A. Yes. 25 Q. We're going to go a few sentences	Page 252 1 the question. 2 You could see that at the end, 3 "The synthesized video stream" -- let's read 4 the last sentence -- "is a close approximation 5 of what the user would see on the screen 6 surface if it were a real mirror." 7 So Francois was able to 8 synthesize. That sentence, Francois means 9 something else. I don't know, maybe 3D. 10 I don't know. 11 So -- but it is -- he says he was 12 successful in doing a mirror. That's what he 13 said. As engineers, we simply try to model. 14 And these work. Like, you know, we simply try 15 it and these work. 16 So I don't know what other 17 aspects. 18 So the real mirror that Francois 19 is able to achieve is consistent with the 20 court construction, okay, the same size, 21 the -- so maybe there are other aspects that 22 Francois also wants to achieve. I'm not sure 23 what these are. 24 In here, it's not understood, 25 basically, what else he wants to achieve.
Page 251 1 above that, and it's going to be the second 2 sentence of the first full paragraph. So it 3 says "In order to simulate a real mirror"... 4 Do you see that? 5 A. Yes. 6 Q. Okay. (Reading.) 7 "In order to simulate a real 8 mirror on a computer screen, images 9 of the observed world, consistent 10 with the viewer's position, must be 11 synthesized and displayed in 12 real-time. This is, of course, 13 geometrically impossible, but with a 14 few simplifying assumptions (e.g., 15 planar world) the image transform 16 required was made simple yet 17 convincing enough to consider 18 building an actual device." 19 So my question is this: As of 20 July 2003, when Francois was published, would 21 it have been geometrically impossible to 22 simulate a real mirror on a computer screen? 23 MS. WELSH: Objection, form. 24 A. It is not impossible -- this one 25 is like taken out of context, you're asking	Page 253 1 But in terms of achieving a real 2 mirror, based on the court construction, 3 indeed, it was possible, as Francois shows 4 too, and as Francois states in here. 5 BY MS. SAPUTO: 6 Q. Do you agree with the district 7 court that the term "it appears to mimic a 8 reflection of a mirror" should be limited to 9 an image where the user sees their reversed 10 reflection appearing at roughly double the 11 distance from the camera and the reflection 12 maintains roughly the same size regardless of 13 user movement? 14 MS. WELSH: Objection. 15 A. That was the district court 16 construction. 17 BY MS. SAPUTO: 18 Q. Do you agree with that? 19 MS. WELSH: Same objection. 20 A. This is the traditional mirror. 21 It has these characteristics. 22 BY MS. SAPUTO: 23 Q. Okay. 24 A. The traditional mirror has this 25 characteristic.

Page 254 1 And my opinions are consistent 2 with this for the real mirror. 3 Q. So my question is a little bit 4 different. My question is: Do you agree that 5 the term "it appears to mimic a reflection of 6 a mirror" that's used in the '109 patent, and 7 we have a similar construction for mirror 8 tracking mode in the '110 patent, but do you 9 agree at least where it appears to mimic a 10 reflection of a mirror, that term should be 11 limited to mean an image where the user sees 12 their reversed reflection appearing at roughly 13 double the distance from the camera and the 14 reflection maintains roughly the same size 15 regardless of the user movement? 16 MS. WELSH: Objection. 17 A. You know, when I did my 18 declaration, I did it and opined more 19 generally. But with the prior art and the 20 embodiment -- embodiments, I considered the 21 prior art. 22 And the grounds that I put in my 23 declaration, these are consistent with -- they 24 are still consistent with the court 25 construction. They apply to it. Especially	Page 256 1 because it's -- you are informed by the 2 specification of the '109 and '110 patents. 3 So the claims should be interpreted within 4 these specifications, okay? 5 BY MS. SAPUTO: 6 Q. Right. 7 A. And that said -- 8 Q. Uh-huh. 9 A. And I cannot answer from memory 10 now. But what I know is, like, based on this 11 specification, the grounds I provided are in 12 line with the specification. 13 If you want to point me to 14 something in my declaration, say, here, look, 15 is this consistent with the court's 16 construction, I can answer and see to tell you 17 it's consistent or not. 18 But like having, like, this to 19 answer, in general, I would not be able to do 20 that. 21 Q. So I'm asking you in the context 22 of the '109 patent, which you read. 23 And so in light of the disclosure 24 in the '109 patent, do you agree that "it 25 appears to mimic a reflection of a mirror"
Page 255 1 when we talk about real conventional, I agree 2 with that, like real mirror, conventional 3 mirror. 4 You have an enhanced mirror mode 5 that can be more general and more broad. And 6 it was more general for me that my grounds 7 apply to general and also to the court 8 construction. It's consistent with it. 9 BY MS. SAPUTO: 10 Q. So my question is very specific. 11 I'm asking you if you agree -- I'm asking if 12 you agree, so it's, "Yes, I agree," or "No, I 13 don't agree" -- if the appropriate 14 construction where it appears to mimic a 15 reflection of a mirror is an image where the 16 user sees their reversed reflection appearing 17 at roughly double the distance from the camera 18 and the reflection maintains roughly the same 19 size regardless of user movement? 20 MS. WELSH: Objection. 21 A. We shouldn't look this out of 22 context. So you have to provide me with a 23 certain context and we can look at that. 24 I don't want to answer without 25 looking at a specific context and without --	Page 257 1 should be limited to an image where the user 2 sees their reversed reflection appearing at 3 roughly double the distance from the camera 4 and the reflection maintains roughly the same 5 size, regardless of the user movement? 6 MS. WELSH: Objection. 7 A. I'm not going to answer out of 8 memory. You have to -- if you brought me to 9 specific embodiments in the '109, I can tell 10 you my -- you know, give you my answer. 11 And there are several embodiments 12 in the '109 patent. 13 BY MS. SAPUTO: 14 Q. So to confirm, you have no 15 opinion, as you sit here right now, that in 16 light of the disclosure of the '109 patent, 17 you agree that "it appears to mimic a 18 reflection of a mirror" means and should be 19 limited to an image where the user sees their 20 reversed reflection appearing at roughly 21 double the distance from the camera and the 22 reflection maintains roughly the same size 23 regardless of the user movement? 24 MS. WELSH: Objection. 25 A. I said, like -- I gave you my

Page 258 1 answer, I believe, that when I give my 2 opinion, it was more general. So 3 approximately, you should perceive a mirror, 4 whether double distance or not. 5 That said, when we talk about in 6 the prior art, real mirror, conventional 7 mirror, these terms, these should be 8 consistent with the court construction. 9 So this embodies also that. It's 10 like when we talk about office furniture, 11 chair, whatever. And then I talk about the 12 chair, specifically limited to that. 13 So my opinions in my declaration 14 are consistent with the district court claim 15 construction. 16 And based on the grounds 17 I provided because these grounds have 18 embodiments talking about real mirror, 19 conventional mirror, and for these 20 embodiments, yes, the POSITA would understand 21 is limited to this. 22 For other embodiments that are 23 more broad, enhanced and others, it can be 24 mirror looking like it was some enhancement. 25 That's not limited to this.	Page 260 1 THE WITNESS: Thank you. 2 MS. WELSH: Okay. Can we go off 3 the record and take a short break? 4 THE VIDEOGRAPHER: Yes. We are 5 going off the record -- 6 MS. SAPUTO: Seven minutes? 7 THE VIDEOGRAPHER: We are going 8 off the record at 2:31 p.m. 9 (Recess taken.) 10 THE VIDEOGRAPHER: We're back on 11 the record at 2:41 p.m. 12 MS. WELSH: Counsel, I have a few 13 redirect questions. It's okay to proceed 14 with that? You're done with your initial 15 questioning? 16 MS. SAPUTO: Yes. 17 --- 18 EXAMINATION 19 BY MS. WELSH: 20 Q. Dr. Karam, I would like to turn 21 your attention to your declaration in the '110 22 IPR, and specifically paragraph 70. 23 A. Okay. 24 Q. So here you're talking about the 25 Background section of the '110 IPR; is that
Page 259 1 BY MS. SAPUTO: 2 Q. And is your answer the same for 3 the construction of mirror tracking mode for 4 the '110 patent? 5 MS. WELSH: Objection. 6 A. Mirror tracking mode, when I 7 opined on my declaration, it depends how 8 tolerant you want to be in terms of perceiving 9 a mirror and the quality and the user 10 experience. 11 When we build the system, we're 12 doing an approximation. And actually, the 13 court construction said "roughly" and 14 "approximately." 15 So you have to know approximate. 16 As engineer, we have tolerance. Certain 17 applications we tolerate more, for others we 18 don't tolerate. 19 So it depends on the fidelity you 20 want to achieve. But it's still consistent 21 with the district court construction. 22 MS. SAPUTO: All right. Counsel, 23 that's all I have. 24 Thank you, Dr. Karam, for your 25 time today.	Page 261 1 right? 2 Let me rephrase. 3 Here you're talking about the 4 Background section of the '110 patent; is that 5 right? 6 A. Yes. 7 Q. And in this paragraph, the second 8 sentence, you're quoting a part of the '110 9 patent that says: 10 "A few alternatives have been 11 proposed around the combination of a 12 camera and a screen to replace the 13 conventional mirror." 14 Do you see that? 15 A. Yes. 16 Q. What would a person of ordinary 17 skill in the art understand as the 18 characteristics of a conventional mirror 19 mentioned in the section you quote in 20 paragraph 70 of your declaration? 21 MS. SAPUTO: Objection, outside 22 the scope of Dr. Karam's declaration. 23 BY MS. WELSH: 24 Q. You can answer. 25 A. A conventional mirror would have

Page 262 1 the characteristics that a POSITA would 2 understand, such as flipping, like reversed 3 image, same size, double the distance. That 4 has the characteristics of the traditional 5 mirror or real mirror. 6 Q. Is the '109 patent disclosure 7 incorporated by reference in the '110 patent? 8 A. Yes. 9 Q. Does the Background section of 10 the '109 patent disclose any characteristics 11 of a conventional mirror? 12 A. Yes. 13 Q. And let's turn your attention to 14 the '109 patent. 15 A. The '109 patent? 16 Q. The '109 patent. 17 A. Okay. 18 Q. So what are those characteristics 19 disclosed for conventional mirror in the 20 Background section of the '109 patent? 21 MS. SAPUTO: I'm going to object 22 that it's outside the scope of 23 Dr. Karam's declarations and outside the 24 scope of cross. 25 A. So on Column 2 -- this is the	Page 264 1 vertical FOV is illustrated as 2 double the angle that is formed by 3 the lines connecting the user's eyes 4 to the bottom of the mirror and 5 reflecting to the user's shoes. 6 "Consequently, as figure -- as 7 illustrated in Figure 5B, when the 8 user approaches the mirror, the 9 field of view angle increases, which 10 was -- which is why he continues to 11 see the same size reflection. So 12 then that -- the user's actually 13 sees himself roughly at the same 14 size but closer." 15 This is a noticeable difference 16 from a camera. 17 BY MS. WELSH: 18 Q. So those are characteristics 19 disclosed in the '109 patent for a 20 conventional mirror? 21 A. Yes. 22 Q. And these would have been known 23 to a person of ordinary skill in the art? 24 MS. SAPUTO: Objection. 25 Objection. Outside the scope of her
Page 263 1 '109 patent. On Column 2, starting from line 2 4, the '109 patent, the Background section: 3 "When a user looks at himself in 4 the mirror, what he actually sees is 5 the reflection of himself as if he 6 was standing at a distance that's 7 double the distance from him to the 8 mirror. This is illustrated in 9 Figure 5A wherein the user, standing 10 at the distance D1, sees himself at 11 a distance equal to twice D1. 12 Similarly, as shown in Figure 5B, a 13 user standing at the distance D2 14 will see himself at the distance two 15 times D2. In addition, the angle of 16 the user's field of view changes 17 when the user changes the distance, 18 e.g., gets closer to the middle. 19 The FOV is limited by the specular 20 reflecting angle from the mirror to 21 the user's eyes, and to the edge of 22 the visible image on all sides of 23 the mirror (four sides for a 24 rectangular or square mirror). 25 "In Figure 5B, the bottom of the	Page 265 1 declarations and outside the scope of 2 cross. 3 A. Yes. 4 I would like to also point in 5 Column 1, I mean, before this Column 2, of -- 6 at line 61, that paragraph starts "By the 7 conventional mirror is the common and most 8 reliable tool for an individual to explore 9 actual self-appearance at this time." 10 And then it goes to say about the 11 mirror characteristic. 12 BY MS. WELSH: 13 Q. And you applied these -- the 14 point of view of these conventional mirror 15 characteristics in your '110 declaration, 16 correct? 17 MS. SAPUTO: Objection. Outside 18 the scope of Dr. Karam's declaration and 19 outside the scope of her cross. 20 A. Yes, as the POSITA, yes. 21 MS. WELSH: Thank you, Dr. Karam. 22 No further questions. 23 MS. SAPUTO: I have recross. 24 --- 25 RE-EXAMINATION

Page 266 1 BY MS. SAPUTO: 2 Q. Do you -- Dr. Karam, this is a 3 yes-or-no question. 4 During the break, did you discuss 5 with your counsel any testimony that you might 6 give in response to her questions? 7 A. No. 8 MS. SAPUTO: That's all for us. 9 MS. WELSH: Okay. We're off the 10 record? 11 MS. SAPUTO: Uh-huh. 12 THE VIDEOGRAPHER: Going off -- 13 sorry. 14 We're going off the record 15 at 2:48 p.m. 16 (Proceeding concluded.) 17 --- 18 19 20 21 22 23 24 25	Page 268 1 E R R A T A 2 Deponent: LINA KARAM, PH.D., February 26, 2025 3 Reason Codes: 4 1. To clarify testimony. 5 2. To change/correct testimony. 6 3. Transcription error 7 8 Page/Line Now Reads Should Read Reason 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17 / 18 / 19 / 20 / 21 / 22 23 24 Signature of Deponent Date 25
Page 267 1 C E R T I F I C A T E 2 3 I, ANNE E. VOSBURGH, Certified 4 Shorthand Reporter, Registered Professional 5 Reporter, Certified Realtime Reporter hereby 6 certify: 7 That LINA KARAM, PH.D., via 8 remote videoconference, agreed to testify 9 truthfully, under penalty of perjury; that all 10 counsel stipulated to the remote swearing and 11 waive objection, notwithstanding the location 12 of reporter or witness during testimony; and 13 that this transcript is a true and correct 14 record of testimony given. 15 I further certify that I am not 16 related to any of the parties and am in no way 17 financially interested in the outcome of this 18 matter. 19 20 21 ANNE E. VOSBURGH, CSR, RPR, CRR 22 Notary Public - Exp. July 20, 2029 23 24 25	

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