

APPLE, INC. vs MULLEN INDUSTRIES, LLC
David Williams, Vol. 1 on 07/26/2023

1	UNITED STATES PATENT AND TRADEMARK OFFICE	
2	BEFORE THE PATENT TRIAL AND APPEAL BOARD	
3		
4	APPLE, INC.,	)
5	Petitioner,	)
6	v.	) Case No. IPR2023-00090
7	MULLEN INDUSTRIES, LLC,	) US Patent No.
8	Respondent.	) 11,122,418 B2
9	APPLE, INC.,	)
10	Petitioner,	)
11	v.	) Case No. IPR2023-00115
12	MULLEN INDUSTRIES, LLC,	) US Patent No.
13	Respondent.	) 11,234,117
14	APPLE, INC.,	)
15	Petitioner,	)
16	v.	) Case No. IPR2023-00116
17	MULLEN INDUSTRIES, LLC,	) US Patent No.
18	Respondent.	) 11,234,117
19	APPLE, INC.,	)
20	Petitioner,	)
21	v.	) Case No. IPR2023-00091
22	MULLEN INDUSTRIES, LLC,	) US Patent No.
23	Respondent.	) 9,204,283
24		)
25		)

APPLE, INC. vs MULLEN INDUSTRIES, LLC
David Williams, Vol. 1 on 07/26/2023

Pages 2..5

Page 2	Page 4
1 _____) 2 APPLE, INC.,) 3 Petitioner,) Case No. IPR2023-00096 4 v.) 5 MULLEN INDUSTRIES, LLC,) US Patent No. 6 Respondent.) 11,096,039 7 _____) 8 APPLE, INC.,) 9 Petitioner,) Case No. IPR2023-00097 10 v.) 11 MULLEN INDUSTRIES, LLC,) US Patent No. 12 Respondent.) 8,374,575 13 _____) 14 DEPOSITION OF DAVID WILLIAMS 15 TAKEN ON BEHALF OF RESPONDENT 16 JULY 26, 2023 17 18 VOLUME 1 19 20 Reported by Celena D. Davis, RPR, CCR, CSR 21 22 23 24 25	1 *** 2 3 4 DEPOSITION OF DAVID WILLIAMS, produced, sworn and 5 examined on the 26th day of July, 2023, between the 6 hours of 8:00 of that day and 6:00 in the evening of 7 that day at Regus, 3636 S. Geyer Road, in the County of 8 St. Louis, State of Missouri, before CELENA D. DAVIS, a 9 Registered Professional Reporter and Certified Court 10 Reporter within and for the State of Missouri. 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
Page 3	Page 5
1 INDEX OF EXAMINERS 2 DEPOSITION OF DAVID WILLIAMS 3 Page: 4 Questions by Mr. Scheller 6 5 6 7 8 EXHIBITS 9 Williams Exhibit 1 9 10 (Appendix 6 of Williams Declaration) 11 Williams Exhibit 2 11 12 (Sheha reference) 13 Williams Exhibit 3 90 14 (Enzmann reference) 15 Williams Exhibit 4 117 16 (Williams Declaration) 17 Williams Exhibit 6 122 18 (Degnbol reference) 19 Williams Exhibit 7 150 20 (Appendix 1 of Williams Declaration) 21 22 (Exhibits 1, 2 and 6 are attached; Exhibit 5 was 23 skipped.) 24 25	1 APPEARANCES 2 3 COUNSEL FOR THE PETITIONER: 4 KILPATRICK TOWNSEND & STOCKTON LLP 5 by Mr. Carl E. Sanders 6 and Ms. Vanessa Bell (via Zoom) 7 4208 Six Forks Road - Suite 1400 8 Raleigh, North Carolina 27609 9 (919) 420-1728 10 csanders@kilpatricktownsend.com 11 12 COUNSEL FOR THE RESPONDENT: 13 MINTZ, LEVIN, COHN, FERRIS, GLOVSKY AND POPEO, PC 14 by Mr. Brad Scheller (via Zoom) 15 and Ms. Laura Petrasky (via Zoom) 16 919 Third Avenue 17 New York, New York 10022 18 (212) 935-3000 19 bmscheller@mintz.com 20 21 REGISTERED PROFESSIONAL REPORTER 22 CERTIFIED COURT REPORTER (MO) 23 CERTIFIED SHORTHAND REPORTER (IL) 24 CERTIFIED SHORTHAND REPORTER (TN) 25 CERTIFIED SHORTHAND REPORTER CA NO. 14464 Celena D. Davis HUSEBY Also Present: Tim Williams (via Zoom)

Page 6 1 (The deposition began at 10:08 CST.) 2 DAVID WILLIAMS, 3 duly sworn to tell the truth, the whole truth, and 4 nothing but the truth, testified as follows: 5 EXAMINATION 6 QUESTIONS BY MR. SCHELLER: 7 Q. Good morning, Mr. Williams. 8 A. Good morning. 9 Q. How are you? 10 A. Not hot, so that's -- that's about as good 11 as you can get for St. Louis in July. 12 Q. Right. Well, good to meet you. My name is 13 Brad Scheller. We'll -- I'll be talking with you today 14 and likely tomorrow. 15 Do you understand why we are here today? 16 A. I do. 17 Q. And why is that? 18 A. To be cross-examined on my opinions that I 19 made for several patents. 20 Q. Okay. And before we get going into the 21 substance, can you please state your full name for the 22 record? 23 A. David Hilliard Williams, H-I-L-L-I-A-R-D. 24 Q. Okay. And did you prepare for today's 25 deposition?	Page 8 1 Q. Does that -- that sounds good? 2 A. Yes. 3 Q. All right. And I think you said that your 4 understanding was that this was about a couple or 5 several patents that you rendered opinions on. And do 6 you understand that you're here on behalf of Apple for 7 an inter partes review petitions? 8 A. Yes. 9 Q. And are you aware that those patents have a 10 named inventor named Jeffrey Mullen? 11 A. Yes. 12 Q. Before becoming engaged for these 13 proceedings on behalf of Apple, were you aware of or did 14 you know Jeffrey Mullen? 15 A. I certainly don't know him. I don't think 16 I was aware of him. I'm not really good on names. But 17 I don't think so. 18 Q. Okay. So as we were discussing before we 19 went on the record, I'm going to go through various 20 portions of your declaration. We are here today and, 21 like I said, likely tomorrow to talk about six different 22 IPR proceedings that you've rendered opinions in, and 23 we're going to go in a particular order. 24 The first IPR proceeding concerns one of 25 the patents at issue, which is the '418 patent. That's
Page 7 1 A. Yes. 2 Q. Did you meet with anyone in preparing for 3 the deposition? 4 A. I met with counsel Monday and Tuesday. 5 Q. And who was that? 6 A. Carl Sanders and John -- I forget his last 7 name. 8 MR. SANDERS: Alemanni. 9 A. Alemanni. 10 And then there were a couple other 11 attorneys via Zoom. 12 BY MR. SCHELLER: 13 Q. Okay. And I've reviewed your CV, and I 14 understand that you have been a witness in the past. 15 And safe to say that you've been deposed in the past; 16 correct? 17 A. Correct. 18 Q. Okay. So you're familiar with how this is 19 going to go, questions and answers. 20 And the only thing -- well, the only thing 21 I would appreciate is that if I've got a question that's 22 pending, you haven't answered it yet, we don't take a 23 break, we finish the answer, then we can take a break 24 whenever you'd like to, within reason. 25 A. Understood.	Page 9 1 IPR 2023-0090. So I'd like you to turn to your 2 declaration that you've rendered for that particular IPR 3 proceeding, and that's going to be -- it's Exhibit 6 or 4 Appendix 6 in your declaration. 5 MR. SCHELLER: And we can mark that as 6 Exhibit 1 for purposes of this deposition. 7 (Exhibit 1 was marked for identification.) 8 BY MR. SCHELLER: 9 Q. And I've put that in the chat, but I 10 understand you also have hard copies there, 11 Mr. Williams. 12 A. Yeah. 13 Q. So whichever you'd prefer to use. Just let 14 me know when you're ready. 15 A. I'm ready. I'll start with the printed 16 copy. 17 Q. So in terms of your opinions, there are two 18 what I'm going to call "primary references" that you've 19 relied on for challenging the claims in the '418 patent, 20 and I'm going to call these references "Sheha" and 21 "Enzmann." 22 Are you familiar with those references, and 23 are those names okay? 24 A. Yes. Though I might say "Sheha," because 25 that's kind of what I've been saying the whole time.

Page 10 1 Q. Okay. Yeah. We -- I've heard different 2 pronunciations of that. I don't know. "Sheha" or 3 "Sheha," so I don't know what's correct. 4 So what I'd like to do is I'd like to go to 5 your declaration and ask you some questions about the 6 opinions that you've rendered. Let's go to -- and this 7 is Exhibit 1 of the deposition, let's go to page 12. 8 And on page 12, you'll see: "Ground 1: Sheha alone or 9 in combination with Tanaka, Enzmann, Ryden, and/or 10 Ganesh renders claims 1 to 30 obvious." 11 Do you see that? 12 A. Yes. 13 Q. Okay. And I want to ask you some questions 14 about independent claim 1, the limitations of which span 15 several pages. So feel free, if you'd like to review 16 those limitations briefly, that's fine. Otherwise, we 17 can get right to my questions. You let me know. 18 A. Let me -- let me review it briefly, if you 19 don't mind. 20 Okay. Go ahead. 21 Q. Okay. So I'd like to also pass you, which 22 I just put into the chat, the "Sheha" or "Sheha" 23 reference. 24 MR. SCHELLER: We can mark that as 25 Exhibit 2 for the deposition. It's exhibit --	Page 12 1 target mobile device for privacy settings to determine 2 whether to respond to a position request." 3 Did I read that correctly? 4 A. Yes. 5 Q. All right. And you cite to lines 59 to 66 6 of Sheha in column 4; correct? 7 A. Yes. 8 Q. Let's take a look at those lines in 9 column 4. Those lines or that excerpt states: "In 10 accordance with another embodiment of the present 11 invention, for the mobile-to-mobile application, which 12 is slightly similar to landline-to-mobile application, 13 position information can be obtained in various 14 embodiments. 15 "In one embodiment, if a mobile device user 16 specifies a telephone number of another position-enabled 17 mobile device, the system would query the remote mobile 18 device and verify its privacy setting." 19 Did I read that correctly? 20 A. Yes. 21 Q. So the Sheha system does not determine, at 22 least according to that excerpt, whether to respond. It 23 just provides the position information or communicates a 24 denial; right? 25 MR. SANDERS: Objection form.
Page 11 1 (Exhibit 2 was marked for identification.) 2 THE WITNESS: We have a printout of that, 3 too? 4 MR. SANDERS: You want a copy of the Sheha 5 reference? 6 THE WITNESS: Yeah, I do. 7 MR. SANDERS: Okay. I'm just handing him a 8 printed copy of the Sheha reference. 9 BY MR. SCHELLER: 10 Q. And let me know when you're ready. 11 A. I am. 12 Q. Okay. So I'd like to direct your attention 13 to claim 1c, claim limitation 1c, which is just above 14 paragraph 19 of your declaration. And this claim 15 limitation says: "A permission is operable of being 16 provided by said first wireless device for said second 17 wireless device to access location information about 18 said location." 19 Do you see that? 20 A. Yes. 21 Q. All right. Now, in paragraph 19 of your 22 declaration, you state: "Sheha's system allows a mobile 23 device to establish permissions for other mobile devices 24 to obtain its location. For example, after the Sheha 25 system receives a position request, it can ask the	Page 13 1 A. Can you repeat that question, please? 2 BY MR. SCHELLER: 3 Q. Yeah, of course. 4 The Sheha system, as you call it, does not 5 determine whether to respond; it -- it provides the 6 position information or it communicates a denial? 7 MR. SANDERS: Same objection. 8 A. I'm still a little confused on your 9 question. 10 BY MR. SCHELLER: 11 Q. What part of that is confusing? I'm happy 12 to clarify. 13 A. Well, the way you rephrased it was kind of 14 different than the first time you said it. So just give 15 it one more try, if you don't mind. 16 Q. Sure. So that in excerpt, what the Sheha 17 patent is saying is not that the Sheha system determines 18 whether to respond to a position request, which is what 19 your declaration says. It just provides the position 20 information or communicates a denial of no position 21 information; right? 22 MR. SANDERS: Same objection. 23 A. It asks the mobile device privacy settings 24 to determine whether to respond to a position request. 25 And then if it is allowed, then it is -- then the

Page 14 1 position request is provided, so... 2 BY MR. SCHELLER: 3 Q. When you say "the Sheha system," 4 Mr. Williams, what are you referring to, specifically? 5 A. Well, it depends on the context, of course. 6 But, broadly, you can say that the litmus, for example, 7 Figure 3 of Sheha is a representation of Sheha's system. 8 Now that has all the different components, like the 9 wireless network. But, broadly, that is what the system 10 is about. 11 Q. Okay. Let's -- so in your declaration, 12 after the next sentence, you cite to lines 21 to 41, 13 column 5. 14 Do you see that? 15 A. I'm sorry. I'm getting a little -- I'm a 16 little slow in getting started this morning. Which 17 column? 18 Q. Lines 21 to 41, column 5. 19 A. Okay. 20 Q. Okay. Within that citation, I'd like to 21 direct your attention to an excerpt that we'll talk 22 about likely throughout the day. Starting at line 38 in 23 Sheha, it says: "In another embodiment, each device has 24 privacy settings that allow the device to prevent or 25 limit other calling devices from obtaining position	Page 16 1 So that, to me, seems like a general 2 condition that anyone logged into the ODAS may receive 3 that target device's position information if the 4 connection is a video or a voice connection; is that 5 correct? 6 MR. SANDERS: Objection to form. 7 A. Well, that's the -- not the only -- I guess 8 I'd call it a "qualifier." The "and/or only with the 9 device owner's permission" would articulate something 10 completely independent of whether there was a voice or 11 video connection going on. 12 BY MR. SCHELLER: 13 Q. Right. And then it says: "Other settings 14 may include allowing any remote device to request 15 position information for any specified amount of time," 16 meaning that the privacy setting implemented could be a 17 condition that anyone signed in to the ODAS could 18 receive the position information, but for that specific 19 amount of time set; is that right? 20 MR. SANDERS: Objection to form. 21 A. That's what that qualifier is about. But, 22 again, it's -- it would still require the privacy 23 settings of the mobile device to have -- to allow them 24 to get that. Just the mere fact that they're logged in 25 to the ODAS and there's a video call by itself may not
Page 15 1 information. These privacy settings can include 2 allowance of position information transfers only when a 3 voice or video connection is established and/or only 4 when" -- "with" -- excuse me, "and/or only with the 5 device owner's permission. Other settings may include 6 allowing any remote device to request position 7 information for any specified amount of time." 8 Do you see that? 9 A. Yes. 10 Q. Okay. So what this is describing is that 11 anyone who is signed in to the ODAS database may access 12 position information, for example, if a voice or video 13 connection is established; correct? 14 MR. SANDERS: Objection to form. 15 A. Well, that's part of it. The other part is 16 even if they're logged in to the ODAS system, they 17 still -- the mobile device still has to have the privacy 18 settings such that it will allow the location sharing to 19 be provided, if that's the way the embodiment is about 20 [sic] in terms of querying the privacy setting. 21 BY MR. SCHELLER: 22 Q. Okay. But this excerpt, for example, says: 23 "The privacy settings can include allowance of position 24 information transfers only when a voice or video 25 connection is established."	Page 17 1 be -- wouldn't necessarily be sufficient to get the 2 location. There would also have to be a privacy setting 3 saying, "Okay, this caller can receive the location 4 information." 5 BY MR. SCHELLER: 6 Q. Oh, okay. So let me see if I'm 7 understanding what you just said. Are you saying that 8 there's a privacy setting with respect to a specific 9 individual? 10 A. Sheha doesn't discuss that level of 11 privacy, I don't believe. I think it's more at the 12 group level. 13 Q. Okay. When you say group, Mr. Williams, 14 what are you referring to? The people who are logged 15 into the ODAS database? 16 A. There is -- there is a group capability 17 within Sheha that you can say, For the people in this 18 group, I will allow location information to be provided. 19 And a group can be a group of one or it can be a group 20 of many. 21 Q. Okay. Are they -- I think I know what 22 you're referring to, but are they talking about that 23 here? Or not "they." Is Sheha talking about that here 24 in the excerpt that I read, lines 38 to 45 in column 5? 25 A. The word "group" is not used in that

Page 18 1 excerpt. 2 Q. Okay. So that the group description or 3 embodiment that you're referring to is not what Sheha is 4 talking about here in lines 38 to 45 of column 5? 5 MR. SANDERS: Object -- objection to form. 6 A. I think that's a fair statement. 7 BY MR. SCHELLER: 8 Q. So you said that a group could be one 9 person or "a group of one." What did you mean by that? 10 How is that possible? 11 A. In my experience, a group is a -- can be a 12 label of something that can have, you know, as long as 13 it's not a null set, it consists of something, and so 14 you can have a group of one. Group of wives, if you 15 will, you know, one wife and one ex-wife. 16 So, but, you know, in my experience, 17 particularly in the location world, the way group has 18 been used is that it is not required to have at least 19 two. It can have at least one. It can be just one. 20 Q. Okay. 21 A. For example, if you have a friend section 22 in your contact list, you just have one friend as your 23 group of friends, sadly for you, but it's still just one 24 person. 25 Q. Understood.	Page 20 1 prevalence in all of these patents and different claims, 2 I'm a little reluctant to answer that in a generic 3 sense. But a permission generally is about, you know, 4 do I want to allow my location to be shared or not, in 5 this broad Mullen context. 6 Q. Okay. Let's -- you also cite to lines 17 7 to 26, after that -- 8 A. Column 10? 9 Q. -- statement, in column 10; correct? 10 Let's take a look at that. If you would, 11 just give that a read and let me know when you're ready. 12 A. Okay. Okay. 13 Q. Okay. So let's look at the first sentence: 14 "The mobile device location information can be provided 15 only due to privacy settings if the user configured the 16 mobile device 18a to allow position information while 17 calls are received." 18 Do you see that? 19 A. Yes. 20 Q. So it sounds like this is describing that 21 mobile device 18a is opting to have its position 22 located; correct? 23 MR. SANDERS: Objection to form. 24 A. If its privacy settings allow it, and in 25 this particular context of while calls are being
Page 19 1 So staying in that same excerpt, line 40 to 2 43, column 5, Sheha says: "These privacy settings can 3 include allowance of position information transfers only 4 when a voice or video connection is established and/or 5 only with the device owner's permission." 6 What is your understanding of the 7 difference between privacy setting and permission? 8 A. I would say a permission is a subset of 9 privacy settings, so -- excuse me -- other privacy 10 settings that wouldn't be related to -- would not be 11 related to permissions might be, you know, only call me 12 during this time or do not disturb or I'm busy or 13 what-have-you. It's -- in my view, permissions is a 14 kind of privacy setting. 15 Q. Okay. And what kind of privacy setting are 16 you referring to? 17 A. Well, we're talking about permissions. I'm 18 not sure I understand your question. You asked me to 19 relate permissions to privacy, and I would say my answer 20 was permissions are a form of a privacy setting. There 21 might be other privacy settings, but permissions would 22 be part of that. 23 Q. Okay. When you say permissions, what are 24 you referring to, in your mind? 25 A. Well, it's -- you know, given its	Page 21 1 received. 2 BY MR. SCHELLER: 3 Q. So anybody that has access to the ODAS 4 database can access the location mobile device 18a based 5 on that sentence; correct? 6 MR. SANDERS: Objection to form. 7 A. That passage is not specific to that kind 8 of question, but I think that's one of the embodiments 9 that Sheha enables. 10 BY MR. SCHELLER: 11 Q. So in the next sentence, it says: "In 12 another embodiment, the privacy configuration also 13 includes settings such as the option to never send 14 position information." 15 So under that setting, who -- with whom 16 would mobile device 18a share its location? 17 A. Under that embodiment, it's no one. 18 Q. Okay. And then it says -- so I'll just 19 read it again to give it context. "In another 20 embodiment, the privacy configuration also includes 21 settings to send position information while receiving 22 and/or sending calls." 23 So in that particular privacy setting 24 configuration, who receives or who can receive mobile 25 device 18a's location?

Page 22 1 MR. SANDERS: Objection to form. 2 A. Well, potentially what the call -- calling 3 or being called by the phone or others, generally 4 independent of calls, but just for a period of time. 5 BY MR. SCHELLER: 6 Q. So anyone receiving and/or sending calls to 7 mobile device 18a; is that right? 8 MR. SANDERS: Objection to form. 9 A. That's -- I think it's fair that Sheha 10 provides that kind of capability. This -- the nature of 11 the Sheha platform, the Networks in Motion, which I was 12 actually familiar with, was to provide all support for 13 all sorts of different permutations, if you will, of 14 location sharing. 15 Q. Okay. Let -- I'm not sure -- let me -- I'd 16 like you to clarify your answer if possible because I'm 17 not sure I understood it. Let me ask the question 18 again. 19 So in terms of that particular privacy 20 setting configuration, the sending position information 21 while receiving and/or sending calls, anyone receiving 22 or sending calls to mobile device 18a would be able to 23 receive mobile device 18a's position; right? 24 MR. SANDERS: Same objection. 25 A. I -- the broader context of Sheha, of	Page 24 1 the time, who, in the ODAS system, may receive 2 device 18a's position information? 3 MR. SANDERS: Object -- same objection, 4 objection to form. 5 A. Just in that narrow sentence, that would 6 potentially be anybody who was calling or being called 7 by the phone. 8 BY MR. SCHELLER: 9 Q. The mobile device 18a, when you say 10 "phone," is that what you mean? 11 A. Yes. 12 Q. Okay. So we've been looking at the 13 different types of privacy settings that Sheha describes 14 in this particular excerpt. And you noted at the end of 15 that sentence, one of the configurations is "whether the 16 transfer of position information should be allowed only 17 for an instance or for a given period of time." 18 Do you see that? 19 A. Yes. 20 Q. So is it your understanding that that means 21 the mobile device 18a says, Okay, I'll give out my 22 position information for a given period of time, for 23 example, you know, from 1:00 p.m. Eastern to 3:00 p.m. 24 Eastern? 25 A. That's a fair statement.
Page 23 1 course, is the use of the ODAS as an intermediary to 2 control the location-providing information. So the -- 3 it would be the -- my expectation, though, it's not 4 necessarily spelled out in this narrow paragraph, that 5 the ODAS system would be also the one to -- also 6 essentially controlling the flow of that information, 7 and this is just describing different permutations under 8 which the position information can be provided. 9 BY MR. SCHELLER: 10 Q. Are you confused, Mr. Williams, with my 11 question? I'm happy to rephrase it, because I'm not 12 sure you're answering it. 13 A. The sentence, "In another embodiment, the 14 privacy configuration also includes settings such as the 15 option to never send position information," so that's 16 don't send, under any conditions, send position while 17 sending or receiving calls. 18 That's just during calls and whether the 19 transfer of position information should be allowed for a 20 given period of time. That would be independent of 21 calls, but on a time basis. 22 Q. Okay. So my question was specifically to 23 the second condition, the send position information 24 while receiving and/or sending calls. If that's the 25 privacy setting implemented on the mobile device 18a at	Page 25 1 Q. Okay. So when that particular privacy 2 setting is implemented on mobile device 18a, who in the 3 ODAS database or system would have permission to receive 4 or be allowed to receive device 18a's position 5 information? 6 A. Within that -- the scope of that sentence, 7 notwithstanding any of the other group or authentication 8 kinds of information discussion that Sheha discusses, 9 that -- in theory, that would be anybody who was 10 interested -- is signed up, essentially, to get that 11 information from that phone. 12 Q. Okay. Does Sheha disclose anywhere 13 implementing privacy settings with respect to a specific 14 device or user? 15 MR. SANDERS: Objection to form. 16 A. Well, this is the group discussion we had 17 before. So it will have -- it has a group capability by 18 which if you're on that group, then you would be able to 19 have these permutations that we just went through 20 applied to you, meaning if you're on the group and you 21 are -- have a particular time period that's also there, 22 then you would be able to get the location information. 23 If you're not on the group, you would not be allowed to 24 do that. 25 And so -- and as I discussed, in my view, a

Page 26 1 group, while usually being a plurality of people, can be 2 just one person. 3 BY MR. SCHELLER: 4 Q. Okay. So a group -- I'm not getting the 5 connection between group and a privacy setting. Can you 6 explain that to me? 7 A. Well, the privacy setting would be stored 8 on the phone generally to be able to provide some of 9 these permutations that we've just been talking about. 10 And then the group delineation would, I think, generally 11 be stored on the ODAS to provide a permissions 12 capability to filter out people who the original phone 13 doesn't want to have their location information. 14 Q. Okay. Let's move to the next claim 15 limitation, Mr. Williams, which is claim 1D, same page. 16 A. Right. 17 Q. And this says: "Said permission is 18 operable, being stored in said remote system; wherein 19 said remote system is located remotely from said first 20 and second wireless devices." 21 Do you see that? 22 A. Yes. 23 Q. All right. And I think this is going to 24 get us into a discussion of groups, which you keep 25 referring to.	Page 28 1 A. Yeah. 2 Q. Right? 3 A. I didn't know I said paragraphs, plural. 4 If I did, I apologize. I'll -- I'll answer. 5 There is a landline embodiment and a mobile 6 embodiment, and there's also verbiage about how they're 7 applicable potentially, that both mobile and landline 8 are relevant to this passage as well. 9 Q. Okay. 10 A. So like a mobile -- the first sentence, for 11 example, is: "A mobile or landline device can request 12 permission." 13 So it's starting out with the context of 14 covering both. 15 Q. Understood. 16 So the landline embodiment goes from 17 line 58 up to line 1 -- I'm sorry -- line 58 of 18 column 11 up to line 1 of column 12; right? 19 MR. SANDERS: Objection to form. 20 A. I'm not sure I agree with that. Because 21 it -- the way this sentence is phrased and, more 22 importantly, the way the system works, that it starts 23 out with: "For a landline position request, the 24 specified telephone number is correlated to its position 25 information using telephone information from a known
Page 27 1 So in paragraph 21, you refer to: "Sheha," 2 second sentence, "described embodiments where one device 3 can request position information of a target device 4 without initiating a call to the target device." 5 Do you see that? 6 A. Yes. 7 Q. And you cite to Sheha 11:55-12:7. Let's 8 take a look at that excerpt. 9 A. All right. 10 Q. Okay. And am I correct that this excerpt 11 describes two different types of embodiments, a landline 12 embodiment and then a mobile device embodiment? 13 MR. SANDERS: Objection to form. 14 BY MR. SCHELLER: 15 Q. And if you don't agree with me, you can 16 tell me why. 17 A. Hold on for a second. 18 It has various paragraphs that are kind of 19 general, but the core -- there are landline and mobile 20 embodiments in that passage. 21 Q. You said "it has various paragraphs." I'm 22 only seeing one paragraph, actually. I want to make 23 sure we're at the right spot. I'm seeing one paragraph 24 that starts on line 55 and goes to the top of 12 to line 25 7.	Page 29 1 database or sets of databases." 2 And then it says "in one embodiment," as in 3 it's seemingly kind of starting fresh as another 4 embodiment, versus it being necessarily a continuation 5 of the landline embodiment. 6 So I would agree that it's potentially a 7 little more ambiguous. But particularly given the 8 overall scope of Sheha, I would state that the "in one 9 embodiment" sentence is applicable to both mobile and 10 landline. 11 BY MR. SCHELLER: 12 Q. Okay. So you're saying -- 13 A. Yeah, particularly given that the following 14 sentence just is starting in a -- when a mobile device 15 position information is requested. So it's not saying 16 in another mobile embodiment. It's not -- it's -- the 17 sentence is almost like a bridge sentence between the 18 landline and the mobile covering both, in my opinion. 19 Q. So when it says -- on line 61 in column 11, 20 when it says: "In one embodiment, the online database 21 that contains this information only includes users that 22 do not have unlisted telephone numbers," it's your 23 opinion that that is referring to both the landline and 24 a mobile device? 25 A. Oh, I see. That's a fair statement.

Page 30 1 Because it's referring -- it's saying the online 2 database in reference to the landline. So that's fair. 3 But I would -- I'd still say that this 4 whole section blends between landline and mobile, 5 because certainly mobile systems have many online 6 databases. In fact, they have more online databases 7 that landline systems do. 8 Q. All right. Just so I'm clear, when you 9 said that's a fair statement, so that "in one 10 embodiment, the online database that contains this 11 information," et cetera, that sentence that I just asked 12 you about, that is specific to landline; is that right? 13 MR. SANDERS: Objection to form. 14 A. I think it's ambiguous. It certainly 15 covers the landline, but I think it is -- given the full 16 scope context of this whole paragraph and the whole 17 patent itself -- is also applicable to mobile 18 embodiments. 19 BY MR. SCHELLER: 20 Q. Okay. So can a mobile device have an 21 unlisted telephone number? 22 A. Yes. 23 Q. It can? 24 A. Yes. 25 Q. Okay. So the sentence before that: "For a	Page 32 1 paragraph is kind of not getting into various system 2 elements, if you will. It's not necessarily a 3 high-level description, but not detailed enough to get 4 into referencing any specific system component. 5 BY MR. SCHELLER: 6 Q. So in the sentence that I was -- just read 7 referring to "known database or sets of databases," that 8 database or those known databases for the landline 9 position request contain known positions as static 10 addresses and associated telephone numbers. 11 Is that your understanding? 12 MR. SANDERS: Objection to form. 13 A. I think that's a fair statement. 14 BY MR. SCHELLER: 15 Q. Okay. Now, with a mobile device 16 embodiment, you don't have static addresses; correct? 17 MR. SANDERS: Objection to form. 18 A. Well, you do, as the account owner or a 19 subscriber. But it obviously is -- can't be counted on 20 as a reliable surrogate for that static location being 21 your current location. 22 BY MR. SCHELLER: 23 Q. Okay. Right. Because device -- mobile 24 devices are constantly changing as we move around with 25 them; right?
Page 31 1 landline-to-landline position request, the specified 2 telephone number is correlated to its position 3 information using telephone information from a known 4 database or sets of databases." 5 Do you see that sentence? 6 A. Yes. 7 Q. So this is describing, I think -- you tell 8 me if you disagree -- a database that allows a user to 9 find the position of another user if the user knows the 10 other user's telephone number? 11 MR. SANDERS: Objection to form. 12 A. Right. 13 BY MR. SCHELLER: 14 Q. Do you agree? 15 A. Yes. 16 Q. Without having to place a phone call 17 through the telephone network; right? 18 A. Right. 19 Q. Now, so I've been pouring over this 20 language for a lot -- a lot for a long time, so that's 21 why I'm asking you about your interpretation of it. 22 One thing we don't see here, Mr. Williams, 23 is any reference to the ODAS database; right? 24 MR. SANDERS: Objection to form. 25 A. Yes. And in this paragraph, this whole	Page 33 1 A. Right. I mean, you know, if you're at your 2 home using it, you know, they match up, if you will. 3 The location determination is done differently, but they 4 happen to correlate in that particular situation. But 5 obviously, basically, mobile location is far more 6 complicated than landline location. 7 Q. So you can't have a group database that 8 stores information correlating position information to a 9 telephone number for mobile devices; right? 10 MR. SANDERS: Objection to form. 11 A. You could. Again, any -- in the sign-up 12 process for a mobile device, just like on a landline 13 device, you are inclusive of address information, home 14 address for billing and other purposes. And you could 15 very conceivably have a permutation of I don't -- don't 16 or do share my location when I'm at home in a mobile 17 embodiment; similarly, along those lines of, you know, 18 some of the other variations we talked about earlier. 19 So it's certainly possible, I guess, is my general 20 answer. 21 BY MR. SCHELLER: 22 Q. Okay. So some followup on that. My first 23 question is: What you just described, could you have 24 had that at the time of Sheha? 25 MR. SANDERS: Objection to form.

Page 34 1 A. Yes. Because the correlation of your phone 2 number to your home address, whether it's a landline 3 telephone or mobile telephone, would frankly be the 4 easiest permutation to do. 5 BY MR. SCHELLER: 6 Q. But that would be a static address like the 7 landline. What about, you know, when I'm moving 8 around -- what about a dynamic -- a database with 9 dynamic position or location data when I'm moving around 10 with my mobile device? 11 MR. SANDERS: Objection to form. 12 A. If you're asking was it possible to 13 determine your location -- determine the location of 14 your mobile device at the time of Sheha, then the answer 15 was yes. 16 BY MR. SCHELLER: 17 Q. Yeah, that's not what I'm asking. 18 A. Yeah, I figured it wasn't, but I'm not sure 19 what the alternative question was. 20 Q. Well, so the way -- there's discussion in 21 column 11, lines, you know, 58 to 67, about group 22 database and position telephone information in that 23 group database; right? 24 A. Right. Yes. 25 Q. So what I'm asking you is that for -- well,	Page 36 1 then, and then not give them information any time I'm 2 out moving around. It's possible. 3 Is that kind of -- is that kind of the 4 normal use case, if you will? Probably not, because, of 5 course, mobile phones are, you know, mobile. But a lot 6 of people use them, you know, in a home context. 7 So the overall point -- I'm not trying to 8 be difficult. I'm just saying it's poss -- it's not 9 like they are apples and oranges. Mobile devices and 10 systems essentially use the same type of technologies 11 and databases that landline did, plus a lot more, to 12 deal with the actual mobility component. It wasn't like 13 they were, you know, one doesn't touch on the other or 14 can't be reused for the other. 15 BY MR. SCHELLER: 16 Q. Got it. 17 So I understand that you're relying on the 18 signed up address that you associated with the cell 19 phone or the mobile phone. But I'm wondering about the 20 more -- what I'm going to say -- important case where 21 the current location of your cell phone, the database of 22 current locations of the mobile device as the mobile 23 device moves around the United States -- 24 A. Right. 25 Q. -- how would that have been possible at the
Page 35 1 strike that. 2 I think you and I are on the same page that 3 that works for a landline situation, because you have a 4 static address that's associated with the position of 5 the location of that static phone that's sitting in your 6 house. So you look up someone's phone number. Oh, 7 okay, that phone is located, you know, at 55 Elm Street 8 in St. Louis, Missouri; right? 9 A. Right. 10 Q. My question to you is: How do you do that 11 for a mobile device that doesn't have a static location 12 like a landline phone? 13 MR. SANDERS: Objection to form. 14 BY MR. SCHELLER: 15 Q. Could you have done that at the time of 16 Sheha? 17 MR. SANDERS: Objection to form. 18 A. Yes, you could have. Again, the -- as part 19 of the subscriber sign-up and just billing and operating 20 records for both landline and mobile, you capture your 21 home address in both sign-ups, and so that data would be 22 also available for mobile devices. And if you wanted 23 to, you could have that in your -- as a location in your 24 database. And you could even be useful -- for example, 25 let people know -- tell people when I'm at home and only	Page 37 1 time of Sheha? 2 MR. SANDERS: Objection to form. 3 A. Well, are you -- are you -- I want to make 4 sure I understand kind of the root of your question. 5 The ability to determine a mobile device location had 6 been -- had been being worked on feverishly since, in 7 particular, the '96 telecom act. 8 And by the time of Sheha, there were 9 several different ways of locating your phone and then 10 being able to put that in the database and then pull 11 from a database. 12 BY MR. SCHELLER: 13 Q. Okay. Let me ask it differently: So my 14 understanding is that when they're talking about a root 15 database, Mr. Williams, for example, in line 66 -- and 16 you referred to this, you know, a lot today -- my 17 understanding was that, okay, a group database makes 18 sense in the context of a landline position request 19 situation because you know the position in those 20 landline phones. You can put it into a database. 21 It's not referenced when -- Sheha doesn't 22 reference that when Sheha refers to and discusses the 23 mobile device position request, starting at the top of 24 column 12. So I'm thinking that group database at the 25 time would not have worked in the context -- could not

Page 38 1 have been done in the context of a mobile device 2 position request for current position. So I'm asking 3 you if that understanding is correct; and if not, why 4 not? 5 MR. SANDERS: Objection to form. 6 A. I don't think it's correct for a couple of 7 reasons: One, I think generally the group in Sheha is 8 talking about a group of users that have permission or 9 not. So it's a permissions based on, you know, 10 telephone numbers, names, what-have-you, of whether they 11 can get location or not. 12 Secondly, I would say anything that you 13 could do with landlines, frankly, the information, and 14 even the vast majority of the data collected, was also 15 done in mobile device systems, plus a lot more. 16 So landlines were kind of the -- if you 17 want to view it as landline as being the Chevy and the 18 mobile systems being the Ferraris or Cadillacs, you 19 still have engines, tires, all that kind of stuff on 20 both of them. But there was a lot more stuff that went 21 on in the mobile world that -- some part of it had 22 almost an exact corresponding element in the landline 23 world. 24 So if you -- and maybe another way to say 25 it is anything that was done in the landline world was	Page 40 1 process for moving data independent of a call from the 2 phone through the internet to something else, and vice 3 versa. But there was also what I'd call custom ways of 4 doing it, as well. 5 BY MR. SCHELLER: 6 Q. And Sheha talks about WAP, W-A-P? 7 A. I don't remember. I know Enzmann does a 8 lot. But WAP was in existence in the late '90s for 9 certain, because I was dealing with it in my Nextel 10 work, my location-based services. 11 Q. Okay. And at the time of Sheha, were there 12 simultaneous voice and data networks in the United 13 States? 14 MR. SANDERS: Objection to form. 15 A. I don't remember the timing of when that 16 occurred. There were definitely voice networks and data 17 networks, and there was various work to synchronize 18 them, if not integrate them. I just don't remember the 19 timing. 20 BY MR. SCHELLER: 21 Q. Okay. So your testimony, Mr. Williams, is 22 that outside of placing a call, there was a way to 23 trigger location information for a mobile device to be 24 deposited in the ODAS; is that right? 25 A. Yes.
Page 39 1 also done in the mobile world-plus. 2 BY MR. SCHELLER: 3 Q. At the time of Sheha, is that what your 4 testimony is? 5 A. Yes, I would say so. I mean, there's no -- 6 there's no technical elements that I can think of in the 7 landline world that isn't or wasn't done in the mobile 8 world, plus a lot more. 9 Q. Okay. So this particular embodiment that 10 we're talking about is without initiating a telephone 11 call; right? 12 A. Right. 13 Q. Okay. So -- 14 A. Well, I lost track. Make sure we're on the 15 right thing. 16 Yeah, outside recall; correct. 17 Q. All right. So this is -- I mean, are there 18 protocols described in Sheha for taking the location 19 information from the mobile device and having it end up 20 in the ODAS, for example, without a telephone call? 21 A. Yes. 22 MR. SANDERS: Objection to form. 23 A. Yes. That's what the wireless access 24 protocol, WAP, step does. But even more so, it 25 didn't -- WAP was about a -- kind of a standardized	Page 41 1 Q. And you said it was WAP; is that right? 2 MR. SANDERS: Objection to form. 3 A. I said that would be one of the ways of 4 doing it. 5 BY MR. SCHELLER: 6 Q. And what are the other -- 7 A. The other -- I don't remember. 8 The intention of WAP was to provide -- 9 roughly, it's the equivalent of today's browser. And it 10 was an interface mechanism that could be used kind of 11 application-independent for all sorts of different 12 networks. So it was attempting to accommodate all sorts 13 of previously proprietary-type systems and provide an 14 easy way of bridging the gap between the phone and the 15 rest of the world. 16 But that wasn't the only way. There was -- 17 every carrier network could do it their own proprietary 18 ways, and whatever protocols they wanted to use or 19 create, and could do it that way. 20 Q. Okay. Let me ask you this: In order to 21 have a database in the mobile device context, just like 22 in the landline context, containing -- context 23 containing position telephone number information, 24 wouldn't you need the cell phone -- the mobile device to 25 push its location over the cellular network to the

Page 42 1 database? 2 A. No. 3 MR. SANDERS: Objection to form. 4 A. Would you have to? No. You could -- you 5 could get a -- it's called a network-initiated query. 6 And, actually, that's simpler than a push in a variety 7 of respects, because those, for example, could use cell 8 ID, the connection of the cell tower that you were 9 connected to, which is a form of location. 10 It can sometimes be inaccurate. But it 11 was -- it has advantages of it being fast and ubiquitous 12 and reasonably accurate, particularly for applications 13 that don't necessarily require super-precision accuracy. 14 And that had been done for years and years 15 as both -- even before kind of the location-based 16 services came around, because that's how you track a 17 phone's position in a network, and know what it's 18 connected to for billing and roaming purposes and how 19 you get ready to hand off to -- if you're moving to the 20 next cell tower, because I know where the cell tower you 21 are currently is and all that kind of stuff. 22 So you could -- in other words, you could 23 locate your phone without actually even doing anything 24 on the phone. 25 BY MR. SCHELLER:	Page 44 1 Probably need to -- 2 BY MR. SCHELLER: 3 Q. So the network initiated -- oh, I'm sorry. 4 Were you not finished? 5 A. I was going to say I might want to take a 6 break pretty soon. I'm losing my voice. But we can 7 finish this question. 8 Q. Yeah, I have one more question for you on 9 the network-initiated query. Admittedly, I don't know 10 what that is. 11 So it sounds like it's the network asking 12 the device something or querying the device rather than 13 the device communicating its position to the database; 14 is that right? 15 MR. SANDERS: Objection to form. 16 A. Yes. So you could -- for example, in 17 tracking a truck application, and you're the dispatcher, 18 the application -- and for that, just knowing roughly 19 where the truck is at any one time is fine. 20 You could -- the application could be tied 21 to a server-based application that periodically either 22 requests or gets an update from the carrier's internal 23 systems that's tracking the phone via its cell ID for 24 all the reasons I just described, and update the 25 location that way without there being any interaction
Page 43 1 Q. Okay. So would the data, like, for 2 example, the ODAS have to have an open session with 3 every phone in order to receive its information by the 4 method you just described? 5 MR. SANDERS: Objection to form. 6 A. I'd have to think about how that would 7 transpire. 8 BY MR. SCHELLER: 9 Q. Yeah. The -- 10 A. Yeah. I -- there's -- I'd have to think 11 about that one in terms of all the -- 12 Q. The reason I'm asking you is because you 13 just described -- I'm re-reading it here on the 14 realtime -- is something that I think I've read about 15 called "polling." Is that kind of what you're 16 describing in terms of the network-initiated query? 17 MR. SANDERS: Objection to form. 18 A. It can be, but not necessarily so. You can 19 do -- polling is a -- if nothing else, it implies what I 20 think it's really explicit about, doing something 21 periodically, you know, every 10 minutes or whatever 22 kind of thing in order to get a regular update of the 23 location of something. And then, you know, so that if 24 there is a query for it, you've got a reasonably fresh 25 location for that.	Page 45 1 with the driver, other than the phone being on, and that 2 would work. 3 BY MR. SCHELLER: 4 Q. All right. So the network-initiated query 5 example that you referred to, that's a wireless network, 6 right, not a -- not a database like the ODAS in Sheha; 7 correct? 8 MR. SANDERS: Objection to form. 9 A. That is a -- the database in which the 10 location of every device that's turned on and connected 11 to a network is stored in databases, at a minimum, 12 what's called home location register and visiting 13 location register. 14 And then that data can be extracted and put 15 in a more simpler database for use in specific 16 location-based applications. So that's all a server 17 database kind of operation. 18 MR. SCHELLER: Okay. We can take a break 19 here. 20 (A break was taken from 11:17 to 11:32.) 21 BY MR. SCHELLER: 22 Q. Welcome back, Mr. Williams. So we were 23 really down in the weeds on some stuff before we took a 24 break. I was trying to take some notes, and I had a 25 couple questions based on some of the testimony here.

Page 46 1 So in terms of Sheha's disclosure, Sheha is 2 using phone numbers to correlate with position; correct? 3 MR. SANDERS: Objection to form. 4 A. That's fair. Well, yeah, as a -- 5 essentially as an index to the position. 6 BY MR. SCHELLER: 7 Q. In order to know -- let me put that 8 differently. 9 In order to find out the location of 10 another device, Sheha is disclosing and talking about 11 using the phone number of the landline or the phone 12 number of the mobile device; right? 13 MR. SANDERS: Objection to form. 14 A. I think as a general statement, that's 15 fair. 16 BY MR. SCHELLER: 17 Q. Now, you mentioned cell ID in one of your 18 answers. And that's not something that Sheha talks 19 about; right? 20 MR. SANDERS: Objection to form. 21 A. It talks about -- let me see if I can -- 22 hopefully I don't get these mixed up. It talks about 23 different location methods, like address, GPS. I forget 24 what other methods there might be in there. I don't 25 recall cell ID, though.	Page 48 1 participation of the device. Cell ID is one of them. 2 But that's not the only one. 3 Q. Are any of those other ways talked about by 4 Sheha? 5 A. Does Sheha talk about time difference of 6 arrival, TDOA? I don't remember. Let me search for it. 7 THE WITNESS: How do you do a "find" in 8 this PDF version; do you know? 9 MR. SANDERS: I think it's control-F, but I 10 don't know for sure. 11 (A discussion was held off the record.) 12 BY MR. SCHELLER: 13 Q. It talks about time of arrival. Is that 14 what you're talking about? 15 A. Yeah. 16 Q. That's in column 10, line 10. 17 A. So that can be initiated also, a network 18 initiated, also. 19 Q. Oh, not by the ODAS, but by the network? 20 MR. SANDERS: Objection to form. 21 A. Well, I don't think -- the network can find 22 it if the ODAS is connected to that network capability. 23 Then it can be updated via that method. 24 I think there's lots of different ways that 25 you can get location. Some are coming from the phone,
Page 47 1 BY MR. SCHELLER: 2 Q. Okay. So the ODAS doesn't know -- the 3 ODAS, as described in Sheha, doesn't know anything about 4 the cell ID of a mobile device -- 5 MR. SANDERS: Objection to form. 6 BY MR. SCHELLER: 7 Q. -- right? 8 A. It doesn't use the word "cell ID," but it 9 describes various ways of representing a device's 10 location. And there are many ways of doing that, like 11 GPS and cell ID. I forget how we kind of got off in 12 that direction. 13 But cell ID is kind of the elder grand -- 14 elder ancestor of all location determination methods, 15 because it was done and needed before location-based 16 services really became a real thing. So -- but it 17 doesn't say the words "cell ID." 18 Q. Okay. Yeah. The only reason I'm saying 19 "cell ID," is because you said it earlier when you were 20 talking about the network query initiative. And it 21 seemed like you were talking a lot about cell ID in 22 that -- in terms of the functionality of the 23 network-initiated query. 24 A. There are other network-initiated ways of 25 locating a device that doesn't require the active	Page 49 1 some could come from the network, I think is the overall 2 point. 3 BY MR. SCHELLER: 4 Q. Okay. So at the top of -- let's go back to 5 Sheha. At the top of column 12, it says: "When a 6 mobile device's position information is requested by 7 another mobile device or landline, the system" -- is 8 Sheha -- "based on privacy settings, responds with the 9 appropriate position information to the requesting 10 user's device." 11 So -- 12 A. So that passage -- 13 Q. -- how could that have been done? 14 MR. SANDERS: Objection to form. 15 A. I don't -- I don't -- this isn't a location 16 determination patent. I think it's generally -- it's 17 recognizing that there's a lot of different ways to 18 determine a device's location. And once you get that 19 into the ODAS, then you can then use that to respond to 20 requests, given the appropriate permissions. 21 So it's -- I mean, I can theorize on how 22 that might be done. But that's -- you know, that's kind 23 of -- it's presuming a location has been provided in 24 some form to the ODAS and then is -- and, you know, and 25 then from there, it's focused on the whole sharing and

Page 50 1 permissions and displaying, and what-have-you, kind of 2 capabilities as opposed to the location determination 3 technique. 4 BY MR. SCHELLER: 5 Q. Does Sheha explain in this embodiment 6 without using a phone how the ODAS would request the 7 location of the mobile device -- 8 MR. SANDERS: Objection to form. 9 BY MR. SCHELLER: 10 Q. -- without a phone call? 11 MR. SANDERS: Same objection. 12 A. I'd have to go back through Sheha to see 13 that. That's not the focus of this claim element, which 14 is essentially presupposing there is location 15 information available and some -- by some way, and in 16 the patent and Sheha being focused on, then, the 17 mechanisms by which you share or don't share or under 18 what condition you share that information. 19 BY MR. SCHELLER: 20 Q. Okay. I think this is the only 21 embodiment -- this short excerpt is the only embodiment 22 that Sheha talks about, you know, position -- try to 23 position without initiating a phone call; is that right? 24 MR. SANDERS: Objection to form. 25 A. I don't remember. I mean, there's an	Page 52 1 located by" or whatever you want, "best friends," 2 whatever. And every person in there identified by their 3 telephone number, in all likelihood, would be a person 4 you would allow your location to be shared with. 5 Another way is to already have a contact 6 list, and then have a field within each one of those 7 contact lists in addition to name and address and, you 8 know, age or birth date, whatever. You also have a 9 field to share information, and you kind of click that 10 box or not. And then you can -- so those are two ways. 11 There's probably others. 12 BY MR. SCHELLER: 13 Q. Okay. And then you continue in that same 14 sentence, you say: "This can be accomplished 'by 15 utilizing a group database and authorization and 16 authentication protocols to identify users that are 17 permitted to access this information." 18 Do you see that? 19 A. Yes. 20 Q. When you say "this," it wasn't clear to me 21 what you were referring to. What are you referring to 22 when you say "this"? 23 A. I think it's referring to the previous 24 quote, "users can define a group of specific users that 25 have access to this information."
Page 51 1 explicit sentence that says "outside of the call." 2 Where is that? 3 BY MR. SCHELLER: 4 Q. It's line 57. 5 A. Right. And that sentence is unambiguously 6 mobile or landline without having to initiate a 7 telephone call. 8 Q. Let's go back to your declaration, 9 paragraph 21. And at the bottom of page 15, you state, 10 for example: "Sheha describes that," quote, "users can 11 define a group of specific users that have access to 12 this information." 13 Do you see that? 14 A. Yes. 15 Q. Well, I submit to you that Sheha doesn't 16 really explain that, what it means there. So how would 17 that have been done at the time of invention? 18 MR. SANDERS: Objection to form. 19 BY MR. SCHELLER: 20 Q. Based on your experience? 21 MR. SANDERS: Same objection. 22 A. With the caveat I have -- this is -- you're 23 effectively asking a design question on the fly -- a 24 couple ways: One is to create a -- a list in the form 25 of a file. You can label it "friends I want to be	Page 53 1 Q. Okay. So the group database is describing 2 or is the same as the group of specific users? 3 MR. SANDERS: Objection to form. 4 A. I think it's more describing -- the first 5 quote is describing what's being done and the second 6 quote is being described -- is describing how it's being 7 done at a certain level. 8 BY MR. SCHELLER: 9 Q. Okay. So how does the group database 10 relate to the group of specific users? 11 A. Again, I'd answer it's kind of -- it's the 12 first one is what and the second is how. So the first 13 one, the what is the group of specific users that have 14 access to that information, is kind of a nontechnical 15 articulation of what you're trying to achieve. 16 And then the second quotation is a how 17 element that is describing some technical elements that 18 would be utilized to do that. I think that's the 19 relationship. 20 Q. Okay. So when Sheha, in that sentence, 21 says "authorization and authentication protocols," what 22 is your understanding of what Sheha is referring to 23 using that term? 24 A. That -- I mean, that's used all over the 25 place. So with the caveat that this is a generalization

Page 54 1 in a simple form, it's really referring to log-in and 2 password, and that a person has the ability to access 3 that database, or access that system, rather. 4 Q. Okay. So then at the top of 12, you've got 5 a reference to mobile device position information being 6 requested. 7 Do you see that? 8 A. Yes. 9 Q. Now that description, which seems to span 10 line 1 to line 7, does not refer to a group database or 11 group of specific users; correct? 12 MR. SANDERS: Objection to form. 13 A. The sentence itself doesn't have it, but 14 it's a -- it's coming immediately after the group 15 database and authentication -- authorization and 16 authentication protocols discussion. It doesn't start, 17 you know, with a new paragraph or, you know, in another 18 embodiment or what-have-you. 19 To me, it's, you know, an almost -- if not 20 a continuation, it's not necessarily completely 21 independent. 22 And perhaps maybe this is the point to say 23 that, you know, as I state in the declaration, while -- 24 even if you do interpret that statement as being a 25 landline-to-landline position request, it does not	Page 56 1 And even with -- and then beyond that 2 general statement, I think, as I -- various passages 3 here, I don't think Sheha had any intention of having 4 the group, for example, being applied only to landline 5 and not the mobile. 6 It was as various statements, including up 7 front in I think column 4 somewhere, that all these 8 various embodiments are applicable across not only 9 landline-to-landline, but in mobile-to-mobile, but also 10 landline-to-mobile. So it wasn't attempting, in my 11 view, to do some sort of segregation of one category of 12 embodiment versus another with respect to its abilities. 13 Q. Okay. So in your opinion, based on the 14 four corners of the Sheha document, and obviously your 15 experience, ODAS had all the capabilities that would 16 have enabled it to describe the functionality for mobile 17 devices that you just testified about? 18 MR. SANDERS: Objection to form. 19 A. I'm not sure I'd phrase it like that. I'd 20 say that the -- in my opinion, the kind of core 21 capabilities associated with Sheha in permission, 22 associated with location sharing generally, and 23 permissions and privacy and group and authentication and 24 authorization, those apply both to landline-to-landline, 25 mobile-to-mobile, and landline-to-mobile.
Page 55 1 restrict the use of a group database to the 2 landline-to-landline scenario. To the contrary, Sheha 3 discloses the same approach can be used in a 4 mobile-to-mobile scenario. 5 BY MR. SCHELLER: 6 Q. Right. I do see that, hence all my 7 questions. Because lines 4 to 7, I don't see a 8 reference in column 12, lines 4 to 7, to group database 9 or group of specific users, do you? 10 MR. SANDERS: Objection to form. 11 A. In 4 to 7, there's the authentication and 12 authorization reference. It doesn't say the word 13 "group," though. 14 BY MR. SCHELLER: 15 Q. Right. And this goes back to -- it's your 16 view or your opinion that the group database that's 17 talked about in column 11, Mr. Williams, could it also 18 apply to the mobile device position request described up 19 in column 12? 20 A. Yes. I mean, as I said generally, the 21 landline-to-landline is the simplest of all scenarios. 22 There's nothing, in my opinion, that would be -- that is 23 done in landline-to-landline, and particularly in the 24 context of location sharing, that isn't and can't be 25 done in a mobile-to-mobile scenario.	Page 57 1 BY MR. SCHELLER: 2 Q. Sheha does seem to say that; agreed. I 3 mean, they do talk about that. We've got Figure 3, 4 which is a mobile-to-mobile, right, Figure 2. 5 I'm understanding Sheha to really be 6 focused on -- and my understanding doesn't matter -- but 7 to be focused on the ODAS and what the ODAS does and 8 capabilities of the ODAS. The ODAS receives a request 9 for position information, asks the target device, Can I 10 get this position information. And then if you can, 11 ODAS is allowed to get it, then ODAS sends it over to 12 the requesting device. So... 13 A. And if you -- and if you -- 14 MR. SANDERS: Objection to form. 15 A. -- if you want -- even on Figure 3, though, 16 it's -- you know, it's got ODAS, and it's only 17 discussing mobile devices. It's not discussing 18 landline. 19 So at a minimum, I would just, on that 20 figure, you could argue that ODAS is at least applicable 21 to mobile and, you know, if you -- any question might be 22 on the fact that there wasn't a landline device listed 23 here. So... 24 BY MR. SCHELLER: 25 Q. Yeah. My point there is that -- yes,

Page 58 1 100 percent. But what if there's no phone call? 2 MR. SANDERS: Objection to form. 3 A. Well, again, we -- that cited passage that 4 was unambiguously, in terms of the sentence structure, 5 column 11, starting at 55: "A mobile or landline device 6 can request position information of another mobile or 7 landline device by only specifying a telephone number 8 without having to initiate a telephone call." 9 BY MR. SCHELLER: 10 Q. Right. 11 A. I mean, how much more unambiguous can you 12 get on that particular aspect? 13 Q. Right. That's what it says. 14 A. Yeah. 15 Q. And I agree 100 percent. Only by a 16 telephone number without initiating a telephone call; 17 right? 18 A. Right. 19 Q. Right. So in the context of a mobile 20 device, where you don't have static addresses or 21 position information, how do you establish a group 22 database as described here in column 11 in Sheha? 23 MR. SANDERS: Objection to form. 24 A. If your -- if your question is if you 25 haven't had any calls, how can you have a location for a	Page 60 1 landline-only world. It basically would be a simple 2 thing of, Okay, you've got the master database at your 3 switch, and you've got the telephone number, name, and 4 address. 5 And then you could just do like I was 6 saying, you have a location share, yes-or-no, kind of 7 thing. You wouldn't need all this elaborate other stuff 8 going on. So I would submit that this is primarily 9 geared at mobile. 10 But in any event, to your question, it's -- 11 the fact that the location is not static I don't think 12 has a bearing on the ability to have a group database. 13 BY MR. SCHELLER: 14 Q. And help me understand why not, based on 15 what Sheha discloses. 16 MR. SANDERS: Objection to form. 17 A. Well, if it's the -- certainly the ability 18 to set up saying, Okay, for this telephone number, I 19 want to share information. That's, you know, that's -- 20 you're going to have telephone numbers in both landline 21 and mobile; right? And so, really, it hinges on do you 22 have location information to share in the mobile world 23 versus the static address location in the landline 24 world. 25 And the answer is yes, you -- there are
Page 59 1 device? Is that what you're saying? 2 BY MR. SCHELLER: 3 Q. Well, I would submit to you that when 4 they're talking about group database and group of 5 specific users, that is specific and unique to the 6 landline embodiment, because you've got known addresses 7 that you can correlate to a telephone number. You don't 8 have that at the time of Sheha. 9 My understanding is that you didn't have 10 that with a mobile device because you don't have a 11 static address. A mobile device is moving around all 12 the time. The location is constantly changing. 13 So I'm trying to understand more better 14 [sic] why you think that group database language also 15 applies to the mobile device embodiment talked about at 16 the top of column 12, the no telephone call situation. 17 MR. SANDERS: Objection to form. 18 A. I -- your statement that the group database 19 could only apply to landline, I would vehemently 20 disagree with. And I'm just trying to -- because you're 21 saying that you can only have location if it's a static 22 location, is effectively what you're saying. 23 And quite the contrary, you could -- I 24 mean, frankly, you wouldn't need this kind of system, or 25 even Mullen's system, probably, if we were just in a	Page 61 1 many ways to get the location of a device, including 2 without a telephone call, to populate that portion of 3 said group database used for mobile embodiments. 4 I just don't -- I don't know how else to 5 answer it. 6 BY MR. SCHELLER: 7 Q. Okay. But Sheha doesn't explain that; 8 right? 9 MR. SANDERS: Objection to form. 10 A. No. And I think it gets back to this is -- 11 there's a lot of location determination patents out 12 there, believe me, for mobile devices. Sheha is 13 presupposing that's already occurred, and it 14 acknowledges that there's lots of different ways and 15 that, you know, that location information is going to be 16 available. 17 And it's focused on the whole sharing, 18 yes-or-no, kind of capability, you know, further 19 downstream from the location determination. 20 BY MR. SCHELLER: 21 Q. Okay. All right. So when Sheha says at 22 the top of 12, pardon me: "When a mobile device's 23 position information is requested, the system, based on 24 privacy settings, responds with the appropriate position 25 information," I'm hearing from you that there's a whole

Page 62 1 lot of stuff packed into that that's happening that 2 Sheha just doesn't talk about -- 3 MR. SANDERS: Objection. 4 BY MR. SCHELLER: 5 Q. -- in terms of how that ODAS gets -- well, 6 it doesn't even talk about an ODAS -- as to how that 7 information gets from the mobile device that's over in 8 Canada somewhere back to the system, quote/unquote, for 9 the system to pass it on to the requesting user? 10 MR. SANDERS: Objection to form. 11 A. It -- in all likelihood, it is more 12 complicated than the landline location information, yes. 13 But the way that's phrased and the purpose of Sheha, and 14 really the whole location world at that time was, you 15 know, they had worked out, for the most part, the 16 ability to get the location. 17 And now it was a question of, Okay, what do 18 we do with it in applications and all sorts of other 19 stuff. And Sheha is, you know, not trying to retread 20 all that previous work on, you know, how do you get a 21 mobile device's location. 22 It's admittedly more complicated than 23 landline. But like I said, I don't think you would need 24 this kind of invention if we were just talking about 25 landline.	Page 64 1 particularly if it's GPS or requires the interaction 2 with a handset, that drains battery. 3 So you're -- unless you've got an 4 application running that actively needs realtime 5 location, particularly back then, like, say, a 6 navigation application, there really wouldn't be much 7 reason to update it frequently. 8 There's other mechanisms you could use, 9 like never updating it unless the motion sensor is 10 activated, or it doesn't get beyond a certain range or 11 what-have-you. So there's other games that you can 12 play. 13 And in any event, if you talk about 14 non-realtime location, it could have been yesterday's 15 location or last week's location. It doesn't specify an 16 accuracy requirement to it; it just says location. 17 Odds are, though, unless you're a road 18 warrior kind of thing, if you were in the LA vicinity 19 yesterday, you're probably there today. And if you're 20 in New York, you could care less where the -- what 21 street you're on at that time. 22 So there's all -- I'm not trying to be 23 flippant. But, you know, there's location and then 24 there's location. There's realtime versus all sorts of 25 others. There's -- you know, there's accurate versus
Page 63 1 BY MR. SCHELLER: 2 Q. Okay. So let me -- let's -- I'm going to 3 give a hypothetical. Carl can object to it. 4 Say we've got 20 cell phone users and 5 they're moving all around the United States, of course, 6 right, or we can say they are here in New York and 7 Manhattan, and they are -- they form a group of specific 8 users, a group database. You have 20 people, 20 mobile 9 device users in a group database. They're moving all 10 over the place. 11 How does that database -- at the time of 12 Sheha, how would that database have been continually 13 updated, you know, every 30 seconds? Could it have been 14 every minute, such that the ODAS could go in there, grab 15 it, and, boom, and give it to the requesting user? Does 16 that make sense? Do you know what I mean? 17 A. I think so. 18 MR. SANDERS: Objection to form. 19 A. Well, first and foremost, there's -- it 20 says nothing about realtime location, or your question 21 is not about realtime location. I think Sheha can cover 22 it. But there is a vast difference between getting 23 realtime location continually updated, you know, to 24 continually update all 20 users, you know, every couple 25 minutes to start with, every time you do a location,	Page 65 1 maybe not accurate or just having a rough idea. There's 2 all sorts of permutations involved in that. 3 So you're -- and for -- across those 20 4 users, you may have like, you know, you've got the 5 limitations on when you update the ODAS, say, you know, 6 just maybe once a day or every day at 3:00 or just from 7 a 2 to 5 kind of thing. And if you're -- if the inquiry 8 happens to be outside of that, by definition, it's going 9 to be dated or potentially not accurate, but it still 10 could be useful. 11 BY MR. SCHELLER: 12 Q. Okay. So let's say the hypothetical that I 13 gave you, 20 users in a group database, is realtime, 14 could that have been done at the time of Sheha? 15 MR. SANDERS: Objection to form. 16 BY MR. SCHELLER: 17 Q. You know, update every 30 seconds, current 18 location? 19 MR. SANDERS: Objection to form. 20 A. Every 30 seconds? I'm not sure. Every 21 minute or two minutes, probably; but for at least some 22 period of time until you wipe out their batteries. 23 BY MR. SCHELLER: 24 Q. Can you think of any specific companies or 25 technologies or products where that was being done at

Page 66 1 the time of Sheha or at the time of the invention? 2 MR. SANDERS: Objection to form. 3 A. When you say "that," which hypothetical are 4 you talking about? 5 BY MR. SCHELLER: 6 Q. That's a fair question. Very fair. Thank 7 you. 8 Where realtime mobile device locations were 9 getting tracked and saved to a group database for 10 purposes of being able to access their position 11 information or location information. 12 MR. SANDERS: Objection to form. 13 A. What are we talking, March 2002? 14 BY MR. SCHELLER: 15 Q. Yep. 16 A. I'm not sure I can think of any that were 17 kind of -- would have news articles written about them. 18 I was aware of AT&T's first attempt into location 19 services where they were doing trials, actually, in New 20 York, I think, doing essentially an early FriendFinder 21 application. And they were doing it for -- primarily 22 using cell ID. 23 And the problem was not with the freshness 24 of the location, but the accuracy of the location. 25 Because, you know, cell ID in New York is kind of a	Page 68 1 that in the 2007 timeframe, so I wanted to find out what 2 had happened before. And then, secondly, the guy who is 3 now a vice-president who actually was a leader of that 4 was involved in that effort and told me about it. 5 Q. Oh, I see. Okay. Sorry. So you found out 6 about it through someone else? 7 A. Correct. 8 Q. I see. Okay. 9 A. Yeah. Generally, there was a lot of what I 10 call the first wave of location-based services, which 11 started about 2000, concurrent with the removal of the 12 selective availability, which was delivered distortion 13 of GPS signals. It was a whole bunch of activity 14 that -- innovation activity that was triggered by that. 15 But there were a variety of other issues 16 that, for whatever reason, like in AT&T's case, who 17 wasn't using GPS, the accuracy kind of made the 18 customers mad. 19 In other cases, there was reliability 20 sometimes or, you know, the fact that if you had to ping 21 something every 30 seconds, the battery would be dead 22 within an hour, you know. All those kinds of things 23 kind of conspired to make the first attempt at 24 location-based services not that big of a success. 25 Q. Got it. Okay. A couple more questions for
Page 67 1 joke. I mean, you could be, you know, on Wall Street or 2 you could be at the Police Plaza or you could be in 3 Chinatown or you can be -- who knows. You might even be 4 in Staten Island, kind of thing. It's just the -- New 5 Yorkers want to -- it's probably a poor choice for a 6 trial, anyway, for that reason. 7 But it was -- I know stuff was going on. 8 Was there a -- and that, by its nature, in terms of a 9 friend finding thing, would have, in all likelihood, a 10 group capability, though I wasn't part of that design, 11 so I can't swear to that. 12 I can't think of, though, off the top of my 13 head, something that an actual product that was out on 14 the market primarily because everybody was still -- not 15 to say "everybody" -- that most of the money at that 16 time was still tied into trying to meet the 911 mandate. 17 Q. Right. The E-911? 18 A. Yeah, enhanced 911 mandate. And that was 19 kind of a you-had-to-walk-before-you-could-run kind of 20 thing. 21 Q. Right. So the AT&T FriendFinder, that's 22 interesting. What else do you remember about that? I'm 23 not familiar with that. 24 A. The only reason I know about it is when I 25 came in and did a later FriendFinder implementation for	Page 69 1 you on this language in 12, and then I think we can move 2 on. 3 So that same sentence we've been dwelling 4 on, at the top of 12, Mr. Williams: "When a mobile 5 device's position information is requested, the system 6 responds with the appropriate position information." I 7 mean, as one skilled in the art reading this, where do 8 you think that position -- where is the system getting 9 the position information? 10 MR. SANDERS: Objection to form. 11 BY MR. SCHELLER: 12 Q. Or maybe you just don't know? 13 A. I mean, generally, if we're talking in the 14 Sheha context, it's coming from the ODAS. If you're 15 asking where is the ODAS getting it, that's not 16 specified in Sheha for kind of all the reasons we talked 17 about. It's kind of an upstream thing that could be 18 done all sorts of different ways, different methods, 19 different handset versus network-initiated or 20 what-have-you. And that, you know, it's -- 21 Q. Right. 22 A. -- upstream. 23 Q. And the ODAS isn't storing that 24 information. It's getting it from somewhere -- 25 somewhere else and passing it along; right?

Page 70 1 MR. SANDERS: Objection to form. 2 A. I'm not -- I think there's -- and I am 3 trying to remember. I think it can store the 4 information if -- it could also request that 5 information. I think it covers both of those. 6 BY MR. SCHELLER: 7 Q. Okay. But I guess by store, what I meant 8 was maintaining, you know, a database of position 9 information or telephone -- well, position information 10 and telephone numbers, for example, that could be 11 correlated together. 12 MR. SANDERS: Objection to form. 13 BY MR. SCHELLER: 14 Q. Kind of like what's talked about in column 15 11 and line, you know, 58 to 61. 16 MR. SANDERS: Objection to form. 17 A. I mean, it's -- there's probably a dozen, 18 if not more, different embodiments that if I sat down 19 for a half hour, I could -- I could come up with about 20 where something -- location would be stored on the ODAS 21 versus it not being stored, but only being requested 22 from the device. It's still the location. 23 Even in that situation, it would still flow 24 through the ODAS to be subject to its permissions 25 control. But it wouldn't necessarily be, you know,	Page 72 1 when the person is sleeping, but -- right? I mean, that 2 data would get old -- 3 MR. SANDERS: Objection to form. 4 BY MR. SCHELLER: 5 Q. -- over a matter of time? 6 MR. SANDERS: Objection to form. 7 A. Well, it's only as certain as, you know, 8 the moment you get it, if you will. If you're walking 9 around or driving in a car or whatever, it's going to 10 almost instantaneously change, kind of thing. 11 On the other hand, we're sitting in a 12 conference room for several hours and not at home. But, 13 you know, if you got something for me at 9:00, it's 14 probably still going to be accurate at 3:00, so... 15 BY MR. SCHELLER: 16 Q. Yep. Right. 17 A. And, again, the use case, if you're like in 18 a truck -- long-haul trucking thing, whereas if 19 you're -- you know, you just want to know that your guy 20 is in Kansas. And, you know, if you've ever driven 21 across Kansas, it takes forever. So odds are, if you 22 were in Kansas two hours ago, you're still in Kansas. 23 Q. Yeah. It sounds like driving through 24 Pennsylvania, which is where I'm from. Same thing, 25 really boring.
Page 71 1 yesterday's location or two hours ago location, kind of 2 just sitting there waiting for somebody. 3 There's just different reasons, different 4 ways, you know, whether you're pushing or pulling a 5 network handset, what application is generating it for 6 whatever reason, just how -- you know, even like on your 7 iPhone location settings kind of thing, you could always 8 -- you know, do you always want location services or you 9 just want it while location is on or one use only. 10 I mean, there's different levels of -- 11 different ways of kind of calibrating or controlling 12 that which, of course, is everything, you know. 13 BY MR. SCHELLER: 14 Q. Right. 15 A. Could impact battery power, or if you're -- 16 particularly back then, where you get charged by the 17 minute or by the data packet, you wouldn't necessarily 18 want to just say, Hey, I'm going to keep my data fresh 19 every two minutes, and wind up with a \$500 data bill at 20 the end of the month. 21 Q. So I guess if they -- strike that. 22 So I guess if the -- if the ODAS was 23 storing cell phone or mobile device locations, I suppose 24 that location data would be old fairly quickly? I mean, 25 obviously, if the cell phone sits there for overnight	Page 73 1 A. Yes. Yes, exactly. It's a toss-up which 2 one is longer. 3 Q. So column 12, lines 4 to 7, last sentence 4 of that paragraph, it says: "In another embodiment, 5 using the authorization and authentication protocols as 6 a user" -- strike that. I'm sorry. Let me start again. 7 "In another embodiment, using the 8 authorization and authentication protocols, a user can 9 request a position of a mobile device, similarly to 10 requesting the position of a landline device." 11 Do you see that? 12 A. Yes. 13 Q. I think I read it correctly. 14 What is your understanding of the language 15 "similarly to" in the context of that sentence? 16 A. One way to look at it, I suppose, if 17 you're -- if you view authorization on authentication -- 18 authorization and authentication as equating to log-on 19 and password submission, then there would be very 20 similar log-on -- there wouldn't be -- the need for a 21 log-on and password wouldn't be any different or much 22 different between landline or mobile. 23 Q. Okay. So without Sheha -- strike that. 24 Sheha does not disclose how a mobile device 25 communicates with the ODAS without a phone call, does

Page 74 1 it? 2 MR. SANDERS: Objection to form. 3 A. Well, there's -- first, there's that, you 4 know, kind of what we call a very unambiguous statement 5 in column 11 and 55 to 58 or 9. But I -- I have to go 6 back into the embodiments to see if that is accurate or 7 not. I mean, it does -- certainly, Sheha is very 8 navigate -- uses a lot of navigation-related embodiments 9 and examples, and navigation stuff doesn't depend on a 10 phone call. 11 BY MR. SCHELLER: 12 Q. Right. 13 A. So I'd argue that just depending on how 14 it's worded, just navigation, you don't need a phone 15 call. 16 Q. So the navigation embodiments you're 17 talking about are -- do those embodiments involve cell 18 phone? 19 A. Is that the end of your question? 20 Q. No, it's not. I'm trying to figure out how 21 to phrase it. Strike that. I'm sorry. I want to make 22 sure I'm clear. 23 Well, let me ask you this: Cell phone -- 24 mobile -- mobile wireless cellular phones at the time, 25 did they have navigation capabilities in them?	Page 76 1 think it's worth -- I'd like for you to tell me where 2 that is. And if you need to take a couple minutes to 3 look at the patent, I'd like to have you do that because 4 I think it's important. 5 MR. SANDERS: Objection to form. 6 A. Repeat. You're wanting me to find an 7 embodiment discussion that doesn't -- that has the 8 obtaining a location without a cell -- without a phone 9 call? 10 BY MR. SCHELLER: 11 Q. Yeah. Let me phrase it better. It was a 12 convoluted question. I apologize. 13 Except for the one instance in column 11, 14 line 55 to 12, line 7, where it actually says, you know, 15 request position information without having to initiate 16 a telephone call, other than that disclosure, I think 17 every other disclosure in Sheha involves or requires a 18 telephone call to do the position request and exchange. 19 And I'd like you to confirm that or prove me wrong. 20 MR. SANDERS: Objection to form. 21 BY MR. SCHELLER: 22 Q. Does that make sense? I think it's -- I'm 23 sorry. Go ahead. 24 A. Yeah, I -- I think so. I mean -- I mean, I 25 do think the fact that it -- just thinking through it.
Page 75 1 MR. SANDERS: Objection to form. 2 A. I can't -- I can't think of any navigation 3 apps in cell phones that existed at that time. However, 4 they did exist for personal navigation devices, like a 5 Magellan; not a phone, but a mobile device. 6 And I am almost certain that in Europe, 7 there was some initial cell phone navigation 8 applications that had been launched because they were 9 earlier than the US in getting GPS into their phones for 10 some reason. 11 BY MR. SCHELLER: 12 Q. Okay. Magellan was like a NavStar or a 13 Garmin kind of thing? 14 A. Yes, correct. Trimble thing. 15 Q. Okay. 16 A. Trimble might be another example. 17 Q. Right. 18 A. And Garmin may be. I don't remember when 19 Garmin came on the scene. 20 Q. And then one more question on this general 21 line of questioning for you is: I have not seen another 22 embodiment in Sheha that involves position, you know, 23 requests without using a phone call, other than the one 24 at column 11, line 55 to column 12, line 7. But it 25 seems like you think there might be another one. So I	Page 77 1 If you -- if the device is doing 2 navigation, it is getting frequent updates to its 3 location and so it's, you know, fresh, if you will, and 4 reasonably accurate. 5 So it's either sitting there in the phone 6 being used for a navigation app location or it's sitting 7 on a server somewhere. Navigation apps could also be 8 very distributed or server-based, at that time in 9 particular, so it's sitting on a server somewhere. So 10 it's available for the -- a fresh location is available 11 outside of the context of a phone call. 12 Now, if you're asking can you show me where 13 ODAS goes and grabs that, either from the phone or from 14 this navigation database, either on a push or a pull 15 basis, I'm not sure that it gets to that level of 16 detail. 17 But in terms of generating a location 18 outside of the context of a phone call, I think that's 19 very obvious. 20 Q. You just referred to push or pull. What do 21 you mean by that? I heard those terms, but forget 22 exactly -- 23 A. So say I'm a phone. I've got GPS. I've 24 updated my location for my navigation app. If I then 25 say, Okay, I know there's other people who want to share

Page 78 1 this. I've got this -- the Sheha system. I'm going to 2 push every other one maybe, or every tenth one, or just 3 within this time period to the ODAS database based on 4 coming out of my navigation application. 5 So, you know, I'm kind of killing two birds 6 with one stone. I use it to update ODAS and use it for 7 navigation. That was actually a lot, a lot of 8 two-birds-with-one-stone kind of thing, since the early 9 days of location, because it consumes so much battery. 10 Q. Right. 11 A. So that would be a push, if you will. 12 Alternatively, the ODAS database could 13 have -- be set up so that, say, every hour or whatever, 14 it goes to either the phone or the navigation database, 15 just give me your latest location, and it does it that 16 way. 17 And it could even do it, like I was talking 18 about before, it could even go to the cell carrier and 19 say, Hey, what is the current cell tower that the phone 20 is connected to, and I'll use that to update my 21 location. 22 Also, any and all of those are done outside 23 and without any sort of phone call having taken place. 24 Q. Okay. And what does Sheha describe, push 25 or pull?	Page 80 1 network-based. 2 The GPS carriers, which were Sprint, 3 Verizon, and Nextel, at that point had decided to go to 4 the GPS route, and they were -- they basically were 5 required to swap out their entire customer base handsets 6 with brand-new phones that had GPS in them. 7 By 2002, they had done that, I'm certain, 8 for at least some of their phones; and, very likely, a 9 great deal of their phones. 10 The original '91 mandate was that they had 11 to have it done by the end of 2001, but they requested 12 waivers because they couldn't get that -- every single 13 phone maker and phone model had to be redesigned to get 14 the GPS chip in them. So, obviously, different 15 companies did it at different speeds and rates of 16 success. 17 BY MR. SCHELLER: 18 Q. Okay. You said Benetton Escape? 19 A. Yeah, Benefon. 20 Q. Benefon. Yeah. 21 A. I think, E-S-C, exclamation. 22 Q. Okay. And that operated on an analog 23 network, you said? 24 A. A European network. I don't remember what 25 carriers or what the state of their -- those carriers
Page 79 1 MR. SANDERS: Objection to form. 2 A. I'd have to go through its -- the whole -- 3 frankly, the whole thing again. I would -- I'm not sure 4 that it does it one way or another or even gets to that 5 level of specificity. Again, it's -- I think it's 6 really presuming, for the most part, that it doesn't 7 have to worry about location information, the location 8 determination piece, but that a -- oh, sorry -- that 9 it's there and has made its way into the ODAS database. 10 Or, alternatively, the ODAS database, I 11 think it's more specific about this, that it can go and 12 request from the phone its location and get it that way. 13 BY MR. SCHELLER: 14 Q. Okay. At the beginning of your previous 15 answer, you said, So say I'm a phone; I've got GPS; I've 16 updated my location. 17 Is the GPS inside the phone or is it 18 separate, at that time, of Sheha? 19 MR. SANDERS: Objection to form. 20 A. The first GPS in a phone was in 1998. That 21 was the Benefon Escape. At the time of 2002, I'm pretty 22 sure that -- well, let me back up slightly. 23 In the '96 telecom act, the carriers had to 24 decide whether they were going GPS or network-based. 25 Half of the carriers went GPS, the other half went	Page 81 1 were. 2 Q. Oh, okay. 3 MR. SCHELLER: We've been going over -- 4 just a little over an hour. This might be a good 5 spot -- 6 THE WITNESS: Okay. 7 MR. SCHELLER: -- to take a break, just so 8 I can -- before we go on to another module. 9 (A break was taken from 12:34 to 12:44.) 10 BY MR. SCHELLER: 11 Q. Okay. Welcome back, Mr. Williams. 12 Let's go to your declaration, and let's go 13 to paragraph 25. 14 A. Okay. 15 Q. All right. This concerns a wherein clause 16 referring to providing a first map. 17 Do you see that? 18 A. Yes. 19 Q. So in that paragraph of your opinion, you 20 state: "Sheha's system can transfer location 21 information from one wireless device to another wireless 22 device in the form of a map." 23 And you cite to Sheha lines 22 to 26 in 24 column 4; correct? 25 A. Correct.

Page 82 1 Q. Let's take a look at Sheha column 4, lines 2 22 to 26. So that particular excerpt says -- I'm going 3 to read it, and tell me if I've read it right: "The act 4 of dialing a telephone number to another remote landline 5 telephone, such as a residential telephone, triggers the 6 transfer of position information, such as in the form of 7 a map, to either one or both of the local and/or remote 8 devices." 9 Do you see that? 10 A. Yes. 11 Q. My question to you is: That excerpt does 12 not contain the word or phrase "wireless device"; 13 correct? 14 MR. SANDERS: Objection to form. 15 A. That's correct. 16 BY MR. SCHELLER: 17 Q. So next sentence, you state: "Sheha 18 discloses that its devices have displays and can provide 19 maps showing the locations of the target wireless device 20 and the requesting wireless device." 21 Do you see that? 22 A. Yes. 23 Q. Okay. And you cite to lines 23 to 26 -- 24 pardon me. 25 You cite lines 23 to 39 of column 9 in	Page 84 1 on line 23, does not say "also in this embodiment" or 2 something to that effect. It says "in one embodiment." 3 So it's a distinct embodiment. 4 Q. Sheha does not explicitly refer to 5 displaying the map of Figure 5, the map shown in 6 Figure 5, on a mobile device; correct? 7 MR. SANDERS: Objection to form. 8 A. Well, my statement on paragraph 26, I 9 think, kind of gets to your question and it gets to the 10 essence of the question: "Sheha specifically discloses 11 that such maps 'can be displayed on the mobile 12 telephone.' 13 While I understand that Figure 5 is in the 14 context of a landline-to-mobile context, it is also 15 applicable in the mobile-to-mobile context. In 16 addition, both the requesting and the target device can 17 display maps showing the locations of 18 both devices." 19 BY MR. SCHELLER: 20 Q. Let's go to lines 52 to 58 in column 4. 21 A. Okay. 22 Q. Those -- that particular sentence, starting 23 with "if the mobile telephone," yes or no, does contain 24 a reference to Figure 5? 25 MR. SANDERS: Objection to form.
Page 83 1 Sheha and Figure 5 of Sheha; correct? 2 A. Labels 33 and 34, yes. 3 Q. Okay. And let's take a look at that 4 description, lines 23 to 39. I'm not going to read that 5 description, but I would submit to you that that is 6 describing what is shown in Figure 5. Would you agree? 7 MR. SANDERS: Objection to form. 8 A. I think that's fair. 9 BY MR. SCHELLER: 10 Q. And that particular embodiment actually 11 refers to -- well, strike that. 12 Sheha, in describing that particular 13 embodiment, refers to displaying Figure 5 on an end-user 14 device, which it uses reference numeral 6, such as a PC 15 23a or a Smart TV. Would you agree with that? 16 MR. SANDERS: Objection to form. 17 BY MR. SCHELLER: 18 Q. And to save time, I'm looking at line 3 of 19 column 9. 20 A. Well, in initial observation, then, if I 21 need to I can -- that referenced PC or Smart TV 22 immediately follows with a paragraph that says "in this 23 embodiment," so that would be -- that one would be 24 referring to that. 25 But the passage we just described, starting	Page 85 1 A. I'm sorry. I missed the lines that we 2 were -- the sentence we were talking about. 50 -- the 3 sentence starting on 52, "if the mobile telephone," or 4 is it something else? 5 BY MR. SCHELLER: 6 Q. Yes. 52 to 58, which you cite to in your 7 declaration, paragraph 26, in column 4, that sentence 8 does not contain the words "Figure 5"? 9 A. That is correct. 10 MR. SANDERS: Objection to form. 11 A. That is correct. 12 BY MR. SCHELLER: 13 Q. Those lines, that sentence refers to a map 14 and the address of a destination telephone number; 15 correct? 16 MR. SANDERS: Objection to form. 17 A. Sorry. I'm reading the whole paragraph, so 18 I may have to ask you to restate the question, or repeat 19 the question. 20 Okay. Can you repeat the question? Sorry. 21 BY MR. SCHELLER: 22 Q. No problem. 23 Lines 52 to 58, column 4, refer to a map 24 and address of a destination telephone number. 25 A. Right.

Page 86 1 Q. You agree? 2 A. It includes a map and address of 3 destination telephone number. 4 Q. And that address is for a landline 5 telephone number; correct? 6 MR. SANDERS: Objection to form. 7 A. And that embodiment is in the context of 8 the destination being the landline telephone address. 9 BY MR. SCHELLER: 10 Q. What kind of mobile telephones existed at 11 the time of Sheha that could display a map and realtime 12 driving directions? 13 MR. SANDERS: Objection to form. 14 A. The -- admittedly, the display capabilities 15 at that time were not like today's, you know, almost 3D 16 capability, giant screens kind of thing. 17 That said, there -- there was the ability 18 to display a map even if it was, in some cases, almost 19 kind of childlike, kind of -- you know, the lines for 20 streets and the circle for -- or a little square for a 21 building and, you know, a circle for your destination 22 and little arrows going on. That was done, and that was 23 certainly capable at that time. It didn't have to be -- 24 was it CGI Hollywood graphics? No. But was it able to 25 display a usable map? Yes.	Page 88 1 described, I am almost certain that had a rudimentary 2 map, but I couldn't show documentation or that kind of 3 thing to prove that. 4 Q. Okay. Let's go to claim 4 and 5 in your 5 declaration, paragraph 34. 6 A. Okay. 7 Q. And this claim relates to -- well, in this 8 paragraph, you talk about navigational information on 9 the bottom of page 20. 10 Do you see that? 11 A. Yes. 12 Q. So there's a discussion of that in Sheha. 13 You cite to 32 to 41. That's a part of the discussion. 14 I'd like to go to Sheha in terms of this 15 navigational functionality and ask you a couple of 16 questions about that excerpt in column 12. 17 So in column 12, line 10, Mr. Williams, 18 says: "A typical mobile navigational device 18d, such 19 as a cellular phone or wireless PDA, does not possess 20 all of the capabilities or is not optimal for 21 navigational purposes." 22 What was -- you know, what capabilities 23 were lacking in the cellular phone at the time of Sheha? 24 MR. SANDERS: Objection to form. 25 BY MR. SCHELLER:
Page 87 1 BY MR. SCHELLER: 2 Q. Can you give me any specific examples that 3 you recall of names of devices sitting here today? 4 A. Well, the -- I can give you names of 5 non-phones, but I'm not sure if you want those. I could 6 do that. 7 Q. No. Just phones. 8 A. I don't know if the Benefon Escape had a 9 map capability or not. But that would be one -- it kind 10 of would be -- it would be one of my candidates. And 11 Nokia was at the kind of forefront at that time. So I 12 can't give you a specific model is where I'm going. 13 But there were certain -- I'd say 14 certainly, I can't give you a model. 15 But certainly a capability of phone 16 displays to display more than alphanumeric text. They 17 could display lines, boxes, circles, arrows, those kinds 18 of things. I'm certain of that. But I couldn't quote 19 you a specific make and model number. 20 Q. Okay. What about realtime driving 21 directions being displayed or superimposed on that map, 22 can you think of any models that -- well, I guess you 23 can't because -- strike that. Strike that. 24 A. Well, I will say in this -- whatever, you 25 know, the AT&T personal knowledge beta example I	Page 89 1 Q. Or is Sheha wrong? 2 A. Well, that's -- I don't think Sheha is 3 wrong. Which ones they specifically had in mind, I'm -- 4 I can't be certain of, of course. At least in -- 5 compared to the -- for example, the personal navigation 6 devices, those were essentially dedicated -- you know, 7 the Trimble, Magellan and maybe Garmins that were 8 existent at that time, they were essentially specialized 9 devices geared towards displaying navigation-related 10 information. 11 So they -- you know, they didn't really 12 have any other purpose, so they put a lot of effort into 13 the screen size and intensity -- sorry for all the noise 14 in the background -- intensity and maybe even color 15 graphics. I'm not -- I don't -- I'm not sure. 16 So, whereas, the -- the phones, 17 particularly the phones at that time, had to -- 18 essentially had a lot of competition, real estate 19 competition. You could certainly add the keyboard 20 itself, which kind of took up half the phone. And then 21 you -- you know, little display, usually smaller than 22 the personal navigation devices. So, you know, that was 23 kind of a limitation. 24 Even the PDAs, though, for example, one of 25 the navigation apps that existed at that time was I

Page 90 1 think called CitySync where it had a wide screen, but it 2 was still kind of black and white. So it -- they hadn't 3 put the money into it yet for those kind of Palm, 4 Palm 7s or what-have-you, into really making it super 5 great. So that would be one example. 6 Essentially, it boiled down to kind of 7 investment in screens and size and sophistication. 8 Q. All right. I'm going to pass another 9 exhibit to you. It's going to be Enzmann. You can -- 10 MR. SANDERS: I'm handing you a paper copy. 11 THE WITNESS: I got a -- I've got a paper 12 copy. 13 MR. SCHELLER: We can mark this as 14 Exhibit 3 of the deposition. I'll put it in the chat 15 just in case you want it. 16 (Exhibit 3 was marked for identification.) 17 BY MR. SCHELLER: 18 Q. So, Mr. Williams, I take it you're familiar 19 with this Enzmann reference; correct? 20 A. Correct. 21 Q. Let's go to paragraph 138 of your 22 declaration. 23 MR. SANDERS: We're still on Appendix 6? 24 MR. SCHELLER: We are. 25 BY MR. SCHELLER:	Page 92 1 the Enzmann tracking system is used to show only friends 2 that are in the same city. And when I say Enzmann 3 tracking system, I'm not referring to the instant 4 messaging service, I'm referring to the Enzmann tracking 5 system as disclosed as the invention. 6 MR. SANDERS: Objection to form. 7 A. Well, the best way to describe that I'd say 8 is Enzmann's own words, which, picking up from -- or 9 actually included in that passage citation: "When a 10 friend's name appears on the user's instant messaging 11 screen, the user may want the option to query for the 12 location of the friend to determine, for example, 13 whether the friend is near enough to have lunch and, if 14 so, select a restaurant that is conveniently located for 15 the friend and the user. Using the present invention to 16 obtain the location information would save the user from 17 having to send a message to the friend asking for the 18 location of the friend." 19 BY MR. SCHELLER: 20 Q. Yep, I can see that. 21 A. So that -- in that particular example -- I 22 know people hate reading from the declaration. In that 23 particular example, Enzmann is -- already has the 24 location or a location about the wireless device stored 25 and is using that to see -- to do the -- you know, is
Page 91 1 Q. Are you there? 2 A. Yes. 3 Q. Mr. Williams, are you there? 4 A. Yes. 5 Q. All right. So this relates to claim 8. 6 It's an opinion from you relating to dependent claim 8. 7 And that claim is "the system of claim 1," and recites: 8 "wherein, said second wireless device is operable of 9 being alerted when said first wireless device is within 10 a distance of said second wireless device." 11 Correct? 12 A. Correct. 13 Q. All right. And you state in the first 14 sentence of paragraph 38: "Enzmann describes that its 15 system could be used in an instant messaging service to 16 show" -- pardon me -- "to only show the user friends, 17 quote, 'who are in the same city as the user,' unquote, 18 closed quote, which provides a notification to the user 19 of those friends who are nearby." 20 Correct? 21 A. Correct. 22 Q. And you cite to Enzmann, lines 15 to 30 in 23 column 9. 24 A. Right. 25 Q. So I'd like for you to explain to me how	Page 93 1 the friend in the same city or distance kind of 2 calculation. 3 Q. Right. So the sentence that you just 4 referred to is not the one I'm most interested in and 5 not the one that's quoted in the first sentence of 6 paragraph 38 of your declaration. I agree that that 7 sentence that you're referring to does, in fact, seem to 8 describe the Enzmann monitoring system or tracking 9 system. 10 The sentence before that, though, says: "A 11 user could have an instant messaging service configured 12 to display only the friends of that user who are in the 13 same city as the user." And that's the part you quote, 14 "or in the same city as the user." 15 So my question to you is: How does the 16 Enzmann tracking system, how is that system used to 17 display only the friends that are in the same city as 18 the user? 19 MR. SANDERS: Objection to form. 20 A. I don't think it gets to that level of 21 specificity. 22 BY MR. SCHELLER: 23 Q. Okay. Based on your knowledge of instant 24 messaging services at the time of Enzmann, 2001 -- 25 actually, 2000, how would an instant messaging service

Page 94 1 have accomplished that, what it says there? 2 MR. SANDERS: Objection to form. 3 A. A couple -- two or three ways off the top 4 of my head. 5 BY MR. SCHELLER: 6 Q. Okay. 7 A. One would be having a -- you know, like AOL 8 Instant Messenger, for example, or AIM, whatever it was 9 called, could have -- or I'm not saying AIM did this. 10 I'm just saying that's an example of Instant Messenger. 11 I don't know for certain how they would do this. 12 But one way would be to -- when you launch 13 the application, if you've got it set up such that you 14 only want to see the people who are in the same city and 15 that's -- you've set that up as a parameter somewhere 16 within your system and/or the Enzmann system, only the 17 users in your city would show up. 18 Or, alternatively, if you've got a, you 19 know, list of friends, they might highlight them in bold 20 or green or orange or something like that to distinguish 21 from people who are not in the same city. 22 Alternatively, they could -- you could, 23 particularly given that you made -- you're likely to 24 have a limited number of people, or maybe you have 25 limited number of people, particularly if you're	Page 96 1 one. 2 MR. SCHELLER: I think I'm finished with 3 the '418, but let's take a break. I want to just take 4 five minutes to look at my notes and then we can go back 5 on the record and then we can move to the '283, or you 6 guys can do -- or we can stop and get, you know -- take 7 a short break and get some food. It's up to you guys, 8 really. We've got seven hours today. So we can divide 9 it up how you want to divide it up. 10 (A break was taken.) 11 BY MR. SCHELLER: 12 Q. So that's going to conclude my examination 13 with respect to IPR 2023-00090. 14 Next I'm going to turn to questions about 15 IPR 2023-00091 relating to the '283 patent. And I'll 16 need you to reference your Exhibit Number 2 or Appendix 17 Number 2, Mr. Williams. And I can pass a copy through 18 the chat, but I think you have a hardcopy there as well. 19 A. Yes. 20 Q. And let me know when you're all set with 21 the materials. 22 A. Okay. Did you send it? Did you send it in 23 the chat already? 24 Q. No, I'm working on it. 25 A. I have the printout.
Page 95 1 traveling, you could get a special -- or showing up in 2 the chat section saying, Hey, you know, Jim's also in 3 Denver, kind of thing. So that's what I can think of 4 off the top of my head. 5 Q. Okay. So it sounds like you are, based on 6 your, you know, expertise, are hypothesizing as to how 7 you might do that, and don't actually know of any 8 concrete examples of that from the time period; is that 9 right? 10 MR. SANDERS: Objection to form. 11 A. I mean, you asked a hypothetical. 12 BY MR. SCHELLER: 13 Q. No. 14 A. But -- well, at least I thought it was 15 hypothetical. I can't cite any -- you know, I don't 16 know if -- 17 Q. This -- 18 A. There was -- there was AIM. I mean, there 19 was Microsoft's version. I forget even who existed at 20 that time, so I can't cite for certain any examples of 21 people actually doing them. 22 Q. Okay. 23 A. I thought you were asking how I would do 24 it. That's how I would do it. 25 Microsoft Messenger, that was the other	Page 97 1 (A discussion was held off the record.) 2 BY MR. SCHELLER: 3 Q. All right. We're talking about Sheha 4 again, particularly claim 1 of the '283 patent. Let's 5 turn to paragraph 24 of Exhibit 2 or Appendix 2 of your 6 declaration, and this is referring to -- this paragraph 7 a referring to claim limitation 1d as fashioned in your 8 declaration, and that concerns the claim limitation that 9 recites: "Determining whether to allow access of 10 location information for said one of said plurality of 11 wireless telephonic devices associated to said selected 12 one of said plurality of users." 13 Correct? 14 A. Correct. 15 Q. Now, in paragraph 30 -- pardon me, in 16 paragraph 24, you state in the first sentence: "Sheha 17 describes a system where one user can request the 18 location of another user's wireless device so long as 19 the requesting user has permission to receive the 20 location." 21 Do you see that? 22 A. Yes. 23 Q. Now, I submit to you that that's actually 24 not accurate, is it? 25 MR. SANDERS: Objection, form.

Page 98 1 BY MR. SCHELLER: 2 Q. And the reason I say that is because Sheha 3 doesn't disclose that a user -- well, strike that. 4 The reason I say that is Sheha disclosed 5 that a user can always make a request, he or she just 6 might not receive position information in response; 7 right? 8 MR. SANDERS: Objection to form. 9 A. I agree that it could be -- could have been 10 worded better. 11 BY MR. SCHELLER: 12 Q. Okay. So it's not conditioned -- that "so 13 long as" is not accurate; correct? 14 MR. SANDERS: Objection to form. 15 A. Yeah. It's -- it could be worded better. 16 BY MR. SCHELLER: 17 Q. Okay. So, yeah, there's no restriction on 18 a user's ability to request position information; 19 correct? 20 A. I think that's fair. 21 Q. Right. Okay. The second sentence in that 22 paragraph says: "In particular, the ODAS determines 23 whether a user has permission to access the location of 24 another user." 25 Do you see that?	Page 100 1 BY MR. SCHELLER: 2 Q. So the group database, are you going back 3 to column 11, lines 55 to 12 -- to column 12:1? 4 A. I'm not sure if I'm exactly going back 5 there. But the idea that you can -- the ODAS can 6 operate in a couple different ways. It can ask the 7 device for -- for permissions or it can already have the 8 permissions on the ODAS and respond to requests that 9 way. 10 Q. Okay. All right. So this is important, 11 because I don't think Sheha discloses what you just 12 alleged it does. I don't think Sheha associates the 13 ODAS and the group database anywhere in the Sheha 14 document. If you want to point me to where it does 15 that, you can certainly do that. 16 But the reference to a group database is in 17 column 11, lines 58 to 67; that refers to group 18 database, no reference to an ODAS. 19 MR. SANDERS: Objection. Is there a 20 question? 21 BY MR. SCHELLER: 22 Q. Let's go to that column 58 in Sheha -- I'm 23 sorry -- column 11, lines 58 to 67. 24 Sorry. Your camera is off, Mr. Williams. 25 A. I'm not sure why that does that.
Page 99 1 A. Yes. 2 Q. Now, in actuality, the ODAS does not make 3 any determination as to permissions -- 4 MR. SANDERS: Objection. 5 BY MR. SCHELLER: 6 Q. -- at the request the user has; right? 7 MR. SANDERS: Objection to form. 8 A. It's -- it's a little bit semantics. 9 The -- the -- ultimately, it's -- well, let me rephrase. 10 The ODAS -- ODAS is the gatekeeper. So 11 it's doing the evaluation of the different parameters in 12 various forms as to whether location can be sent to the 13 requester or not. And so in that context, it is a 14 determiner. 15 BY MR. SCHELLER: 16 Q. I would submit to you that there's no 17 evaluation. The ODAS doesn't -- well, doesn't the ODAS 18 just pass along a position request and then either get 19 position information back or get no information back and 20 let the requester know that? 21 MR. SANDERS: Objection to form. 22 A. The ODAS can also have locations stored on 23 the ODAS and have through, for example, the group 24 database, do a determination if the requester is on that 25 group list or not; and if so, send the location.	Page 101 1 It may be better that the actual citation I 2 have relative to the group database is in the third 3 sentence: "Permissions can be established by mobile 4 devices' privacy settings or a group database can be 5 used in conjunction with authentication and 6 authorization protocols to determine whether a user is 7 authorized to receive a location for the target device." 8 And then it has that citation, as well as a bunch of 9 other ones. 10 Q. Right. So that citation does not contain 11 the word ODAS, I would submit to you; do you agree? 12 MR. SANDERS: Objection to form. 13 A. Are you talking, narrowly, the column 4 14 one? 15 BY MR. SCHELLER: 16 Q. No. I'm talking about on 55 to 12:7. 17 A. It doesn't have the term ODAS in that 18 paragraph. 19 Q. Okay. So when you previously said -- I'm 20 going up a couple answers ago, you said, "The ODAS can 21 also have locations stored on the ODAS and have through, 22 for example, the group database, do a determination if 23 the requester is on that group list or not." 24 What I'm saying to you is that there is no 25 disclosure in Sheha associating the ODAS with the group

Page 102 1 database pursuant to your answer. 2 My question to you is: Point me to where 3 there is. 4 MR. SANDERS: Objection to form. 5 BY MR. SCHELLER: 6 Q. If it's helpful, your citation, you could 7 look there first, 10:66 to 11:9 in your declaration. 8 That's your citation. 9 A. I was looking at the other ones. But, 10 yeah, that's a good one. 11 Q. Are you still looking? 12 A. I'm doing a search, but, yes, I'm still 13 looking. 14 Q. So while you're looking, maybe I can 15 streamline this. That second sentence that we're 16 referring to in your declaration, "The ODAS determines 17 whether a user has permission to access the location of 18 another user." I'm wondering where Sheha supports that. 19 Is it in your citation? 20 A. Well, in that passage, it is referring to 21 the device's privacy settings. But it's also saying 22 that the location is stored at the ODAS. So in my 23 opinion, that means that if that's where the location -- 24 if the locations are stored in the ODAS, then to provide 25 that location, that will be done by the ODAS, and that	Page 104 1 Sheha? You just described the role that I thought the 2 mobile -- the target device with the privacy settings 3 did. 4 A. The privacy settings can be -- are 5 controlled by the user. And they can be obtained from 6 the user, or I believe they can be stored on the ODAS 7 itself. 8 Q. Now -- 9 A. That might not -- that might not be 10 accurate. 11 Q. What -- okay. 12 A. I'm trying to remember if there's a passage 13 in Sheha that says the privacy settings can be stored on 14 the ODAS, as well as on the actual device. I thought I 15 saw that. 16 Q. Well, your declaration says, bottom of 17 page 18: "Permissions can be established by the mobile 18 devices' privacy settings or a group database can be 19 used" -- 20 A. Right. 21 Q. -- "to determine whether a user is 22 authorized to receive a location of the target device." 23 So the privacy settings or the protocols 24 with the group database determine, according to you, 25 whether a user is authorized to receive the location of
Page 103 1 will be contingent upon the ODAS making a determination 2 that it is permitted. 3 Now, even if the source of the -- in this 4 case, the privacy permissions or the mobile device, it's 5 still the ODAS doing that final gatekeeper role of 6 saying, Yes, we can send that location that is stored on 7 my database or no. 8 Q. You're referring to, in that excerpt, 9 line 5: "The position information of each device can be 10 updated in the ODAS prior to establishing the telephone 11 call." 12 I don't see what you just said. 13 A. Yes. "The position information of each 14 device can be updated in the ODAS." 15 So at that point, for this type of 16 embodiment, the ODAS is the -- you know, I know your 17 location and I know Carl's location. Carl has conveyed 18 to me whether or not -- or under what conditions he 19 wants me to share his information, or I go and ask Carl 20 about that. 21 But, ultimately, I am the one to say, Okay, 22 yes, you can have Carl's information. Here you go. So 23 I'm doing that final determination based on a variety of 24 factors. 25 Q. Isn't the -- well, where do you see that in	Page 105 1 a target device; correct? 2 A. Correct. 3 Q. So not the ODAS; correct? 4 MR. SANDERS: Objection to form. 5 A. Well, the ODAS is the system providing the 6 determination capabilities, based on those various 7 components, if you will. 8 BY MR. SCHELLER: 9 Q. So the ODAS goes to a mobile device, target 10 mobile device and says, I got a request for position 11 information from, you know, Requester X. And the target 12 device responds. They're, you know, that -- I mean, we 13 can look at -- well, I don't see where the ODAS in Sheha 14 is described as making any determination as to whether 15 or not that target device sends position information to 16 the requester, do you? 17 MR. SANDERS: Objection to form. 18 A. So another way to look at it is while Sheha 19 actually does mention that the -- there is the ability 20 to do peer-to-peer location sharing, the vast majority 21 of it is prefaced on the introduction of an intermediary 22 to do the -- to ultimately serve as the gateway between 23 one's location and providing it to somebody else. That 24 is the form of the ODAS. That is the function of the 25 ODAS.

Page 106	Page 108
1 So essentially all location flows through 2 -- from one device through the ODAS through another and 3 it's a contingent flow-through based on the permissions, 4 which were based on either the privacy settings or the 5 group database settings. 6 And as far as the claim is concerned, it is 7 the ODAS doing that determination -- that permission 8 assessment before it releases the location information. 9 BY MR. SCHELLER: 10 Q. So under your theory, a target device could 11 send position information to the ODAS requested by the 12 requester and the ODAS could decide, No, you know what? 13 I'm not going to send this to the requester. I'm going 14 to hold on to it. 15 MR. SANDERS: Objection to form. 16 A. It's not making an independent 17 determination of that. It's going to be based on the 18 privacy or group permissions information that presumably 19 was -- is controllable by the target user. 20 But it still is used by the ODAS to make 21 the final determination of saying, Yes, I'm going to 22 send it, or, No, I'm not, based on what you -- what you 23 have told me you will or are willing to not do [sic]. I 24 am the -- I am the middleman. 25 So, again, it's -- if -- putting aside the	1 this is about is not that. It's insulating, buffering 2 you from Carl, and me as being the gatekeeper and, you 3 know, essentially taking that load off of Carl and only 4 -- and interacting with him to understand his 5 permissions. But, in general, I'm taking -- I'm 6 providing the information based on what Carl wants. 7 BY MR. SCHELLER: 8 Q. Okay. Let's go to column 5, line 25. This 9 is an excerpt that you've cited to a lot, including in 10 this paragraph. Column 25 talks about: "The remote 11 user that is logged on to a wireless or landline 12 position-enabled computing device is verified by the 13 network server's authentication and authorization 14 protocol procedures. 15 "The server queries the remote party of the 16 position request for permission on whether the position 17 request can be granted based on criteria such as 18 duration of request. If granted, both parties have 19 access to each other's position information." 20 Okay? 21 A. Uh-huh. 22 Q. So in that excerpt, it's pretty clear that 23 the remote party is making the determination, not the 24 server. You would agree with me? 25 MR. SANDERS: Objection to form.
Page 107	Page 109
1 peer-to-peer option, if you're wanting Carl's location 2 information, Carl has given -- made known to me his -- 3 all his preferences in terms of sharing, I know that, 4 through a variety of mechanisms and having received your 5 request, I say, Okay, Carl says it's okay. I'm the one 6 making that final determination of Carl said it was 7 okay, and providing you that location information. 8 Everything passes through me. 9 BY MR. SCHELLER: 10 Q. Okay. Interesting. 11 So a request comes in to the ODAS for 12 information, or for -- yeah, for location. ODAS goes to 13 the target device and says, Is it okay if I send this? 14 MR. SANDERS: Objection to form. 15 BY MR. SCHELLER: 16 Q. The target device says yes, and ODAS sends 17 it. 18 MR. SANDERS: Objection to form. 19 A. That's one embodiment. 20 And the alternative is the peer-to-peer 21 option, which Sheha doesn't get into. But that 22 basically would negate the need for me. You're just 23 going directly to Carl saying, Hey, can I have your 24 information? 25 But that's -- the vast majority of what	1 A. It says: "The server queries the remote 2 party for the position request for permission on whether 3 the position request can be granted based on criteria." 4 So, again, it's the -- while the remote 5 party is the one saying yes or no, share permission, 6 that, by itself, is not enough to get the location to 7 the requester. 8 The server, the ODAS -- the Sheha system 9 has to say, Okay, I've received this, yes. So I'm going 10 to go and either take this location information that's 11 stored or the location information that was sent back 12 and I'm going to pass that on to the requesting party. 13 So it's me, as an indispensable node in 14 that process, is making the final determination of 15 saying, Okay, I've got this location information. I'm 16 going to give it to you based on this information -- 17 based on the permissions I've been told about. 18 BY MR. SCHELLER: 19 Q. Let's go to paragraph 26 of your 20 declaration. 21 A. Okay. 22 Q. Second sentence, you say: "After the user 23 is logged in, the system then can determine whether the 24 person they are attempting to locate has granted access 25 to their location information."

Page 110 1 Do you see that? 2 A. Yes. 3 Q. And you don't have a citation after that 4 sentence; correct? 5 A. A big one, yeah. 6 Q. Okay. When you're referring to the system, 7 what are you referring to? The ODAS? 8 Do you need clarification on that question? 9 A. No, I don't. I want to be precise. I 10 just -- 11 Q. You don't remember? 12 A. ODAS, I'm just -- I think that's -- I think 13 that's accurate. 14 Q. What, that it's the ODAS? 15 A. Yes. 16 Q. Okay. 17 A. Well, it's -- it's -- it might be broader 18 than that, because it's -- it can involve the, you know, 19 the trying to find out the permissions and they're going 20 to the devices to ask for, you know, do they want to 21 request the access or provide that -- the access that 22 involves the ODAS device interaction. So I don't want 23 to draw the box too tightly, if you will. 24 Q. You're not exactly sure; is that correct? 25 MR. SANDERS: Objection, form.	Page 112 1 claim 1d to determine that the user is authorized to 2 access the system and has permission to access the 3 requested location information." 4 Do you see that? 5 A. Yes. 6 Q. How does Sheha describe the authentication 7 and authorization protocols being used to determine that 8 a user has permission to access specific requested 9 location information of the target device? I assume -- 10 well, you cite to certain portions of Sheha; that's 11 correct? 12 A. Yes. 13 Q. Let's go to column 8, lines 40 to 53. Does 14 this excerpt refer to permission to access requested 15 location information? 16 MR. SANDERS: Objection to form. 17 A. That is a prerequisite. So if you're -- if 18 you haven't -- if you can't get even past the log-on and 19 password step, then you're not going to be able to go 20 any further from that. So that's a first layer of 21 defense, if you will. 22 BY MR. SCHELLER: 23 Q. So the answer -- yes or no, does this 24 excerpt refer to, quote/unquote, "permission to access 25 the requested location information"?
Page 111 1 A. The ODAS is involved, but in the 2 determination -- it can determine the person they're 3 attempting to locate has granted access to their 4 location information. That, as we've just talked about 5 in the last one, that can involve, in certain 6 embodiments, going to the device to ask about whether or 7 not they can -- they want to provide access to the 8 person or not. And -- but, again, ultimately, the ODAS 9 is the one that makes the final determination. 10 BY MR. SCHELLER: 11 Q. Let me ask you a question: The ODAS 12 actually has to actually submit a position request to 13 learn whether the target device has granted access; 14 right? 15 MR. SANDERS: Objection, form. 16 A. It has to receive a position request to 17 then go and see if the permissions have either been 18 already given or need to go ask for them. That would be 19 more precise. 20 BY MR. SCHELLER: 21 Q. Whether a user is able to receive position 22 information -- well, strike that. 23 So last sentence of paragraph 26: "The 24 Sheha system can use the authentication and 25 authorization protocols discussed with respect to	Page 113 1 MR. SANDERS: Objection to form. 2 A. It does not use those words. 3 BY MR. SCHELLER: 4 Q. Okay. Let's go to lines 1 to 7, column 12. 5 Does that excerpt refer to your statement "permission to 6 access the requested location information"? 7 MR. SANDERS: Objection to 12 -- I'm sorry. 8 Objection to form. 9 A. Well, it does say line 4, column 12: "In 10 another embodiment, using the authorization and 11 authentication protocols, a user can request the 12 position of a mobile device, similar to requesting a 13 position of a landline." 14 It doesn't use the word permissions. 15 BY MR. SCHELLER: 16 Q. Is requesting a position and permission to 17 access location information the same thing to you? 18 MR. SANDERS: Objection to form. 19 A. No. They're related, but they're distinct. 20 MR. SCHELLER: Okay. What time did we go 21 back on the record? I apologize. 22 MR. SANDERS: About 1:24 is what I see, but 23 I don't know if that's right or not. 24 THE WITNESS: 45 minutes ago? That was a 25 fast 45 minutes.

Page 114 1 (A discussion was held off the record.) 2 MR. SCHELLER: All right. Yeah, let's take 3 a quick five-minute break. 4 (A break was taken.) 5 BY MR. SCHELLER: 6 Q. Let's go to paragraph 29 of your 7 declaration. 8 MR. SANDERS: Is this Appendix 2 still? 9 MR. SCHELLER: Yes. 10 MR. SANDERS: Okay. 11 BY MR. SCHELLER: 12 Q. And this relates to assigning location 13 access rights limitation of claim 1. In that first 14 sentence, you say: "Sheha allows user to establish 15 which other users and devices may access their location 16 information." 17 Correct? 18 A. Correct. 19 Q. This is not on an individual basis; 20 correct? 21 MR. SANDERS: Objection to form. 22 A. If I understand your question, I think 23 that's accurate. The privacy settings, as well as the 24 group database settings, are not individual by 25 individual. Though as I mentioned, the group	Page 116 1 BY MR. SCHELLER: 2 Q. Okay. And those privacy settings indicate 3 under what conditions a target device with those privacy 4 settings will send out its own position information; 5 right? 6 MR. SANDERS: Objection to form. 7 A. I think that's accurate. 8 BY MR. SCHELLER: 9 Q. Next sentence: "Sheha describes" -- 10 actually, I'm sorry. I'm in paragraph 30 now, 11 Mr. Williams. 12 "Sheha describes that in the case of one 13 device calling another -- of one device calling another 14 device, the called device can request location 15 permission of the calling device." 16 Do you see that? 17 A. "The called device can request location 18 permission of the calling device," yes. 19 Q. What is the difference between location -- 20 actually, strike that. 21 I want to read the whole -- let's read the 22 whole sentence, actually. There's a reference to 23 location permission and location. I just want to know 24 what the difference is between those two terms that you 25 used.
Page 115 1 permutation, in my view, can have a group of one, which 2 would be equivalent to that. But, in general, what you 3 said is accurate. 4 BY MR. SCHELLER: 5 Q. Next sentence says: "Sheha" -- or 6 "Sheha" -- I'm skipping ahead, actually. Do you see 7 where I'm starting: "Sheha is agnostic" -- 8 A. Yeah. 9 Q. -- "as to whether it is a requesting device 10 or a target device that it can establish permission 11 rights - any device that can provide its location to the 12 ODAS can establish location access rights." 13 Do you see that? 14 A. Yes. 15 Q. When you refer to established permission 16 rights, are you referring to implementing privacy 17 settings? Is that what you mean by that? 18 MR. SANDERS: Objection. 19 A. That's one of the ways. 20 BY MR. SCHELLER: 21 Q. Okay. And the permission rights are stored 22 on the mobile device; is that right? 23 MR. SANDERS: Objection to form. 24 A. Privacy settings generally are stored on 25 the devices.	Page 117 1 A. Paragraph 30? Where are you at? 2 Q. Yeah. First sentence in paragraph 30. 3 A. Okay. Is there a question there? 4 Q. Yeah. The question is: What is the 5 difference between the term you used, location 6 permission, and the term you used, location? 7 A. Well, the location -- the permission has to 8 do with the -- you've called me. I'm asking if I could 9 get your location via the Sheha system, and you check 10 for permissions. And if that's allowed, then I can be 11 -- you -- I can be provided with the location. So it's 12 a sequence. 13 MR. SCHELLER: Let's go off the record. 14 (A break was taken.) 15 MR. SCHELLER: We are moving on to 16 IPR 2023-0096 [sic] regarding the '039 patent. And 17 we'll need a new exhibit. This is going to be 18 Exhibit 4, the Williams declaration. I'll pass it 19 through so you have it. 20 (Exhibit 4 was marked for identification.) 21 MR. SANDERS: I gave him a hardcopy of 22 Appendix 4. 23 BY MR. SCHELLER: 24 Q. Let's go back to paragraph 17 of your 25 declaration, which is in Appendix 4 of your declaration.

Page 118 1 A. Okay. 2 Q. All right. So paragraph 17 relates to 3 claim limitation c as labeled in your declaration, and 4 recites location-based event limitation. 5 Do you see that? 6 A. Yeah. 7 Q. And in your declaration in paragraph 17, 8 you allege that the instant messaging embodiment at the 9 end of the Enzmann disclosure in column 9 discloses a 10 location-based event notification; is that correct? 11 A. That's fair. 12 Q. Is it your opinion that that particular 13 embodiment in Enzmann discloses three different types of 14 location-based events? 15 MR. SANDERS: Objection to form. 16 A. I would say it describes the nature of 17 events as the patent uses it. It -- Enzmann is not -- 18 doesn't have a lot of detail on that, on the particular 19 variations of a friend, detection of a friend. So -- 20 but it does describe the concept of an event, and so 21 that's the reason they use Degnbol to get specifically 22 to different types of events, particularly as two types 23 are articulated patents themselves -- the patent itself. 24 BY MR. SCHELLER: 25 Q. So in terms of the answer to my question,	Page 120 1 to provide that level of detail. 2 BY MR. SCHELLER: 3 Q. Ah, so the answer to my question is you 4 don't know; is that correct? 5 MR. SANDERS: Objection, form. 6 A. It's a question of detail and granularity. 7 So the claims describe three -- they discuss three types 8 of events. They're only specific about two: 9 Region-based and distance-based. Enzmann doesn't get to 10 that level of specificity. It talks about detection of 11 a friend. 12 In my opinion, the detection of a friend 13 could be done in a variety of ways, including those two 14 ways, but it doesn't say that specifically. I don't 15 know how else to answer that. 16 BY MR. SCHELLER: 17 Q. Do you know whether Enzmann, that 18 embodiment discloses a region-based type of event -- 19 MR. SANDERS: Objection to form. 20 BY MR. SCHELLER: 21 Q. -- that is cited in the claim? 22 MR. SANDERS: Same objection. 23 A. Enzmann discloses detection of a user 24 that -- or a friend in the same city. Depending on how 25 you look at it, a city could be in the same region, or
Page 119 1 it wasn't clear to me: What was your answer? I can 2 read the question again if you'd like. 3 A. To me, the Enzmann discloses the detection 4 of a friend based on location as the location-based 5 event. The patent is more specific in terms of, okay, 6 beyond it being location-based, is there -- the next 7 paragraph in particular -- in particular, the next claim 8 talks about a region-based or distance-based. 9 I -- in my opinion, a detection of a friend 10 could be either of those. But Enzmann is not that 11 specific in terms of that level of granularity. Thus, 12 that is that the reason I used -- included Degnbol as -- 13 in the obviousness argument. 14 Q. So am I understanding your testimony 15 correctly that you think Enzmann, in that embodiment, 16 discloses one type of location-based event? 17 MR. SANDERS: Objection to form. 18 A. I would characterize it as a category of 19 event, detecting of a friend. But as the claims have 20 described, they get more specific in terms of region or 21 distance. And so in an Enzmann location-of-friend 22 context, that would be detection of a friend if it's in 23 the region or within a certain distance. 24 Enzmann doesn't provide that level of 25 detail, however; thus the reason of bringing in Degnbol	Page 121 1 it could be a matter of -- it could even qualify as a 2 matter of distance; if the city is, say, no more than 3 20 feet -- or 20 feet -- 20 miles across and you're 4 wanting a distance within 30 miles, then that would 5 qualify. 6 So, again, I'm not presenting Enzmann alone 7 as meeting this claim. I'm bringing in Degnbol to get 8 to the specifics of the event, as is described in the 9 claims. But Enzmann certainly describes location-based 10 events, including one which I think would readily be 11 recognized as a -- some sort of region, and possibly 12 other type of event. 13 BY MR. SCHELLER: 14 Q. Okay. Very good. Thank you. 15 A. But I should qualify: Particularly, in my 16 view, the level of detail from Enzmann alone, in terms 17 of discussing an event, particularly with respect to 18 detecting when a friend is nearby, in the eyes of a 19 POSITA, Enzmann alone would meet the needs of this 20 claim. I should qualify, I'm not sure that's what -- 21 how it came out. 22 Q. Okay. We'll move on. 23 Let's talk about the Degnbol reference. I 24 just put it in the chat. 25 MR. SANDERS: I just handed him a copy of

Page 122 1 the Degnbol reference, a paper copy. 2 BY MR. SCHELLER: 3 Q. And, Mr. Williams, it sounds like you're 4 familiar with this reference; is that right? 5 A. Yes. 6 Q. Were you familiar with this reference 7 before you were engaged in this case? 8 A. I'm not sure, frankly. 9 MR. SCHELLER: In terms of exhibit numbers, 10 Celena, I haven't been keeping track actually. I just 11 realized that. I'm not sure what number this is. 6 12 maybe? Are you keeping track on your end? 13 (A discussion was held off the record.) 14 (Exhibit 6 was marked for identification.) 15 BY MR. SCHELLER: 16 Q. And Enzmann -- Degnbol is entitled "A 17 Method and a System for Transmitting Data Between 18 Units." 19 Do you see that? 20 A. Yes. 21 Q. Okay. And on the cover page in the 22 "Abstract," it says in the middle: "Even more 23 particular, the present invention relates to a method 24 and a system for automatic notification of a user A of 25 the entry of preselected user B into the predetermined	Page 124 1 On line 1, it says: "The above-mentioned 2 object is complied with by providing, in a first aspect, 3 the method for transmitting data to a unit in a set of 4 communication units, the data relating to distance 5 between a first and a second unit in the set." 6 Do you see that? 7 A. Yes. 8 Q. Okay. And then Degnbol says that: "The 9 method comprising the steps of determining a distance 10 between the first and the second unit, generating a 11 message when the distance between the first and second 12 unit is within a predetermined range, and transmitting 13 the generated message to a unit in the set." 14 Did I read that correctly? 15 A. Yes. 16 Q. All right. Moving on, next line, it says: 17 "The method further comprising the steps of determining 18 the position of one or more units in the set, storing 19 the determined positions together with corresponding 20 unit identifications in the database; and wherein the 21 step of determining a distance comprises determining the 22 distance from the corresponding stored positions." 23 Did I read that correctly? 24 A. Yes. 25 Q. Okay. So at the top of page 6, line 1,
Page 123 1 area or proximity to a particular location." 2 Okay? 3 A. Okay. 4 Q. And let's see. "Summary of the Invention" 5 on page 3 says that: "It is an object of the present 6 invention to solve the above-mentioned problem by 7 providing a method and the system wherein, e.g., a 8 user A is automatically notified of the entry of 9 preselected user B into a predetermined area, 10 parentheses, (or proximity to a particular location), 11 closed parens." 12 Do you see that? 13 A. On page 3, what line was that? 14 Q. That was at the top, line -- 15 A. Oh, yeah. Yes, I see that. 16 Q. -- 3 and 4? 17 A. Yeah. 18 Q. All right. And then at the top of page 4, 19 there's a first aspect of the invention. Would you 20 agree with that? 21 A. Page 4 on our page or their page numbering 22 system? 23 Q. Page 4 on Degnbol's page numbers. 24 A. Okay. So repeat the question. Sorry. 25 Q. No problem.	Page 125 1 Mr. Williams, is another reference to predetermined 2 range. It says: "The predetermined range may be 3 selected by the user associated with a unit." 4 Do you see that? 5 A. Yes. 6 Q. And that predetermined range is a 7 predetermined range of distance between the two users, 8 as recited in the method; correct? 9 A. I think that's correct. 10 Q. I'm sorry. Not users. I said users. I 11 meant units, the first and the second unit; correct? 12 MR. SANDERS: Objection to form. Where are 13 you looking? Are you quoting or are you reading a -- 14 I'm sorry. 15 BY MR. SCHELLER: 16 Q. So on page 4 -- 17 MR. SANDERS: Yep. 18 BY MR. SCHELLER: 19 Q. -- "generating a message" -- this is line 8 20 and 9: "Generating a message when the distance between 21 the first and the second unit is within a predetermined 22 range." 23 A. Right. 24 Q. All right. And then Degnbol refers to that 25 predetermined range again at the top of page 6. It

Page 126 1 says: "The predetermined range may be selected by a 2 user associated with a unit." 3 Do you see that? 4 A. Yes. 5 MR. SANDERS: Objection to form. 6 A. Yes. 7 BY MR. SCHELLER: 8 Q. So that predetermined range, right, relates 9 to the distance between the first and second unit? 10 MR. SANDERS: Objection to form. 11 A. For that selection of excerpts, I think 12 that's accurate. 13 BY MR. SCHELLER: 14 Q. And then on that same page, down at 15 line 23, there's a second aspect. And the second aspect 16 says: "In a second aspect, the present invention 17 relates to a system." 18 So the system that is recited then on the 19 rest of that page, rolling onto the top of 7, reflects, 20 in large part, the method that was recited on page 4; is 21 that correct? 22 MR. SANDERS: Objection, form. 23 A. I think that's fair. 24 BY MR. SCHELLER: 25 Q. Turn to page 10.	Page 128 1 the methods. Let me rephrase my question to you. 2 So that example, this first example we're 3 looking at is just describing the location of A being 4 determined; correct? 5 MR. SANDERS: Objection to form. 6 A. Certainly, in terms of him knowing -- or 7 his device essentially knowing if he's in the 8 geographical area covering his home or not, that's 9 certainly doing a location determination of that person. 10 BY MR. SCHELLER: 11 Q. Okay. 12 A. Whether B also has a location determination 13 is unclear. It may be that B is being alerted when he's 14 not in the home area, and so that ceases when he enters 15 that area. So you still need to detect it, or other 16 units may be -- continue to be alerted when they're in 17 the area. So I'm trying to be accurate. 18 Q. Right. But in that particular example, 19 like you said, doesn't really provide any detail of 20 what's going on with respect to B? 21 A. Correct. 22 Q. Okay. So at line 25, we have another 23 example. This says: "In another example, user A will 24 not be alerted in the situation where user B 25 repetitively moves in and out of a predetermined range."
Page 127 1 A. Okay. 2 Q. All right. On page 10, line 22, there's a 3 bunch -- starting on line 22, Mr. Williams, there's 4 several examples that Degnbol gives. The first one 5 starts on line 22 and says: "As an example, user A 6 chooses not to be alerted when he is in the geographical 7 area covering his home, even though another user - B - 8 enters that area." 9 Do you see that? 10 A. Yes. 11 Q. Okay. So this is not -- well, this is just 12 a GPS determining the location. This is describing a 13 GPS determining the location of user A; right? 14 MR. SANDERS: Objection, form. 15 A. I don't know if that's accurate or not. 16 I'd have to go back to -- through the patent. And for 17 starters, the first page describes different ways of -- 18 of location determination, including effectively cell 19 ID, as well as time difference of arrival, signal 20 strength, which is what is referred to as power/signal 21 attenuation, angle of arrival, radio signal mapping, 22 GPS, or combinations to it. It has all sorts of 23 different possible methods. 24 BY MR. SCHELLER: 25 Q. That's fine. I actually don't care about	Page 129 1 Correct? 2 A. Right. 3 Q. All right. So this particular example 4 seems to be practicing what Degnbol describes as its 5 invention; namely, determining whether B is in or 6 outside of a predetermined area or proximity to a 7 particular location; right? 8 MR. SANDERS: Objection to form. 9 A. That is describing an embodiment. There 10 are others. Even the very next paragraph has it about 11 it being time-based, as opposed to user B. So it's not 12 constrained to just A versus B and predetermined range. 13 There are other aspects. 14 BY MR. SCHELLER: 15 Q. Right. Okay. So in that -- yeah. So 16 let's talk about that one, actually. 17 So that next example, Mr. Williams: "In 18 yet another example, user A can configure the system so 19 that he does not receive any alerts between 10 p.m. and 20 8 a.m., avoiding nightly interruptions." 21 Do you see that? 22 A. Yes. 23 Q. All right. So this particular example does 24 not relate to this concept in Degnbol of notifying A 25 when B is in a predetermined area or proximity to a

Page 130 1 particular location; correct? 2 A. I'd say this one is time-centric as -- 3 Q. Right. This kind of relates to -- it's 4 kind of a variation on when the user chooses to receive 5 a notification. 6 A. Correct. 7 Q. All right. This next example, line 31: 8 "In yet another example, user A configures the system so 9 that he only receives alerts when he is not within a 10 specific geographical area or within a predetermined 11 distance from user B." 12 Correct? 13 A. Correct. 14 Q. All right. So this seems to disclose two 15 different scenarios, the first one being that user A 16 only receives alerts when he is not within a specific 17 geographical area; correct? 18 A. Correct. 19 Q. All right. So that one seems to be based, 20 similar to the first example, on the unilateral location 21 of where A happens to be. Would you agree with that? 22 A. It would include that, certainly. I would 23 have to read the rest of it to see if that's all of it. 24 Q. The rest of what? 25 A. The patent.	Page 132 1 the -- your own specific geographical area. 2 It's just worded strangely if you -- 3 because, otherwise, if it was just talking about A not 4 receiving alerts within a predetermined distance of 5 user B, he's already said that. We already talked about 6 that before. 7 Q. All right. Let's go to page 11. So line 5 8 says: "A distance preference controls the sensitivity 9 of the location alerter." 10 Do you see that? 11 A. Yes. 12 Q. So that's consistent with Degnbol -- with 13 the invention of Degnbol being based on predetermined 14 distance ranges; right? 15 MR. SANDERS: Objection, form. 16 A. I'd say the other way around, predetermined 17 distance is consistent with controlling the sensitivity 18 of the location alerter, which would cover potentially a 19 whole variety of other events. 20 BY MR. SCHELLER: 21 Q. And that sentence doesn't really make 22 sense, does it, under your understanding or your 23 flip-around? 24 A. Oh, wait. You're right. Sorry. I was 25 reading that.
Page 131 1 Q. Oh, do you think the patent is going to 2 talk about this example somewhere else? 3 A. I don't know. It's been a long time since 4 I looked at the full scope of this patent. 5 Q. Okay. And then it says the other scenario 6 is "A configures the system so that he only receives 7 alerts when he is within a predetermined distance from 8 user B." 9 Correct? 10 A. Yeah. That's worded funny, because he's 11 already stated -- it's already been clearly stated that 12 there's a -- you know, that A and B determine the area 13 piece and not -- as well as the not alerting. So I'm 14 trying to figure out if that's somehow -- is the area -- 15 Q. So is it -- 16 A. But that's -- those are the words that are 17 stated there, yes. 18 Q. All right. So that one, in particular, 19 deals with predetermined distance; correct? 20 A. Yeah. It's almost -- and the way I think I 21 would read this one is it's a two-prong test that you're 22 not alerted if you're not within a specific area or 23 you're -- or you're within that predetermined distance 24 from user B. So as opposed to it -- so you almost have 25 to -- a prerequisite almost is that you're not within	Page 133 1 "Distance preference controls the 2 sensitivity of the location alerter." So if it was like 3 five miles versus ten miles, that would be a different 4 location sensitivity. Okay. 5 Q. So let's go to paragraph 19 of your 6 declaration, which is Appendix 4. And this has to deal 7 with -- hold on a second here. Yeah. 8 The first sentence, you say: "Degnbol 9 describes more than three different types of 10 location-based events." 11 Do you see that? 12 A. Yes. 13 Q. All right. And that remains your opinion; 14 correct? 15 A. Yes. 16 Q. All right. First, you say -- actually, 17 let's see. Hold on one second. 18 You cite to three lines on page 11. Okay. 19 That's fine. I'm not sure what's going on there. 20 But -- so let's go to the first one. You 21 identify: "Whether the buddy is in a geographic area 22 covering the home." 23 Do you see that? It looks like you're 24 identifying that as a type of location-based event; 25 would you agree?

Page 134 1 A. Yes. And I would say that as a 2 prerequisite to this, it is worth looking at the 3 immediate prior sentence of my declaration and the 4 citation. 5 Q. Okay. That's fine. 6 So whether the buddy is in a geographical 7 area covering the home is a location-based -- type of 8 location-based event according to you; correct? 9 A. Correct. 10 Q. All right. What type of location-based 11 event is whether the buddy is in a geographic area 12 covering the home? 13 MR. SANDERS: Objection, form. 14 A. If you want an example, if you want to call 15 your buddy, your wife or something, you know, getting 16 notified when they come home. 17 BY MR. SCHELLER: 18 Q. That's the type. I'm confused on your 19 answer. 20 A. This -- this -- seven listed steps are 21 all -- seven listed elements are all different types of 22 location-based alerts. So it's almost circular. The 23 buddy, the type of alert, the number one is buddy is a 24 in a geographical area covering the home. That's one 25 type of alert.	Page 136 1 range, which may be associated with a geographic area, 2 such as continent, country, district, city, coordinate 3 range, or a street." 4 Do you see that? 5 A. Yes. 6 Q. Okay. Are you not able to put that type of 7 label on the first type of location-based event where 8 the buddy is in a geographic area covering the home? 9 MR. SANDERS: Objection to form. 10 A. Well, it's a particular articulation of the 11 location event. So if you really wanted to be kind of 12 -- I'm not sure what the right word is -- obnoxious or 13 myopic, you could argue any sort of -- if you're in the 14 US, that's an alert, and that covers being in the 15 Midwest, being in Missouri, being in St. Louis, being in 16 Kirkwood, being on a certain street, being at your house 17 kind of thing. So it's the specifics that make a 18 difference in terms of the event articulation. 19 And I just want to be specific in terms of 20 the sentence I was talking about, that Degnbol does 21 specifically say that the user can establish a 22 predetermined range which may be associated with a 23 geographical area such as continent, country, district, 24 coordinate range, city, coordinate range, or street. So 25 that's -- that's an example.
Page 135 1 Whether the buddy is in a certain distance 2 of a person, that's a second type. Buddy is on the same 3 continent, a third. Buddy is in the same country, 4 fourth, fifth, sixth, seventh. So there's seven types 5 of alerts described here, location-based alerts. 6 Q. Okay. Give me one moment to look at 7 something. 8 A. And I know it's not an hour, but I have to 9 take a bathroom break. 10 Q. Let me finish just one more thing, if you 11 don't mind. I'll take -- one more while we have this 12 thread. 13 A. Okay. 14 Q. Well, so you categorize -- you seem to be 15 able to categorize them in paragraph 24 of your 16 declaration in terms of region-based or distance-based. 17 Those types are identified in the claim language? 18 A. Correct. 19 Q. That's so that -- so, you know, that's the 20 kind of label I'm interested in. So it seems like 21 you're saying -- well, in 24, you say: "Degnbol 22 describes region-based events," so you know what that 23 means, "such as user A configures the system so that he 24 only receives alerts when he's not within the geographic 25 area, as well as a user establishing a predetermined	Page 137 1 I mean, it's kind of getting broader down 2 to more narrow and, strictly speaking, everything that 3 comes after continents comes under the heading of 4 continent. But in terms of events, it's the details in 5 terms of how you're defining or bounding that location 6 that makes the difference between one event versus 7 another. 8 BY MR. SCHELLER: 9 Q. Okay. This example that you're giving here 10 that you say Degnbol describes, whether the buddy is in 11 a geographic area covering the home, where is that in 12 Degnbol? 13 A. I'd have to do a search on home. I'd have 14 to do a search. Do you want me to do a search? 15 Q. Okay. Well, I'd like to know where that is 16 because there's no citation, and you're claiming that 17 Degnbol discloses it. So yes. 18 A. Okay. 19 THE WITNESS: Is it in the clipboard? 20 MR. SANDERS: It's in the chat. 21 THE WITNESS: Is it in the chat? Okay. 22 Is that 47? 23 BY MR. SCHELLER: 24 Q. Yes. 25 A. So I thought we talked about that, page 10,

Page 138	Page 140
1 line 23. There's also page 13, line 18. That's 2 actually the husband and wife example, as well as line 3 20 and 21. So there. 4 Q. So the example on line 23 is not what you 5 have described here. That example just says that A 6 won't be alerted when he, A, is in the area around his 7 house; not whether a buddy -- not that he's going to be 8 alerted when a buddy is there. 9 MR. SANDERS: Objection to form. 10 A. Well, it states: "User A chooses not to be 11 alerted when he is in the geographical area covering his 12 home even though another user - B - enters that area." 13 So that is a linking of buddy being near 14 his home or, in this case, not being in his home. So 15 it's not -- the point is it's not solely A's being in 16 his home area or not. It also brings in B's location 17 into it. 18 BY MR. SCHELLER: 19 Q. Okay. 20 A. And in any event, the husband and wife 21 example I think -- assuming you call your spouse a 22 buddy -- is accurate. 23 MR. SANDERS: Dave, do you still need to 24 take that break? 25 THE WITNESS: Yes.	1 a type of event. 2 Q. Okay. You referred to lines 6 and 7 on 3 page 6; is that right? 4 A. Correct. 5 Q. Okay. That line says: "Each predetermined 6 range may be associated with a geographic area such as a 7 continent." 8 Do you see that? 9 A. Yes. 10 Q. So it's associating some type of 11 predetermined distance range with a geographic area; is 12 that right? 13 MR. SANDERS: Objection to form. 14 A. Well, a continent is a geographical area. 15 In terms of how it would be manifested, it would be -- 16 I'm not sure I'd use a distance range, because, of 17 course, the given continents can vary from really wide 18 at the, I guess, top of the -- Canada to really narrow 19 at the Panama -- that's, you know -- you know, you get 20 the idea. It's highly variable in terms of how it's 21 articulated. 22 So in my view, it's a continent; whether or 23 not you're in a continent would be a type of event. And 24 as I mentioned, there are a variety of other events that 25 have different articulations that, strictly speaking,
Page 139	Page 141
1 MR. SANDERS: Are you done with your 2 question? Brad's entitled to an answer to his question 3 before we leave, but... 4 MR. SCHELLER: There's nothing pending. Go 5 ahead. 6 (A break was taken from 4:00 to 4:08.) 7 BY MR. SCHELLER: 8 Q. Okay. We were talking about Degnbol, and 9 particularly, we were in paragraph 19 of your 10 declaration, Appendix 4. So the third type of 11 location-based event that you say Degnbol describes is 12 characterized in your declaration as being "whether the 13 buddy is on the same continent." 14 Do you see that? 15 A. Yeah. 16 Q. What type of location-based event would you 17 call this? 18 A. Well, one, that that's what is stated in 19 Degnbol in page 6, lines 6 and 7. Again, it's a level 20 of granularity that by its -- that is an event. 21 If you're asking what it might be used for, 22 it might be used for whether or not you're in a 23 reasonably close time zone or not. I mean, I'm not 24 sure. 25 But the point is Degnbol articulates it as	1 would fall under the continent umbrella. If you wanted 2 to be, you know, the US is under North America, and 3 then, you know, progressively smaller. 4 But those types of location representations 5 are very different in terms of the -- at a practical 6 level, you know. Whether, you know, it's just because 7 you're in a continent is not going to help you to know 8 whether or not you're at your house or not. 9 BY MR. SCHELLER: 10 Q. So do you understand what Degnbol means 11 when it says: "Each predetermined range may be 12 associated with a continent"? 13 MR. SANDERS: Objection, form. 14 A. I didn't hear that last word. 15 BY MR. SCHELLER: 16 Q. Let me restate the question. 17 Yes or no, do you understand what Degnbol 18 means when it says: "Each predetermined range may be 19 associated with a continent"? 20 MR. SANDERS: Objection, form. 21 A. In my view, it is talking about the -- 22 whether or not something is within a continent or not. 23 BY MR. SCHELLER: 24 Q. So the answer to my question is yes; 25 correct?

Page 142 1 MR. SANDERS: Objection form. 2 A. Well, again, it's -- a continent is going 3 to have thousands of different boundary elements related 4 to each other: East, west, north, south, all that kind 5 of stuff. So my view of what a POSITA would recognize 6 as being a predetermined range associated with a 7 continent is that's the area and boundaries associated 8 with a continent. 9 BY MR. SCHELLER: 10 Q. So you understand what that means; is that 11 right? 12 A. Yes. 13 Q. And so you think that a predetermined range 14 associated with a continent means the size of the 15 continent? 16 MR. SANDERS: Objection, form. 17 BY MR. SCHELLER: 18 Q. Is that what -- I'm not at all -- I'm not 19 at all clear on what you mean. 20 A. I would say it is the boundaries and area 21 covered by the continent. 22 Q. "A predetermined range," where do you get 23 the support in Degnbol for that? 24 A. Well, a predetermined -- I mean, continents 25 and countries and cities, they all have specific	Page 144 1 Q. Okay. Of course none of what you just said 2 is in Degnbol; right? 3 MR. SANDERS: Objection, form. 4 A. I don't think it's necessary to explain in 5 gruesome detail going into the world geospacic system 6 how everything is done. But a person of the ordinary 7 skill in the art in terms of how would you know that 8 something is within a continent or not would realize 9 that all continents and nations and states and counties 10 and cities and towns have, in this day and age, and back 11 then, would have well-defined boundaries represented by 12 specific sets of coordinates that you could then do a 13 calculation to see if you're inside or outside of that. 14 BY MR. SCHELLER: 15 Q. Okay. So on page 6, we agreed earlier: 16 "The predetermined range," on line 1, "may be selected 17 by the user associated with the unit." It's 18 predetermined range of distance. I mean, that's what 19 Degnbol talks about. 20 Then on the next sentence, line 3, it says: 21 "Each predetermined range may be associated with 22 communication expenses." 23 And then in line 6, it says: "Each 24 predetermined range may be associated with a particular 25 geographic area." So a distance to a particular
Page 143 1 boundaries and areas contained within those boundaries. 2 And so I'd argue all of those are predetermined and 3 consisting of ranges. 4 Q. All right. So how on earth would the 5 Degnbol invention or method determine that, based on the 6 technology at the time? 7 MR. SANDERS: Objection, form. 8 BY MR. SCHELLER: 9 Q. No pun intended. 10 A. Well, one way of doing it potentially -- 11 I'm not sure this is 100 percent accurate, but I think 12 it is -- is doing the country code of the telephone 13 number. And each country has its own code. And you 14 would have the code for Canada, US and -- Canada and US 15 for North America, and that would be the representation 16 of the -- that would be your indicator of you being in 17 that range or not. 18 But in terms of the actual geographical 19 stuff, it's each -- in my experience with map data, that 20 the boundaries of those -- of every country has been 21 well known from a coordinate, a world geospacic system 22 coordinate system for many, many years. And so you 23 could -- whether something -- you get a coordinate, you 24 can do a mathematical calculation to see if it's within 25 the boundaries represented by that ordinate system.	Page 145 1 geographic area would seem to be a logical 2 interpretation. 3 But now you are jumping into this complex 4 understanding of what you think predetermined range is 5 based on the boundaries of a country or coordinates of a 6 country; is that right? 7 MR. SANDERS: Objection to form. 8 A. No. I was responding to your question 9 about how you would do, say, a coordinate check, so to 10 speak. And I was giving you gruesome detail about that. 11 But the -- so in the scope of the claims, 12 the claims have this articulation of type of events 13 against -- it says at least three, but it only gives 14 detail on two: One is region and one is distance-based. 15 And what I've articulated here is a variety 16 of events, including region and distance-based, as well 17 as other mechanisms, such as geofencing, if you will, 18 and/or being on a particular street that would also 19 constitute additional events. 20 BY MR. SCHELLER: 21 Q. So -- 22 A. Beyond -- including and beyond -- including 23 and beyond the region and distance examples given in the 24 Mullen patent. 25 Q. So each predetermined range may be

Page 146 1 associated with a geographic area such as continent. 2 That could be a distance-based location-based event; is 3 that right? 4 MR. SANDERS: Objection to form. 5 BY MR. SCHELLER: 6 Q. I think that's what you just said. 7 A. I don't know that I said it. Well, for 8 example, in a state, that can vary greatly, you know. 9 Rhode Island versus Texas, very, very different ranges 10 involved. But what's important is whether any -- 11 Q. Ranges of what? 12 A. Very different amounts of area covered and 13 boundaries -- and nature of boundaries. Rhode Island is 14 probably, I don't know what the count is. A thousand 15 Rhode Islands could make up Texas; something like that. 16 So it's -- you know, the Mullen patent kind 17 of opened the ball with it saying, Okay, we want three 18 events. Two of them are region and distance-based, and 19 I've articulated here region, distance-based, as well as 20 other types of things, such as covering the home or the 21 street or a geofence. 22 Those are different types of events that I 23 wouldn't -- that I would view as being distinct from a 24 region or distance-based. 25 Q. So, of course, the Mullen patents don't	Page 148 1 that I'm aware of. So I'd have to look at the Mullen 2 patents to see how they were articulating events. They 3 only articulated two, which was region-based and 4 distance-based. 5 Region-based I would view as something like 6 a continent or perhaps a country; and distance-based, I 7 would view as I'm five miles away. And Degnbol covers 8 those and also other ones, like I am at your house or 9 I'm at my house. I'm within a certain set of 10 coordinates. I'm on your street. 11 And so I view all those as being events in 12 the same spirit and detail as the Mullen patent 13 described region- and distance-based events. 14 Q. Okay. Events have nothing to do with the 15 question I asked you. Let me ask my question again. 16 Let me just read it back. 17 Why is the term predetermined range, in 18 line 6 on page 6, all of a sudden not referring to a 19 distance between two units? 20 MR. SANDERS: Objection to form. 21 BY MR. SCHELLER: 22 Q. That's my question. 23 A. It may well be associated with distance 24 between two units. But then you are -- then that 25 distance, whatever that is, is being assessed as to
Page 147 1 have the terminology "predetermined range," do they? 2 MR. SANDERS: Objection, form. 3 BY MR. SCHELLER: 4 Q. The claims? 5 A. I don't -- oh, the claims, probably not. 6 Q. Well, you can look at the deck, if you 7 wanted to. 8 A. I'm sure they have location-based event. 9 Q. So to you, it's your -- well, strike that. 10 Why is the term "predetermined range" in 11 line 6 on page 6 all the sudden not referring to a 12 distance between two units? 13 MR. SANDERS: Objection, form. 14 BY MR. SCHELLER: 15 Q. I think that's my -- that's the question, 16 really. 17 A. Well, they use different terminology, 18 obviously. Why they -- 19 Q. When? 20 A. Between the two patents, different authors, 21 different -- 22 Q. Well, I'm not talking about -- I'm not 23 talking about our patent. I'm talking about your 24 understanding of Degnbol; not our claims. 25 A. And Degnbol doesn't use the word "event"	Page 149 1 whether it's, for example, on the same continent or in 2 the same country or in a district, city, coordinate 3 range, or street. And those individual elements are 4 all, in my view, individual events that meet the needs 5 of the claims. 6 Q. Okay. So a predetermined range, line 6, 7 page 6, as with its recitation on line 3, line 1, 8 page 6, refers to distance between two units. I think 9 we have agreement on that. 10 MR. SANDERS: Objection to form. 11 BY MR. SCHELLER: 12 Q. Let me finish. 13 A. I -- I think that's certainly the primary 14 set of embodiments. I just don't remember all of the 15 other ones, whether there's other variations between 16 like unit A and a building or something like that. But, 17 generally, I agree with you. I just don't remember all 18 the different embodiments. 19 MR. SCHELLER: Okay. Let's take a break. 20 (A break was taken from 4:27 to 4:37.) 21 MR. SCHELLER: We're going to move on to 22 IPR 2023-00097, which relates to the '575 patent. And 23 I'm going to pass through the chat Appendix 1 from your 24 declaration, Mr. Williams. 25 MR. SANDERS: And I'm handing him a paper

Page 150 1 copy of that appendix. 2 MR. SCHELLER: Let's go to page 19 of 3 Appendix 1, which will be Exhibit 7, Deposition 4 Exhibit 7. 5 (Exhibit 7 was marked for identification.) 6 A. Page 19 or paragraph 19? 7 BY MR. SCHELLER: 8 Q. Page. 9 A. Okay. 10 Q. Yeah. I mixed it up on you. It will be 11 paragraph 16. 12 So this limitation you have labeled as 1c 13 in your declaration recites: "Changing at the direction 14 of said first wireless telephone, a list of users on 15 said remote server for a profile associated with said 16 first wireless telephone that are allowed to access said 17 location, wherein each user of said list of users is 18 representative of one of a plurality of wireless 19 telephones." 20 Do you see that? 21 A. Yes. 22 Q. Okay. 23 MR. SCHELLER: Carl, I assume Byron Chen is 24 one of yours? 25 MR. SANDERS: Yeah, Vanessa and Byron are	Page 152 1 A. That are allowed to access said location, 2 yes. 3 BY MR. SCHELLER: 4 Q. Okay. And each user must also represent a 5 wireless telephone; correct? 6 MR. SANDERS: Objection, form. 7 A. Close enough. 8 BY MR. SCHELLER: 9 Q. And it's your opinion that Sheha alone 10 discloses all these requirements; right? 11 A. Correct. 12 Q. All right. So in your paragraph 16, second 13 sentence says: "Sheha discloses that each device may 14 have privacy settings that 'allow the device to prevent 15 or limit other calling devices from obtaining position 16 information.'" 17 Correct? 18 A. Correct. 19 Q. And you cite to lines 38 to 46 in column 5 20 of Sheha; do you see that? 21 A. Yes. 22 Q. Okay. And that excerpt that you identified 23 there does not identify a list of users; right? 24 MR. SANDERS: Objection, form. 25 BY MR. SCHELLER:
Page 151 1 both ours. 2 MR. SCHELLER: Oh, yeah. Okay. I 3 recognize Vanessa's name. 4 BY MR. SCHELLER: 5 Q. So this limitation has a couple of 6 different requirements, first, that a list of users be 7 on the remote server; correct? 8 A. Right. 9 Q. And that the list of users be changed at 10 the direction of the first wireless device; correct? 11 A. Correct. 12 Q. Okay. And that the list of users be for a 13 profile associated with the first wireless device; 14 correct? 15 MR. SANDERS: Objection to form. 16 A. "A list of users on said remote server for 17 a profile associated with said first wireless 18 telephone." 19 BY MR. SCHELLER: 20 Q. Right. "First wireless telephone," pardon 21 me. 22 And another requirement is that the list of 23 users be users that are allowed to access the location 24 of the first wireless telephone; correct? 25 MR. SANDERS: Objection to form.	Page 153 1 Q. And feel free to look at Sheha. 2 MR. SANDERS: Objection, form. 3 A. That particular citation states: "In 4 another embodiment, each device has privacy settings 5 that allow the device to prevent or limit other calling 6 devices from obtaining positional -- position 7 information," and "privacy settings can include 8 allowance of position information transfers only when a 9 voice or video connection is established and/or only 10 with the device owner's permission. 11 "Other settings may include allowing any 12 remote device to request position information for any 13 specified amount of time." 14 BY MR. SCHELLER: 15 Q. Okay. So my question, again, is whether 16 that excerpt you identified identifies a list of users. 17 MR. SANDERS: Objection to form. 18 A. That passage doesn't reference list of 19 users. 20 BY MR. SCHELLER: 21 Q. Okay. That passage that you just read is 22 referring to implementing privacy settings that apply to 23 all the users that are signed in to the ODAS; correct? 24 MR. SANDERS: Objection to form. 25 A. It refers to privacy settings.

Page 154 1 BY MR. SCHELLER: 2 Q. And those privacy settings apply to the 3 users that are signed in to the ODAS system; right? 4 MR. SANDERS: Objection, form. 5 A. That would be fair. 6 BY MR. SCHELLER: 7 Q. So you also cite in that second sentence to 8 the ever-so-popular column 11, lines 63 to column 12, 9 line 4; do you see that? 10 A. Yes. 11 Q. All right. And this excerpt in column 12 11:63 to 67, lines 63 to 67, does not refer to privacy 13 settings; correct? 14 A. Did you say 63 to 67? 15 Q. Yeah. 16 MR. SANDERS: Objection to form. 17 A. "In another embodiment, users can define a 18 group of specific users that have access to this 19 information. This is also accomplished by utilizing a 20 group database and authorization and authentication 21 protocols to identify users that are permitted to access 22 this information," bleeding over into 12. 23 BY MR. SCHELLER: 24 Q. Right. Okay. So I'll repeat my question: 25 That what you just read does not refer to privacy	Page 156 1 A. The Sheha system is, in my view, a 2 collection of functionality that includes and 3 encompasses the various privacy and permissions aspects 4 associated with the invention. Where various specific 5 components actually reside sometimes is not explicitly 6 stated. 7 But in my view, in total, a POSITA would 8 recognize that there is the potential for the settings 9 to be stored on the server. And there is a basis for 10 that in that if a particular set of embodiments, the 11 ODAS system on -- the ODAS database on the server has 12 locations stored, ready to be shared, that it would be a 13 far more efficient design to also, in certain 14 circumstances where the person has already defined their 15 privacy settings or groups, to have that information 16 stored on the server, as well; as opposed to having to 17 constantly access that information on the target's 18 device itself and running up data charges and battery 19 usage and so on and so forth. 20 BY MR. SCHELLER: 21 Q. Okay. But based on all of that, it sounds 22 like you're admitting that Sheha does not explicitly 23 disclose storing privacy settings at the system server; 24 is that right? 25 MR. SANDERS: Objection to form.
Page 155 1 settings; correct? 2 MR. SANDERS: Objection, form. 3 A. It does not use those words. 4 BY MR. SCHELLER: 5 Q. And the portion that you cite, 12, 6 column 12, line 1 to 4, does not say anything about a 7 database; isn't that correct? 8 A. "When" -- it states -- that passage is: 9 "When a mobile device's position information is 10 requested, the system, based on privacy settings, 11 responds with the appropriate position information to 12 the requesting user's device." 13 Q. Okay. So what you just read does not say 14 anything about a database; right? 15 A. That -- 16 MR. SANDERS: Objection to form. 17 A. That word is not in there. 18 BY MR. SCHELLER: 19 Q. So next sentence in paragraph 16, 20 Mr. Williams, says: "Such privacy settings are stored 21 at the system server." 22 Do you see that? 23 A. Yes. 24 Q. That's not disclosed in Sheha; correct? 25 MR. SANDERS: Objection, form.	Page 157 1 A. I would have to go back through Sheha in 2 its entirety in the various citations that we've come 3 across so far. I haven't seen that specific 4 articulation. I just am not certain that's true for the 5 patent as a whole. 6 BY MR. SCHELLER: 7 Q. Okay. So sitting here now, without 8 looking, you don't know whether Sheha explicitly teaches 9 privacy settings stored on a system server; is that 10 right? 11 MR. SANDERS: Objection to form. 12 A. I don't know for certain in terms of a 13 particular passage. 14 I will restate the two key points: One, 15 that Sheha is a collection of functionality as opposed 16 to particular physical location of specific elements; 17 and, second, it would make more sense in embodiments 18 where a fresh location is not needed to store privacy 19 and permission settings on the server to avoid needing 20 to ping the device each time you're wanting that 21 information. 22 BY MR. SCHELLER: 23 Q. Do you know if any of the embodiments 24 disclosed in Sheha were ever commercialized? 25 A. Depends on what level you want me to answer

Page 158 1 that. I encountered Networks in Motion. I became aware 2 of them, I think, in the early 2000s. I can't say 3 whether it was before or after the Mullen patents. But 4 for certain, I encountered them in 2004. I was doing 5 work for then Navtech, which is a map data provider. 6 They had something called the LBS challenge. And 7 Networks in Motion was a contestant in that challenge. 8 I do not remember the specific 9 functionality, if you will, of what they submitted as an 10 entry into that contest. But it required it to be at 11 least a pilot-type functionality, if not actually ready 12 for commercial use. 13 Q. Okay. Yeah, I think Sheha has got a series 14 of patents, so who knows. 15 A. Right. 16 Q. Do you know Michael Sheha personally? 17 A. No. 18 Q. You've never spoken with him in your life? 19 A. Not that I know of. Back in 2004, I was 20 kind of a behind-the-scenes guy, anyway, so I was more 21 advising Navtech than I was helping actively interact 22 with the contestants. So I doubt it. 23 Q. Right. 24 A. If I did, I don't remember. 25 Q. Right. Okay. Let's go to the next Page 159 1 paragraph, 17. First sentence in that paragraph, you 2 say: "Sheha describes such functionality in conjunction 3 with a landline-to-landline position request, and also 4 discloses that the same approach can be used in the 5 mobile-to-mobile scenario." 6 Do you see that? 7 A. Yes. 8 Q. All right. And when you say "such 9 functionality," what functionality are you referring to? 10 A. Broadly, I think the functionality in 11 paragraph 16. 12 Q. Okay. All the functionality seems like 13 there's a lot of different functionality disclosed in 14 16. Is that what you mean? 15 A. I'd say so. There's nothing in there that, 16 in my opinion, is specific to or limited to landline 17 embodiments. And like I've stated before, my view is 18 that mobile embodiments generally are inclusive of the 19 various technical discussion in landline embodiments, 20 because landline is so much more simple. But still has 21 the same pieces of the puzzle involved, if you will. 22 Q. Okay. Let's go to the next sentence. You 23 state: "Sheha discloses" -- strike that. 24 Yeah. You state: "Sheha discloses that 25 the user of the first wireless telephone has the	Page 160 1 authority to, quote/unquote, 'define' a list of users 2 who are allowed to access their location." 3 Do you see that? 4 A. Yes. 5 Q. Where does Sheha disclose a user of a 6 wireless telephone defining a list of users? 7 Maybe we can streamline that. We can look 8 at the citations you've provided. I presume those were 9 provided to support those statements? 10 A. Correct. 11 Q. So that's 9 to 20 on column 5? 12 A. Okay. 13 Q. So that excerpt says: "In this case, the 14 calling local mobile device has privacy settings that 15 determines the period of the position transfer to the 16 destination remote mobile device. The period setting 17 can be set for the duration of the call or for a 18 predetermined length of time, and the position transfer 19 can be terminated by the calling or receiving device at 20 any time. 21 The calling local mobile device can also 22 choose not to reveal its local position to the 23 destination remote mobile device for privacy purposes at 24 any time, and can conversely enable position transfer 25 permissions at any time and for any period of time or as Page 161 1 long as the call is active." 2 Did I read that correctly? 3 A. Yes. 4 Q. So there's nothing in there about defining 5 a list of users; correct? 6 MR. SANDERS: Objection. 7 A. Those words were not used in that citation. 8 BY MR. SCHELLER: 9 Q. Okay. What about -- 10 A. But the -- in the second citation, sorry, 11 11:61, 12:1, it does state: "Users can define a group 12 of specific users that have access to this information. 13 This is also accomplished by utilizing a group 14 database." 15 So to me, defining a group of specific 16 users is a form of a list. 17 Q. Okay. And even though it doesn't say a 18 first wireless telephone, you think it includes that; is 19 that right? We've talked about that earlier. 20 A. Yes. I mean, typically, if first wireless 21 is the target, they're the ones wanting to potentially 22 limit the access, and they would be the ones to define 23 the group of users a la list. 24 Q. Right. That's under the 25 landline-to-landline position request description. But
--	--

Page 162 1 you think a bunch of those sentences don't -- are not 2 limited to landline-to-landline position requests; 3 right? 4 A. Yeah. In my view, again, the 5 mobile-to-mobile and mobile-to-landline embodiments 6 encompass every element that I can think of about -- 7 that is discussed in a landline-to-landline content. 8 And, again, the overall 100,000-foot level view is a 9 system like this would not be needed just for a 10 landline-to-landline set of embodiments. 11 Q. Continuing with that sentence, you stated 12 that Sheha "further discloses that the user may change 13 these privacy settings." 14 Do you see that? 15 A. Yes. 16 Q. What -- when you say "these," what are you 17 referring to? 18 A. Well, we talked earlier in the day about 19 various types of privacy settings, and in terms of 20 allowing, not allowing, doing it for a certain period of 21 time. So that would include those discussions. And I 22 think it would also include the group list of permission 23 capability as well. 24 MR. SCHELLER: Okay. That's all I have on 25 that IPR.	Page 164 1 CERTIFICATE OF REPORTER 2 3 4 I, Celena D. Davis, Registered Professional 5 Reporter and Certified Court Reporter within and for the 6 State of Missouri do hereby certify that the witness 7 whose testimony appears in the foregoing deposition was 8 duly sworn by me; that the testimony of said witness was 9 taken by me to the best of my ability and thereafter 10 reduced to typewriting under my direction; that I am 11 neither counsel for, related to, nor employed by any of 12 the parties of the action in which this deposition was 13 taken, and further, that I am not a relative or employee 14 of any attorney or counsel employed by the parties 15 thereto, nor financially or otherwise interested in the 16 outcome of the action. 17 18 19  20 21 CELENA D. DAVIS, RPR, CCR 22 MO Lic. No. 700 23 24 25
Page 163 1 MR. SANDERS: Okay. 2 MR. SCHELLER: We can go off the record. 3 (The deposition was adjourned at 5:06.) 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	

	91:7 97:4	11:32 45:20	159:11, 14
Exhibits	113:4	11:55-12:7	17 20:6
	114:13	27:7	117:24
WilliamsD 1	124:1, 25		118:2, 7
3:9 9:6, 7	144:16	11:61 161:11	159:1
10:7	149:7, 23	11:63 154:12	
WilliamsD 2	150:3		18 104:17
3:10 10:25	155:6	11:9 102:7	138:1
11:1 96:16		12 10:7, 8	18a 20:16,
97:5	10 20:8, 9	27:24	21 21:4, 16
	43:21	28:18	22:7, 22
WilliamsD 3	48:16	37:24 49:5	23:25
3:11	88:17	54:4 55:8,	24:9, 21
90:14, 16	126:25	19 59:16	25:2
WilliamsD 4	127:2	61:22	
3:12	129:19	69:1, 4	18a's 21:25
117:18, 20	137:25	73:3 75:24	22:23 24:2
		76:14	25:4
WilliamsD 6	100 58:1, 15	88:16, 17	18d 88:18
3:13 9:3	143:11	100:3	19 11:14, 21
122:14	100,000-foot	113:4, 7, 9	133:5
WilliamsD 7	162:8	154:8, 22	139:9
3:14	10:08 6:1	155:5, 6	150:2, 6
150:3, 4, 5	10:66 102:7	12:1 100:3	1998 79:20
		161:11	1:00 24:23
\$	11 28:18	12:34 81:9	1:24 113:22
	29:19	12:44 81:9	1c 11:13
\$500 71:19	34:21	12:7 101:16	150:12
	55:17	13 138:1	1d 26:15
0	58:5, 22	138 90:21	97:7 112:1
	70:15 74:5	15 51:9	
039 117:16	75:24	91:22	
	76:13	16 150:11	
1	100:3, 17,	152:12	
	23 132:7	155:19	
1 9:6, 7	133:18		
10:7, 8, 10,	154:8		
14 28:17,	11:17 45:20		
18 54:10			
			2
			2 10:25
			11:1 57:4
			65:7

96:16, 17	127:2, 3, 5	116:10	133:6
97:5 114:8	23 82:23, 25	117:1, 2	139:10
20 63:4, 8,	83:4 84:1	121:4	154:9
24 65:3, 13	126:15	31 130:7	155:6
82:23 88:9	138:1, 4	32 88:13	40 19:1
121:3	23a 83:15	33 83:2	112:13
138:3	24 97:5, 16	34 83:2	41 14:12, 18
160:11	135:15, 21	88:5	88:13
2000 68:11	25 81:13	38 14:22	418 8:25
93:25	108:8, 10	17:24 18:4	9:19 96:3
2000s 158:2	128:22	91:14 93:6	43 19:2
2001 80:11	26 20:7	152:19	45 17:24
93:24	81:23 82:2	39 82:25	18:4
2002 66:13	84:8 85:7	83:4	113:24, 25
79:21 80:7	109:19	3:00 24:23	46 152:19
2004 158:4,	111:23	65:6 72:14	47 137:22
19	283 96:5, 15	3D 86:15	4:00 139:6
2007 68:1	97:4		4:08 139:6
2023-00090	29 114:6	4	4:27 149:20
96:13	3	4 12:6, 9	4:37 149:20
2023-00091	3 14:7	55:7, 8, 11	
96:15	57:3, 15	56:7 73:3	5
2023-00097	83:18	81:24 82:1	
149:22	90:14, 16	84:20	5 14:13, 18
2023-0090	123:5, 13,	85:7, 23	17:24 18:4
9:1	16 144:20	88:4	19:2 65:7
2023-0096	149:7	101:13	83:1, 6, 13
117:16	30 10:10	113:9	84:5, 6, 13,
21 14:12, 18	63:13	117:18, 20,	24 85:8
27:1 51:9	65:17, 20	22, 25	88:4 103:9
138:3	68:21	123:16, 18,	108:8
22 81:23	91:22	21, 23	132:7
82:2	97:15	125:16	152:19
		126:20	160:11

50 85:2	149:6, 7, 8	91:23	39:23
52 84:20	61 29:19	118:9	51:11
85:3, 6, 23	70:15	125:20	52:17, 25
53 112:13	63 154:8,	160:11	53:14
55 27:24	12, 14	90s 40:8	54:2, 3
35:7 58:5	66 12:5	91 80:10	66:10 97:9
74:5 75:24	37:15	911 67:16,	98:23
76:14	67 34:21	18	102:17
100:3	100:17, 23	96 37:7	108:19
101:16	154:12, 14	79:23	109:24
57 51:4		9:00 72:13	110:21
575 149:22	7		111:3, 7, 13
58 28:17	7 27:25	A	112:2, 8,
34:21	54:10	A's 138:15	14, 24
70:15 74:5	55:7, 8, 11	a.m. 129:20	113:6, 17
84:20	73:3 75:24	abilities	114:13, 15
85:6, 23	76:14	56:12	115:12
100:17, 22,	113:4	ability 37:5	150:16
23	126:19	54:2	151:23
59 12:5	139:19	60:12, 17	152:1
5:06 163:3	140:2	62:16	154:18, 21
	150:3, 4, 5	86:17	156:17
6	7s 90:4	98:18	160:2
6 9:3, 4	8	105:19	161:12, 22
83:14	8 91:5, 6	above-	accommodate
90:23	112:13	mentioned	41:12
122:11, 14	125:19	123:6	accomplished
124:25	129:20	124:1	52:14 94:1
125:25		Abstract	154:19
139:19	9	122:22	161:13
140:2, 3	9 74:5	access 11:17	accordance
144:15, 23	82:25	15:11	12:10
147:11	83:19	21:3, 4	account
148:18			32:18
			accuracy
			42:13

64:16	actual 36:12	advising	alerted 91:9
66:24	67:13	158:21	127:6
68:17	101:1	age 52:8	128:13, 16,
accurate	104:14	144:10	24 131:22
42:12	143:18	agnostic	138:6, 8, 11
64:25	actuality	115:7	alerter
65:1, 9	99:2	agree 27:15	132:9, 18
72:14 74:6	add 89:19	28:20 29:6	133:2
77:4 97:24	addition	31:14	alerting
98:13	52:7 84:16	58:15	131:13
104:10	additional	83:6, 15	alerts
110:13	145:19	86:1 93:6	129:19
114:23	address	98:9	130:9, 16
115:3	33:13, 14	101:11	131:7
116:7	34:2, 6	108:24	132:4
126:12	35:4, 21	123:20	134:22
127:15	36:18	130:21	135:5, 24
128:17	46:23 52:7	133:25	allege 118:8
138:22	59:11	149:17	alleged
143:11	60:4, 23	agreed 57:2	100:12
achieve	85:14, 24	144:15	allowance
53:15	86:2, 4, 8	agreement	15:2, 23
acknowledges	addresses	149:9	19:3 153:8
61:14	32:10, 16	ahead 10:20	allowed
act 37:7	58:20 59:6	76:23	13:25
79:23 82:3	adjourned	115:6	23:19
activated	163:3	139:5	24:16
64:10	admittedly	AIM 94:8, 9	25:4, 23
active 47:25	44:9 62:22	95:18	57:11
161:1	86:14	Alemanni	117:10
actively	admitting	7:8, 9	150:16
64:4	156:22	alert	151:23
158:21	advantages	134:23, 25	152:1
activity	42:11	136:14	160:2
68:13, 14			allowing

15:6 16:14	angle 127:21	66:21 71:5	138:6, 11,
153:11	answering	78:4 94:13	12, 16
162:20	23:12	application-	140:6, 11,
alphanumeric	answers 7:19	independent	14 142:7,
87:16	46:18	41:11	20 144:25
alternative	101:20	applications	145:1
34:19	AOL 94:7	42:12	146:1, 12
107:20	apologize	45:16	areas 143:1
alternatively	28:4 76:12	62:18 75:8	argue 57:20
78:12	113:21	applied	74:13
79:10	app 77:6, 24	25:20 56:4	136:13
94:18, 22	appears	applies	143:2
ambiguous	92:10	59:15	argument
29:7 30:14	appendix 9:4	apply 55:18	119:13
America	90:23	56:24	arrival
141:2	96:16 97:5	59:19	48:6, 13
143:15	114:8	153:22	127:19, 21
amount 15:7	117:22, 25	154:2	arrows 86:22
16:15, 19	133:6	approach	87:17
153:13	139:10	55:3 159:4	art 69:7
amounts	149:23	apps 75:3	144:7
146:12	150:1, 3	77:7 89:25	articles
analog 80:22	Apple 8:6, 13	area 123:1,	66:17
ancestor	apples 36:9	9 127:7, 8	articulate
47:14	applicable	128:8, 14,	16:9
and/or 10:9	28:7 29:9	15, 17	articulated
15:3, 4	30:17 56:8	129:6, 25	118:23
16:8 19:4	57:20	130:10, 17	140:21
21:22	84:15	131:12, 14,	145:15
22:6, 21	application	22 132:1	146:19
23:24 82:7	12:11, 12	133:21	148:3
94:16	44:17, 18,	134:7, 11,	articulates
145:18	20, 21	24 135:25	139:25
153:9	64:4, 6	136:1, 8, 23	articulating
		137:11	

148:2	87:25	53:21	back 45:22
articulation	AT&T's 66:18	54:15	49:4 50:12
53:15	68:16	55:12	51:8 55:15
136:10, 18	attempt	56:24	61:10 62:8
145:12	66:18	73:5, 8, 17,	64:5 71:16
157:4	68:23	18 101:6	74:6 79:22
articulations	attempting	108:13	81:11 96:4
140:25	41:12	111:25	99:19
asks 13:23	56:10	112:7	100:2, 4
57:9	109:24	113:10	109:11
aspect 58:12	111:3	154:20	113:21
123:19	attention	authorized	117:24
124:2	11:12	101:7	127:16
126:15, 16	14:21	104:22, 25	144:10
aspects	attenuation	112:1	148:16
129:13	127:21	authors	157:1
156:3	attorneys	147:20	158:19
assessed	7:11	automatic	background
148:25	authentication	122:24	89:14
assessment	25:7 52:16	automatically	ball 146:17
106:8	53:21	123:8	base 80:5
assigning	54:15, 16	availability	based 21:4
114:12	55:11	68:12	38:9 45:25
associates	56:23	avoid 157:19	49:8 51:20
100:12	73:5, 8, 17,	avoiding	56:13
associating	18 101:5	129:20	60:14
101:25	108:13	aware 8:9,	61:23 78:3
140:10	111:24	13, 16	93:23 95:5
assume 112:9	112:6	66:18	103:23
150:23	113:11	148:1	105:6
assuming	154:20	158:1	106:3, 4,
138:21	authority		17, 22
AT&T 67:21	160:1		108:6, 17
	authorization	B	109:3, 16,
	52:15	B's 138:16	17 119:4
			130:19
			132:13

143:5	Benetton	bounding	110:17
145:5	80:18	137:5	137:1
155:10	beta 87:25	box 52:10	broadly
156:21	big 68:24	110:23	14:6, 9
basically	110:5	boxes 87:17	159:10
33:5 60:1	bill 71:19	Brad 6:13	browser 41:9
80:4	billing	Brad's 139:2	buddy 133:21
107:22	33:14	brand-new	134:6, 11,
basis 23:21	35:19	80:6	15, 23
77:15	42:18	break 7:23	135:1, 2, 3
114:19	birds 78:5	44:6	136:8
156:9	birth 52:8	45:18, 20,	137:10
bathroom	bit 99:8	24 81:7, 9	138:7, 8,
135:9	black 90:2	96:3, 7, 10	13, 22
batteries	bleeding	114:3, 4	139:13
65:22	154:22	117:14	buffering
battery 64:2	blends 30:4	135:9	108:1
68:21	boiled 90:6	138:24	building
71:15 78:9	bold 94:19	139:6	86:21
156:18	boom 63:15	149:19, 20	149:16
bearing	boring 72:25	bridge 29:17	bunch 68:13
60:12	bottom 51:9	bridging	101:8
began 6:1	88:9	41:14	127:3
beginning	104:16	briefly	162:1
79:14	boundaries	10:16, 18	busy 19:12
behalf 8:6,	142:7, 20	bringing	Byron
13	143:1, 20,	119:25	150:23, 25
behind-the-	25 144:11	121:7	
scenes	145:5	brings	c
158:20	146:13	138:16	
Benefon	boundary	broad 20:5	Cadillacs
79:21	142:3	broader	38:18
80:19, 20		22:25	calculation
87:8			93:2
			143:24

144:13	calling	86:16	138:14
calibrating	14:25 22:2	87:9, 15	160:13
71:11	24:6	162:23	cases 68:19
call 9:18,	116:13, 15,	capable	86:18
20 13:4	18 152:15	86:23	categorize
16:8, 25	153:5	capture	135:14, 15
19:11 22:2	160:14, 19,	35:20	category
27:4 31:16	21	car 72:9	56:11
39:11, 20	calls 20:17,	care 64:20	119:18
40:1, 3, 22	25 21:22	127:25	caveat 51:22
50:10, 23	22:4, 6, 21,	Carl 7:6	53:25
51:1, 7	22 23:17,	63:3	ceases
58:1, 8, 16	18, 21, 24	103:17, 19	128:14
59:16 61:2	58:25	107:2, 5, 6,	Celena
68:10	camera	23 108:2,	122:10
73:25	100:24	3, 6 150:23	cell 36:18,
74:4, 10, 15	Canada 62:8	Carl's	21 41:24
75:23	140:18	103:17, 22	42:7, 8, 20
76:9, 16, 18	143:14	107:1	44:23
77:11, 18	candidates	carrier	46:17, 25
78:23	87:10	41:17	47:4, 8, 11,
103:11	capabilities	78:18	13, 17, 19,
134:14	50:2	carrier's	21 48:1
138:21	56:15, 21	44:22	63:4
139:17	57:8 74:25	carriers	66:22, 25
160:17	86:14	36:4,	71:23, 25
161:1	88:20, 22	20 68:16	74:17, 23
called 22:3	105:6	72:17	75:3, 7
24:6 42:5	capability	90:15	76:8
43:15	17:16	103:4	78:18, 19
45:12 90:1	22:10	116:12	127:18
94:9	25:17	122:7	cellular
116:14, 17	26:12		41:25
117:8	48:22		74:24
158:6	61:18		88:19, 23
caller 17:3	67:10		

cetera 30:11	childlike 27:7 81:23	118:3
CGI 86:24	86:19	119:7
challenge 158:6,7	Chinatown 85:6 88:13	120:21
	67:3	121:7, 20
challenging 9:19	chip 80:14	135:17
	choice 67:5	claiming 137:16
change 72:10	choose 152:19	claims 9:19
162:12	160:22	10:10 20:1
changed 151:9	chooses 127:6	119:19
	130:4	120:7
changing 32:24	138:10	121:9
59:12	circle 86:20, 21	145:11, 12
150:13		147:4, 5, 24
characterize 119:18	circles 87:17	149:5
characterized 139:12	circular 134:22	clarification 110:8
charged 71:16	circumstances 156:14	clarify 13:12
charges 156:18	citation 14:20 92:9	22:16
chat 9:9	101:1, 8, 10	clause 81:15
10:22	102:6, 8, 19	clear 30:8
90:14 95:2	110:3	52:20
96:18, 23	134:4	74:22
121:24	137:16	108:22
137:20, 21	153:3	119:1
149:23	161:7, 10	142:19
check 117:9	citations 157:2	click 52:9
145:9	160:8	clipboard 137:19
Chen 150:23	cite 12:5	close 139:23
Chevy 38:17	14:12 20:6	152:7
		closed 91:18
		123:11
	cited 58:3	
	108:9	
	120:21	
	cities 142:25	
	144:10	
	city 91:17	
	92:2 93:1,	
	13, 14, 17	
	94:14, 17,	
	21 120:24,	
	25 121:2	
	136:2, 24	
	149:2	
	Citysync 90:1	
	claim 10:14	
	11:13, 14	
	26:14, 15	
	50:13	
	88:4, 7	
	91:5, 6, 7	
	97:4, 7, 8	
	106:6	
	112:1	
	114:13	

code	113:4, 9	complex	68:11
143:12, 13,	118:9	145:3	condition
14	152:19	complicated	16:2, 17
collected	154:8, 11	33:6	23:23
38:14	155:6	62:12, 22	50:18
	160:11	complied	conditioned
collection	combination	124:2	98:12
156:2	10:9	component	conditions
157:15	combinations	32:4 36:12	23:16
color 89:14	127:22	components	103:18
column 12:6,	commercial	14:8 105:7	116:3
9 14:13,	158:12	156:5	conference
17, 18	commercialized	comprises	72:12
17:24 18:4	157:24	124:21	configuration
19:2 20:8,	communicates	comprising	21:12, 20,
9 28:18	12:23	124:9, 17	24 22:20
29:19	13:6, 20	computing	23:14
34:21	73:25	108:12	configurations
37:24	communicating	conceivably	24:15
48:16 49:5	44:13	33:15	configure
55:8, 17, 19	communication	concept	129:18
56:7 58:5,	124:4	118:20	configured
22 59:16	144:22	129:24	20:15
70:14 73:3	companies	concerned	93:11
74:5 75:24	65:24	106:6	configures
76:13	80:15	concerns	130:8
81:24	compared	8:24 81:15	131:6
82:1, 25	89:5	97:8	135:23
83:19	competition	conclude	confirm
84:20	89:18, 19	96:12	76:19
85:7, 23	completely	concrete	confused
88:16, 17	16:10	95:8	13:8 23:10
91:23	54:20	concurrent	134:18
100:3, 17,			
22, 23			
101:13			
108:8, 10			
112:13			

confusing 13:11	contact 18:22	22, 23 141:1, 7,	106:19
conjunction 101:5 159:2	52:5, 7 contained 143:1	12, 19, 22 142:2, 7, 8, 14, 15, 21 144:8	controlled 104:5 controlling 23:6 71:11 132:17
connected 42:9, 18 45:10 48:22 78:20	content 162:7 contest 158:10	146:1 148:6 149:1	controls 132:8 133:1
connection 15:3, 13, 25 16:4, 11 19:4 26:5 42:8 153:9	contestant 158:7 contestants 158:22	continents 137:3 140:17 142:24 144:9	conveniently 92:14 conversely 160:24
consistent 132:12, 17	context 14:5 20:5, 25 21:19 22:25	contingent 103:1 106:3	conveyed 103:17 convoluted 76:12
consisting 143:3	28:13 30:16 36:6 37:18, 25	continually 63:12, 23, 24	coordinate 136:2, 24 143:21, 22, 23 145:9 149:2
consists 18:13	38:1 41:21, 22 55:24 58:19	continuation 29:4 54:20 continue 52:13 128:16	coordinates 144:12 145:5 148:10
conspired 68:23	69:14 73:15 77:11, 18 84:14, 15	contrary 55:2 59:23 control 23:2 70:25	copies 9:10 copy 9:16 11:4, 8 90:10, 12 96:17 121:25 122:1 150:1
constantly 32:24 59:12 156:17	86:7 99:13 119:22 continent 135:3 136:2, 23 137:4 139:13 140:7, 14,	Continuing 162:11	
constitute 145:19			
constrained 129:12			
consumes 78:9			

core 27:19	18 131:9,	counties	138:11
56:20	19 133:14	144:9	146:20
corners	134:8,9	countries	covers 30:15
56:14	135:18	142:25	70:5
correct	140:4	country	136:14
7:16,17	141:25	135:3	148:7
10:3 12:6	151:7,10,	136:2,23	create 41:19
15:13 16:5	11,14,24	143:12,13,	51:24
20:9,22	152:5,11,	20 145:5,6	criteria
21:5 27:10	17,18	148:6	108:17
32:16	153:23	149:2	109:3
38:3,6	154:13	couple 7:10	cross-examined
39:16 45:7	155:1,7,24	8:4 38:6	6:18
46:2 54:11	160:10	45:25	CST 6:1
68:7 75:14	161:5	51:24	current
81:24,25	correctly	63:24	32:21
82:13,15	12:3,19	68:25 76:2	36:21,22
83:1 84:6	73:13	88:15 94:3	38:2 65:17
85:9,11,15	119:15	100:6	78:19
86:5	124:14,23	101:20	custom 40:3
90:19,20	161:2	151:5	customer
91:11,12,	correlate	cover 63:21	80:5
20,21	33:4 46:2	122:21	customers
97:13,14	59:7	132:18	68:18
98:13,19	correlated	covered	CV 7:13
105:1,2,3	28:24 31:2	142:21	
110:4,24	70:11	146:12	
112:11	correlating	covering	
114:17,18,	33:8	28:14	
20 118:10	correlation	29:18	
120:4	34:1	127:7	
125:8,9,11	counsel 7:4	128:8	
126:21	count 146:14	133:22	
128:4,21	counted	134:7,12,	
129:1	32:19	24 136:8	
130:1,6,		137:11	
12,13,17,			

D

data 34:9
35:21
38:14
40:1,12,16
43:1 45:14
71:17,18,
19,24 72:2

122:17	102:1	declaration	160:6
124:3, 4	103:7	8:20 9:2, 4	161:4, 15
143:19	104:18, 24	10:5	definition
156:18	106:5	11:14, 22	65:8
158:5	114:24	13:19	Degnbol
database	124:20	14:11 51:8	118:21
15:11	154:20	54:23	119:12, 25
17:15 21:4	155:7, 14	81:12 85:7	121:7, 23
25:3 29:1,	156:11	88:5 90:22	122:1, 16
20 30:2, 10	161:14	92:22 93:6	124:8
31:4, 8, 23	databases	97:6, 8	125:24
32:7, 8	29:1 30:6	102:7, 16	127:4
33:7 34:8,	31:4 32:7,	104:16	129:4, 24
22, 23	8 36:11	109:20	132:12, 13
35:24	45:11	114:7	133:8
36:21	date 52:8	117:18, 25	135:21
37:10, 11,	dated 65:9	118:3, 7	136:20
15, 17, 20,	Dave 138:23	133:6	137:10, 12,
24 41:21	David 6:2, 23	134:3	17 139:8,
42:1 44:13	day 14:22	135:16	11, 19, 25
45:6, 9, 15,	65:6	139:10, 12	141:10, 17
17 52:15	144:10	149:24	142:23
53:1, 9	162:18	150:13	143:5
54:3, 10, 15	days 78:9	dedicated	144:2, 19
55:1, 8, 16	dead 68:21	89:6	147:24, 25
58:22	deal 36:12	defense	148:7
59:4, 14, 18	80:9 133:6	112:21	Degnbol's
60:2, 12	dealing 40:9	define 51:11	123:23
61:3 63:8,	deals 131:19	52:24	delineation
9, 11, 12	decide 79:24	154:17	26:10
65:13 66:9	106:12	160:1	delivered
70:8 77:14	decided 80:3	161:11, 22	68:12
78:3, 12, 14	deck 147:6	defined	denial 12:24
79:9, 10		156:14	13:6, 20
99:24		defining	Denver 95:3
100:2, 13,		137:5	
16, 18			
101:2, 4, 22			

depend 74:9	135:22	details	111:2
dependent	137:10	137:4	112:1, 7
91:6	139:11	detect	131:12
	159:2	128:15	143:5
depending	describing	detecting	determined
74:13	15:10	119:19	124:19
120:24	20:20 23:7	121:18	128:4
depends 14:5	31:7 43:16	detection	determiner
157:25	53:1, 4, 5,	118:19	99:14
deposed 7:15	6, 17 83:6,	119:3, 9, 22	determines
deposited	12 127:12	120:10, 12,	13:17
40:24	128:3	23	98:22
deposition	129:9	determination	102:16
6:1, 25 7:3	description	33:3 47:14	160:15
9:6 10:7,	18:2 32:3	49:16 50:2	determining
25 90:14	54:9 83:4,	61:11, 19	97:9
150:3	5 161:25	79:8 99:3,	124:9, 17,
163:3	design 51:23	24 101:22	21 127:12,
describe	67:10	103:1, 23	13 129:5
56:16	156:13	105:6, 14	device
78:24 92:7	destination	106:7, 17,	11:16, 17,
93:8 112:6	85:14, 24	21 107:6	23 12:1,
118:20	86:3, 8, 21	108:23	15, 17, 18
120:7	160:16, 23	109:14	13:23
describes	detail 77:16	111:2, 9	14:23, 24
24:13	118:18	127:18	15:5, 6, 17
27:11 47:9	119:25	128:9, 12	16:9, 14, 23
51:10	120:1, 6	determine	19:5
91:14	121:16	12:1, 21	20:14, 16,
97:17	128:19	13:5, 24	21 21:4,
116:9, 12	144:5	34:13 37:5	16, 25
118:16	145:10, 14	49:18	22:7, 22, 23
121:9	148:12	92:12	23:25
127:17	detailed	101:6	24:2, 9, 21
129:4	32:3	104:21, 24	25:2, 4, 14
133:9		109:23	27:2, 3, 4,

12 28:11	101:7	32:24 33:9	151:10
29:14, 24	103:4, 9, 14	35:22 36:9	directions
30:20	104:2, 14,	56:17	86:12
32:15, 23	22 105:1,	57:17	87:21
33:12, 13	9, 10, 12, 15	61:12 75:4	directly
34:10, 14	106:2, 10	82:8, 18	107:23
35:11	107:13, 16	84:18 87:3	disagree
36:22, 23	108:12	89:6, 9, 22	31:8 59:20
37:5, 23	110:22	97:11	disclose
38:1, 15	111:6, 13	110:20	25:12
39:19	112:9	114:15	73:24 98:3
40:23	113:12	115:25	130:14
41:21, 24	115:9, 10,	152:15	156:23
44:12, 13	11, 22	153:6	160:5
45:10	116:3, 13,	devices'	disclosed
46:10, 12	14, 15, 17,	101:4	92:5 98:4
47:4, 25	18 128:7	104:18	155:24
48:1 49:7,	151:10, 13	dialing 82:4	157:24
10 50:7	152:13, 14	difference	159:13
54:5 55:18	153:4, 5,	19:7 48:5	discloses
57:9, 12, 22	10, 12	63:22	55:3 60:15
58:5, 7, 20	155:12	116:19, 24	82:18
59:1, 10,	156:18	117:5	84:10
11, 15 61:1	157:20	127:19	100:11
62:7 63:9	160:14, 16,	136:18	118:9, 13
66:8 70:22	19, 21, 23	137:6	119:3, 16
71:23	device's	differently	120:18, 23
73:9, 10, 24	16:3 47:9	33:3 37:13	137:17
75:5 77:1	49:6, 18	46:8	152:10, 13
81:21, 22	61:22	difficult	159:4, 23,
82:12, 19,	62:21 69:5	36:8	24 162:12
20 83:14	102:21	direct 11:12	disclosing
84:6, 16	155:9	14:21	46:10
88:18	devices	direction	disclosure
91:8, 9, 10	11:23	47:12	46:1
92:24	14:25	150:13	
97:18	26:20		
100:7			

76:16, 17	93:12, 17	19, 24	driving
101:25	displayed	148:4, 6, 13	72:9, 23
118:9	84:11	distinct	86:12
discuss	87:21	84:3	87:20
17:10	displaying	113:19	due 20:15
120:7	50:1 83:13	146:23	duly 6:3
discussed	84:5 89:9	distinguish	duration
25:25	displays	94:20	108:18
111:25	82:18	distortion	160:17
162:7	87:16	68:12	dwelling
discusses	distance	distributed	69:3
25:8 37:22	91:10 93:1	77:8	dynamic
discussing	119:21, 23	district	34:8, 9
8:18 57:17	121:2, 4	136:2, 23	
121:17	124:4, 9,	149:2	E
discussion	11, 21, 22	disturb	E-911 67:17
25:8, 16	125:7, 20	19:12	E-S-C 80:21
26:24	126:9	divide 96:8,	e.g. 123:7
34:20	130:11	9	earlier
48:11	131:7, 19,	document	33:18
54:16 76:7	23 132:4,	56:14	47:19 75:9
88:12, 13	8, 14, 17	100:14	144:15
97:1 114:1	133:1	documentation	161:19
122:13	135:1	88:2	162:18
159:19	140:11, 16	doubt 158:22	early 66:20
discussions	144:18, 25	downstream	78:8 158:2
162:21	145:23	61:19	earth 143:4
dispatcher	147:12	dozen 70:17	easiest 34:4
44:17	148:19, 23,	drains 64:2	East 142:4
display	25 149:8	draw 110:23	Eastern
84:17	distance-based	driven 72:20	24:23, 24
86:11, 14,	119:8	driver 45:1	easy 41:14
18, 25	120:9		
87:16, 17	135:16		
89:21	145:14, 16		
	146:2, 18,		

effect 84:2	9, 16, 20	enabled	entry 122:25
effectively	30:10	56:16	123:8
51:23	32:16	enables 21:9	158:10
59:22	33:17 39:9	encompass	Enzmann 9:21
127:18	50:5, 21	162:6	10:9 40:7
efficient	54:18	encompasses	90:9, 19
156:13	56:12	156:3	91:14, 22
effort 68:4	59:6, 15	encountered	92:1, 2, 4,
89:12	73:4, 7	158:1, 4	23 93:8,
elaborate	75:22 76:7	end 24:14	16, 24
60:7	83:10, 13,	39:19	94:16
elder 47:13,	23 84:1, 2,	71:20	118:9, 13,
14	3 86:7	74:19	17 119:3,
element	103:16	80:11	10, 15, 21,
38:22	107:19	118:9	24 120:9,
50:13	113:10	122:12	17, 23
53:17	118:8, 13	end-user	121:6, 9,
162:6	119:15	83:13	16, 19
elements	120:18	engaged 8:12	122:16
32:2 39:6	129:9	122:7	Enzmann's
53:17	153:4	engines	92:8
134:21	154:17	38:19	equating
142:3	embodiments	enhanced	73:18
149:3	12:14 21:8	67:18	equivalent
157:16	27:2, 11, 20	enters 127:8	41:9 115:2
Elm 35:7	30:18 56:8	128:14	Escape 79:21
embodiment	61:3 70:18	138:12	80:18 87:8
12:10, 15	74:6, 8, 16,	entire 80:5	essence
14:23	17 111:6	entirety	84:10
15:19 18:3	149:14, 18	157:2	essentially
21:12, 17,	156:10	entitled	23:6 25:10
20 23:13	157:17, 23	122:16	36:10 46:5
27:12	159:17, 18,	139:2	50:14
28:5, 6, 16	19 162:5,	enable	66:20
29:2, 4, 5,	10	160:24	89:6, 8, 18
	enable		90:6 106:1

108:3	139:11, 16,	17:24 18:1	95:19
128:7	20 140:1,	19:1 24:14	existence
establish	23 146:2	27:8, 10	40:8
11:23	147:8, 25	50:21	
58:21	events	82:2, 11	existent
114:14	118:14, 17,	88:16	89:8
115:10, 12	22 120:8	103:8	expectation
136:21	121:10	108:9, 22	23:3
established	132:19	112:14, 24	expenses
15:3, 13, 25	133:10	113:5	144:22
19:4 101:3	135:22	152:22	experience
104:17	137:4	153:16	18:11, 16
115:15	140:24	154:11	51:20
153:9	145:12, 16,	160:13	56:15
establishing	19 146:18,	excerpts	143:19
103:10	22 148:2,	126:11	
135:25	11, 13, 14	exchange	expertise
	149:4	76:18	95:6
estate 89:18	ever-so-	exclamation	explain 26:6
Europe 75:6	popular	80:21	50:5 51:16
European	154:8		61:7 91:25
80:24	ex-wife	excuse 15:4	144:4
evaluation	18:15	19:9	explicit
99:11, 17	exact 38:22	exhibit 9:3,	43:20 51:1
event 60:10	examination	6, 7 10:7,	explicitly
64:13	6:5 96:12	25 11:1	84:4
118:4, 10,	examples	90:9, 14, 16	156:5, 22
20 119:5,	74:9 87:2	96:16 97:5	157:8
16, 19	95:8, 20	117:17, 18,	
120:18	127:4	20 122:9,	extracted
121:8, 12,	145:23	14 150:3,	45:14
17 133:24		4, 5	eyes 121:18
134:8, 11	excerpt	exist 75:4	
136:7, 11,	12:9, 22	existed 75:3	
18 137:6	13:16	86:10	F
138:20	14:21	89:25	fact 16:24
	15:22		30:6 57:22

60:11	37:6	44:4 96:2	form 12:25
68:20			15:14
76:25 93:7	field 52:6,9	five-minute	16:6,20
103:24	figure 14:7	114:3	18:5 19:20
103:24	57:3,4,15,	flip-around	20:23 21:6
103:24	20 74:20	132:23	22:1,8
103:24	83:1,6,13	flippant	24:4 25:15
103:24	84:5,6,13,	64:23	27:13
103:24	24 85:8	flow 23:6	28:19
103:24	131:14	70:23	30:13
103:24	figured	flow-through	31:11,24
103:24	34:18	106:3	32:12,17
103:24	file 51:25	flows 106:1	33:10,25
103:24	filter 26:12	fly 51:23	34:11
103:24	final 103:5,	focus 50:13	35:13,17
103:24	23 106:21		37:2 38:5
103:24	107:6	focused	39:22
103:24	109:14	49:25	40:14 41:2
103:24	111:9	50:16	42:3,9
103:24	find 31:9	57:6,7	43:5,17
103:24	46:9 48:7,	61:17	44:15 45:8
103:24	21 68:1	followup	46:3,13,20
103:24	76:6	33:22	47:5 48:20
103:24	110:19	food 96:7	49:14,24
103:24	finding 67:9	forefront	50:8,24
103:24	fine 10:16	87:11	51:18,24
103:24	44:19	foremost	53:3 54:1,
103:24	127:25	63:19	12 55:10
103:24	133:19	forever	56:18
103:24	134:5	72:21	57:14
103:24	finish 7:23	forget 7:6	58:2,23
103:24	44:7	46:23	59:17
103:24	135:10	47:11	60:16 61:9
103:24	149:12	77:21	62:10
103:24	finished	95:19	63:7,18
103:24			65:15,19
103:24			66:2,12
103:24			69:10

70:1, 12, 16	132:15	fresh 29:3	105:24
72:3, 6	134:13	43:24	functionality
74:2 75:1	136:9	71:18	47:22
76:5, 20	138:9	77:3, 10	56:16
79:1, 19	140:13	157:18	88:15
81:22	141:13, 20	freshness	156:2
82:6, 14	142:1, 16	66:23	157:15
83:7, 16	143:7	friend	158:9, 11
84:7, 25	144:3	18:21, 22	159:2, 9,
85:10, 16	145:7	67:9	10, 12, 13
86:6, 13	146:4	92:12, 13,	funny 131:10
88:24 92:6	147:2, 13	15, 17, 18	
93:19 94:2	148:20	93:1	
95:10	149:10	118:19	G
97:25	151:15, 25	119:4, 9,	games 64:11
98:8, 14	152:6, 24	19, 22	Ganesh 10:10
99:7, 21	153:2, 17,	120:11, 12,	gap 41:14
101:12	24 154:4,	24 121:18	Garmin
102:4	16 155:2,	friend's	75:13, 18,
105:4, 17,	16, 25	92:10	19
24 106:15	156:25	Friendfinder	Garmins 89:7
107:14, 18	157:11	66:20	gatekeeper
108:25	161:16	67:21, 25	99:10
110:25	forms 99:12	friends	103:5
111:15	found 68:5	18:23	108:2
112:16	fourth 135:4	51:25 52:1	gateway
113:1, 8, 18	frankly 34:3	91:16, 19	105:22
114:21	38:13	92:1	gave 65:13
115:23	59:24 79:3	93:12, 17	117:21
116:6	122:8	94:19	geared 60:9
118:15	free 10:15	front 56:7	89:9
119:17	153:1	full 6:21	general 16:1
120:5, 19	frequent	30:15	27:19
125:12	77:2	131:4	33:19
126:5, 10,	frequently	function	
22 127:14	64:7		
128:5			
129:8			

46:14 56:2	145:1	79:15, 17,	10 33:7
75:20	146:1	20, 24, 25	34:21, 23
108:5	geographical	80:2, 4, 6,	37:17, 24
115:2	127:6	14 127:12,	38:7, 8
generalization	128:8	13, 22	51:11
53:25	130:10, 17	grab 63:14	52:15, 24
generally	132:1	grabs 77:13	53:1, 2, 9,
20:3 22:3	134:6, 24	grand 47:13	10, 13
26:8, 10	136:23	granted	54:10, 11,
38:7 49:16	138:11	108:17, 18	14 55:1, 8,
55:20	140:14	109:3, 24	9, 13, 16
56:22 68:9	143:18	111:3, 13	56:4, 23
69:13	geospacic	granularity	58:21
115:24	143:21	119:11	59:4, 14, 18
149:17	144:5	120:6	60:12 61:3
159:18	giant 86:16	139:20	63:7, 8, 9
generated	give 13:14	graphics	65:13 66:9
124:13	20:11	86:24	67:10
generating	21:19	89:15	99:23, 25
71:5 77:17	24:21 36:1	great 80:9	100:2, 13,
124:10	63:3, 15	90:5	16, 17
125:19, 20	78:15	greatly	101:2, 4,
generic 20:2	87:2, 4, 12,	146:8	22, 23, 25
geofence	14 109:16	green 94:20	104:18, 24
146:21	135:6	Ground 10:8	106:5, 18
geofencing	giving 137:9	group 17:12,	114:24, 25
145:17	145:10	13, 16, 18,	115:1
geographic	good 6:7, 8,	19, 25	154:18, 20
133:21	10, 12 8:1,	18:2, 8, 9,	161:11, 13,
134:11	16 81:4	11, 14, 17,	15, 23
135:24	102:10	23 25:7,	162:22
136:1, 8	121:14	16, 17, 18,	groups 26:24
137:11	GPS 46:23	20, 23	156:15
140:6, 11	47:11 64:1	26:1, 4, 5,	gruesome
144:25	68:13, 17		144:5
	75:9 77:23		145:10
			guess 16:7

33:19 70:7	hard 9:10	hinges 60:21	hypothesizing 95:6
71:21, 22	hardcopy 96:18	hold 27:17	hypothetical 63:3 65:12
87:22	117:21	106:14	66:3
140:18	hate 92:22	133:7, 17	95:11, 15
guy 68:2	head 67:13	Hollywood 86:24	
72:19	94:4 95:4	home 33:2,	
158:20	heading 137:3	13, 16 34:2	I
guys 96:6, 7	hear 141:14	35:21, 25	
	heard 10:1	36:6 45:12	ID 42:8
H	77:21	72:12	44:23
H-I-L-L-I-A-R-D 6:23	hearing 61:25	127:7	46:17, 25
half 70:19	held 48:11	128:8, 14	47:4, 8, 11,
79:25	97:1 114:1	133:22	13, 17, 19,
89:20	122:13	134:7, 12,	21 48:1
hand 42:19	helpful 102:6	16, 24	66:22, 25
72:11	helping 158:21	136:8	127:19
handed 121:25	Hey 71:18	137:11, 13	idea 65:1
handing 11:7	78:19 95:2	138:12, 14,	100:5
90:10	107:23	16 146:20	140:20
149:25	high-level 32:3	hot 6:10	identification 9:7 11:1
handset 64:2	highlight 94:19	hour 68:22	90:16
69:19 71:5	highly 140:20	70:19	117:20
handsets 80:5	Hilliard 6:23	78:13 81:4	122:14
happen 33:4		135:8	150:5
happened 68:2		hours 71:1	identification s 124:20
happening 62:1		72:12, 22	identified 52:2
happy 13:11		96:8	135:17
23:11		house 35:6	152:22
		136:16	153:16
		138:7	identifies 153:16
		141:8	
		148:8, 9	
		husband 138:2, 20	

identify	153:7, 11	25 149:3, 4	24 70:4, 5,
52:16	162:21, 22	information	9 76:15
133:21	included	11:17	79:7 81:21
152:23	92:9	12:13, 23	82:6 88:8
154:21	119:12	13:6, 20, 21	89:10
identifying	includes	15:1, 2, 7,	92:16
133:24	21:13, 20	12, 24	97:10
immediately	23:14	16:3, 15, 18	98:6, 18
54:14	29:21 86:2	17:4, 18	99:19
83:22	156:2	19:3	103:9, 13,
impact 71:15	161:18	20:14, 16	19, 22
implementation	including	21:14, 21	105:11, 15
67:25	56:6 61:1	22:20	106:8, 11,
implemented	108:9	23:2, 6, 8,	18 107:2,
16:16	120:13	15, 19, 23	7, 12, 24
23:25 25:2	121:10	24:2, 16, 22	108:6, 19
implementing	127:18	25:5, 8, 11,	109:10, 11,
25:13	145:16, 22	22 26:13	15, 16, 25
115:16	inclusive	27:3 28:25	111:4, 22
153:22	33:13	29:15, 21	112:3, 9,
implies	159:18	30:11 31:3	15, 25
43:19	independent	33:8, 13	113:6, 17
important	10:14	34:22 36:1	114:16
36:20 76:4	16:10 22:4	38:13	116:4
100:10	23:20 40:1	39:19	153:7, 8, 12
146:10	54:21	40:23	154:19, 22
importantly	106:16	41:23 43:3	155:9, 11
28:22	index 46:5	49:6, 9	156:15, 17
inaccurate	indicator	50:15, 18	157:21
42:10	143:16	52:9, 25	161:12
include	indispensable	53:14 54:5	information.'
15:1, 5, 23	109:13	57:9, 10	51:12
16:14 19:3	individual	58:6, 21	52:17
130:22	17:9	60:19, 22	152:16
	114:19, 24,	61:15, 23,	initial 75:7
		25 62:7, 12	83:20
		66:11	initiate
		69:5, 6, 9,	

51:6 58:8	intensity	129:20	96:13, 15
76:15	89:13, 14	introduction	117:16
initiated	intention	105:21	149:22
44:3	41:8 56:3	invention	162:25
48:17, 18	inter 8:7	12:11	Island 67:4
initiating	interact	51:17	146:9, 13
27:4 39:10	158:21	62:24 66:1	Islands
50:23	interacting	92:5, 15	146:15
58:16	108:4	122:23	issue 8:25
initiative	interaction	123:4, 6, 19	issues 68:15
47:20	44:25 64:1	126:16	
innovation	110:22	129:5	
68:14	interested	132:13	J
inquiry 65:7	25:10 93:4	143:5	
inside 79:17	135:20	156:4	Jeffrey
144:13	interesting	inventor	8:10, 14
instance	67:22	8:10	Jim's 95:2
24:17	107:10	investment	John 7:6
76:13	interface	90:7	joke 67:1
instant	41:10	involve	July 6:11
91:15	intermediary	74:17	jumping
92:3, 10	23:1	110:18	145:3
93:11, 23,	105:21	111:5	
25 94:8, 10	internal	involved	K
118:8	44:22	65:2 68:4	
instantaneousl	internet	111:1	Kansas
y 72:10	40:2	146:10	72:20, 21,
insulating	interpret	159:21	22
108:1	54:24	involves	keeping
integrate	interpretation	75:22	122:10, 12
40:18	31:21	76:17	key 157:14
intended	145:2	110:22	keyboard
143:9	interruptions	iphone 71:7	89:19
		IPR 8:22, 24	killing 78:5
		9:1, 2	

kind 9:25	130:3, 4	28:5, 7, 11,	162:2, 7, 10
13:13	135:20	16, 23	landline-to-
19:14, 15	136:11, 17	29:5, 10,	mobile 12:12
21:7 22:10	137:1	18, 23	56:10, 25
27:18 29:3	142:4	30:2, 4, 7,	84:14
32:1 36:3	146:16	12, 15 32:8	landlines
37:4	158:20	33:6, 12	38:13, 16
38:16, 19	kinds 25:8	34:2, 7	language
39:25	68:22	35:3, 12, 20	31:20
41:10	87:17	36:11	59:14 69:1
42:15, 21	Kirkwood	37:18, 20	73:14
43:15, 22	136:16	38:17, 22,	135:17
45:17	knowing	25 39:7	large 126:20
47:11, 13	44:18	41:22	late 40:8
49:22 50:1	128:6, 7	46:11 49:7	latest 78:15
52:9	knowledge	51:6 56:4	launch 94:12
53:11, 14	87:25	57:18, 22	launched
56:20	93:23	58:5, 7	75:8
59:24 60:6		59:6, 19	layer 112:20
61:18		60:20, 23	LBS 158:6
62:24	L	62:12, 23,	leader 68:3
64:18 65:7		25 73:10,	learn 111:13
66:17, 25	la 64:18	22 82:4	leave 139:3
67:4, 19	161:23	86:4, 8	length
68:17, 23	label 18:12	108:11	160:18
69:16, 17	51:25	113:13	level 17:10,
70:14	135:20	159:16, 19,	12 53:7
71:1, 7, 11	136:7	20	77:15 79:5
72:10 74:4	labeled	landline-only	93:20
75:13	118:3	60:1	119:11, 24
78:5, 8	150:12	landline-to-	120:1, 10
84:9	Labels 83:2	landline	121:16
86:10, 16,	lacking	31:1 54:25	139:19
19 87:9, 11	88:23	55:2, 21, 23	
88:2	landline	56:9, 24	
89:20, 23	27:11, 19	159:3	
90:2, 3, 6		161:25	
93:1 95:3			

APPLE, INC. vs MULLEN INDUSTRIES, LLC
David Williams, Vol. 1 on 07/26/2023

Index: levels..location

141:6	73:3 81:23	local 82:7	49:15, 18,
157:25	82:1, 23, 25	160:14, 21,	23 50:2, 7,
162:8	83:4 84:20	22	14 52:4
levels 71:10	85:1, 13, 23	locate 42:23	55:24
life 158:18	86:19	109:24	56:22
likelihood	87:17	111:3	58:25
52:3 62:11	91:22	located	59:12, 21,
67:9	100:3, 17,	20:22	22 60:6,
limit 14:25	23 112:13	26:19 35:7	11, 22, 23
152:15	113:4	52:1 92:14	61:1, 11,
153:5	133:18		15, 19
161:22	139:19	locating	62:12, 14,
limitation	140:2	37:9 47:25	16, 21
11:13, 15	152:19	location	63:20, 21,
26:15	154:8, 12	11:17, 18,	23, 25
89:23	linking	24 15:18	64:5, 14,
97:7, 8	138:13	17:2, 3, 18	15, 16, 23,
114:13	list 18:22	18:17	24 65:18
118:3, 4	51:24 52:6	20:4, 14	66:11, 18,
150:12	94:19	21:4, 16, 25	24 70:20,
151:5	99:25	22:14	22 71:1, 7,
limitations	101:23	25:22	8, 9, 24
10:14, 16	150:14, 17	26:13	76:8 77:3,
65:5	151:6, 9,	32:20, 21	6, 10, 17, 24
limited	12, 16, 22	33:3, 5, 6,	78:9, 15, 21
94:24, 25	152:23	16 34:9, 13	79:7, 12, 16
159:16	153:16, 18	35:5, 11, 23	81:20
162:2	160:1, 6	36:21 37:5	92:12, 16,
lines 12:5,	161:5, 16,	38:11	18, 24
8, 9 14:12,	23 162:22	39:18	97:10, 18,
18 17:24	listed 57:22	40:23	20 98:23
18:4 20:6	134:20, 21	41:25 42:9	99:12, 25
33:17	lists 52:7	43:23, 25	101:7
34:21	litmus 14:6	44:25	102:17, 22,
55:7, 8	load 108:3	45:10, 12,	23, 25
		13 46:9, 23	103:6, 17
		47:10, 14	104:22, 25
		48:25	105:20, 23

APPLE, INC. vs MULLEN INDUSTRIES, LLC

David Williams, Vol. 1 on 07/26/2023 Index: location-based..making

106:1, 8	6, 16 121:9	long 18:12	
107:1, 7, 12	133:10, 24	31:20	M
109:6, 10,	134:7, 8,	97:18	
11, 15, 25	10, 22	98:13	mad 68:18
111:4	135:5	131:3	made 6:19
112:3, 9,	136:7	161:1	68:17 79:9
15, 25	139:11, 16	long-haul	94:23
113:6, 17	146:2	72:18	107:2
114:12, 15	147:8		
115:11, 12	location-of-	longer 73:2	Magellan
116:14, 17,	friend	looked 131:4	75:5, 12
19, 23	119:21	losing 44:6	89:7
117:5, 6, 7,	location-	lost 39:14	maintaining
9, 11 119:4	providing	lot 31:20	70:8
123:1, 10	23:2	36:5, 11	majority
127:12, 13,	locations	37:16	38:14
18 128:3,	36:22 66:8	38:15, 20	105:20
9, 12 129:7	71:23	39:8 40:8	107:25
130:1, 20	82:19	47:21	make 27:22
132:9, 18	84:17	49:17	37:3 39:14
133:2, 4	99:22	61:11 62:1	63:16
136:11	101:21	68:9 74:8	68:23
137:5	102:24	78:7	74:21
138:16	156:12	89:12, 18	76:22
141:4	log-in 54:1	108:9	87:19 98:5
150:17	log-on	118:18	99:2
151:23	73:18, 20,	159:13	106:20
152:1	21 112:18	lots 48:24	132:21
157:16, 18	logged 15:16	61:14	136:17
160:2	16:2, 24	Louis 6:11	146:15
location-based	17:14	35:8	157:17
40:10	108:11	136:15	maker 80:13
42:15	109:23	lunch 92:13	makes 37:17
45:16	logical		111:9
47:15	145:1		137:6
68:10, 24			making 90:4
118:4, 10,			103:1
14 119:4,			

105:14	market 67:14	mention 158:16
106:16	master 60:2	105:19
107:6	match 33:2	Microsoft 95:25
108:23	materials 96:21	Microsoft's 95:19
109:14	mandate	middle 122:22
67:16, 18	mathematical 143:24	message 92:17
80:10	mere 16:24	124:11, 13
Manhattan 63:7	matter 57:6	125:19, 20
manifested 140:15	72:5	message 92:17
map 81:16, 22 82:7	121:1, 2	124:11, 13
84:5	meaning 16:16	125:19, 20
85:13, 23	25:20	messaging 91:15
86:2, 11, 18, 25	means 24:20	92:4, 10
87:9, 21	51:16	93:11, 24,
88:2	102:23	25 118:8
143:19	135:23	Messenger 94:8, 10
158:5	141:10, 18	95:25
mapping 127:21	142:10, 14	met 7:4
maps 82:19	meant 70:7	method 43:4
84:11, 17	125:11	48:23
March 66:13	mechanism 41:10	122:17, 23
mark 9:5	mechanisms 50:17 64:8	123:7
10:24	107:4	124:3, 9, 17
90:13	145:17	125:8
marked 9:7	meet 6:12	126:20
11:1 90:16	7:2 67:16	143:5
117:20	121:19	methods 46:23, 24
122:14	149:4	47:14
150:5	meeting 121:7	69:18
		127:23
		128:1
		Michael
		Missouri 35:8
		mind 10:19
		13:15
		19:24 89:3
		135:11
		minimum 45:11
		57:19
		minute 63:14
		65:21
		71:17
		minutes 43:21
		63:25
		65:21
		71:19 76:2
		96:4
		113:24, 25
		missed 85:1
		Missouri 35:8

136:15	50:7 51:6	mobility	124:16
mixed 46:22	54:5 55:18	36:12	Mullen 8:10,
150:10	56:5,16	model 80:13	14 20:5
mobile	57:17,21	87:12,14,	145:24
11:22,23	58:5,6,19	19	146:16,25
12:1,15,17	59:10,11,	models 87:22	148:1,12
13:23	15 60:9,	module 81:8	158:3
15:17	21,22	moment 72:8	Mullen's
16:23	61:3,12,22	135:6	59:25
20:14,16,	62:7,21	Monday 7:4	myopic
21 21:4,	63:8 66:8	money 67:15	136:13
16,24	69:4 71:23	90:3	
22:7,22,23	73:9,22,24	monitoring	N
23:25	74:24 75:5	93:8	named 8:10
24:9,21	84:6,11,23	month 71:20	names 8:16
25:2	85:3 86:10	morning 6:7,	9:23 38:10
27:12,19	88:18	8 14:16	87:3,4
28:5,7,10,	101:3	motion 22:11	narrow 23:4
11 29:9,	103:4	64:9	24:5 137:2
14,16,18,	104:2,17	158:1,7	140:18
24 30:4,5,	105:9,10	move 26:14	narrowly
17,20	113:12	32:24 69:1	101:13
32:15,23	115:22	96:5	nations
33:5,9,12,	155:9	121:22	144:9
16 34:3,	159:18	149:21	nature 22:10
10,14	160:14,16,	moves 36:23	67:8
35:11,20,	21,23	128:25	118:16
22 36:5,9,	mobile-to-	moving 34:7,	146:13
19,22	landline	9 36:2	navigate
37:5,23	162:5	40:1 42:19	74:8
38:1,15,	mobile-to-	59:11	navigation
18,21	mobile 12:11	63:5,9	64:6 74:9,
39:1,7,19	55:4,25	117:15	14,16,25
40:23	56:9,25		75:2,4,7
41:21,24	57:4 84:15		
46:12 47:4	159:5		
49:6,7	162:5		

APPLE, INC. vs MULLEN INDUSTRIES, LLC

David Williams, Vol. 1 on 07/26/2023x: navigation-related..objection

77:2, 6, 7, 14, 24 78:4, 7, 14 89:5, 22, 25 navigation- related 74:8 89:9 navigational 88:8, 15, 18, 21 Navstar 75:12 Navtech 158:5, 21 nearby 91:19 121:18 necessarily 17:1 23:4 29:4 32:2 42:13 43:18 54:20 70:25 71:17 needed 47:15 157:18 162:9 needing 157:19 negate 107:22 network 14:9 31:17 41:17, 25 42:17	44:3, 11 45:5, 11 47:20 48:17, 19, 21, 22 49:1 71:5 80:23, 24 108:13 network-based 79:24 80:1 network- initiated 42:5 43:16 44:9 45:4 47:23, 24 69:19 networks 22:11 40:12, 16, 17 41:12 158:1, 7 news 66:17 Nextel 40:9 80:3 nightly 129:20 node 109:13 noise 89:13 Nokia 87:11 non-phones 87:5 non-realtime 64:14 nontechnical	53:14 normal 36:4 north 141:2 142:4 143:15 noted 24:14 notes 45:24 96:4 notification 91:18 118:10 122:24 130:5 notified 123:8 134:16 notifying 129:24 notwithstandin g 25:7 null 18:13 number 12:16 28:24 30:21 31:2, 10 33:9 34:2 35:6 41:23 46:11, 12 52:3 58:7, 16 59:7 60:3, 18 82:4 85:14, 24 86:3, 5 87:19	94:24, 25 96:16, 17 122:11 134:23 143:13 numbering 123:21 numbers 29:22 32:10 38:10 46:2 60:20 70:10 122:9 123:23 numeral 83:14 0 object 18:5 24:3 63:3 123:5 124:2 objection 12:25 13:7, 22 15:14 16:6, 20 18:5 20:23 21:6 22:1, 8, 24 24:3, 4 25:15 27:13 28:19 30:13 31:11, 24
---	---	--	---

32:12, 17	93:19 94:2	147:2, 13	17, 25
33:10, 25	95:10	148:20	17:15 21:3
34:11	97:25	149:10	23:1, 5
35:13, 17	98:8, 14	151:15, 25	24:1 25:3
37:2 38:5	99:4, 7, 21	152:6, 24	26:11
39:22	100:19	153:2, 17,	31:23
40:14 41:2	101:12	24 154:4,	39:20
42:3 43:5,	102:4	16 155:2,	40:24 43:2
17 44:15	105:4, 17	16, 25	45:6 47:2,
45:8 46:3,	106:15	156:25	3 48:19, 22
13, 20 47:5	107:14, 18	157:11	49:19, 24
48:20	108:25	161:6	50:6 56:15
49:14	110:25	obnoxious	57:7, 8, 11,
50:8, 11, 24	111:15	136:12	16, 20
51:18, 21	112:16	observation	62:5, 6
53:3 54:12	113:1, 7, 8,	83:20	63:14 65:5
55:10	18 114:21	obtain 11:24	69:14, 15,
56:18	115:18, 23	92:16	23 70:20,
57:14	116:6	obtained	24 71:22
58:2, 23	118:15	12:13	73:25
59:17	119:17	104:5	77:13
60:16 61:9	120:5, 19,	obtaining	78:3, 6, 12
62:3, 10	22 125:12	14:25 76:8	79:9, 10
63:18	126:5, 10,	152:15	98:22
65:15, 19	22 127:14	153:6	99:2, 10,
66:2, 12	128:5	obvious	17, 22, 23
69:10	129:8	10:10	100:5, 8,
70:1, 12, 16	132:15	77:19	13, 18
72:3, 6	134:13	obviousness	101:11, 17,
74:2 75:1	136:9	119:13	20, 21, 25
76:5, 20	138:9	occurred	102:16, 22,
79:1, 19	140:13	40:16	24, 25
82:14	141:13, 20	61:13	103:1, 5,
83:7, 16	142:1, 16	ODAS 15:11,	10, 14, 16
84:7, 25	143:7	16 16:2,	104:6, 14
85:10, 16	144:3		105:3, 5, 9,
86:6, 13	145:7		13, 24, 25
88:24 92:6	146:4		106:2, 7,

11,12,20	81:19 91:6	original	83:22 84:8
107:11,12,	102:23	26:12	85:7,17
16 109:8	118:12	80:10	88:5,8
110:7,12,	119:9	other's	90:21
14,22	120:12	108:19	91:14 93:6
111:1,8,11	133:13	overnight	97:5,6,15,
115:12	152:9	71:25	16 98:22
153:23	159:16	owner 32:18	101:18
154:3	opinions	owner's 15:5	108:10
156:11	6:18 8:5,	16:9 19:5	109:19
odds 64:17	22 9:17	153:10	111:23
72:21	10:6		114:6
one's 105:23	opposed 50:2		116:10
online 29:20	129:11	P	117:1,2,24
30:1,5,6,	131:24	p.m. 24:23	118:2,7
10	156:16	129:19	119:7
open 43:2	157:15	packed 62:1	129:10
opened	optimal	packet 71:17	133:5
146:17	88:20	pages 10:15	135:15
operable	opting 20:21	Palm 90:3,4	139:9
11:15	option 21:13	Panama	150:6,11
26:18 91:8	23:15	140:19	152:12
operate	92:11	paper 90:10,	155:19
100:6	107:1,21	11 122:1	159:1,11
operated	orange 94:20	149:25	paragraphs
80:22	oranges 36:9	paragraph	27:18,21
operating	order 8:23	11:14,21	28:3
35:19	41:20	23:4 27:1,	parameter
operation	43:3,22	22,23	94:15
45:17	46:7,9	30:16	parameters
opinion	ordinary	31:25 32:1	99:11
29:18,23	144:6	51:9 54:17	pardon 61:22
55:16,22	ordinate	73:4	82:24
56:13,20	143:25	81:13,19	91:16
			97:15
			151:20

parens	153:18, 21	146:25	25 162:20
123:11	155:8	147:20	periodically
parentheses	157:13	148:2	43:21
123:10	passages	158:3, 14	44:21
part 13:11	56:2	PC 83:14, 21	permission
15:15	passes 107:8	PDA 88:19	11:15 15:5
19:22	passing	PDAS 89:24	16:9 19:5,
35:18	69:25	PDF 48:8	7, 8 20:3
38:21	password	peer-to-peer	25:3 26:17
62:15	54:2	105:20	28:12 38:8
67:10 79:6	73:19, 21	107:1, 20	56:21
88:13	112:19	pending 7:22	97:19
93:13	past 7:14,	139:4	98:23
126:20	15 112:18	Pennsylvania	102:17
partes 8:7	patent 8:25	72:24	106:7
participation	9:19 13:17	people	108:16
48:1	30:17	17:14, 17	109:2, 5
parties	49:16	26:1, 12	112:2, 8,
108:18	50:16 76:3	35:25 36:6	14, 24
party	96:15 97:4	63:8 77:25	113:5, 16
108:15, 23	117:16	92:22	115:10, 15,
109:2, 5, 12	118:17, 23	94:14, 21,	21 116:15,
pass 10:21	119:5	24, 25	18, 23
62:9 90:8	127:16	95:21	117:6, 7
96:17	130:25	percent	153:10
99:18	131:1, 4	58:1, 15	157:19
109:12	145:24	143:11	162:22
117:18	146:16	period 22:4	permissions
149:23	147:23	23:20	11:23
passage 21:7	148:12	24:17, 22	19:11, 13,
27:20 28:8	149:22	25:21	17, 19, 20,
49:12 58:3	157:5	65:22 78:3	21, 23
83:25 92:9	patents 6:19	95:8	26:11 38:9
102:20	8:5, 9, 25	160:15, 16,	49:20 50:1
104:12	20:1 61:11		56:23
	118:23		70:24 99:3
			100:7, 8

101:3	personally	phones 36:5	play 64:12
103:4	158:16	37:20	Plaza 67:2
104:17	petitions	74:24	plural 28:3
106:3, 18	8:7	75:3, 9	plurality
108:5	phone 22:3	80:6, 8, 9	26:1
109:17	24:7, 10	87:7	97:10, 12
110:19	25:11	89:16, 17	150:18
111:17	26:8, 12	phrase 56:19	point 36:7
113:14	31:16 34:1	74:21	49:2 54:22
117:10	35:5, 6, 7,	76:11	57:25 80:3
156:3	12 36:19,	82:12	100:14
160:25	21 37:9	phrased	102:2
permitted	40:2	28:21	103:15
52:17	41:14, 24	62:13	138:15
103:2	42:23, 24	physical	139:25
154:21	43:3 44:23	157:16	points
permutation	45:1 46:2,	picking 92:8	157:14
33:15 34:4	11 48:25	piece 79:8	Police 67:2
115:1	50:6, 10, 23	131:13	polling
permutations	58:1 63:4	pieces	43:15, 19
22:13 23:7	71:23, 25	159:21	poor 67:5
25:19 26:9	73:25	pilot-type	populate
65:2	74:10, 14,	158:11	61:2
person 18:9,	18, 23	ping 68:20	portion 61:2
24 26:2	75:5, 7, 23	157:20	155:5
52:2, 3	76:8 77:5,	place 31:16	portions
54:2 72:1	11, 13, 18,	53:25	8:20
109:24	23 78:14,	63:10	112:10
111:2, 8	19, 23	78:23	POSITA
128:9	79:12, 15,	placing	121:19
135:2	17, 20	40:22	142:5
144:6	80:13	platform	156:7
156:14	87:15	22:11	position
personal	88:19, 23		
75:4 87:25	89:20		
89:5, 22	phone's		
	42:17		

11:25	75:22	potential	136:22
12:2, 13, 23	76:15, 18	156:8	140:5, 11
13:6, 18,	82:6 98:6,	potentially	141:11, 18
19, 20, 24	18 99:18,	22:2 24:6	142:6, 13,
14:1, 25	19 103:9,	28:7 29:6	22, 24
15:2, 6, 12,	13 105:10,	65:9	143:2
23 16:3,	15 106:11	132:18	144:16, 18,
15, 18 19:3	108:16, 19	143:10	21, 24
20:16, 21	109:2, 3	161:21	145:4, 25
21:14, 21	111:12, 16,	pouring	147:1, 10
22:20, 23	21 113:12,	31:19	148:17
23:8, 15,	13, 16	power 71:15	149:6
16, 19, 23	116:4	power/signal	160:18
24:2, 16, 22	124:18	127:20	prefaced
25:4 27:3	152:15	practical	105:21
28:23, 24	153:6, 8, 12	141:5	prefer 9:13
29:15	155:9, 11	practicing	preference
31:1, 2, 9	159:3	129:4	132:8
32:9 33:8	160:15, 18,	precise	133:1
34:9, 22	22, 24	110:9	preferences
35:4	161:25	111:19	107:3
37:18, 19,	162:2	predetermined	prepare 6:24
23 38:2	position-	122:25	preparing
41:23	enabled	123:9	7:2
42:17	12:16	124:12	prerequisite
44:13	108:12	125:1, 2, 6,	112:17
46:2, 5	positional	7, 21, 25	131:25
49:6, 9	153:6	126:1, 8	134:2
50:22, 23	positions	128:25	preselected
54:5, 25	32:9	129:6, 12,	122:25
55:18	124:19, 22	25 130:10	123:9
57:9, 10	poss 36:8	131:7, 19,	present
58:6, 21	possess	23 132:4,	12:10
61:23, 24	88:19	13, 16	92:15
66:10	possibly	135:25	122:23
69:5, 6, 8, 9	121:11		
70:8, 9			
73:9, 10			

123:5	printout	25 155:10,	protocol
126:16	11:2 96:25	20 156:3,	39:24
presenting	prior 103:10	15, 23	108:14
121:6	134:3	157:9, 18	protocols
presume	privacy	160:14, 23	39:18
160:8	12:1, 18	162:13, 19	41:18
presuming	13:23	problem	52:16
49:23 79:6	14:24	66:23	53:21
presupposing	15:1, 17,	85:22	54:16
50:14	20, 23	123:6, 25	73:5, 8
61:13	16:16, 22	procedures	101:6
pretty 44:6	17:2, 8, 11	108:14	104:23
79:21	19:2, 7, 9,	proceeding	111:25
108:22	14, 15, 19,	8:24 9:3	112:7
prevalence	20, 21	proceedings	113:11
20:1	20:15, 24	8:13, 22	154:21
prevent	21:12, 20,	process	prove 76:19
14:24	23 22:19	33:12 40:1	88:3
152:14	23:14, 25	109:14	provide
153:5	24:13	product	22:12
previous	25:1, 13	67:13	26:8, 11
52:23	26:5, 7	products	41:8, 13
62:20	49:8 56:23	65:25	82:18
79:14	61:24	profile	102:24
previously	101:4	150:15	110:21
41:13	102:21	151:13, 17	111:7
101:19	103:4	progressively	115:11
primarily	104:2, 4,	141:3	119:24
60:8 66:21	13, 18, 23	pronunciations	120:1
67:14	106:4, 18	10:2	128:19
primary 9:18	114:23	proprietary	provided
149:13	115:16, 24	41:17	11:16 14:1
printed 9:15	116:2, 3	proprietary-	15:19
11:8	152:14	type 41:13	17:18
	153:4, 7,		20:14 23:8
	22, 25		49:23
	154:2, 12,		117:11

160:8,9	put 9:9	23:11,22	questions
provider	10:22	33:23	6:6 7:19
158:5	37:10,20	34:19	10:5,13,17
providing	45:14 46:7	35:10 37:4	45:25 55:7
81:16	89:12	44:7,8	68:25
105:5,23	90:3,14	51:23	88:16
107:7	121:24	57:21	96:14
108:6	136:6	58:24	quick 114:3
123:7	putting	60:10	quickly
124:2	106:25	62:17	71:24
proximity	puzzle	63:20 66:6	quotation
123:1,10	159:21	74:19	53:16
129:6,25		75:20	quote 51:10
pull 37:10	Q	76:12	52:24
77:14,20	qualifier	82:11	53:5,6
78:25	16:8,21	84:9,10	87:18
pulling 71:4	qualify	85:18,19,	91:17,18
pun 143:9	121:1,5,	20 93:15	93:13
purpose	15,20	100:20	quote/unquote
62:13	queries	102:2	62:8
89:12	108:15	110:8	112:24
purposes 9:6	109:1	111:11	160:1
33:14	query 12:17	114:22	quoted 93:5
42:18	42:5	117:3,4	quoting
66:10	43:16,24	118:25	125:13
88:21	44:9 45:4	119:2	
160:23	47:20,23	120:3,6	R
pursuant	92:11	123:24	radio 127:21
102:1	querying	128:1	range 64:10
push 41:25	15:20	139:2	124:12
42:6	44:12	141:16,24	125:2,6,7,
77:14,20	question	145:8	22,25
78:2,11,24	7:21 13:1,	147:15	126:1,8
pushing 71:4	9 19:18	148:15,22	128:25
	21:8 22:17	153:15	
		154:24	
		questioning	
		75:21	

129:12	161:2	119:12, 25	recited
136:1, 3,	readily	reasons 38:7	125:8
22, 24	121:10	44:24	126:18, 20
140:6, 11,	reading 69:7	69:16 71:3	recites 91:7
16 141:11,	85:17	recall 39:16	97:9 118:4
18 142:6,	92:22	46:25 87:3	150:13
13, 22	125:13	receive	recognize
143:17	132:25	16:2, 18	142:5
144:16, 18,	ready 9:14,	17:3 21:24	151:3
21, 24	15 11:10	22:23 24:1	156:8
145:4, 25	20:11	25:3, 4	recognized
147:1, 10	42:19	43:3 97:19	121:11
148:17	156:12	98:6 101:7	recognizing
149:3, 6	158:11	104:22, 25	49:17
ranges	real 47:16	111:16, 21	record 6:22
132:14	89:18	129:19	8:19 48:11
143:3	realize	130:4	96:5 97:1
146:9, 11	144:8	received	113:21
rates 80:15	realized	20:17 21:1	114:1
re-reading	122:11	107:4	117:13
43:13	realtime	109:9	122:13
read 12:3,	43:14	receives	163:2
19 17:24	63:20, 21,	11:25	records
20:11	23 64:4, 24	21:24 57:8	35:20
21:19 32:6	65:13 66:8	130:9, 16	redesigned
43:14	86:11	131:6	80:13
73:13 82:3	87:20	135:24	refer 27:1
83:4	reason 7:24	receiving	54:10 84:4
116:21	43:12	21:21	85:23
119:2	47:18 64:7	22:6, 21	112:14, 24
124:14, 23	67:6, 24	23:17, 24	113:5
130:23	68:16 71:6	132:4	115:15
131:21	75:10	160:19	154:12, 25
148:16	98:2, 4	recitation	reference
153:21	118:21	149:7	10:23
154:25			
155:13			

11:5, 8	81:16	register	relied 9:19
30:2 31:23	83:24	45:12, 13	reluctant
37:22 54:5	92:3, 4	regular	20:2
55:8, 12	93:7 97:6,	43:22	relying
83:14	7 102:16,	relate 19:19	36:17
84:24	20 103:8	53:10	remains
90:19	110:6, 7	129:24	133:13
96:16	115:16	related	remember
100:16, 18	147:11	19:10, 11	40:7, 15, 18
116:22	148:18	113:19	41:7 48:6
121:23	153:22	142:3	50:25
122:1, 4, 6	159:9	relates 88:7	67:22 70:3
125:1	162:17	91:5	75:18
153:18	refers 37:22	114:12	80:24
referenced	83:11, 13	118:2	104:12
37:21	85:13	122:23	110:11
83:21	100:17	126:8, 17	149:14, 17
references	125:24	130:3	158:8, 24
9:18, 20, 22	149:8	149:22	remote 12:17
referencing	153:25	relating	15:6 16:14
32:4	reflects	91:6 96:15	26:18, 19
referred	126:19	124:4	82:4, 7
37:16 45:5	region	relationship	108:10, 15,
77:20 93:4	119:20, 23	53:19	23 109:1, 4
127:20	120:25	relative	150:15
140:2	121:11	101:2	151:7, 16
referring	145:14, 16,	releases	153:12
14:4	23 146:18,	106:8	160:16, 23
17:14, 22	19, 24	relevant	remotely
18:3	region-	28:8	26:19
19:16, 24	148:13	reliability	removal
26:25	region-based	68:19	68:11
29:23 30:1	119:8	reliable	rendered
32:7	120:9, 18	32:20	8:5, 22 9:2
52:21, 23	135:16, 22		10:6
53:22 54:1	148:3, 5		

renders	31:1 32:9	106:12, 13	residential
10:10	37:18, 23	109:7	82:5
repeat 13:1	38:2 50:6	requesting	respect 17:8
76:6	54:25	49:9 57:12	25:13
85:18, 20	55:18 57:8	62:9 63:15	56:12
123:24	58:6 70:4	73:10	96:13
154:24	73:9	82:20	111:25
repetitively	76:15, 18	84:16	121:17
128:25	79:12	97:19	128:20
rephrase	97:17	109:12	respects
23:11 99:9	98:5, 18	113:12, 16	42:7
128:1	99:6, 18	115:9	respond
rephrased	105:10	155:12	12:2, 22
13:13	107:5, 11	requests	13:5, 18, 24
represent	108:16, 17,	44:22	49:19
152:4	18 109:2, 3	49:20	100:8
representation	110:21	75:23	responding
14:7	111:12, 16	100:8	145:8
143:15	113:11	162:2	responds
representation	116:14, 17	require	49:8 61:24
s 141:4	153:12	16:22	69:6
representative	159:3	42:13	105:12
150:18	161:25	47:25	155:11
represented	requested	required	response
143:25	29:15 49:6	18:18 80:5	98:6
144:11	54:6 61:23	158:10	rest 41:15
representing	69:5 70:21	requirement	126:19
47:9	80:11	64:16	130:23, 24
request	106:11	151:22	restate
11:25 12:2	112:3, 8,	requirements	85:18
13:18, 24	14, 25	151:6	141:16
14:1 15:6	113:6	152:10	157:14
16:14 27:3	155:10	requires	restaurant
28:11, 23	requester	64:1 76:17	92:14
	99:13, 20,	reside 156:5	
	24 101:23		
	105:11, 16		

restrict	route	80:4	48:9, 20	107:14, 18
55:1	rudimentary		49:14	108:25
restriction	88:1		50:8, 11, 24	110:25
98:17	running	64:4	51:18, 21	111:15
retread	156:18		53:3 54:12	112:16
62:19	Ryden	10:9	55:10	113:1, 7,
reused			56:18	18, 22
36:14			57:14	114:8, 10,
reveal	s		58:2, 23	21 115:18,
160:22			59:17	23 116:6
review	sadly	18:23	60:16 61:9	117:21
8:7	safe	7:15	62:3, 10	118:15
10:15, 18	Sanders	7:6,	63:18	119:17
reviewed	8	11:4, 7	65:15, 19	120:5, 19,
7:13	12:25		66:2, 12	22 121:25
Rhode	13:7, 22		69:10	125:12, 17
146:9,	15:14		70:1, 12, 16	126:5, 10,
13, 15	16:6, 20		72:3, 6	22 127:14
rights	18:5 20:23		74:2 75:1	128:5
114:13	21:6 22:1,		76:5, 20	129:8
115:11, 12,	8, 24 24:3		79:1, 19	132:15
16, 21	25:15		82:14	134:13
road	27:13		83:7, 16	136:9
64:17	28:19		84:7, 25	137:20
roaming	30:13		85:10, 16	138:9, 23
42:18	31:11, 24		86:6, 13	139:1
role	32:12, 17		88:24	140:13
103:5	33:10, 25		90:10, 23	141:13, 20
104:1	34:11		92:6 93:19	142:1, 16
rolling	35:13, 17		94:2 95:10	143:7
126:19	37:2 38:5		97:25	144:3
room	39:22		98:8, 14	145:7
72:12	40:14 41:2		99:4, 7, 21	146:4
root	42:3 43:5,		100:19	147:2, 13
37:4,	17 44:15		101:12	148:20
14	45:8 46:3,		102:4	149:10, 25
rough	13, 20 47:5		105:4, 17	150:25
65:1			106:15	151:15, 25
roughly				
41:9				
44:18				

152:6, 24	32:5, 14, 22	86:9 87:1	137:8, 23
153:2, 17,	33:21	88:25	138:18
24 154:4,	34:5, 16	90:13, 17,	139:4, 7
16 155:2,	35:14	24, 25	141:9, 15,
16, 25	36:15	92:19	23 142:9,
156:25	37:12 39:2	93:22 94:5	17 143:8
157:11	40:5, 20	95:12	144:14
161:6	41:5 42:25	96:2, 11	145:20
163:1	43:8 44:2	97:2 98:1,	146:5
sat 70:18	45:3, 18, 21	11, 16	147:3, 14
save 83:18	46:6, 16	99:5, 15	148:21
92:16	47:1, 6	100:1, 21	149:11, 19,
saved 66:9	48:12 49:3	101:15	21 150:2,
scenario	50:4, 9, 19	102:5	7, 23
55:2, 4, 25	51:3, 19	105:8	151:2, 4, 19
131:5	52:12 53:8	106:9	152:3, 8, 25
159:5	55:5, 14	107:9, 15	153:14, 20
scenarios	57:1, 24	108:7	154:1, 6, 23
55:21	58:9 59:2	109:18	155:4, 18
130:15	60:13	111:10, 20	156:20
scene 75:19	61:6, 20	112:22	157:6, 22
Scheller	62:4 63:1	113:3, 15,	161:8
6:6, 13	65:11, 16,	20 114:2,	162:24
7:12 9:5, 8	23 66:5, 14	5, 9, 11	163:2
10:24 11:9	69:11	115:4, 20	scope 25:6
13:2, 10	70:6, 13	116:1, 8	29:8 30:16
14:2 15:21	71:13	117:13, 15,	131:4
16:12 17:5	72:4, 15	23 118:24	145:11
18:7 21:2,	74:11	120:2, 16,	screen 89:13
10 22:5	75:11	20 121:13	90:1 92:11
23:9 24:8	76:10, 21	122:2, 9, 15	screens
26:3 27:14	79:13	125:15, 18	86:16 90:7
29:11	80:17	126:7, 13,	search 48:6
30:19	81:3, 7, 10	24 127:24	102:12
31:13	82:16	128:10	137:13, 14
	83:9, 17	129:14	Secondarily
	84:19	132:20	
	85:5, 12, 21	134:17	

38:12	sending	85:2, 3, 7,	109:1, 8
seconds	21:22	13 91:14	150:15
63:13	22:6, 20,	93:3, 5, 7,	151:7, 16
65:17, 20	21, 22	10 97:16	155:21
68:21	23:17, 24	98:21	156:9, 11,
		101:3	16, 23
section	sends 57:11	102:15	157:9, 19
18:21 30:4	105:15	109:22	
95:2	107:16	110:4	server's
		111:23	108:13
seemingly	sense 20:3	114:14	server-based
29:3	37:18	115:5	44:21 77:8
	63:16	116:9, 22	
segregation	76:22	117:2	service
56:11	132:22	132:21	91:15 92:4
select 92:14	157:17	133:8	93:11, 25
selected	sensitivity	134:3	services
97:11	132:8, 17	136:20	40:10
125:3	133:2, 4	144:20	42:16
126:1	sensor 64:9	152:13	47:16
144:16		154:7	66:19
selection	sentence	155:19	68:10, 24
126:11	14:12	159:1, 22	71:8 93:24
	20:13	162:11	
selective	21:5, 11		session 43:2
68:12	23:13		
	24:5, 15	sentences	set 16:19
semantics	25:6 27:2	162:1	18:13
99:8	28:10, 21	separate	60:18
	29:9, 14, 17	79:18	78:13
send 21:13,	30:11, 25		94:13, 15
21 23:15,	31:5 32:6	sequence	96:20
16, 23	51:1, 5	117:12	124:3, 5,
92:17	52:14		13, 18
96:22	53:20	series	148:9
99:25	54:13 58:4	158:13	149:14
103:6	69:3 73:3,	serve 105:22	156:10
106:11, 13,	15 82:17	server 45:16	160:17
22 107:13	84:22	77:7, 9	162:10
116:4		108:15, 24	

sets 29:1	153:4, 7,	16, 17	79:18
31:4 32:7	11, 22, 25	14:3, 7, 23	81:23
144:12	154:2, 13	17:10, 17,	82:1, 17
setting	155:1, 10,	23 18:3	83:1, 12
12:18	20 156:8,	19:2 21:9	84:4, 10
15:20	15, 23	22:9, 11, 25	86:11
16:16	157:9, 19	24:13	88:12, 14,
17:2, 8	160:14	25:8, 12	23 89:1, 2
19:7, 14,	162:13, 19	27:1, 7	97:3, 16
15, 20	seventh	29:8 33:24	98:2, 4
21:15, 23	135:4	34:14	100:11, 12,
22:20	share 21:16	35:16	13, 22
23:25 25:2	33:16	37:1, 8, 21,	101:25
26:5, 7	50:17, 18	22 38:7	102:18
160:16	52:9 60:6,	39:3, 18	104:1, 13
settings	19, 22	40:6, 11	105:13, 18
12:1 13:23	77:25	45:6 46:1,	107:21
14:24	103:19	10, 18 47:3	109:8
15:1, 5, 18,	109:5	48:4, 5	111:24
23 16:13,	shared 20:4	49:5, 8	112:6, 10
23 19:2, 9,	52:4	50:5, 12,	114:14
10, 21	156:12	16, 22	115:5, 6, 7
20:15, 24	sharing	51:10, 15	116:9, 12
21:13, 21	15:18	53:20, 22	117:9
23:14	22:14	55:2 56:3,	152:9, 13,
24:13	49:25	14, 21	20 153:1
25:13 49:8	55:24	57:2, 5	155:24
61:24 71:7	56:22	58:22 59:8	156:1, 22
101:4	61:17	60:15	157:1, 8,
102:21	105:20	61:7, 12, 21	15, 24
104:2, 4,	107:3	62:2, 13, 19	158:13, 16
13, 18, 23	Sheha 9:20,	63:12, 21	159:2, 23,
106:4, 5	24 10:2, 3,	65:14 66:1	24 160:5
114:23, 24	8, 22 11:4,	69:14, 16	162:12
115:17, 24	8, 24 12:6,	73:23, 24	Sheha's
116:2, 4	21 13:4,	74:7 75:22	11:22 14:7
152:14		76:17	46:1 81:20
		78:1, 24	

short 50:21 96:7	similarly 33:17 73:9, 15	72:1	source 103:3
show 77:12 88:2 91:16 92:1 94:17	simple 54:1 60:1 159:20	slightly 12:12 79:22	south 142:4
showing 82:19 84:17 95:1	simpler 42:6 45:15	slow 14:16	span 10:14 54:9
shown 83:6 84:5	simplest 55:21	smaller 89:21 141:3	speak 145:10
sic 15:20 59:14 106:23 117:16	simultaneous 40:12	Smart 83:15, 21	speaking 137:2 140:25
sign-up 33:11 35:19	single 80:12	solely 138:15	special 95:1
sign-ups 35:21	sits 71:25	solve 123:6	specialized 89:8
signal 127:19, 21	sitting 35:5 71:2 72:11 77:5, 6, 9 87:3 157:7	someone's 35:6	specific 16:18 17:8 21:7 25:13 30:12 32:4 45:15 51:11 52:24 53:2, 10, 13 54:11 55:9 59:5 63:7 65:24 79:11 87:2, 12, 19 112:8 119:5, 11, 20 120:8 130:10, 16 131:22 132:1 136:19 142:25 144:12 154:18 156:4
signals 68:13	situation 33:4 35:3 37:19 59:16 70:23 128:24	sophistication 90:7	
signed 15:11 16:17 25:10 36:18 153:23 154:3	sort 56:11 78:23 121:11 136:13	sorts 22:13 41:11, 12 62:18 64:24 65:2 69:18 127:22	
similar 12:12 73:20 113:12 130:20	sixth 135:4	sorts 22:13 41:11, 12 62:18 64:24 65:2 69:18 127:22	
	size 89:13 90:7 142:14	sounds 8:1 20:20 44:11 72:23 95:5 122:3 156:21	
	skill 144:7		
	skilled 69:7		
	sleeping		

157:3, 16	standardized	139:18	stone 78:6
158:8	39:25	156:6	stop 96:6
159:16	start 9:15	159:17	store 70:3, 7
161:12, 15	54:16	162:11	157:18
specifically	63:25 73:6	statement	stored 26:7,
14:4 23:22	started	18:6 20:9	11, 18
84:10 89:3	14:16	24:25	45:11
118:21	68:11	29:25 30:9	70:20, 21
120:14	starters	32:13	92:24
136:21	127:17	46:14	99:22
specificity	starting	54:24 56:2	101:21
79:5 93:21	14:22	59:18 74:4	102:22, 24
120:10	28:13	84:8 113:5	103:6
specifics	29:3, 14	statements	104:6, 13
121:8	37:23 58:5	56:6 160:9	109:11
136:17	83:25	Staten 67:4	115:21, 24
specifies	84:22 85:3	states 12:9	124:22
12:16	115:7	36:23	155:20
speeds 80:15	127:3	40:13 63:5	156:9, 12,
spelled 23:4	starts 27:24	138:10	16 157:9
spirit	28:22	144:9	stores 33:8
148:12	127:5	153:3	storing
spoken	state 6:21	155:8	69:23
158:18	11:22 29:8	static 32:9,	71:23
spot 27:23	51:9 54:23	16, 20 34:6	124:18
81:5	80:25	35:4, 5, 11	156:23
spouse	81:20	58:20	strangely
138:21	82:17	59:11, 21	132:2
Sprint 80:2	91:13	60:11, 23	streamline
square 86:20	97:16	staying 19:1	102:15
St 6:11	146:8	step 39:24	160:7
35:8	159:23, 24	112:19	street 35:7
136:15	161:11	124:21	64:21 67:1
	stated	steps 124:9,	136:3, 16,
	131:11, 17	17 134:20	24 145:18

146:21	83:5 97:23	102:18	110:6
148:10	99:16		111:24
149:3	101:11	suppose	112:2
streets	111:12	71:23	117:9
86:20	submitted	73:16	122:17, 24
strength	158:9	surrogate	123:7, 22
127:20	subscriber	32:20	126:17, 18
strictly	32:19	swap 80:5	129:18
137:2	35:19	swear 67:11	130:8
140:25	subset 19:8	switch 60:3	131:6
strike 35:1	substance	sworn 6:3	135:23
71:21	6:21	synchronize	143:21, 22,
73:6, 23	success	40:17	25 144:5
74:21	68:24	system	154:3
83:11	80:16	11:22, 25	155:10, 21
87:23 98:3	sudden	12:17, 21	156:1, 11,
111:22	147:11	13:4, 17	23 157:9
116:20	148:18	14:3, 7, 9	162:9
147:9	sufficient	15:16 23:5	systems
159:23	17:1	24:1 25:3	30:5, 7
structure	Summary	26:18, 19	36:10
58:4	123:4	28:22	38:15, 18
stuff 38:19,	super 90:4	32:1, 4	41:13
20 42:21	super-	49:7 54:3	44:23
45:23 60:7	precision	59:24, 25	
62:1, 19	42:13	61:23	T
67:7 74:9	superimposed	62:8, 9	takes 72:21
142:5	87:21	69:5, 8	taking 39:18
143:19	support	78:1 81:20	108:3, 5
subject	22:12	91:7, 15	talk 8:21
70:24	142:23	92:1, 3, 5	14:21 48:5
submission	160:9	93:8, 9, 16	57:3 62:2,
73:19	supports	94:16	6 64:13
submit 51:15		97:17	88:8
59:3 60:8		105:5	121:23
		109:8, 23	129:16

131:2	120:10	telecom 37:7	telephonic
talked 33:18	144:19	79:23	97:11
48:3 55:17	Tanaka 10:9	telephone	ten 133:3
59:15	target 12:1	12:16	tenth 78:2
69:16	16:3 27:3,	28:24, 25	term 53:23
70:14	4 57:9	29:22	101:17
111:4	82:19	30:21	117:5, 6
132:5	84:16	31:2, 3, 10,	147:10
137:25	101:7	17 32:10	148:17
161:19	104:2, 22	33:9 34:3,	terminated
162:18	105:1, 9,	22 38:10	160:19
talking 6:13	11, 15	39:10, 20	terminology
17:22, 23	106:10, 19	41:23 51:7	147:1, 17
18:4 19:17	107:13, 16	52:3 58:7,	terms 9:17
26:9 37:14	111:13	8, 16 59:7,	15:20
38:8 39:10	112:9	16 60:3,	22:19
46:10	115:10	18, 20 61:2	43:11, 16
47:20, 21	116:3	70:9, 10	46:1 47:22
48:14 59:4	161:21	76:16, 18	58:4 62:5
62:24	target's	82:4, 5	67:8
66:4, 13	156:17	84:23	77:17, 21
69:13	TD0A 48:6	85:3, 14, 24	88:14
74:17	teaches	86:3, 5, 8	107:3
78:17 85:2	157:8	103:10	116:24
97:3	technical	143:12	118:25
101:13, 16	39:6 53:17	150:14, 16	119:5, 11,
132:3	159:19	151:18, 20,	20 121:16
136:20	technique	24 152:5	122:9
139:8	50:3	159:25	128:6
141:21	technologies	160:6	135:16
147:22, 23	36:10	161:18	136:18, 19
talks 40:6	65:25	telephone.'	137:4, 5
46:18, 21,	technology	84:12	140:15, 20
22 48:13	143:6	telephones	141:5
50:22		86:10	143:18
108:10		150:19	144:7
119:8			

157:12	146:20	62:14	15 8:20
162:19	thinking	63:11, 25	37:16
test 131:21	37:24	64:21	64:19 87:3
testified	76:25	65:14, 22	96:8
6:4 56:17	thought	66:1 67:16	today's 6:24
testimony	95:14, 23	72:5 74:24	41:9 86:15
39:4 40:21	104:1, 14	75:3 77:8	told 68:4
45:25	137:25	78:3	106:23
119:14	thousand	79:18, 21	109:17
Texas 146:9,	146:14	83:18	tomorrow
15	thousands	86:11, 15,	6:14 8:21
text 87:16	142:3	23 87:11	top 27:24
theorize	thread	88:23	37:23
49:21	135:12	89:8, 17, 25	49:4, 5
theory 25:9	tied 44:20	93:24	54:4 59:16
106:10	67:16	95:8, 20	61:22
thing 7:20	tightly	113:20	67:12 69:4
31:22	110:23	127:19	94:3 95:4
39:15	time 9:25	131:3	123:14, 18
43:22	13:14 15:7	139:23	124:25
47:16	16:15, 19	143:6	125:25
60:2, 7	19:12 22:4	153:13	126:19
64:18 65:7	23:20, 21	157:20	140:18
67:4, 9, 20	24:1, 17, 22	160:18, 20,	toss-up 73:1
69:17 71:7	25:21	24, 25	total 156:7
72:10, 18,	31:20	162:21	touch 36:13
24 75:13,	33:24	time-based	tower 42:8,
14 78:8	34:14	129:11	20 78:19
79:3 86:16	35:15 36:1	time-centric	towns 144:10
88:3 95:3	37:1, 8, 25	130:2	track 39:14
113:17	39:3 40:11	timeframe	42:16
135:10	44:19	68:1	122:10, 12
136:17	48:5, 13	timing	tracked 66:9
things 68:22	51:17	40:15, 19	
87:18	59:8, 12	tires 38:19	
		today 6:13,	

tracking	trucking	141:4	108:4
44:17, 23	72:18	146:20, 22	114:22
92:1, 3, 4	true 157:4	162:19	141:10, 17
93:8, 16	truth 6:3, 4	typical	142:10
transfer	Tuesday 7:4	88:18	understanding
23:19	turn 9:1	typically	8:4 17:7
24:16	96:14 97:5	161:20	19:6 24:20
81:20 82:6	126:25		32:11
160:15, 18,	turned 45:10	U	37:14, 17
24	TV 83:15, 21	ubiquitous	38:3 53:22
transfers	two-birds-	42:11	57:5, 6
15:2, 24	with-one-stone	Uh-huh	59:9 73:14
19:3 153:8	78:8	108:21	119:14
transmitting	two-prong	ultimately	132:22
122:17	131:21	99:9	145:4
124:3, 12	type 36:10	103:21	147:24
transpire	103:15	105:22	understood
43:7	119:16	111:8	7:25 18:25
traveling	120:18	umbrella	22:17
95:1	121:12	141:1	28:15
trial 67:6	133:24	unambiguous	unilateral
trials 66:19	134:7, 10,	58:11 74:4	130:20
trigger	18, 23, 25	unambiguously	unique 59:5
40:23	135:2	51:5 58:4	unit 124:3,
triggered	136:6, 7	unclear	5, 10, 12,
68:14	139:10, 16	128:13	13, 20
triggers	140:1, 10,	understand	125:3, 11,
82:5	23 145:12	6:15 7:14	21 126:2, 9
Trimble	types 24:13	8:6 9:10	144:17
75:14, 16	27:11	19:18	149:16
89:7	118:13, 22	36:17 37:4	United 36:23
truck 44:17,	120:7	59:13	40:12 63:5
19 72:18	133:9	60:14	units 122:18
	134:21	84:13	124:4, 18
	135:4, 17		125:11

128:16	18 92:11,	162:12	
147:12	15, 16		V
148:19, 24	93:11, 12,	user's 31:10	
149:8	13, 14, 18	49:10	Vanessa
unlisted	97:17, 19	92:10	150:25
29:22	98:3, 5, 23,	97:18	Vanessa's
30:21	24 99:6	98:18	151:3
	101:6	155:12	
unquote	102:17, 18	users 29:21	variable
91:17	104:5, 6,	38:8	140:20
update 43:22	21, 25	51:10, 11	variation
44:22, 24	106:19	52:16, 24	130:4
63:24 64:7	108:11	53:2, 10, 13	variations
65:5, 17	109:22	54:11 55:9	33:18
78:6, 20	111:21	59:5 63:4,	118:19
updated	112:1, 8	8, 9, 24	149:15
48:23	113:11	65:4, 13	
63:13, 23	114:14	94:17	variety 42:6
77:24	120:23	97:12	68:15
79:16	122:24, 25	114:15	103:23
103:10, 14	123:8, 9	125:7, 10	107:4
updates 77:2	125:3	150:14, 17	120:13
updating	126:2	151:6, 9,	132:19
64:9	127:5, 7, 13	12, 16, 23	140:24
upstream	128:23, 24	152:23	145:15
69:17, 22	129:11, 18	153:16, 19,	vary 140:17
usable 86:25	130:4, 8,	23 154:3,	146:8
usage 156:19	11, 15	17, 18, 21	vast 38:14
user 12:15	131:8, 24	160:1, 6	63:22
20:15	132:5	161:5, 11,	105:20
25:14	135:23, 25	12, 16, 23	107:25
31:8, 9	136:21	utilized	
62:9 63:15	138:10, 12	53:18	vehemently
73:6, 8	144:17	utilizing	59:19
91:16, 17,	150:17	52:15	verbiage
	152:4	154:19	28:6
	159:25	161:13	verified
	160:5		108:12

verify 12:18	146:23	WAP 39:24,	white 90:2
Verizon 80:3	148:5, 7, 11	25 40:6, 8	wide 90:1
versa 40:3	149:4	41:1, 8	140:17
version 48:8	156:1, 7	warrior	wife 18:15
95:19	159:17	64:18	134:15
versus 29:4	162:4, 8	wave 68:10	138:2, 20
56:12	visiting	ways 37:9	Williams
60:23	45:12	40:3 41:3,	6:2, 7, 23
64:24, 25	voice 15:3,	18 47:9,	9:11 14:4
69:19	12, 24	10, 24	17:13
70:21	16:4, 10	48:3, 24	23:10
129:12	19:4	49:17	26:15
133:3	40:12, 16	51:24	31:22
137:6	44:6 153:9	52:10	37:15
146:9		61:1, 14	40:21
vice 40:2	W	69:18	45:22
vice-president	W-A-P 40:6	71:4, 11	55:17 69:4
68:3	wait 132:24	94:3 100:6	81:11
vicinity	waiting 71:2	115:19	88:17
64:18	waivers	120:13, 14	90:18 91:3
video 15:3,	80:12	127:17	96:17
12, 24	walking 72:8	weeds 45:23	100:24
16:4, 11, 25	wall 67:1	week's 64:15	116:11
19:4 153:9	wanted 35:22	well-defined	117:18
view 19:13	41:18 68:1	144:11	122:3
25:25	136:11	west 142:4	125:1
38:17	141:1	what-have-you	127:3
55:16	147:7	19:13	129:17
56:11	wanting 76:6	38:10 50:1	149:24
73:17	107:1	54:18	155:20
115:1	121:4	64:11	wind 71:19
121:16	157:20	69:20 90:4	wipe 65:22
140:22	161:21	whichever	wireless
141:21		9:13	11:16, 17
142:5			14:9 26:20
			39:23 45:5

74:24	155:3	yes-or-no
81:21	161:7	60:6 61:18
82:12,19,	work 40:10,	yesterday
20 88:19	17 45:2	64:19
91:8,9,10	62:20	yesterday's
92:24	158:5	64:14 71:1
97:11,18	worked 37:6,	York 63:6
108:11	25 62:15	64:20
150:14,16,	working	66:20,25
18 151:10,	96:24	Yorkers 67:5
13,17,20,	works 28:22	you-had-to-
24 152:5	35:3	walk-before-
159:25	world 18:17	you-could-run
160:6	38:21,23,	67:19
161:18,20	25 39:7,8	
wives 18:14	41:15	Z
wondering	60:1,22,24	zone 139:23
36:19	62:14	Zoom 7:11
102:18	143:21	
word 17:25	144:5	
47:8 55:12	world-plus	
82:12	39:1	
101:11	worry 79:7	
113:14	worth 76:1	
136:12	134:2	
141:14	written	
147:25	66:17	
155:17	wrong 76:19	
worded 74:14	89:1,3	
98:10,15		Y
131:10	years 42:14	
132:2	143:22	
words 42:22		
47:17 85:8		
92:8 113:2		
131:16		