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1	UNITED STATES PATENT AND TRADEMARK OFFICE
2	BEFORE THE PATENT TRIAL AND APPEAL BOARD
3	SNAP INC.,
4	Petitioner
5	-v- IPR2019-00714
6	Patent No. 8,825,084
7	BLACKBERRY LIMITED, IPR2019-00714
8	Patent Owner Patent No. 8,326,327
9	/
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12	
13	Pursuant to Notice, the deposition of SAMRAT
14	BHATTACHARJEE, Ph.D., was taken remotely on Friday,
15	April 10, 2020, commencing at 10:37 a.m., via Zoom, in
16	Silver Spring, Maryland, before Jacqueline Kimball, a
17	Registered Professional Reporter and Notary Public.
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23	Mid-Atlantic Region
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1	INDEX	
2	WITNESS NAME: SAMRAT BHATTACHARJEE, PhD	
3	EXAMINATION BY MR. STEPHENS	4
4	EXHIBITS:	
5	(NONE)	
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Page 4 1 SAMRAT BHATTACHARJEE, PHD, 2 Called for examination, having been duly sworn to tell the truth, the whole truth and nothing but the 3 truth, testified remotely as follows: 4 5 PROCEEDINGS MR. STEPHENS: Thank you for being here 6 7 today, Dr. Bhattacharjee. We met as you recall back in November for your deposition in DC, so 8 9 good to see you again. I'd like to pause for a 10 moment, and ask Chad on the line to say your 11 name for the record so we have the record of 12 who's on the deposition. 13 MR. PETERMAN: Chad Peterman from Paul Hastings on behalf Snap, Inc. and the witness. 14 15 MR. STEPHENS: Okay, thank you. We are doing this deposition virtually remotely due to 16 17 the COVID 19 situation. The parties have agreed to this. Does that sound good to you, 18 Mr. Peterman? 19 20 MR. PETERMAN: Yes. 21 EXAMINATION 22 BY MR. STEPHENS: 23 Ο. If you're unable to hear me, 24 Dr. Bhattacharjee, or if there's any technical issues, please just let me know, I'll try and correct it. 25 And

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	Page 5
1	I'll do the same, okay?
2	A. Yes.
3	Q. Also if you need to take a break don't
4	hesitate to let me know, we'll do so.
5	A. Thank you.
6	Q. Let's get started. Do you understand that
7	the parties have stipulated this deposition will be
8	applicable to IPR2019-00714, that's the IPR of the 084
9	patents and IPR2019-00715, that's the IPR on the 327
10	patent?
11	A. Yes, I believe those are the numbers. Yes,
12	I understand that.
13	Q. Okay. Do you understand that you are under
14	oath?
15	A. Yes.
16	Q. Is there any reason you cannot give truthful
17	and accurate testimony today?
18	A. No.
19	Q. For clarity I'd like to define some of the
20	terms that we'll be using during the questioning.
21	When I use the terms patent owner or BlackBerry I'm
22	referring to BlackBerry, Limited, you understand?
23	A. Yes.
24	Q. When I use the terms petitioner or Snap I'm
25	referring to Snap, Inc., okay?

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Page 6 1 Α. Yeah. 2 When I use the term 084 patent I'm referring 0. to U.S. patent 8825084 which is marked Exhibit 1001 in 3 the 084 IPR, okay? 4 Yeah, I don't know the full number myself 5 Α. 6 but okay. 7 Yeah, when I use the term 327 patent we'll Ο. be referring to U.S. patent 8326327, okay? 8 Α. Yes. 9 10 Ο. When we use the term Winkler I'll be 11 referring U.S. patent 8750906 which is marked as 12 Exhibit 1004 in both IPRs, you understand? 13 Α. Yes When I use the term Lemmela, I'll be 14 Ο. 15 referring to U.S. patent application of 20080250337 16 which is marked as Exhibit 1005 in both IPRs, do you 17 understand? 18 Α. Yeah. When I use the term Crowley we'll be 19 Ο. 20 referring to U.S. patent number 7593740 which is 21 marked Exhibit 1008 in both IPRs, do you understand? 22 Α. Yes. When I use the term Altman I'll be referring 23 Ο. 24 to U.S. patent application publication 20070281716 25 which is marked Exhibit 1006 in both IPRs, you

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Page 7 understand? 1 2 Α. Yes. Just a few more here. When I refer to your 3 0. first 084 declaration or the February 2019 084 4 declaration that's the declaration that was submitted 5 6 at Exhibit 1002 in the 084 IPR, okay? 7 Yeah, the initial 084 declaration, that's Α. fine. 8 9 Ο. Correct. I don't have the exhibit numbers but that's 10 Α. fine. 11 12 Sure. This will be, that will be the first, Ο. 13 your initial 084 declaration? That's fine. If you would like me to call 14 Α. 15 it those I can, but I'm not looking at anything but 16 your video right now. 17 Okay. When I refer to your first 327 Q. declaration that's the initial declaration that you 18 19 submitted in February 2019 with the 327 IPR, okay? 20 Α. Yes. 21 And conversely your second 084 declaration, 0. 22 that's Exhibit 1011 in the 084 IPR, okay? That's the one you just submitted a month ago? 23 24 That's right, it's also called the rebuttal Α. 25 of the fly declaration or something.

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	Page 8
1	Q. That's right, we can refer to it as the
2	rebuttal declaration.
3	A. That's fine. Either way I think we're fine.
4	Q. The same with 327 rebuttal declaration I'll
5	be referring to that as which is Exhibit 1020 in
6	the 327 IPR, okay?
7	A. Okay, yeah.
8	Q. I think we may use the acronym POSITA, and
9	if I use that, I'll be referring to a person of
10	ordinary skill in the art at the time of the
11	invention, okay?
12	A. That's fine.
13	Q. Can you describe how you prepared for
14	today's deposition?
15	A. I read the materials in the IPR and I had a
16	few calls with attorneys from Snap.
17	Q. Okay. As part of your preparation
18	approximately how much time did you spend preparing
19	for the deposition?
20	A. I don't know, eight to 10 hours.
21	Q. Was there any documents that you consulted
22	that were, in your preparation for the deposition
23	which are not already at record in the IPR?
24	A. I don't know that I looked at the
25	documents for the IPR.

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Page 9 Okay. Your review mostly focused on the 1 0. 2 record? That's correct. 3 Α. Are you aware of any errors that exist in 4 0. either the 084 rebuttal declaration or the 327 5 rebuttal declaration? 6 7 Not off the top of my head, no, sorry. Α. For the next set of questions I plan to 8 Ο. refer to your rebuttal declaration from the 084 IPR, 9 10 okay? 11 Α. Okay. 12 Do you have an electronic version or a Ο. 13 physical copy available to access? I have the files that were sent from Α. 14 15 BlackBerry for this deposition, I can refer to them. 16 Ο. Sure. This would be Exhibit 1011 in the 084 17 IPR. 18 Okay, would you like for me to open that? Α. Yes, go ahead. 19 Ο. 20 Α. Okay. 21 I'm doing the same. Ο. I have a relatively small screen, so while 22 Α. I'm looking at the document I probably won't be able 23 24 to see you, so if I miss something please restate it. 25 Q. Okay, understood. I'll be asking questions

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1 referring to the 084 rebuttal declaration but just for 2 the record unless we indicate otherwise the questions will apply for both the 084 and 327 proceedings. I 3 believe these issues overlap between the two IPRs, 4 5 okay?

If I am either confused or -- I'll Α. Okay. clarify with you if I think that they do not.

Perfect, thank you. Referring to paragraph 8 Ο. 9 16 of the 084 rebuttal declaration, you state, this 10 starts at the last line on that page, page 7 paragraph 11 16, I agree with the board's institution's decisions 12 determination that the claims action spot refers to a 13 location or event in which the activity is occurring 14 or has occurred, right?

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Α. I see that line, yeah.

16 In paragraph 14 just above that in Ο. Okay. the 084 rebuttal declaration you acknowledge that any 17 related district court proceeding involving the 084 18 19 and 327 patents, The parties agree to a construction 20 for the term action spot as a location or event where 21 at least one activity is occurring relative to the 22 current location of another mobile device. Do you see that? 23

Oh, in paragraph 14? Α.

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24

Paragraph 14.

Q.

Page 11 Α. Yes, I do see that. Does the agreed-upon construction or the 0. term action spot as you quoted in paragraph 14 actually use the two-word phrase has occurred? Α. The construction is there, I can read it out to you if you wish. Sure, yeah, can you read that out? Ο. The agreed, the construction for action spot Α. was a location or event where at least one activity is 10 occurring relative to the current location of another 11 mobile device. Ο. Does that construction include the phrase has occurred? No, I mean I just read it out to you, I Α. don't believe it does. 15 In your view would it be impossible to use Ο. 17 data from other mobile devices that have engaged in documenting actions to reach a determination that some type of activity is occurring at a location or event? 20 MR. PETERMAN: Object to the form. 21 Α. Yeah, could you repeat that question? I'm 22 sorry. Sure, would it be impossible for a system to Ο. 24 be designed that would use data from other mobile devices that have engaged in documenting actions to

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reach a determination that some type of activity is 1 2 occurring at a location or event? 3 MR. PETERMAN: Objection. THE WITNESS: Go ahead, apologize. 4 MR. PETERMAN: 5 I just made the same 6 objection to form. 7 Yeah, I think that's a very vague question Α. in the sense that I don't know when, if, if we relate 8 it back to the actual claim elements then I believe 9 10 that's impossible. But it just depends on how or what 11 the context is. 12 Sure. Let's construct a hypothetical. Ο. Ιf 13 you were leading a team of engineers and you were trying to build a predictive model, for example, would 14 15 it be possible for those engineers in say the 2010 16 time frame to make a prediction about whether activity 17 is occurring based on indications of documenting the actions that have occurred? 18 19 MR. PETERMAN: Object to form. It depends on the context but usually no. 20 Α. Ι 21 don't think a predictive model to do 100 percent 22 correct -- I don't believe the predictive model would 23 be 100 percent correct. 24 Is it a criteria of predictive models in Ο. 25 your experience to be 100 percent correct?

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1 Α. It is -- it depends upon what your baud is, 2 I could predict that lots of people are you know. doing Zoom right now but would I swear to it, no. 3 But, again, it all depends upon the definition of 4 5 activity occurring and so on. I don't believe that 6 based upon past information one can assert that 7 something is occurring.

8 Q. If I received a text message from you that 9 said, or that included a video clip of a baseball 10 game, could a system reasonably infer that a baseball 11 game is occurring based on analysis of that message?

A. No, I mean it could be a video from a past
baseball game, baseball game could be over, I don't
think you could necessarily assert that.

Q. Not necessarily, I'm asking if it's a possibility. If there were metadata, for example, that indicated the current date and time would it be possible?

MR. PETERMAN: Object to form.

A. Again, it entirely depends on what the criteria is or is occurring and the activity. It could have been the last pitch of the game, so I don't know that I can say that you cannot -- you can assert that something is occurring.

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Q. Okay. Let's go to paragraph 12 of your 084

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1 rebuttal declaration. There you indicated that you 2 reviewed a pair of documents from, related to the district court proceeding, one being a corrected final 3 ruling on claim construction which is the marked in 4 order, marked Exhibit 2002 and the second document 5 being a final ruling on Defendant Snap's Motion for 6 7 Summary Judgment of Invalidity under section 101 which is Exhibit 1012, do you see that? 8 Yes, I do. 9 Α. 10 Do you understand that the summary judgment Ο. order which is Exhibit 1012 in contrast to 11 12 Exhibit 2002 was not a Markman order that decided 13 claim construction issues? I do, I think so, yeah. I'd have to take a 14 Α. 15 look at those just to make sure there wasn't any claim 16 construction in that order, but in its place I believe 17 that's correct. Is it your opinion that the portion of the 18 Ο. summary judgment order that you cited in paragraph 17 19 20 of the 084 rebuttal declaration altered the district court's formal construction for actions brought from 21 22 the Markman order? MR. PETERMAN: Object to form. 23 24 Α. I need to take a look at paragraph 17 for

25 anything specific that you're asking me.

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1 0. Yeah, do you believe that the summary 2 judgment order altered the construction of the action spot that was set forth in the Markman order? 3 MR. PETERMAN: Object to form. 4 5 Α. I frankly don't recall the details 6 sufficient enough to give you a reasonable answer to 7 that. I'm going to refer to paragraph 21 of your 8 Ο. 084 rebuttal declaration, and there you stated that, 9 10 you interpreted the claim phrase, determine at least 11 one action spot within a predetermined distance from 12 the current location of the first mobile device to 13 mean determine each action spot within a specific distance from the current location of the first mobile 14 15 device, the specific distance being set prior to the 16 determining spot, do you see that? 17 Α. Yes. I want to turn, go to your first 084 18 Ο. 19 declaration, that's Exhibit 1002 in paragraph 35. 20 Just let me know when you're able to see that. 21 Α. I see it. 22 Okay. So in paragraph 35 you guoted the 084 Q. patent and provided several examples of specific 23 24 distances such as five blocks, 10 blocks, 10 yards, 25 100 feet and other distances. Do you see that?

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1 Α. Yeah. 2 Is it fair to say that you used the phrase 0. "specific distance from" as relating to some radius 3 that extends from the current location of the first 4 mobile device? 5 MR. PETERMAN: Object to form. 6 7 I wouldn't necessarily say radius. I think Α. the distances are, you know, 10 yards may be a radius 8 but 10 blocks may not be. You may not have a 10-block 9 10 radius if, you now, one side of it is in the ocean. 11 Okay. A 10-block distance may not 0. 12 necessarily be a radius but it's some distance that extends from the current location of that first mobile 13 device? 14 That's correct, so I mean radius refers to a 15 Α. 16 circular measure which I don't think it necessarily 17 implies in what I quoted. Radius I believe is a circular measure and I don't believe a circular 18 19 measure is necessarily implied in what I quoted. 20 Let's turn to the Lemmela reference which is Ο. 21 Exhibit 1005. 22 Α. Okay. 23 The first thing I'd like to discuss is how Ο. Lemmela's system attributes a location to messages 24 25 that are posted by mobile devices. This is described

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Page 17 1 around paragraph 33. So if you need to refresh and 2 take a look at paragraph 33 please do so. Then I'd like to ask, can you explain how Lemmela's system 3 associates a location with a post? 4 5 MR. PETERMAN: Counsel, which exhibit in paragraph 33 were you referring to? 6 7 MR. STEPHENS: Lemmela Exhibit 1005. 8 Α. Okay. How does, based on paragraph 33 can you 9 Ο. 10 explain how Lemmela's system associates a location 11 with a post from a mobile device? 12 Α. I think, I mean I can read out paragraph 33 13 but Lemmela is pretty agnostic and very broad as to 14 how a location can be determined. As it says in 15 paragraph 33, Such location postings include an 16 indication of a location for the posting. In some 17 cases the user may manually enter the location using coordinates, map sectors, street names, et cetera. 18 19 However, when the posting is created by a mobile terminal the location posting may automatically 20 21 include the location of the mobile terminal at the 22 time the posting was created or posted. Such location data can be obtained from GPS, Global Positioning 23 24 System device, although other means of automatically 25 determining location such as inertial centers,

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1 LORAN --

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MR. PETERMAN: Can you slow down a little bit, Doctor.

A. Such location data would be obtained from a
GPS, (Global Positioning System) device, although
other means of automatically determining location such
as inertial centers, LORAN, L-O-R-A-N systems,
proximity detectors, et cetera, are also possible.
Let me just leave it at that, yeah.

Q. Last line of paragraph 33 refers to location coordinates, are you familiar with how GPS formats location coordinates?

A. It depends upon at what level you're asking whether the GPS protocol itself, no. Commonly the output of GPS is given in latitude/longitude -- and also altitude. But internally I don't believe that's necessarily how it is processed.

Q. The output of a GPS module or chip isplotted in latitude/longitude coordinates?

A. That is my understanding. Now, there could be software that's running between the GPS chip and the user interface call that is translating the raw output of the GPS, and making it into latitude, longitude, altitude, which off the top of my head I don't recall the GPS protocol sufficiently to give you

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1 much more detail.

2	Q. Okay. So regardless of how the location
3	coordinates are determined or how they're formatted,
4	Lemmela's system associates the location coordinates
5	with posts made by user devices, is that right?
6	A. Location postings include an indication of
7	the location for the posting, correct.
8	Q. In paragraph 35 of Lemmela they describe a
9	clustering algorithm, and one example is the K-means
10	clustering algorithm. Can you describe how the
11	clustering algorithm works?
12	A. In general or the K-means?
13	Q. K-means would be fine.
14	A. Okay, so the easiest way to think about this
15	is suppose we have some form of a metric space where
16	metric space just means we have some notion of a
17	distance. I'm not being particularly technical here.
18	Then, and so what that means is if I have a set of
19	items then we can define a notion of distance or
20	similarity between those items over the space. And
21	you can think of the mean as the, outside of the
22	center of the space or the center of the item that
	would be in a way represent the mean or average item
23	
23 24	given all of the additions. And K-means will try to
	given all of the additions. And K-means will try to output K of the items that are the K most, not quite

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1	central but in terms of the distance measure, one way
2	to look at it would be these are the items such that
3	the maximum distance from any other item in the space
4	is minimized if I were to use these K items. I think
5	that's a reasonable high-level description.
6	Q. That was good, thank you. What is the
7	similarity measure or the distance measure that is
8	used among Lemmela's algorithm?
9	A. The, Lemmela I think is relatively broad in
10	terms of the measure that is being used. If we take a
11	look at paragraph 35 Lemmela says that we can use the
12	suitably defined similarity measure taking into
13	account both the similarity between the postings by
14	salient words or some other measure and the geographic
15	distance. Then it says and other embodiments, other
16	methods may utilize ontologies, common-sense knowledge
17	sources, calculating semantic distances between words
18	and phrases, or given sufficient amounts of data
19	unsupervised learning methods like self-organizing
20	maps. So Lemmela is pretty broad. It's talking about
21	semantic distance. There are very well known ways of
22	trying to find salient words in documents or something
23	like that. An early example which would have been
24	known at that time would be something called PFIDF,
25	something like that could be used. Ways of finding

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Page 21 salient words was known in that time frame. 1 One 2 example might be something called PFIDF. In Lemmela's system a cluster of postings is 3 Ο. a set of postings that are related semantically and 4 5 geographically, for example? Some embodiment, that would be correct. 6 Α. 7 Okay, let's, I'd like to look at paragraphs 0. 39 and 40 of Lemmela. Do you see that paragraph 39 8 identifies the Nokia 770 Internet tablet as one type 9 10 of mobile terminal that can be used in Lemmela's 11 system? 12 Α. Yes. 13 Ο. And then paragraph 40 identifies a number of other devices besides the Nokia 770 tablet that could 14 15 alternatively be used in the system, right? 16 Among other things, yeah. Α. 17 Okay. Such as a cellular phone, a laptop Q. computer, PDA, GPS receiver or car navigation device? 18 I don't think you read them, maybe you 19 Α. 20 did --21 I may not have the right order --Ο. 22 -- in order, but I have found cellular Α. phone, a laptop computer or combination thereof, car 23 24 navigation device. Yeah, I see, I believe I see all 25 the examples you pointed to.

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Q. The second to last sentence in paragraph 40 describes how Lemmela's mobile device can communicate with a web server using either a wired connection or a wireless connection, do you see that?

5 Α. Yes, I see that it says, Mobile device 50 6 may also communicate with a web server one or more 7 ports not shown on the mobile device that may allow a wired connection to the Internet, such as universal 8 serial bus, USB, connection and/or via the short-range 9 10 wireless connection not shown, such as the Bluetooth 11 link or a wireless connection to WLAN access point. 12 And I think we should keep in mind that that was not 13 the only way that Lemmela's mobile device could communicate with a web server because in the very 14 15 previous line it talks about cellular communication as 16 other types of network that could be used.

Q. Sure. Paragraph 40 describes a number of different examples that could each be used to implement Lemmela's techniques, right?

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A. That's correct.

Q. Were broadband Internet connections available in the late 2000s via a wired connection to a computing device?

A. You're asking me in the late 2000s could one connect to the Internet using a broadband wired

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1 connection?

Q. That's correct.

Yeah.

A.

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Q. (Inaudible) how would you connect to abroadband wired connection?

MR. PETERMAN: Could you repeat the question? I actually missed it. You were talking over.

9 Q. Thank you. What were some examples of how a 10 user could connect his computing device with a wired 11 connection to obtain broadband Internet?

12 Okay, so this is a question which is Α. 13 somewhat interesting because the term broadband itself is not particularly well defined. But if we go with 14 15 the colloquial, let's say, definition then one might 16 have a cable modem connection or a DSL which may or 17 may not be broadband, or by the late 2000s I believe we also have fiber connections to the home. Now, if 18 19 it was to a place of work then you could suddenly have 20 fiber or Ethernet or other types of connection that 21 would eventually be connected to a service provider 22 that was connected to the greater Internet. And then within the premises you might run your own network 23 24 such as Ethernet. I don't know that anything that 25 was, that much was being used as a wired connection by

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then. And one could connect using Ethernet, and in some cases maybe Ethernet connected to USB or something. Then back to the access connection you had which would be cable modem, fiber, DSL and so on. So it would have been possible for Lemmela's Ο. mobile device to use an Ethernet or fiberoptic connection to obtain broadband Internet? I actually have one of the Nokias except for Α. one after the 770. So I don't believe you can connect an Ethernet to that. But some laptops had Ethernet jacks at that time period so they could use a wired connection. Ο. Look at figure 6 in Lemmela. Α. Okay. This is a block diagram of the mobile device 0. at the right? Α. That's correct. Shown in figure 6 there's a memory 56 where Ο. map information 66 and posting information 68 and processing instruction 70 is stored, do you see that? Α. I believe that's just the memory of the And yeah, that information would be stored device. there. Do the types of memory that are described in Ο.

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paragraph 45 of Lemmela, are those the type of memory

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Page 25 1 that could used as memory 56? 2 Yeah, it's pretty comprehensive, so I think Α. 56 would include RAM, probably not EEPROM or ROM, 3 maybe, maybe if the processing instructions were on 4 EEPROM or ROM --5 MR. PETERMAN: He said EPROM, E-P-R-O-M, 6 7 all caps. And ROM, R-O-M, all caps. THE WITNESS: I said EEPROM, E-E-P-R-O-M 8 9 and ROM. And I also said RAM, R-A-M. 10 Ο. A CD-ROM and a DVD are two of the types of 11 memories listed in paragraph 45, correct? 12 Α. That's correct. But the types of, at least 13 some of the types of mobile devices that have been 14 identified in the previous paragraph and in our prior 15 conversation don't easily connect to CD-ROM or DVD, 16 they don't have onboard CD-ROM or DVD. 17 Do you know what the typical memory capacity Q. of a CD-ROM was in the late 2000s? 18 19 700 megabytes give or take. Α. Can you say that again? I didn't quite 20 Q. 21 catch it. 22 700 megabytes give or take. Α. For like an audio CD? 23 0. 24 I mean all CDs I believe it's around 700 Α. 25 megabytes, six to 700 megabytes.

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Page 26 1 0. Do you know what the typical memory capacity 2 of a DVD was? 4.3 gigabytes. Again, off the top of my 3 Α. head, I believe it's around 4.3 gigabytes. 4 5 Ο. Okay. Let's look at paragraph 43 of Lemmela which states, Memory 56 may also include posting 6 7 information 68 which may include raw location posting information received from a network or any type of 8 9 processed information, correct? 10 Yeah, that's one of the lines in paragraph Α. 11 43, correct. 12 Would it have been impossible for Lemmela's 0. 13 mobile device to predownload posting information 68 before the information was needed to be displayed? 14 15 Α. To implement all of what Lemmela is talking 16 about it would have been impossible. 17 What are some of the portions of Lemmela Q. that lead you to believe it would be impossible? 18 19 Well, Lemmela talks about dynamically Α. 20 updating the location posting based upon the user location and also time period, and there is nothing in 21 22 Lemmela that can change the time period to be in the I think a Lemmela-contemplated system where 23 past. postings are downloaded as they are posted or as the 24 25 user queries for them based upon their location, and

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that could not be done using an offline storage
system.
Q. Let's turn to figure 5 in Lemmela.
A. After we're done with the Lemmela line of
questioning if we could take a break that would be
helpful.
Q. No problem, that would be fine. Figure 5
shows a timeline 46?
A. That's correct.
Q. What does the timeline 46 allow the user to
do?
A. It allows the user to constrain the location
posting view using that timeline.
Q. Can you give an example of how a user might
interact with the user interface in figure 5 to change
the timing view?
A. Given that Nokia was a touch screen, though
it had a little stylus, I believe you could either
click on particular days or, you know, that's just a
sample interface, one could presumedly get finer than
the days and weeks view shown there. You might have
been able to drag over that hand and presumably in a
path from now until whenever or even in the past.
Q. In the view in figure 5 do you see that at
the left-hand side of the timeline there's a label

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Page 28 1 that says week five? 2 Yes, I do see it. Α. Goes all the way to 13 on the right-hand 3 0. side? 4 5 Α. That's correct. Is there a way that a user could access 6 Ο. 7 earlier postings from say weeks one through four? Presumably there are little arrows there on 8 Α. the two edges of the time line. My understanding is 9 10 if one were to click on those arrows it would go back 11 to the past. 12 If you clicked on left arrows you could go Ο. 13 back in the past? That is my understanding. 14 Α. 15 Ο. Then on, I guess conversely on the 16 right-hand side you could maybe go forward to week 14 17 or 15? Well, that's kind of interesting because I 18 Α. believe this view is contemporaneous. Lemmela was, 19 20 Lemmela was filed on April 6, 2007, and if we take a look at that view it in fact includes the present 21 22 which is I quess week 14, beginning of April 2007, I'm not sure it could go very much farther to the right 23 24 including the present in there. But of course that's 25 a, it's a mockup, but it's kind of interesting that it

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1	actually is including the date on which it was posted
2	or filed.
3	Q. Is the Nokia device that you personally have
4	a Nokia 770, is that what you said?
5	A. No, I have an 810. I can show it to you if
6	you like.
7	Q. You have it on your desk right now?
8	A. I'll get it for you. Here is the Nokia, and
9	over here is the stylus. One of these things pop out.
10	It's really cool, has a little keyboard that comes
11	out. Well, I haven't used this for years, decades,
12	but here is the little stylus. Oh, yeah, it has a
13	little slide-out keyboard. The 770 was very similar
14	if I remember. But I thought I had one but I had this
15	one instead, which was I guess one revision later.
16	Q. Okay, great. That's all the Lemmela
17	questions. I just have this one left, two questions
18	here. In your first declaration from the 084 IPR,
19	Exhibit 1002?
20	A. Yes.
21	Q. On pages 59 to 60 of the declaration there's
22	a cell where you analyze claim element 1B?
23	A. Yeah.
24	Q. One moment, I'm just turning to it myself.
25	In that cell for element 1B you cite paragraphs 38 and

Page 30 1 42 of Lemmela, correct? 2 The specific citations are to 42 and 38, Α. that's correct. 3 Are there any citations to Crowley in the 4 0. cell for element 1B? 5 The element 1B does not cite to Crowley. 6 Α. MR. STEPHENS: 7 That's all I have for Lemmela, so if you'd like to take a 10-minute 8 break. 9 10 (Brief pause in the proceedings.) 11 BY MR. STEPHENS: 12 Let's turn to the Winkler reference, 0. 13 Exhibit 1004. Looking at figure 6A to 6C, can you just describe what's shown here in this progression 14 15 from figure 6A to figure 6B to figure 6C? There's 16 some description in the text in column 11. 17 Right. As column 11 says, figure 6A depicts Α. a screen presenting a map element 610. Before the 18 19 occurrence of an event the map element may be a 20 certain color, size and/or design. After an event is 21 detected the system in figure 6B modifies the map 22 It indicates the occurrence of the event. element. For example, the system may change the color of the 23 24 map element as shown in the figure when a friend 25 arrives at the location or adds a comment to the map

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element. The system may also modify the map element based on events that occur with the user's mobile device. Figure 6C depicts the screen presenting a different map element 620 sun when the system detects the user's mobile device be approximate or at the location of the map element.

Q. So in figure 6C when the user's mobile device is proximate to or at the location of, indicated by map element 610, then element 610 changes appearance to the sun 620?

11 A. That's right. And as Winkler describes map 12 elements and the dynamic and that's one of the 13 examples of it changing, and can also be the location 14 of another user or another device.

Q. I'd like to turn to paragraph 75 of the 084 rebuttal declaration. Just let me know when you're there.

A. Yes.

Q. And toward the middle of that paragraph, paragraph 75, you cited Winkler's disclosure at figure 5 in column 10, line 17 to 19 to support the contention that Winkler discloses map elements that correspond to the current location of the mobile device, correct?

25

18

A. That's correct.

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Page 32 Paragraph 75 includes no other citations for 1 0. 2 the assertion that Winkler discloses map elements corresponding to the current location of the mobile 3 device, correct? 4 Α. I'd have to, it's a long paragraph but there 5 is certainly that disclosure in Winkler. 6 7 MR. STEPHENS: Okay. No further 8 questions. MR. PETERMAN: Okay the deposition is 9 10 over. We would like to read the transcript. Snap would like a copy of the deposition on the 11 12 same time frame as BlackBerry, although I don't 13 think we need a rough. We can just take the final on Tuesday. 14 15 MADAM REPORTER: Rough on Monday and final 16 on Tuesday? 17 MR. STEPHENS: That's right. 18 (The deposition was concluded at 11:45 a.m.) 19 20 21 22 23 24 25

STATE OF MARYLAND

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ANNE ARUNDEL COUNTY

I, Jacqueline Kimball, a Notary Public in 3 and for the State of Maryland, County of Anne Arundel, 4 5 do hereby certify that foregoing transcript is a true and correct record of the testimony given; that said 6 7 testimony was taken by me stenographically and then transcribed from my stenographic notes to the within 8 printed matter by means of computer-assisted 9 transcription in a true and accurate manner. 10

I further certify that I am not of counsel to any of the parties, not an employee of counsel, nor related to any of the parties, nor in any way interested in the outcome of this action.

AS WITNESS my hand and Notarial Seal this 16 13th day of April, 2020, at Annapolis, Maryland.

Injulia E timball

19Jacqueline Kimball, Notary Public20My commission expires May 1, 2023.21

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Page 34 Veritext Legal Solutions 1 1100 Superior Ave 2 Suite 1820 Cleveland, Ohio 44114 3 Phone: 216-523-1313 4 April 14, 2020 5 To: Chad J. Peterman, Esq. 6 Case Name: Snap Inc. v. Blackberry Limited 7 Veritext Reference Number: 4047296 8 Witness: Samrat Bhattacharjee, Ph.D. Deposition Date: 4/10/2020 9 Dear Sir/Madam: 10 11 Enclosed please find a deposition transcript. Please have the witness 12 review the transcript and note any changes or corrections on the 13 included errata sheet, indicating the page, line number, change, and 14 the reason for the change. Have the witness' signature notarized and 15 forward the completed page(s) back to us at the Production address shown 16 17 above, or email to production-midwest@veritext.com. 18 If the errata is not returned within thirty days of your receipt of 19 this letter, the reading and signing will be deemed waived. 20 21 Sincerely, 22 Production Department 23 24 NO NOTARY REQUIRED IN CA 25

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2	
	ASSIGNMENT REFERENCE NO: 4047296
3	CASE NAME: Snap Inc. v. Blackberry Limited
	DATE OF DEPOSITION: 4/10/2020
4	WITNESS' NAME: Samrat Bhattacharjee, Ph.D.
5	In accordance with the Rules of Civil
5	
	Procedure, I have read the entire transcript of
6	my testimony or it has been read to me.
7	I have made no changes to the testimony
	as transcribed by the court reporter.
8	
0	
9	DateSamrat Bhattacharjee, Ph.D.
10	Sworn to and subscribed before me, a
	Notary Public in and for the State and County,
11	the referenced witness did personally appear
	and acknowledge that:
12	
	They have read the transcript;
13	
13	They signed the foregoing Sworn
	Statement; and
14	Their execution of this Statement is of
	their free act and deed.
15	
	I have affixed my name and official seal
16	
ΤŪ	this dow of
	this day of, 20
17	
18	Notary Public
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	Commission Expiration Date
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1 DEPOSITION REVIEW CERTIFICATION OF WITNESS 2 ASSIGNMENT REFERENCE NO: 4047296 CASE NAME: Snap Inc. v. Blackberry Limited 3 DATE OF DEPOSITION: 4/10/2020 WITNESS' NAME: Samrat Bhattacharjee, Ph.D. 4 In accordance with the Rules of Civil 5 Procedure, I have read the entire transcript of my testimony or it has been read to me. 6 I have listed my changes on the attached 7 Errata Sheet, listing page and line numbers as well as the reason(s) for the change(s). 8 I request that these changes be entered 9 as part of the record of my testimony. 10 I have executed the Errata Sheet, as well as this Certificate, and request and authorize 11 that both be appended to the transcript of my testimony and be incorporated therein. 12 13 Samrat Bhattacharjee, Ph.D. Date 14 Sworn to and subscribed before me, a Notary Public in and for the State and County, 15 the referenced witness did personally appear and acknowledge that: 16 They have read the transcript; 17 They have listed all of their corrections in the appended Errata Sheet; 18 They signed the foregoing Sworn 19 Statement; and Their execution of this Statement is of their free act and deed. 20 I have affixed my name and official seal 21 this _____, 20____, 20____, 22 23 Notary Public 24 Commission Expiration Date 25

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20	Date Samrat Bhattacharjee, Ph.D.
21	SUBSCRIBED AND SWORN TO BEFORE ME THIS
22	DAY OF, 20
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[& - agree]

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[agreed - clarify]

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[clarity - device]

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[frankly - lemmela]

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[translating - zoom]

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:
(A) to review the transcript or recording; and
(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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