

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

**APPLE INC.,
Petitioner,**

CERTIFIED COPY

v.

**FINTIV, INC.,
Patent Owner.**

**Case IPR2023-00398 (US Patent No. 10,438,196)
CM#52959.95R196**

VIDEOCONFERENCE DEPOSITION OF

MICHAEL I. SHAMOS, PH.D.

ON BEHALF OF

FINTIV, INC.

December 19, 2023

Page 1 - 65

7:06 a.m. - 8:46 a.m.

REPORTED BY:

Tamara L. Houston

CA CSR No. 7244, RPR, CCRR No. 140

Job Number 131164

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REMOTE VIDEOCONFERENCE DEPOSITION OF MICHAEL I.
SHAMOS, PH.D., taken on behalf of the Petitioner,
commencing from 7:06 a.m. to 8:46 a.m., Tuesday,
December 19, 2023, before Tamara L. Houston, CSR No.
7244, CCRR, RPR.

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APPEARANCE OF COUNSEL:

On behalf of the Petitioner:

**HAYNES & BOONE LLP
BY: EUGENE GORYUNOV, ESQ.
JORDAN MAUCOTEL, ESQ.
2801 N. Harwood Street
Suite 2300
Dallas, Texas 75201
eugene.goryunov@haynesboone.com
Jordan.maucotel@haynesboone.com**

On behalf of the Patent Owner and Witness:

**VOLPE KOENIG
BY: BRANDON R. THEISS, ESQ.
30 S. 17th Street
Suite 1800
Philadelphia, Pennsylvania 19103
BTheiss@vklaw.com**

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MICHAEL I. SHAMOS, PH.D.

APPLE INC. vs. FINTIV, INC.

December 19, 2023

Tamara L. Houston, CSR No. 7244, CRR No. 140, RPR

EXHIBIT	DESCRIPTION	PAGE
Ex 1001	U.S. 10,438,196. '196 Patent	8
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Tuesday, December 19, 2023, 7:06 a.m.

--o0o--

Whereupon, MICHAEL I. SHAMOS, PH.D.
having been called as a witness was
duly sworn to tell the truth, the whole
truth, and nothing but the truth
testified as follows:

--o0o--

EXAMINATION BY MR. GORYUNOV:

Q. Good morning, Dr. Shamos. How are you
today?

A. Good morning. I'm pretty good. I'm pretty
good. I'm having some throat problems as you are,
but we'll get through it.

Q. Absolutely. You and I have done this
before a couple of times, so fair to believe that you
still remember how depositions are conducted?

A. I think so.

Q. Okay. If I ask you a question and you
answer, it's fair to assume that you understood my
question?

A. Well, it's fair to believe that I believe I
understood the question.

Q. Excellent. That's all we can ask for. But
if later you realize that you either gave an improper

1 or incomplete answer or you misunderstood my
2 question, you'll let me know; is that correct?

3 A. Yes.

4 Q. Excellent. All right. Let's just do some
5 preliminary stuff. I'm going to share a couple of
6 exhibits with you in our little chat window. Please
7 let me know when you receive them.

8 A. So are the exhibits -- are these documents
9 that were filed in the IPR?

10 Q. Yes.

11 A. Sorry. Did you say yes?

12 Q. Yes.

13 A. Okay. I have all of those documents as
14 PDFs on my computer.

15 Q. You do. That's even better.

16 Do you have clean copies, or do the copies
17 that you have contain your annotations?

18 A. No, they are totally clean. They are
19 downloaded from the PTAB website. So it may be
20 necessary for you to put an exhibit in the chat if
21 it's not something I have already.

22 Q. Excellent. In that case please disregard
23 the fact that I put into chat previously marked
24 Exhibit 1001, and I would like to use the copies that
25 you have on your computer.

1 Dr. Shamos, then, for the court reporter's
2 benefit, I'm going to upload into the chat a couple
3 of exhibits, but please feel free to use the versions
4 that you have in your current possession. I'm fine
5 with that.

6 (Whereupon Exhibit 1001 was previously
7 marked and referenced for identification.)

8 (Whereupon Exhibit 2003 was previously
9 marked and referenced for identification.)

10 (Whereupon Exhibit 1005 was previously
11 marked and referenced for identification.)

12 MR. GORYUNOV: Madam Court Reporter, I have
13 made three exhibits available through our chat
14 window. One has been previously marked as
15 Exhibit 1001, which is U.S. 10,438,196. That's the
16 '196 patent for our conversation today.

17 I've also made available Exhibit 2003,
18 previously marked, which is the declaration of the
19 good doctor here.

20 And I have made available previously marked
21 Exhibit 1005, which is U.S. patent publication
22 2009-0265272, which is the Dill reference, which we
23 will be discussing today.

24 Dr. Shamos, do you agree with my
25 characterization of the exhibits?

1 A. Totally.

2 Q. Excellent. All right. Sir, please open up
3 what has been previously marked Exhibit 2003.

4 A. I have it.

5 Q. Is this a declaration that you submitted in
6 this case?

7 A. Yes.

8 Q. And your declaration addresses the '196
9 patent; is that correct?

10 A. Yes.

11 Q. And if we go to the very last page, that is
12 your signature; is that correct?

13 A. Yes.

14 Q. And you signed it on or around October 13,
15 2023?

16 A. Yes.

17 Q. And I believe this is the second
18 declaration that you have submitted in this
19 particular IPR. Is that also correct, sir?

20 A. Yes.

21 Q. All right. Let's start with -- if you'll
22 go to your paragraph 12, that's on page 3 --

23 A. Yeah. Paragraph numbers are more useful
24 than page numbers.

25 Q. Let's stick with paragraph number 12.

1 A. I'm there.

2 Q. All right. By the way, right here when you
3 -- in the first very first sentence of paragraph 12,
4 you refer to Shamos 1. Is that the declaration that
5 you submitted -- the first declaration you submitted
6 in this IPR?

7 A. Yes. That -- that's explained in paragraph
8 1 of Exhibit 2003.

9 Q. All right. Then paragraph 12 is your
10 recitation of the knowledge of a POSITA at the
11 relevant time for the '196 patent, correct?

12 A. The level of education and experience.

13 Q. Okay. And here you have a discussion of
14 mobile payment systems roughly midway through
15 paragraph 12.

16 Do you see that?

17 A. Yes.

18 Q. Okay. Now, throughout your declaration you
19 refer to the cost of a mobile wallet as well.

20 Do you remember that?

21 A. Yes.

22 Q. Okay. What is a mobile wallet?

23 A. A mobile wallet is a -- basically a
24 database that holds payment credentials of a -- of a
25 user and possibly holds a representation of cash.

1 Q. Okay. Representation of cash. Can you be
2 more specific? What do you mean by that?

3 A. Okay. So in my ordinary wallet, my
4 physical wallet, I have a bunch of credit cards,
5 which are payment insurance and I have actual cash,
6 real greenbacks.

7 Obviously when we digitize these things,
8 unless we're talking about Bitcoin, money, cash, is
9 not digital. So it holds a representation of cash.
10 A balance in an account, for example.

11 Q. All right. So let's run with that.

12 Where is the actual value that is in your
13 mobile wallet stored? Is it stored at the device, or
14 is it stored on some external server?

15 A. It could be either.

16 Q. And regardless of where the value is
17 stored, does that change what you understand to be a
18 mobile wallet?

19 A. No, I don't think so.

20 Q. Okay. Does knowledge of mobile payment
21 systems include knowledge of a mobile wallet?

22 A. Yes.

23 Q. Can you think of any mobile payment systems
24 that do not use a mobile wallet?

25 A. No. So I think that you can use a mobile

1 device -- for example, a cell phone -- to buy
2 something in the same way that you would use a laptop
3 or you would use a desktop computer to buy something.
4 You can use it through a web browser. You can browse
5 for products. You can select a product, put it in
6 your shopping cart and then check out. You can do
7 that from a mobile device as well as doing it from a
8 nonmobile device. So that's not a mobile payment
9 just because you happen to be using a mobile device.

10 Q. Okay. Now, earlier you said -- you
11 analogized a mobile wallet to the physical wallet you
12 have in your pocket.

13 When you make a payment using a stored
14 credit card, is it correct that the payment is
15 processed in a similar way as it would had you used a
16 real credit card, a physical card?

17 A. Yes, sort of. I mean, it's similar. It's
18 not necessarily identical. For example, with digital
19 wallets you can use tokens to represent credit card
20 numbers. With a real physical credit card you don't.

21 Q. Right, because the card is in your
22 possession, and the number is printed on the back,
23 correct?

24 A. And on the magnetic stripe or in the chip.

25 Q. Right. What are other examples of cards

1 that can be stored in a mobile wallet other than a
2 credit card?

3 A. Well, for example, transit cards. So in
4 the Washington Metro, there's a -- there's a card.
5 Pittsburgh Public Transit System, you can you use
6 your mobile device to pay on buses, things like that.

7 Q. And can you think of any examples of mobile
8 wallets that are not used to pay for transactions?

9 A. I haven't thought about that. I'll think
10 about it. Hang on. I mean, I -- I can imagine -- I
11 can imagine uses that you could graft onto a mobile
12 wallet. They wouldn't normally be considered wallet
13 functions.

14 So, for example, let's pose that I have an
15 electronic means of getting into my house, so I don't
16 need to use a physical key. So I have my mobile
17 wallet on my mobile device, and one of the things it
18 contains is a credential that identifies me and asks
19 my house door to open up so it will let me in. I --
20 you could do that. It's not a payment for anything.

21 Q. So you're referring to like a digital card
22 that you would put into your mobile wallet that would
23 interface with a digital door lock, for example?

24 A. Yeah, that's one example. Another example
25 is in the Hong Kong metro system, they have a payment

1 card that is basically an RFID card. You can get
2 entrance into a metro station turn -- by going
3 through turnstile and applying the card. It's called
4 the Octopus card. And when you get off the train,
5 whatever the station you're leaving from, you tap it
6 again, and it will automatically deduct a quantity of
7 representation of money from your card.

8 You can also use it to get into your
9 apartment house in certain apartments, in which case
10 there is no money deducted, but it just identifies
11 you.

12 Q. When you check into certain hotels, you can
13 use your phone to unlock the door. It's not an
14 identification. It's not a payment -- I'm sorry. It
15 is an identification. It's not a payment.

16 A. Yeah. I think it would be a stretch to
17 call it a mobile wallet, but if you want to, I
18 suppose you can.

19 Q. All right. Do you ever shop at Whole
20 Foods?

21 A. I have. I was there last month.

22 Q. Do you have the Amazon app on your phone?

23 A. I don't think so.

24 Q. Okay.

25 A. I'm familiar with it. I'm familiar with

1 their just-walk-out technology.

2 Q. I'm more interested in when you go into a
3 Whole Foods and you go to pay, you can go to your
4 Amazon app, click on "Generate in-store code," and it
5 will show you a little QR code which you scan on the
6 register which gives you the Prime discounts.

7 Would you consider that kind of a QR code
8 part of a mobile wallet?

9 A. Well, all the QR code is doing is
10 identifying me as someone who is entitled to
11 discounts. I think it's a stretch to -- to call it a
12 part of a wallet, meaning in the real-world, in my
13 physical wallet, I have credit cards, I have cash,
14 but I also have ID cards; so my Carnegie Mellon ID
15 card that gets me into buildings at Carnegie Mellon.
16 I have a card for the supermarket that indicates that
17 I'm a frequent shopper, and so I can show that and
18 get discounts.

19 They are all physically held in the wallet,
20 but because many of them are not related to payment
21 functions, I say it's a stretch, but you could
22 certainly build a mobile wallet that had the capacity
23 for including such things.

24 Q. Okay. All right. In your paragraph 17,
25 you say that some payments can be made from a mobile

1 device without the use of a mobile wallet.

2 Do you see that?

3 A. Yeah, I explained that before. That's a
4 situation where you would use your mobile phone just
5 as a browser.

6 Q. Got it.

7 A. You go to Amazon and put something in your
8 shopping cart and pay for it. You're not actually
9 making the payment from the phone. What you're doing
10 is you're authorizing Amazon to deduct money from --
11 through your credit card.

12 Q. Okay. And it's not the type of mobile
13 payment to which the '196 is directed. Is that
14 because you are not storing value in a mobile wallet?
15 You're just authorizing Amazon to charge your credit
16 card?

17 A. There is no wallet. There is no mobile
18 wallet.

19 Q. Okay. Well, what if --

20 A. Just running a web browser.

21 Q. Okay. Do you have an iPhone or do you have
22 an Android, sir?

23 A. Android.

24 Q. So let me say this: In a -- in an iPhone,
25 you can have a mobile wallet in which you can store

1 your credit cards.

2 Are you aware of that functionality?

3 A. Yeah, very. So what you're really storing
4 are little apps in a secure location that act as if
5 they were a credit card.

6 Q. So, for example, on Amazon, through the
7 iPhone, there is an on option to pay with Apple Pay,
8 which uses your primary card that you've loaded into
9 your Apple wallet.

10 Would you consider Amazon in that instance
11 to be using a payment mechanism from your mobile
12 wallet?

13 A. Yes.

14 Q. And that is because it's using a credit
15 card that is stored inside of your mobile wallet?

16 A. Yes.

17 Q. Okay. In all of the examples that you have
18 just given me, you believe that those types of mobile
19 payments are covered by the '196 patent; is that
20 correct?

21 A. I don't know.

22 Q. Okay.

23 A. We have to look at each individual system
24 to see if the claims read on.

25 Q. Well, in your paragraph 117 -- I'm sorry,

1 not -- in your paragraph 17 --

2 A. Yes.

3 Q. -- you say, again -- you're talking about
4 instances where your mobile phone browser is being
5 used to purchase from Amazon with a credit card, and
6 then you say that, "This is not the type of mobile
7 payment that is within the '196 patent."

8 A. Right, because it has nothing to do with
9 the mobile nature of your device. You could do
10 exactly the same thing from a laptop or desktop or
11 anything.

12 Q. Okay. So then if I -- going back to the
13 example that I gave you of a credit card stored in my
14 mobile wallet on my iPhone -- okay?

15 A. Yes.

16 Q. -- being used and then me shopping on
17 Amazon and then using that credit card via Apple Pay
18 to pay for my purchases, and you had said that that
19 is a mobile payment.

20 Do you recall that conversation?

21 A. Yeah, it is. And I cannot do the same
22 thing from my desktop.

23 Q. So you believe if I have a Macintosh
24 desktop, I will not be able to use my mobile wallet
25 in the same way to make purchases on Amazon?

1 A. I don't think you can because I don't think
2 it has a secure element.

3 Q. Okay. What about -- again, sticking with
4 our Amazon.com purchasing conversation, what about
5 making purchases using an Amazon balance, like a gift
6 card balance or an Amazon gift card? Would that be a
7 mobile wallet, mobile transaction?

8 A. Wait. We have to be really precise about
9 the terminology.

10 Q. Please.

11 A. Tell me more about how you're using your --
12 did you say an Amazon balance?

13 Q. Sure. So let me give you two examples of
14 what I'm thinking about.

15 A. Yep.

16 Q. I can buy an Amazon gift card and gift that
17 to somebody. They receive a code. They enter that
18 code into their Amazon.com profile, and it's saved as
19 a balance that they have in Amazon gift card.

20 The second example that I'm thinking about
21 is if I purchase something on Amazon and then I
22 return it for some reason, I have the option of
23 getting a refund through my original credit card or
24 getting it as an Amazon balance credit.

25 Are you aware of those two instances?

1 A. Yes.

2 Q. Now, if later I go on Amazon and I decide
3 to purchase something and pay for it using that gift
4 card or that Amazon balance, is that a mobile payment
5 within the scope of the '196 patent?

6 A. Well, I don't -- I haven't -- I haven't
7 considered that. I don't think it would be because
8 it has nothing to do with the fact that you're
9 mobile. You could do exactly the same thing from a
10 desktop.

11 Q. Understood. And while we're on page 4 of
12 your declaration, let's look up at paragraph 15.
13 This is where you discuss the priority date of the
14 '196 patent.

15 Do you see that?

16 A. Yes.

17 Q. And you conclude the first sentence by
18 saying, "The priority date is assumed by the
19 Petitioner."

20 Do you see that?

21 A. Yes.

22 Q. My question for you is about -- assumed by
23 Petitioner, are you suggesting that the '196 is
24 somehow entitled to a different priority date?

25 A. No. I think my paragraph and the footnote

1 are totally self-explanatory. The petition -- the
2 footnote says, "The petition at four assumes a
3 priority date of November 2011."

4 Then I clarify that by saying that "The
5 '196 patent claims priority to November 21st, 2011."
6 The 21st was omitted by petition.

7 Q. Understood. I'm just trying to find out if
8 you're trying to draw some kind of a particular
9 distinction.

10 A. Well, okay. So for the purposes of this
11 proceeding, I don't think anybody is asserting a
12 priority date other than November 21st, 2011.

13 Q. Agreed. All right. Let's go forward to
14 your paragraph 28, sir.

15 A. I'm there.

16 Q. And here you have a discussion of what
17 service.

18 Do you see that? It's in the second full
19 sentence -- third full sentence.

20 A. Yes.

21 Q. And you say that "web service is a term of
22 art"?

23 A. Yes.

24 Q. And then in your paragraph 29 you say that
25 "It's a specific term of art which involves a

1 machine-to-machine interaction over the Internet
2 using web protocols."

3 A. I don't see the word "specific" in the
4 paragraph.

5 Q. Okay. Let me be more precise then.
6 Paragraph 29, second sentence, "A web service," in
7 quotes, "communication involves a machine-to-machine
8 interaction over the Internet using web protocols."

9 Do you see that?

10 A. Yes.

11 Q. Okay. And then you include a number of
12 citations here to -- documents to support your
13 understanding that a web service is a
14 machine-to-machine interaction; is that correct?

15 A. Yes.

16 Q. Are any of the documents that you cite in
17 paragraph 29 also cited in the '196 patent?

18 A. I don't know. I can -- I guess I can
19 easily check.

20 Q. Would you mind?

21 A. I'm looking at other publications because
22 things that I cite are not patents.

23 Q. And just so that our record here is clear,
24 you are looking at the other references section of
25 the '196 patent, which has been previously marked as

1 Exhibit 1001; is that correct?

2 A. Yeah, beginning on its page 5.

3 Q. Excellent.

4 A. Well, there are a lot of them, so it will
5 just take me a moment here.

6 Q. Mm-hmm. I'll use this opportunity to
7 self-medicate with coffee.

8 A. It does not appear that any of the material
9 that I cited in paragraph 29 were cited by the
10 applicant during prosecution.

11 Q. Okay. Are you asking for the board to
12 construe web service to involve a communication,
13 machine-to-machine interaction over the Internet,
14 using web protocols as you say in paragraph 29?

15 A. I don't think so. I'm asking -- I'm not
16 asking the board to do anything, but if I were to ask
17 the board, I would ask them to construe web service
18 to have its plain and ordinary meaning to a POSITA,
19 and that plain and ordinary meaning is as I explained
20 in paragraph 29.

21 Q. How do you understand the concept of plain
22 and ordinary meaning, sir?

23 A. Okay. So plain and ordinary meaning is in
24 the viewpoint -- from the viewpoint of the POSITA,
25 someone of ordinary skill in the art, reading the

1 patent and the intrinsic evidence. So I go read this
2 patent, and I say to myself, Do I know what web
3 service means? And I say, Yes, I know what it means.
4 It means what I described in paragraph 29. It's not
5 something that's separately defined in the patent.
6 It doesn't need to be because it's a term of art.

7 Q. Would you agree that two POSITAs could
8 attribute a different meaning or have a different
9 understanding of a particular term?

10 A. Sure they could.

11 Q. And they would still be a POSITA if they
12 understood a term differently?

13 A. POSITAs don't exist. A POSITA is a
14 hypothetical individual who has a certain level --
15 defined level of education and is presumed to be
16 familiar with all of the relevant prior art. There
17 is no human being that fits that characterization, so
18 we don't actually -- we don't really talk about two
19 POSITAs.

20 Now if you're asking could two experts who
21 themselves claim to be POSITAs, could they come up
22 with different definitions of the plain and ordinary
23 meaning of a term? Sure. Happens all of the time.

24 Q. And in that case, if both experts were
25 learned individuals, you'd expect that their

1 definitions were at least somewhat consistent, right?

2 A. Well, the hope would be that there wouldn't
3 be material differences, that they're not taking
4 completely opposite positions on what the term means
5 in which case the tribunal would need to perform
6 claim construction.

7 Q. Now if we say that a term should be given
8 its plain and ordinary meaning, and then we go ahead
9 and we provide a description of what we believe that
10 that plain and ordinary meaning is, are we still
11 asking for the court or a board to give that term its
12 plain and ordinary meaning, or are we giving it a
13 specific definition?

14 A. No. We're just explicating what the plain
15 and ordinary meaning is. It's not the plain and
16 ordinary meaning of the two words "web" and "service"
17 taken together to a man on the street. It's what do
18 those two words taken together mean to a POSITA?

19 Q. Okay. Let's do this. Would you mind
20 opening up what has been previously marked as
21 Exhibit 1001?

22 A. I'm there.

23 Q. All right. I believe the version that you
24 have should be word searchable.

25 A. It is.

1 Q. Excellent. Would you mind searching for
2 web service -- web space service?

3 A. The first occurrence I see is in Column 9
4 at line 66. It's in the sentence that begins at line
5 65 that says, Integration tier 101 can also include a
6 communication (e.g., web services) API and/or other
7 communication mechanisms to accept messages from
8 channels 111."

9 Then the next occurrence is in Column 10.
10 It's a long sentence -- no, it's a short sentence,
11 actually. Begins at line 13. Line 12. It says,
12 "Notification services 102 can be configured through
13 a web services API."

14 Then it does not occur any more in the
15 specification proper. It occurs in the claims.

16 Q. Okay. So the two instances that we just
17 talked about in Column 9 and in Column 10 referring
18 to web services API, what about that description in
19 the '196 patent tells you or, in your view, would
20 tell a POSITA that web services have to be
21 machine-to-machine communication --
22 machine-to-machine interaction?

23 A. All right. So a couple of things. One is
24 the term "web services" itself is a term of art. And
25 so when a POSITA reads that term, he knows what it

1 means.

2 And the second thing is it's even explained
3 a little bit further. It talks about a web services
4 API. An API is a mechanism for one computer to talk
5 to another computer. So the use of API simply
6 confirms the meaning of web services.

7 Q. Now, would you use an API -- or actually
8 more specifically, could you use a communication API
9 to communicate with an application installed on a
10 mobile device?

11 A. When you say "could I," you mean --

12 Q. Could a POSITA.

13 A. You mean a human? Could a human --

14 Q. A POSITA. All right. Fine. Let me be
15 more specific.

16 Could a human design a piece of software
17 that would use a communication API to communicate
18 with an application installed and running on a mobile
19 device?

20 A. Yes.

21 Q. Could a human design a piece of software
22 that would use a communication API to communicate
23 with an application installed and running on a mobile
24 device from a website?

25 A. You mean the mobile device is communicating

1 with a website?

2 Q. Correct.

3 A. Through an API?

4 Q. Sure.

5 A. Yes.

6 Q. I'm sorry. I apologize for my silence.

7 I'm trying to unfreeze my computer.

8 A. No apology necessary.

9 Q. I always struggle with these technology

10 control things.

11 MR. THEISS: I'm just appreciative it's not

12 me for once.

13 MR. GORYUNOV: It's funny, because the Zoom

14 window is running just fine, but my other windows are

15 froze. Here we are. All right. And we are back.

16 BY MR. GORYUNOV:

17 Q. All right. Sir, let's talk about -- a

18 little bit more generally about software developing.

19 Do you have an understanding of how

20 software is designed?

21 A. Yes.

22 Q. All right. Would you agree with me that

23 software is generally a combination or some kind of a

24 collection of multiple software functions or modules?

25 A. Yes.

1 Q. And would you agree that a single module or
2 function can, in fact, have multiple sub functions or
3 sub modules within it?

4 A. So we have to be careful about the word
5 "function," because sometimes in their programming
6 language in which the term function actually means a
7 collection of code.

8 Colloquially, however, function means
9 something that a program does. So if I -- if I -- if
10 I make the statement, "This software has many
11 functions," that's an ambiguous statement. It may be
12 that it does many different things, but it also may
13 be that it has a lot of separate things that happen
14 to be called functions. So I really need to have the
15 question be a little more precise.

16 Q. All right. Let me try it this way.
17 Have you ever designed software C++?

18 A. Yes.

19 Q. Okay. You define a function within your
20 main .C file.

21 A. Yeah. So in that case you are referring to
22 function as a collection of code.

23 Q. Correct.

24 A. It's not a functionality. It's a function.

25 Q. All right. Then let's run with that

1 understanding of function.

2 A. Okay.

3 Q. The function that we're talking about can

4 have multiple many distinct functionalities in and of

5 itself. Let me be more specific. That question is

6 not the best. Let me try again.

7 The function we're speaking about in C++

8 could, itself, call other functions that are defined

9 within the same .C file, correct?

10 A. Yes.

11 Q. And each one of those sub functions could

12 have each -- its own individual and independent

13 functionality from the codecs fusion perspective,

14 correct?

15 A. Yes.

16 Q. All right. Now, if we go to your paragraph

17 33.

18 A. I'm there.

19 Q. Do you see there's an annotation from

20 Figure 9? Do you see that?

21 A. Yes.

22 Q. And that's Figure 9 from the Dill

23 reference, correct?

24 A. Yes.

25 Q. Is that your annotation, or is that the

1 annotation that you copied from the petition?

2 A. It's from the petition. Hang on a second.
3 Let me go look at the petition and check that.

4 Q. And you have a copy of the petition,
5 correct?

6 A. I do. I'm pulling it up. Yeah, I just
7 can't find what page it's on, but there are many
8 different copies of Figure 9 annotated in the
9 petition, so let me see where this one came from.
10 I'll get it.

11 Well, the petition is longer than I wanted.
12 It's 101 pages long so I have to -- I'm telling you
13 that Figure 9 appears many times with annotations.

14 So is your question: Did I annotate that
15 document or did the Petitioner? Is that the
16 question?

17 Q. Absolutely.

18 A. Let's be careful about this then. Okay.
19 So the fact that the block web 127 is identified as a
20 web interface, that's in a drawing in the petition on
21 page 24.

22 Now, what we have to do is look for the
23 integration tier being identified with transfer
24 options and mobile application. So I'm looking for
25 that. One piece of it is in the annotated drawing on

1 page 26. That -- for the integration tier, it points
2 to transfer options.

3 Now, same thing appears on page -- page 29.
4 Then -- okay. So I don't see a drawing that has the
5 integration tier pointing to mobile application 145.
6 However, it's probably in text. So I'll look for
7 that.

8 Q. Well, to be fair, my question was just
9 limited to whether the figure that you have in your
10 paragraph 33 was something that you created or
11 whether that is something that you copied from the
12 petition.

13 A. Oh, I think it was -- it was created by
14 counsel.

15 Q. Got it.

16 A. Supplied to me.

17 Q. Same question about the figure that's in
18 your paragraph 34. Is that something that you copied
19 from the petition or is that something that was
20 created by counsel?

21 A. Well, that's -- that's not from the
22 petition. This is just explaining how the petition
23 is mapping various components.

24 Q. Sure. Let's go to your paragraph 41.
25 Are you there?

1 A. Yes.

2 Q. And, again, we're back to what has been
3 previously marked as your Exhibit 2003.

4 A. Yes.

5 Q. The first sentence says, "Dill discloses
6 that, in an alternative embodiment, the mobile device
7 may run a mobile wallet application, as that term is
8 used in Dill which, as explained above, is different
9 from the claimed mobile wallet application."

10 Do you see that?

11 A. Yes.

12 Q. Okay. "Explained above," where is it
13 explained above? I tried to go through your
14 declaration. I couldn't exactly figure out what
15 section you were referring to.

16 A. Okay. Let me find it. Well, I point out
17 in paragraph 26. I'm looking for --

18 Q. Okay.

19 A. I'm looking for uses of mobile wallet
20 application.

21 Q. Gotcha.

22 A. So I'm sorry, which paragraph were we on?
23 Because I moved around -- I moved away from it in my
24 declaration, and I don't know which paragraph you
25 were asking me about.

1 Q. So I was at paragraph 41. I just want to
2 make sure that, you know, I have linked everything
3 together. So when you say "explained above," I just
4 want to know exactly where you were referring to in
5 your declaration.

6 A. I'm looking carefully.

7 Q. I appreciate that.

8 A. Yeah, I'm suspecting that maybe the word
9 "above" should have been the word "below" because I
10 don't see it above paragraph 41.

11 Q. So you're referring to the discussion that
12 in your paragraph 41 that follows that first
13 sentence, correct?

14 A. Yeah. You were referring to the word
15 "above."

16 Q. Yes.

17 A. "As explained above"?

18 Q. Yes, sir.

19 A. It appears to me that the word "above"
20 should be the word "below" because I don't -- I don't
21 explain the difference above. I do below.

22 Q. Typos happen.

23 A. I -- I would guess that it might have
24 originally been "above," and then it was moved, and
25 the word "above" wasn't changed, but -- so it ended

1 up being a typo.

2 Q. Excellent. All right. So then here's my
3 next question for you: In paragraph 41 -- and this
4 is the portion of the text that goes from page 15 to
5 page 16, the second sentence begins with, "On the
6 contrary, in Dill." Do you see that?

7 A. Yes.

8 Q. And specifically -- go ahead, sir.

9 A. I see it.

10 Q. Okay. And your characterization of Dill is
11 that all communications from the mobile wallet
12 application on the customer's mobile device are
13 routed first through a mobile network 115.

14 Do you see that?

15 A. Yes.

16 Q. If we think from an implementation
17 perspective -- let's assume that the customer's
18 mobile device is currently on a Wi-Fi network and
19 does not have a mobile connection to the -- to the
20 operator.

21 Can you picture that example in your mind?

22 A. Yes.

23 Q. Okay. If that device sends communications
24 -- or, rather, if communications from a mobile wallet
25 application on that device are then sent through the

1 payment system, they are being passed through a Wi-Fi
2 network or a Wi-Fi connection first; is that correct?

3 A. Wait. Are we talking about the arrangement
4 in the patent or the arrangement in Dill?

5 Q. Dill.

6 A. Okay. With that, please repeat the
7 question.

8 Q. If the customer's mobile device, with a
9 mobile wallet application of Dill on it, is
10 communicating with a mobile payment system of Dill
11 but that device currently is out of cell phone
12 service but is only connected to a Wi-Fi network, we
13 can agree that the communications from the device and
14 from the mobile wallet application on that device
15 would be using the Wi-Fi connection only; is that
16 correct?

17 A. Yes. That's the only way it could be.

18 Q. Right.

19 A. And unless there's Bluetooth. I know what
20 you mean. We're not using the cell carrier.

21 Q. Right. And what if the device, same
22 example, is connected to a Wi-Fi network and to an
23 operating network at the same time, do you know which
24 of those two network communication mechanisms would
25 be used, the cellular or the Wi-Fi?

1 A. It depends on the functionality that's
2 required. So, for example, when I use a browser on
3 my mobile phone, the browser doesn't really care
4 whether it's using the cell -- whether it's using 5G
5 from the cell carrier, or whether it's using the
6 wireless network in my house. And so there is a
7 priority that it checks things in a certain order.

8 And if there is a wireless connection at
9 home, then it will use that. But if not, then it
10 will -- it will just use 5G. And I can -- I can
11 change the priority. I can ask it to always prefer
12 to use my home network, because presumably I'm paying
13 for that, as opposed to the 5G network where it would
14 go against my monthly budget of gigabytes.

15 Now, there are other applications where it
16 does care, that it -- what I propose to do with my
17 mobile device cannot be done unless I actually have a
18 connection to my cell carrier. So there are some
19 applications that are agnostic to the nature of the
20 connection and some that are not agnostic.

21 Q. All right. Let's talk -- continue talking
22 about Dill.

23 Would you please pull up what has been
24 previously marked as Exhibit 1005?

25 A. I have it.

1 Q. Let's look at Figure 9.
2 A. I have it.
3 Q. You're faster than me.
4 A. I was anticipating.
5 Q. All right. At the bottom of Figure 9, do
6 you see there's a block called "Mobile Network
7 Operator"?
8 A. Yes.
9 Q. How do you understand the Phrase "Mobile
10 Network Operator" in Dill's context?
11 A. It's a term of art. It's usually
12 abbreviated MNO, and it's a company that operates a
13 cellular network. So it might be Verizon, Sprite,
14 AT&T -- Sprint, AT&T. Those are mobile network
15 operators.
16 Q. If we think geographically, where could a
17 mobile operator be termed to be located?
18 A. You mean -- are you asking legally for
19 venue purposes, or what do you mean? So there's some
20 mobile network operators that have cell towers all
21 over the country. They have routers all over the
22 country. They have home location registers all over
23 the country, so they can be in many places.
24 Q. Okay. So there's -- not in the venue
25 context of jurisdiction. If we're talking about

1 physical systems, they could be distributed
2 throughout the country, and various components can be
3 distributed throughout the country, correct?

4 A. Yes, I think they normally would be;
5 otherwise, you'd have a really small mobile network
6 operator.

7 Q. With really poor coverage?

8 A. Yeah, although you can get coverage through
9 roam.

10 Q. Now, when we talk about a mobile network
11 operator and a mobile device, do you understand that
12 the mobile device is operating on a mobile network
13 operator, or that the mobile network operator is
14 operating on the mobile device, or both?

15 A. I'm -- I don't even -- I don't even
16 understand what it means to operate on.

17 Q. Okay.

18 A. So, for example, I have -- as we've
19 established, I have an Android phone nearby. It's
20 not on but I have it -- I have an Android phone.
21 When I -- and my carrier that's providing that
22 service is Verizon. When I go to a place in which
23 there is no Verizon service, then when I turn on my
24 phone, it will establish a connection with a local
25 mobile network operator, hopefully one that has a

1 contract with Verizon for roaming purposes so I will
2 be able to connect to any place that my mobile
3 network operator can get me but through some other
4 mobile network operator. And so the operator isn't
5 operating on the phone. I mean, it's providing
6 service to the phone.

7 Q. Okay. You know what, we've been going for
8 about an hour. Let's take a break. I don't want to
9 keep you longer than I need to, so do you want --
10 would you prefer a shorter break or a standard
11 10-minute?

12 A. I don't care. I just need enough time to
13 go get another Diet Coke.

14 Q. All right. Let's just do 10 minutes.

15 (Recess: 7:58 a.m. to 8:11 a.m.)

16 BY MR. GORYUNOV:

17 Q. All right. Welcome back, Dr. Shamos.

18 A. Thank you.

19 Q. During the break, did you speak about the
20 substance of your testimony with counsel?

21 A. No, I didn't speak with counsel at all.

22 Q. All right. Let's go to Dill, and this is
23 previously marked Exhibit 1005. And specifically,
24 let's go to Figure 8.

25 A. Okay.

1 Q. Do you see that?

2 A. Yes.

3 Q. And I know it's turned 90 degrees

4 counterclockwise.

5 A. Not in my copy. So when I get these things

6 from the board, I go through all of the patents, and

7 I make sure that I -- that I rotate the diagrams as

8 necessary to make them readable.

9 Q. In that case, even better.

10 So at the top of Figure 8, do you see a

11 designation of "Sender"? Then to the right you see

12 "Recipient." To the right you see "Recipient's

13 M-Wallet," and to the right you see "Mobile

14 Application." Do you see that?

15 A. Yes.

16 Q. And all four of those components are

17 separated by a dotted vertical line.

18 Do you see that?

19 A. Yes.

20 Q. When we talk about the mobile application

21 on the far right-hand side of the figure -- do you

22 see that?

23 A. I do see it. I want to go to the text of

24 the patent to see what it says about these things.

25 But I do see mobile application on the right.

1 Q. I believe -- and I'll just give you a cite.

2 A. Paragraph 92.

3 Q. That is exactly where I was going.

4 A. So let me read a piece of that into the
5 record so we know what the context is for Figure 8.

6 Q. Sure.

7 A. "Figure 8 illustrates an exemplary flow for
8 a pull transaction model according to one embodiment
9 of the present invention. This example assumes that
10 a money transfer transaction has been previously
11 initiated by the sender 105. For example, the sender
12 105 can visit an agent 135 location, as described
13 above, to make a payment initiating money transfer
14 transaction as described above.

15 Alternatively, the sender 105 can initiate
16 the money transfer transaction via a website or
17 Interactive Voice Response (IVR) phone system of the
18 money transfer facilitator, bank," et cetera, et
19 cetera.

20 So this is a pull trans, which means that
21 money is being taken from somewhere, that it has to
22 exist already and we're going to take the money.

23 Now, with that I guess we can go back to
24 Figure 8.

25 Q. Sure.

1 A. It's a very strange diagram, by the way.
2 Q. How so?
3 A. Well, if you look at the -- the two blocks
4 that are labeled "Sender" and "Recipient," there's an
5 arrow from the sender to the recipient. What is the
6 meaning of that arrow? Does it mean that money is
7 going to flow from the sender to the recipient? Does
8 it mean that sender is directly communicating with
9 the recipient? What does that mean?
10 Q. How do you understand that arrow?
11 A. I'm not sure I fully do. I'll have to look
12 at what Dill says about the 812, the recipient.
13 Q. Could the arrow between the sender and the
14 recipient be indicative of all communications between
15 the sender and the recipient?
16 A. Could it be? Yeah, it could, if we
17 understood what the semantics of the diagram were.
18 So let's see what Dill has to say about it. I mean,
19 it's just whacky because it may signify that these
20 are events that are taking place in a certain order.
21 And, first, the sender has to provide his MTCM. Then
22 the recipient has to enter his MTCM and pin. It's
23 not necessarily -- certainly the sender -- I have to
24 read what Dill has to say about -- about 812 to
25 figure this out.

1 Q. I think what you're looking for is in
2 paragraph 93 of Dill.

3 A. Yeah, 93 and 94, yeah.

4 Q. Yeah. I'm looking at the second sentence
5 of 93 where it says, "Sender 105 can notify the
6 recipient 110." And then it identifies multiple ways
7 that the notification can happen.

8 So in that context, the arrow between the
9 sender and the recipient in Figure 8 would mean some
10 kind of a notification?

11 A. Yeah. It's a communication as described in
12 paragraph 93 and 94.

13 Q. Let's go look back at Figure 8.

14 A. Okay.

15 Q. We're looking at the mobile application
16 portion of Figure 8 that's on the far right-hand
17 side.

18 Where is the mobile application installed
19 and executed?

20 A. Well, this one is -- I believe it's the
21 mobile application that's at the mobile network
22 operator 120 in Figure 9, but let's see what Dill has
23 to say about 820, which is where the mobile
24 application receives the MTCM. It's different.

25 So in paragraph 95 it says, "The

1 application 145 of the money transfer facilitator 140
2 can in turn receive 820 and verify 822, the
3 transaction identifier."

4 So this is referring to the application of
5 the money transfer facilitator, 140. So it's
6 referring to Figure 9. That's the mobile application
7 145 in Figure 9. That's not the mobile wallet
8 application. That's a mobile application.

9 Q. Well, here, let me ask you another
10 question. When you take a look and we work with
11 Figure 8 and 9 together, in Figure 8, the third
12 component, if you go from left to right, is
13 Recipient's M-Wallet.

14 Do you see that?

15 A. Yes.

16 Q. Where do you believe that the Recipient's
17 M-Wallet is located?

18 A. Well, the only place in Figure 9 that's --
19 there's anything called a Recipient's M-Wallet is the
20 M-Wallet 130 that's in the mobile wallet
21 application/service of the MNR.

22 Q. And is it your opinion that the Recipient's
23 M-Wallet can only exist at the mobile network
24 operator?

25 A. When you say "can," there's no disclosure

1 in Dill that it exists anywhere else. I mean, could
2 I design a system differently? Maybe, but that's not
3 what's disclosed in Dill.

4 Q. When you think of a mobile wallet
5 application in the context of the '196 patent --

6 A. Yeah.

7 Q. -- is it possible to have multiple mobile
8 wallet applications on a single device?

9 A. I haven't considered that. I'm not sure
10 why it wouldn't be possible. I don't know why not.

11 Q. And is it possible for, in the instance
12 where a single device has multiple mobile wallets
13 installed and running on it, for those mobile wallets
14 to communicate and interface with one another?

15 A. You mean on the same device?

16 Q. Yes, sir.

17 A. Can't really see how that would happen. I
18 mean, could -- could one devise a system in which
19 that were possible? I suppose. You could have a
20 master wallet configurator, for example, that was
21 familiar with all of the mobile wallets that were
22 installed on the device. And through that -- that
23 master configurator, you could ask for transfers to
24 occur, I suppose, but that's -- I mean, we're
25 dreaming. That's not disclosed either in the '196

1 patent or in Dill.

2 Q. All right. Let's go to your paragraph 50
3 in your declaration. Again, this is what's been
4 previously marked as Exhibit 2003.

5 A. Yes, I'm there.

6 Q. All right. I think this is going to be the
7 third -- the third sentence in paragraph 50. It's
8 the one that says, Mr. B is not entitled to hold
9 Mr. A's wallet on his own device.

10 Do you see that?

11 A. Yes.

12 Q. Why not?

13 A. Come on. Are you entitled to hold my
14 wallet? If I give you my wallet, you can spend my
15 money. Why are you holding my wallet? What would be
16 the purpose? And if you can't spend my money from it
17 because there's some security feature, what do you
18 need my wallet for? What good does it do?

19 Q. Have you ever heard of a thing called
20 Greenlight card?

21 A. I think I have heard of it, but you need to
22 refresh my recollection.

23 Q. Sure. A Greenlight card is a debit card
24 that's issued to minors.

25 A. Uh-huh. Oh, yeah.

1 Q. So the minor is issued a physical card and
2 also has an app on his or her phone that gives them
3 access to the balance of their debit card for things
4 like, you know, mobile pay.

5 A. Mm-hmm.

6 Q. Okay. So you're aware of this kind of
7 implementation?

8 A. Yes. My -- I believe my daughter uses it
9 with my granddaughter.

10 Q. I use it with my older daughter.

11 So my daughter has the Greenlight app
12 installed on her phone which lets her manage the
13 balance in her account. I also have the Greenlight
14 app installed on my phone which gives me access to
15 her account.

16 A. Yes.

17 Q. So I can, therefore, go and use the money
18 that's in her account because I have the app.

19 A. Well, it's not just because you have the
20 app. It's because you set up the whole arrangement.
21 So there's a relationship between you and her.

22 This is not the general pay of Mr. A and
23 Mr. B. If Mr. A is the sender and Mr. B is the
24 recipient, and they don't have a previous
25 relationship like father/daughter, then there's no

1 analogy there.

2 Q. So when you speak in paragraph 50 of Mr. B
3 and Mr. A, you assume that they don't have some
4 preexisting relationship or arrangement?

5 A. That -- that's right. I mean, that's the
6 general case. If you look at -- if you hook at
7 Dill -- Dill's discussion of sender and recipient,
8 the sender is not the father of the recipient. It's
9 not like they are sharing -- they are sharing a
10 common pool of money. It's the sender is sending
11 money to the recipient. They have no previous
12 relationship.

13 Q. All right. If we go to your paragraph 23,
14 please. Let me know when you're there.

15 A. I'm there.

16 Q. A couple of clarifying questions here for
17 you, sir. In your paragraph 21, specifically, you
18 expound that different communication channels has to
19 meet two conditions. The first condition is that
20 these different communication channels must interface
21 with the web services communication mechanisms; and,
22 two, these different communication channels must
23 connect the integration tier to the different device
24 types outside of the integration tier.

25 Do you see that?

1 A. Yes.

2 Q. When you say outside of the integration
3 tier, what do you mean by outside?

4 A. Okay. So I'm looking at the claim
5 language, which is where this all comes from. Okay.
6 So '196, Claim 1, recites, "An integration tier
7 configured to manage mobile wallet sessions with a
8 mobile device and including web services
9 communication mechanisms for interfacing with a
10 mobile wallet application and a plurality of
11 different device types over a plurality of different
12 communication channels."

13 Okay. That's what we're -- that's what
14 we're interpreting. And so going back to my
15 declaration, the fact it has to interface with web
16 services communication mechanisms, that's in the
17 claim, and it has to connect to the integration tier.
18 It connects to the integration tier to the different
19 device types because it's part of the integration
20 tier.

21 The integration tier is a bunch of software
22 programs. It doesn't have any devices. The devices
23 are, you know, mobile phones and things like that.

24 Q. So when you say that the different
25 communication channels must connect integration tier

1 to different device types outside of the integration
2 tier, you're merely saying that the devices
3 themselves, that they are separate entities from this
4 communication in subrogation tier?

5 A. Can you repeat the last part? The devices
6 themselves are --

7 Q. Sure. Let me just ask the question from
8 the beginning.

9 So when you say that, "The different
10 communication channels must connect the integration
11 tier to different devices outside of the integration
12 tier," you're saying only that the devices
13 themselves, in other words, the physical devices, are
14 separate entities from the integration tier?

15 A. I'm certainly saying that. I'm not sure
16 that's the only thing I'm saying.

17 So I refer you to Figure 1 of the '196
18 patent.

19 Q. Okay.

20 A. So I see integration tier 101, and directly
21 above it there are a whole bunch of blocks in this.

22 Larger block called channels 111. And one
23 of them is iPhone, and one of them is Android, and
24 one of them is Blackberry. Those are different
25 devices. And the connections, the communication

1 connections, are shown as lines between those devices
2 and the integration tier. These are the different
3 communication channels.

4 Q. Okay. I'm sorry. When you say that these
5 are the different communication channels, you're
6 referring to the line between the iPhone and the
7 integration tier 101 in Figure 1; is that correct?

8 A. Yes.

9 Q. Okay. All right. Back to your paragraph
10 23 of your declaration. You say, "I understand that
11 patent owner believes that two phrases, not including
12 Petitioner's phrase, actually require construction."

13 A. Yes.

14 Q. So I've got a couple of questions for you
15 on this one.

16 What two phrases are you referring to?

17 A. Mobile device and mobile wallet
18 application. Those are in Sections D and E below
19 paragraph 23.

20 Q. Okay. So in paragraph 23 when you say "two
21 phrases," you're referring to mobile device and
22 mobile wallet application?

23 A. Yes.

24 Q. Okay. Now, the next portion of that
25 sentence says, "not including petitioner's phrase."

1 What do you believe is Petitioner's phrase?

2 A. Well, that's a good question. Hang on a
3 second.

4 So in the petition, Petitioner called for
5 construction of the phrase "debit to mobile wallet by
6 the specified amount of funds." That's Petitioner's
7 phrase.

8 Q. Yes. Gotcha. So when you're referring to
9 Petitioner's phrase, you are referring to the
10 petitions for post construction for debit to the
11 mobile wallet by the specified amount of funds?

12 A. Yes.

13 Q. Okay. And then I guess the final portion
14 of your paragraph 23 you're saying "actually required
15 construction." And here you are, again, referring to
16 mobile device and mobile wallet application?

17 A. Yes.

18 Q. All right. Let's go to your paragraph 20,
19 please.

20 A. We seem to be going in the wrong direction
21 here. We're going backwards. I'm there.

22 Q. Excellent. In the first sentence of
23 paragraph 20 -- I want to skip the first portion of
24 it -- says that, "The web services communication
25 mechanisms must interface with a mobile wallet

1 application."

2 Do you see that?

3 A. Yes.

4 Q. When you say "must interface," are you
5 calling for a direct interface; in other words, one
6 to one without any intermediaries?

7 A. I don't know. The issue has never been
8 raised before. So when you -- if you're going to use
9 the word "direct," you're going to have to tell me
10 what that means.

11 Q. Well, I guess I'm trying to figure out what
12 you mean by "must interface."

13 Are you requiring some kind of a specific
14 interface or is it something that's different?

15 A. Well, it seems to me that the thing that is
16 making use of web services communication mechanisms
17 must be able to talk to the mobile wallet
18 application.

19 Now, when you use the word "direct," that's
20 a very loaded term when we're talking about the
21 Internet because on the Internet, virtually nothing
22 is direct. Everything is going through multiple
23 routers. We use --

24 Q. Okay.

25 A. We usually abstract away that plumbing.

1 And the way I understand direct communication is I
2 address the communication to you. If it goes through
3 20 intermediaries in order to get to you, it's still
4 direct to you because it's addressed to you.

5 If, on the other hand, it is not addressed
6 to you, but you get it and you pass it on to somebody
7 else, then that -- that may not be a direct
8 connection. I don't --

9 Q. So when we say --

10 A. Give me the architecture, and I'll tell you
11 whether it's direct or not.

12 Q. Here --

13 A. If it means anything, your direct is not
14 used in the claims.

15 Q. Let's work with your answer that you just
16 gave. When you say "The web services communication
17 mechanisms must interface with a mobile wallet
18 application," are you saying that the interface that
19 occurs here is one where communications are
20 specifically addressed to you?

21 A. I don't know. I haven't been asked to
22 interpret the word "interface," and nobody has
23 offered any construction other than plain and
24 ordinary meaning for interfacing. Interfacing means
25 they can talk.

1 Q. So if we continue with your example of, in
2 the Internet, nothing is, quote/unquote, direct
3 because you go through a lot of different kinds of
4 plumbing --

5 A. Yes.

6 Q. -- as you said --

7 A. Yes.

8 Q. -- is that still an interface?

9 A. Is what still an interface? What do you
10 mean by that?

11 Q. If I have a web services communication
12 mechanism --

13 A. Yes.

14 Q. -- that is communicating over the Internet
15 with a mobile wallet application installed on a
16 mobile device and, again, that communication is
17 through the Internet where we are abstracting away
18 all of the plumbing, is that still an interface
19 between the web services communication mechanism and
20 the mobile wallet application?

21 A. Yes. And we're abstracting away even more,
22 because it's not just through the Internet. It
23 ultimately has to go through the cell carrier in
24 order to get to your mobile device or through a
25 wireless access point to get to your mobile device.

1 So it's the Internet plus all that.

2 And, yes, when I go visit Amazon.com and I
3 type in my credit card number and Amazon.com stores
4 my credit card number, I have interfaced with
5 Amazon.com even though there may be 15 routers
6 between me and them; and I have to go through my cell
7 carrier, and I have to go through the Internet still
8 interfacing with Amazon.com.

9 When Amazon.com takes my credit card number
10 and uses it to charge my credit card by communicating
11 with my bank, I am not interfacing with my bank.
12 Amazon is interfacing with my bank because I didn't
13 address a communication to my bank. I addressed a
14 communication to Amazon, and it got it.

15 Q. All right. Well, let's look at your
16 paragraph 11.

17 A. Okay. All right.

18 Q. You say that, "The legal principles on
19 which I was asked to rely were detailed in paragraphs
20 25 through 32 of Shamos 1." Do you see that?

21 A. Yes.

22 Q. You don't repeat the legal principles in
23 your declaration, and you're aware that's been
24 previously marked as Exhibit 2003, correct?

25 A. That's right. It's a -- cross reference --

1 Q. So you're incorporating them from your
2 earlier declaration?

3 A. Yes.

4 Q. Okay. Same question with regard to
5 paragraph 12. You begin in paragraph 12, "I explain
6 in paragraphs 33 through 35 with Shamos 1," dot, dot,
7 dot. Do you see that?

8 A. Yes. There I'm actually giving the
9 characterization of a POSITA, but I'm referencing
10 paragraphs 33 to 35 of Shamos 1 as explanatory
11 material that explains why I believe that's the
12 correct characterization.

13 Q. Gotcha. Let's look at your paragraph 3.

14 A. Okay.

15 Q. Same question. "My background,
16 qualifications, and compensation were detailed in
17 paragraphs 5 through 17 of Shamos 1."
18 Do you see that?

19 A. Yes, that's an incorporation by reference.

20 Q. There was one more question I wanted to you
21 clarify. Just a second.
22 If you go to paragraph 19, please.

23 A. I'm there.

24 Q. In the second sentence that begins with,
25 "By the plain and ordinary meaning."

1 Do you see that?

2 A. Yes.

3 Q. The following line after the parenthetical

4 with i.e. in it, do you see that?

5 A. Yes.

6 Q. You're referring to "the integration." Is

7 that supposed to be the integration tier?

8 A. Yes. Thank you. I never saw that missing

9 word before.

10 Q. All right.

11 MR. GORYUNOV: I have nothing further.

12 THE WITNESS: Okay. I know Brandon isn't

13 going to take long because he probably wants to get

14 to sleep.

15 MR. GORYUNOV: And I promised not to waste

16 your time.

17 THE WITNESS: You were truthful.

18 COURT REPORTER: All right. Counsel, if

19 we're finished, may I get transcript requests on the

20 record, please?

21 MR. GORYUNOV: Brandon, are you done or do

22 you have anything -- I just want to make sure that we

23 have on the record that you're not going to ask

24 questions.

25 THE WITNESS: Oh, I'm looking for proof of

1 life from Brandon.

2 MR. GORYUNOV: Hold on, he's typing. He's

3 saying, "Can you hear me?"

4 Brandon, no, we cannot hear you.

5 He says, "Okay. Give me one sec."

6 I just want to be fair and truthful here.

7 He says, "Can we take a break, five minutes?"

8 Yes, Brandon. We can take a five-minute

9 break.

10 THE WITNESS: Are we still on the record?

11 Let's go off the record then for five minutes.

12 MR. GORYUNOV: Yes, exactly. Let's go off

13 the record for five minutes.

14 (Recess: 8:41 a.m. to 8:43 a.m.)

15 EXAMINATION BY MR. THEISS:

16 Q. Dr. Shamos, I just wanted to clarify two

17 small points with you. When you were giving your

18 definition of a POSITA and how claim construction is

19 performed, I just wanted to confirm that when you

20 described that it was the understanding of a person

21 of ordinary skill in the art having read the entire

22 application, including the drawings at the time of

23 invention. I believe you omitted "at the time of

24 invention." Your understanding is that you are

25 looking at this through the lens at the time of

1 invention, right?

2 A. Yes, I think that's stated in my report.

3 Q. That's why I wanted to ask a clarifying
4 question. It's in your report. Just in the
5 testimony you gave I think you just omitted the last
6 point.

7 And there's quite a long discussion about
8 the difference between web services and a website.

9 Could you just explain that contrast a
10 little bit more for us, Dr. Shamos?

11 A. Sure. I mean, I think there's a lot of
12 discussion of it in my declaration. I don't think
13 there was much discussion of it in my
14 cross-examination.

15 Okay. So I think it's important to
16 understand -- and I say this in my declaration --
17 that a web service is not simply a service offered
18 over the web. So, for example, Amazon.com offers me
19 the opportunity to buy from among millions of
20 products that are available on Amazon.com. So it's
21 offering a service, and it's offering it over the
22 web, but it's not offering a web service. A web
23 service is a term of art as explained and as further
24 explained in the various references that I cited in
25 my declaration.

1 Q. So, Dr. Shamos, can a website host a web
2 service?

3 A. Yes, it could. So what is a website? A
4 website is usually a bunch of servers that can be
5 addressed through an Internet address using web
6 protocols like HTTP. It is possible to expose an API
7 that's accessible through HTTP, so a website could
8 offer a web service but not all websites do that.

9 Q. And is there any suggestion in Dill that
10 Dill's website has that functionality?

11 A. No. There's -- there's no hint in Dill of
12 anything remotely resembling web services.

13 MR. THEISS: That's it. Thank you search
14 Dr. Shamos.

15 MR. GORYUNOV: No recross.

16 THE WITNESS: Okay. I read and sign, at
17 least I ask to.

18 COURT REPORTER: Of course. Transcripts,
19 Counsel?

20 MR. GORYUNOV: I'll take the rough, and I
21 will take expedited, please, on the final.

22 MR. THEISS: Normal timing is fine for us.

23 MR. GORYUNOV: We are now off the record.

24 (Whereupon the proceedings concluded at
25 8:46 a.m.)

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ERRATA SHEET
NAME OF CASE: APPLE INC. V. FINTIV, INC.
DATE OF DEPOSITION: DECEMBER 19, 2023
NAME OF WITNESS: MICHAEL I. SHAMOS, PH.D.

Reason Codes:

- 1: To clarify the record.
- 2: To conform to the facts.
- 3: To correct transcription error.

Page	_____	Line	_____	Reason	_____
From	_____ to _____				
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MICHAEL I. SHAMOS, PH.D.	DATED

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DECLARATION UNDER PENALTY OF PERJURY

I, MICHAEL I. SHAMOS, PH.D., do hereby
certify under penalty of perjury that I have read the
foregoing transcript of my deposition taken on
December 19, 2023; that I have made such corrections
as appear noted on the Deposition Errata Page(s),
attached hereto, signed by me; that my testimony as
contained herein, as corrected, is true and correct.

This Declaration is executed this _____
day of _____, 20____, at
_____, California.

MICHAEL I. SHAMOS, PH.D.

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STATE OF CALIFORNIA) ss.
)

I, Tamara Houston, RPR, CCRR, CSR No. 7244,
a Certified Shorthand Reporter in the State of
California, duly empowered to administer oaths, do
hereby certify:

That, prior to being examined, the witness
named in the foregoing deposition was by me duly
sworn to testify to the truth, the whole truth, and
nothing but the truth;

That said deposition was taken down by me in
shorthand at the time and place therein named, and
thereafter reduced to typewriting by computer-aided
transcription under my direction;

That the dismantling, unsealing, or unbinding of
the original transcript will render the reporter's
certification null and void.

I further certify that I am not interested in
the event of the action.

In witness whereof, I have hereunto subscribed
my name.

Dated: 28th of December, 2023.

Tamara L. Houston

TAMARA L. HOUSTON
CSR 7244, RPR, CCRR 140

Exhibits Shamos (previously marked E exhibit 1001) 5:8 7:24 8:6,15 23:1 25:21 Shamos (previously marked E exhibit 1005) 5:9 8:10,21 37:24 40:23 Shamos (previously marked E exhibit 2003) 5:10 8:8,17 9:3 10:8 33:3 47:4 57:24 --o0o-- 6:2,8 1 1 10:4,8 50:6 51:17 52:7 57:20 58:6,10,17 10 26:9,17 40:14 10,438,196 8:15 10-minute 40:11 1001 7:24 8:6,15 23:1 25:21 1005 8:10,21 37:24 40:23 101 26:5 31:12 51:20 52:7 102 26:12 105 42:11,12,15 44:5 11 57:16 110 44:6	111 26:8 51:22 115 35:13 117 17:25 12 9:22,25 10:3,9,15 26:11 58:5 120 44:22 127 31:19 13 9:14 26:11 130 45:20 135 42:12 140 45:1,5 145 32:5 45:1,7 15 20:12 35:4 57:5 16 35:5 17 15:24 18:1 58:17 19 6:1 58:22 196 8:16 9:8 10:11 16:13 17:19 18:7 20:5,14,23 21:5 22:17,25 26:19 46:5,25 50:6 51:17 2 20 53:18,23 55:3 2003 8:8,17 9:3 10:8 33:3 47:4 57:24 2009-0265272 8:22	2011 21:3,5,12 2023 6:1 9:15 21 49:17 21st 21:5,6,12 23 49:13 52:10,19,20 53:14 24 31:21 25 57:20 26 32:1 33:17 28 21:14 29 21:24 22:6,17 23:9,14, 20 24:4 32:3 3 3 9:22 58:13 32 57:20 33 30:17 32:10 58:6,10 34 32:18 35 58:6,10 4 4 20:11 41 32:24 34:1,10,12 35:3 5 5 23:2 58:17	50 47:2,7 49:2 5G 37:4,10,13 6 65 26:5 66 26:4 7 7:06 6:1 7:58 40:15 8 8 40:24 41:10 42:5,7,24 44:9,13,16 45:11 812 43:12,24 820 44:23 45:2 822 45:2 8:11 40:15 8:41 60:14 8:43 60:14 9 9 26:3,17 30:20,22 31:8, 13 38:1,5 44:22 45:6,7, 11,18 90 41:3 92 42:2
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