

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

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**APPLE INC.,**

**PETITIONER,**

**CERTIFIED COPY**

**V.**

**FINITIV, INC.,**

**Patent Owner.**

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**Case IPR2023-00399 (US Patent No. 9,208,488)**

**Case IPR2023-00398 (US Patent No. 10,438,196)**

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**VIDEOCONFERENCE DEPOSITION OF  
KAI JOHNSON**

**December 15, 2023**

**Page 1 - 67**

**9:01 a.m. - 11:07 a.m.**

**REPORTED BY:**

**Tamara L. Houston**

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

**Job Number 23-131161**

 **THE SULLIVAN GROUP  
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**Page 1 - 67**

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Job Number 23-131161**

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REMOTE VIDEOCONFERENCE DEPOSITION OF KAI  
JOHNSON, taken on behalf of the Petitioner,  
commencing from 9:01 a.m. to 11:07 a.m., Friday,  
December 15, 2023, before Tamara L. Houston, CSR No.  
7244, CCRR, RPR.

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| <b>INDEX TO EXAMINATION</b>                   |             |
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| <b>EXAMINATIONS</b>                           | <b>PAGE</b> |
| <b>MR. MAUCOTEL.....</b>                      | <b>6</b>    |
| <br><b>QUESTIONS INSTRUCTED NOT TO ANSWER</b> |             |
| <b>Page</b>                                   | <b>Line</b> |
|                                               | <b>None</b> |

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| INDEX TO EXHIBITS                                 |             |      |
| KAI JOHNSON                                       |             |      |
| APPLE, INC. vs. FINTIVE, INC.                     |             |      |
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| EXHIBIT                                           | DESCRIPTION | PAGE |
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Friday, December 15, 2023, 9:01 a.m.

--o0o--

Whereupon, KAI JOHNSON, 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. MAUCOTEL:

Q. Okay. My name is Jordan Maucotel. I represent Petitioner Apple in the IPRs, 2023-00398 and IPR 2023-00399.

Could you, please, state your name for the record?

A. My name is Kai Johnson.

Q. Great. Thank you, Mr. Johnson. Have you been deposed before?

A. I have.

Q. How many times?

A. Two times previously.

Q. And how recently were these?

A. Last one was about a year ago, and the one prior, oh, more than a couple years back.

Q. Okay. For the one most recently, what -- what kind of deposition was that?

1           A.    It was a deposition in relation to a patent  
2 matter and specifically in relation to a declaration in  
3 support of claim construction.

4           Q.    Okay.  So it's fair to say that you've --  
5 you've done this before, kind of understand the  
6 structure?  Would that be --

7           A.    Yeah, I suppose so.

8           Q.    Okay.  Great.  So if I -- if I ask you a  
9 question and you answer it, it's fair to assume that you  
10 understood the question?

11          A.    Yes.

12          Q.    Okay.  And if you didn't understand it, feel  
13 free to say that, and I'll -- I'll go ahead and repeat  
14 the question.

15          A.    Okay.

16          Q.    And we'll take breaks about every hour, if you  
17 need a break, or we're flexible.  Let me know.

18                Is there any reason you cannot provide  
19 truthful, complete, and full testimony today?

20          A.    No.  I'm gonna ask, though, that -- your audio  
21 is a little quiet.

22          Q.    I'll turn that up.  Is that louder?

23          A.    Not quite yet.

24          Q.    My microphone -- okay.  I'll try to speak up  
25 and see if I can be a little bit louder.  Is that

1 better?

2 A. A little bit. Let me see if I can -- no, I  
3 don't have more volume on my end.

4 COURT REPORTER: It's a little bit light on my  
5 end too.

6 THE WITNESS: Okay. Should be workable, but  
7 at first, if it's unclear, I'll just ask.

8 BY MR. MAUCOTEL:

9 Q. Okay. I'm going to try to turn up my  
10 microphone a bit. Any better or about the same?

11 A. Yeah, that's a little better. Thank you.

12 Q. Great. Let's go ahead -- so it's my  
13 understanding that you submitted declarations on both  
14 the IPR 2023-00398 and IPR 2023-00399; is that correct?

15 A. Yes.

16 Q. Is it fair to say that these declarations are  
17 substantially similar?

18 A. Yes, they are.

19 Q. Okay. And I'll refer to the '196 and the '488  
20 patents. You understand those terms, those patent  
21 numbers?

22 A. Yes.

23 Q. So the questions that I ask will be equally  
24 applicable to the '196 or the '488 patent unless there's  
25 some difference between them. Great.

1                   Let's go ahead and turn to -- do you have a  
2 copy of your declaration before you for these two cases?  
3           A.    I do.  
4           Q.    Okay. Is that a printed copy or on your  
5 computer?  
6           A.    On the computer.  
7           Q.    Okay. Are there annotations on that copy, or  
8 is it a clean copy?  
9           A.    No, it's a clean copy.  
10          Q.    Great. Let's go ahead and turn to paragraph  
11 23, and I'm going to use the numbers for the '196  
12 patent; but, again, the material should be substantially  
13 similar between your declarations.  
14          MR. GOLUB: Counsel, just for clarity, are you  
15 asking him about his declaration in the '398 IPR right  
16 now or the '399?  
17          MR. MAUCOTEL: The '398 right now.  
18          MR. GOLUB: '398, okay.  
19 BY MR. MAUCOTEL:  
20          Q.    Is it fair to say -- since we are kind of  
21 combining these two declarations and discussing these  
22 two declarations together, is it fair to say that your  
23 testimony for these two declarations will be the same?  
24          A.    I suppose so to the extent that we're -- we're  
25 talking about the same thing. So certainly there are

1 some differences between the '196 and '488 patents.

2 Q. Great. That's great. If there's a difference  
3 that you want to point out, that's -- that's fine. You  
4 can point out any differences you see between them.

5 A. Sure.

6 Q. All right. Let's turn to paragraph 23 of  
7 the -- of your declaration for the '196 patent. And in  
8 this paragraph, you're quoting the board. This is the  
9 start of the large paragraph on -- within paragraph 23  
10 of the '196 patent. And it says, "For purposes of this  
11 decision, we determine a person of ordinary skill in the  
12 art would have had a working knowledge of mobile payment  
13 systems and techniques."

14 Do you agree with that statement from the  
15 board?

16 A. Yes.

17 Q. What do you understand is a working knowledge  
18 of mobile payment systems and techniques?

19 A. Well, indeed -- I actually suggested in the  
20 declaration that we add some clarification to that  
21 because the realm of mobile payment systems is broad,  
22 and it includes quite a number of things, some of which  
23 are related to the patents and some of which are not.

24 So a person of skill in the art would have  
25 knowledge of things that are related to the patent,

1 specifically knowledge of mobile wallets.

2 (Court Reporter requested clarification.)

3 BY MR. MAUCOTEL:

4 Q. So in your opinion, do mobile payment systems  
5 include mobile wallets?

6 A. Yes.

7 Q. And what is your definition of a mobile  
8 wallet?

9 A. A mobile wallet is a broad class of things  
10 that includes a variety of different types of mobile  
11 applications and services that are broadly used to --  
12 either to complete payment transaction, store payment  
13 information, provide access to payment accounts, or even  
14 collect things that are secondarily related to payments,  
15 such as coupons or loyalty cards. The term is used  
16 relatively broadly in the industry for a variety of  
17 different things.

18 Q. Within the context of the '196 patent or the  
19 '488 patent, is mobile wallet defined differently than  
20 the definition you just gave or the same?

21 A. Oh, there may be an explanation of that in the  
22 patents. I don't recall exactly. I'd have to go look.

23 Q. Okay. Let's turn to -- let's turn to  
24 paragraph 24 of the declaration.

25 A. Mm-hmm.

1 Q. Would you go ahead and read the second  
2 sentence of that paragraph?

3 A. Beginning with the POSITA's --

4 Q. Yes, sorry. I was just looking for that.

5 A. Sure. "The POSITA's working knowledge of  
6 'mobile payment systems and techniques' should  
7 specifically include a working knowledge of 'mobile  
8 wallets' because the claims of the '196 patent are  
9 directed to mobile wallets."

10 Q. How would you define a working knowledge of  
11 mobile wallets?

12 A. That's an understanding of the architecture  
13 and operation of mobile wallet systems of various types.  
14 And as I said, it's a rather broad category.

15 Q. Is that working knowledge gained through  
16 experience, work experience?

17 A. That's one way it could be gained, yes.

18 Q. What's another way that it could be gained?

19 A. Through -- through research in the area,  
20 through academic study.

21 Q. Okay. Do you believe that you have a working  
22 knowledge of mobile wallets?

23 A. I do.

24 Q. And how is it that you gained that working  
25 knowledge?

1           A.     Directly through work experience.

2           Q.     And which work experience is that you're  
3 referring to?

4           A.     Well, so it's a broad range of work  
5 experience. Starting back in the early 2000s when I was  
6 working in the U.K. -- well, broadly in Europe, a number  
7 of my clients were financial institutions and telecom  
8 operators. And, you know, some of the things that we  
9 were looking at with them were early forms of mobile  
10 payments, early forms of mobile banking, and that would  
11 include things that could be considered mobile wallets,  
12 including ways of storing either payment credentials or  
13 authentication mechanisms on mobile phones, including  
14 using the SIM cards for cryptographic functions.

15                     Part of that led to a partnership between the  
16 company I was working with at the time, Entrust, and  
17 Nokia on service that would be used for authenticating  
18 transactions from mobile phones specifically for  
19 financial services.

20                     There were some other related activities such  
21 as working with a bank in the U.K. on their mobile  
22 banking applications including transaction services they  
23 developed and some of the authentication mechanisms that  
24 were associated with those.

25                     And then about 2004 I moved back to the U.S.

1 and took a position as a consultant working with Verizon  
2 Wireless where I worked with them on a variety of 3G  
3 consumer data products.

4 But eventually I took on the responsibility  
5 for the -- the joint venture that Verizon Wireless was  
6 involved in with AT&T and T-Mobile and for part of the  
7 time with Sprint to develop contactless mobile payments.  
8 It's what you would think of today as Apple Pay or  
9 Google Pay. We were some of the first people to be  
10 developing that technology and bringing it to market in  
11 the U.S.

12 So I started taking that responsibility on  
13 within Verizon Wireless from their product management  
14 perspective and switched to the joint venture to take on  
15 leadership of the technology organization where I was  
16 directly responsible for building and directing the team  
17 that -- that developed that mobile payment service;  
18 indeed, what you would think of exactly as a mobile  
19 wallet where you could store credentials for your  
20 various credit and debit cards in the mobile phone,  
21 within the SIM card of the mobile phone, and use them to  
22 make contactless payments at your typical payment  
23 terminal, sort of ActivePay as we're familiar with now.

24 So I worked on that for several years. After  
25 I left Softcard, I started consulting on my own and

1 continued to work with clients in that space advising  
2 banks and payment networks, for example, in Europe on  
3 how to adapt contactless technology for -- for their own  
4 use, either working with the systems of Apple Pay and  
5 Google Pay or developing their own services.

6 Q. So you mentioned quite a few different work  
7 experiences that you've had in that field. Which of  
8 those experiences is the most relevant to mobile  
9 wallets?

10 A. Well, the -- they're all relevant to mobile  
11 wallets. And I think I probably left a few things out,  
12 but that's a broad range of experience that's all  
13 specific to this field.

14 Q. Are mobile wallets always used in the context  
15 of payment systems?

16 A. Sometimes the term gets applied, you know, to  
17 things that are associated with payments but not  
18 directly payments. You know, for example, there are  
19 some mobile wallets -- some things that people would  
20 call mobile wallets that -- for example, store  
21 identification credentials or, you know, things like  
22 coupons or loyalty cards. So not always.

23 Q. Would you say in the industry those have a  
24 different name than mobile wallets, or are they known by  
25 the same -- by the same designation as mobile wallets?

1           A.    Sorry. That was unclear. Could you repeat  
2 the question?

3           Q.    Those kind of differing mobile wallets that  
4 don't have to do with payment systems necessarily, that  
5 have to do with coupons or other information, are they  
6 also known as mobile wallets in the industry?

7           A.    Sometimes they are, yes.

8           Q.    Is the -- is there an example that you have of  
9 a payment system that does not include mobile wallets?

10          A.    Sure. Your, you know, typical credit or debit  
11 card doesn't necessarily use a mobile wallet. That  
12 would be a type of payment system.

13          Q.    Is there an example of a mobile wallet that's  
14 not used within a payment system?

15          A.    Let me see if I got a good one for you.  
16 There's -- what's the name of that software? There was  
17 a -- I'm going to get the name wrong, but I think it was  
18 a name like Keychain or something like that. It was  
19 essentially a way of collecting loyalty cards, and then  
20 you could display those loyalty cards using the bar code  
21 on a mobile phone. I believe that would sometimes be  
22 called a mobile wallet.

23          Q.    Do those -- are those -- those loyalty cards,  
24 are those for the purpose of payment, or what's the  
25 function of a loyalty card in that context?

1           A.    Oh, you know, so loyalty card is like the --  
2   you know, for example, the card you get from your  
3   grocery store that has a bar code on it. They ask you  
4   to swipe each time or, you know, present each time  
5   you're going to make a purchase.

6                   And usually they use tricks like high-low  
7   pricing to entice you to use that loyalty card where  
8   the -- the regular list price of the item is  
9   exorbitantly high, and the price, if you use the loyalty  
10  card, is reasonably low, or you might say, more normal.

11                  And, of course, the -- the retailer gets --  
12  out of that gets the ability to associate your purchase  
13  history with -- you know, with your past behavior. So  
14  that's -- that data is of great value to them.

15           Q.    Okay. I'd like to turn to paragraph 24 of the  
16  same page, your declaration for the '196 patent. The  
17  last full sentence of the page states, "There are types  
18  of mobile payment systems that are unrelated to mobile  
19  wallets such as wireless point-of-sale system used by a  
20  merchant to remotely accept credit card payments."

21                   Do you see that statement?

22           A.    Yes.

23           Q.    Can you explain that -- that statement?

24           A.    Sure. Yeah. So we're talking about the  
25  context of mobile payment systems in general, and that's

1 a broader topic.

2 So, for example -- the example here is a  
3 wireless point-of-sale system. So that -- we even make  
4 it a slightly more extreme example. Let's say you're on  
5 an airline flight and you'd like to purchase one of the  
6 snacks from the cart when they come down the aisle. I  
7 suppose it's possible that those terminals are online  
8 today, but for the most part, they have not been -- they  
9 have been offline.

10 It's -- it is a -- a mobile payment system of  
11 a sort because the -- the terminal that the -- the  
12 flight attendant is using to accept your card for that  
13 purchase is -- is a mobile device. May or may not be  
14 corrected through the Internet, often is not. And  
15 accepts the -- the card for payment.

16 Now, that is not particularly a mobile wallet.  
17 In fact, it doesn't really have anything to do with  
18 mobile wallets at all. It's really just a point-of-sale  
19 system. So it's a significantly different thing from  
20 mobile wallets, per se.

21 Q. A point-of-sale system like that, you  
22 mentioned that it may not be connected through the  
23 Internet. Does use of a mobile wallet always entail use  
24 of the Internet to complete a transaction?

25 A. No, not at all.

1           Q.    Can you give an example of a mobile wallet  
2           that does not require use of the Internet to complete a  
3           transaction?

4           A.    Absolutely.  Mobile wallets like Apple Pay and  
5           Google Pay do not require the use of Internet to  
6           complete the transaction.  The interaction between the  
7           mobile phone and the payment terminal is -- is directly  
8           between those two devices, and it doesn't require any  
9           external interactions.

10          Q.    Okay.  Are there point of -- wireless  
11          point-of-sale systems that can use these nonmobile  
12          wallet types of transactions as well as mobile wallet  
13          transactions?

14          A.    Sorry.  I'm not quite sure what you're asking.

15          Q.    Let me rephrase it.

16                Is there a mobile payment system that can use  
17          both nonmobile wallet transactions as well as mobile  
18          wallet transactions and accept both kinds?

19          A.    Sure.  Yeah, you know, that's commonly the  
20          case with the typical on -- every terminal you would  
21          find on the counter at a retail store could accept  
22          payments using ordinary credit or debit card or could  
23          accept payments using something like Apple Pay or Google  
24          Pay.

25          Q.    In the context -- you mentioned Apple Pay and

1 Google Pay. In that case, is -- is Apple Pay and Google  
2 Pay -- does that refer to a -- a transaction using a  
3 mobile wallet?

4 A. Sorry. The last part of your question was  
5 quiet. Could you repeat it?

6 Q. Sure. Do Apple Pay and Google Pay involve  
7 transactions using mobile wallets?

8 A. Yes. Yeah.

9 Q. In that case, where is the mobile wallet  
10 stored?

11 A. Typically in those cases -- typically, I'm  
12 going to say in those cases the mobile wallet is stored  
13 on a mobile phone, or the mobile wallet credentials  
14 specifically are stored in a secure element in the  
15 mobile phone, which in the case of Apple Pay and Google  
16 Pay is likely embedded in the device. It doesn't  
17 necessarily have to be that way, but yes.

18 Q. Where is the value in the mobile wallet stored  
19 in the case of Google Pay or Apple Pay?

20 A. I'm going to pass on Google Pay because they  
21 change their product plan so often that I have a hard  
22 time keeping up with them.

23 I can give you some examples, but I can't tell  
24 you for certain without going to look at what they are  
25 currently offering, what their -- what their plans are

1     like.

2                     But in regards to Apple Pay, the money is  
3     stored in the bank.

4             Q.     Is that typical of these kind of non-Internet  
5     using mobile wallets, is the value is stored offsite  
6     like in a bank?

7             A.     You know, that's one way to do it. That's not  
8     the only way to do it. There are absolutely  
9     implementations where there is stored value on the  
10    device.

11            Q.     In the context of the '196 and '488 patents,  
12    the mobile wallets used there, do you have an  
13    understanding of where the value for those mobile  
14    wallets is stored?

15            A.     As I recall, it's stored in a variety of  
16    different places. The patents provide a bunch of  
17    different options. I suppose we could go back and have  
18    a look at it.

19            Q.     Sure. Do you want to -- do you want to find  
20    an example of where the value is stored there? I'll  
21    give you a moment to look it up, if you'd like.

22            A.     So I'm probably not going to be able to point  
23    you to all of the examples off the top of my head, but I  
24    can give you a couple examples.

25                    Make sure we have the right references here.

1     Okay. So I guess this is the '192 [sic] patent, Column  
2     1 starting around line 42, I guess through 51, is a list  
3     of different types of accounts where value could be  
4     stored in relation to the '192 -- sorry, am I saying  
5     that right? '196 patent. And -- okay. I'm not sure if  
6     that's a comprehensive list. I'd have to go back and  
7     look at the rest of the specification to tell you that.

8             Q. So in that section that you're pointing to, it  
9     looks like Column 1, lines 42 on, is the value in  
10    that -- in that context stored not in the mobile wallet  
11    but somewhere else?

12            MR. GOLUB: I'd just like to make an objection  
13    here. I've been pretty lenient in giving you kind of a  
14    long leash, but these questions are getting pretty far  
15    afield from Mr. Johnson's declaration, which is what  
16    he's here to be deposed upon.

17            MR. MAUCOTEL: Understood.

18    BY MR. MAUCOTEL:

19            Q. In the context of the -- of mobile wallets --  
20    we'll turn back to this in just a minute.

21            In fact, let's go ahead and turn to paragraph  
22    25 of your declaration.

23            A. Okay.

24            Q. And this refers to the -- your experience with  
25    Softcard technology and that kind of contactless

1 technology. Could you explain how Softcard works?

2 A. Sure. If you're familiar with Apple Pay and  
3 Google Pay, you're familiar with what Softcard does or  
4 did, I guess, at the time. So just to put it in  
5 context, Softcard is the joint venture between Verizon  
6 Wireless, AT&T, and T-Mobile. It was at one point  
7 branded Isis, and the brand changed for obvious reasons.

8 The way the Softcard worked is in the mobile  
9 phone there's a SIM card, and in this particular case,  
10 case of Softcard's customers, that SIM card was enhanced  
11 with additional capabilities and the additional memory,  
12 competing power to store credentials for credit and  
13 debit cards, specifically Visa cards, Mastercard,  
14 Discover, and AmEx cards.

15 The -- so Softcard infrastructure had  
16 communications through mobile phone to the -- to that  
17 SIM card and also direct communications back to  
18 participating banks, which included Chase, Bank of  
19 America, American Express, Discover, Capital One, Wells  
20 Fargo, and may have been some others.

21 The banks then will, in conjunction with  
22 Softcard, using Softcard's mobile -- through Softcard's  
23 infrastructure, I should say, banks are able to  
24 provision the credentials for their -- for their cards  
25 to mobile phones.

1                   And when I say provision, that means  
2     delivering the -- what you would think of as card data.  
3     Basically the information that's -- that you would  
4     commonly see printed on the front and the back of the  
5     card such as card holder's name, the account number on  
6     the card, expiration date, and if you're familiar with  
7     the CVV, CVC three-digit code that's on the back of the  
8     card, this technology did not use that but used  
9     something different from that in place of it because, of  
10    course, the CVV number is static.

11                  This instead used a dynamically generated  
12    cryptogram to authenticate the card in place of the CVV.

13                  The mobile phones were developed especially  
14    for this service and included an NFC contactless  
15    controller chip which is able to communicate using ISO  
16    14443 protocol to connect to payment terminals and also  
17    had a direct -- also had a direct communications to the  
18    SIM card so that if you -- if you held your mobile phone  
19    in close proximity to a payment terminal, that would  
20    activate the contactless payment circuitry and trigger  
21    the communication between the payment terminal and  
22    through the -- through the contactless antenna and chip  
23    to the SIM card where it would communicate directly with  
24    the application that was provisioned by the bank.

25                  And that will exchange the card details and

1 negotiate some other aspects of a transaction, including  
2 delivering that unique cryptogram for the transaction.

3 Softcard also had a user application that  
4 allowed you to interact with these cards, choose which  
5 one you wanted to use for a transaction, also connect  
6 back to the banks to ask for cards to be provisioned.  
7 Included also a separate contactless protocol for  
8 loyalty cards and coupons.

9 Coupons were used by Coca Cola. Loyalty cards  
10 were used by, for example -- Jamba Juice is also using  
11 coupons. Oh, I don't recall the -- the loyalty stuff  
12 off the top of my head. I'd have to go back and look.

13 But -- so pretty broad range of services in an  
14 application of this sort.

15 The Google wallet in various iterations ended  
16 up being similar to this. Apple's -- Apple has both  
17 Apple Wallet and Apple Pay which ended up being somewhat  
18 similar to this, but if you -- you know, if you look at  
19 the sequence in timing, Softcard was one of the first in  
20 the market.

21 Q. So you mentioned that Softcard kind of -- the  
22 phone -- the phones used with Softcard were specialized  
23 to have -- to be able to use that platform; is that  
24 correct?

25 A. Prior to -- prior to Softcard -- well, I mean,

1 if you look at the economics of mobile phones, what  
2 happens is a company like Verizon Wireless buys millions  
3 of mobile phones from manufacturers and then distributes  
4 them through their retail channels. And they try to do  
5 that at a reasonable profit, both for Verizon Wireless  
6 and for the manufacturers. And so managing the cost of  
7 the devices is important.

8 So prior to the development of Softcard,  
9 phones generally didn't have the type of hardware that I  
10 was talking about, these NFC chips, the NFC antennas.

11 The SIM cards generally didn't have the extra  
12 memory and processing capabilities. You know, those  
13 things cost a couple of dollars per handset which, when  
14 you're buying billions of handsets, it adds up.

15 So that was something as part of the  
16 project -- part of the joint venture that Softcard had  
17 with these mobile operators, was working with them and  
18 the handset manufacturers and SIM manufacturers to  
19 include all that technology in their mobile phones.

20 Q. In the Softcard system, are there various  
21 types of mobile wallets that can be used with it or a  
22 single type that's kind of specialized?

23 A. I believe the Softcard wallet was -- was  
24 specialized simply to the one Softcard wallet,  
25 effectively one environment for those cards and coupons

1 and loyalty.

2 Q. What was your role in developing this Softcard  
3 technology?

4 A. I was the head of the technology organization.  
5 When I took it over, it was early in the stages of the  
6 joint venture development. It was a team of a handful  
7 of people. I built it up to a team of more than 40 and  
8 was responsible for setting the technological direction  
9 for all of our developments, selecting the vendors that  
10 we used and the technologies that we used, you know,  
11 guiding the requirements for -- for the procurement of  
12 mobile phones, handsets with the correct capabilities by  
13 the mobile operators as well as providing the guidance  
14 on -- on procuring the correct SIM cards, the correct  
15 capabilities.

16 We also, you know --- as is common for a  
17 startup, we also went through a couple changes --  
18 substantial changes in product direction. So I was able  
19 to get the team to adapt to those, sort of re- -- sort  
20 of turn the ship in a different direction so that we  
21 were able to continue to make progress without, you  
22 know -- sort of without, you know, losing some of the  
23 work that we'd done previously.

24 Q. Along with leading project management and some  
25 of the other things that you mentioned, did you

1 participate in the implementation of Softcard  
2 technology?

3 A. I don't know. That's an interesting question.  
4 I suppose you could say so. You know, to the extent  
5 that I was responsible directly for writing some of the  
6 specifications, yes.

7 Q. In writing some of these specifications, was  
8 that particular to a certain part of -- of Softcard?

9 A. Probably not. You know, it's a small  
10 organization and startup environment. I -- I was  
11 directly involved in a lot of the aspects of it.

12 Q. All right. Let's go ahead and turn to --  
13 since we're talking about your experience with Softcard,  
14 let's go ahead and turn to your resume. This is  
15 Exhibit 2017.

16 A. Sure. Give me just a second to get that out.

17 Q. And we can turn to your '196 patent, which I  
18 believe is the same as the '488.

19 And you can let me know when you have it open.

20 A. Sorry, was that a question to me?

21 Q. Sure. Do you have it open already?

22 A. Yes, I do.

23 Q. Great. I believe the -- your Softcard  
24 experience is on page 2, the middle of page 2. Is that  
25 where your Softcard experience is listed?

1           A.    Yes.  Well, 2 and 3.

2           Q.    2 and 3.  That's right.

3                   Do you have experience with mobile wallets  
4 besides this portion of your resume?

5           A.    Yes.  As I was mentioning earlier, previously  
6 working with -- working with Entrust in Europe, I was  
7 working on the solutions with Nokia and with Egg Bank  
8 that were -- well, it's questionable as to whether you  
9 could call what Egg was doing a mobile wallet or not,  
10 but it's -- it's close to the same -- it's a similar  
11 sort of technology.

12                   But, yeah, so those things could be in the  
13 realm of what you might consider mobile wallets as well.  
14 There were other similar activities at the time.  It's a  
15 while back.  I'm trying to recall if there was anything  
16 else that was directly related.  It's possible.

17           Q.    In those types of experience that you  
18 mentioned, did you personally implement a mobile wallet?

19           A.    Did I personally implement a mobile wallet?  
20 Probably as a demo for -- in the engagement with Nokia  
21 since, of course, the goal was to have our customers  
22 implement those types of thing.  But I suppose so.

23           Q.    And what type of mobile wallet would that be  
24 for Nokia?

25           A.    That would be a mobile wallet storing

1 authentication credentials, specifically in the context  
2 of their use for -- for completing payment transactions.

3 Q. Okay. Can we turn to the last page of your  
4 resume? You list your education here from the  
5 University of Wisconsin-Madison. When did you graduate  
6 from the University of Wisconsin?

7 A. That's a good question. I guess it was  
8 probably '95. Okay. That's a good guess.

9 Q. Did you take classes on payment systems in  
10 working toward your degree at that University?

11 A. I might have if they had them, but I don't  
12 believe so.

13 Q. Did you take any classes that would include  
14 material on mobile wallets?

15 A. Sorry. That's kind of a funny question. You  
16 know, I don't think anybody was talking about mobile  
17 wallets in 1995.

18 Q. So you would say that your experience with  
19 mobile wallets is work based and not academic based; is  
20 that fair to say?

21 A. Yes.

22 Q. Did you take graduate level classes besides  
23 the education listed here?

24 A. I did.

25 Q. And what were those classes that you took?

1           A.    They were classes, again, at the University of  
2    Wisconsin-Madison in computer science and specifically  
3    focused on operating system development.

4           Q.    Was any of that -- those kind of classes --  
5    was that relevant to payment systems at all?

6           A.    It -- yeah, to the extent that you have an  
7    understanding of, you know, the nature of computer  
8    systems and -- and particularly in security around those  
9    computer systems. Those things are absolutely relevant.

10          Q.    Do those graduate level classes, did that --  
11    did you earn another degree from the --

12          A.    No, I did not. I did not pursue another  
13    degree.

14          Q.    I'd like to turn to paragraph 29 of your  
15    declaration.

16          A.    Sure. Just a second.

17          Q.    If you could just read that paragraph once you  
18    get it open.

19          A.    This is paragraph 29 of the declaration for  
20    the IPR 2023-00398. Sorry?

21          Q.    Go ahead.

22          A.    Thanks. "The plain and ordinary meaning of  
23    the term 'payment handler' used in '196 patent would be  
24    clear to a POSITA at the time of patent."

25          Q.    Great. Thanks. We're coming up to kind of

1 close to an hour. Let's take a quick break, if that's  
2 all right with you.

3 A. Sure. How long would you like a break for?

4 MR. MAUCOTEL: Ten minutes. Is that all  
5 right?

6 THE WITNESS: Yep. Works for me.

7 (Recess: 9:47 a.m. to 9:57 a.m.)

8 BY MR. MAUCOTEL:

9 Q. All right. Could you go ahead and read that  
10 paragraph 29 one more time?

11 A. Sure. "The plain and ordinary meaning of the  
12 term 'payment handler' used in the '196 patent would be  
13 clear to a POSITA at the time of the patent."

14 Q. And what is the plain and ordinary meaning of  
15 the term "payment handler"?

16 A. As it's explained below in the -- in the  
17 following paragraphs in the declaration. So we could  
18 read that, if you like.

19 Q. Could you read that portion that gives the  
20 plain and ordinary meaning of the term "payment  
21 handler"?

22 A. So I'd be happy to read paragraphs 30 and 31  
23 for you, if you'd like.

24 Q. Besides paragraphs 30 and 31, is there a short  
25 plain and ordinary meaning of the term "payment

1 handler"?

2 A. I believe 30 and 31 are a pretty good  
3 explanation of the term "payment handler."

4 Q. Let's go ahead and discuss 31 then. Paragraph  
5 31 states, "The term 'payment handler' was used in IETF  
6 RFC 2935."

7 That refers to a document. I believe it's  
8 Exhibit 2020; is that correct?

9 A. Sounds right.

10 Q. Is that document cited in the '196 or '488  
11 patents?

12 A. No.

13 Q. What does that document refer to?

14 A. That document is referring to some aspects of  
15 the Internet open training protocol.

16 Q. Okay. And what is the Internet training --  
17 sorry, Internet open training protocol?

18 A. It's -- it was a proposed protocol for -- for  
19 payments on the Internet.

20 Q. What is an RFC document?

21 A. RFC document is -- well, RFC stands for  
22 Request For Comment, but it's part of the formal  
23 standards process by the IETF -- Internet Engineering  
24 Task Force, if I remember the acronym. So it's -- it's  
25 a document that forms part of the standards that IETF

1 publishes.

2 Q. Would a POSITA be aware of this document?

3 A. Yeah. A POSITA would absolutely be aware of  
4 this document.

5 Q. And what would -- how would a POSITA come  
6 across this document?

7 A. First off, any POSITA is going to be well  
8 aware of IETF and RFCs and would know where to find  
9 them. We'd know how to look for them.

10 But particularly, this -- this document and  
11 the associated documents from IETF, you know, as they  
12 relate to the Internet open trading protocol, someone  
13 who is practicing -- this is a little earlier than the  
14 timeframe of the patent, but around 2000 would have been  
15 aware of these efforts by IETF and, you know, would  
16 have -- you know, if not have read the document, would  
17 have at least known that there was something going on  
18 that was related to these things.

19 Q. Are these documents regularly published by the  
20 IETF?

21 A. Yeah. Yes. All of the documents in the  
22 standards processed by the IETF are public.

23 Q. Okay. Let's go ahead and open that document,  
24 if you've got a copy of it there.

25 A. Sure.

1           Q.    I'll post it in the chat. This is  
2 Exhibit 2020.

3                   MR. MAUCOTEL: The one I'm posting in the chat  
4 was filed in the '196 IPR, but I assume they are exactly  
5 the same.

6 BY MR. MAUCOTEL:

7           Q.    Referring to the top of that document, it  
8 states "Network working through." What is the network  
9 working through?

10          A.    One of the subgroups within IETF.

11          Q.    Do you know what that subgroup does, what they  
12 are responsible for?

13          A.    Oh, I would have to go look at the working  
14 group documents to tell you that.

15          Q.    As far as the use of the term "payment  
16 handler" in this document, is there an express  
17 definition that's given?

18          A.    Not that I'm aware of.

19          Q.    Do you know what the context of the use of  
20 payment handler in this document is?

21          A.    Yes, it's one of the -- it's specifically the  
22 component that's responsible for handling payments.

23          Q.    Is there an explanation in this document  
24 that's given for it?

25          A.    I don't recall if there is. Let's have a

1 look.

2 So your question again was?

3 Q. If -- if there's an explanation of the term

4 "payment handler" within this document.

5 A. I don't think there's anything specific in the

6 document.

7 Q. Why did you use this as support in your

8 declaration, this document?

9 A. Sorry?

10 Q. Why did you use this document as support for

11 your declaration?

12 A. Yes. Because it's a good example of the use

13 of the term "payment handler" in sort of a widely

14 accepted context prior to the date of the patents; and

15 as it's used in the document, there is no -- there is no

16 explicit definition given, and the role of a payment

17 handler in the context of this document is clear.

18 Q. Is there an explicit definition of the term

19 "payment handler" in the '196 or '488 patents?

20 A. There are some specific payments that describe

21 a payment handler in those documents.

22 Q. Could you refer to those phrases?

23 A. Sure. Let's start, if you will, with the

24 claim language in the '196 patent, Column 24. I guess

25 it's line 14 -- 14 to 15, which this is in the context

1 of a computing system for facilitating management of a  
2 mobile wallet which comprises, among other things, on  
3 lines 14, 15, in Column 24, "a payment handler that  
4 exposes a common API for interacting with different  
5 payment processors."

6 And if I recall correctly, that phrase is used  
7 in subsequent claims as well.

8 Q. So it's your opinion that based on this  
9 disclosure in the '196 patent that you've just discussed  
10 here that the term "payment handler" -- definition of  
11 the term "payment handler" would be clear to a POSITA?

12 A. Yes, it is.

13 Q. Would a POSITA have an outside knowledge of  
14 the term "payment handler"?

15 MR. GOLUB: Objection.

16 THE WITNESS: A POSITA could easily be  
17 familiar with that term as -- you know, the term  
18 "handler" is broadly used, and qualifying it with the  
19 term "payment" makes a lot of sense in context.

20 BY MR. MAUCOTEL:

21 Q. The -- the discussion of a payment handler in  
22 paragraphs 30 and 31, which you said includes the plain  
23 and ordinary meaning of the term "payment handler," does  
24 that -- is that an express construction of the term?

25 MR. GOLUB: Objection.

1 THE WITNESS: Sorry, I'm not sure I'm -- I'm  
2 not sure I know what you mean by "express construction."

3 BY MR. MAUCOTEL:

4 Q. Let me -- besides referring to the term  
5 "payment handler" by referring to pages -- to paragraphs  
6 30 and 31, can you offer a definition of the term  
7 "payment handler" that's disclosed by the '196 or '488  
8 patents?

9 MR. GOLUB: Objection.

10 THE WITNESS: Yeah. So I think the '196 and  
11 '488 patents does a good job of explaining what the  
12 payment handler is based on the claims that --  
13 specifications in the diagrams.

14 BY MR. MAUCOTEL:

15 Q. Let's go ahead and turn to that diagram that  
16 you listed in your declaration.

17 A. Sure. Which one would you like to refer to?

18 Q. That's Figure 1 that's listed there on page --

19 A. Okay.

20 Q. It's on page 12 of the '196 declaration.

21 And you're referring to Payment Handler 105 in  
22 that figure; is that correct?

23 A. Correct. Yeah.

24 Q. What does Figure 1 describe?

25 A. So Figure 1 depicts the platform architecture

1 of the invention in the '196 patent.

2 Q. And what is a platform architecture?

3 A. So where am I going to start to explain that  
4 one for you? Let's -- let's take a closer look at this  
5 diagram because it may seem that this is a diagram that  
6 has a number of small boxes with rounded corners, each  
7 with some text in them, and the reference numbers for  
8 the patent. Okay?

9 But to a POSITA, there's actually quite a lot  
10 more here. The -- there are some patterns to this, and  
11 they fit well with things that a POSITA would be very  
12 familiar with. So a diagram of this sort looks a lot  
13 like what a POSITA would recognize as a multi-platform  
14 architecture diagram. And the reason I say that is  
15 because the organization and the structure of this  
16 diagram fits well with that pattern.

17 So a multi-tier architecture is one where  
18 the -- the architecture of a system is decomposed into  
19 several tiers, and each tier has a separate set of  
20 responsibilities, sort of separate classification.

21 And when it's depicted in a diagram like this,  
22 there are -- there is meaning assigned to the placement  
23 of things in the diagram, such as the organization of  
24 things from left to right is often used to cluster  
25 together things that are alike, connect conceptually

1 similar or functionally similar. And we can see that  
2 that's happened in this diagram where we have the  
3 Channels 111, Notifications 112, Third-Party Systems 113  
4 as clusters of things with similar functions grouped  
5 together horizontally.

6 The other thing about a multi-platform  
7 architecture diagram is that the up-and-down directions  
8 are also meaningful. The up direction is generally  
9 towards -- generally for components that interact with  
10 parties or systems that are outside the scope of the  
11 system that's being -- that's being described in the  
12 architecture.

13 And we can see that that's the case here in  
14 this diagram where we have, for example, a web interface  
15 in the Channels 111 section, which is an interface that  
16 would be used, presumably, to interact with humans or  
17 IVR, which is another interface. That's interactive  
18 voice recognition to interact with people; likewise,  
19 mobile phones there, iPhone, Android, Blackberry,  
20 et cetera.

21 So those are -- those are external interfaces,  
22 but the things in 112 and 113 are also external  
23 interfaces. You can see we have SMTP, which is the  
24 protocol for text messaging. Great. So text messaging  
25 to interact with people or voice -- or voice messaging

1 to interact with people.

2 And then, you know, likewise in the  
3 Third-Party Systems category, you know, those are  
4 connections to things that are outside the system.

5 So this diagram started to follow the pattern  
6 of multi-platform arc -- sorry, multi-tier architecture  
7 pretty closely. There is more to it.

8 Down in the diagram is generally towards  
9 things that are in the core of the system that don't  
10 interact with the outside world and that -- that move  
11 from a middle tier of integrated components to a back  
12 tier of -- sort of back-end components that are data  
13 repositories and the like. And we can see that as well.  
14 There's this integration tier in the middle or service  
15 connectors in the middle vertically, and at the bottom  
16 we have a database with all of the things that the  
17 database is storing.

18 So this diagram follows the pattern of  
19 multi-tier architecture pretty closely; in fact, it's a  
20 pretty good example of how you'd do that.

21 And the connecting lines in the diagram are  
22 meaningful, of course, as well. They show where there's  
23 direct interactions between these components and where  
24 the components have dependencies upon one another.

25 So this diagram to a POSITA shows how a larger

1 system -- that is, the system of the invention -- is  
2 decomposed into its component parts and what those  
3 component parts are and how those component parts relate  
4 to one another.

5 And, you know, based on the following the  
6 pattern of a multi-tier architecture, you can infer some  
7 additional things that don't even need to be said by the  
8 specifications; that certain things are for external  
9 connection, certain things are internal systems.

10 And then to a POSITA, you know, you could use  
11 this diagram as a starting point to -- to begin to  
12 develop requirements for the implementation of a system  
13 of this type. I hope that answers your questions.

14 Q. Thank you. To focus in on -- so in your  
15 explanation there -- there are different segments or  
16 portions of this Figure 1. You refer to 111, 112, and  
17 113 as connecting to external sources. I want to focus  
18 in on the payment handler itself, that reference number  
19 105.

20 What does that block of the payment handler  
21 refer to?

22 A. Well, payment handler is referring to the  
23 thing that's described in the claims and in the other  
24 parts of the specification as the -- as the payment  
25 handler component, which has some particular

1 responsibilities. I believe I quoted those in the  
2 declaration.

3 And it sits in the middle tier of this  
4 architecture and has direct connections to Service  
5 Connectors 103 and the Processor 121. Also, things are  
6 discussed in a bit more detail in the declaration.

7 Q. Is the payment handler -- does that block  
8 represent a software routine?

9 A. Does it -- sorry. Let me -- restate that  
10 question because it was a little quiet. Does the  
11 payment handler represent a software routine?

12 Q. That's right.

13 A. Right. So that's an implementation decision,  
14 and it depends on the context in which you're deciding  
15 to build a system of this type. It could be. There are  
16 other ways that you could build it. So that's one  
17 possible way of doing it.

18 Q. If it is a software routine, what's the  
19 hardware that would run the software in this diagram?

20 A. Again, that's an implementation decision, but  
21 if you're asking about hardware, a diagram of this type  
22 typically does not provide you specifics about the  
23 hardware.

24 Q. So how would a POSITA understand what hardware  
25 is used for each component in this diagram?

1           A.    A POSITA would either look to the  
2           specification or make implementation decisions in  
3           general based on what's -- well, would look to the  
4           specification in general and then make implementation  
5           decisions based on that.  You know, there may be more  
6           than one way to do it is what it comes down to.

7           Q.    Would the payment handler have its own  
8           hardware associated with it then?

9           A.    Sorry.  You're still pretty quiet.

10          Q.    Could the payment handler have its own  
11          hardware associated with it?

12          A.    The first word of that sentence was "did" or  
13          "could"?

14          Q.    Could.  Could the payment handler have its own  
15          hardware associated with it?

16          A.    It could.  It's not necessarily a requirement,  
17          but it could.

18          Q.    How about the next box over, the Business  
19          Process Services 104; is that a software routine?

20          A.    You know, as -- again, there are -- there are  
21          ways to implement this that are very -- you know,  
22          implementing that as a software routine is possible.  
23          But it's not the only solution that one might choose in  
24          implementing a system of this type.

25          Q.    Okay.  I'd like to go back to earlier what you

1 said about the connections between boxes. So in this  
2 case, we've got the processor has a direct connection,  
3 as you mentioned, to Payment Handler 105, which is also  
4 directly connected to Service Connectors 103.

5 What do those direct connections represent?

6 A. I'm going to ask you to be a bit more specific  
7 about that question. What are you asking about  
8 particularly?

9 Q. Sure. So the small line between Payment  
10 Handler 105 and Processor 121, what does that represent?

11 A. Okay. So there's a couple of different ways  
12 to talk about that. Let's talk about the diagram  
13 specifically because just looking at the diagram, you  
14 can immediately see some things. Payment Handler 105  
15 has direct connection to Processor 121.

16 (Court Reporter requested clarification.)

17 THE WITNESS: Yeah, sorry. I'll start over  
18 from there.

19 So you can immediately see some different  
20 things in the diagram. The Payment Handler 105 is  
21 directly connected to the Processor 121. When -- in the  
22 diagram -- in a diagram of this sort, a connection is  
23 going to imply either direct interactions or direct  
24 relationship between those components.

25 But as I was saying before, the vertical axis

1 is important in a diagram like this. It -- that is an  
2 aspect of a relationship between these components. What  
3 it implies is that the payment handler is -- is the  
4 higher level of the two components, in terms of  
5 abstraction, and that it is responsible for mediating  
6 the interactions with the Processor 121 as they -- as  
7 those interactions relate to the other components in the  
8 system.

9 So that's -- that's just looking at the  
10 diagram and that one line between Payment Handler 105  
11 and Processor 121.

12 BY MR. MAUCOTEL:

13 Q. So it's fair to say that these small lines  
14 that connect various components can mean different  
15 things in Figure 1?

16 A. No. They mean specific things, as I was just  
17 describing.

18 Q. So let's turn to the paragraph 36, which is  
19 right below this figure.

20 Can you hear me all right?

21 A. Paragraph 36. Okay.

22 Q. All right. Seems like my mic is quiet.

23 A. Oh, yeah. You were just fine there.

24 Q. Great. Paragraph 36, in this you are quoting  
25 the specification, which states, "Payment Handler 105 is

1 configured to wrap APIs of different payment processors;  
2 such as, for example, banking accounts, credit/debit  
3 cards, or Processor 121."

4 You refer to APIs. What is an API?

5 A. There's a pretty good explanation of that in  
6 the declaration. We can refer to that, if you like.

7 Q. Sure.

8 A. So I'll find myself where I actually wrote it,  
9 which shouldn't be that hard for me to find. Okay. So  
10 if we want to jump back up to paragraph 33, and we can  
11 take a look at paragraph 34 as well.

12 The API -- well, an API in general is the --  
13 the rules and specifications that -- I'm going to say it  
14 a little bit differently than the quote, but the rules  
15 and specifications that software -- well, computing  
16 components use to communicate with one another. And  
17 there is a specification that defines that interface and  
18 the implementation that implements that interface.

19 Q. Are APIs integrated as software?

20 A. That's a -- that's a -- that's a very strange  
21 way to ask that question because, you know, API is both  
22 the definition of the interface and the implementation  
23 of the interface, or both or either.

24 As a definition, it's not necessarily software  
25 or API specifications that are not software that are

1 generic. There are API implementations that are  
2 software. There are API implementations that are not  
3 software. So, you know, there's not a specific answer  
4 to that question.

5 Q. As far as the '196 patent, and in particular  
6 the APIs that are used in conjunction with Payment  
7 Handler 105, are those APIs integrated with software in  
8 this context?

9 A. I don't recall whether the patent is specific  
10 about that. We could go have a look, but it seems to me  
11 that it's likely not specific.

12 Q. Sorry. It's not specific?

13 A. I believe so, but I'd have to go back and  
14 double-check.

15 Q. Meaning that it's not implemented as software?

16 A. Meaning that it's not specific about whether  
17 it's implemented as software or not. But as I was just  
18 saying, that's kind of an odd concept to try to  
19 pigeonhole an API into. It's not -- the question on its  
20 own doesn't make much sense.

21 Q. How does the payment handler -- I'm referring  
22 back to the same quote that I referred to before. This  
23 is paragraph 36 from the specification. Payment Handler  
24 105 is configured to wrap APIs of different payment  
25 processors. How does the Payment Handler 105 wrap APIs

1 of different payment processors?

2 A. Yeah. So I discuss that further down in this  
3 declaration; but to get to the point, the different  
4 kinds of payment processors have different kinds of  
5 interfaces, different modes of interactions, if you  
6 will.

7 And, you know, I could point you to paragraph  
8 38, which I think does a pretty good job of explaining  
9 this. But just to summarize it for you, the -- the  
10 payment handler is wrapping the APIs of various  
11 different processors. Well -- okay. Each of those  
12 processors has a different kind of API which requires  
13 different kinds of parameters and different kinds of  
14 interactions.

15 And the payment processor provides a common  
16 API, which is a level of abstraction that simplifies for  
17 the rest of the components in the system, the  
18 interactions, so that they don't have to be exposed to  
19 all different details of the individual APIs of these  
20 different processors.

21 Q. So could you explain briefly what the concept  
22 of exposing a common API entails?

23 A. Yeah. There's a -- at least a sentence, maybe  
24 a paragraph on that in here. So -- and there's a pretty  
25 good quote in paragraph 37 that, "Exposing a common API

1 means making it available for other components or  
2 services to use."

3 This is what the Payment Handler 105 is doing  
4 with its connection, that little line in Figure 1  
5 between the payment handler and the service connectors.  
6 That's the API that is exposed through the service  
7 connectors to the rest of the components in the system.

8 Q. Okay. Let's -- let's -- referring to that  
9 same paragraph, paragraph 37, you stated here, "A POSITA  
10 would recognize the architectural style of Figure 1 as  
11 service-oriented architecture."

12 Why would a POSITA recognize this  
13 architectural style as such?

14 A. Sure. So let's go back to Figure 1.

15 And as we were discussing before, this follows  
16 the pattern of the multi-tier architecture diagram that  
17 we were talking about with externally facing components  
18 at the top, internal back-end components and, you know,  
19 responsible for storing data at the back end at the  
20 bottom. Things are categorized and grouped left to  
21 right.

22 But there is more to it than that, which a  
23 POSITA who -- particularly a POSITA who was practicing  
24 at the time this patent was written would absolutely  
25 recognize. And the reason for that is there are a

1 number of components in this diagram that use the term  
2 "services." So there's the Authorization Services 107,  
3 Security Services 106, Business Process Services 104,  
4 Service Connectors 103, Notification Services 102.

5 Those are -- those are the kinds of things  
6 that are going to start to ring a bell to a POSITA  
7 because the term "services" in the context of a diagram  
8 like this is going to make someone think of a  
9 service-oriented architecture, which has an  
10 architectural pattern for large-scale enterprise systems  
11 that happen to be at the very height of its popularity  
12 at the time this patent was written, it -- so much so it  
13 was everywhere. You couldn't do anything without  
14 bumping into it.

15 There are other aspects of this diagram that  
16 would make a POSITA think that as well.

17 So, for example, if you look at the -- all of  
18 the interconnections between these components, you can  
19 see that they generally follow a pattern that's sort of  
20 branching, like -- so you see a pattern where -- let's  
21 take the payment handler, for example, connects to  
22 processor, and that branches out to the clearing house  
23 of two different types, except for one place in the  
24 diagram, this business process services, which has  
25 connections to several different things.

1           So topologically that's the center of the  
2 diagram. I guess it's relatively close to being  
3 depicted in the center as well, which -- which makes  
4 sense in terms of laying out the diagram.

5           But that's going to be an indicator as well to  
6 a POSITA that what we're looking at here is -- in this  
7 Business Process Services 104 is a common component  
8 that's responsible for interconnections amongst all  
9 these services, which is one of the key aspects of a  
10 service-oriented architecture is to have a service bus  
11 or a message bus that's central to the environment  
12 because one of the key aspects of a service-oriented  
13 architecture is a loose coupling between services so  
14 that they are not so directly tied together.

15           Each of them can be implemented, you know,  
16 separately in different environments using different  
17 computer resources, if you choose to do so, and then  
18 brought together by the common communications through  
19 the central component, this enterprise service bus or  
20 message bus, which architecturally fits the pattern  
21 that's depicted here in Figure 1.

22           So that's another thing that's going to  
23 indicate to a POSITA that this is a service-oriented  
24 architecture.

25           There's a third thing that is just like -- to

1 a POSITA is like an alarm bell ringing off the page, and  
2 that's the word -- the phrase "business processes" in  
3 the middle of that diagram on the component 104,  
4 business process services, that's central to everything  
5 here because the concept of business process  
6 orchestration is central to the architectural pattern of  
7 a service-oriented architecture.

8 So it's immediately going to make a POSITA  
9 think, okay, this is -- this is not just an enterprise  
10 service bus here, but this is business process  
11 orchestration sitting at the middle of this diagram  
12 doing what it would do in a service-oriented  
13 architecture.

14 Now, the diagram doesn't say that, and the  
15 patent doesn't say that; and it doesn't particularly  
16 need -- there is no reason that it needs to.

17 But to a POSITA looking at it, it has all of  
18 the hallmarks of that pattern, fits the pattern very  
19 well. It's actually a pretty good example of this type  
20 of a diagram.

21 And so from a POSITA looking at it, you can  
22 start to use that pattern to interpret the diagram.

23 Q. If there weren't some of these hallmarks that  
24 you had mentioned, such as the word "service" or that --  
25 some of the hallmarks that you mentioned, what is an

1 example of a different type of architecture that is not  
2 service based?

3 A. Oh, well, so we were talking earlier about  
4 just a multi-tier architecture. That's a more general  
5 type of -- of architecture. And if this didn't have so  
6 many indicators that scream service-oriented  
7 architecture -- I mean, you can look at this and using  
8 that lens alone, you know, if it was rearranged  
9 slightly, it might be -- you know, it might be a good  
10 example of a multi-tier architecture that does not use a  
11 service-oriented architecture.

12 But, you know, the way it's set up, it sort  
13 of -- it looks -- it looks and smells like  
14 service-oriented architecture.

15 Q. So a service-oriented architecture is a subset  
16 of a multi-tier architecture?

17 A. Yes. Yes, it is.

18 Q. What are other -- some other subsets of  
19 multi-tier architecture besides service oriented?

20 A. Oh, man. That's kind of a question for  
21 another day. You'll want to make me want to go back and  
22 look at some reference materials for that one.

23 Q. I'm just wondering if a POSITA, you know,  
24 didn't -- didn't notice all these hallmarks, what kind  
25 of architecture would this be?

1           A.    Well, it's -- it's just what it says. It's a  
2 platform architecture. It's a function of architecture  
3 for the -- for the invention.

4           Q.    Okay. Let's go ahead and turn to paragraph  
5 39. This is kind of relevant to what we were just  
6 talking about. Do you want to read the first sentence  
7 of paragraph 39?

8           A.    Sure. "To a POSITA, the structure of the  
9 'payment handler' is clearly determined by the APIs it  
10 uses and the common API it provides."

11          Q.    Does the specification and drawings of the  
12 '196 patent provide a clear structure for this payment  
13 handler?

14          A.    Yes, it does, as I've described in the  
15 declaration.

16          Q.    Okay. And what exactly is that structure?

17          A.    You know, I can read a declaration to you. It  
18 does say it. Is that what you'd like?

19          Q.    Sure.

20          A.    Sure. So I may paraphrase a little bit as I'm  
21 reading through this. So to start with, a POSITA would  
22 understand that there are differences in the APIs to  
23 interact with different payment processors, that -- we  
24 were talking about this earlier.

25                 Different payment processors have different --

1    require different parameters to process payments and  
2    have different modes of interaction, different sequences  
3    of steps that are required for the interactions so that,  
4    for example, processing a payment using ACH is a very  
5    different process than processing a payment using a  
6    credit card.

7            ACH processes -- batch process requires the --  
8    the bank's routing number and the account number along  
9    with the account holder information, and the sequence of  
10   steps when you're processing an ACH transaction is very  
11   different from processing a credit transaction. A  
12   credit transaction requires a different type of account  
13   number -- that's a credit card number -- and some of the  
14   account holder's information such as the card holder's  
15   name, which might be different or in a different form  
16   than what you would see as the account holder's name in  
17   a -- for an ACH transaction.

18           And the sequence of steps for a credit  
19   transaction is -- is unique to credit -- well, I don't  
20   know if it's unique, but it's specific to credit  
21   transactions in that there's an authorization step at  
22   the start of the transaction, an authorization response.

23           There may be intermediate steps where the  
24   authorized transaction is modified. And then there is  
25   a -- typically called a capture step or financial

1 presentment step where the -- the transaction is  
2 prepared for -- is prepared for settlement.

3 And, indeed, the settlement process on the  
4 back end between this -- between ACH -- if you try to  
5 compare ACH and credit card transactions, it's quite a  
6 bit different as well.

7 And as a user of those systems, you might not  
8 see all of the differences, but you see some of the  
9 impacts of them because, for example, with a credit  
10 transaction, you -- you have settlement minus some of  
11 the fees; but settlements are not necessarily final for  
12 a while in credit card transactions. Things could  
13 get -- things can get reversed due to fraud or other --  
14 or for other reasons. Transactions get refunded. But  
15 those types of events don't happen the same way in an  
16 ACH environment.

17 So what we're getting at here is that for a  
18 POSITA who understands payment systems, processing  
19 credit transaction would be very different for  
20 processing an ACH transaction. And each one would  
21 require a different interface with a different set of  
22 parameters.

23 And rather than having every component in the  
24 system understand those differences and implement them  
25 and handle all of the different parameters and handle

1 the different steps of interactions, the -- the payment  
2 handler has the responsibility of providing a level of  
3 abstraction around that; that is, providing a single  
4 common interface that handles payments but doesn't  
5 expose all of the intricate details of these individual  
6 types of payments that might be supported.

7 Q. This is related to what we were just  
8 discussing. This is the end of paragraph 39, last  
9 sentence of paragraph 39.

10 A. Sure. Just give me one second. Pardon me for  
11 a sec. My apologies. End of paragraph 39?

12 Q. Yes. I'll go ahead and read it. It says,  
13 "Given the specification of the payment processors that  
14 the payment handler would integrate with, and an  
15 architecture for the common API that the payment handler  
16 would provide, implementing the payment handler  
17 component would be trivial for a POSITA."

18 What does trivial mean in this context?

19 A. It means that once you have the specifications  
20 available, reducing a --

21 (Zoom connection was disrupted.)

22 (Off-the-record discussion.)

23 THE WITNESS: Yeah, please, if you would.

24 (Whereupon the certified court reporter read  
25 the record.)

1           THE WITNESS: Okay. I'll try again. Once you  
2 have the specifications available, the problem becomes  
3 much simpler in that it's really just a matter of -- of  
4 implementing a payment handler in that context is really  
5 just a matter of writing the -- writing the code, which  
6 may not seem trivial, but it's the kind of thing that  
7 you could -- you could send offshore to -- to software  
8 developers who are not necessarily experts and get it  
9 done by -- and get it done for less money than it would  
10 take to pay an expert to do it.

11           Q. So it means that -- the ease of implementing a  
12 payment handler of this type?

13           A. Sorry, you were very quiet there.

14           Q. Sorry. Does trivial in this case mean the  
15 ease of implementation then?

16           A. It means it's straightforward; that is, there  
17 are -- you know, once you have the specifications in  
18 place, that it's -- there are not any particular  
19 questions that are difficult to resolve.

20           Q. Can you think of an example of where payment  
21 handlers would not be trivial to implement for a POSITA?

22           A. I don't know. That's kind of an open-ended  
23 question.

24                   Can you be more specific about it?

25           Q. Sure. If -- if data for -- if specification

1 of a payment processor was given, is there a case where  
2 the payment handler would not be trivial to implement  
3 for a POSITA?

4 A. Sorry, again, you're a little quiet at the end  
5 there.

6 Q. So we have the specification of this payment  
7 processor given in the '196 patent; is that correct?

8 A. There -- there's -- there's a description of  
9 the structure of the payment handler, but it's not a  
10 complete specification of the payment handler.

11 Q. But a POSITA, having the '196 patent before  
12 them, would understand how to implement a payment  
13 handler as -- as described by the patent?

14 A. Given the additional specification of the  
15 payment processors that are being integrated with and  
16 the architecture for the API that the payment handler  
17 would implement -- and those are things that a POSITA  
18 could develop -- indeed.

19 Q. How would they develop those things, if they  
20 weren't given them specifically?

21 A. Well, so the specifications for the interfaces  
22 to the payment processors are generally provided by the  
23 payment processors themselves, and those will vary; and  
24 some of them are more complicated than others.

25 The architecture for that common API would be

1 a task for the implementation of the -- of the -- the  
2 overall solution described by the -- the invention --  
3 described by the patent. And, you know, so those are --  
4 those are the pieces that need to be pulled together.

5 The selection of the payment processors is  
6 sometimes a business decision, but once you'd have those  
7 things in place, gathering the information so that you  
8 have the -- the interfaces to the payment processors is  
9 actually not -- there's nothing complicated about that.

10 Defining the architecture for the common API  
11 is something that systems architects, solutions  
12 architect would do in the context of defining the -- the  
13 implementation for the remainder of the system;  
14 something that a POSITA could do, should be able to do  
15 working in this space. You know, that's a matter of  
16 identifying the level of abstraction and defining the  
17 types of operations that should be available to the  
18 other components, the environment and the parameters for  
19 those operations.

20 You know, it's the kind of thing that happens  
21 commonly at the -- at the start of systems development  
22 so absolutely something that a POSITA could do. There's  
23 a lot to answer there.

24 Am I getting to what you were asking for?

25 MR. MAUCOTEL: Okay. Let's go ahead and take

1 another break real quick. Can we take ten minutes and  
2 then come back on the record?

3 THE WITNESS: Sure.

4 (Recess: 10:54 a.m. to 11:04 a.m.)

5 BY MR. MAUCOTEL:

6 Q. Great. We had talked at the beginning of this  
7 deposition about a couple other depositions that you had  
8 been a part of.

9 How many cases have you worked as an expert  
10 for?

11 A. Oh, I'm not sure I remember the total off the  
12 top of my head. It might be something like seven.

13 Q. Okay. How many of those were IPRs or related  
14 to IPRs?

15 A. Just this one.

16 Q. What was the nature of the other expert  
17 engagements that you had?

18 A. Most of them have been patent litigation of  
19 one sort or another. And some of them pre-litigation.  
20 And two of them were in relation to trade secrets.

21 Q. Let me turn to the very back of your  
22 declaration --

23 A. Sure.

24 Q. -- to the signature page. I just want to  
25 affirm that that's your signature there on the last

1 page.

2 A. Yes, it is.

3 Q. Is there anything that you wanted to correct  
4 in your declaration that is not correct?

5 A. Oh, I haven't seen anything substantial. I  
6 did notice a couple of typos when I reviewed it, but I  
7 don't think we need to discuss those at this point.

8 Q. Nothing substantial.

9 A. Nothing that I've noted at this point,  
10 correct.

11 Q. Okay. We've taken a couple breaks.  
12 Did you discuss anything with counsel during  
13 those breaks?

14 A. I did not.

15 Q. Great.

16 MR. MAUCOTEL: I think that's what I've got.  
17 No further questions from us.

18 MR. GOLUB: I don't have any redirect.

19 COURT REPORTER: Counsel, may I get transcript  
20 requests on the record, please?

21 MR. GOLUB: I would like an expedited  
22 transcript, at least an expedited rough one. Doesn't  
23 have to be like a formal one, but an expedited rough  
24 one. I would really appreciate.

25 COURT REPORTER: There is a request for a

1 rough as well as an expedite for next week. Would you  
2 like the same protocol?

3 MR. GOLUB: When you say "next week," what day  
4 do you mean for the rough?

5 COURT REPORTER: The rough will go out today,  
6 this afternoon.

7 MR. GOLUB: Excellent.

8 COURT REPORTER: And the final transcript will  
9 be next week.

10 MR. GOLUB: That's fine. All I really need is  
11 the rough expedited, so quickly. Yeah.

12 MR. MAUCOTEL: Same is fine for us. Normal  
13 schedule.

14 (Whereupon the proceedings concluded at  
15 11:07 a.m.)

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ERRATA SHEET  
NAME OF CASE: APPLE INC. V. FINTIVE, INC.  
DATE OF DEPOSITION: DECEMBER 15, 2023  
NAME OF WITNESS: KAI JOHNSON

Reason Codes:

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

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**DECLARATION UNDER PENALTY OF PERJURY**

I, KAI JOHNSON, do hereby certify under penalty of perjury that I have read the foregoing transcript of my deposition taken on December 15, 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.

\_\_\_\_\_  
KAI JOHNSON

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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;

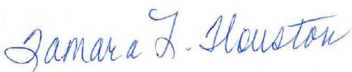
That said deposition was taken down by me in  
shorthand at the time and place therein named, and  
thereafter reduced to typewriting by computer-aided  
transcription under my direction;

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: 15th of December, 2023.

  
\_\_\_\_\_  
TAMARA L. HOUSTON  
CSR 7244, RPR, CCRR 140

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|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------|
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| <b>105</b><br>38:21 42:19 45:3,10,14,<br>20 46:10,25 48:7,24,25<br>50:3 | <b>2000s</b><br>13:5                                                                                                                                          | <b>37</b><br>49:25 50:9                                                | <b>ability</b><br>17:12                                 |
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