UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

PETITIONER,

CERTIFIED COPY

V.

FINITIV, INC.,

Patent Owner.

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

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

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

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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.

1 APPEARANCE OF COUNSEL:

2

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1 INDEX TO EXAMINATION

2 WITNESS: KAI JOHNSON

3 EXAMINATIONS PAGE

4 MR. MAUCOTEL..... 6

5

6

7 QUESTIONS INSTRUCTED NOT TO ANSWER

8 Page Line

9 None

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1 INDEX TO EXHIBITS
2 KAI JOHNSON
3 APPLE, INC. vs. FINTIVE, INC.
4 December 15, 2023
5 Tamara L. Houston, CSR No. 7244, CRR No. 140, RPR
6
7 EXHIBIT DESCRIPTION PAGE
8 None.
9 --o0o--
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1 Friday, December 15, 2023, 9:01 a.m.
2 --o0o--
3 Whereupon, KAI JOHNSON, having been
4 called as a witness was duly sworn
5 to tell the truth, the whole truth,
6 and nothing but the truth testified
7 as follows:
8 --o0o--
9 EXAMINATION BY MR. MAUCOTEL:
10 Q. Okay. My name is Jordan Maucotel. I
11 represent Petitioner Apple in the IPRs, 2023-00398 and
12 IPR 2023-00399.
13 Could you, please, state your name for the
14 record?
15 A. My name is Kai Johnson.
16 Q. Great. Thank you, Mr. Johnson.
17 Have you been deposed before?
18 A. I have.
19 Q. How many times?
20 A. Two times previously.
21 Q. And how recently were these?
22 A. Last one was about a year ago, and the one
23 prior, oh, more than a couple years back.
24 Q. Okay. For the one most recently, what -- what
25 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 an 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.

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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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1 ERRATA SHEET
NAME OF CASE: APPLE INC. V. FINTIVE, INC.
2 DATE OF DEPOSITION: DECEMBER 15, 2023
NAME OF WITNESS: KAI JOHNSON
3
Reason Codes:
4
1: To clarify the record.
5 2: To conform to the facts.
3: To correct transcription error.
6
Page _____ Line _____ Reason _____
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_____ _____
25 KAI JOHNSON DATED

1 DECLARATION UNDER PENALTY OF PERJURY
2
3 I, KAI JOHNSON, do hereby certify under
4 penalty of perjury that I have read the foregoing
5 transcript of my deposition taken on December 15, 2023;
6 that I have made such corrections as appear noted on the
7 Deposition Errata Page(s), attached hereto, signed by
8 me; that my testimony as contained herein, as corrected,
9 is true and correct.
10
11 This Declaration is executed this _____ day
12 of _____, 20___, at _____,
13 California.
14
15
16 _____
17 KAI JOHNSON
18
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25

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: 15th of December, 2023.

Tamara L. Houston

TAMARA L. HOUSTON
CSR 7244, RPR, CCRR 140

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