

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

GOOGLE, INC., NEST LABS, INC.,)
and DROPCAM, INC.)
)
Petitioners,)
)
V.)
)
e.DIGITAL CORPORATION)
)
Patent Owner.)

Case No. IPR2015-01470 | Case No. IPR2015-01473
Patent No. 8,311,522 | Patent No. 8,311,523

Case No. IPR2015-01471 | Case No. IPR2015-01474
Patent No. 8,315,618 | Patent No. 8,311,524

Case No. IPR2015-01472 | Case No. IPR2015-01475
Patent No. 8,306,514 | Patent No. 8,315,619

DEPOSITION OF DAVID H. WILLIAMS
TAKEN BY ANTON N. HANDAL, ESQ.
PRO HAC VICE
MARCH 15, 2016

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1 DEPOSITION OF DAVID H. WILLIAMS, produced, sworn,
2 and examined on March 15, 2016, at the offices of
3 Thompson Coburn LLP, One US Bank Plaza, Suite 3500, St.
4 Louis, Missouri, 63101, before Karen M. Russo, Certified
5 Shorthand Reporter within and for the State of Missouri,
6 United States Patent and Trademark Office, Before the
7 Patent Trial and Appeal Board, Google, Inc., Nest Labs,
8 Inc., and Dropcam, Inc., Petitioner, vs. e.Digital
9 Corporation, Patent Owner.

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1 I N D E X

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3 WITNESS: David H. Williams

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4 Direct Examination by Mr. Handal

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5 Cross-Examination by Messinger

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7 E X H I B I T S

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9 Exhibit Description Page

10 2004 4-14-13.doc_V1-2 17

11 2005 March 2015-V6-4.doc CV 75

12 2006 March 2015-V6-5.doc CV 77

13 2007 CV_September_2015-5.doc 78

14 2008 ipNexus 82

15 2009 wireless location credentials summary 87

16 2010 Way Back Machine 114

17 2011 David Williams biography 117

18 2012 LBS applications 118

19 2013 petition in the 523 patent 123

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1 S T I P U L A T I O N

2 IT IS HEREBY STIPULATED AND AGREED by and between
3 counsel for the parties that this deposition may be taken
4 in shorthand by Karen M. Russo, CSR, RPR, and afterwards
5 transcribed into printing, and signature by the witness
6 is waived.

7 DAVID H. WILLIAMS,
8 of lawful age, being first duly sworn to tell the truth,
9 the whole truth, and nothing but the truth, deposes and
10 says on behalf of the Patent Owner as follows:

11 DIRECT EXAMINATION

12 BY MR. HANDAL:

13 Q. Good morning, sir. How are you today?

14 A. Good. How are you?

15 Q. We met earlier. My name is Tony Handal.

16 MR. MESSINGER: Objection. I would just
17 like to object for the record that while a motion for Pro
18 Hac Vice has been filed, counsel is not recognized as
19 counsel in this proceeding under Rule 42.10C.

20 MR. HANDAL: But notwithstanding, you're
21 not objecting to my inquiring of this witness any
22 questions this morning?

1 did immediately after graduation involved working on the
2 F15 radar converting a portion of their system to the
3 next generation of processors called 8086.

4 Q. Who was that? You worked on that for who?

5 A. Hughes Aircraft Company.

6 Q. Hughes. What years?

7 A. '85 to '87 -- or, excuse me, '83 to '85.

8 Q. Okay. What was the state of the communications
9 business or technology in 1983?

10 A. Also --

11 MR. MESSINGER: Objection, scope.

12 A. -- very embryonic. There was AT&T and some
13 emerging players in terms of the wireline, what's
14 referred to as the wireline business, with -- I believe
15 some of the antitrust was associated with AT&T going on
16 around that time. I don't remember the exact dates. The
17 mobile industry was even more embryonic in terms of a
18 whole variety of very small players starting to build out
19 aspects, but mobile was very limited in terms of, you
20 know, both its technology capabilities as well as market
21 penetration at that time.

22 Q. (By Mr. Handal) Now, with respect to

1 microprocessor, your emphasis in -- strike that.

2 With respect to your work related to micro-
3 processors, what design tasks did you undertake and when?

4 A. Well, a variety of coursework over the course
5 of my double E degree, in particular my work for Hughes
6 Aircraft Company, actually had me designing a
7 microprocessor-based circuit board again for the F15
8 radar that included using the 8086 as a base for
9 interfacing to a whole variety of subsystems and
10 processing a variety of software applications.

11 Q. So if I understand your testimony, what you're
12 telling me is that in connection with your work at Hughes
13 Aircraft, you designed a circuit board with a vintage
14 microprocessor of that day?

15 MR. MESSINGER: Objection, form.

16 A. Well, it wasn't vintage at that time. It's
17 vintage now, but it was considered a leading edge
18 processor at that time.

19 Q. (By Mr. Handal) And at that time being?

20 A. 1983 to '85.

21 Q. All right. Now, was that a -- what was the
22 ultimate outcome of that work? Was it ever integrated

1 into a final device?

2 A. As far as I'm aware of, yes. I left when it
3 was just going into essentially the manufacturing
4 engineering side of things, but certainly the entire F15
5 radar, which at that time was essentially an analog-based
6 system, was converted to essentially an entirely digital
7 based of which this processor would have been a key part
8 of that, presumably.

9 Q. But the circuit board that you worked on -- or
10 let me ask you, were the sole designer?

11 A. No.

12 Q. You were working in a team with other
13 designers?

14 A. Yes, but I was what I would call the primary
15 designer.

16 Q. Were you the lead on that circuit board?

17 A. Yes.

18 Q. And in terms of functionality, I mean what
19 significance was -- I guess they're all significant, but
20 in terms of the overall project, how big was this circuit
21 board in relevance?

22 MR. MESSINGER: Objection, form.

1 A. It was -- there were -- if I recall, bear in
2 mind this is 30-odd years ago, there were several, call
3 that eight or ten, major units of the radar. This
4 circuit board was going to be a significant part of one
5 of those units called the A to D converter, analog to
6 digital converter, to take radar signals and convert them
7 from their analog form to digital form for use by other
8 systems.

9 Q. So this circuit board was in the context of the
10 A to D conversion?

11 A. Correct.

12 Q. And in connection with your work on the circuit
13 board, did you have any involvement with what's been
14 referred to as a digital signal processor, DSP?

15 A. If I -- I don't recall the term being
16 explicitly used at that time and digital signal
17 processor, you know, again the nature of the unit was for
18 analog to digital conversion overall. So bottom line is
19 I don't remember specifically that phrase being used.

20 Q. Okay. And let me see if I get this right. So
21 an analog signal comes into the system from where?

22 A. Well, originally from the antenna array on the

1 Q. (By Mr. Handal) Okay. So then you left Hughes
2 in or around 1985?

3 A. Correct.

4 Q. Where did you go?

5 A. I went to get my MBA at the University of
6 Texas.

7 Q. Was it a full time?

8 A. Yes.

9 Q. So two years?

10 A. Yes.

11 Q. So then after graduation -- did you have an
12 emphasis in U of T?

13 A. Yes, they had started a new program called
14 information systems management which I was part of the
15 first class which was intended what was then to be kind
16 of a, if not radical, a significant departure from both
17 regular MBA programs as well as what would be called
18 management information systems which was kind of a
19 technology center field. And the idea was this program
20 would kind of bring them together. And that was a formal
21 sub emphasis within the MBA program.

22 Q. Okay. But to be clear, it wasn't a technical

1 discipline?

2 A. Yeah, primarily it was -- my degree is an MBA.

3 Q. Okay. After graduating from Purdue -- it was
4 Purdue, right?

5 A. Yes.

6 Q. -- with a degree in engineering electrical
7 engineering, did you undertake any other postgraduate or
8 other education in electronics or electrical engineering?

9 A. Formal education, no.

10 Q. Yes, okay. After graduating from University of
11 Texas about 1987, '88 --

12 A. '87.

13 Q. -- did you obtain gainful employment in any
14 way?

15 A. Yes. I joined what was then Touche Ross which
16 has evolved since then to become Deloitte Consulting, I
17 believe, unless they changed it recently and they
18 probably have, where I focused primarily on technology-
19 related consulting engagements.

20 Q. How long were you with Touche?

21 A. About five years.

22 Q. So from '87 to --

1 A. '91, so four and a half, I think.

2 Q. During that time period did you do any
3 technical engineering work?

4 A. Yes.

5 Q. What did you do?

6 A. In particular one of my biggest engagements,
7 which actually took about a year and a half, was
8 designing and implementing and being -- essentially being
9 the sole designer and implementer, key implementer, of
10 what would now be considered bringing something that was
11 in a cloud-computing environment inhouse. Back then it
12 was called a service bureau where the core applications
13 of the company were done by an external entity. And the
14 team, the broad team I was on was responsible for
15 essentially building out what was called a data center
16 and bringing all of that activity inhouse. I was
17 responsible for the communications portion of that which
18 involved primarily interfacing with a couple hundred
19 retail stores that was this company's primary business.

20 Q. Okay. So if I understand you correctly, this
21 company was a client of Touche Ross's?

22 A. Yes.

1 Q. It wasn't Touche Ross?

2 A. No.

3 Q. This wasn't an inhouse project?

4 A. No.

5 Q. It was a retail-based operation?

6 A. Yes.

7 Q. Retail-based client. And they had a number of
8 locations, and they wanted to consolidate data in one
9 location and a server data center somewhere?

10 A. Yeah. They wanted to have full control over
11 their entire information systems and technology
12 infrastructure.

13 Q. Okay. And if I understand you correctly, you
14 were involved in the designing and implementing the
15 communications aspect of getting the data from the retail
16 locations to the data center?

17 A. Correct.

18 Q. All right. Anything else? Have I
19 mischaracterized it?

20 A. No, that was a good characterization.

21 Q. I'm trying to listen to you as we go.

22 Obviously, if I get it wrong, you know, just say, hey,

1 that's not right, you did it incorrectly.

2 Now, with respect to that function of designing
3 and implementing the communications aspect of bringing
4 the data from the retail locations to the data center,
5 what did you do?

6 A. I designed the network, meaning identified the
7 key requirements in terms of what data needed to be
8 extracted from the retail environment, particularly their
9 point of sale, cash registers, which also required
10 understanding the technology within the cash register to
11 understand what data was available, how it was
12 structured, how it could be extracted, what kind of
13 interfaces needed to be done, what kind of programming
14 needed to get it out which, believe me, at that time was
15 not a simple task, and then developing the design
16 requirements in terms of when it needed to be extracted,
17 as well as on the data center side of things, how all
18 that data would be received, when those point of sale
19 devices would be polled, all the infrastructure that
20 would be required to get that information in terms of
21 modems and communications lines and so on and so forth.
22 And then on the data center side, actually then

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1 determining how that data would then be structured,
2 formatted, consolidated, etc., to feed into the other
3 applications behind in terms of for financial accounting,
4 marketing sales purposes, etc.

5 Q. Okay. So let's look at it this way. Let's
6 look at the project with on one end of the spectrum being
7 the guy that had the idea and on the other end of the
8 spectrum the guy actually writing the code, all right.
9 So you've got a spectrum of responsibilities between
10 those two end points. Did you do any writing, any code
11 writing?

12 A. No.

13 Q. Did you do any hardware circuit board design?

14 A. I did what I would call hardware system design
15 in terms of the -- we had modem arrays because you
16 couldn't just -- at that time in particular you couldn't
17 just have one modem and go and connect with 200 stores.
18 You had to have a couple dozen if you expected to get
19 that data at any time in your lifetime. So I designed
20 the hardware array and full rack and all the different
21 communications, slotting and calendaring and all those
22 associated designs, basically everything that needed to

1 be done to connect with and receive the data from the
2 stores.

3 Q. Okay. But with respect to your reference to
4 the modem, you didn't design the modem. You selected a
5 modem?

6 MR. MESSINGER: Objection, form.

7 A. Correct.

8 Q. (By Mr. Handal) So what you did is you
9 selected the existing, for lack of a better term and I
10 use the term loosely, off-the-shelf products that were
11 available to you to fit into the system?

12 A. I had -- I would vary what you said in terms of
13 I had to design the broader system. It's not like today
14 or maybe, you know, five years ago where you have a
15 modem, buy a modem at Walmart or whatever and slap it in
16 and connect it. At that time modems were not nearly as
17 sophisticated, so they required a lot of design work and
18 hardware modification work in order to actually get them
19 to work, particularly in a broader modem array that I had
20 to design at that time.

21 Q. Okay. But to be clear, you did not do any
22 circuit board design in connection with that engagement?

1 MR. MESSINGER: Objection, form.

2 A. Correct.

3 Q. (By Mr. Handal) And did you do any circuitry
4 design, like engineering level circuitry design on that
5 system?

6 MR. MESSINGER: Objection, form.

7 A. It's a sliding scale, but my view of the design
8 of the couple dozen modems and the overall integration
9 and everything associated with getting that to work with
10 the point of sale, as well as the back end accounting
11 systems, I would view that as involving circuitry design.

12 Q. (By Mr. Handal) Okay. This entire system, was
13 it wired or were any aspects of it wireless?

14 A. It was wired.

15 Q. All right. So we identified that while you
16 were at Touche you did this one project that we've been
17 discussing for a retail client that involved engineering
18 design work. Were there any other engineering design
19 functions that you were given or that you performed other
20 than the one that you described for me while you were at
21 Touche Ross?

22 A. Most -- not all but most of my additional

1 projects at Touche involved some sort of technology
2 element, whether it was implementing new accounting
3 systems or it was modifying a bank data center to
4 essentially prepare it for sale. This was back when all
5 the Texas banks failed, savings and loans failed. So
6 that nearly most of it was technology related in some
7 form or fashion.

8 Q. Was it all wired or any of it wireless?

9 MR. MESSINGER: Objection, form.

10 A. At that time I believe it was all wired.

11 Q. (By Mr. Handal) Following your employment at
12 Touche Ross, I think that takes us through 1991?

13 A. Correct,

14 Q. What did you do next?

15 A. I joined what was then Booz, Allen, & Hamilton
16 which is now structured differently, but at that time it
17 had two arms, a government arm which is what everybody
18 kind of knows, NSA stuff, and a commercial management
19 consulting arm. Within that I was within the commercial
20 side of things, and within the commercial side there is
21 an information strategy unit which is what I joined.

22 Q. What's the information strategy segment?

1 A. It essentially had -- any projects that
2 involved technology that the business guys didn't know
3 what to do, they would call on us to help them out. That
4 is pretty much it, bottom line.

5 Q. How long were you at Booz Allen?

6 A. Two years.

7 Q. To '93?

8 A. Yes.

9 Q. While at Booz Allen were you involved in any
10 electrical engineering design work?

11 A. Not really, no.

12 Q. Okay. After Booz Allen where did you go?

13 A. What was then Anderson Consulting which became
14 Accenture, A-C-C-E-N-T-U-R-E.

15 Q. From when to when?

16 A. From '93 to 2002.

17 Q. First let me ask you, where did you work?

18 A. I joined the information technology strategy
19 unit which was a new unit that then Anderson Consulting
20 was starting up.

21 Q. During that time, from '93 to 2002, were you
22 involved in, for Anderson Consulting or Accenture, any

1 electrical engineering design work?

2 A. In terms of circuit board design, type level
3 design, no. In terms of systems design of designing
4 systems to do everything from collect and communicate and
5 process data from various sources, yes.

6 Q. Okay. So let's see if we can define a little
7 more clearly the difference here for the purposes of
8 being on the same page, and I'll let you do it. What is
9 systems design as you characterized it?

10 MR. MESSINGER: Objection, form.

11 A. Well, if a circuit board -- if a circuit board
12 is made up -- I'll put it in the context of kind of what
13 we already discussed. If a circuit board has a
14 microprocessor and maybe some other chips, that's a
15 system unit, that circuit board. It then by itself
16 usually does not -- cannot do anything in terms of
17 providing end result of whatever it is you're trying to
18 do. So it has to be incorporated with other circuit
19 boards into some sort of unit. That can be considered
20 systems design or it could be considered circuit design,
21 just depending on what's required to integrate those
22 circuit board -- individual circuit boards within, you

1 know, that box. And then that box usually is not enough
2 either to provide whatever it is the end purpose is, so
3 there's a variety of other boxes that it will need to
4 interface with. There's the communications links that
5 need to be established between the boxes. There's the
6 interfaces in terms of extracting and transmitting data
7 associated with those boxes. There's the aggregation
8 processing analyzing of the data that is generated by
9 those boxes. There's the whatever the original data
10 source that needs to be collected, like, for example, the
11 point of sale stuff that I talked about, that kind of
12 design work needs to be done, as well as ultimately
13 interfacing to whatever other systems need to be done to
14 actually ultimately wind up being able to use that data.
15 So all of that is what I would call systems design work,
16 which to me is just a very logical extension of circuit
17 board level data just on a different scale.

18 Q. Okay. So with respect to the work that you did
19 at Anderson Consulting, how much of it was -- how much of
20 the system design work did you do that was on a circuit
21 board level?

22 A. On a circuit board level, none.

1 Q. Okay. Did you do any what I would call
2 electrical engineering work while you were at Anderson
3 Consulting, Accenture?

4 MR. MESSINGER: Objection, form.

5 A. Yes, in the context of what I just described as
6 systems design, which I view very much as being
7 electrical engineering work, I would say at least half of
8 my work involved that kind of design work.

9 Q. (By Mr. Handal) Let's talk about one of the
10 biggest, and obviously we don't need to know names, but
11 one that comes to your mind while you were at Anderson,
12 Accenture, what type of project was it?

13 A. It was -- well, I can describe the client. It
14 was AT&T. At that point in time AT&T was strictly in the
15 long distance business, and, you know, once upon a time
16 AT&T had everything, and then part of the antitrust they
17 had to get rid of their local business, for whatever
18 logic there was at that time. And the regulations
19 shifted again such they were allowed to get back into the
20 local business. And so they had lost a lot of that
21 expertise when they went to purely a long distance
22 business, so they contracted with Accenture to help them

1 get back into long distance work. So I led a team in
2 particular that was focused on one of the regions that
3 corresponded to that time, regional bill operating
4 companies in the midwest region, what was the Ameritech
5 region, and led the team in designing all the --
6 essentially the communications requirements and
7 implementation in terms of how they would get back into
8 the local business. In particular this was involved
9 primarily with subcontracting with Ameritech to provide a
10 lot of those services, but there was also a lot of
11 systems design work around that in terms of being able
12 to, you know, take a customer order, process it, split it
13 into all the different pieces it needed to in terms of a
14 customer information system and sales ordering system and
15 financial system and so on, and then providing the
16 specific customer network requirements to Ameritech and
17 then overseeing, making sure that they did that
18 implementation properly and then monitor the ongoing
19 operation of that. So that was what -- again it would be
20 kind of a systems design, systems management kind of
21 overall engagement, is the way I would characterize it.

22 Q. So your perspective was from a holistic view of

1 problem to solution?

2 A. Yes.

3 Q. As opposed to solving a component problem as a
4 part of a bigger solution?

5 MR. MESSINGER: Objection, form.

6 A. Yes, it was very much a broad end to end from,
7 you know, have to somehow get local service to a
8 customer, how do we do that to, you know, did Customer A
9 get the service that they ask for.

10 Q. (By Mr. Handal) Was any of it wireless at that
11 time?

12 A. No.

13 Q. Okay. Let's step forward after 2002. Where
14 did you go next?

15 A. I left Accenture and formed my own consulting
16 firm which is the firm I have today, E911-LBS Consulting.
17 And I -- the genesis of that was in the mid to late
18 1990's I was getting heavily into the wireless world,
19 mobile world. And in particular I did a project for what
20 was then Nextel, which no longer exists but it was
21 absorbed by Sprint, to help them develop their location-
22 based services strategy. That was in reaction to the

1 passage of the 1996 Telecommunications Act that required
2 carriers to be able to track cell phones. So I was part
3 of it, and Nextel wanted to understand how they could
4 potentially commercialize from the technology they were
5 being required to implement. So that became a passion of
6 mine, and then when I left Accenture I formed my own
7 consulting company to focus on that kind of work.

8 Q. So LBS, I gather that means location based
9 services?

10 A. Correct.

11 Q. For the lay person, what does that mean?

12 A. It's utilizing a person's -- place or thing --
13 location in the form of a device that can determine your
14 location such as by a GPS chip to provide additional --
15 to provide some sort of services based in part or in full
16 on whatever that location is. So the easiest example of
17 that is a navigation application in terms of determining
18 where you are, where you want to go, how you want to get
19 there.

20 Q. Okay. And your function at that time or the
21 technology at that time that you were involved in focused
22 mainly on identifying a user's location?

1 where they were and they ended up dying or other stuff.

2 And so as part of the broader '96 Act, congress mandated
3 that the wireless carriers had to find certain percentage
4 and types of phones over the next several years in order
5 to address that.

6 Q. So if I understand your testimony correctly, in
7 the early 2000 time frame the focus in the wireless area
8 with respect to location based services was to know where
9 the user's location was so as to comply with the Act?

10 A. Yes, that was the primary focus of the wireless
11 carriers who were the primary people interested in that
12 technology.

13 Q. And you were actively involved in helping
14 customers or clients who were involved in the wireless
15 space with designing and implementing systems that would
16 help them identify a user's location?

17 MR. MESSINGER: Objection.

18 A. That was part of my work, yes.

19 Q. (By Mr. Handal) Was there anything else?

20 A. Well, various work associated with that.

21 Again, finding a person's location, as important as it
22 was, was really the tip of the iceberg. It's what you

1 did with that location afterwards that ultimately
2 provided the value of whether it was interfacing with
3 emergency responders or ultimately providing other type
4 of navigation child-tracking services.

5 Q. So at that time I think what you're telling me,
6 and we're talking the early 2000 time period here, there
7 was also an interest in using that information about the
8 location of the user for tracking children and allowing
9 911 or emergency personnel to locate the user or for
10 navigation?

11 A. Yes. The wireless carriers, again the primary
12 people interested in this being mandated to implement
13 that technology with no revenue associated with it, that
14 was one train of activity, hence my catchy name E911.
15 And then the other train of activity was, okay, since
16 we're spending billions of dollars, is there some way we
17 can make some money out of it. And that was looking at
18 what I characterize as the commercial location based
19 services side of things. You know, navigation and
20 children tracking were deemed as being two of the killer
21 apps for that technology at that time.

22 Q. Okay. Any other so called killer apps or any

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1 other apps that you're aware of at that time that related
2 to this location based protocol?

3 A. Those were the primary ones, certainly not the
4 only ones. But in terms of wireless carrier focus and
5 experimentation, that was the primary one. There were
6 still many issues involved to even essentially preventing
7 those applications to becoming a reality such as
8 communications network speed and limitations of the
9 devices at that time.

10 Q. All right. So is it safe to say that in the
11 early 2000 time period the emphasis in the location based
12 services consulting field that you were involved in was
13 locating or identifying the user's location? That was
14 the focus of that business that you were involved in?

15 MR. MESSINGER: Objection, form.

16 A. And the -- and all of the related work needed
17 to actually be able to utilize that information. So I
18 would append that to what you said.

19 Q. (By Mr. Handal) Okay. And that work needed to
20 utilize that, I mean, I don't quite understand what the
21 appending is, so can you explain the appendage?

22 A. Well, in terms of a location based service

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1 where you've got the person's device on one end and then
2 maybe the person's device again or somebody else's
3 commuter device on the other end, there are many parts in
4 between that take the location that's derived either from
5 the device, or some carriers actually did it from
6 essentially network triangulation to put it simply, and
7 then being able to take that location, make it into a
8 usable form like an address, being able to put it into an
9 -- getting that data through a network into some sort of
10 computer server to be able to analyze or process that
11 data into some other form, you know, child tracking and
12 then what have you, or navigation, and then provide that
13 information, modified information in whatever new form,
14 back out to that same said user or to somebody else. So
15 when you say -- you can't just say, when you're talking
16 about a location based service, that it's all about the
17 location. There's many other piece parts that actually
18 then need to be utilized in order to get to something
19 that is usable to that user or somebody else.

20 Q. I think I understand you. So when I say about
21 the location of the user, the information from the user
22 is just one part of a series of technologies that need to

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1 come into play in order to understand where the user is
2 or what the user's location is? Is that what you're
3 saying?

4 A. Partly.

5 Q. Let me ask it this way. So the user's device
6 would be what?

7 A. User's device, the mandate was around mobile
8 phones.

9 Q. So in the context of your experience, the
10 user's device was a mobile phone?

11 MR. MESSINGER: Objection, form.

12 A. At that time the focus was on a mobile phone.
13 There are many other devices that are not -- were not
14 part of the mandate that certainly in today's world,
15 whether it be dedicated, you know, GPS trackers you could
16 slap on a car or asset management for tracking a boat or
17 whatever, or finding your lost computer or wearable
18 stuff, there's almost no limit now to the types of
19 devices. Back then the focus was mobile phones.

20 Q. (By Mr. Handal) Okay. Listen to my question.
21 At the time that you were involved in this project, in
22 these projects back in the early 2000's, very late

1 1990's, the focus was on the user's phone, or were there
2 other technologies that you were involved with?

3 A. Yes. Because the way -- the FCC gave the
4 carriers, say you tell us how you're going to implement
5 this. Half the carriers went the phone, hey, let's put a
6 GPS chip. The other half said, no, that's too expensive,
7 we don't want to retrofill all our phones, blah, blah,
8 blah, we're going to figure it out from our network. And
9 ultimately it's let's do some sort of network
10 triangulation, compute the location within our network,
11 and get the location that way. So to answer your
12 question, was it a focus of the phone? Ultimately, you
13 wanted to get the location of the phone; how it was done
14 varied.

15 Q. So your experience is with a device that the
16 user would presumably be in possession of and then you've
17 just identified two protocols, one with GPS and one using
18 network triangulation. Those were essentially it in that
19 time period, right?

20 A. Yes.

21 Q. All right. And what was the state of the art
22 with respect to GPS technology in that early 2000 time

1 frame?

2 MR. MESSINGER: Objection, scope.

3 A. It was not embryonic, but it wasn't mature at
4 least for commercial purposes. The global positioning
5 satellite system had been in operation, I believe, since
6 the '80's and various other types of satellite base like
7 differential -- well, other types of satellite based
8 location systems had been utilized by the military even
9 before that. But it wasn't really until this mandate
10 forced everybody's hand that the commercial use of GPS
11 really started to attract interest.

12 Q. (By Mr. Handal) So it was at the early stages
13 of its development?

14 A. Yes, and so the -- it was, in terms of GPS chip
15 development, for example, the GPS chip manufacturers at
16 that time up to then hadn't really had to worry about the
17 box that it was in and the antenna array because the box
18 could be big and the antenna could be big, where now you
19 had to stuff it inside a pretty small device and you had
20 limitations in terms of what a user would accept in terms
21 of antenna size and of course in particular battery power
22 and all sorts of other issues that weren't really issues

1 up to that point in terms of the military, or not nearly
2 as big a issues. And so then of course the cost
3 associated with getting those into phones and then
4 everything about swapping them out and the end user base.
5 So there's a lot of issues that had to be dealt with.

6 Q. Okay. Now, with respect to the engagement that
7 you were involved in for Nextel, what systems or system
8 were they looking at? Were they looking at triangulation
9 base or GPS base?

10 A. GPS.

11 Q. And with respect to the GPS based technology
12 that you were involved in helping them develop, what
13 function did you play?

14 A. A couple different ones. One was leading the
15 development of what I call their location based service
16 strategy, which essentially was, in a nutshell, how do we
17 make money out of this technology we are being forced to
18 implement? What products seem to be of high potential?
19 What are the product requirements for that? What are the
20 technology underpinnings associated with that in terms of
21 how we get location, in particular what we do with the
22 location information once we get it, processing it,

1 Q. So prior to middle of last year were the words
2 "context aware" used in your CV at all?

3 A. I'm not sure. Yes, it was. In Page 3, the
4 Nextel description which is the fourth bullet point, the
5 last sentence, and I'm pretty sure that hasn't changed
6 for awhile.

7 Q. You're pretty sure that hasn't changed for
8 awhile. Is that what your testimony is?

9 A. I think so.

10 Q. How long is awhile?

11 A. I don't know. It could be years.

12 Q. And that's in connection with the Nextel
13 engagement that you talked about earlier?

14 A. Correct.

15 Q. So was there an element of context awareness in
16 that Nextel engagement?

17 A. Yes.

18 Q. What was that?

19 A. As part of the location based services strategy
20 development, as part of the strategy part was looking
21 down the road as to what else might be used besides
22 location in terms of providing different types of

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1 services to people. So among other things, we engaged
2 with a variety of firms to essentially help do brain-
3 storming, projections, future projections, that type of
4 visionary type stuff. For example, a company called Roku
5 where it was developing -- not the Roku that's known
6 today, I don't think they exist anymore. But to
7 incorporate other elements, Roku is around the seven
8 Japanese senses, who, what, when, how, why kind of thing
9 to really get into how can we develop the presence, how
10 can we really know what a person is doing to help tailor
11 whatever services we have to really meet their needs. So
12 that was kind of a significant side project in terms of
13 doing that exploration.

14 Q. Okay. Let me understand this a little bit more
15 clearly. First of all, it was strategizing forward-
16 looking projects. Is that your testimony?

17 MR. MESSINGER: Object to form.

18 A. That was -- the Nextel engagement, while having
19 the primary purpose of developing a location based
20 service strategy in the overall enabling infrastructure,
21 there was an additional smaller project helping doing
22 kind of present -- what is presence, what kind of future

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1 services, what kind of things people will need, presence
2 being the foundation of what those applications might
3 need.

4 Q. Okay. But listen to my question. The
5 involvement in context with respect to the Nextel
6 engagement was in brainstorming and strategizing the
7 development of future apps, true?

8 A. That was part of it.

9 Q. Okay. So that was part of it. Was there any
10 implementation?

11 A. Of presence?

12 Q. We're talking about context aware.

13 MR. MESSINGER: Objection, form.

14 A. At that time, no.

15 Q. (By Mr. Handal) No, okay.

16 A. The technologies required for such context
17 services were far outstripped what was available at that
18 time.

19 Q. What do you mean by that? So it just wasn't
20 feasible to do at that time?

21 A. Correct.

22 Q. And they recognized that at that time?

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1 MR. MESSINGER: Objection, form.

2 A. Yes.

3 Q. (By Mr. Handal) And you recognized that at
4 that time?

5 MR. MESSINGER: Objection, form.

6 Q. (By Mr. Handal) Right?

7 A. I came to recognize it, particularly given the
8 challenges that we were having just getting location, let
9 alone any other types of information.

10 Q. Okay. So what specific context awareness were
11 you discussing with Nextel in or about that time frame
12 specifically?

13 A. Specifically, for example, local search which
14 as its known today is, you know, you want to find out the
15 nearest McDonald's, you type in McDonald's and presumably
16 your location is on and it will print and bring up
17 hopefully the closest McDonald's. That kind of
18 discussion was going on, but the problem is, then as well
19 as now, just what you type in may or may not be what it
20 is you originally intended. You might want to seek out
21 employment opportunities at McDonald's, for example,
22 instead of finding a place to eat. So the discussion

1 would be around presence, well, what other information
2 might help us pinpoint or refine that. So instead of
3 pulling up a McDonald's location, we bring up the
4 McDonald's website or something like that.

5 So that was the kind of, you know, additional
6 information that will ultimately tell us or get us to why
7 it is you're typing McDonald's, and that's not just
8 location. That potentially could be when you're doing
9 it, past history. It could be potentially -- not in
10 McDonald's case probably, but potentially other sensory
11 data which were limited at the time, but broadly we were
12 brainstorming. So it's much further beyond again getting
13 to the context so hopefully whatever application you were
14 doing got as close to your reason for doing whatever you
15 were doing instead of being way off the mark.

16 Q. So the reason for doing whatever you were
17 doing, that's what it was related to?

18 A. That was an example which was important in
19 terms of local search. Other applications would have
20 potentially other reasons for what you were doing.

21 Q. Name one. And I want you to confine your
22 answer to what you were discussing at that time, not

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1 based on what you know today. At that time what were you
2 guys talking about?

3 A. Nextel at that time was very business customer
4 oriented, so the majority I think -- so in particular
5 what I would characterize as blue collar careers or
6 applications was their primary focus, so whether it was
7 field service type dispatch or plumbers or what have you.
8 So one of the applications was around understanding what
9 field service personnel were doing and what their state
10 of activity was for the purposes of, for example, being
11 able to get three field service technician visits in in a
12 day instead of two. Obviously that has a bottom line
13 impact. And so as part of that it involved tracing and
14 tracking where your various field service technicians
15 were. But location, while it may help in kind of
16 optimizing routes, it didn't necessarily help in doing
17 other things like scheduling and those kinds of things.
18 So the concept of context would be brought up in that
19 kind of context.

20 Q. Okay. So hold on a second. You're talking
21 about the status of field service employees, you said
22 that?

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1 A. Yes.

2 Q. Okay. Specifically how would the system --
3 what were you contemplating at that time, not today, that
4 the system would report in terms of status of the field
5 workers --

6 MR. MESSINGER: Objection, form.

7 Q. (By Mr. Handal)-- other than where they are?

8 A. What they were -- what they were working on as
9 part of their field service, how long they --

10 Q. How would the system know that?

11 A. Well, you're asking to get into design
12 elements.

13 Q. Well, that's what you did.

14 MR. MESSINGER: Objection, form.

15 A. It was more strategizing, so identifying what
16 might be key requirements as opposed to the design
17 associated with implementing those requirements.

18 Q. (By Mr. Handal) So this was spitballing ideas
19 to what would be needed?

20 A. Not completely because you wanted it to be
21 hopefully not completely divorced from reality, but it
22 was primarily a vision-strategizing exercise.

1 Q. So primarily it was, like you said, a vision-
2 strategizing exercise?

3 A. Though, like I said, we engage with companies
4 like this Roku that had this Roku engine that would get
5 into what kind of information they could collect and how
6 it would be done and how it would be brought together, so
7 on and so fort. So we looked at that underlying
8 technology infrastructure. We didn't necessarily get
9 into design work using the Roku engine for a field
10 service context engine. We didn't get to that point.
11 But certainly there was both technology underpinnings, as
12 well as strategic underpinnings associated with that
13 effort.

14 Q. When you say we didn't get into it, who is we?
15 There were other people other than you?

16 A. Yeah, I worked with client teams like I always
17 do.

18 Q. In terms of any product, that would have been a
19 Roku product?

20 A. Actual tangible software, yes.

21 Q. You didn't work for Roku?

22 A. No.

1 Q. And you didn't have any vision into what their
2 program was at a foundational level?

3 A. Depending on what you call foundation, yes or
4 no. Foundation in terms of what it is they were trying
5 to do and how they would do it at a -- what I would call
6 a strategic technical level. Certainly we didn't get
7 into the programming. That's their intellectual
8 property.

9 Q. That was a very important function of that
10 engagement involving Nextel, at least from what you hear
11 from you?

12 MR. MESSINGER: Objection, form.

13 A. It wasn't what I would call critical to the
14 main engagements around the location based service
15 strategy and underlying infrastructure design work, but
16 it was a very interesting and could have possibly been
17 significant input into the location based services
18 strategy if we thought that there was a near term
19 opportunity to incorporate some of the presence concepts
20 into the location based services that we were -- strategy
21 that we were developing. We ultimately decided that was
22 probably outside the kind of the two-year window we were

1 looking at and, therefore, it was kind of off to the
2 side.

3 Q. Okay. So when you say here, on Page 3, product
4 strategy including researching and incorporating context
5 aware presence concepts into product device and network
6 engineering plans, in fact there was no incorporating of
7 any context aware presence concept into any product or
8 plan at that time, true?

9 MR. MESSINGER: Objection, form.

10 A. Well, there was in that it was the hope and
11 intent of bringing what was the findings of that effort
12 into the LBS strategy product. The ultimate end product
13 viewed the context aware aspect, parts of that, to be
14 outside of the immediate two-year scope of the LBS
15 strategy.

16 Q. I know, but sir, I'm looking at your resume,
17 and I can only take you at what you say either in writing
18 or in person, and you write, product strategy including
19 researching and incorporating, not researching but
20 researching and incorporating, context aware, slash,
21 presence concepts into product, slash, device and network
22 engineering plans. Now, it is true, is it not, that

1 there was no incorporating of any context aware presence
2 concept into any product device or network engineering
3 plan at that time?

4 MR. MESSINGER: Objection, form.

5 Q. (By Mr. Handal) True?

6 A. I would have to think about that beyond what
7 I've already said. I could see that, for example, it
8 influencing the need in the network design to have easy
9 what's now called the equivalent of application
10 programming interface, that was uncommon term back then,
11 but to essentially have more of an open architecture than
12 might otherwise have been decided upon because of the
13 ultimate need to interface with third parties such as
14 Roku down the road, as opposed to what was then very much
15 a proprietary closed system on part of practically all
16 wireless carriers.

17 Q. You're just kind of feeling that question now.
18 At the time, though, it is true, is it not, that there
19 was no incorporation of any context aware presence
20 concept into any Nextel product, yes or no?

21 MR. MESSINGER: Objection, form.

22 A. No immediate presence concepts were ultimately

1 included in what was essentially a two-year plan.

2 Q. (By Mr. Handal) Okay. Then tell me one concept
3 that was built into the system to leave open the
4 possibility of a context aware presence concept being
5 added later.

6 MR. MESSINGER: Objection, scope.

7 A. I would go back to the network openness as
8 opposed to a closed proprietary system.

9 Q. (By Mr. Handal) Open network versus a closed
10 proprietary network. But that has a whole bunch of other
11 different ramifications; doesn't it?

12 A. Such as?

13 Q. You're the expert.

14 A. That's a wide open question.

15 Q. So then are you telling me -- are you telling
16 me that deciding on an open network versus a closed
17 network was a determination just so that you could
18 incorporate context aware presence concepts down the
19 road?

20 MR. MESSINGER: Objection, form.

21 A. No. An open network versus closed is not a yes
22 or no question. You can have the vast majority of the

1 network being totally closed, but a small part of it
2 being, quote, open. So it wasn't -- if you're going
3 towards, you know, is this part of a grand strategic
4 vision of having an open network? No, it wasn't that big
5 a deal. It was just incorporating, okay, we need to make
6 sure we plan for the future and recognize we're very
7 likely going to deal with third party applications which
8 really weren't much in existence at that time. The
9 tendency for carriers was, if they couldn't build it
10 themselves, they weren't going to do it.

11 Q. (By Mr. Handal) So is it your testimony that
12 this issue of context aware and presence concepts was key
13 focus of what you did for Nextel back in the early 2000
14 period?

15 A. It was part of it. The primary focus was, as I
16 said, on location based services strategy as well as the
17 network infrastructure.

18 Q. Do you put your resumes online?

19 A. Yes.

20 Q. In fact several versions are available online;
21 are they not?

22 A. Well, ideally I only have one current one, but

1 A. Right.

2 Q. So is it safe to say that you added the line,
3 the sentence that exists in Google 104 after the date of
4 Exhibit 2004?

5 MR. MESSINGER: Objection, form.

6 A. Probably. It's possible that it was on there
7 before and I deleted it for space saving purposes or what
8 have you. But in all likelihood, I added it after that,
9 yeah.

10 Q. (By Mr. Handal) Also notably absent in the
11 expertise bullet listing on Page 1 is the presence,
12 slash, context aware expertise bullet?

13 A. Correct.

14 Q. In fact, looking at this CV the word context
15 isn't anywhere in it?

16 A. Correct, and as I stated, the resumes as I
17 would either update them or modify them were based on --
18 usually I would update or modify them based on particular
19 opportunities, and I would use phrases or terms most
20 relevant to those opportunities. When it comes to
21 presence and context, most people don't understand what
22 those are, so I don't bother putting it in.

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1 at my resume folder, has probably got 100 different
2 things, 100 different files in there, so it's hard for me
3 to say yes, I know exactly what this is, but it certainly
4 appears to be mine.

5 Q. Okay. Turning to Page 3, see the Nexus
6 location based strategy?

7 A. Uh-huh.

8 Q. But once again we don't see any reference to
9 context aware presence content?

10 A. Correct.

11 Q. And also in the bullet list of expertise you'll
12 note on the first page there is no reference to presence
13 or context aware applications?

14 A. Correct.

15 Q. I'll represent to you, but you can look if
16 you'd like, the word context or presence is not stated or
17 referenced in this CV anywhere.

18 MR. MESSINGER: Objection, form.

19 A. Yes, I would agree and I would reiterate, one,
20 I was either developing these resumes for what I viewed
21 as the broadest possible appeal, or more particularly I
22 would be updating it based on particular opportunities

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1 and usually in particular opportunities I would also
2 hopefully generally improve it and thus use that as my
3 general online resume. And again, for the purposes of
4 space saving and just general appability, people don't
5 really know what presence and context is. And I believe
6 I said at the beginning of all this that I probably -- or
7 I don't remember exactly when I added those words, but I
8 think I did it in response to a particular opportunity
9 prior to this one sometime last year. I just don't
10 recall.

11 Q. Hand you what's been marked 2006.

12 (Exhibit 2006 was marked for identification.)

13 MR. HANDAL: Same objection?

14 MR. MESSINGER: Yeah, objection,
15 authentication.

16 Q. (By Mr. Handal) Now, this is another 2015 March
17 CV. This is version 6-5. So you would have multiple
18 versions of the same CV?

19 A. Yes. Well, for as long as I can remember,
20 obviously the past few years since these all have the
21 same format, I've been tweaking the existing CV as
22 opposed to doing the wholesale change.

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1 Q. And how did you equate presence to context
2 awareness?

3 A. It was -- well, I equated them by equating
4 them. The general broad aspect of defining a context, I
5 believe, again this was what, 18 years ago, they liked
6 the word presence, I think, because it was catchy.
7 Though, it may well have had more industry use at that
8 time, I just wasn't aware of it.

9 Q. So about 18 years ago you equated in your mind
10 the term presence with context awareness?

11 A. Yeah.

12 Q. And you have no authority, no scholarly
13 writing, no technical journal that made that correlation
14 for you. It's a correlation you came up with?

15 MR. MESSINGER: Objection, form.

16 A. It was first introduced to me by a vendor.

17 Q. (By Mr. Handal) What was the state of context
18 awareness technologies 18 years ago?

19 A. Very -- it's not embryonic. Very, very early
20 in the maturity cycle. Again, you know, as you got into
21 discussion about context or presence, location was kind
22 of the coroner stone or critical element of providing any

1 sort of context or presence based services. And location
2 was at that time, again because of the FCC mandate and
3 E911, etc., was the myopic focus of most people in terms
4 of getting that. And anything else was kind of, well,
5 let's get the location part first and then worry about
6 other things. So I'm not sure that answered your
7 question.

8 Q. I'm not sure it did either.

9 MR. HANDAL: May I have the question?

10 (The requested portion of the record was
11 read by the court reporter.)

12 A. I would say it was focused on location as being
13 the key thing to get first before the ability to
14 implement other more fully context aware applications was
15 possible.

16 Q. But it is true, is it not, that 18 years ago
17 there were no context aware applications --

18 MR. MESSINGER: Objection, scope.

19 Q. (By Mr. Handal) -- that existed?

20 A. I did not do a search at that time. I was not
21 aware of any.

22 Q. You said 18 years ago, right? That's when you
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1 first became aware of presence?

2 A. The Nextel engagement which started '97, '98,
3 so that would be 18 years ago.

4 Q. Right. So at that time you equated in your
5 mind presence with context awareness?

6 A. Yeah.

7 Q. Except at that time, 18 years ago, there were
8 no context awareness applications that you were aware of?

9 MR. MESSINGER: Objection, form.

10 A. Yes, yes.

11 Q. (By Mr. Handal) Okay. And the only -- what I
12 get from your testimony is that when you use these terms,
13 you're talking about location, either E911 or location
14 based services, you're talking about the location, right?
15 That's the first block I think you said of --

16 A. Yeah, in my opinion location is a critical
17 element of determining context for many, if not most
18 possible applications.

19 Q. Okay. Is it a mandatory element?

20 MR. MESSINGER: Objection, scope.

21 A. No, it's not a mandatory element.

22 Q. (By Mr. Handal) In fact, it may have absolutely

1 nothing to do with context?

2 A. Correct.

3 Q. But you made that correlation 18 years ago and
4 coined the phrase -- strike that, you didn't coin a
5 phrase -- equated in your mind presence with context
6 awareness 18 years ago?

7 A. Yeah.

8 Q. And you didn't have any college courses in
9 context awareness; did you?

10 A. No.

11 Q. You didn't have any college courses in location
12 based services either; did you?

13 MR. MESSINGER: Objection, form.

14 A. College courses, no.

15 Q. (By Mr. Handal) Did you have any formal
16 education meaning at a school or technical school, trade
17 school, a university, postdoctorate, anything, formal
18 education in location based services?

19 A. Yes, and when I joined Hughes Aircraft Company
20 part of their coming on board process was education about
21 radar and how our radar works.

22 Q. Okay. Anything else?

1 A. There's a lot of commonalities.

2 Q. Like at the top there's some maybe priority
3 information which rolled the numbering down, but I'll
4 represent that the spec is all the same.

5 MR. HANDAL: You agree?

6 MR. MESSINGER: Yeah, we agree that it's a
7 common spec.

8 Q. (By Mr. Handal) So when I speak in terms of one
9 of the patents, although the references to the spec might
10 be a little bit off from other patents, the language --
11 I'll just offer that the language is all the same, okay?

12 A. Okay.

13 Q. And that's helpful. Now, what is the scope of
14 -- and I'm going to focus on the 523 patent. Do you know
15 the scope? You want me to show it to you?

16 A. Yes.

17 Q. You don't know? Why would you, right? Okay,
18 for the record it's marked -- it's previously been marked
19 as Google 1001 and this is appended to the IPR of the 523
20 patent.

21 MR. MESSINGER: Thank you.

22 Q. (By Mr. Handal) What's the scope of the 523

1 patent?

2 MR. MESSINGER: Objection, form.

3 A. As a colloquial summary, I would say it's the
4 concept of utilizing social signatures developed by using
5 sensor data, particularly light and acoustic sensor data,
6 to match to what's called social templates in order to
7 provide differing levels of information according to its
8 social hierarchy.

9 Q. (By Mr. Handal) Okay. Now, have you developed
10 an opinion as to what a person of ordinary skill in the
11 art concerning the 523 patent is?

12 A. Yes.

13 Q. And what is your opinion? What is a person of
14 ordinary skill in the art in your opinion?

15 A. In my declaration I believe I wrote
16 specifically the parameters associated with that.

17 Q. Do you recall without looking at your
18 declaration?

19 A. I believe so, but I would like to look at it
20 anyway to be precise.

21 Q. That's okay. Tell me what you know.

22 A. In terms of deciding --

1 Page 6. In the petition -- now, you didn't write the
2 petition, right? Correct?

3 A. No.

4 Q. It was written by the lawyers, to the best of
5 your knowledge, right?

6 A. Well, I wasn't involved in it. I don't know
7 who wrote it.

8 Q. There's an articulation there under sub
9 paragraph B level of ordinary skill in the art. Do you
10 see that?

11 A. Uh-huh.

12 Q. Okay. Take a minute and read it.

13 A. I remember it now.

14 Q. You remember it?

15 A. Uh-huh.

16 Q. Is this a correct statement of what -- at least
17 in the context of the 523 patent?

18 MR. MESSINGER: Objection, scope.

19 Q. (By Mr. Handal) -- would a person of ordinary
20 skill in the art be?

21 A. I believe so.

22 Q. So a BC degree, you with a BS degree in

1 electrical engineering?

2 A. Yes.

3 Q. You don't have a degree in computer
4 engineering?

5 A. No.

6 Q. Or computer science?

7 A. No.

8 Q. Do you have a degree in any other equivalent
9 field?

10 A. I have an MBA, information systems management,
11 but not equivalent, no.

12 Q. In two to five years of academic or industry
13 experience -- you didn't have any academic experience?

14 A. No, other than obviously the degree.

15 Q. Okay. And it would have been two to five years
16 of then in your case industry experience?

17 A. Correct.

18 Q. And all of this is within the context of the
19 time of the filing of the patent?

20 A. Uh-huh.

21 Q. So we're talking 2010 time frame?

22 A. Right.

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1 Q. So you would have had to have two to five years
2 of academic -- strike that.

3 You have an electrical engineering degree and
4 you would have had to have two to five years of industry
5 experience in mobile communication and context awareness
6 in order to qualify you as a person of ordinary skill in
7 the art?

8 A. Correct.

9 MR. MESSINGER: Objection, scope.

10 Q. (By Mr. Handal) Now, with respect to mobile
11 communication, the aspect here of mobile communication,
12 what do you understand that discipline to be?

13 A. Well, it can cover a lot of ground.

14 Q. Right.

15 A. Huge amount of ground, but generally it's for
16 -- involved technology aspects or any aspects, but
17 technology aspects involving the use of mobile devices to
18 communicate with other people, utilize various services,
19 you know, essentially wireless versus wireline at its
20 most simplicity.

21 Q. You would agree with me, would you not, that
22 just having two to five years of industry experience in

1 just mobile communication would not necessarily qualify
2 somebody as a person of ordinary skill?

3 MR. MESSINGER: Objection, scope.

4 A. No, because that is what I wrote is a person of
5 ordinary skill of the art, so I wouldn't agree with that.

6 Q. (By Mr. Handal) But you add there, there's a
7 qualifier in the POSA, P-O-S-A, in the POSA definition as
8 somebody having two to five years of industry experience
9 in mobile communication and context awareness?

10 MR. MESSINGER: Objection, form,
11 misleading.

12 Q. (By Mr. Handal) So going back now, would you
13 agree with me that somebody who only has two to five
14 years of industry experience in mobile communication may
15 not qualify as a person of ordinary skill in the art
16 concerning the patents?

17 MR. MESSINGER: Objection, form.

18 A. You mean without the context awareness?

19 Q. (By Mr. Handal) Yes.

20 A. It's very possible since mobile communications
21 covers a lot of ground, there could easily -- someone
22 could specialize in it and not be exposed to context

1 awareness.

2 Q. So you could see where individuals who have
3 mobile communication industry experience of two to five
4 years in 2010 may still not have the requisite skill in
5 the art concerning the 523 patent in 2010?

6 MR. MESSINGER: Objection, scope.

7 A. It's possible.

8 Q. (By Mr. Handal) So to be sure, the person of
9 ordinary skill would have to industry experience in
10 mobile communication and context awareness?

11 A. Yes.

12 MR. MESSINGER: Objection, form, scope.

13 Q. (By Mr. Handal) You agree?

14 A. Yes.

15 MR. HANDAL: Now it was a form of the
16 question.

17 Q. (By Mr. Handal) Now you read the 523 patent?

18 A. Yes.

19 Q. It's Google 1001, I gave it to you earlier.
20 What was the problem that the patentee was trying to
21 solve?

22 A. Well, I believe it gave a variety of

1 going through aspects is to highlight or bold or
2 underline, or whatever, get to the heart of whatever it
3 is we're talking about.

4 Q. (By Mr. Handal) Okay.

5 A. That explanation kind of applies to all the
6 claim elements. Obviously not all claim elements are
7 equal, so some seem very straightforward or maybe not
8 that important to the overall discussion. Others that
9 seem much more important or critical, you know, I either
10 authored or edited dramatically just depending on what my
11 opinion was.

12 Q. Let me ask you this. What do you understand is
13 103 obviousness?

14 A. Where two or more patents can be combined to
15 teach the same elements as whatever it is you're trying
16 to compare it to.

17 Q. Okay. Let's go to paragraph ten of your
18 declaration.

19 A. Yes.

20 Q. Page 12, paragraph ten, you write that you
21 provide services across the entire wireless value chain
22 particularly with respect to technology and business

1 strategic planning and product design and development
2 associated with location based services, LBS. I'm
3 focusing on the phrase product design. What products did
4 you design?

5 A. Well, I mean starting from my Hughes aircraft
6 days in terms of the A to D, analog to digital --

7 Q. Let me ask you, within the last -- since 2005,
8 what products did you design?

9 A. My work for AT&T involved several products
10 ranging from the AT&T family map to loop social
11 networking to a variety of other applications, and while
12 all of those, the core applications were provided by
13 third parties, I provided and led the implementation of a
14 lot of the surrounding design elements associated with
15 that. For example, I've got listed in here a patent that
16 I'm a co-inventor on called method and apparatus for
17 mobile social network and privacy. That was a design
18 that I was a co-inventor on around the implementation of
19 the loop mobile social networking product. So while the
20 core application was provided by a third party, I was
21 integral to the design of everything associated with how
22 AT&T wanted to implement their privacy policies, so

1 disclose the social hierarchy; is that correct?

2 MR. MESSINGER: Objection.

3 A. All the social signature does is disclose a set
4 of sensor readings, sensor information.

5 Q. (By Mr. Handal) That's it?

6 A. That's it.

7 MR. HANDAL: Okay. Let's take a break.

8 (A short break was taken.)

9 MR. MESSINGER: I'm just going to turn my
10 cell phone on just in case, for whatever reason.

11 MR. HANDAL: Yeah.

12 Q. (By Mr. Handal) Okay. Have you read Miluzzo?

13 A. Yeah.

14 Q. When was the last time you read Miluzzo?

15 A. Yesterday.

16 Q. What about Robarts?

17 A. Yesterday.

18 Q. Yesterday? When did you first read the 523
19 patent?

20 A. Whenever it was originally sent to me. I don't
21 remember when that is, frankly.

22 Q. Was it one of the first pieces of information

1 that was sent to you?

2 A. The patents themselves, yes, as part of the
3 search process besides wanting to know if you feel you
4 can provide expert services relevant to the patent sales.
5 They want to make sure you don't have any conflict. So
6 the patents were pretty much the first thing I looked at.

7 Q. So you got a packet and it contained the
8 patents and you read the packets. This is early on in
9 your engagement?

10 A. Yes.

11 Q. And then at some point you must have gotten or
12 received some more information?

13 A. Yes.

14 Q. And can you describe what that information was
15 that you received in the next round?

16 MR. MESSINGER: Objection, form.

17 A. Let's see. The supplemental exhibits, though
18 they kind of came straggling in at various places.

19 Q. (By Mr. Handal) You mean the Google 102, all
20 the exhibits?

21 A. Yeah, the supplemental.

22 MR. MESSINGER: Objection, form.

1 your blood pressure or your wind speed or the date and
2 time, none of the derived attributes would be any
3 different than the original inputs.

4 Q. Have you heard the term sensor value range?

5 A. Yes.

6 Q. Where?

7 A. Throughout the various patents. In particular
8 Robarts uses the word range of values.

9 Q. But the specific phrase sensor value range is
10 used in the 523 patent?

11 MR. MESSINGER: Objection, form.

12 A. I would have to read it again to see if those
13 specific three words together are used like that. But
14 concept certainly is in there.

15 MR. MESSINGER: I think we need to prepare
16 or at least get ready for that call.

17 MR. HANDAL: Let's take a break.

18 (A short break was taken.)

19 Q. (By Mr. Handal) Looking at Miluzzo, can you
20 explain the architecture -- I'm sorry, Robarts. Can you
21 explain the architecture of Robarts?

22 A. In general, the architecture in my view is

1 centered around the selection of a theme, so it utilizes
2 essentially input a variety of processing capabilities in
3 the form of context servers, characterization systems,
4 context modules, and then provides a variety of outputs.
5 And so as we had talked about before, we had inputs going
6 through the context module, outputting as needed, a set
7 of derived or derived attribute according to the logic
8 associated with a context server.

9 Q. Let me direct you to figure 4 in Robarts.

10 A. Okay.

11 Q. Would you conclude that figure 4 sets forth the
12 basic architecture of the invention?

13 A. It would set forth the core process.
14 Architecture is a word I more closely associate with
15 technology elements as opposed to a process flow which is
16 what figure 4 is.

17 Q. Essentially you'll agree with me that Robarts
18 architecture starts with the selection of a theme?

19 A. In this process diagram, yes.

20 Q. That's basically the -- an essential element of
21 the architecture of Robarts; is it not?

22 MR. MESSINGER: Objection, form.

1 A. The selection of the theme is based on the
2 sensor data. So theme is not selected before sensor data
3 is received.

4 Q. (By Mr. Handal) But looking at -- show me a
5 figure where that -- that your statement there is
6 illustrated?

7 A. Well, it discusses themes set, so it's the
8 possible themes by which you could then compare the
9 actual sensor data against. So while the processing may
10 be a little different than say the 523 patent which
11 starts with the data set, the end result in my opinion is
12 the same thing.

13 Q. Okay. But with respect to Robarts, however,
14 the essential -- an essential element of the architecture
15 of Robarts is some selection of a theme or theme set?

16 MR. MESSINGER: Objection, form.

17 A. Yes, based on sensor data.

18 Q. (By Mr. Handal) How is -- looking at figure 4,
19 I don't see how sensor data is in any way used in
20 connection with selecting a theme set. I'm looking at
21 Box 402.

22 A. In my opinion, it's just a question of order

1 with the same process. So instead of say in the 523
2 patent where you get your data first and then you compare
3 it to a variety of potential templates, in figure 4 you
4 start with a laundry list of templates, get your data,
5 and then in the third process flow you actually process
6 those signals in order to find the appropriate one. So
7 it's just a matter of design approach, for lack of a
8 better phrase.

9 Q. Design? You think it's just design selection
10 to have the themes come up first?

11 A. Yes.

12 Q. Your description of 523, the 523, and Robarts
13 essentially differ in that you have sensor data come in
14 and then use to select a template. That's what you said,
15 right?

16 A. Yeah.

17 Q. In Robarts a theme set is selected first and
18 then your testimony was that there's an interplay
19 involving sensor data?

20 A. Right.

21 MR. MESSINGER: Objection, form.

22 Q. (By Mr. Handal) But actually it's an interplay

1 That's a form of a sensor. Driving direction sensors a
2 compass.

3 Q. You're mixing stuff up here because the
4 attribute is what goes into the theme, not whether the
5 ignition switch is on or off or the direction. The
6 attribute is a process -- the attribute is a product of a
7 process that occurs within the context server, right?

8 A. The way the architecture is has a context
9 server between the input and the attribute output, but as
10 we discussed before, it may well be that nothing happens
11 in the context server. If you've got a driving direction
12 compass that says west, what more modification or
13 analysis do you need? None.

14 Q. That takes me to the next question. What does
15 Robarts describe happens in the context server?

16 MR. MESSINGER: Objection, form.

17 Q. (By Mr. Handal) What does it teach occurs in
18 the context server?

19 A. It's the combining of the attributes in terms
20 of the theme. So it's not just one sensor value to
21 determine context like I'm driving west. It is the
22 combination of various attributes such in this case, yes,

1 you're driving and you're driving west and coming to the
2 conclusion that you meet the theme which is driving to
3 work. So that's what the context server does is take
4 those attributes and process and try and identify what
5 theme is appropriate.

6 Q. But how? I mean how? Is there an application
7 for it? Is it some kind of logic? Some kind of
8 programming? Some kind of firmware? Is it voodoo? How?
9 It doesn't describe it anywhere; does it?

10 MR. MESSINGER: Objection, form.

11 A. It gives -- in terms of programming language,
12 no, it doesn't provide the programming language. So at
13 some point you have to go back up from that in terms of
14 what level of detail is enough to describe intellectual
15 property versus being a blueprint for actually
16 implementing something. So it describes a context
17 server. It provides a whole variety of different
18 diagrams in terms of how the context server interphases
19 with other pieces, various data structures in particular
20 and the outputs. So that's a lot of how there, even if
21 it doesn't get to the point of programming language or,
22 you know, detailed specifications.

1 Q. So it's a lot of suggestion, but it doesn't
2 tell you how the information that comes into the context
3 server is processed in a way that you have a derived
4 attribute? Isn't that true?

5 MR. MESSINGER: Objection, form.

6 A. It provides a lot of the information you would
7 need to get to the how of a level of programming. So --

8 Q. (By Mr. Handal) Stop. It gives you enough
9 information to give you the how to get to a level of
10 programming. That's your testimony, right?

11 A. It does not provide any actual programming.

12 MR. MESSINGER: Objection.

13 Q. (By Mr. Handal) Okay. And there are no figures
14 anywhere in Robarts that describe the process, the
15 algorithms, the process that goes on in the context
16 server, right?

17 A. I would have to relook at the information to
18 see, there are a lot of process diagrams in here, to
19 refresh myself on what components of any of those process
20 diagrams are actually done by the context server or not.
21 So I can't answer that question.

22 Q. Okay. Well, why would -- you state in your

1 different footing? Miluzzo starts with sensor data;
2 Robarts starts with themes.

3 MR. MESSINGER: Objection, form.

4 Q. (By Mr. Handal) I mean to go through the
5 process of each --

6 A. Not being a legal viewpoint, but it's -- if all
7 the process flows and architecture diagrams and
8 everything associated to that were the same, then they
9 would be redundant patents. So it's to be expected that
10 they're going to take different processes or different
11 approaches to what is, for the most part, fundamentally
12 similar issues.

13 Q. But if you're going to combine art, they need
14 to work together, right?

15 MR. MESSINGER: Objection, form.

16 A. Yeah.

17 Q. (By Mr. Handal) Yeah, they do. So if you have
18 starting point A, which is starting with sensor data, as
19 the beginning of the process flow to come to a
20 conclusion, then how do you integrate a process that
21 starts with essentially a conclusion and goes through a
22 verification process to verify the conclusion with sensor

1 data? I mean they're backwards with one another; aren't
2 they?

3 MR. MESSINGER: Objection, form.

4 A. Well, as I discussed before, I don't
5 necessarily think that they're backwards. But
6 regardless, you know, as you get more detail closer to
7 implementation, it starts to move from a question of
8 intent to more of a question of design choices based on
9 whatever happens, whatever happens to be your particular
10 situation.

11 Q. (By Mr. Handal) Let's talk about design choice.
12 If the original design of Miluzzo -- not if. The
13 original design of Miluzzo is to start with sensor data
14 and then go through a process to identify, what you said
15 in your declaration, the context or presence of the user.
16 I got it correct?

17 A. Yeah.

18 Q. You take Robarts and it starts with the theme
19 or the context or presence of the user and then goes
20 backwards to verify the correctness through attributes
21 and sensor data, then essentially they're working
22 backwards from one another?

1 A. Well, light and sound examples are, for
2 example, described in Miluzzo which is before the benefit
3 date, and in terms of a broader context discussion in
4 aspects around, for example, local search in trying to
5 determine accurately what the context was associated with
6 that, you know, there was multiple discussions in the
7 local search world which I happen to be aware of in terms
8 of how can we improve that. Can we improve it by, for
9 example, night versus day which would imply light or what
10 other attributes could possibly be used above and beyond
11 in addition to location.

12 Q. Why didn't you put that in your declaration
13 because you just make the statement without the support?

14 MR. MESSINGER: Objection, form.

15 A. Hard to say. Didn't occur to me.

16 Q. (By Mr. Handal) Page 84, paragraph 129, in the
17 middle you write, presence as used in Miluzzo is the same
18 concept as context or contextual awareness used by
19 others. Where does it say that?

20 A. That is my opinion. I cannot recall whether
21 Miluzzo specifically says something to the effect of
22 presence equals contextual awareness. I would have to

1 look back at Miluzzo.

2 Q. Not that I've been able to find. So that's
3 your opinion?

4 A. Yes. Certainly the various descriptions and
5 elaborations are examples around presence in terms of
6 settings or situations or what have you, I believe, are
7 very consistent between the terms.

8 Q. Okay. So going down that paragraph, you say
9 that Miluzzo uses microphones and cameras and smart
10 phones to detect a noise index and brightness index to
11 infer a present status of a user. Is that what it does?

12 A. In that example, yes.

13 Q. And then you go on, the user's present status
14 allows the system to infer information about the person's
15 surroundings?

16 A. Yes.

17 Q. And then you add to detect the current context
18 -- to detect the current contest the user is
19 experiencing, that's your add on, right?

20 A. Yes.

21 Q. Page 85, paragraph 131, you write at the end,
22 thus POSA would have been motivated to seek out a

1 Q. That's not a quote. That's your distillation
2 from paragraph 157?

3 A. Yes.

4 Q. Then you write, if the attributes are not
5 unique, comparison of attributes could result in more
6 than one selected themes?

7 A. Correct.

8 Q. Why is that a problem?

9 A. Well, if you had two themes that had, you know,
10 both had a noise level, for example, between 10 minus 60
11 decibels and a light level between 1 and 3 but they both
12 had essentially at the end of the day a different level
13 associated with a different social hierarchy, then come
14 programming time you get to, okay, let's go and do a
15 comparison and you get two different possibilities and
16 the software would blow up in addition to not providing
17 any insight to the user.

18 Q. So it wouldn't work?

19 A. Yeah.

20 Q. All right. Now, attributes are expressed in
21 Robarts as the current context, true?

22 MR. MESSINGER: Objection, form.

1 one theme?

2 A. Robarts describes that as one embodiment. I
3 don't think that that embodiment was either anticipated
4 or included in Miluzzo.

5 Q. But that wasn't my question. You do
6 acknowledge that under Robarts a set of attributes can
7 result in the selection of more than one theme, true?

8 A. Robarts does describe one embodiment along
9 those lines.

10 Q. So it describes that. So I was correct?

11 MR. MESSINGER: Objection, form.

12 Q. (By Mr. Handal) So let's go to paragraph 142.
13 Now we're talking about what a POSA, you, would have
14 understood. You write, a POSA would have understood that
15 Robarts' attributes in each theme have to be unique
16 because Robarts' system uses comparison of attributes to
17 select one single appropriate theme. You go on, if the
18 attributes are not unique comparison of the attributes
19 could result in more than one selected theme.

20 A. Correct.

21 Q. So now, would it also be true that a POSA would
22 also understand that in some embodiments in Robarts a set

1 of attributes could result in the selection of multiple
2 themes?

3 MR. MESSINGER: Objection, form.

4 A. It is possible. I would strongly suspect, I'm
5 not sure if this wording is in there anywhere, that
6 Miluzzo assumed a mutually -- what I would call a
7 mutually exclusive model in terms of outcome, you're
8 either doing one thing or another and it's impossible to
9 do both and therefore you would want that reflected
10 accordingly, or in Robarts they went more extensive,
11 which is not surprising given their -- the focus of their
12 overall patent is improving contextual modeling
13 techniques.

14 Q. (By Mr. Handal) Okay. But wait a second. Now
15 we've essentially arrived at a point where a POSA would
16 have to now understand that under Robarts multiple themes
17 can be selected from the same set of attributes, true?

18 MR. MESSINGER: Objection, form.

19 Q. (By Mr. Handal) I mean yes or no?

20 A. Again, it would depend on the mindset of the
21 POSA.

22 Q. Yeah, I guess.

1 A. Whether you're in a mutually exclusive frame of
2 mind or you're really trying to build a complete
3 contextual that I'm at work, in a meeting, talking, etc.

4 Q. Hold on a minute.

5 A. So I can't answer absolutely yes or no, which
6 is where I think you're trying to get me.

7 Q. But a reasonable person skilled in the art
8 reading Robarts would know that Robarts in at least one
9 embodiment recognizes that a set of attributes could
10 result in the selection of multiple themes?

11 A. They would read that, yes.

12 Q. Okay. So it's important then when you're
13 combining Robarts with Miluzzo to make sure, because
14 Miluzzo is about identifying the user status -- that's
15 what Miluzzo is about?

16 A. Yes.

17 MR. MESSINGER: Objection, form.

18 Q. (By Mr. Handal) So when you write in paragraph
19 44 it would have been obvious for a POSA to modify
20 Miluzzo's inference engine to incorporate Robarts' themes
21 and user context recognition because both Miluzzo's
22 inference engine and Robarts's themes --

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(SIGNATURE WAIVED BY AGREEMENT

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OF COUNSEL AND CONSENT OF WITNESS.)

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