

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

GOOGLE INC.,)	
)	Case No.:
Petitioner,)	IPR2014-01340
)	
vs.)	
)	
VISUAL REAL ESTATE, INC.,)	
)	
Patent Owner.)	VOLUME 1
)	PAGES 1 - 173

Chapel Hill, North Carolina

Wednesday, April 22, 2015

Deposition of HENRY FUCHS, Ph.D., called for examination by counsel for Respondent, pursuant to the Notice of Deposition, the witness being duly sworn, and the testimony being taken by AMY A. BRAUSER, RMR, CLR, Registered Merit Reporter and Notary Public in and for the State of North Carolina, taken at the Sheraton Chapel Hill, 1 Europa Drive, Chapel Hill, North Carolina, commencing at 9:02 a.m., Wednesday, April 22, 2015, and the proceedings being taken down by Stenotype by AMY A. BRAUSER, RMR, CLR, and transcribed under her direction.

1 APPEARANCES:

2 On behalf of the Petitioner:

3 DAVID S. ALMELING, ESQUIRE

4 O'Melveny & Myers LLP

5 Two Embarcadero Center, 28th Floor

6 San Francisco, California 94111-3823

7 (415) 984-8959

8 (415) 984-8701 (Fax)

9 dalmeling@omm.com

10 (and)

11 RICK BISENIUS, ESQUIRE

12 Fish & Richardson P.C.

13 3200 RBC Plaza

14 60 South Sixth Street

15 Minneapolis, Minnesota 55402

16 (612) 766-2048

17 bisenius@fr.com

18 (and)

19 KIM H. LEUNG, ESQUIRE

20 Fish & Richardson P.C.

21 12390 El Camino Real

22 San Diego, California 92130

23 (858) 678-4705

24 (858) 678-5099 (Fax)

25 kleung@fr.com

1 On behalf of the Patent Owner:

2 JOSEPH P. KINCART, ESQUIRE

3 CAMILLE A. HIGHAM, ESQUIRE

4 Ideation Law, PLLC

5 P.O. Box 936

6 Vails Gate, New York 12854

7 (917) 962-0263

8 camille@ideationlaw.com

9
10 ALSO PRESENT:

11 William D. Meadow, MV Portfolios, Inc.

C O N T E N T S

THE WITNESS EXAMINATION BY COUNSEL FOR
HENRY FUCHS, Ph.D. PETITIONER RESPONDENT
By Mr. Kincart 5

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EXHIBITS MARKED

NUMBER		PAGE
Exhibit 2070	County parcel data for 300 Skipper Bowles Drive	54
Exhibit 2071	Data for 300 Skipper Bowles Drive	54
Exhibit 2072	MPEP page 2173, Revision 6, Sept 2007	87
Exhibit 2073	Dictionary of Computer Terms Excerpt	89

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1 P R O C E E D I N G S

2 Whereupon,

3 HENRY FUCHS, Ph.D.,

4 was called as a witness by counsel for Respondent,
5 and, having been duly sworn by the Notary Public,
6 was examined and testified as follows:

7 EXAMINATION BY COUNSEL FOR THE RESPONDENT
8 BY MR. KINCART:

9 Q. Dr. Fuchs, I'm Joe Kincart, and I'm
10 representing the patent owner here. And just a
11 couple of basic ground rules. This is about you
12 today, right? Unfortunately, you're going to have
13 to answer all the questions. But if it starts to
14 get tiresome or you need a break for any reason, you
15 know, just tell me, I'll be happy to do that and
16 make sure that you're okay. The only thing that I
17 would ask is that you not take a break to receive
18 answers from counsel. Okay? That would be great.

19 MR. ALMELING: Counsel, before we
20 continue on any further it seems like we should
21 provide appearances for the record.

22 MR. KINCART: Okay.

23 MR. ALMELING: David Almeling,
24 O'Melveny & Myers, counsel for Petitioners and
25 the witness.

1 MR. BISENIUS: Patrick Bisenius,
2 Fish & Richardson, counsel for the witness and
3 Petitioners.

4 MS. LEUNG: Kim Leung, Fish &
5 Richardson, counsel for Petitioners and
6 witness.

7 MR. MEADOWS: Billy Meadows, MV
8 Portfolios, it's a parent company of Visual
9 Real Estate.

10 MS. HIGHAM: Camille Higham also for
11 Visual Real Estate for patent owner.

12 MR. KINCART: Joseph Kincart also
13 counsel for patent owner. And should probably
14 enter into the record that this is actually a
15 cumulative deposition for Case Number
16 IPR2014-01338, 01339, 01340 and 01341.

17 Is that all the formalities we need?

18 MR. ALMELING: I believe so.

19 MR. KINCART: Thank you.

20 BY MR. KINCART:

21 Q. I've looked over your résumé and it's very
22 impressive, and I can see that you received
23 two degrees?

24 A. Yes.

25 Q. And what was the first degree?

1 A. It was bachelor's in computer science.

2 Q. And when was that?

3 A. 1970.

4 Q. 1970.

5 And then it was followed on by an advanced
6 degree?

7 A. Yes.

8 Q. And when was that?

9 A. Ph.D. in 1975.

10 Q. Very good.

11 And you've been engaged in computer
12 science field since then?

13 A. Yes.

14 Q. Yes, and it's very, very impressive. And
15 as I go through this can you tell me about any
16 experience that you have that has to do with
17 street-level imagery?

18 MR. ALMELING: Objection, form.

19 BY MR. KINCART:

20 Q. Dr. Fuchs, can you point out in your
21 résumé where I can find relevant street-level
22 imagery?

23 MR. ALMELING: Objection, form.

24 THE WITNESS: Can I look at my
25 résumé?

1 MR. KINCART: Certainly.

2 BY MR. KINCART:

3 Q. Dr. Fuchs, is that your résumé?

4 MR. ALMELING: Counsel, perhaps we
5 should mark that as an exhibit, so that we are
6 clear on the record.

7 MR. KINCART: I think Camille is
8 working on that. I would like to enter into
9 the record --

10 MS. HIGHAM: This could be for -- we
11 can record Exhibit 1001, it is the declaration
12 of -- for Patent Number -- or for '181 Patent,
13 so it's Patent Number 7,389,181 and that is for
14 IPRs 2014-01338 and 1339, and it is actually
15 just the back portion of it. It's the back
16 portion of it, and here if you -- if this is
17 easier, this is separated out or if you want
18 the regular portion, that's fine. But it's
19 included in that same exhibit.

20 MR. ALMELING: To avoid any confusion
21 with the court reporter, the exhibits are
22 pre-marked pursuant to PTO procedure. And,
23 therefore, exhibits that are pre-marked do not
24 need to be marked pursuant to this deposition.
25 For exhibits that are used for the first time,

1 we will mark them pursuant to normal
2 procedures.

3 Counsel, is there a question pending?

4 MR. KINCART: A question, yes.

5 BY MR. KINCART:

6 Q. Dr. Fuchs, is this a copy of your résumé
7 that was submitted to the IPR?

8 A. Yes.

9 Q. Thank you.

10 And can you point out to me in the résumé
11 any experience that relates to street-level imagery?

12 MR. ALMELING: Objection, form.

13 THE WITNESS: Let me look.

14 (WITNESS REVIEWS DOCUMENT)

15 MS. HIGHAM: May I be excused for a
16 moment?

17 THE WITNESS: Can you repeat the
18 question and make sure I still have it in mind?

19 BY MR. KINCART:

20 Q. I'm sorry, let me try to rephrase the
21 question.

22 Please point out to me an item in your
23 résumé that is relevant to street-level imagery.

24 MR. ALMELING: Objection, form.

25 You can answer.

1 THE WITNESS: Paper 173.

2 BY MR. KINCART:

3 Q. Thank you.

4 Dr. Fuchs, are you a patent attorney?

5 A. No.

6 Q. Are you a patent agent?

7 A. No.

8 Q. Do you have any credentials in patent law?

9 MR. ALMELING: Objection, form.

10 BY MR. KINCART:

11 Q. Dr. Fuchs, does your résumé contain any
12 formal credentials in patent law?

13 MR. ALMELING: Objection, form.

14 THE WITNESS: Can you clarify the
15 question "credentials in patent law"?

16 BY MR. KINCART:

17 Q. There's -- any certifications in patent
18 law?

19 A. No certifications in patent law.

20 Q. Thank you.

21 Okay. Dr. Fuchs, are you aware of
22 industry players in street-level imagery in the
23 years from 2006 to 2008?

24 (WITNESS REVIEWS DOCUMENTS)

25 A. I don't know when I became aware of

1 industry players.

2 Q. Okay. So what year did you become aware
3 of street-level imagery?

4 A. I became aware of technology in
5 street-level imagery probably in the late '70s, I
6 would guess.

7 Q. Late 1970s?

8 A. Yes.

9 Q. Thank you.

10 And so on or about August of 2004, are you
11 familiar with a company called Blue Dasher? I'm
12 just going to walk through this.

13 A. I don't recall right now.

14 Q. Okay. And excuse me, I'm just going to
15 walk through them.

16 A company iLOOKABOUT?

17 A. I can't recall right now.

18 Q. Okay. A company called Map Jack?

19 A. I don't recall.

20 Q. That's fine. Were you aware of a company
21 called Yada MDS (phonetic)?

22 A. I don't recall.

23 Q. Were you aware of a company called
24 EveryScape?

25 A. I don't recall.

1 Q. How about were you aware of a company
2 called Emersive Media?

3 A. I believe I've heard the name. I don't
4 recall the specifics of it.

5 Q. That's fine. Were you aware of a company
6 called NAVTEQ?

7 A. I've heard the name. I don't recall the
8 details of it.

9 Q. Okay. That's fine. Were you aware of a
10 company called Microsoft Live Local StreetSide?

11 A. I believe I've heard that term, yes.

12 Q. Thank you.

13 And were you aware of a company called
14 Vizry (phonetic)?

15 A. The name sounds familiar, but I don't
16 recall any specifics.

17 Q. When were you approached to become a
18 potential expert in this matter?

19 A. I don't recall the precise date, but I
20 would guess maybe a year ago.

21 Q. That's fine. And at that time -- had you
22 done any study into street-level imagery prior to
23 that time?

24 A. Yes.

25 Q. Thank you.

1 MR. ALMELING: I don't believe that I
2 have a duplicate copy. You can keep that one,
3 Dr. Fuchs. I have a excerpt of the résumé.

4 MS. HIGHAM: That was actually the
5 back half of that one, but that's not a
6 problem. I will say for simplicity sake the
7 labeling of the exhibits are sequential with
8 footnotes saying the actual exhibit in the
9 originals, just because we're doing four IPRs
10 today and we have a lot of exhibit numbers. So
11 the footnotes are the ones that clarify which
12 one they are.

13 MR. ALMELING: The cover pages are
14 created for purposes of this deposition, but
15 all of the other pages are duplicates of what
16 is in the IPR records; is that correct?

17 MS. HIGHAM: Yes.

18 BY MR. KINCART:

19 Q. Dr. Fuchs --

20 MR. ALMELING: Pardon me.

21 MR. KINCART: Sure.

22 MR. ALMELING: Before you ask your
23 question I'd like to see a copy.

24 MR. KINCART: Sure. Oh, I'm sorry.

25 MR. ALMELING: Thank you. Counsel,

1 please continue.

2 MR. KINCART: Thank you.

3 BY MR. KINCART:

4 Q. In Item Number 11 page 4 it states that
5 you were not and never was an employee of
6 Google Inc. Were you ever engaged by Google Inc.
7 before?

8 A. Yes.

9 Q. They paid you for your services?

10 A. Yes.

11 Q. Thank you.

12 And what was that in reference to?

13 MR. ALMELING: I instruct the witness
14 to omit from your answer any information that
15 is covered by a protective order, nondisclosure
16 agreement or other document that prevents
17 disclosure of confidential information. I
18 instruct you to omit that confidential
19 information from your response.

20 MR. KINCART: Objection.

21 MR. ALMELING: Counsel, just so the
22 record is clear. I presume you're not trying
23 to ask about confidential information, so would
24 you like --

25 MR. KINCART: I'm not. I'm not. I

1 just -- objection to counseling.

2 MR. ALMELING: Would you like to
3 rephrase the question, perhaps asking the name
4 of the case or some other information that does
5 not implicate protected information?

6 MR. KINCART: Fine.

7 BY MR. KINCART:

8 Q. On how many different projects were you
9 engaged by Google?

10 A. Excuse me, can you clarify what you mean
11 by "project"?

12 Q. How many different engagements by Google
13 were made -- on how many different engagements did
14 you enter into with Google?

15 A. To the best of my knowledge, two including
16 this one.

17 Q. Including this one?

18 A. I believe so.

19 Q. And can you give me the name of the prior
20 engagement?

21 A. It was a Transcenic's case, I believe.

22 Q. Thank you.

23 And when was that?

24 A. I think it ended this January.

25 Q. And when did it begin?

1 A. To the best of my knowledge, a year or two
2 ago.

3 Q. Thank you.

4 In the Transcenic case, did you
5 collaborate with other experts?

6 A. I do not recall.

7 Q. Dr. Fuchs, do you know Dr. Grindon?

8 A. No.

9 Q. Do you have any knowledge of a declaration
10 submitted by Dr. Grindon on behalf of Google?

11 A. I saw his name mentioned in a document,
12 maybe two documents.

13 Q. Thank you.

14 Do you recall the name of those documents?

15 A. I recall one of them from the last case, I
16 don't remember the detail. I remember one of them
17 here in this case.

18 Q. Thank you.

19 Dr. Fuchs, in the Transcenic case, did you
20 consider patent specification authored or with a
21 named inventor of Di Bernardo?

22 A. I don't recall.

23 Q. Dr. Fuchs, do you know a relative size of
24 the market for street-level imagery in 2004?

25 MR. ALMELING: Objection, form and

1 relevance.

2 MR. KINCART: Please answer.

3 THE WITNESS: There may have been a
4 figure in one of the documents in the
5 Transcenic's case, I don't recall though.

6 BY MR. KINCART:

7 Q. Thank you.

8 Dr. Fuchs, we reviewed a number of
9 industry players. Do you know the size of the
10 market served by the different industry players?

11 A. No.

12 Q. Thank you.

13 Do you know how the market was divided up
14 between the industry players?

15 A. No.

16 Q. Thank you.

17 Do you understand how the technology of
18 the industry players differed?

19 A. No.

20 Q. Thank you.

21 Are you aware of the size of the market
22 today?

23 A. No.

24 Q. Are you aware of the industry players in
25 the market today?

1 A. I'm aware of one or two of them.

2 Q. Would you name them?

3 A. I'm aware of Google.

4 Q. Thank you.

5 Dr. Fuchs, are you aware that the Florida
6 Realtor Association was under contract to receive
7 street-level imagery?

8 MR. ALMELING: Objection, relevance.

9 BY MR. KINCART:

10 Q. Please answer.

11 A. No.

12 Q. Dr. Fuchs, are you aware of any appraisal
13 companies that were under contract to receive
14 street-level imagery?

15 A. No.

16 Q. Thank you.

17 Dr. Fuchs, are you aware of how the
18 appraisal industry works?

19 MR. ALMELING: Objection, relevance.

20 BY MR. KINCART:

21 Q. Please answer.

22 A. I don't understand your question.

23 Q. Dr. Fuchs, are you an expert in the
24 appraisal industry, real estate appraisal industry?

25 A. No.

1 MR. ALMELING: Same objection.

2 MR. KINCART: Thank you.

3 BY MR. KINCART:

4 Q. Let's turn to something a little bit
5 different. Would you provide a copy of the '181
6 Patent?

7 A. I have a question.

8 Q. Absolutely.

9 A. Does somebody have a 3-ring binder, so
10 when I'm flipping through, I can --

11 Q. At first break we'll get you one.

12 A. Okay. Thank you.

13 In fact, what would be great if you could
14 have three or four for me, I could look at things.

15 Q. Okay.

16 A. If you don't mind.

17 Q. We'll bring what we have, how's that?

18 A. Thank you. Maybe I will go out at
19 lunchtime and I'll buy a few.

20 Q. I understand.

21 THE WITNESS: Mr. Meadows, is this
22 you?

23 MR. MEADOWS: This is me.

24 THE WITNESS: Oh, this is great.

25 MR. ALMELING: Counsel, I do not know

1 if this was inadvertent, but I note that the
2 document labeled Exhibit 1004 was provided to
3 Dr. Fuchs, or at least my copy has highlighting
4 in it.

5 MR. KINCART: It was inadvertent. Do
6 we have clean copies? Is that acceptable or
7 would you like me to resend them?

8 MR. ALMELING: If you have clean
9 copies, that would be better. If you do not,
10 then I -- I think we can proceed with these.

11 MR. KINCART: Yeah.

12 MR. ALMELING: I just didn't want to
13 have you unintentionally reveal work product.

14 MR. KINCART: It was meant to assist
15 in pointing out different areas.

16 MR. ALMELING: Understood.

17 MR. KINCART: You okay?

18 MS. HIGHAM: Yes.

19 THE WITNESS: If that's assisting
20 pointing out different areas, could I have that
21 copy?

22 BY MR. KINCART:

23 Q. Do you not have the highlights?

24 A. Oh, I'm sorry, maybe I do. Hold on.

25 Q. This one has lots of different things

1 pointed out.

2 A. Perfectly fine.

3 Q. Dr. Fuchs, would you turn to Column 2.
4 Keep going, there you go (indicating).

5 And in Column 2 in the paragraph beginning
6 on line 48 -- and I can help you if you want, there
7 you go -- would you read that paragraph for me?

8 MR. ALMELING: Counsel, would you
9 like him to read it out loud or to himself?

10 MR. KINCART: Out loud, please.

11 THE WITNESS: (Reading)

12 The invention is based in part
13 on providing, one, accurate
14 differential GPS data; two, post
15 processing of geopositioning signals
16 to smooth curves in motion, splines;
17 three, highly accurate camera position
18 and video frame position analysis
19 processing to provide a calculation of
20 the exact position of each video
21 frame; four, parcel data processing
22 and analyses that analyzes vector line
23 data that is geocoded with latitude
24 and longitude values; five, digital
25 image photos processed with image

1 superimposition algorithms; six, a
2 database that includes video image
3 files, parcel latitude and longitude
4 data and positioning data that is
5 indexed to the video image files.
6 With these components the invention
7 enables the access to video images of
8 any desired geographic location and
9 its surrounding neighborhood while
10 relating such image data to other
11 properly related data such as property
12 lines, landmarks, et cetera.

13 BY MR. KINCART:

14 Q. Thank you.

15 Item Number 4 of what you just read, do
16 you understand what parcel data is?

17 A. Yes.

18 Q. Thank you.

19 And do you understand what parcel latitude
20 and longitude data is?

21 A. Yes.

22 Q. And do you understand how that would be
23 relevant to the process described in the '181
24 Patent?

25 MR. ALMELING: Objection, form.

1 BY MR. KINCART:

2 Q. Please answer.

3 A. May I have a copy of the institution
4 decision on this petition?

5 Q. I'm sorry, sir, I don't have one to give
6 to you.

7 MR. ALMELING: I have -- I believe I
8 have copies.

9 MS. LEUNG: I do not, but we can take
10 a little break.

11 BY MR. KINCART:

12 Q. Dr. Fuchs, I'd like to rephrase the
13 question.

14 Is parcel data integral to the process
15 described in the '181 Patent?

16 MR. ALMELING: Objection, form.

17 THE WITNESS: Is it possible for me
18 to --

19 BY MR. KINCART:

20 Q. I'm sorry, Dr. Fuchs --

21 A. -- consult --

22 Q. No.

23 A. -- consult the institution decision on
24 this, because I think there's some discussion about
25 this on there?

1 MR. KINCART: Objection.

2 Q. No, I would like to -- I would like to
3 gain your understanding of the '181 invention.

4 Did you -- actually, I am going to give
5 you time to answer the first two questions.

6 MR. ALMELING: Counsel, what is the
7 pending question?

8 BY MR. KINCART:

9 Q. Is parcel data integral to the invention
10 described in the '181 Patent?

11 MR. ALMELING: Objection, form. And
12 the witness has requested information to be
13 able to answer the question. It is unfair to
14 the witness not to provide him the requested
15 information.

16 MR. KINCART: I think you're
17 counseling him. At this point I don't want him
18 to read the court's view. I want to know his
19 opinion as an expert.

20 (WITNESS REVIEWS DOCUMENT)

21 THE WITNESS: Can you repeat the
22 question, please?

23 BY MR. KINCART:

24 Q. Is the term parcel data integral to the
25 invention described in the '181 Patent?

1 A. No.

2 Q. Thank you.

3 A. I don't think so.

4 Q. Thank you.

5 Having flipped through your declaration,
6 did you find parcel data addressed in there?

7 Question withdrawn, it's okay.

8 Would you please turn to Column 3 of the
9 '181 Patent. And beginning on line 53 the word
10 based, can you read to the end of that paragraph?

11 A. Column 3, line 53?

12 Q. Yes, beginning with the word based.

13 A. Okay. (Reading)

14 Based on camera orientation
15 and relative position in selecting
16 video drive-by data or a given street
17 address by calculating a centroid of a
18 parcel and determining camera
19 orientation and position to enable
20 highly accurate delivery of video that
21 is pointed toward the centroid of a
22 parcel.

23 Q. In that portion, was the concept of a
24 parcel integral to that statement?

25 MR. ALMELING: Objection, form.

1 THE WITNESS: The term could be used,
2 but another term could equally well have been
3 used.

4 BY MR. KINCART:

5 Q. Please just answer. It was a yes-or-no
6 question.

7 MR. ALMELING: Counsel, is there a
8 question pending?

9 THE WITNESS: I'm sorry?

10 MR. KINCART: Was the term parcel
11 integral to what he just read?

12 MR. ALMELING: Objection, asked and
13 answered.

14 MR. KINCART: Thank you.

15 BY MR. KINCART:

16 Q. How many times was the term parcel
17 included in that statement?

18 A. Twice.

19 Q. Thank you.

20 I'm going to try to walk through this a
21 little more quickly. Column 3, line 60, it refers
22 to parcels how many times?

23 A. Twice in Column 60.

24 Q. Does it differentiate at all between the
25 type of parcel?

1 A. Yes, between the designated parcel and its
2 adjacent parcels.

3 Q. Thank you.

4 And on line 63, do we again refer to
5 parcels?

6 A. Yes.

7 Q. How many times?

8 A. Twice.

9 Q. Thank you.

10 Would you, please, turn to Column 9?

11 MR. ALMELING: The copy I was
12 provided, Counsel, jumps from Column 6 to
13 Column 17. I believe I do not have a complete
14 copy.

15 MS. HIGHAM: Oh, you know what, it
16 should still be in there. I can -- it should
17 be -- sorry, I apologize. All right.

18 MR. KINCART: Do you not have
19 Column 9 either?

20 MS. HIGHAM: Nine, I have it, I
21 apologize.

22 BY MR. KINCART:

23 Q. Dr. Fuchs, you indicate that you've done
24 research in this area. Did you yourself do
25 research?

1 A. Yes.

2 Q. Thank you.

3 Did you research parcel data?

4 MR. ALMELING: Counsel, you provided
5 what appears to be a replacement for parts of
6 this. Would you like me to take my current
7 exhibits and remove pages and replace them with
8 the pages you provided?

9 MR. KINCART: You want to take them
10 back and --

11 MS. HIGHAM: Yeah, could we take a
12 break to do that?

13 MR. ALMELING: Taking a break's fine
14 with us. We've been going about an hour.

15 MR. KINCART: That's fine. That
16 works great. Thank you. Apologies.

17 MR. ALMELING: That's fine.

18 MR. KINCART: We'll get back to the
19 question when we come back.

20 MR. ALMELING: We're off the record.

21 (RECESS TAKEN FROM 9:53 A.M. TO 10:02 A.M.)

22 BY MR. KINCART:

23 Q. Dr. Fuchs, did you speak to counsel during
24 the break?

25 A. No.

1 Q. Thank you.

2 Did they provide you with any
3 documentation?

4 A. No.

5 Q. Thank you.

6 MS. HIGHAM: Here are the
7 replacements, I apologize for the confusion.
8 And the one you have is correct.

9 BY MR. KINCART:

10 Q. Dr. Fuchs, in your declaration, did you
11 interpret the term geographic location of interest?

12 A. Geographic location, let me look. Can you
13 direct me to a particular place in my declaration?

14 Q. In your declaration Paragraph 31 on
15 page 19 there's one place.

16 A. So the answer to your question is yes.

17 Q. And did you consider parcel data in your
18 interpretation of a geographic location of interest?

19 MR. ALMELING: Objection, form.

20 BY MR. KINCART:

21 Q. Please answer.

22 A. Yes.

23 Q. Can you point that out to me?

24 A. I don't remember if I put it explicitly in
25 my declaration.

1 Q. I understand. Thank you.

2 Did you interpret the term video drive-by
3 data? I'll refer you to Paragraph 17.

4 (WITNESS REVIEWS DOCUMENT)

5 The question pending was just whether you
6 interpreted the term.

7 A. Yes, I did.

8 Q. Thank you.

9 Did you consider parcel data in video
10 drive-by data?

11 MR. ALMELING: Objection, form.

12 MR. KINCART: Can you elaborate on
13 your objection?

14 MR. ALMELING: Yes. The question,
15 did you consider parcel data, is vague and
16 ambiguous. Consideration in what respect? To
17 formulate the construction that he gave at a
18 street-level video data, as part of the process
19 of referencing the various citations that are
20 used as to ensure that it's consistent with
21 specification or as a process that he used to
22 devise that construction? It's unclear what
23 consider means.

24 BY MR. KINCART:

25 Q. Please answer the question.

1 MR. ALMELING: Same objection.

2 THE WITNESS: Can you clarify what
3 you mean by "consider"?

4 BY MR. KINCART:

5 Q. I get to ask the questions, thank you.

6 MR. ALMELING: Just so the record is
7 clear, you're not clarifying what you mean?

8 BY MR. KINCART:

9 Q. I'll rephrase the question.

10 How did parcel data be relevant in your
11 interpretation of video drive-by data?

12 MR. ALMELING: Objection, form.

13 BY MR. KINCART:

14 Q. In arriving at your definition of video
15 drive-by data, how did you consider parcel data?

16 A. I'm sorry, as I sit here right now today I
17 cannot recall how specifically I considered parcel
18 data in the -- my interpretation of video drive-by
19 data.

20 Q. Okay. In the beginning of your
21 declaration you define several terms. Did you
22 define geographic location of interest?

23 (WITNESS REVIEWS DOCUMENTS)

24 A. Can you point me to the place you're
25 referring to in my declaration?

1 Q. I cannot.

2 Dr. Fuchs, is it true there is no
3 definition for geographic location of interest?
4 Perhaps that'll save some time.

5 MR. ALMELING: And, Counsel, I -- the
6 question -- and, again, I don't want to suggest
7 anything for the witness. I believe your
8 question was, was there a definition of
9 geographic location of interest in your
10 declaration. Is that as opposed to just in
11 general?

12 MR. KINCART: That's correct.

13 THE WITNESS: Do I understand the
14 question to be was there a definition of
15 geographic location of interest in my
16 '181 declaration?

17 BY MR. KINCART:

18 Q. That is correct.

19 A. Let me look, please.

20 (WITNESS REVIEWS DOCUMENTS)

21 MR. ALMELING: Counsel, in the
22 interest of time, do you want to point the
23 witness to what you mean? I think this is an
24 easy question, and I don't think he understands
25 it.

1 BY MR. KINCART:

2 Q. Okay. There were a series of defined
3 terms in the beginning of your declaration. Did you
4 find it -- or did you include a definition on
5 pages 9 through 11 for geographic location of
6 interest?

7 A. No, I don't find . . .

8 Q. Thank you.

9 Can we turn to page 50, I'm sorry?

10 A. Five zero.

11 Q. Five zero in Paragraph 70.

12 There's a title above 70 and it's a claim
13 element: (Reading)

14 A database server that
15 processes a data query received from a
16 user over a communications network
17 that corresponds to a geographic
18 location of interest.

19 Did you consider parcel data in your
20 interpretation of that claim element?

21 MR. ALMELING: Objection, form.

22 BY MR. KINCART:

23 Q. Can you show me in your declaration where
24 you considered parcel data in your interpretation of
25 that geographic location of interest?

1 MR. ALMELING: Same objection.

2 BY MR. KINCART:

3 Q. I'd like to go back to the first pending
4 question. Did you consider parcel data?

5 MR. ALMELING: Same objection.

6 THE WITNESS: Yes. I believe that,
7 to the best of my recollection, I thought about
8 parcel data.

9 BY MR. KINCART:

10 Q. Is parcel data pertinent, then, to
11 geographic location of interest?

12 MR. ALMELING: Objection, form.

13 THE WITNESS: There are many terms
14 pertinent to a geographic location of interest,
15 parcel data among many other terms.

16 BY MR. KINCART:

17 Q. Thank you.

18 Can you point to a spot where you indicate
19 the terms, the other terms, that you considered?

20 MR. ALMELING: Would the court
21 reporter please repeat the question?

22 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

23 MR. ALMELING: Do you mean in the
24 context --
25

1 BY MR. KINCART:

2 Q. I'm sorry, in interpreting the term
3 geographic location of data -- well, let me rephrase
4 the question.

5 You referred to other terms that you use
6 to interpret geographic location of data. Can you
7 show me where those are indicated in your
8 declaration?

9 MR. ALMELING: Objection, form.

10 BY MR. KINCART:

11 Q. Did you indicate those in your
12 declaration?

13 MR. ALMELING: Objection, form. And
14 I can explain the objection if you want.

15 MR. KINCART: Please.

16 MR. ALMELING: You used the phrase
17 "interpret geographic location of interest," he
18 testified earlier that it wasn't one of the
19 terms that he interpreted in the paragraph you
20 identified. He still, nevertheless, used a
21 construction as purpose of applying it in
22 Paragraph 70, and that's where he's answering
23 your question.

24 So my objection to the form was he
25 did not use those terms to, quote, interpret

1 that he used it in part of the process of
2 applying that term.

3 BY MR. KINCART:

4 Q. Dr. Fuchs, in response to counsel, you
5 defined certain terms. You interpreted those terms
6 in any claim element. In your interpretation of
7 geographic location of interest, do you indicate how
8 you arrived at that?

9 A. For items that I did not define, I used
10 plain ordinary meaning.

11 Q. Thank you.

12 If you'd turn back one page. Dr. Fuchs,
13 did you interpret Claim 1?

14 A. I'm sorry, are you talking about 1.1?

15 Q. The entire claim.

16 Did you -- did you arrive at an
17 interpretation of Claim 1 in creating this
18 declaration?

19 MR. ALMELING: Objection, form.

20 BY MR. KINCART:

21 Q. A simple yes-or-no answer.

22 MR. ALMELING: And I have the same
23 objection.

24 And, Counsel, I can clarify that
25 if --

1 MR. KINCART: No, thank you.

2 MR. ALMELING: -- that will satisfy
3 the problem.

4 MR. KINCART: No, thank you.

5 MR. ALMELING: Objection, form.
6 You can answer.

7 (WITNESS REVIEWS DOCUMENTS)

8 THE WITNESS: So can you say the
9 question again, make sure I understand it
10 clearly?

11 BY MR. KINCART:

12 Q. Did you interpret Claim 1 of the '181
13 Patent?

14 MR. ALMELING: Objection, form.

15 THE WITNESS: And can you be more
16 precise what it means to interpret?

17 BY MR. KINCART:

18 Q. I believe that's a plain English term.

19 A. So if it's --

20 Q. Dr. Fuchs, did you read the Claim 1 of the
21 '181 Patent?

22 A. Yes.

23 Q. Did you reach a conclusion about the '181
24 Patent?

25 A. Yes.

1 Q. The conclusion that you reached on the
2 '181 Patent, did it involve an interpretation of
3 what the '181 Claim 1 covered?

4 MR. ALMELING: Objection, form.

5 MR. KINCART: Of course.

6 THE WITNESS: If by interpretation
7 you mean the plain and ordinary meaning of
8 interpretation not simply the term, then the
9 answer is yes.

10 BY MR. KINCART:

11 Q. In your interpretation of the '181 Patent,
12 did you consider geographic location of interest?

13 A. Yes.

14 Q. And did you consider video drive-by data?

15 A. Yes.

16 Q. Did your consideration of geographic
17 location of interest include parcel data?

18 MR. ALMELING: Objection, asked and
19 answered.

20 MR. KINCART: Rescinded.

21 BY MR. KINCART:

22 Q. Did you consider parcel data in the term
23 video drive-by data?

24 MR. ALMELING: Same objection, asked
25 and answered.

1 MR. KINCART: I'm not sure he did
2 answer that, but if he did, I'll rescind it.

3 BY MR. KINCART:

4 Q. What role did parcel data play in
5 geographic location of interest?

6 A. Parcel data was one of multiple places and
7 definitions of locations of interest.

8 Q. Thank you.

9 In your declaration you refer to the
10 Di Bernardo patent --

11 MR. KINCART: Could you pass out
12 copies of that?

13 MR. ALMELING: And for clarity of the
14 record this has been identified as
15 Exhibit 1007.

16 I'm sorry, Counsel, whenever you're
17 ready.

18 MR. KINCART: Thank you.

19 BY MR. KINCART:

20 Q. In Paragraph 106 --

21 A. I'm sorry?

22 Q. In Paragraph 106 of your declaration you
23 state that: (Reading)

24 A person of ordinary skill in
25 the art would have recognized the

1 combination of Di Bernardo and Kawabe
2 disclose all the elements of
3 independent Claim 1.

4 Can you show me in Di Bernardo where
5 parcel data is considered? Let me rephrase the
6 question.

7 Is parcel data considered in Di Bernardo?

8 A. To the best of my knowledge, as I sit here
9 right now, I don't recall any time that Di Bernardo
10 talks about parcel data.

11 Q. Thank you.

12 A. He might. He might, but I don't recall.

13 Q. Can we turn to the '181 Patent, Column 4
14 line 25.

15 A. Column 4 line 25?

16 Q. Yes.

17 And it states there: (Reading)

18 And directly to the street
19 address offering photographs of any
20 property transmitted.

21 Can you show me -- or rephrase --

22 Does Di Bernardo provide enablement to
23 find directly to a street address?

24 A. Does Di Bernardo . . . directly to a
25 street address . . . directly to a street

1 address . . .

2 (WITNESS REVIEWS DOCUMENTS)

3 May I have a copy of my other
4 declarations? I think I have some information in
5 there that helps answer this question.

6 Q. Go ahead.

7 MS. HIGHAM: You're asking for the
8 ones that referenced Di Bernardo, is that
9 clear?

10 MR. ALMELING: That's a good point.
11 I believe that one of your
12 declarations does not mention Di Bernardo. I
13 presume, therefore, you're only wanting the
14 ones that do?

15 THE WITNESS: Precisely. I think
16 it's the --

17 MR. ALMELING: Thank you, Counsel,
18 good point.

19 THE WITNESS: Thank you.

20 I think that what I refer to as the
21 publication version of Di Bernardo --

22 MR. KINCART: Yes.

23 THE WITNESS: -- which has columns
24 which has paragraphs --

25 MR. ALMELING: This actually isn't

1 Exhibit 1007. This is -- this is the patent
2 that was issued off of Di Bernardo, but it's --
3 we submitted the publications as Exhibit 1007.

4 MR. KINCART: I'm sorry?

5 MR. ALMELING: Yeah. Let me -- if I
6 can clarify. Exhibit 1007 is not the exhibit
7 that was submitted in the IPR as part of the
8 petition. Exhibit 1007 appears to be a
9 printout of the '126 Patent with the inventor
10 Di Bernardo. That is not the reference that we
11 used that we call Di Bernardo. Di Bernardo is
12 the publication that eventually issued as the
13 '126 Patent.

14 MR. KINCART: Okay.

15 MR. ALMELING: So Exhibit 1007 is not
16 the document we rely on for purposes of the
17 petition nor is the document on which he
18 opined.

19 MR. KINCART: We would like to enter
20 into evidence, then, the -- let's get the
21 proper patent, its number.

22 MR. ALMELING: And before that gets
23 entered, let's confirm that that is a correct
24 publication number. Does it have Publication
25 Number 2002/0047895?

1 MR. KINCART: That's correct.

2 We'd like to enter into evidence U.S.
3 Patent Number 6,895,126 resulting from
4 Publication U.S. 2002/0047895.

5 BY MR. KINCART:

6 Q. And, Dr. Fuchs, you're in possession of
7 that; is that right?

8 MR. KINCART: Does he have that, I'm
9 sorry?

10 MR. ALMELING: I only have what you
11 gave me.

12 MR. KINCART: Yes, okay.

13 THE WITNESS: Which was not the
14 document that I got.

15 MR. KINCART: Okay.

16 MR. ALMELING: And so just to be
17 clear. We object to any line of questioning
18 that relates to Exhibit 107 (sic) which is, as
19 we've discussed, not the correct document from
20 you. Objections are, among other things, lack
21 of foundation, relevance, lack of
22 authentication.

23 BY MR. KINCART:

24 Q. Dr. Fuchs, several times you indicate
25 familiarity with patent law. And do you understand

1 that the publication would have the same
2 specification as the issued patent?

3 MR. ALMELING: Perhaps we should go
4 off the record.

5 MR. KINCART: All right. Can we go
6 off the record?

7 (DISCUSSION HELD OFF THE RECORD)

8 MR. ALMELING: U.S. Patent
9 Publication Number 2000/0047895 also labeled
10 Google 1005 for purposes of the eight -- the
11 '181 IPR is the exhibit that is being referred
12 to as Di Bernardo in the context of the '181
13 declaration. Because this has already received
14 a Google Exhibit Number and it was filed as
15 part of the petition, it does not need a
16 separate exhibit number.

17 If we use a different Di Bernardo
18 document in the context of '181 Patents, we
19 will mark that document. In lieu of that,
20 references to Di Bernardo shall be understood
21 as references to Google 1005 in the '181 IPR.

22 MR. KINCART: Thank you.

23 MR. ALMELING: And, Counsel, your
24 pending question is what?
25

1 BY MR. KINCART:

2 Q. Does the Di Bernardo reference provide for
3 reaching a street address directly? I believe it
4 was directly a street address?

5 A. Yes.

6 Q. Can you point that out to me?

7 A. In Paragraph 84, reads exactly: (Reading)

8 The retrieved composite image
9 and map are respectively displayed on
10 the display screen of the request --
11 of the requested user terminal in a
12 Map Area 226 and an Image Area 224.
13 The map is preferably centered around
14 the requested address and includes a
15 current location cursor, 228, placed
16 on a position corresponding to the
17 address.

18 Q. And how did they reach that address?

19 A. How did they reach that address?

20 (WITNESS REVIEWS DOCUMENTS)

21 Can you restate the question?

22 Q. I'll rescind the question.

23 Can we turn to Figure 8?

24 A. Figure 8, I'm sorry, in which document?

25 Q. It will be in yours, it should be the

1 same. In Di Bernardo, I'm sorry.

2 A. May I ask, is it also in my declaration?

3 Q. Is it in -- oh, in the box labeled 126.

4 Can you read that to me?

5 A. (Reading)

6 Associate segments with
7 information from geographic
8 information database.

9 Q. Thank you.

10 Are you familiar with the Di Bernardo
11 reference?

12 A. Yes.

13 Q. If we turn to Figure 10, Box Number 132,
14 can you read that?

15 A. (Reading)

16 Compute array of equidistant
17 positions along camera trajectory
18 centered around X of C.

19 Q. Thank you.

20 The street address that you read the
21 portion on two questions ago, did they arrive at
22 that by a segment of video data?

23 A. I would have to consider that.

24 Q. Okay.

25 (WITNESS REVIEWS DOCUMENTS)

1 A. Sitting here today I don't remember the
2 answer to that question. I may have known it at one
3 time.

4 Q. Thank you.

5 Do you recall any mention of a street
6 segment in the '181 Patent?

7 A. Yes.

8 Q. Can you refresh my memory, then? Would
9 you point that out to me?

10 (WITNESS REVIEWS DOCUMENTS)

11 A. One among the places that Di Bernardo
12 talks about street segment is in Figure 18.

13 Q. Thank you.

14 That's Di Bernardo?

15 A. I'm sorry?

16 Q. Yes, in Di Bernardo.

17 The question pertained whether the '181
18 Patent ever described the street segment as a
19 location of interest?

20 A. I'm so sorry.

21 Q. That's okay. I understand.

22 A. Say your question again.

23 Q. I understand. It's -- you're fine.

24 Your understanding -- the '181 Patent,
25 your understanding, did it include a street segment

1 as a geographic location of interest?

2 A. I don't remember if the '181 Patent
3 mentioned --

4 Q. That's fine.

5 A. -- geographic location of interest.

6 Q. That's fine.

7 Do you recall if the '181 Patent ever
8 mentioned a traffic accident?

9 A. Without looking again at the '181 Patent I
10 don't remember any mention in it about traffic
11 accidents.

12 Q. And that's fine too.

13 In Paragraph 106 of your declaration you
14 indicate that: (Reading)

15 A person of ordinary skill in
16 the art would have recognized the
17 combination of Di Bernardo and Kawabe
18 disclose all elements of independent
19 Claim 1. Di Bernardo -- if
20 Di Bernardo is descriptive of street
21 segments, would that be included as a
22 geographic location of interest in
23 Claim 1?

24 MR. ALMELING: Objection, form.

25 THE WITNESS: I'm sorry, I don't

1 understand the question. Say that again,
2 please.

3 BY MR. KINCART:

4 Q. If Di Bernardo -- I'll remand the
5 question.

6 Is Di Bernardo descriptive of a street
7 segment?

8 A. Di Bernardo talks about street segments in
9 the patent.

10 Q. Thank you.

11 And does Di Bernardo associate image data
12 with street segments?

13 A. Di Bernardo associates street data with --
14 with image data with street segments and multiple
15 other things.

16 Q. Thank you. Simple yes-or-no question.

17 How does Di Bernardo arrive at a street
18 address within a street segment?

19 (WITNESS REVIEWS DOCUMENTS)

20 THE WITNESS: Repeat the question,
21 please.

22 BY MR. KINCART:

23 Q. How does Di Bernardo identify a street
24 address within a street segment?

25 (WITNESS REVIEWS DOCUMENTS)

1 A. I address this in my declaration in
2 Paragraph 70. Would you like me to read from this?

3 Q. In your own words, yes.

4 A. Sure. He discloses a database server that
5 processes the data query from user over
6 communication network corresponding to this
7 geographic location of interest one of which may be
8 a street address. (Reading)

9 So the system of Di Bernardo
10 allows user to submit the inquiries
11 about a location in a geographic area
12 depicted in image database. For
13 example, the user may enter the
14 address of a location. And then a
15 host computer includes a processor
16 programmed with instructions to access
17 the image database 32 in response to a
18 user request and retrieve composite
19 images about a particular location.
20 Di Bernardo further discloses user
21 requests information about a
22 particular street address by entering
23 the address in the address input
24 fields. The address is then
25 transmitted to the host computer.

1 Q. Dr. Fuchs, I don't believe that answered
2 the question how he distinguishes a street address
3 within a street segment. Can you please describe
4 how -- I don't see the word segment in what you read
5 at all.

6 MR. ALMELING: Is there a pending
7 question?

8 BY MR. KINCART:

9 Q. Please describe how he distinguishes a
10 street address within a street segment; unresponsive
11 answer.

12 A. I believe part of the composite images are
13 street address and street address segments.

14 Q. And how does he determine a street address
15 within the segment?

16 A. I don't remember anything more specific
17 than what I have just answered you.

18 Q. Thank you.

19 Does Di Bernardo describe dividing a
20 street segment into equally divided parts?

21 A. I'm sorry, I don't remember.

22 Q. Does Di Bernardo make any allowance for
23 parcels of different sizes within the street
24 segment?

25 A. I don't remember.

1 Q. Based upon your knowledge in the field as
2 an expert, do any of the industry players we listed
3 before, and we can read them back if you want,
4 provide for identification of a parcel within a
5 street segment?

6 A. I don't know.

7 MR. ALMELING: Object. I interposed
8 an objection before the response, the objection
9 was form and relevance.

10 MR. KINCART: Can we put in front of
11 Dr. Fuchs the parcel data?

12 MR. ALMELING: Counsel, before we
13 jump to a new one, it's been another hour. I'm
14 running low on tea. Could we take a five
15 minute break?

16 MR. KINCART: Sure.

17 (RECESS TAKEN FROM 11:07 A.M. TO 11:19 A.M.)

18 MR. KINCART: I would like to enter
19 into the record Exhibit 2015. It's 300 Skipper
20 Bowles Drive county parcel data.

21 Can you provide Dr. Fuchs with a
22 copy?

23 MS. HIGHAM: That's for Dr. Fuchs.

24 MR. KINCART: Do you have one for the
25 reporter?

1 MS. HIGHAM: This is for you
2 (indicating).

3 MR. KINCART: Okay.

4 MS. HIGHAM: I'm doing cover sheets
5 right now.

6 MR. KINCART: Okay. Dr. Fuchs?

7 MS. HIGHAM: This is for the
8 reporter. Let me get the cover sheets for
9 that.

10 MR. ALMELING: Counsel, has this been
11 marked as an exhibit before?

12 MR. KINCART: It has not.

13 MS. HIGHAM: No.

14 MR. ALMELING: And so the purported
15 marking of Exhibit 2015 is what?

16 MS. HIGHAM: You mean how did we get
17 the number?

18 MR. ALMELING: Yes.

19 MS. HIGHAM: I preset them up here in
20 sequential order, so past the ones that we had
21 set up. So I think it's -- our originals went
22 to 2004 -- 2005.

23 MR. ALMELING: Let's go off the
24 record.

25 (DISCUSSION HELD OFF THE RECORD)

1 (EXHIBIT NUMBER 2070-2071 WERE MARKED FOR
2 IDENTIFICATION)

3 MR. ALMELING: Plaintiff --
4 withdrawn.

5 Patent owner has presented two
6 exhibits, one is a one-page document that we
7 are labeling 2016 and the other is a multi-page
8 document, four pages, not paginated, that we
9 are designating -- withdrawn. I would like to
10 restart the entire process.

11 Patent owner has identified two
12 exhibits. The first exhibit is a one-page
13 document without any pagination that we are
14 calling Exhibit 2070. The second is exhibit --
15 is a four-page document without any pagination
16 which we're referring to as 2071. The witness
17 has marked copies of both. Plaintiff's counsel
18 will now begin and identify these documents and
19 ask questions about them.

20 MR. KINCART: Thank you.

21 BY MR. KINCART:

22 Q. Dr. Fuchs, I've given you Exhibit 2070
23 which is county parcel data for the address
24 300 Skipper Bowles Drive. We chose that address in
25 the hopes that it was familiar to you, but it's not

1 entirely relevant if it is or isn't. I believe it's
2 the university where you work. There's a parcel
3 identified on there by the county, it's outlined.
4 Have you located the parcel that's outlined?

5 MR. ALMELING: Before the response to
6 the question is presented I have objections.
7 Among other, I object for lack of foundation.
8 I also object for lack of authentication
9 pursuant to Federal Rule of Evidence 901
10 and 902.

11 BY MR. KINCART:

12 Q. Okay. Dr. Fuchs, the diagram in front of
13 you is representative of parcel data, and it
14 indicates a rather large parcel that has been
15 highlighted and to the left of that several smaller
16 parcels, five smaller parcels in fact. Can you
17 locate that on the diagram?

18 MR. ALMELING: Counsel, to save you
19 my objection in response to every one of your
20 questions, I propose a standing objection based
21 on the bases that I just previously gave.
22 Subject to that, you can, of course, ask
23 questions about 2070. But can we agree that
24 those objections apply to all questions
25 regarding Exhibit 2070?

1 MR. KINCART: Thank you.

2 BY MR. KINCART:

3 Q. Dr. Fuchs, can you locate in the diagram
4 before you a parcel that has been highlighted?

5 A. I think so, but I'm not sure. I assumed
6 that this is the red area.

7 Q. That's correct.

8 And can you locate to the left of the red
9 area smaller parcels outlined?

10 A. I'm not sure. But do you mean the --
11 these areas all around it (indicating)?

12 Q. Dr. Fuchs, are you familiar with what a
13 real estate parcel is?

14 A. I think so.

15 Q. In your research of the '181 Patent, did
16 you research a real estate parcel?

17 A. No.

18 Q. Does your understanding of the industry
19 include that real estate parcels may be of different
20 sizes and shapes?

21 A. Yes.

22 Q. Thank you.

23 On the diagram before you if the outlined
24 areas adjacent to the part outlined in red
25 represented real estate parcels, would you agree

1 that they are different sizes and shapes?

2 A. Yes.

3 Q. Thank you.

4 Based on your understanding of the
5 Di Bernardo reference, does Di Bernardo provide any
6 teaching to take into account parcels of different
7 sizes and shapes? Take your time.

8 (WITNESS REVIEWS DOCUMENTS)

9 A. As I sit here I don't recall Di Bernardo
10 talking about parcels of different sizes and shapes.

11 Q. Thank you.

12 Does Di Bernardo -- as you recall, does
13 Di Bernardo provide any teaching to locate the
14 centroid of a parcel?

15 A. As I sit here I don't recall Di Bernardo
16 talking about centroid of a parcel.

17 Q. Thank you.

18 Can we refer now to the exhibit labeled
19 2071? And in the upper left corner each of these is
20 labeled 300 Skipper Bowles Drive, Chapel Hill, North
21 Carolina. Is that an address familiar to you?

22 MR. ALMELING: Before a response to
23 question, I will interpose objections including
24 lacks foundation as well as lacks
25 authentication under the Rules of Evidence 901

1 and 902. Subject to those objections regarding
2 all questions regarding Exhibit 2071 you can
3 answer.

4 THE WITNESS: Yes.

5 BY MR. KINCART:

6 Q. Thank you.

7 And if a camera were positioned on the
8 street depicted, does Di Bernardo provide any
9 teaching on which view he would return?

10 MR. ALMELING: Objection, form.

11 BY MR. KINCART:

12 Q. I'm going to rephrase my question a little
13 bit to the objection.

14 As illustrated by the three different
15 graphics in the middle of the street, does
16 Di Bernardo provide any teaching on which direction
17 to look from a given position?

18 MR. ALMELING: Would the court
19 reporter please repeat the question?

20 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

21 Counsel, you're referring to the
22 three directions in Exhibit 2071?

23 MR. KINCART: That's correct.

24 MR. ALMELING: Objection, form.

25

1 BY MR. KINCART:

2 Q. Okay.

3 A. Give me a minute.

4 Q. While you're looking I will rephrase it.

5 If a camera were positioned in the middle
6 of the street in a position capable of taking each
7 of the photographs, does Di Bernardo give any
8 teaching on which direction -- on which -- I'm
9 sorry, please excuse me -- on which photograph
10 should be returned in response to a query?

11 MR. ALMELING: Objection, form.

12 MR. KINCART: That's fine.

13 THE WITNESS: Just looking for
14 Di Bernardo.

15 BY MR. KINCART:

16 Q. That's fine.

17 (WITNESS REVIEWS DOCUMENTS)

18 A. Rephrase the question to make sure I
19 understood it correctly.

20 MR. KINCART: Would you repeat back
21 the question?

22 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

23 THE WITNESS: Yes, he does,
24 Paragraph 88.

25

1 BY MR. KINCART:

2 Q. Can you read that to me?

3 A. Okay. (Reading)

4 The current view is preferably
5 identified by a direction identifier
6 (not showing), on or close to the
7 current location identifier 228. For
8 instance, one side of the current
9 location identified 228 may be marked
10 with a dot or an X to identify the
11 side of the street being viewed.
12 Alternately, an arrow may be placed
13 near the current location
14 identifier 228 to identify the current
15 viewing direction.

16 Q. And is that the only place?

17 A. There may be multiple other places, that's
18 just the first one I found.

19 Q. Thank you. That's fine.

20 Dr. Fuchs, you indicate in your
21 declaration that you at least have a working
22 knowledge of patent interpretation; is that true?

23 A. I have been asked to evaluate patents a
24 few times.

25 Q. Okay. And are you familiar with the term

1 lexicographer? We'll come back to it. So let's do
2 Yoichi.

3 MR. KINCART: Do you have the MPEP?

4 MS. HIGHAM: Uh-huh.

5 MR. KINCART: So let's enter an
6 exhibit. If we can -- can we go off the record
7 for a moment?

8 (DISCUSSION HELD OFF THE RECORD)

9 BY MR. KINCART:

10 Q. Dr. Fuchs, you have in front of you a copy
11 of United States patent application Publication
12 2003/0210806 to Yoichi, et al. Did you reference
13 this in your declaration?

14 A. Yes, I believe I did.

15 Q. Thank you.

16 Dr. Fuchs, does Yoichi refer to parcel
17 data, real estate parcel data?

18 A. I don't recall Yoichi talking about real
19 estate parcel data.

20 Q. Thank you.

21 Does Yoichi refer to traffic conditions?

22 (WITNESS REVIEWS DOCUMENTS)

23 A. One minute.

24 Q. No problem.

25 MR. ALMELING: Counsel, for purposes

1 to speed this along --

2 MR. KINCART: Yeah, I'm going to --

3 MR. ALMELING: -- it's obviously
4 difficult to --

5 MR. KINCART: It was a simple --

6 MR. ALMELING: Would you like to
7 provide the witness with a computer searchable
8 copy so he can run searches?

9 MR. KINCART: Sure. Actually, let's
10 just rephrase the question.

11 BY MR. KINCART:

12 Q. What is the primary purpose of the Yoichi
13 patent?

14 (WITNESS REVIEWS DOCUMENTS)

15 A. I characterize Yoichi as: (Reading)

16 One of many prior art examples
17 that employ vehicle-mounted cameras to
18 capture video data, associate location
19 information with collected video data
20 and retrieve or extract images from
21 the video data in response to a
22 request for an image associated with a
23 particular location.

24 Q. Very good. Can you turn to Paragraph 23?

25 A. Twenty-three of?

1 Q. The Yoichi publication.

2 A. I'm there.

3 Q. Would you read that?

4 A. Paragraph 23 from Yoichi is: (Reading)

5 As parts of the present
6 invention the inventors have analyzed
7 the prior art to determine problems
8 relating to vehicle navigation,
9 security, emergencies and safety, and
10 identified causes of these problems to
11 provide solutions to the problems as
12 implemented by the embodiments.

13 Q. Thank you.

14 To your knowledge, does the '181 concern
15 itself with security, emergency, safety and
16 identified causes of these problems as you just
17 stated in Yoichi?

18 A. I don't remember it, '181, discussing
19 these issues.

20 Q. Okay. Your answer to the prior question,
21 did you read from your declaration -- did you read
22 Paragraph 25 from your declaration?

23 A. I read part of it, yes.

24 Q. Thank you.

25 And in the beginning of Paragraph 25 you

1 begin: (Reading)

2 Yoichi is one of many prior
3 art examples.

4 Can you describe any of those prior art
5 examples that you refer to?

6 A. Sure. Di Bernardo is another one.

7 Q. Okay.

8 A. Kawabe is another one.

9 Q. So the others that are listed specifically
10 within here (indicating)?

11 A. Yes.

12 Q. Thank you.

13 Can you turn to Figure 7 of the Yoichi?
14 And during your review of Yoichi you became familiar
15 with Figure 7?

16 A. Yes.

17 Q. And what does Figure 7 represent to you?

18 A. It shows examples of geocoded data layers
19 being displayed along with the video drive-by data.

20 Q. Thank you.

21 And if I refer you now to Paragraph 50 of
22 Yoichi --

23 A. Five zero?

24 Q. That's correct, thank you.

25 A. Yes.

1 Q. And it indicates -- please read to me
2 beginning with Figure 7.

3 A. (Reading)

4 Figure 7 is a schematic
5 representation of a computer display
6 screen for a vehicle computer or
7 laptop practicing the method of
8 Figure 2. More particularly showing a
9 representative image display of
10 Step 270 with data from Steps 260
11 and 265 of Figure 2 and a
12 representative image display of
13 Step 808 and 810 of Figure 8.

14 Q. Thank you.

15 And in Figure 7, do you see any indication
16 of a real estate parcel?

17 A. Could be, on the right, for example.

18 Q. It's a real estate parcel?

19 A. Could be.

20 Q. Okay.

21 A. It's by the side of the road. It looks
22 like land.

23 Q. And if I refer you now to Figure 15 of the
24 '181 Patent --

25 A. Yes.

1 Q. -- do you see any indication of a real
2 estate parcel in Figure 15?

3 A. Yes, I do.

4 Q. Thank you.

5 A. Possibly.

6 Q. Thank you.

7 And in Figure 7, are there any lines or
8 other indicators indicating a real estate parcel?

9 A. Could be. Like the one on the right-hand
10 side of the road might be one edge of a real estate
11 parcel that one is driving by.

12 Q. The edge of the road?

13 A. Yes, the edge of the road, the boundary
14 between the road and the land to the right of it.

15 Q. Thank you.

16 MR. ALMELING: Counsel, as far as
17 having a clean workstation, are you finished
18 with Exhibits 270 and 271?

19 MR. KINCART: Yes, we're all done.
20 We're good there.

21 BY MR. KINCART:

22 Q. Is there any mention of the word real
23 estate parcel in the description of Figure 7 for
24 Yoichi?

25 A. As I sit here today I do not recall any

1 mention of the term real estate parcel --

2 Q. Thank you.

3 A. -- in Yoichi.

4 Q. And can we turn to Figure 11 of Yoichi?

5 A. Yes.

6 Q. And do you see any delineation of real
7 estate parcels in Figure 11?

8 A. Possibly. Again, the -- the edge of the
9 right side of the road with the land.

10 Q. Thank you.

11 So just to be clear, in both Figures 7
12 and 11 the only indication that you can see for
13 parcel line data would be the edge of the road?

14 MR. ALMELING: Objection --
15 objection, form.

16 BY MR. KINCART:

17 Q. Based on your answer, is there any other
18 indication of parcel line data?

19 A. I gave one example. In each of these
20 there may be other examples if I look at it more
21 carefully or consider the question at greater
22 length.

23 Q. Okay, thank you.

24 And based on your knowledge of Yoichi, how
25 does one determine where an emergency situation is?

1 MR. ALMELING: Counsel, perhaps you
2 want to restate that question.

3 MR. KINCART: I will. Let's make it
4 very simple.

5 MR. ALMELING: Doctor, Counsel is
6 going to ask you a question.

7 THE WITNESS: Oh, I'm sorry.

8 BY MR. KINCART:

9 Q. Claim 1 of the Yoichi patent indicates
10 that: (Reading)

11 A computer system provides for
12 displaying images captured by another
13 mobile unit and for capturing images
14 from a camera mounted on a first
15 mobile unit.

16 In your understanding, how did they
17 indicate where the plurality of images are located?

18 A. I think this is disclosed in Paragraph 75
19 of Yoichi --

20 Q. Thank you.

21 A. -- where it says: (Reading)

22 The vehicle GPS automatically
23 determines a vehicle location and
24 periodically sends the vehicle
25 location to the service center with or

1 without images.

2 THE WITNESS: May I suggest, it's
3 noon, that we break for lunch?

4 MR. KINCART: Can we go two more
5 questions?

6 THE WITNESS: Oh, absolutely. As
7 long as --

8 MR. KINCART: That would be great.

9 THE WITNESS: Sure.

10 MR. KINCART: I'm trying to make it
11 as straightforward as possible --

12 THE WITNESS: Sure, thank you.

13 MR. KINCART: -- to keep this
14 moving --

15 THE WITNESS: Absolutely.

16 MR. KINCART: -- a little bit.

17 THE WITNESS: Sure.

18 BY MR. KINCART:

19 Q. Do you understand that -- let me rephrase
20 the question.

21 What is your understanding of the
22 background section of a patent in relation to prior
23 art?

24 MR. ALMELING: Objection, form.

25 MR. KINCART: I'll rephrase.

1 BY MR. KINCART:

2 Q. Your understanding of patent law, is the
3 background section admitted to be in the public
4 domain?

5 A. I don't know that.

6 Q. Okay. That's a fine answer.

7 Last question, then, for Yoichi. Based on
8 your understanding of Yoichi, is it to return image
9 data that is based upon parcel data?

10 A. As I sit here now without viewing Yoichi
11 again, I don't recall him talk -- using the term
12 parcel data, but he uses terms about areas in
13 multiple places. And one of the major things that
14 Yoichi talks about is returning imagery about
15 certain places.

16 Q. Thank you.

17 MR. KINCART: We can have lunch.

18 MR. ALMELING: Off the record.

19 (RECESS TAKEN FROM 12:02 P.M. TO 1:00 P.M.)

20 BY MR. KINCART:

21 Q. Dr. Fuchs, in your CV it indicates that
22 you're a professor, and are you teaching classes
23 now?

24 A. Yes.

25 Q. What classes are we teaching today or this

1 semester?

2 A. I teach an undergraduate class in computer
3 organization, and I guide a number of MS & Ph.D.
4 students.

5 Q. Thank you.

6 Just Ph.D., no undergrad?

7 A. Among others.

8 Q. That's -- okay. And --

9 A. Let me add to that. In addition to the
10 activities I just mentioned to you I'm also -- have
11 independent study with a group of undergraduate
12 students and independent study with some masters and
13 Ph.D. students.

14 Q. Perfect. Thank you.

15 And in your declaration in Paragraph 11 of
16 1001, I believe it's in the others, but just in
17 Paragraph 11, again, it says: (Reading)

18 I am not and never was an
19 employee of Google Inc.

20 But we were engaged -- you were engaged at
21 least once before with Google and were compensated,
22 it says, on a normally hourly compensation?

23 A. Yes.

24 Q. Do you recall, approximately, how many
25 hours was involved in the prior engagement?

1 A. I don't recall precisely, but many weeks I
2 would guess.

3 Q. Many weeks. Okay.

4 And what is your hourly compensation?

5 A. It's between 500 and \$600 a month -- not a
6 month an hour.

7 Q. An hour. Very good, thank you.

8 And when you say "many weeks," how many
9 hours a week?

10 A. I mean many full-time equivalent weeks
11 over a period of many months.

12 Q. Thank you.

13 But you don't consider that an employee of
14 Google Inc.?

15 A. That's correct.

16 Q. Thank you.

17 Just to clarify, during that time,
18 approximately how much time was spent with
19 Dr. Grindon?

20 A. To the best of my knowledge, as I sit here
21 I don't remember ever meeting Dr. Grindon.

22 Q. Okay. Have you read Dr. Grindon's
23 declaration? And we can get that if you haven't.

24 A. To the best of my knowledge, as I sit here
25 today I don't think I ever read Dr. Grindon's

1 declaration.

2 Q. Thank you.

3 Was it provided to you by counsel?

4 MR. ALMELING: And to be clear, the
5 question could call for protected
6 communications, so if you respond, yes, no or I
7 don't know to the initial question.

8 THE WITNESS: I don't know.

9 BY MR. KINCART:

10 Q. Are either of the counsel here your
11 counsel? Do they represent you?

12 MR. ALMELING: As I stated on the
13 record at the beginning, I represent both the
14 witness and the Petitioner.

15 MR. KINCART: Thanks and -- okay.
16 Thank you for clarifying.

17 BY MR. KINCART:

18 Q. Has the law firm of Fish & Richardson
19 provided to you the declaration of Dr. Grindon?

20 MR. ALMELING: Same yes, no or I
21 don't know to the initial question.

22 MR. KINCART: We shouldn't coach.

23 MR. ALMELING: To be fair, I'm -- if
24 you would like me to, I can give the full
25 objection that says pursuant to Federal Rule 26

1 you don't allow communications with experts,
2 therefore, omit from your answer any
3 communications with experts. I don't think
4 counsel asked for that. But to the extent that
5 you're going to respond, respond without
6 revealing those communication. By saying yes,
7 no or I don't know, I short-circuited that
8 entire process.

9 MR. KINCART: Okay.

10 MR. ALMELING: And if he says
11 something, you can follow-up. But I think the
12 initial answer is a fair one. But to be clear,
13 I'm not trying to coach him.

14 MR. KINCART: Okay.

15 MR. ALMELING: So if you feel like
16 I'm stepping over that line --

17 MR. KINCART: I felt it a little bit
18 but . . .

19 MR. ALMELING: -- let me know.

20 MR. KINCART: Okay. Thank you.

21 Can you repeat the question of
22 Dr. Grindon?

23 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

24 BY MR. KINCART:

25 Q. I'll restate the question.

1 Was the Grindon declaration provided to
2 you by Fish & Richardson?

3 A. I don't know.

4 Q. You don't know?

5 And just to be clear, to the best of your
6 knowledge, was the declaration provided to you by
7 Google?

8 A. I don't know.

9 Q. Did Google provide to you any of the
10 references cited?

11 A. Sir, can you clarify the question?

12 Q. Can you repeat back the question?

13 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

14 A. Question, have I cited in my
15 declaration -- '181 declaration?

16 Q. That's correct. In any of the
17 declarations.

18 A. Any of the three declarations?

19 MR. KINCART: This is a composite,
20 right?

21 MR. ALMELING: Yes.

22 And, Counsel, parts of this line of
23 questioning are appropriate, parts of it are
24 not. Communications with experts as far as
25 preparing the report are protected by Rule 26F.

1 And, perhaps, you can ask the question in a
2 different way such as which of the references
3 did you, yourself, find as opposed to asking
4 the question in terms of what did Google and
5 its counsel provide you.

6 MR. KINCART: I'd like to -- maybe
7 I'll do both. I'd like to know -- he's
8 indicated that he's worked with Dr. Grindon.
9 That --

10 THE WITNESS: Uh-uh.

11 MR. KINCART: -- in the Transcenic
12 case.

13 BY MR. KINCART:

14 Q. Have you ever worked with Dr. Grindon?

15 A. If by "work" you mean have I ever met him
16 or have I ever written something with him -- what do
17 you mean by "work"?

18 Q. Have you ever worked on a project for
19 which you were employed by Google that Dr. Grindon
20 also worked on?

21 A. I don't know the answer to that question.

22 Q. Very good.

23 Okay. On page 4 -- yes, perfect. I'm
24 just going to try to do it this way in order to
25 speed it up at the suggestion of counsel.

1 On Item 10 -- I'm sorry, right above
2 Item 10, so it would be the last bullet point of
3 Item 9, your declaration states: (Reading)

4 Other background references of
5 which I had previously been aware are
6 not cited herein that a position -- a
7 POSITA would have been recognized as
8 being related to the subject matter of
9 the '181 Patent.

10 Why were they not cited herein?

11 A. One minute.

12 (WITNESS REVIEWS DOCUMENTS)

13 As I sit here today I cannot recall
14 precisely why I chose not to cite each of the
15 references that I studied that I did not cite here.

16 Q. Okay. That's fine. Were any of those
17 background references provided to you by Google?

18 A. I'm sorry, I don't remember.

19 Q. Okay.

20 A. I just don't remember.

21 Q. Were any of those references or any of the
22 references provided to you by Google or by Fish &
23 Richardson?

24 MR. ALMELING: The same objection
25 here that I had the last time this question was

1 posed.

2 You can answer, though.

3 THE WITNESS: As I sit here today I
4 don't remember which of the references
5 originated with which party.

6 BY MR. KINCART:

7 Q. But some materials were provided by Fish &
8 Richardson?

9 A. I'm sorry, I don't remember if that's the
10 case.

11 Q. If anything was provided by Fish &
12 Richardson?

13 A. I'm sorry, I don't remember if any of
14 them --

15 Q. Okay.

16 A. -- were by them or by me or some other
17 party.

18 Q. Okay. Let's try a different -- let's see,
19 maybe it's -- it will be a little clearer.

20 You're teaching doctorate level students.
21 Are you familiar with a search engine?

22 A. Yes.

23 Q. Can you name some popular search engines?

24 A. Yes.

25 Q. Would you name three popular search

1 engines, the ones you would consider most popular?

2 A. I don't know which search engines are most
3 popular, but I use Safari most often. The others I
4 use much less.

5 Q. Safari as a search engine?

6 A. How about Google --

7 Q. Google --

8 A. -- Search.

9 Q. -- Search? Okay.

10 And when you conducted your research, did
11 you use a search engine?

12 A. Yes. Among other things, yes.

13 Q. Okay. And, again, it's a simple question.

14 When did you first become aware of the
15 Di Bernardo reference -- strike that one.

16 THE REPORTER: Did you say strike
17 that?

18 MR. KINCART: No, no.

19 THE WITNESS: I don't remember
20 precisely when I was first aware of it.

21 BY MR. KINCART:

22 Q. Was it -- did you first become aware of
23 the Di Bernardo reference prior -- strike that part,
24 I'm going to set a foundation.

25 When were you engaged by Google for this

1 case?

2 A. To the best of my recollection I was
3 engaged by Google for this case sometime last year.

4 Q. Give me a month.

5 A. Oh, I'm sorry. I'm sorry, I don't
6 remember the month.

7 Q. Okay.

8 A. I could go home and check my bills.

9 Q. I'm going to say --

10 A. Maybe a year.

11 Q. -- were you aware of the Di Bernardo
12 reference prior to -- so it was definitely in 2014?

13 A. Is that a question?

14 Q. Yes.

15 A. To the best of my recollection it was
16 2014, but I would have to check my records as to
17 whether it was 2013.

18 Q. That's fine.

19 Were you aware of the Di Bernardo
20 reference prior to 2014?

21 A. I don't know.

22 Q. Okay. How many weeks of time did you bill
23 Google on this matter in 2014? Approximate's fine.

24 A. My guess is I billed Google for some
25 multiple number of weeks over the past year.

1 Q. Thank you.

2 A. I don't --

3 Q. That's all. I want to try to make this
4 move on --

5 A. Yeah.

6 Q. -- a little quicker.

7 A. Sure.

8 Q. So in summary, did anyone provide to you
9 any materials related to this case?

10 A. Yes.

11 Q. Thank you.

12 Were any of the prior art references
13 included in what was provided to you?

14 A. The answers are yes, no or I don't
15 remember?

16 Q. This has nothing to do with counsel.

17 A. Yeah.

18 Q. Any one of those three?

19 A. I think yes.

20 Q. Terrific. Did you have an expectation
21 that if Fish & Richardson had pertinent information,
22 they would supply that to you?

23 MR. ALMELING: Objection. I instruct
24 the witness to omit from his answers any
25 communications that he had with counsel

1 regarding that expectation.

2 MR. KINCART: Noted that Fish &
3 Richardson is not his counsel.

4 MR. ALMELING: Fish & Richardson is
5 also representing the witness.

6 MR. KINCART: Representing the
7 witness?

8 MR. ALMELING: Representing the
9 witness and representing Google.

10 BY MR. KINCART:

11 Q. Did you have an expectation that Google
12 would provide to you information that was pertinent
13 to this matter?

14 MR. ALMELING: Same objection.

15 Exclude from your answer any
16 communications with any of Google's attorneys
17 or acting on Google's behalf.

18 MR. KINCART: But I'd like you to
19 answer in regard to Google.

20 THE WITNESS: I don't know.

21 BY MR. KINCART:

22 Q. You don't know?

23 A. I don't know.

24 Q. About an expectation?

25 A. That's correct, I don't know.

1 Q. As you sit here today, do you have an
2 expectation that Google would provide to you
3 pertinent information?

4 MR. ALMELING: Same objection and
5 instruction. Additional objection to form.

6 BY MR. KINCART:

7 Q. As you sit here today, do you have an
8 expectation that Google will provide to you any
9 information pertinent to this matter?

10 A. I don't know. I don't know.

11 Q. Okay. One more question before I move on
12 for now.

13 You stated that some information was
14 provided to you. Who provided that information?

15 A. I'm sorry, I don't remember.

16 Q. You acknowledge that you received
17 information, but you don't remember who it came
18 from?

19 A. That's correct.

20 Q. And if I understand correctly, you don't
21 remember if Di Bernardo was provided to you?

22 A. That's correct.

23 Q. Do you remember discovering Di Bernardo in
24 a search?

25 A. No, I don't remember.

1 Q. Okay. So we're going to march through
2 this then. We've already introduced Yoichi.

3 A. Yes.

4 Q. Do you remember if Yoichi was provided to
5 you?

6 A. I'm turning back as I sit here, and I
7 don't remember who provided Yoichi.

8 Q. Okay. Or Di Bernardo?

9 A. Yeah, or Di Bernardo.

10 Q. Okay. I get it.

11 A. And this was --

12 Q. I just wanted it affirmatively stated for
13 the record.

14 A. Yeah, this is a process over a long period
15 of time and a long time ago.

16 Q. Did anyone assist you with searching? Did
17 you hire someone to assist you with searching?

18 A. No, I did not hire anyone.

19 Q. Did you have a professional search
20 conducted by a professional search organization?

21 A. I personally did not hire anyone.

22 Q. Did you receive materials from a
23 professional search organization related to these
24 four IPRs?

25 A. I don't remember.

1 Q. On page 4, the very first declaration,
2 similar to the others, you list that you've analyzed
3 the prosecution history of the '181 Patent.

4 A. Yes, I see that.

5 Q. That you've analyzed the Yoichi patent?

6 A. Yes.

7 Q. That you've analyzed the Di Bernardo
8 reference?

9 A. Yes.

10 Q. That you've analyzed the Lachinski
11 reference?

12 A. Yes.

13 Q. And that you've analyzed the Kawabe
14 reference?

15 A. Yes.

16 Q. Have you analyzed any other references?

17 A. As I sit here today I don't remember
18 which, if any, additional references I analyzed for
19 this specific --

20 Q. That's fine.

21 A. -- this specific declaration.

22 Q. As you sit here today, were any of these
23 references I just read out to you provided to you by
24 someone else?

25 MR. ALMELING: Objection, asked and

1 answered.

2 MR. KINCART: We didn't include
3 Lachinski, Kawabe or the file history.

4 MR. ALMELING: And that is the first
5 set of general questions and then you got
6 specific, now you're going back to general.

7 BY MR. KINCART:

8 Q. Okay. This says specific list, please
9 answer.

10 A. Yes.

11 Q. Which one?

12 A. I think the prosecution history.

13 Q. Who provided that to you?

14 A. I'm sorry, I don't remember.

15 Q. Okay.

16 A. Some counsel.

17 Q. That's fine.

18 MR. ALMELING: I feel bad that you
19 don't remember our individual names.

20 THE WITNESS: I'm sorry, this was
21 like a long time ago.

22 MR. ALMELING: I'm just joking by the
23 way. I take no offense.

24 BY MR. KINCART:

25 Q. I'll rephrase the question.

1 Do you remember an organization that
2 provided information to you?

3 A. I'm sorry, I don't.

4 Q. Thank you.

5 MR. KINCART: So I'd like to enter
6 into evidence a new entry. Do we have a
7 number?

8 MS. HIGHAM: This will be 2072.

9 BY MR. KINCART:

10 Q. 2072, and it is copy of the MPEP
11 page 2173, Revision 6, September 2007. She'll mark
12 it and give it to you.

13 (EXHIBIT NUMBER 2072 WAS MARKED FOR IDENTIFICATION)

14 BY MR. KINCART:

15 Q. Dr. Fuchs, in the Section 2173.01, can you
16 read the first two sentences?

17 A. (Reading)

18 A fundamental principal
19 contained in 35 U.S. Code 112. Second
20 paragraph is that applicants are their
21 own lexicographers. They can define
22 in the claims what they regard as
23 their invention essentially in
24 whatever terms they choose so long as
25 any special meaning assigned to a term

1 is clearly set forth in the
2 specifications.

3 And there's some number here, see MPEP and
4 then Section 2111.01.

5 Q. Okay. Before our break we talked a little
6 bit about the term lexicographer. And are you
7 familiar with that term?

8 A. I've heard that term before.

9 Q. What is your understanding of that?

10 A. I believe a lexicographer, there are
11 probably multiple definitions of this, but I think
12 one definition would be a person who deals with
13 words and their definitions.

14 Q. Thank you.

15 And as you read 2173.01 the line that
16 says: (Reading)

17 They can define in the claims
18 what they regard as their invention
19 essentially in whatever terms they
20 choose.

21 Where would they choose those words, in
22 your understanding?

23 A. It says right here (indicating): (Reading)

24 So long as a term is clearly
25 set forth in the specification.

1 Q. Thank you very much.

2 MR. ALMELING: Counsel, are you
3 finished with Exhibit 2 --

4 MR. KINCART: We are. Yes, we're
5 finished with that, thank you.

6 (DISCUSSION HELD OFF RECORD)

7 I'd like to enter into evidence the
8 dictionary of computer and Internet terms
9 page 114 and you can mark and give that to him.
10 Here is yours (indicating).

11 (EXHIBIT NUMBER 2073 WAS MARKED FOR IDENTIFICATION)

12 MR. ALMELING: Exhibit 2073 is a
13 patent owner's single page exhibit containing
14 pages 114 and 115 of a book that was copied for
15 purposes of today's deposition. The title of
16 the book is Dictionary of Computer Terms. I
17 will repeat, Computer and Internet Terms, 11th
18 Edition from the publisher Barons.

19 BY MR. KINCART:

20 Q. If you're having a hard time reading that,
21 I'll give you the original. Okay? Would you read
22 for us the definition of conversion program?

23 A. (Reading)

24 Conversion program, a program
25 that is capable of changing a file

1 from one format to another.

2 Do you want me to go on?

3 Q. Yes, please.

4 A. (Reading)

5 For example, to use a TIFF
6 tagged image format file in a web page
7 design, the image must be converted to
8 point JPEG or point GIF format,
9 period. This can be done with a
10 separate conversion program or by the
11 save as command in the appropriate
12 image editing program.

13 Q. Thank you.

14 As an expert in computer science, is that
15 consistent with what -- your understanding of that
16 term?

17 MR. ALMELING: Objection, among
18 others lack of authentication and lacks
19 foundation.

20 You can answer.

21 THE WITNESS: This is one of multiple
22 meanings of conversion program.

23 BY MR. KINCART:

24 Q. If you were teaching your students today,
25 would they be wrong if they came to you with that

1 definition?

2 A. This is one of multiple ones that might be
3 okay.

4 Q. That's not answering my question. Please
5 answer my question.

6 A. State the question again, so I can answer
7 it more precisely.

8 Q. Sure.

9 MR. KINCART: Would you please read
10 back the question?

11 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

12 A. No.

13 Q. Thank you.

14 Would you turn now to the '181 Patent,
15 Column 9 line 42. And can you read to me from this
16 process to the end of the paragraph?

17 A. (Reading)

18 This process is then repeated,
19 each of the TIFF, T-I-F-F, images
20 which are then stored in each of the
21 image files. A recompose-sitting
22 program, 650, open paren, in this
23 example implemented using an open
24 source programming tool. It's called
25 FF like file format -- M like

1 multiple, P-E-G, close paren, that
2 assembles each of the TIFF images,
3 T-I-F-F images, together in time
4 sequence to create a compressed video
5 file, period. Finally, the video in
6 MPEG-2 format with a newly added text
7 and icons added is streamed, 0660, out
8 to an end user using an open source
9 Apache web server.

10 Q. Thank you. And stay on that page, but
11 we're going to go up a little bit.

12 And let's start with line 22 with the
13 phrase "once a segment," and finish out that
14 paragraph.

15 MR. ALMELING: Counsel, I don't mean
16 to interrupt the questioning, and I'm happy to
17 let the witness continue to read excerpts into
18 the record. Perhaps, and even more efficient,
19 if you'd just like him to read to himself then
20 answer questions about it.

21 MR. KINCART: May I read it?

22 MR. ALMELING: Anyone could read it
23 off the record.

24 MR. KINCART: Sure.

25 MR. ALMELING: I just don't want to

1 waste the time if that's not necessary for you.

2 BY MR. KINCART:

3 Q. (Reading)

4 Once a segment of video is
5 selected that contains video frames
6 within 300 feet, an extractor program,
7 0620, which is based on an open source
8 programming tool MEncoder,
9 M-E-N-C-O-D-E-R, converts the
10 compressed MPEG-2 data into lossless
11 TIFF image files with each image file
12 encoded for camera orientation and
13 interpolated location.

14 Are these portions of the '181
15 specification consistent with the dictionary term of
16 art that we read from the Dictionary of Computer and
17 Internet Terms?

18 MR. ALMELING: Objection, form.

19 THE WITNESS: I would want to reserve
20 judgment before making an analysis sitting
21 right here.

22 BY MR. KINCART:

23 Q. Dr. Fuchs, your résumé indicates that
24 you've been a computer expert since the 1970s -- or
25 tell me the year that you began in your computer

1 work.

2 A. I first got paid for doing computer work
3 in around 1967 or 1968.

4 Q. Good for you. That's fine.

5 And are you familiar with the file formats
6 discussed in each of these citations of tagged image
7 file format a JPEG and a JIFF?

8 A. I have some familiarity with some of
9 these.

10 Q. Is it within the scope of your
11 understanding how to convert from one to another?

12 A. Can you be more specific about that? I
13 want to answer you as precisely as I can.

14 Q. Is it within the scope of your
15 understanding how to convert a file format from
16 tagged image file format to JPEG or JIFF format?

17 A. Not precisely but in general.

18 Q. Okay. Is it within your understanding how
19 to convert a file format from an MPEG-2 data into a
20 TIFF image file?

21 A. I understand the general concept but would
22 need to look at documentation for the specifics.

23 Q. Did you research any of that conversion in
24 the research that we discussed a little while ago?

25 A. Can you make that a more specific

1 question?

2 MR. KINCART: Can you read back the
3 question?

4 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

5 BY MR. KINCART:

6 Q. Okay. Let me walk you back through it.

7 In your declaration you indicate that you
8 did research.

9 A. Yes.

10 Q. So you're familiar with that section?

11 MR. ALMELING: Counsel, again, I
12 don't want to suggest anything to the witness
13 and if I am, please stop me. I think that
14 confusion may have been do you -- was the
15 question, are you familiar with the algorithms
16 to convert one format to another?

17 MR. KINCART: I wanted the question
18 as I stated, thank you.

19 BY MR. KINCART:

20 Q. And on page 4 last item in 9: (Reading)

21 Are the background references
22 which I'd previously been aware not
23 cited herein that a POSITA would have
24 recognized.

25 Did you research conversion from an MPEG

1 to another file format?

2 A. Not for this.

3 Q. Thank you. Very simple.

4 MR. KINCART: I think I do need the
5 reference to the MPEP again, if you don't mind.
6 Sorry about that, I thought we were done.

7 MR. ALMELING: No worries.

8 BY MR. KINCART:

9 Q. We've provided for you in the MPEP that an
10 inventor may use his own terms and provided a term
11 of the industry and a definition and we've provided
12 a description in the specification. In interpreting
13 the MPEP, do you think that the inventor provided a
14 description of what conversion means?

15 MR. ALMELING: Objection, form, lacks
16 foundation.

17 THE WITNESS: Sitting here today I am
18 not prepared to make that judgment on the spot.

19 BY MR. KINCART:

20 Q. Okay. In Column 9 of the '181 Patent
21 where it specifically discusses conversion, that we
22 just read aloud, is that consistent with your
23 understanding of conversion in your analysis of the
24 '181 Patent?

25 A. There are multiple definitions of any

1 term, and the precise use of it here needs some
2 significant analysis.

3 Q. But there is a description of conversion
4 provided in the patent consistent with the MPEP's
5 direction of how an inventor is to describe it?

6 MR. ALMELING: Objection, form, lacks
7 foundation.

8 BY MR. KINCART:

9 Q. In the portion of the MPEP 2173.01 it
10 states: (Reading)

11 Applicant may use functional
12 language, alternative expressions,
13 negative limitations or any style or
14 expression or format of a claim which
15 makes clear the boundaries of the
16 subject matter for which protection is
17 sought and, essentially, in whatever
18 terms they choose so long as any
19 special meaning assigned to the term
20 is clearly set forth in the
21 specification.

22 Do you find any special meaning to the
23 term conversion in the portion that we just read in
24 the specification?

25 MR. ALMELING: Objection, form, lacks

1 foundation.

2 BY MR. KINCART:

3 Q. Please answer.

4 A. Whether or not there are any special
5 meanings is something I'm not prepared to answer
6 just sitting here on the spot looking at a couple of
7 sentences.

8 Q. Is it consistent with the term of art
9 described in the Barron's reference that you read
10 aloud?

11 MR. ALMELING: Objection, asked and
12 answered.

13 MR. KINCART: Okay.

14 BY MR. KINCART:

15 Q. The definition as described in Barron's
16 that you read aloud, does it discuss converting from
17 one file type to another file type? It's here
18 (indicating).

19 A. Can you repeat the question, make sure I
20 understand it correctly?

21 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

22 MR. ALMELING: Counsel, just having
23 that single question read back obscures the
24 question that you've actually asked.

25 MR. KINCART: I will rephrase.

1 MR. ALMELING: Okay.

2 BY MR. KINCART:

3 Q. According to the definition that you read
4 a conversion must be converted to JPEG or JIFF
5 format from TIFF format. Is that consistent with
6 what was written in the '181 Patent in Column 9?

7 A. I'm sorry, I'm looking back. I'm looking
8 to see where in the specifications it says
9 conversion from JPEG to TIFF format.

10 Q. No, I'm sorry, the definition says from
11 the first file format to another such as JPEG to
12 TIFF. Is there a first -- does the '181 Patent
13 describe changing from a first file format to a
14 second file format?

15 MR. ALMELING: In particular,
16 Counsel, do you mean Column 9, lines
17 23 through 27?

18 MR. KINCART: It does it twice, but,
19 yes, 23 through 27. Okay --

20 THE WITNESS: As I read this, there
21 is talk here in the '181 Patent between 23
22 and 25 something about converts the compressed
23 MPEG-2 data into lossless TIFF image files.

24 BY MR. KINCART:

25 Q. Is that consistent with the term of art

1 defined in the Barron's that you just read?

2 A. It certainly appears that one phrase
3 appears to be consistent with that. But I will want
4 to reserve the right to study this more closely
5 before answering in a definitive way.

6 Q. Dr. Fuchs, what is the verb that is used
7 on line 25?

8 A. Converts.

9 Q. Thank you.

10 And if you go up to line 10 in the
11 sentence that begins on line 9, the processes are
12 implemented by what?

13 A. I'm sorry, your question is?

14 Q. Okay. Please read line 9 and 10.

15 A. Figure 6 --

16 Q. No, you can do it to yourself, and
17 Figure 6 relates to actions taken by what?

18 A. Would it be okay with you if I read it out
19 loud --

20 Q. Please do.

21 A. -- so then you make sure that I've read --

22 Q. Please do.

23 A. -- the parts that you're asking me about?

24 Q. Please do.

25 A. Okay. So I'll read that whole sentence

1 starting Column 9 line 9. (Reading)

2 Figure 6 is a flow diagram of
3 the processes implemented with the
4 image processing servers 0115 required
5 to superimpose geocoded text data over
6 video captured by the video capture
7 system.

8 Q. Very good. So the process described in
9 Figure 6 is described by what -- is being performed
10 by what?

11 A. Again, I'm responding to this on the fly,
12 let me see if I can give you a better answer.

13 (WITNESS REVIEWS DOCUMENTS)

14 Can you repeat the question, please?

15 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

16 Q. Dr. Fuchs, only lines 9 and 10.

17 A. Image processing servers.

18 Q. Thank you.

19 Dr. Fuchs, you've indicated that you're an
20 expert for many decades in computer science, that
21 you've studied this patent for many weeks over many
22 months and analyzed and researched. You can't
23 remember what you researched. You can't remember
24 where your references came from. And each time I
25 ask a question you flip through your declaration to

1 find the answer. Are you familiar with the '181
2 Patent?

3 MR. ALMELING: Objection, form. Also
4 borderline abusive and argumentative and
5 misstates testimony.

6 THE WITNESS: Yes.

7 BY MR. KINCART:

8 Q. Thank you.

9 Dr. Fuchs, can you turn to Claim 1,
10 Column 18? In the first claim element there's a
11 reference to geographic location. Are you familiar
12 with that reference?

13 A. Yes.

14 Q. Thank you.

15 And in the fourth claim element there's a
16 reference to geographic location of interest. In
17 your analysis of the '181 Patent, did you
18 differentiate between those and if so, how?

19 (WITNESS REVIEWS DOCUMENT)

20 A. May I ask, did you find a definition of
21 this in my declaration?

22 Q. I believe the question was, did you
23 distinguish between geographic location and
24 geographic location of interest?

25 A. I believe I used the terms in their plain

1 and ordinary meaning.

2 Q. Okay. Can you explain in your
3 interpretation a difference?

4 A. A geographic -- I think a plain and
5 ordinary meaning of geographic location is a
6 location somewhere on the earth, and a plain and
7 ordinary meaning of geographic location interest is
8 a location on the earth that's of interest to
9 someone.

10 Q. In your analysis of the claims, how did
11 you determine if someplace on the earth, using your
12 words, is of interest to someone?

13 A. I think the plain and ordinary indication
14 of interest is that they indicated through some user
15 action.

16 Q. I see. And in your analysis of Claim 1 of
17 the element that states wherein the database server
18 identifies video image files stored in the video
19 storage server that correspond to the geographic
20 location of interest, how does it explain how that
21 geographic location of interest is indicated?

22 MR. ALMELING: Objection, form. I
23 can, briefly, explain, and that may help your
24 question. In that printout it, I don't know if
25 it meant Claim 1 or it meant the patent. You

1 said how does "it" show that.

2 BY MR. KINCART:

3 Q. I said in the claim element that begins
4 wherein the data -- so in the claim element wherein
5 the database server identifies video image files
6 stored in the video storage server that correspond
7 to the geographic location of interest, how does
8 that claim element indicate -- thank you -- the
9 geographic location of interest?

10 A. Let me preface that answer by saying that
11 I want to reserve the right to modify this upon
12 greater reflection, but sitting right here it looks
13 like data contained in the data query.

14 Q. Thank you.

15 And if we continue reading to the next
16 claim element, wherein the image processing server
17 converts the video drive-by data?

18 A. To pose process video data --

19 Q. Did your analysis include the description
20 that we reviewed referring to Figure 6 in Column 9?

21 (WITNESS REVIEWS DOCUMENTS)

22 A. My analysis of the '181 Patent included
23 studying the entire '181 Patent of which this figure
24 is included.

25 Q. Thank you.

1 And your analysis and interpretation of
2 that claim element, did it include the method we
3 reviewed? I'm referring to Figure 6 in Column 9.

4 MR. ALMELING: Objection, form.

5 THE WITNESS: I think I've answered
6 that data -- that question already.

7 BY MR. KINCART:

8 Q. And the fifth claim element which begins
9 wherein the image processing server converts, did
10 your analysis of the verb converts take into
11 consideration the description of Figure 6 in
12 Column 9?

13 A. Yes.

14 Q. It did.

15 And so you would find the description in
16 Column 9 consistent with the interpretation of
17 converts in that claim?

18 (WITNESS REVIEWS DOCUMENTS)

19 A. There are multiple definitions of the term
20 converts and you, sir, have provided me one of them.
21 There are many others that may be possible.

22 Q. Just to qualify -- or you pointed to the
23 definition contained in Barron's when you said "one
24 of them," and Barron's we found consistent with what
25 was stated in Column 9, or did we find that

1 consistent with what was stated in Column 9?

2 MR. ALMELING: Objection, asked and
3 answered at some length.

4 BY MR. KINCART:

5 Q. Is your interpretation as you sit here
6 today of the verb converts consistent with the
7 dictionary term in Column 9?

8 A. As I sit here today I don't want to limit
9 myself to definitions of the term converts that you
10 have provided.

11 Q. Okay.

12 MR. ALMELING: Is now a good time for
13 a break for you?

14 MR. KINCART: I think so.

15 MR. ALMELING: Let's go off the
16 record.

17 (RECESS TAKEN FROM 2:14 P.M. TO 2:28 P.M.)

18 MR. KINCART: We are going to enter
19 into evidence Exhibit 2002. It's already been
20 entered in the previous one, I don't know if
21 you need that.

22 MR. ALMELING: And for clarity of the
23 record, Exhibit 2002 as indicated by the
24 footnote is 2002 in all of the IPRs.

25 MS. HIGHAM: Yeah.

1 BY MR. KINCART:

2 Q. Dr. Fuchs, you have before you the
3 declaration of Dr. John R. Grindon in support of
4 Google's opening claim of construction; is that
5 correct?

6 A. Yes.

7 Q. And if we turn to Paragraph 38 on
8 page 11 --

9 A. Yes.

10 Q. -- and -- I'm sorry -- and towards the
11 bottom it states: (Reading)

12 But one of ordinary skill in
13 the art would recognize that images
14 may be processed, quote, on the fly as
15 they are being received and originally
16 stored in permanent memory as
17 composite images.

18 Based on your understanding of the
19 Di Bernardo reference, would you think that's
20 correct?

21 MR. ALMELING: Objection, lacks
22 foundation. The witness indicated he doesn't
23 recall ever meeting Dr. Grindon nor reviewing
24 any declaration that Dr. Grindon provided. If
25 you're asking a question -- taking this

1 question in the abstract unrelated to
2 Di Bernardo and applying to it, that's fine.
3 But I'm not sure if your question is about this
4 declaration or if it is about that concept and,
5 hence, the objection to lack of foundation.

6 BY MR. KINCART:

7 Q. Okay. Paragraph 3 of the Grindon
8 declaration states that it relates to three patents
9 in suit, Patent 7,239,760, 7,577,316, and 7,805,025,
10 7,813,596.

11 MR. ALMELING: And, perhaps, my
12 objection was confusing. I don't necessarily
13 think we need to -- if what you're doing is
14 sort of like describing what this document is
15 if you plan to ask about this document, I think
16 that's fine. If you're just asking about
17 whether he agrees with the abstracted statement
18 that you read is a fair description of
19 Di Bernardo, then I think that question can
20 proceed.

21 MR. KINCART: Thank you, that's all I
22 was asking him.

23 MR. ALMELING: Okay. Perfect.

24 MR. KINCART: It would have taken a
25 lot of time to set that foundation. Got it.

1 MR. ALMELING: So to be clear, his
2 question is, the statement that he read, do you
3 agree that that is an accurate statement of
4 Di Bernardo.

5 THE WITNESS: (Reading)

6 Images may be stored and
7 processed to form composite images,
8 but of ordinary skill in the art would
9 recognize that images may be processed
10 on the fly as they are being received
11 and originally stored into permanent
12 memory --

13 THE REPORTER: Speak loud for me.

14 THE WITNESS: I'm sorry, I didn't
15 know -- okay. (Reading)

16 Images may be stored and then
17 processed to form composite images,
18 but one of ordinary skill in the art
19 would recognize that images may be
20 processed, quote, on the fly, unquote,
21 as they are being received and
22 originally stored into permanent
23 memory as composite images.

24 MR. ALMELING: And I think I asked a
25 confusing question, because this -- I thought

1 this paragraph was describing Di Bernardo, it's
2 not, it's describing one of the Vederi patents.
3 Paragraph 34 talked about the patents in the
4 suit.

5 MR. KINCART: It should be the same
6 spec. Can we go off the record?

7 (DISCUSSION HELD OFF THE RECORD)

8 BY MR. KINCART:

9 Q. So in the Di Bernardo reference
10 Paragraph 38 Dr. Grindon quotes: (Reading)

11 The images are transferred
12 directly to the data acquisition
13 computer as the images are being
14 recorded in this scenario. The
15 computer is preferably equipped with
16 the video acquisition card and
17 includes sufficient storage space for
18 storing the acquired images. In this
19 embodiment the data acquisition
20 computer preferably contains program
21 instructions to create composite
22 images from the acquired images.

23 And referring back to the Grindon
24 declaration, Paragraph 38, Grindon states:
25 (Reading)

1 The images are transferred
2 directly to the data acquisition
3 Computer 34 as the images are being
4 recorded eliminating the post
5 processing system which includes the
6 image database storage.

7 Do we understand that?

8 A. I'm sorry, just one minute. Oh, yes, this
9 is on 20 of Figure 46.

10 MR. ALMELING: The confusion of this
11 refers to line number in a different
12 Di Bernardo reference, hence, we directed your
13 attention to Paragraph 38 --

14 THE WITNESS: Okay.

15 MR. ALMELING: -- which is
16 corresponding --

17 THE WITNESS: Could I look at the
18 figure that he refers to? Would that be the
19 same as I have here (indicating)?

20 BY MR. KINCART:

21 Q. It would be Figure 1, yes.

22 A. Okay.

23 Q. Okay. And if we turn -- we're going to
24 get this straight here -- to your first declaration
25 Paragraph 65 and 67 --

1 A. Sixty-five and 67.

2 Q. -- you state: (Reading)

3 The system of Di Bernardo
4 includes a camera array for capturing
5 street-level video data, a Computer 34
6 for storing video data, a Computer 28
7 to function as an image processing
8 server for creating post process
9 images from the captured video data.

10 How does that -- or does that contradict
11 Grindon's statement that it eliminates post
12 processing?

13 MR. ALMELING: Objection, form.

14 You can answer.

15 (WITNESS REVIEWS DOCUMENTS)

16 THE WITNESS: Sitting here today I
17 could answer questions about my own analysis,
18 but I cannot give you an analysis of some other
19 expert's analysis, that would take some
20 significant amount of time for me to read
21 through this and give you a correct response.

22 BY MR. KINCART:

23 Q. Based on what I just read you about post
24 processed images and the image processing server,
25 does your declaration indicate that post processing

1 is done?

2 A. I'm sorry, where are you referring to in
3 my analysis?

4 Q. Paragraph 65, the line that indicates the
5 Computer 28 to function as an image processing
6 server for creating post process images.

7 A. On Computer 34 --

8 Q. There you go.

9 (WITNESS REVIEWS DOCUMENTS)

10 THE WITNESS: Can you read back the
11 question, please?

12 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

13 Yes.

14 BY MR. KINCART:

15 Q. Okay. That's a good answer. One of the
16 three possible answers.

17 A. Thank you.

18 Q. I think we'll let it go at that.

19 There's a statement on page 11 lines 23
20 to 24 by Dr. Grindon which states: (Reading)

21 Because the data acquisition
22 computer preferably contains program
23 instructions to create the composite
24 images from the acquired images, it
25 can form the composite images itself

1 without the need for the post
2 processing system.

3 Is that statement in contradiction to the
4 answer you just gave?

5 A. I don't know.

6 Q. Did you answer yes to whether Di Bernardo
7 requires a post processing system?

8 MR. ALMELING: Objection, form.

9 BY MR. KINCART:

10 Q. In your declaration, does Di Bernardo
11 require a post processing system?

12 A. Not require.

13 Q. Does not require?

14 A. Does it allow --

15 Q. That's a good answer.

16 MR. ALMELING: I'm sorry, Counsel.

17 Were you finished with your answer?

18 THE WITNESS: No, I'm not finished
19 with the answer.

20 MR. ALMELING: Please proceed.

21 MR. KINCART: I think that it was a
22 yes-or-no answer.

23 MR. ALMELING: The witness was
24 answering your question, and you not permitting
25 him to fully answer is not fair to the witness.

1 He has permitted you to ask your questions in
2 full; it's a courtesy to allow him to answer it
3 in full. If you have additional testimony,
4 provide it, if not, please stop.

5 THE WITNESS: My understanding is
6 that there are multiple variations of
7 Di Bernardo that Di Bernardo clearly states and
8 in the --

9 MR. KINCART: Objection -- objection.
10 This is beyond the scope of the question.

11 MR. ALMELING: You can move to strike
12 as nonresponsive, but you cannot prevent the
13 witness from answering the question.

14 Please proceed with your answer.

15 MR. KINCART: I would like to move to
16 strike as nonresponsive.

17 MR. ALMELING: That's fine, but in
18 the meantime conclude your answer.

19 THE WITNESS: Di Bernardo talks about
20 a variety of mechanisms and alternatives. Then
21 he discloses a variety of mechanisms and
22 alternatives. Among them are ones that have
23 post processing.

24 MR. ALMELING: Are you finished?

25 THE WITNESS: Yes.

1 BY MR. KINCART:

2 Q. Are you familiar with the term fictitious
3 camera in Di Bernardo?

4 A. I believe I've seen the term.

5 Q. Can you explain to me the concept of a
6 fictitious camera?

7 A. Can you tell me where he refers to it?

8 Q. I believe it is Column 5 line 55. We have
9 different versions.

10 MR. ALMELING: I believe the
11 corresponding section is Paragraph 45, Joe.

12 MR. KINCART: Thank you. It's the
13 same spec, it's numbered differently.

14 MR. ALMELING: And, Joe, to be clear,
15 it does at the end of 45 -- thank you --
16 Di Bernardo references a fictitious camera in
17 44, 45, 64, 65 and elsewhere. Which particular
18 one did you want to draw the witness's
19 attention to, or does any of them?

20 MR. KINCART: Just to the concept of
21 it, any of them.

22 MR. ALMELING: So, perhaps, we'll
23 start with 44 through 45. I'm sorry,
24 45 through 46.

25 THE WITNESS: I'm sorry, you said

1 45 through --

2 MR. ALMELING: Paragraph 45 and 46
3 both discuss fictitious camera. Counsel will
4 have questions about fictitious camera. And,
5 perhaps, you want to ask the question first.

6 BY MR. KINCART:

7 Q. Can you describe the concept of a
8 fictitious camera?

9 A. Yes, a fictitious camera, computer serves
10 as fictitious camera located behind the actual
11 camera identifies optic rays originated from that
12 fictitious camera.

13 Q. In your declaration, Paragraph 17, you
14 interpret the term video drive-by data to mean
15 street-level video data. Would a fictitious camera
16 be capable of capturing street-level video data?

17 A. I don't understand that question.

18 Q. You described the functionality of a
19 fictitious camera. Is it capable of capturing your
20 interpreted term street-level video data?

21 A. The concept of a fictitious camera can be
22 used in a variety of applications including for
23 street-level video data.

24 Q. Thank you.

25 Dr. Fuchs, are you familiar with a

1 provider of parcel line data?

2 A. I don't think so.

3 Q. Are you familiar with a computer aided
4 maps appraisal sometimes referred to by the acronym
5 CAMA?

6 A. I don't think so.

7 Q. Thank you. One more question then.

8 Can a computer aided maps appraisal be
9 generated using a fictitious camera? And I don't
10 know how to say, based on your earlier questions,
11 you may just say, I don't know. I needed to ask
12 some version of that question, and if you don't
13 know, that's fine.

14 A. I don't know.

15 Q. That's fine.

16 Are you familiar with any providers of
17 street-level imagery today?

18 MR. ALMELING: Objection, relevance.

19 THE WITNESS: Yes.

20 BY MR. KINCART:

21 Q. Thank you.

22 Are you familiar with how the street-level
23 imagery is used in different industries?

24 MR. ALMELING: Objection, form.

25

1 BY MR. KINCART:

2 Q. Are you familiar with how street-level
3 imagery is used in the appraisal business?

4 A. No.

5 Q. Are you familiar with how street-level
6 imagery is used in the real estate industry?

7 A. I have read about this from time to time,
8 but I'm not familiar with it.

9 Q. Based on what you have read, would a
10 fictitious camera be acceptable for use in the real
11 estate industry?

12 MR. ALMELING: Objection, form.

13 Additionally, objection, lacks foundation.

14 THE WITNESS: I've -- I would -- I'd
15 have to consider that long and hard. I don't
16 know sitting here today.

17 BY MR. KINCART:

18 Q. Thank you.

19 Based on the previous three answers, are
20 you able to describe a desired image format for
21 either of the real estate industry or the appraisal
22 industry?

23 MR. ALMELING: Objection, form.

24 You can answer.

25 THE WITNESS: Could you be -- can you

1 make -- I don't understand that question.

2 BY MR. KINCART:

3 Q. Are you familiar with the claim limitation
4 desired image format in the '181 Patent?

5 A. I have seen the term.

6 Q. It's getting late. Are you capable of --
7 do you have the understanding of the '180 patent for
8 us to proceed?

9 A. 181?

10 Q. Yes. Okay. Just want to make sure.

11 In Claim 1 of the '181 Patent the last
12 element states: (Reading)

13 Video drive-by --

14 A. One second, please. I'm there.

15 Q. Okay. Thank you. (Reading)

16 -- wherein the image
17 processing server converts the video
18 drive-by data to post process video
19 data corresponding to desired image
20 format.

21 So I'm referring to the claim limitation
22 there for a desired image format as it relates to
23 the real estate industry or the appraisal industry.

24 MR. ALMELING: And, perhaps, this is
25 my confusion, are you asking what does the

1 phrase "desired image format" mean in those
2 industries?

3 MR. KINCART: Yeah, I just wanted to
4 know if he was familiar with the industries and
5 what would be acceptable to them as a desired
6 image format.

7 MR. ALMELING: Oh, I see. So the
8 question is, what is a desired image format
9 that would be acceptable to the real estate and
10 appraisal industries?

11 MR. KINCART: That's fine.

12 MR. ALMELING: Do you understand?

13 BY MR. KINCART:

14 Q. Are you familiar with what would be
15 acceptable to the real estate industry?

16 A. No, I'm not.

17 Q. Okay. That's fine. It's a perfectly fine
18 follow-up.

19 Based upon that answer, is it accurate to
20 say that we can't determine whether a fictitious
21 camera could generate the desired image format?

22 A. I would not come to that conclusion.

23 Q. Yeah, I understand. I have to complete
24 the thought, that's all.

25 Okay. How about video and data server

1 farm? Based on your knowledge of the industry, can
2 you fit a video and data server farm in a motor
3 vehicle?

4 A. Possibly.

5 Q. So in your declaration, Paragraph 67, you
6 state that: (Reading)

7 A POSITA would have recognized
8 that Di Bernardo discloses a system
9 including a video and data server
10 farm.

11 There's no explanation. Can you provide
12 some support for that statement?

13 (WITNESS REVIEWS DOCUMENTS)

14 A. The support for that is earlier in my
15 declaration. Would you like me to read that to you?

16 Q. Just point to the section.

17 A. Paragraph 67 there are references to
18 Di Bernardo Paragraph 32 and 34 and 79 and 90
19 through 99.

20 Q. In Paragraph 67?

21 A. I'm sorry, 67 of my declaration.

22 Q. Oh, sorry, could we turn to Di Bernardo,
23 Paragraph 32? Can you show me where it describes a
24 video and data server farm?

25 A. Can you read the question back, please?

1 Q. Can you indicate to me where in
2 Paragraph 32 it describes the term server farm?

3 A. I think it's in -- more clearly in
4 Paragraph 79. Do you want me to read it to you?

5 Q. Well, is the answer no to Paragraph 32?

6 (WITNESS REVIEWS DOCUMENTS)

7 A. Di Bernardo talks -- starts talking about
8 it in Paragraph 32 and gives more and more details
9 in the following paragraphs, for example, in 79.

10 Q. And it mentions the term server farm?

11 A. I state that: (Reading)

12 I believe a POSITA would have
13 recognized that Di Bernardo discloses
14 a system including a video and data
15 server farm much like that of the
16 '181 Patent.

17 Q. So --

18 A. I could show you where.

19 Q. -- does Paragraph 32 include the term
20 server farm?

21 A. Paragraph 32 starts talking about his
22 system.

23 Q. Thank you.

24 Does Paragraph 72 or 79 mention the words
25 server farm?

1 A. The words that Di Bernardo uses are
2 slightly different, but I believe that a POSITA
3 would have recognized that Di Bernardo discloses a
4 system including a video and data server farm much
5 like that of the '181 Patent.

6 Q. Thank you.

7 Dr. Fuchs, are you familiar with the Scout
8 system?

9 A. I think I have heard the phrase.

10 Q. Thank you.

11 Dr. Fuchs, if you turn to Figure 16 of
12 Di Bernardo, is that the Scout tool that you're
13 familiar with or that you have heard of?

14 (WITNESS REVIEWS DOCUMENTS)

15 A. I noticed this term (indicating) while I
16 was reviewing Di Bernardo.

17 Q. Very good. And based on your knowledge in
18 the industry, does Di Bernardo represent the Scout
19 tool correctly?

20 MR. ALMELING: Objection to form.

21 THE WITNESS: I don't know.

22 MR. ALMELING: You can answer.

23 BY MR. KINCART:

24 Q. The paragraph that can probably save a lot
25 of time if we refer to is the third paragraph

1 describing Figure 6, for me it's Column 12 lines 15.
2 But it begins Figure 16 is illustration, and then it
3 goes on for several paragraphs. The third one.

4 MR. ALMELING: Is it the paragraph
5 that begins Figure 16 is an illustration or the
6 one that begins --

7 MR. KINCART: The next one after the
8 retrieve, so it's an ultimate --

9 MR. ALMELING: So 84 is the --

10 MR. KINCART: There you go.

11 MR. ALMELING: -- paragraph in our
12 document?

13 MR. KINCART: Thank you.

14 MR. ALMELING: Counsel, if you could
15 repeat the question regarding --

16 MR. KINCART: Absolutely, if he has
17 the right --

18 THE WITNESS: Paragraph 84.

19 BY MR. KINCART:

20 Q. In the middle of that -- in Paragraph 84
21 and ultimate sentence it describes: (Reading)

22 In displaying the information
23 icons a range of street addresses for
24 the currently displayed image is
25 computed. The listings --

1 A. Excuse me, are you sure this is 84?

2 MS. LEUNG: Eighty-five.

3 MR. KINCART: Eighty-five?

4 MS. LEUNG: Yes.

5 MR. KINCART: Sorry, 85. It's fine.

6 THE WITNESS: Okay. Hold on. Let me
7 make sure that I have the right thing.

8 MR. ALMELING: Second-to-last.

9 MR. KINCART: Second-to-last.

10 THE WITNESS: In displaying -- yes,
11 in displaying the information icons --

12 MR. KINCART: There we go.

13 MR. ALMELING: And you should wait
14 until he -- he will ask you a question.

15 BY MR. KINCART:

16 Q. Two thirty-four: (Reading)

17 A range of street addresses
18 for the currently displayed images
19 computed the listings in the object
20 information database with street
21 numbers that fall inside the computed
22 range are then selected.

23 Based on your knowledge of the Scout tool,
24 how many parcels -- or would a range of street
25 addresses include more than one parcel?

1 (WITNESS REVIEWS DOCUMENTS)

2 A. It might. But he talks also about a
3 specific address right adjacent to this.

4 Q. That was not the question.

5 The TIGER database, does it indicate
6 endpoints of streets based on your knowledge of
7 TIGER?

8 A. I don't know.

9 Q. That's fine. Does TIGER provide any
10 delineation of street addresses based on your
11 knowledge?

12 A. I don't know.

13 Q. Does TIGER provide any delineation of
14 property parcels?

15 A. I don't know.

16 Q. That's fine. Based on your knowledge, are
17 any cities delineated into a perfect grid?

18 MR. ALMELING: Objection, form.

19 You can answer.

20 THE WITNESS: I don't know.

21 BY MR. KINCART:

22 Q. That's a fine answer. If a city is not
23 laid out as a perfect grid, based on your
24 understanding of Di Bernardo, can they accurately
25 locate a street address?

1 MR. ALMELING: Objection, form.

2 You can answer.

3 (WITNESS REVIEWS DOCUMENTS)

4 THE WITNESS: Possibly.

5 BY MR. KINCART:

6 Q. Go ahead.

7 A. Possibly.

8 Q. Possibly, thank you.

9 Back to your declaration, then I think
10 we're running late on -- one more question and then
11 we'll take a break.

12 MR. ALMELING: That's fine.

13 THE WITNESS: Sure.

14 MR. ALMELING: Or do you want to keep
15 going or would you rather --

16 THE WITNESS: Whatever you like.

17 MR. KINCART: Okay.

18 THE WITNESS: I can keep going.

19 MR. ALMELING: Proceed as works best
20 for you, Counsel.

21 BY MR. KINCART:

22 Q. Okay. Page 36 and 37, so Paragraph 53.

23 In Paragraph 53 you state that: (Reading)

24 Based upon your knowledge and
25 your experience and your review of the

1 '181 Patent and the Di Bernardo and
2 Yoichi publications you believe that a
3 POSITA would have recognized a Yoichi,
4 and Di Bernardo described very similar
5 systems.

6 Would the TIGER system be applicable to
7 the Yoichi publication?

8 MR. ALMELING: Objection, form.
9 You can answer.

10 THE WITNESS: I don't know.

11 BY MR. KINCART:

12 Q. Later on in the same paragraph you state:
13 (Reading)

14 Modifying the system of Yoichi
15 to incorporate the teachings of
16 Di Bernardo would not significantly
17 alter or hinder the functions
18 performed by the system of Yoichi.

19 Similar question, would using the TIGER
20 system taught in Di Bernardo alter or hinder the
21 functions performed in Yoichi?

22 MR. ALMELING: Objection, form.

23 THE WITNESS: I don't know.

24 BY MR. KINCART:

25 Q. Thank you.

1 MR. KINCART: All right. You know
2 what, I'd like to take a break, because I think
3 we're going to switch and try to move on to the
4 '800 and -- 396, and we're going to just
5 reorganize. So you guys don't have to sit here
6 while we do that.

7 MR. ALMELING: Okay.

8 THE WITNESS: I can take a walk or --

9 MR. KINCART: Take ten minutes.

10 (RECESS TAKEN 3:38 P.M. TO 3:52 P.M.)

11 BY MR. KINCART:

12 Q. Dr. Fuchs, we're going to talk a little
13 about Patent Number U.S. 8,078,396 to the inventor
14 William Meadow. Have you had a chance to review and
15 analyze the Meadow patent?

16 A. Yes.

17 Q. Okay. And you're in a good condition to
18 discuss it today? Basic --

19 A. Yes.

20 Q. You have an understanding sufficient to
21 discuss it, that's great. I'm going to put my
22 papers back in order here.

23 Okay. If we turn to Claim 1 in Column 10,
24 and the method claims a method for creating a
25 continuum of image data. Can you describe to me how

1 you interpreted a continuum of image data?

2 A. Yes.

3 Q. Please do.

4 A. Image data under the broadest reasonable
5 interpretation standard is interpreted to mean two
6 or more images captured along the path.

7 Q. Very good. And in your interpretation,
8 then, of Element A, receiving multiple
9 two-dimensional image datasets, can you tell me how
10 you interpreted an image dataset?

11 (WITNESS REVIEWS DOCUMENTS)

12 A. I think I interpreted image dataset in the
13 common ordinary meaning of the term, nothing
14 special.

15 Q. I'm not sure that that's -- okay, we're
16 fine.

17 How, then, did you interpret
18 two-dimensional image datasets?

19 (WITNESS REVIEWS DOCUMENTS)

20 A. I interpreted two-dimensional image
21 datasets in the common ordinary meaning of datasets
22 associated with two-dimensional images.

23 Q. Thank you.

24 You stated that you have analyzed the
25 Meadow patent. What types of two-dimensional images

1 does the Meadow patent relate to?

2 MR. ALMELING: Objection, form.

3 You can answer.

4 (WITNESS REVIEWS DOCUMENTS)

5 THE WITNESS: The '396 Patent talks
6 about two-dimensional images in many different
7 places.

8 BY MR. KINCART:

9 Q. Okay. So in your -- you've interpreted
10 the claims of the '396 Patent?

11 A. Yes.

12 Q. And in your interpretation of the claims,
13 did you interpret the terms included in the claims?

14 A. Yes.

15 Q. So my question is, how did you interpret
16 the term two-dimensional image data when you
17 interpreted the claims?

18 MR. ALMELING: Objection. I could be
19 confused, I thought you asked that identical
20 question about five minutes ago, and he gave
21 a --

22 MR. KINCART: He said that it
23 appeared many times in the spec. He didn't say
24 how he interpreted it.

25 MR. ALMELING: The previous question

1 was -- so it was, how do you construe that I
2 did a blank, well, what does -- what 2D data
3 does the '396 Patent relate to. That was the
4 question that he was answering.

5 MR. KINCART: Okay. So how -- I
6 don't think he answered how he interpreted
7 two-dimensional image datasets, only image
8 data. We moved from image datasets to image --

9 MR. ALMELING: Let's go off record.

10 MR. KINCART: Can we go off the
11 record?

12 (DISCUSSION HELD OFF THE RECORD)

13 BY MR. KINCART:

14 Q. Back on the record.

15 Can we refer now to Column 3. The third
16 paragraph, begins on line 7, refers to ribbon view
17 as: (Reading)

18 A film strip-like view of
19 properties which stands up at
20 approximately 90 degrees from a flat
21 or angled aerial satellite orthoimage
22 map and provides direct on front
23 images of properties.

24 In your analysis, would you consider
25 ribbon view two-dimensional image datasets?

1 A. I don't believe that I analyzed the term
2 ribbon view, because I don't remember them -- that
3 term appearing in any of the claims.

4 Q. Thank you.

5 In Column 5, the second paragraph, it
6 talks about file formats.

7 A. Starting with some embodiments?

8 Q. In "some embodiments."

9 Are you familiar with those file formats?

10 A. Yes.

11 Q. Thank you.

12 Would you consider those file formats
13 examples of two-dimensional data?

14 A. Those are some examples of two-dimensional
15 data, but there are many, many other examples.

16 Q. That's fine. If we refer back to Column 3
17 and we have a definition for video drive-by, refers
18 to street-level video data captured in multiple
19 angles encompassing a 360-degree view, is that
20 two-dimensional data?

21 A. One second.

22 Q. Uh-huh.

23 (WITNESS REVIEWS DOCUMENTS)

24 A. I have to think about that more. Again,
25 I'm not sure that that term was in the claims

1 of '396.

2 Q. In preparing your declaration you analyzed
3 the '396. If we refer back to that time, would you
4 have considered video drive-by data two-dimensional
5 data?

6 A. Sitting here today I cannot say for sure.

7 Q. Okay. Referring still to Column 3:
8 (Reading)

9 Video flyby data refers to
10 aerial satellite oblique, open paren,
11 angular, close paren, view images with
12 polygon line views.

13 In your analysis, did you consider
14 drive-by data two-dimensional data?

15 A. Again, I don't remember that
16 consideration, because I don't remember that term
17 being used in any of the claims.

18 Q. Did you consider the specification in
19 interpreting the terms of the claim when you wrote
20 your declaration?

21 A. Yes.

22 Q. Can you show me the parts, then, that you
23 considered when interpreting the term
24 two-dimensional image data?

25 MR. ALMELING: Objection, form.

1 Would you like the witness to identify each
2 part of the specification?

3 MR. KINCART: Let's start with the
4 first part.

5 MR. ALMELING: So the record is
6 clear, the question will be name one --

7 BY MR. KINCART:

8 Q. Can you identify a first part of the
9 specification that you considered in reaching a
10 determination on what two-dimensional image datasets
11 would constitute in your interpretation?

12 (WITNESS REVIEWD DOCUMENTS)

13 A. I concluded that the term two-dimensional
14 image dataset should be construed as common ordinary
15 meaning. That came after my studying the entire
16 patent of the '396. I could not point you to any
17 one specific place right now sitting here that I
18 considered more than the others in coming up with
19 that conclusion.

20 Q. Okay. According to the '396 -- according
21 to your interpretation of the '396 Patent, how is
22 two-dimensional image datasets captured? How are
23 they captured?

24 (WITNESS REVIEWS DOCUMENT)

25 A. Two-dimensional image datasets are

1 captured in a variety of different ways and '396
2 talks about them in different places.

3 Q. Did you consider the specification in
4 forming your interpretation of how the
5 two-dimensional image datasets were captured?

6 A. Yes.

7 Q. Can you show me where in the specification
8 you -- what part of the specification you used in
9 making your interpretation?

10 A. I can. I answered that question already.

11 Q. Please refresh my memory to a column and
12 line.

13 A. Can I ask the court reporter to read back
14 the -- this? I believe that you asked this exact
15 question before, and I think I answered it.

16 Q. I don't believe it had to do with how
17 image datasets were captured.

18 A. Ah. Can you, please, state your question
19 again, so I make sure I understand this?

20 MR. KINCART: Can you reread the
21 question?

22 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

23 MR. KINCART: Perfect.

24 THE WITNESS: My interpretation. I'm
25 sorry, I'm just trying to get clear on your

1 question. What part of the specification of
2 '396 in using my -- in making my interpretation
3 of what?

4 BY MR. KINCART:

5 Q. If I listened correctly, you indicated
6 that you considered the specification of the
7 '396 Patent and in interpreting the claims of the
8 Meadow patent. And so going through a series of
9 terms in the first element and asking which parts of
10 the specification you considered in making your
11 interpretation, the question we're now pending is,
12 what part did you consider in how image datasets are
13 captured.

14 (WITNESS REVIEWS DOCUMENTS)

15 A. In coming up with my interpretation of the
16 phrase image dataset capture --

17 Q. Uh-huh.

18 A. -- I read the entire specifications of
19 '396. However, sitting here today I cannot point
20 you to any one specific place in the specification
21 which I used more than others to come up with my
22 interpretation of this phrase.

23 MR. ALMELING: Counsel, to avoid
24 confusion about this line of questioning is it
25 your question, which part did you consider more

1 than others, or can you just identify any part
2 that informed your interpretation?

3 MR. KINCART: I'd like to understand
4 how he reached the conclusions he did, in his
5 declaration largely unsupported. I'd like to
6 lay the basis for that support. I've indicated
7 several areas where data is described.
8 Mr. Fuchs has told me he cannot say if those, I
9 believe, can't indicate whether they're
10 two-dimensional data, can't indicate to me a
11 place in the specification that he used in his
12 analysis. I'd like to understand what his
13 analysis is based on.

14 MR. ALMELING: Let's go off the
15 record.

16 (DISCUSSION HELD OFF THE RECORD)

17 BY MR. KINCART:

18 Q. Dr. Fuchs, I understand you've read the
19 entirety of the Meadow specification. Can you point
20 me to those portions of the specification that are
21 relevant to two-dimensional image datasets?

22 MR. ALMELING: To avoid any confusion
23 on impossible question, would you like him to
24 identify each one, or shall we start with one
25 and then we can have a discussion on that one?

1 MR. KINCART: Let's start with one.

2 (WITNESS REVIEWS DOCUMENTS)

3 THE WITNESS: So -- so Column 3 in
4 the paragraph starting with line 14: (Reading)

5 So according to the present
6 invention, image data is captured from
7 disparate points along the continuum.
8 Referring now to Figure 1, in some
9 embodiments a continuum 100 includes
10 the path of a vehicle carrying a
11 digital camera or other image data
12 capturing device.

13 MR. KINCART: Thank you.

14 BY MR. KINCART:

15 Q. Based on your knowledge, what image format
16 does a digital camera capture data in?

17 A. Digital cameras capture in a wide variety
18 of different formats.

19 Q. Okay. In your interpretation of that
20 image capture -- I'm trying not to ask a leading
21 question here.

22 MR. ALMELING: You can go ahead and
23 ask a leading question.

24 BY MR. KINCART:

25 Q. Is it in the form of digital data?

1 A. I believe by definition -- no, strike
2 that.

3 I believe the vast majority of digital
4 cameras at the time of the '396 Patent application
5 would end up with a digital representation.

6 Q. Thank you.

7 In your interpretation of Claim 1 in an
8 image dataset captured with a camera, what would
9 comprise a plurality of features?

10 A. Plurality of features can be construed in
11 a number of different ways.

12 Q. And how did you construe them?

13 (WITNESS REVIEWS DOCUMENTS)

14 A. I think I construed plurality of features
15 in the plain and ordinary meaning of the term
16 meaning plurality, more than one, and features, some
17 items of interest. But as I said, I think that
18 there are other definitions that I might have been
19 thinking, more general. Certainly other people can
20 come up with other definitions.

21 Q. Can you give an example of an item of
22 interest?

23 A. An item of interest may be a pixel on an
24 image.

25 Q. Thank you.

1 Are you referring to your declaration?

2 A. No, I mean, I looked at my declaration but
3 not in here (indicating).

4 Q. Are you reading from your declaration?

5 A. No.

6 Q. Okay. Where in the specification would I
7 find that?

8 MR. ALMELING: I don't want to
9 suggest any answers, but I was somewhat
10 confused by the pronoun that in the question.

11 MR. KINCART: I'm sorry?

12 MR. ALMELING: You said, where in the
13 specification does it disclose that. Are you
14 referring to --

15 MR. KINCART: Would he -- to his
16 answer. Can you read back his answer?

17 (PREVIOUS ANSWER READ BACK BY THE REPORTER)

18 BY MR. KINCART:

19 Q. Is that supported in the specification?

20 (WITNESS REVIEWS DOCUMENTS)

21 A. Sitting right here I don't remember where
22 it is in the specifications or even if it is in the
23 specifications. But if you would like, I could take
24 the time to read through it again.

25 Q. Fair enough. You don't need to read it

1 now.

2 In item -- claim -- I'm sorry,
3 Paragraph 23 of your declaration you indicate that:
4 (Reading)

5 Associating the composite
6 image with a particular portion of the
7 subject which under the broadest
8 reasonable interpretation standard is
9 interpreted to mean the composite
10 image with a particular parcel of a
11 geographic area.

12 Can you explain to me your interpretation
13 of a composite image?

14 A. Sitting here today my recollection of my
15 interpretation of the common -- of a composite image
16 was the ordinary and common meaning of it, that is
17 of an image made up of a composition of multiple
18 images.

19 Q. Thank you.

20 And in your Paragraph 19 -- actually,
21 strike that, please.

22 So in Element B it indicates the portions
23 are aligned in a dimension consistent with the
24 continuum. It reads in full: (Reading)

25 Generating a composite image

1 of the subject from portions of two or
2 more of the multiple two-dimensional
3 image sets wherein the portions are
4 aligned in a dimension consistent with
5 the continuum.

6 Can you explain to me your interpretation
7 of the word portions?

8 (WITNESS REVIEWS DOCUMENTS)

9 A. My interpretation of the term portions was
10 the common and ordinary meaning which I believe to
11 be parts of.

12 Q. Okay. And if we continue on through that
13 term, aligned in a dimension consistent with the
14 continuum. Can you explain to me how you
15 interpreted that limitation?

16 (WITNESS REVIEWS DOCUMENTS)

17 A. Can you read back the question, please?

18 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

19 I interpreted this phrase "aligned in a
20 dimension consistent with the continuum" in common
21 ordinary meaning, generally in the direction of
22 travel.

23 Q. In the direction of travel. Can you
24 explain to me "in the direction of travel" of what?

25 (WITNESS REVIEWS DOCUMENTS)

1 A. I believe the travel refers to the
2 continuum which refers to the capturing of
3 displaying disparate parts along the continuum.

4 Q. So what travels along the continuum?

5 A. '396 describes image data captured from
6 disparate points along the continuum.

7 Q. Yes. Are you reading from your
8 declaration?

9 A. Yes.

10 Q. What page?

11 A. Page 10 Paragraph 19.

12 Q. Thank you.

13 Paragraph 19 which refers to Claim 1
14 recites: (Reading)

15 To a continuum of image data
16 which under the broadest reasonable
17 interpretation, according to you, is
18 interpreted to mean two or more images
19 captured along a path.

20 Did you write this portion of the
21 declaration?

22 A. Yes.

23 Q. So you have an understanding of the path
24 that is described that you wrote about?

25 A. Yes.

1 Q. And it's a path of what?

2 A. Of the -- the location of the images being
3 captured.

4 Q. Thank you.

5 Dr. Fuchs, did you receive assistance in
6 reaching these conclusions?

7 MR. ALMELING: Objection. And I
8 don't know if you meant your question to be a
9 yes or no. To the extent it's not, it calls
10 for privileged communications. So, perhaps,
11 you can rephrase it, or he can answer in the
12 yes or no.

13 BY MR. KINCART:

14 Q. Answer in the yes or no.

15 A. Yes.

16 Q. Thank you.

17 Did you receive assistance with
18 Paragraph 19?

19 A. I don't know. I don't remember.

20 Q. Okay. I'm going to help move this along a
21 little bit. The last line of page 10 Paragraph 19,
22 it refers to a continuum includes the path of a
23 vehicle carrying a digital camera or other image
24 data device. Did you use that in your
25 interpretation of the first element of Claim 1?

1 A. Yes.

2 Q. Thank you.

3 Dr. Fuchs, do you have an understanding of
4 a two-dimensional ribbon of image data?

5 A. Yes.

6 Q. Can you provide me how you interpreted a
7 two-dimensional ribbon of image data in the context
8 of this patent?

9 A. I think there's description here farther
10 down in this paragraph (indicating).

11 Q. Thank you.

12 And did you use that description in your
13 interpretation of Claim 1?

14 A. Yes.

15 Q. Thank you.

16 I'd like to continue with the claim
17 construction. In Element B it indicates that
18 portions are aligned in a dimension consistent with
19 the continuum. We just discussed the continuum. In
20 your understanding and claim interpretation, how do
21 you align the portions in a dimension consistent
22 with the continuum?

23 MR. ALMELING: Objection, form.

24 Could you read back the question,
25 please?

1 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

2 MR. ALMELING: Objection, form. And
3 I can explain why very briefly.

4 MR. KINCART: Please do.

5 MR. ALMELING: The question says "in
6 your understanding and claim construction, how
7 do you" understand, that's sort of
8 indecipherable. I presume you mean how did you
9 understand this phrase in applying your
10 analysis, because, of course, he didn't
11 construe it. So, perhaps, you could revise the
12 question to make it clearer.

13 MR. KINCART: Not a problem.

14 BY MR. KINCART:

15 Q. Dr. Fuchs, how did you understand the
16 claim element portions are aligned in a dimension
17 consistent with the continuum and apply it in your
18 claim analysis?

19 A. For this phrase, "dimension consistent
20 with," I used the plain and ordinary meaning. For
21 the term portions and aligned I used plain and
22 ordinary meaning.

23 Q. Dr. Fuchs, in your understanding and claim
24 analysis, how many dimensions does a continuum have
25 in this claim element?

1 MR. ALMELING: Same objection and
2 same request to reword.

3 BY MR. KINCART:

4 Q. Dr. Fuchs, you see the limitation
5 "consistent with the continuum"?

6 A. Uh-huh, yes.

7 Q. In your analysis, how did you apply this
8 claim element?

9 A. I applied it with my ordinary common
10 understanding of "dimension consistent with" which I
11 take to mean that it's in the same general direction
12 but not necessarily exact.

13 Q. Thank you.

14 A. You're welcome. I'm running out of --
15 wait, can I use white?

16 MR. ALMELING: Let's go off the
17 record.

18 (DISCUSSION HELD OFF THE RECORD)

19 BY MR. KINCART:

20 Q. Dr. Fuchs, referring now again to
21 Paragraph 19 of your declaration and it recites:
22 (Reading)

23 A continuum of image data.

24 And can you indicate to me in the Fruh
25 reference the portions that you can -- let me

1 rephrase that.

2 Can you indicate to me in the Fruh
3 reference a continuum of image data?

4 (WITNESS REVIEWS DOCUMENTS)

5 A. Yes.

6 Q. Thank you. Please do.

7 A. In the second sentence of the abstract of
8 Fruh it reads: (Reading)

9 Our experimental setup
10 consists of a truck equipped with one
11 camera and two fast inexpensive 2D
12 laser scanners being driven on city
13 streets under normal traffic
14 conditions.

15 Q. And that indicates a continuum of image
16 data?

17 A. Yes.

18 Q. Thank you.

19 And your Paragraph 26, it indicates that:
20 (Reading)

21 Fruh reference discloses a
22 method for creating a continuum of
23 image data by receiving multiple 2D
24 image datasets of a subject.

25 A. Uh-huh.

1 Q. It goes on to say: (Reading)

2 For example, Fruh discloses
3 using laser scanners and digital
4 camera to continuously acquired ground
5 level 3-D geometry.

6 So based on your experience in the
7 industry, how do we generate a 2D image dataset
8 after acquiring ground level 3-D geometry?

9 A. Before the system of Fruh generated
10 any 3-D the sequence of images from his camera
11 moving along the street would give us what you have
12 requested, a system of 2D datasets.

13 Q. Thank you.

14 And this is indicated, you say, in
15 Figure 1?

16 A. What I indicated was -- is explicitly
17 stated in the second sentence of the abstract about:
18 (Reading)

19 Our experimental setup
20 consists of a truck equipped with one
21 camera and two fast inexpensive 2D
22 laser scanners being driven on city
23 streets under normal traffic
24 conditions.

25 Q. So according to that portion that you just

1 read and Paragraph 26, the laser scanner -- the 2D
2 laser scanner is the device used to generate the
3 2D image datasets?

4 MR. ALMELING: Objection, form.
5 You can answer.

6 THE WITNESS: There are numerous
7 items that are disclosed in Fruh. Among them I
8 answered just one example, the multiple
9 2D image datasets that are provided by the
10 camera moving along a city street.

11 BY MR. KINCART:

12 Q. You named two devices just then. Which
13 device was used to capture the 2D image datasets?

14 A. Can you read back the question, please?
15 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

16 The camera.

17 Q. Thank you.

18 In Paragraph 26, you indicate: (Reading)

19 Fruh discloses using laser
20 scanners and a digital camera to
21 continuously acquire ground level 3-D
22 geometry.

23 Which device was used to acquire the
24 ground Level 3-D geometry?

25 (WITNESS REVIEWS DOCUMENTS)

1 A. The combination of the laser scanners and
2 the digital camera.

3 Q. Thank you.

4 A. Can I add to that answer?

5 Q. Sure.

6 A. Depending on how the data is processed in
7 Fruh, the 3-D geometry can be thought of as being
8 captured by either the laser scanners or the digital
9 camera or some combination.

10 MR. ALMELING: Are you finished?

11 MR. KINCART: Are you finished?

12 MR. ALMELING: Can you please read
13 back that answer? I did not hear the first
14 part.

15 (PREVIOUS ANSWER READ BACK BY THE REPORTER)

16 BY MR. KINCART:

17 Q. If we turn now to Claim Element E of
18 Claim 1, it reads: (Reading)

19 Generating a point cloud array
20 for the at least one of the plurality
21 of features.

22 Can you explain to me in Fruh where Fruh
23 discloses generating a point cloud array?

24 (WITNESS REVIEWS DOCUMENTS)

25 A. Could you read the question back, please?

1 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

2 Yes.

3 Q. Thank you.

4 A. Page 12.

5 Q. Perfect.

6 A. In the last -- bottom paragraph on the
7 left-hand column: (Reading)

8 Once the pose of a vehicle and
9 this laser scanner's known, the
10 generation of the 3-D point cloud
11 array is straightforward.

12 And then he goes on to describe how it's
13 done. We calculate 3-D coordinates, scan points,
14 and the structure resulting point cloud is given by
15 a number, an angle in each vertex with defined
16 neighbors. He goes on to talk about how in a
17 previous paper that we proposed an entire framework
18 of algorithms to process this point cloud including
19 four ground identification removal -- goes into
20 great detail --

21 Q. Thank you.

22 A. -- about how the points is done.

23 Q. Thank you.

24 And referring to your declaration, page 17
25 Item Number 30, you've indicated: (Reading)

1 Fruh reference discloses
2 generating a point cloud for at least
3 one of the plurality of features. For
4 example, Fruh discloses generating
5 a 3-D point cloud for a city block
6 from vertical laser scans.

7 Is that consistent with the portion you
8 just read to me?

9 A. Yes.

10 Q. Thank you.

11 Does Fruh -- let me rephrase, strike that.

12 And just say Fruh teaches generating the
13 point cloud then using the laser scans.

14 MR. ALMELING: Objection, form.

15 You can answer. Yeah, I don't blame
16 you.

17 BY MR. KINCART:

18 Q. Does Fruh teach any other method of
19 generating a point cloud other than using laser
20 scans?

21 (WITNESS REVIEWS DOCUMENT)

22 A. Can you read back the question, please?

23 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

24 Yes, Fruh also teaches the use of cameras
25 for generating point cloud, the next sentence in the

1 next paragraph.

2 Q. Which paragraph is that?

3 A. Top paragraph of page 12.

4 Q. Thank you.

5 Column A or B?

6 MR. ALMELING: I'm sorry, Counsel.
7 You looked like you were speaking Dr. Fruh --
8 Dr. Fuchs not Dr. Fruh.

9 MR. KINCART: Go ahead, please
10 continue.

11 THE WITNESS: It's --

12 MR. ALMELING: Were you finished or
13 no?

14 THE WITNESS: No, I was just saying
15 that it's the top paragraph on page 12,
16 second -- the right column.

17 MR. ALMELING: Counsel, whenever it's
18 convenient for you to take a five minute break,
19 I'd appreciate that.

20 MR. KINCART: Yes, that's fine. One
21 more question and then we can finish up this
22 line of questioning.

23 THE WITNESS: Sure.

24 BY MR. KINCART:

25 Q. Where in the laser scans do they identify

1 feature sets in the 2D image sets -- can I rephrase
2 it?

3 Element Number C indicates receiving data
4 descriptive of a location of the plurality of
5 features. Based on the methods you just presented
6 for generating the 3-D models, can you indicate to
7 me where in that process the plurality of features
8 is required?

9 A. Sure, hold on.

10 (WITNESS REVIEWS DOCUMENTS)

11 I'm sorry, I must completely misunderstand
12 this. This is in one point -- in Claim 1E?

13 Q. That's correct.

14 A. Did I understand this correctly?
15 Generating a point cloud array. I didn't understand
16 about required.

17 MS. HIGHAM: It was C.

18 MR. ALMELING: C, no, the question
19 was about 1C.

20 BY MR. KINCART:

21 Q. Oh, I'm sorry, C receiving --

22 A. I'm sorry?

23 Q. -- receiving data descriptive of a
24 location of the plurality of features. Okay.

25 A. I'm sorry, I misunderstood this. I

1 thought you said E.

2 MR. KINCART: So your choice. Do you
3 want to do this before or after the break?
4 There's one more question and it relates to
5 Paragraph 29.

6 THE WITNESS: Sure.

7 MR. KINCART: So I'd like you to
8 answer the pending question and one more, your
9 choice.

10 MR. ALMELING: Would you like to
11 answer these, or do you want to take a break?

12 THE WITNESS: Oh, can we take a five
13 minute break --

14 MR. KINCART: Sure.

15 THE WITNESS: -- so I can go stretch
16 my legs. I'm sorry, I misunderstood E for C.
17 I was looking for a different answer for you.

18 MR. KINCART: Can we go off the
19 record?

20 (RECESS TAKEN FROM 5:27 P.M. TO 5:39 P.M.)

21 BY MR. KINCART:

22 Q. We were discussing Element C of Claim 1 of
23 the '396 Patent. The element recites: (Reading)

24 Receiving data descriptive of
25 a location of the plurality of

1 features in relation to the point
2 cloud generation based on 2D laser
3 scans.

4 The question was, where in the 2D laser
5 scan point cloud generation are features entered in?

6 (WITNESS REVIEWS DOCUMENTS)

7 A. There are a number of places where Fruh
8 teaches receiving data descriptive of a location of
9 the plurality of features. One of them, among
10 others, is on the right column of page 6 where he
11 talks about a global edge match either from an
12 aerial photo or from a digital surface map. And
13 defines a congruence coefficient as a: (Reading)

14 Measure of the match between
15 ground base scans and the global edge
16 scan. The basic idea behind our
17 position correction is that objects
18 seen from road-based data acquisition
19 must in principal also be visible in
20 the aerial photos or the digital
21 surface map. Objects are ones like in
22 '396 that are features and have
23 feature points.

24 And those are the same used in Fruh as
25 what we referred to in '396.

1 Q. Thank you.

2 If we turn to your Paragraph 29 on page 17
3 of your declaration, and you state: (Reading)

4 Fruh discloses camera and
5 laser scanners are synchronized and
6 calibrated in the 3-D coordinate
7 system, and an image coordinate is
8 computed for every 3-D point.

9 And then you go on to say that: (Reading)

10 A person of ordinary skill in
11 the art would have understood that
12 doing so would include tracking the
13 position of objects in the successive
14 horizontal scans.

15 -- without providing any support for that
16 statement. Can you provide support for that
17 statement?

18 MR. ALMELING: Objection to form.

19 BY MR. KINCART:

20 Q. Mr. Fuchs, can you, please, provide
21 support for tracking the position of objects in the
22 successive horizontal scans?

23 (WITNESS REVIEWS DOCUMENTS)

24 A. I have worked for decades with people of
25 ordinary skill in this art --

1 Q. Uh-huh.

2 A. -- and laser scanners like this have been
3 in common use for decades.

4 Q. Uh-huh.

5 A. And among the things that laser scanners
6 are used for are for matching scans of similar
7 places or nearby places. So I did not feel that any
8 more than this statement was appropriate in this
9 declaration.

10 Q. Okay. And you indicate further on:
11 (Reading)

12 Because the camera and laser
13 scanners are synchronized and
14 calibrated in the 3-D coordinate
15 system.

16 Which 3-D coordinate system?

17 A. A POSITA would understand that in systems
18 like this there are numerous 3-D coordinate systems.
19 One of them is the coordinate system of the camera,
20 another is the coordinate system of the laser
21 scanner, a third is the coordinate system of the
22 truck, and there are many others.

23 Q. Thank you.

24 And there's no cite here that indicates
25 where that statement came from. Is that based on

1 your experience as you just indicated or based on --

2 A. Yes, exactly.

3 Q. Thank you.

4 If we turn now to Element E like Edward in
5 Claim 1 of the '396 Patent. (Reading)

6 Converting -- I'm sorry --
7 generating a point cloud array for the
8 at least one of the plurality of
9 features.

10 And continuing to Element F. (Reading)

11 Converting the point cloud
12 array to a polygon placed model.

13 You've indicated that the point cloud
14 array in Fuchs is generated by 2D scanner. And can
15 you indicate to me where the 2D scanner creates the
16 point cloud array for at least the plurality of
17 features?

18 MR. ALMELING: Objection, form. And
19 without suggesting an answer, what's in the
20 exact question I believe is a misstatement
21 hence the objection. And the witness can
22 answer subject to that objection.

23 MR. KINCART: We can rephrase it.

24 THE WITNESS: Great, thank you.

25

1 BY MR. KINCART:

2 Q. If you refer to Paragraph 30, you indicate
3 that: (Reading)

4 Fruh discloses generating a
5 point cloud array for at least one of
6 the plurality of features.

7 And then go on to indicate: (Reading)

8 Fruh discloses generating a
9 3-D point cloud for a city block.

10 Can you support the identification of
11 features within the city block according to Fruh?

12 (WITNESS REVIEWS DOCUMENTS)

13 A. I think I have the answer, but can you
14 state the question, make sure I understood it
15 correctly?

16 Q. Can you, please, read the question?

17 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

18 A. Yes, if one looks at Figure 20 on page 17
19 in Fruh --

20 Q. Uh-huh.

21 A. -- clearly identified are features within
22 the city block, trees and signs and traffic signals.

23 Q. And where does it identify them, or did
24 you just identify them?

25 A. I'm sorry, we're referring to Claim 1E?

1 Q. That's correct.

2 A. I don't see here anything in the claim
3 that refers to whether the system or the users
4 identifies it or who identifies it, nothing here
5 about identifying. It just says, generating a point
6 cloud array, which it clearly does, for at least one
7 of the plurality of features. And there is
8 certainly at least one of plurality of features
9 there. There's many, many features there.

10 Q. And if we follow the sequence here sort of
11 in reverse, receiving data descriptive of a location
12 and the plurality of features in C and progressing
13 through D and E to F, converting the point cloud --
14 I'm sorry, to E, generating a point cloud array for
15 the at least one of plurality of features, where do
16 we receive the data descriptive of location of the
17 features and generate the point cloud for the at
18 least one of the plurality of features?

19 A. I'm sorry, I don't understand the
20 specifics of that question. Which claim are we
21 referring to here?

22 Q. It's Claim 1.

23 A. Claim 1. Which limitation?

24 Q. We -- in C, we receive data descriptive of
25 a location.

1 A. Uh-huh.

2 Q. And in E, generate the point cloud for the
3 at least one of the plurality of features for which
4 we receive the data descriptive of the location.

5 A. Uh-huh, exactly.

6 Q. And I think you pointed me to a picture
7 and you interpreted what the picture included. But
8 is there any support in Fruh for receiving data
9 descriptive of a location of a plurality of features
10 and then converting -- and then generating a point
11 cloud array for at least one of those features?

12 MR. ALMELING: Objection, asked and
13 answered both in detail with respect to 1C
14 and 1E, and now you're just combining them.

15 MR. KINCART: He asked for
16 clarification.

17 MR. ALMELING: Right.

18 MR. KINCART: I clarified.

19 MR. ALMELING: Okay. And my
20 objection is that we've already plowed this
21 field for both of them.

22 MR. KINCART: I -- okay.

23 BY MR. KINCART:

24 Q. Dr. Fuchs, you've indicated Figure 20 has
25 features. Where in the specification does it

1 indicate Figure 20 has features?

2 A. I'm sorry, I still don't understand your
3 question. You said "where in the specifications" --

4 Q. In the -- I believe I said where in -- did
5 I say specification?

6 A. Yeah.

7 Q. Excuse me. Where in the disclosure Fruh
8 does it indicate Figure 20 includes features?

9 (WITNESS REVIEWS DOCUMENT)

10 A. I believe that Fruh clearly exhibits
11 features in Figure 20.

12 Q. Thank you.

13 And if we refer now to your Paragraph 31
14 where you state: (Reading)

15 The Fruh reference discloses
16 converting the point cloud array to a
17 polygon based model. For example,
18 Fruh discloses transforming the point
19 cloud into a triangular mesh by
20 connecting adjacent vertices.

21 In your opinion, does Fruh connect those
22 adjacent vertices irrespective of any features that
23 might be contained in these vertices?

24 MR. ALMELING: Objection, form.

25 You can answer.

1 (WITNESS REVIEWS DOCUMENTS)

2 THE WITNESS: There are many
3 different definitions of the term features.

4 BY MR. KINCART:

5 Q. Okay.

6 A. And even within any one body of work that
7 term is used in different ways.

8 Q. Okay. Is your answer concluded?

9 A. Yes.

10 Q. If we go to page 16 as indicated in your
11 declaration, at the bottom of the first column Fruh
12 reads --

13 A. Oh, I'm sorry.

14 Q. I'm sorry, go ahead.

15 A. Page 16 of Fruh, I thought you said
16 declaration.

17 Q. I'm going to your cite.

18 A. I'm sorry, I thought you said declaration.

19 Q. The cite in your declaration is to page 16
20 of Fruh.

21 A. Ah, I'm sorry. Thank you.

22 Q. I'm sorry for the confusion.

23 A. Okay. And where is the citation in my
24 declaration, please?

25 Q. It's at the bottom of page 18 in

1 Paragraph 31. Does it not cite page 16?

2 A. Yes.

3 Q. Thank you.

4 So if we go to that portion, and it reads:

5 (Reading)

6 Triangulating a structured
7 point cloud by connecting adjacent
8 vertices we obtain a surface mesh as
9 shown in Figure 21.

10 Which you cite. The connecting of
11 adjacent vertices, is that dependent upon the data
12 contained within those vertices?

13 MR. ALMELING: Objection, form.

14 You can answer.

15 THE WITNESS: I don't know, I'd have
16 to read that over.

17 BY MR. KINCART:

18 Q. That's fine. All right we can move on.

19 One last question regarding adjacent
20 vertices. Based on your knowledge and the reading
21 of Fruh, do the adjacent vertices track features?

22 A. I'm sorry, I don't remember. I'd have to
23 read this again --

24 Q. That's fine.

25 A. -- to refresh my memory.

1 Q. That's fine.

2 Dr. Fuchs, let's move on to Claim 2 of the
3 '396 Patent, and Claim 2 states that: (Reading)

4 The method of Claim 1
5 additionally comprising the step of
6 spraying image data onto the polygon
7 based model wherein the polygon based
8 model comprises at least one
9 three-dimensional polygon based model,
10 and wherein the image data sprayed
11 onto the polygon based model is based
12 upon two-dimensional datasets and the
13 location of the polygon based model.

14 Are you familiar with the technology
15 behind spraying data?

16 A. Yes.

17 Q. Yes. Okay. Can you explain to me how
18 data is sprayed?

19 MR. ALMELING: Objection, form.
20 You can answer.

21 THE WITNESS: The term is often
22 texture mapping. And Fruh's system computes
23 the corresponding image coordinate for every
24 arbitrary 3-D point and maps the texture onto
25 each mesh triangle to create the textured

1 models of the buildings that the acquisition
2 vehicle drove by.

3 BY MR. KINCART:

4 Q. Thank you.

5 MR. KINCART: You know what, I think
6 I'm okay wrapping it up tonight. Are you okay
7 with that?

8 MR. ALMELING: Yes.

9 THE WITNESS: Sure.

10 MR. ALMELING: Let's go off the
11 record.

12 (Continued on the following page.)
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1 (Whereupon, at 6:10 p.m., the
2 deposition in the above-entitled matter
3 adjourned.)
4
5

6 _____
7 Signature of the Witness

8 SUBSCRIBED AND SWORN to before me this _____ day of
9 _____, 2015.
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12 _____
13 NOTARY PUBLIC

14 My Commission expires: _____
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RPTR: AAB

DATE: 4/22/15

TRANSCRIPTION CORRECTIONS

CASE NAME: GOOGLE INC. VS VISUAL REAL ESTATE, INC.

WITNESS NAME: HENRY FUCHS, PH.D.

FILE NUMBER: IPR2014-01340

PAGE	LINE	READS	SHOULD READ
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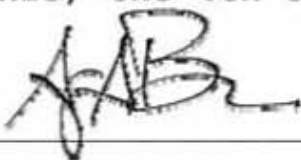
CERTIFICATE OF REPORTER

STATE OF NORTH CAROLINA)

COUNTY OF DAVIDSON)

I, AMY A. BRAUSER, RMR, CLR, the officer
before whom the foregoing deposition was taken, do
hereby certify that the witness whose testimony
appears in the foregoing deposition was duly sworn
by me; that the testimony of said witness was taken
by me to the best of my ability and thereafter
reduced to typewriting under my direction; that I am
neither counsel for, related to, nor employed by any
of the parties to the action in which this
deposition was taken; and further, that I am not a
relative or employee of any attorney or counsel
employed by the parties hereto, nor financially or
otherwise interested in the outcome of the action.

This, the 4th day of May, 2015.



AMY A. BRAUSER, RMR, CLR
Registered Merit Reporter
Notary Public in and for
County of Davidson
State of North Carolina
Notary Public Number 20023030055

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

GOOGLE INC.,)	
)	Case No:
Petitioner,)	IPR2014-01340
)	
vs.)	
)	
VISUAL REAL ESTATE, INC.,)	
)	
Patent Owner.)	VOLUME 2
)	PAGES 174 - 284

Chapel Hill, North Carolina

Thursday, April 23, 2015

Continued Deposition of HENRY FUCHS, Ph.D., called for examination by counsel for Respondent, pursuant to the Notice of Deposition, the witness having been previously duly sworn by AMY A. BRAUSER, RMR, CLR, Registered Merit Reporter and Notary Public in and for the State of North Carolina, taken at the Sheraton Chapel Hill, 1 Europa Drive, Chapel Hill, North Carolina, commencing at 7:49 a.m., Thursday, April 23, 2015, and the proceedings being taken down by Stenotype and personally transcribed by DEBRA D. BOWDEN, RMR, CRR.

1 APPEARANCES:

2 On behalf of the Petitioner:

3 DAVID S. ALMELING, ESQUIRE

4 O'Melveny & Myers LLP

5 Two Embarcadero Center, 28th Floor

6 San Francisco, California 94111-3823

7 (415) 984-8959

8 (415) 984-8701 (Fax)

9 dalmeling@omm.com

10 (and)

11 RICK BISENIUS, ESQUIRE

12 Fish & Richardson P.C.

13 3200 RBC Plaza

14 60 South Sixth Street

15 Minneapolis, Minnesota 55402

16 (612) 766-2048

17 bisenius@fr.com

18 (and)

19 KIM H. LEUNG, ESQUIRE

20 Fish & Richardson P.C.

21 12390 El Camino Real

22 San Diego, California 92130

23 (858) 678-4705

24 (858) 678-5099 (Fax)

25 kleung@fr.com

1 On behalf of the Patent Owner:

2 JOSEPH P. KINCART, ESQUIRE

3 CAMILLE A. HIGHAM, ESQUIRE

4 Ideation Law, PLLC

5 P.O. Box 936

6 Vails Gate, New York 12854

7 (917) 962-0263

8 jkincart@ideationlaw.com

9 camille@ideationlaw.com

10

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12

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C O N T E N T S

THE WITNESS	EXAMINATION BY COUNSEL FOR
HENRY FUCHS, Ph.D.	PETITIONER RESPONDENT
By Mr. Kincart	178
By Mr. Almeling	255
By Mr. Kincart	275

* * * * *

(There were no exhibits introduced in this volume)

* * * * *

1 P R O C E E D I N G S

2 Whereupon,

3 HENRY FUCHS, Ph.D.,

4 was called as a witness by counsel for Respondent,
5 and, having been duly sworn by a Notary Public,
6 was examined and testified as follows:

7 EXAMINATION BY COUNSEL FOR THE RESPONDENT
8 BY MR. KINCART:

9 Q. Good morning, Dr. Fuchs.

10 A. Good morning.

11 Q. Again, as yesterday, if you need a break
12 please make sure that you ask for it.

13 We're going to review some things from
14 yesterday.

15 MR. ALMELING: Before we begin,
16 though, Dr. Fuchs, I want to quickly give
17 appearances, because the people in the room have
18 changed.

19 David Almeling of O'Melveny & Myers
20 representing, petitioner and the witness.

21 MR. BISENIUS: Patrick Bisenius of
22 Fish & Richardson, representing petitioner and
23 the witness.

24 MS. LEUNG: Kim Leung, Fish &
25 Richardson, representing petitioner and the

1 witness.

2 MS. HIGHAM: Camille Higham, Ideation
3 Law, representing the patent owner.

4 MR. KINCART: Joseph Kincart from
5 Ideation Law also representing the patent owner.

6 MR. ALMELING: Today's transcript is a
7 continuation of the one began yesterday
8 regarding all four of the petitions and IPRs.

9 Sorry, counsel, please go ahead.
10 Thank you.

11 MR. KINCART: No, thank you.

12 BY MR. KINCART:

13 Q. Do you have a copy of the '181 with you?

14 A. The '181 patent of Mr. Meadow?

15 A. Yes.

16 Q. And would you turn to column 9 of
17 Mr. Meadow's patent. I'd just like to review some
18 of the open source programs there. I can call them
19 out by column and line, or you can just answer if
20 they're --

21 A. Please call them out by line.

22 Q. -- well known in the art.

23 So column 9, line 16, is an open source
24 program referred to as GDAL, G-D-A-L, and did you
25 research the GDAL structure?

1 MR. ALMELING: Objection; form. You
2 can answer.

3 A. To the best of my recollection I researched
4 every one of these terms, and I think that includes
5 GDAL.

6 Q. Thank you. And what is your understanding
7 of the GDAL structure?

8 A. To the best of my recollection it was as
9 characterized in the patent here.

10 Q. Can you elaborate on that?

11 A. To the best of my recollection -- and this
12 was some months ago -- I found that it was an open
13 source programming tool, as stated here, which
14 completes range calculation from latitude and
15 longitude positions, and coding and video segments to
16 the latitude and longitude positions of the subject
17 property.

18 Q. And is this the same as in DiBernardo?

19 MR. ALMELING: Objection; form. You
20 can answer.

21 A. I don't remember.

22 Q. Thank you.

23 And in your opinion is it the same as in
24 Yoichi?

25 MR. ALMELING: Objection; form. You

1 can answer.

2 A. I don't remember.

3 Q. Okay. Thank you very much.

4 And if we move down the column to -- 925?

5 MS. HIGHAM: Um-hmm.

6 Q. It's 925, first occurrence. It refers to
7 the program Mencoder. Specifically it says an open
8 source programming tool, Mencoder. Did you research
9 the Mencoder structure?

10 A. To the best of my recollection, yes.

11 Q. Thank you. And what is your understanding
12 of the Mencoder structure?

13 A. To the best of my recollections I verified
14 that it was an open source tool that could, in fact,
15 do that conversion specified in the patent here.

16 Q. Thank you. And can you explain to me your
17 understanding of the Mencoder structure?

18 MR. ALMELING: Objection; form. You
19 can answer.

20 A. In order to answer a question I would need
21 the documentation for the Mencoder program.

22 Q. Thank you. And in your opinion is the
23 Mencoder structure the same as the structure listed
24 in DiBernardo?

25 A. I don't know.

1 Q. Thank you. Is the Mencoder --

2 MR. ALMELING: I'm sorry, did you -- I
3 don't mean to interrupt your question, but it
4 didn't appear that you were finished.

5 THE WITNESS: No.

6 MR. ALMELING: You were continuing to
7 speak.

8 Let me be clear. Were you finished
9 with your question?

10 THE WITNESS: No.

11 MR. ALMELING: Okay, I apologize.

12 THE WITNESS: No. No, I'm sorry.

13 As I sit here today I don't know the
14 answer to your question. I would have to study
15 both documents in greater detail.

16 BY MR. KINCART:

17 Q. Thank you.

18 And in your previous answer concerning the
19 GDAL structure, did you read the answer from the
20 '181 specification?

21 MR. ALMELING: Objection; form. There
22 were multiple questions about that.

23 A. I'm sorry, I don't understand your
24 question.

25 Q. You answered to the GDAL structure --

1 sorry.

2 In response to the question what is your
3 understanding of the GDAL structure, did you read
4 from the '181 specification?

5 A. Yes.

6 Q. Thank you. And if we proceed to column 10,
7 line 16, do you see the reference to the open source
8 program Denoise3D?

9 A. Yes.

10 Q. Thank you. Did you research the structure
11 of Denoise3D?

12 A. I'm sorry, I don't remember.

13 Q. That's fine. Thank you.

14 Dr. Fuchs, do you have an understanding of
15 Denoise3D and its structure?

16 A. I don't remember.

17 Q. Thank you.

18 And if we refer now to column 9, line 39,
19 the reference to OpenGL.

20 A. Column 9 --

21 Q. Did you research the program OpenGL?

22 A. Yes.

23 Q. Thank you. And what is your understanding
24 of OpenGL?

25 A. OpenGL is a popular open source software

1 for generating computer images.

2 Q. Thank you. And does the DiBernardo
3 reference produce structure the same as OpenGL?

4 A. It very well might. I don't remember.

5 Q. Thank you.

6 If we can proceed to column 9, line 40, the
7 reference to Graphics Magic.

8 Have you located that reference?

9 A. Yes.

10 Q. Thank you.

11 And did you research a structure associated
12 with Graphics Magic?

13 A. I don't remember. I may have.

14 Q. Thank you.

15 What is your understanding of Graphics
16 Magic?

17 A. I don't remember at this point.

18 Q. That's fine. Can you tell me if you have
19 an opinion on whether the structure of Graphics
20 Magic is the same as that in DiBernardo?

21 A. I don't know.

22 Q. Thank you. And is it the same as the
23 structure employed in Yoichi?

24 A. I don't know.

25 Q. Thank you.

1 And Dr. Fuchs, when we were speaking about
2 OpenGL, which you can find on column 9, line 39, I
3 didn't ask you if the structure of OpenGL is the
4 same as that found in Yoichi. In your opinion is
5 the structure in OpenGL the same as that described
6 in Yoichi?

7 A. I don't know. Might be.

8 Q. Thank you. It might be means it may not be
9 also?

10 A. That's correct.

11 Q. Thank you.

12 And just two more. Column 9, line 45,
13 there's reference to the open source program FFmpeg.
14 Did you research the FFmpeg structure?

15 A. To the best of my recollection, yes.

16 Q. Thank you. And what is your understanding
17 of the FFmpeg structure?

18 A. To the best of my recollections, it was
19 able to do the functions described here in the
20 patent.

21 Q. Thank you.

22 Can you describe for me the functionality
23 you're referring to in the patent?

24 A. Yes.

25 Q. Thank you.

1 A. It was to assemble each of the images
2 together in timed sequence to create a compressed
3 video file.

4 Q. Thank you. And did you read that answer
5 from the patent?

6 A. Yes.

7 Q. Thank you.

8 Last one. Column 9, line 50 is a reference
9 to Apache Server. Did you research the structure
10 associated with Apache Server?

11 A. I'm sorry, I don't remember.

12 Q. Thank you. In your understanding of Apache
13 Server structure, is it the same as the structure
14 presented in DiBernardo?

15 A. I don't know.

16 Q. What is your understanding of Apache Server
17 structure?

18 A. I would have to look at the documentation
19 for the Apache web server to be able to answer that
20 question.

21 Q. Thank you. And similarly, is the structure
22 associated with Apache Server the same as that
23 represented in Yoichi?

24 A. I don't know.

25 Q. Thank you.

1 Yesterday in our conversation surrounding
2 superimposing text over videos, did you say that
3 sometimes a camera can be digital?

4 MR. ALMELING: Counsel, I do not mean
5 to suggest an answer, so please let me know if
6 you think I cross the line.

7 MR. KINCART: We can present his
8 testimony to him if you want.

9 MR. ALMELING: That would be great, or
10 you could ask him a more open-ended question
11 that's not referenced to yesterday's testimony.

12 MR. KINCART: We can do that, too.

13 BY MR. KINCART:

14 Q. In reference to superimposing text over
15 videos -- we should find the reference. Do you have
16 the line and column that go with that one?

17 Okay, column 3 of the '181 patent -- I'm
18 not sure that's it. I want to make sure that --
19 it's in reference to --

20 MR. ALMELING: Column 9, line 9?

21 MR. KINCART: Yes, I think you are
22 correct.

23 BY MR. KINCART:

24 Q. Dr. Fuchs, in column line -- column 9, line
25 12, we discussed a video capture system. Can you

1 describe to me if the video capture system would
2 include a camera?

3 A. May I have some kind of a marker? I just
4 want to be able to look back and forth to -- no, I
5 mean like a pad of some kind. I just want to be able
6 to answer your question precisely.

7 Line 12, video capture system, figure 6.

8 Can you repeat the question, please?

9 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

10 A. It might.

11 Q. Okay. So if it might, may it not also?

12 A. That's correct.

13 Q. Thank you.

14 A. May I add to that?

15 Q. Please.

16 A. No, don't need to add anything.

17 Q. Thank you.

18 And then 296 patent. Do you have that?

19 Column 3, line 15. You also referred to a
20 camera. In your understanding, would that camera
21 capture digital data?

22 (WITNESS REVIEWS DOCUMENT.)

23 Q. Dr. Fuchs, would you like to see your
24 testimony from yesterday on that? Would that be
25 helpful to you?

1 A. Sure.

2 Q. Can you read that back to him?

3 MS. HIGHAM: Okay. From --

4 MR. KINCART: This is from an
5 unofficial transcript as provided to us.

6 MS. HIGHAM: Okay, so page 124, line
7 7.

8 MR. KINCART: You don't have this.
9 This is from the transcript yesterday.

10 MS. HIGHAM: The question was:
11 (Reading)

12 Based on your knowledge, what image
13 format does a digital camera capture data in?

14 MS. HIGHAM: That the question?

15 MR. KINCART: Um-hmm.

16 MS. HIGHAM: Your answer: (Reading)

17 Digital cameras capture in a wide
18 variety of different formats.

19 And then: (Reading)

20 Is it in the form of digital data?

21 I believe by definition -- no, strike
22 that. I believe the vast majority of digital
23 cameras at the time of the '396 patent
24 application would end up with digital
25 representation.

1 BY MR. KINCART:

2 Q. Do you recall saying that?

3 A. Yes.

4 Q. Thank you.

5 And does your answer leave room that it may
6 not wind up in a digital representation?

7 MR. ALMELING: Counsel, I don't mean
8 to overstep, and if I do let me know. I find
9 the pronoun "it" confusing. I'm not sure what
10 you're referring to. You could rephrase, or I
11 could stop talking.

12 BY MR. KINCART:

13 Q. Dr. Fuchs, does your answer imply, in your
14 understanding, that the camera used in the '396
15 patent could result in data other than digital data?

16 A. It's possible.

17 Q. Thank you.

18 Okay, I think that's fine for now. Can we
19 now provide Dr. Grindon's declaration to Dr. Fuchs?

20 And Dr. Fuchs, did you have a chance to
21 look over Dr. Grindon's declaration since yesterday?

22 A. No, I have not. I did not take anything.

23 Q. Do you think that Dr. Grindon is qualified
24 to offer an opinion on the DiBernardo patent?

25 A. I don't know.

1 Q. Okay. Did you see that Dr. Grindon was
2 engaged by Google, the same entity that is engaging
3 you?

4 A. Yes.

5 Q. Thank you. And is it your understanding
6 that he swore an oath associated with this
7 statement?

8 A. I don't know.

9 Q. Okay. Dr. Fuchs, do you think that Google
10 would hire an expert that would say something that
11 is untrue?

12 MR. ALMELING: Objection; form. You
13 can answer.

14 A. I don't know.

15 Q. That's fine. Do you have any reason to
16 believe that anything in Dr. Grindon's declaration
17 is not true?

18 A. I'm sorry, I don't know.

19 Q. Okay. Dr. Fuchs, do you understand why
20 Google did not engage Dr. Grindon to opine in the
21 current set of IPRs?

22 MR. ALMELING: Objection. This
23 question could implicate protected
24 communications. If you would answer the initial
25 question yes, no, I don't know, and then counsel

1 will follow up as appropriate.

2 THE WITNESS: I don't know.

3 BY MR. KINCART:

4 Q. Wouldn't you expect Google to engage
5 Dr. Grindon, who previously offered an opinion on
6 behalf of their effort here, to provide a subsequent
7 analysis?

8 A. I don't know.

9 Q. Is there anything in the declaration of
10 Dr. Grindon that you believe to be wrong?

11 MR. ALMELING: Objection; form. You
12 can answer.

13 A. I don't know. I'm sorry.

14 Q. In your understanding of the DiBernardo
15 reference, does it teach how to do a 360-degree view
16 of video drive-by data?

17 A. 360.

18 MR. ALMELING: Counsel, were you
19 finished with this?

20 MR. KINCART: Yes.

21 THE WITNESS: Can I have my '800
22 statement, please?

23 (WITNESS REVIEWS DOCUMENT)

24 THE WITNESS: Can you repeat the
25 question?

1 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

2 THE WITNESS: Yes.

3 BY MR. KINCART:

4 Q. I guess now switch to geographic location
5 of interest.

6 Yesterday you indicated there are many
7 terms pertinent to -- to geographic location of
8 interest. Would a street address be one of those
9 terms?

10 A. Yes.

11 Q. So hypothetically, for example, 21 Maple
12 Avenue could be a geographic location of interest.

13 A. Yes.

14 Q. Just for the sake of this discussion.

15 A. Yes, one of many.

16 Q. If the geographic location of interest is
17 21 Maple Avenue, what is your understanding of a
18 person of ordinary skill in the art would have for a
19 geographic location? Is it also 21 Maple Avenue?

20 A. Sorry, I don't understand the question.

21 Q. Based on our hypothetical that the
22 geographic location of interest is 21 Maple Avenue,
23 what is your understanding a POSITA would have for
24 geographic location? Is it also 21 Maple Avenue?

25 MR. ALMELING: Objection; form. You

1 can answer.

2 A. I'm sorry, I still don't understand.

3 You're -- you specified two terms. I answered the
4 first one. I don't understand the link between the
5 first and the second one.

6 Q. Based upon your first answer, that a
7 geographic location of interest could be the street
8 address 21 Maple Avenue, what would a POSITA
9 understand the geographic location to be? Is it
10 also 21 Maple Avenue?

11 A. That's one of many, many interpretations.

12 Q. Thank you.

13 Could it be the left side of Maple Street,
14 Maple Avenue?

15 A. Could -- that's one of many
16 interpretations.

17 Q. Thank you.

18 Could it be the street segment of Maple
19 Avenue that includes addresses 21 Maple Avenue, 23
20 Maple Avenue, 25 Maple Avenue, 27 and 29 Maple
21 Avenue?

22 A. Possibly.

23 MR. ALMELING: Objection to form. You
24 can answer. Your answer was --

25 A. Possibly.

1 Q. Thank you. So then possibly not?

2 MR. ALMELING: Same objection.

3 A. I don't understand that question.

4 Q. Based on your previous answer that a
5 geographic location of interest could be the street
6 address 21 Maple Avenue, could the geographic
7 location consist of the street segment that included
8 21 Maple Avenue, 23 Maple Avenue, 25 Maple Avenue,
9 27 Maple Avenue, 29 Maple Avenue?

10 A. Yes, it might.

11 Q. Thank you.

12 Could a geographic location then include a
13 whole town, say of Chapel Hill?

14 MR. ALMELING: Objection; form.

15 Q. Based on your previous answers that a
16 geographic location of interest can consist of an
17 address such as 21 Maple Avenue, can the geographic
18 location consist of an entire town?

19 MR. ALMELING: Objection; form. You
20 can answer.

21 A. It might.

22 Q. Thank you. So if it might, it might not?

23 A. I don't agree with -- I don't understand
24 that last question.

25 Q. If a geographic location might be an entire

1 town, based on your answer may a geographic location
2 might not be an entire town?

3 MR. ALMELING: Objection; form. You
4 can answer.

5 A. There are many different definitions of
6 geographic location.

7 Q. Is that your entire answer?

8 A. (Nods head.)

9 Q. Can you please provide a yes, no, or I
10 don't know to whether a geographic location might
11 not include an entire town?

12 MR. ALMELING: Objection; form. You
13 can answer.

14 A. I don't understand that question.

15 Q. We're dealing with a hypothetical. If a
16 geographic location of interest may include a street
17 address such as 21 Maple Avenue, based on your
18 understanding of a geographic location and what a
19 POSITA would understand it to be, might it not
20 include an entire town?

21 MR. ALMELING: Objection; form. You
22 can answer.

23 A. It depends on the context.

24 Q. Dr. Fuchs, it's a very straightforward
25 question. I would like to understand a yes, a no,

1 or an I don't know.

2 MR. ALMELING: Counsel, I don't mean
3 to interrupt your testimony --

4 MR. KINCART: Can we go off the
5 record?

6 MR. ALMELING: Agreed.

7 (DISCUSSION HELD OFF THE RECORD)

8 BY MR. KINCART:

9 Q. Dr. Fuchs, based on your understanding that
10 a geographic location of interest can include a
11 street address such as 21 Maple Avenue, is it your
12 understanding that a person of ordinary skill in the
13 art would not include an entire town as a geographic
14 location?

15 MR. ALMELING: Objection; form. You
16 can answer.

17 A. Let me answer clearly, as clearly as I can.
18 A POSITA at the time of this patent application would
19 understand that an entire town can, at various times,
20 be considered a geographic location of interest.
21 Depending on the circumstances, that would be a
22 reasonable geographic location of interest. At other
23 times it would not be such a good geographic location
24 of interest.

25 I'm trying to answer your question as

1 honestly, as clearly as I can.

2 Q. Thank you for your effort.

3 In your last line you said it might not be
4 considered a geographic location of interest. Would
5 the same be true for the term geographic location?

6 MR. ALMELING: Same objection. You
7 can answer.

8 A. I don't think that's exactly what I said.
9 It may not be as useful. What I mean to say, it
10 would still be a geographic location. It would still
11 be a geographic location of interest. It may just
12 not be as useful in certain circumstances as in other
13 circumstances.

14 Q. Thank you. Thank you.

15 A. Did I make myself clear?

16 Q. I'm not going to answer that question.

17 MR. ALMELING: If we're switching
18 gears now --

19 MR. KINCART: Yeah, we are. You want
20 to take a break?

21 (RECESS TAKEN FROM 8:54 A.M. TO 9:02 A.M.)

22 MR. KINCART: All right, we could
23 begin. Let's go back on the record. And I'd
24 like to enter into the record the '800 patent.
25 This has previously been entered into the record

1 as petitioner's exhibit --

2 Camille, do you know the exhibit
3 number?

4 MS. HIGHAM: Oh, yes. It was
5 originally labeled 1002 in the IPR 01340, and
6 1007 in the 01341.

7 MR. KINCART: Do you have the
8 declaration of Dr. Fuchs entered in?

9 MS. HIGHAM: I do.

10 BY MR. KINCART:

11 Q. Dr. Fuchs, referring to your declaration on
12 the '800 patent, paragraph 30, can you read just the
13 first three sentences?

14 A. (Reading)

15 DiBernardo discloses that the software
16 is additionally operative to record positional
17 data descriptive of a respective location of
18 each of the two or more images. For example a
19 GPS receiver located on each vehicle included in
20 the system of DiBernardo computes latitude and
21 longitude coordinates indicating the position of
22 the recording device during the recording of a
23 particular image frame.

24 Q. Thank you.

25 Is the DiBernardo reference describing the

1 location of the vehicle, or the image frame?

2 MR. ALMELING: Objection; form. You
3 can answer.

4 THE WITNESS: Can you read back the
5 question, please?

6 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

7 THE WITNESS: Both.

8 BY MR. KINCART:

9 Q. Can you describe to me how that's possible?

10 A. Sure. Do you want me to read you from the
11 DiBernardo specs?

12 Q. I would like for you to describe to me your
13 understanding of how that's possible.

14 A. Oh. This function is accomplished by well
15 known calibration techniques that have been well
16 known for many decades.

17 Q. Is that the end of your answer?

18 A. (Nods head.)

19 Q. Can you please describe those calibration
20 techniques?

21 A. May I have a piece of paper? I want to
22 write this down precisely. Just a plain piece of
23 paper, or a lined piece of paper.

24 MR. ALMELING: Let's go off the
25 record.

1 Joe, is it okay if we go off the
2 record?

3 MR. KINCART: Yes.

4 (DISCUSSION HELD OFF THE RECORD)

5 MR. ALMELING: Let's go back on the
6 record.

7 THE WITNESS: Give me a minute.

8 These calibration techniques involve
9 taking measurements of known test targets at
10 known locations, and then calculating where the
11 camera or other recording device must be in
12 order for the test targets and their locations
13 to match the position and orientation
14 calculations of the vehicle.

15 BY MR. KINCART:

16 Q. Finished?

17 A. (Nods head.)

18 Q. Thank you.

19 And can you point out to me where in
20 DiBernardo these are referred to?

21 A. In -- there's several places where
22 DiBernardo talks on assuming that the reader knows
23 about these calibration techniques. For example in
24 paragraph 10: (Reading)

25 According to one aspect of the

1 invention, an image recording device moves along
2 a path recording images of objects along the
3 path. A GPS receiver and/or inertial navigation
4 system provides position information of the
5 image recording device as the images are being
6 acquired.

7 MS. HIGHAM: So could you provide the
8 location of that statement?

9 THE WITNESS: This is paragraph 10.

10 BY MR. KINCART:

11 Q. Thank you.

12 And can you point out to me the part about
13 determining the location of the image specifically?

14 A. As I'd mentioned --

15 As I mentioned in the previous answer, he
16 assumes very reasonably that the person reading this
17 understands these well known calibration techniques.

18 Q. Thank you.

19 Is the term calibration in that paragraph?

20 A. I don't think so.

21 Q. Is any reference to calibration techniques
22 in the DiBernardo reference?

23 A. I don't know.

24 Q. Thank you.

25 Can we turn now to paragraph 45?

1 I'd like to enter into the record the Kumar
2 reference.

3 Dr. Fuchs, in paragraph 45 of your
4 declaration you described the Kumar reference. Are
5 you familiar with the Kumar reference?

6 A. Yes.

7 Q. And you have sufficient understanding of
8 the Kumar reference to discuss it today?

9 A. Yes.

10 Q. Thank you.

11 Based on your understanding of the Kumar
12 reference, does Kumar teach the determination of the
13 location of a vehicle, or an image captured by a
14 camera on the vehicle?

15 THE WITNESS: Can you read that back,
16 please?

17 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

18 THE WITNESS: Again.

19 (PREVIOUS QUESTION AGAIN READ BACK BY THE REPORTER)

20 THE WITNESS: Both.

21 BY MR. KINCART:

22 Q. Thank you.

23 And can you explain to me how that's
24 possible within the teaching of the Kumar reference?

25 A. Kumar, as does DiBernardo, would understand

1 that a POSITA at the time would understand camera
2 vehicle calibration procedures.

3 Q. Are you finished with your answer?

4 A. (Nods head.)

5 Q. Thank you.

6 And can you point out to me in the Kumar
7 reference where they reference such calibration?

8 A. I don't remember if Kumar discusses
9 calibration techniques, because they were standard
10 for so many years already.

11 Q. Thank you.

12 Dr. Fuchs, do you have an understanding of
13 what a server farm is in the context of the '181
14 patent?

15 A. Yes.

16 Q. What is your understanding?

17 A. I believe it's a computer system having one
18 or more computer readable storage devices for storing
19 video.

20 Q. Thank you.

21 What is the difference between a server
22 farm and a server?

23 A. I don't know.

24 Q. Have you ever seen a server farm with only
25 one server?

1 A. I don't know.

2 Q. In your view would a PC standing alone
3 constitute a server farm?

4 MR. ALMELING: Objection; form. You
5 can answer.

6 A. Yes. Could be.

7 Q. If it could be, could it not be?

8 MR. ALMELING: Same objection. You
9 can answer.

10 A. I disagree with that statement.

11 Q. Okay. Have you ever seen a server farm?

12 A. Yes.

13 Q. In your CV you indicate that you consult
14 for clients. Have any of those clients engaged a
15 server farm?

16 MR. ALMELING: I caution the witness
17 not to reveal any information that is protected
18 by nondisclosure agreements or other obligation
19 that you have with your respective clients to
20 keep certain information confidential. Subject
21 to that caution, you may answer the question.

22 THE WITNESS: Can you read back the
23 question?

24 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

25 THE WITNESS: I don't know.

1 BY MR. KINCART:

2 Q. You've indicated you've seen a server farm.
3 Can you describe that server farm to me?

4 A. Yes.

5 Q. Please do.

6 A. A rack of computer devices.

7 Q. Thank you.

8 What would the distinguishing
9 characteristic of a server farm as compared to a
10 server?

11 MR. ALMELING: Objection; form. You
12 can answer.

13 A. Don't know.

14 Q. Thank you.

15 Dr. Fuchs, based on your knowledge as an
16 expert, do you think Facebook uses server farms?

17 A. Yes.

18 Q. Thank you.

19 Does Google use server farms?

20 A. Yes.

21 Q. And does Cloud Computing use server farms?

22 MR. ALMELING: Objection; form. You
23 can answer.

24 A. I don't understand the question. Cloud
25 Computing is a com- --

1 Strike that. I don't understand the
2 question.

3 Q. The concept of Cloud Computing, does it
4 engage server farms?

5 A. Sometimes.

6 Q. Thank you.

7 If you were going to design a server farm,
8 how would you design it?

9 MR. ALMELING: Objection; form. You
10 can answer.

11 A. I don't understand that question.

12 Q. If you were engaged today as a consultant
13 to design a server farm, how would you design it?

14 MR. ALMELING: Same objection.

15 A. I would start off by talking to the client
16 about requirements.

17 Q. Okay. Is that your entire answer?

18 A. Yes.

19 Q. Are there certain components that you would
20 include in the server farm?

21 MR. ALMELING: Objection; form. You
22 can answer.

23 A. Yes.

24 Q. Can you please describe those components?

25 A. I don't understand this question.

1 Different designs call for different components.

2 Q. If you were to design a server farm, are
3 there basic components that would need to be
4 included in order for it to be a server farm?

5 A. I'm sorry, I'm trying to answer your
6 question as correctly as I can, but I still don't
7 understand it. What do you mean by are there basic
8 components?

9 Q. Based on your knowledge of the industry --
10 you have a very impressive CV -- what components do
11 you think make up a server farm?

12 MR. ALMELING: Objection; form.

13 A. Many components go into a server farm.
14 Among them is a computer system, and one or more
15 readable storage devices.

16 Q. Thank you.

17 And is that server farm in communication
18 with users?

19 MR. ALMELING: Objection; form. You
20 can answer.

21 A. Generally, yes.

22 Q. Thank you.

23 The answer to your previous question, did
24 you read that, Dr. Fuchs, from your declaration?

25 A. I read parts of it.

1 Q. Thank you. And what portion of the
2 declaration?

3 A. From column -- from paragraph 18.

4 Q. Thank you.

5 How does a server farm communicate with
6 users?

7 MR. ALMELING: Objection; form. You
8 can answer.

9 A. There's a multiplicity of communication
10 devices between the users and a server farm.

11 Q. Thank you.

12 Can you describe any of those multiplicity
13 of devices?

14 A. Sure. Local area nets. Wide area net.
15 Radio communication from mobile devices of various
16 kinds, among many others.

17 Q. Is the internet a vehicle that is used to
18 communicate to server farms?

19 A. Yes.

20 Q. Thank you.

21 Dr. Fuchs, in your CV you indicate that you
22 are a consultant to various clients. Is that true
23 still today?

24 A. Yes.

25 Q. And approximately what portion of your

1 income can you attribute to your consulting to other
2 clients, other than Google?

3 A. Small fraction.

4 Q. Thank you.

5 Are you being paid for your time here
6 today?

7 A. Yes.

8 Q. Did you sign an agreement with someone
9 describing how you would be paid for your time here
10 today?

11 A. Yes.

12 Q. And who did you sign that agreement with?

13 A. I think with one or more of the law firms.

14 Q. The law firms.

15 A. Yes, sir. I don't remember --

16 Q. The law firm --

17 A. Let me repeat that.

18 Q. Please.

19 A. I don't remember. I may have signed some
20 documents with the client as well.

21 Q. Thank you.

22 And yesterday you indicated that you had
23 acted as a declarant for Google on a prior occasion.
24 How long ago was that, roughly?

25 A. Past year or two.

1 Q. Thank you.

2 And have you ever acted as a professional
3 witness before, other than the previous time with
4 Google?

5 A. Yes.

6 Q. And how long ago was that?

7 A. Approximately a decade ago.

8 Q. Thank you.

9 In the past several years, from the time of
10 your first engagement by Google, approximately what
11 portion of your income is attributable to acting as
12 a professional witness?

13 A. Very small percentage. I don't recall the
14 details now.

15 Q. Thank you.

16 In your opinion, does Google trust your
17 opinion?

18 A. I don't know.

19 Q. Would it surprise you that Google settled a
20 case where your opinion indicated that they did not
21 infringe the patents?

22 MR. ALMELING: Objection; form. Also
23 objection; relevance. The question does not
24 elicit anything in his direct testimony, and
25 therefore pursuant to the practice guide, among

1 other rules for IPR procedure, is not within the
2 appropriate scope of a cross-examination.

3 MR. KINCART: Please answer.

4 THE WITNESS: Could you repeat the
5 question?

6 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

7 MR. ALMELING: Let's go off the
8 record.

9 (DISCUSSION HELD OFF THE RECORD)

10 BY MR. KINCART:

11 Q. In your work with your clients, have you
12 ever seen a server farm that consisted of computers
13 in vehicles traveling in different directions?

14 A. I don't know.

15 Q. Outside the scope of your work with your
16 clients, have you ever seen a server farm that
17 consisted of computers in vehicles traveling in
18 different directions?

19 A. I don't know.

20 Q. State of the art communication systems
21 around the year 2004, how fast could the internet
22 communicate?

23 A. 2004.

24 MR. ALMELING: Objection; form. You
25 can answer.

1 A. I would have to consult documents to give
2 you a precise answer to that question.

3 Q. Okay. Dr. Fuchs, are you an expert in
4 cellular communication?

5 A. No.

6 Q. Do you have any understanding of cellular
7 communication?

8 A. Yes.

9 Q. Based on your understanding of cellular
10 communication, how fast could data be transmitted
11 via cellular networks in 2004?

12 A. I would have to look at documentation to
13 give you an accurate answer to that.

14 Q. Thank you.

15 How long would it take to transmit an image
16 file via cellular communication in 2004?

17 MR. ALMELING: Objection; form. You
18 can answer.

19 A. To give you a precise answer I'd need to
20 look at documentation, but the short answer is not
21 long.

22 Q. Did you research any of this material in
23 the past two years?

24 I'm sorry, may I rephrase the question?

25 Did you research how long it would take to

1 transfer image files by cellular communication in
2 the last two years?

3 A. I don't remember.

4 Q. Dr. Fuchs, is cellular communication a key
5 factor of the Yoichi structure?

6 A. I'm sorry, I don't understand the question.

7 Q. Dr. Fuchs, did you research the Yoichi
8 patent?

9 A. Yes.

10 Q. And did you gain an understanding of the
11 structure involved in the Yoichi patent?

12 A. Yes.

13 Q. Is cellular communication a key component
14 of the structure of the Yoichi patent?

15 A. Yoichi employs cellular communication.

16 Q. And what does it employ the cellular
17 communication to do?

18 A. Cellular communication is used for many
19 items in Yoichi, among them communication between
20 vehicles.

21 Q. What does it send in the communication
22 between vehicles?

23 A. Can you read back the question, please.

24 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

25 A. Yoichi talks about this in a number of

1 places, including paragraph 39. (Reading)

2 The driver or other requester obtained
3 images and associated information that resided
4 in other vehicles through peer to peer
5 communication between vehicles.

6 Q. Thank you.

7 A. There were many other places where it talks
8 about this.

9 Q. Based on your knowledge, what was the size
10 of an image file in 2004?

11 A. Image files in 2004 varied greatly in size,
12 depending on the situation and usage.

13 Q. Can you give me a range?

14 A. For example I think anything from 128 by
15 128 pixels to 1,000 by 1,000 pixels was common at
16 that time, but I would have to look at references to
17 give you a more definitive answer for what the common
18 image sizes were in 2004. That's what I recall
19 sitting here today.

20 Q. Thank you.

21 In your opinion and your understanding of
22 the Yoichi, an image 128 pixels by 128 pixels
23 enables the teaching of Yoichi?

24 MR. ALMELING: Objection; form. You
25 can answer.

1 A. Yes.

2 Q. Thank you.

3 You've indicated before that you've done a
4 substantial amount of research in preparation for
5 this IPR. Did you study the file history of the
6 Yoichi?

7 A. I don't remember.

8 Q. Did anyone provide you with a file history
9 of Yoichi?

10 A. I'm sorry, I don't recall.

11 Q. Did your research involve the size of image
12 files?

13 A. I don't remember.

14 Q. That's all right.

15 Did your research involve the size of video
16 files?

17 A. I don't remember.

18 Q. In 2004 did many cars have computers in
19 them?

20 MR. ALMELING: Objection; form. You
21 can answer.

22 A. I don't understand that question.

23 Q. Is it fair to say that Yoichi is designed
24 on the premise that every car would have a computer
25 in it?

1 MR. ALMELING: Objection; form. You
2 can answer.

3 THE WITNESS: I'm sorry, could you
4 repeat that question? I don't understand.

5 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

6 THE WITNESS: I don't understand that
7 question.

8 BY MR. KINCART:

9 Q. Based on your understanding of Yoichi, is
10 the structure of Yoichi operable without each car
11 having its own computer?

12 MR. ALMELING: Objection; form. You
13 can answer.

14 A. You mean each car using the Yoichi system?

15 Q. Yes.

16 A. Yoichi talks about a system in which
17 participating cars have communication devices in
18 them. To the extent that those communication devices
19 include a computer of some kind, the answer to your
20 question, I believe, is yes, but to give you a
21 definitive answer I would need to study Yoichi more
22 carefully and take my time to give you a more
23 definitive answer.

24 Q. Thank you.

25 In your previous answer you referred to a

1 communication device. Have you ever seen a server
2 farm defined as a communication device?

3 A. I don't know.

4 Q. Is a communication device a server farm?

5 MR. ALMELING: Objection; form. You
6 can answer.

7 A. I'm sorry, I don't understand the form of
8 the question.

9 Q. In your previous answer you used the term
10 communication device. Is a communication device a
11 server farm?

12 A. Not every communication device is a server
13 farm. Not every server farm is a communication
14 device. But there are devices which are both server
15 farms and communication devices.

16 Q. Can you give me an example of such a
17 communication device?

18 A. Yes.

19 Q. Please do.

20 A. A rack in one of our labs can be
21 characterized as -- a rack of computer equipment can
22 be characterized as a communication device and as a
23 server farm because it does both functions.

24 Q. Thank you. Yesterday --

25 A. Excuse me, can I just take a -- just a few

1 minute break?

2 Q. Absolutely you can take a break.

3 MR. ALMELING: Let's go off the
4 record.

5 (RECESS TAKEN FROM 10:07 A.M. TO 10:19 A.M.)

6 BY MR. KINCART:

7 Q. Dr. Fuchs, you understand that you're still
8 under oath?

9 A. Yes.

10 Q. Thank you.

11 And did you speak to counsel during the
12 break?

13 A. Only about non legal matters, like baseball
14 caps.

15 Q. Thank you. That's fine.

16 Earlier we went over a list of open source
17 programs in the '181 program -- in the '181 patent.
18 Do you recall that?

19 A. Yes.

20 Q. And just to sum up, as we went through
21 them, as you sit here today, you don't have any
22 comments on the structure of how they work.

23 MR. ALMELING: Objection; form. That
24 misstates 30 minutes of testimony.

25 MR. KINCART: Thank you.

1 BY MR. KINCART:

2 Q. Dr. Fuchs, earlier today we discussed the
3 open source program GDAL, the open source program
4 Mencoder, the open source program Denoise3D, the
5 open source program OpenGL, the open source program
6 Graphics Magic, and the open source program FFmpeg,
7 and the open source program Apache Server. Do you
8 have any comments on how the structure of any of
9 those work?

10 MR. ALMELING: Objection; form. You
11 can answer.

12 A. I could comment about some of those if you
13 like, but would you --

14 Q. Please do. The structure of how they work?
15 Would you like -- go ahead.

16 MR. ALMELING: Let's go off the
17 record.

18 (DISCUSSION HELD OFF THE RECORD)

19 BY MR. KINCART:

20 Q. Dr. Fuchs, you went through a list of open
21 source programs this morning. Would you like to
22 supplement your answer on the functionality of any
23 of those open sources?

24 A. Can I reserve the right to talk about them
25 in more detail later?

1 MR. ALMELING: You should answer
2 counsel's question.

3 THE WITNESS: Can you read back the
4 question, please?

5 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

6 THE WITNESS: No, not right now.

7 BY MR. KINCART:

8 Q. Thank you.

9 Returning back to the Yoichi, what is the
10 purpose of the watermark in the Yoichi?

11 A. There may be various purposes of that. He
12 talks about it in page -- in paragraph 85. You want
13 me to read what he says?

14 Q. Please.

15 A. (Reading)

16 While the image data is being captured
17 for the image data history or upon detection of
18 the occurrence of the emergency event, or upon
19 permanent storage after occurrence of the event
20 is detected, each image frame is watermarked to
21 secure the image and provide legal proof that
22 the image was not tampered with after capture,
23 so that the image becomes tamperproof for later,
24 ensuring reliability as evidence in court or the
25 like.

1 Q. Thank you.

2 Is that something the user would desire?

3 A. Possibly.

4 Q. For what purpose?

5 A. For the purpose that Yoichi just described.

6 Q. Is that something the provider would
7 desire, then?

8 A. Possibly.

9 Q. Why?

10 A. It would make it a more useful system.

11 Q. Is the purpose of the watermark to secure
12 copyright protection?

13 MR. ALMELING: Objection; form.

14 A. There can be many purposes.

15 Q. Dr. Fuchs, in your analysis of this, what
16 did you conclude the purpose of the watermark was
17 for?

18 MR. ALMELING: Objection; asked and
19 answered. You can answer again.

20 A. I felt that there were many possible
21 purposes for watermarks.

22 Q. What is the purpose of the Yoichi
23 innovation?

24 MR. ALMELING: Objection; form. You
25 can answer.

1 A. Yoichi teaches many innovations for many
2 purposes.

3 Q. Can you name one?

4 A. Yes. In paragraph 1 he states the
5 capturing of video images by vehicle cameras and the
6 storage of some images and the use of such images.

7 Q. How does the watermark aid the use of such
8 images?

9 A. As Yoichi says in paragraph 85, for later
10 insurance reliability as evidence in court or the
11 like. That's one of many.

12 Q. And how does it aid in the storage of some
13 images?

14 A. I'm sorry, I don't understand the question.

15 Q. You named three components: capturing the
16 video images, storage of such images, and the use of
17 such images. If we work through those, how does the
18 watermark aid in the storage of such images?

19 A. I don't know. I'd have to think more about
20 it.

21 Q. Thank you.

22 And in the placing of the watermark on the
23 image, does it change the file format?

24 MR. ALMELING: Objection; form. You
25 can answer.

1 THE WITNESS: It could.

2 MR. KINCART: I need to be excused.

3 Can we go off the record.

4 (MR. KINCART LEFT THE ROOM AND RETURNED
5 MOMENTARILY)

6 BY MR. KINCART:

7 Q. I think we were in placing the watermark in
8 Yoichi, placing the watermark on the image, does it
9 change the file format?

10 MR. ALMELING: You just answered that
11 question before we went off.

12 MR. KINCART: Can you read back the
13 answer? I'm sorry.

14 (PREVIOUS ANSWER READ BACK BY THE REPORTER)

15 BY MR. KINCART:

16 Q. Can you direct me to a place in Yoichi
17 where it indicates it could?

18 A. I don't remember if Yoichi exclusively
19 talks about the change in file formats after putting
20 the watermark, but a POSITA at the time of Yoichi
21 would understand that depending on circumstances, it
22 might be desirable to change the file format after
23 watermarking.

24 Q. In the act of placing of the watermark on
25 the image, is changing the file format required?

1 MR. ALMELING: Objection; form. You
2 can answer.

3 A. I don't know. I'd have to think about that
4 and consult the documentation.

5 Q. Thank you.

6 Okay, we're getting through this pretty
7 good.

8 In regards to the Yoichi patent, did you
9 define any of the terms in the claim elements?

10 MR. ALMELING: You might want to look
11 at the question.

12 MR. KINCART: Can I rescind the
13 question?

14 MR. ALMELING: Sure.

15 BY MR. KINCART:

16 Q. In your review of the '800 patent, did you
17 define any of the terms --

18 Perhaps I can help. If I direct you to
19 paragraph 17 and 18 --

20 A. Yes.

21 Q. -- that includes a number of defined terms,
22 including a continuum of image data, and you
23 interpreted as to mean two or more images captured
24 along a path. Can you indicate to me what the path
25 is referring to in your definition?

1 A. Sir, could you tell me where you see the
2 path?

3 Q. Yes, of course. In the third line --

4 A. Oh.

5 Q. Paragraph 17.

6 A. I meant the path along which the images
7 were taken.

8 Q. Thank you.

9 So if we continue down in that paragraph,
10 do you see the part that says: (Reading)

11 For example each of the two or more
12 images can be captured from a different position
13 on a street as a vehicle drives down the street.

14 Q. Is that the path that you're referring to?

15 A. Yes. I believe so.

16 Q. So it's the path of the vehicle as it
17 drives down the street.

18 A. It could be the path of the vehicle, or the
19 image capture device.

20 Q. Fair enough. The image capture device as
21 it travels down the street.

22 A. Um-hmm.

23 Q. Thank you.

24 A. May I amend that?

25 Q. You may.

1 A. This is one of many different examples, so
2 down the street, or -- doesn't have to be the street.
3 It could be as a drone flies along on rooftops, or
4 could be a lot of different paths.

5 MR. KINCART: Thank you.

6 Can we take a break?

7 THE WITNESS: Sure. How long?

8 MR. KINCART: You can take your walk.

9 (RECESS TAKEN FROM 10:41 A.M. TO 10:47 A.M.)

10 BY MR. KINCART:

11 Q. Dr. Fuchs, in paragraph 30 of your
12 declaration on the '800 patent, you quote DiBernardo
13 as being programmed to take the image and position
14 data and create one or more composite images for
15 storing into an image database. Can you describe --

16 I'm sorry.

17 A. Okay.

18 Q. Can you describe to me in your
19 understanding how the image and position data is
20 combined?

21 THE WITNESS: Can you repeat that
22 question for me?

23 (PREVIOUS QUESTION READ BACK BY REPORTER)

24 THE WITNESS: Yes, DiBernardo talks
25 about it in paragraphs 42 and 44. He describes

1 using universal time code, and I believe that
2 that's how he knows when the GPS receiver, the
3 location, and the camera frame.

4 BY MR. KINCART:

5 Q. Thank you.

6 Based upon the definition that we just
7 reviewed of continuum being the position of the
8 camera, do you understand -- is it your
9 understanding that the position of the images is
10 something different?

11 A. I'm sorry, I don't understand that
12 question. Different?

13 Q. Different than the position of the camera.

14 A. I'm sorry, if you could just restate that,
15 make sure I understand the question.

16 Q. Yes. We reviewed the definition provided
17 by you as far as a path. And you've associated the
18 path with the position of the camera that captured
19 the images. So is it safe, or is it your
20 understanding that the position of the image is
21 something different than the position of the camera
22 on the path?

23 A. My understanding is that many of these
24 references use those two terms interchangeably.

25 Q. The position of the camera and the position

1 of the image, is that what you're referring to?

2 A. The notion of a position of the camera
3 versus the position of the image depends on the
4 context it's -- of it being used, and there are
5 different definitions of it in different contexts.
6 Sometimes they mean the same thing, sometimes they
7 mean something slightly different.

8 Q. In the context of Claim 1 of the '800
9 patent, in the next to last element where it says,
10 "Wherein the software is additionally operative to
11 record --"

12 A. Sorry.

13 Q. Sorry.

14 A. I'm not with you here. Which claim
15 element?

16 Q. It would be the next to last.

17 A. The 1.6?

18 Q. It's not listed.

19 A. Okay.

20 Q. I'm referring to the patent.

21 A. Yes.

22 Q. (Reading)

23 Wherein this software is additionally
24 operative to record positional data descriptive
25 of a respective location of each of the two or

1 more images.

2 In your interpretation of this claim
3 element in this context, is that the same as the
4 position of the camera, or is that something
5 different?

6 A. I believe it's here the position of the
7 recording device, whether a camera or another
8 recording device.

9 Q. Thank you.

10 So in your interpretation, the images
11 capture the roadway --

12 Let's actually move down a little bit. Can
13 we move down to Claim 4?

14 A. Sure.

15 Q. (Reading)

16 Wherein the different points in a
17 continuum comprise positions of a vehicle
18 traveling on a roadway.

19 Based on your interpretation, the image
20 would be the point on the roadway?

21 A. Can you clarify that question?

22 Q. Okay. Based on your statement that the
23 positional data descriptive of a respective location
24 of each of the two or more images is the position of
25 the camera, in Claim 4 would the images then be of

1 the roadway that the vehicle was traveling?

2 A. I don't want to burden you. Can you just
3 read back the exact wording of that question to make
4 sure I understand it? This is what we have court
5 reporters for.

6 (PREVIOUS QUESTION READ BACK BY REPORTER)

7 THE WITNESS: Images be --

8 MR. ALMELING: Objection; form. You
9 can answer.

10 THE WITNESS: Could you read the last
11 portion?

12 (PREVIOUS QUESTION READ BACK BY REPORTER)

13 THE WITNESS: I think that would be an
14 ambiguous statement.

15 BY MR. KINCART:

16 Q. So you can't answer?

17 A. I want to answer that question in the best
18 possible way.

19 Q. Of course.

20 A. Do you want me to help clarify?

21 Q. I will try to rephrase.

22 In your interpretation of the claims of the
23 '800 patent, can the location of the images be the
24 same as the location of the camera? Is that
25 logical?

1 A. Yes, they can be.

2 Q. And if they are, are the images then an
3 image of the roadway?

4 A. I don't think so. Image of the roadway in
5 common, ordinary meaning, is that you see the roadway
6 in the images. That is a completely independent
7 notion of the images taken from the roadway.

8 Q. Okay. Based on your expert knowledge, does
9 image capture include a field of view?

10 A. Yes.

11 Q. And in the industry, does the field of view
12 have the depth of the field of view?

13 A. I don't know what you mean by the term
14 depth of the field of view.

15 Q. So you are not familiar with the term depth
16 of field of view?

17 A. I think that could mean several things.

18 Q. Can you describe one?

19 A. It would help if you showed me the use of
20 it in this patent.

21 Q. I'm not there yet. Please, this is just
22 your knowledge of the industry and image capture.

23 Does the field of view include a depth?

24 A. There are multiple terms dealing with depth
25 and image capture. One of them, for example, is

1 depth of field.

2 Q. Thank you.

3 Is there another?

4 A. Yes.

5 Q. Okay. Would you explain it?

6 A. For example the depth of one or more
7 features in an image.

8 Q. Thank you.

9 And in image capture can the depth ever be
10 zero?

11 A. Yes.

12 Q. In which case the field of view would be
13 the camera itself?

14 A. For example in scanners zero is sometimes
15 used to indicate the platen location.

16 Q. So your answer is indicating that the field
17 of view is equivalent to the location of a platen in
18 a scanner.

19 MR. ALMELING: Objection; form. You
20 can answer.

21 A. No.

22 Q. No.

23 In an image capture device, would a depth
24 of zero indicate the position of the image capture
25 device itself?

1 A. Sometimes.

2 Q. And sometimes not?

3 A. To give you a more precise answer I have to
4 think about that and you have to tell me more details
5 about the system.

6 Q. Very good.

7 Column 6, line 52 of the '800 patent, it
8 describes a plurality of cameras.

9 A. I'm sorry, column 6, line 52?

10 Q. Yes. (Reading)

11 A plurality of cameras can be fixedly
12 attached to a vehicle capturing video drive-by
13 data.

14 Can cameras capturing video drive-by data
15 ever have a depth of field of view of zero?

16 A. Depth -- I don't know.

17 Q. You don't know.

18 In your analysis of the '800 patent, did
19 you consider whether the field of view could be
20 equivalent to the position of a camera capturing
21 video drive-by data?

22 A. Can you repeat that question?

23 (PREVIOUS QUESTION READ BACK BY REPORTER)

24 THE WITNESS: Read that again.

25 (PREVIOUS QUESTION AGAIN READ BACK BY REPORTER)

1 THE WITNESS: I don't understand that
2 question. The field of view is different than
3 position.

4 BY MR. KINCART:

5 Q. Thank you.

6 And in cameras capturing video drive-by
7 data, your knowledge of the industry, do those
8 cameras have a field of view?

9 A. Yes.

10 Q. Thank you.

11 Is it possible to have a field of view of
12 zero for those cameras?

13 A. I don't think a field of view of zero is
14 meaningful in the context of video drive-by data
15 cameras, but field of views that are very narrow
16 might be useful.

17 Q. Thank you.

18 In your analysis of the '800 patent, is any
19 other image capture device described other than a
20 camera capturing video drive-by data?

21 A. Can you repeat the question?

22 (PREVIOUS QUESTION READ BACK BY REPORTER)

23 A. According to my analysis of the '800
24 patents, other image capture devices would be
25 perfectly fine.

1 Q. Thank you.

2 Did you find mention of any of those image
3 capture devices in the '800 patent?

4 A. The claims of the '800 patent talk about
5 image data. They don't mention camera explicitly.

6 Q. Okay. Can we refer now to Claim Number 5?

7 In your reading of Claim Number 5, the
8 images are captured with a camera at a position
9 about orthogonal to the subject matter. Can the
10 subject matter of the images be orthogonal if the
11 field of view is zero?

12 MR. ALMELING: Objection; form. You
13 can answer.

14 A. I would have to think more carefully what
15 it means for a field of view of zero. Certainly near
16 zero would be easily understood to be orthogonal. I
17 have to think more and read more of the documents
18 here for what it means to have a field of view of
19 exactly zero.

20 Q. Dr. Fuchs, in your analysis is it possible
21 to have any angle at a distance of zero?

22 MR. ALMELING: Objection; form. You
23 can answer.

24 A. Distance of zero is very different than
25 field of view of zero.

1 Q. Please answer the question pending.

2 A. So repeat the question, please.

3 (PREVIOUS QUESTION READ BACK BY REPORTER)

4 A. I don't know. That's a very unusual
5 situation. I'd have to think about it more.

6 Q. Dr. Fuchs, in your analysis how many points
7 are required to calculate an angle?

8 MR. ALMELING: Objection; form. You
9 can answer.

10 A. I'm sorry, I don't understand that
11 question. Do you mean in trigonometry, or do you
12 mean in video drive-by data?

13 Q. In your analysis of the '800 patent, how
14 many points do you require to calculate an angle?

15 A. I'm sorry, I still don't understand the
16 question. Angle of what?

17 Q. There are several angles in Claims 5, 6,
18 for instance.

19 A. (Reading to himself.)

20 Q. Did you analyze those claims?

21 A. Yes.

22 MR. ALMELING: Is there a pending
23 question?

24 Q. Pending question is how many points are
25 required to determine an angle?

1 A. Typically three, but in various other
2 circumstances maybe many more.

3 Q. So I can understand that at least three
4 disparate points are required to calculate an angle.

5 MR. ALMELING: Objection; form. You
6 can answer.

7 A. That's correct.

8 Q. Thank you.

9 The points that you referred to in your
10 previous answer, are you saying that there is some
11 distance between those points?

12 A. Yes.

13 Q. Thank you.

14 Dr. Fuchs, can you explain to me any logic
15 that would allow for the distance to be anything
16 other -- or to ever be zero?

17 I'll rephrase the question. Dr. Fuchs,
18 based on your answers can the distance ever be zero?

19 A. I'm sorry, which distance?

20 Q. Okay. Fair enough.

21 Can the distance between the camera and the
22 captured image ever be zero, if you're going to have
23 a calculated angle?

24 THE WITNESS: Can you repeat the
25 question, please?

1 (PREVIOUS QUESTION READ BACK BY REPORTER)

2 THE WITNESS: I'm sorry, I still don't
3 understand that question. The captured image is
4 of objects in the scene. The objects in the
5 scene have different distances. I'm trying to
6 understand your question, but I don't understand
7 what you mean.

8 BY MR. KINCART:

9 Q. How did you interpret the capture of images
10 in your analysis of the '800 patent? Were the
11 images captured at some distance from the camera?

12 MR. ALMELING: Let's go off the
13 record.

14 (DISCUSSION HELD OFF THE RECORD)

15 BY MR. KINCART:

16 Q. Dr. Fuchs, did you analyze Claims 5, 6, 7,
17 8, and 9 of the '800 patent?

18 A. Not in any detail.

19 Q. Thank you.

20 Dr. Fuchs, in the '800 patent it talks
21 about capturing two or more images with a camera on
22 a path. The two or more images are of a subject
23 matter. Can that subject matter be from the same
24 point on the path of image capture?

25 A. Can the subject matter be from the same

1 point -- can the subject matter be -- can you
2 repeat --

3 (PREVIOUS QUESTION READ BACK BY REPORTER)

4 A. The two or more images are typically taken
5 from different points along a path. I don't
6 understand how that last phrase is, from the same
7 point. Can you clarify that, please?

8 Q. Based on your knowledge of cameras in 2004,
9 is it possible to capture an image of the point
10 where the camera resides itself?

11 A. There might be a way to do this but I
12 cannot think of a way, sitting right here, that a
13 camera could take an image of something that's at its
14 location, other than in some strange way with
15 mirrors.

16 Q. Dr. Fuchs, do you have a basic
17 understanding of a camera that captures digital
18 data?

19 A. Yes.

20 Q. And does that include capacitive charge
21 diodes?

22 A. Yes.

23 Q. Commonly referred to as a CCD camera?

24 A. Yes.

25 Q. Thank you.

1 Is some distance required between the CCD
2 and the image it's going to capture?

3 A. Usually yes.

4 Q. Thank you.

5 Can it ever not?

6 A. It depends on how we measure distance.

7 Q. Can you explain to me an instance that you
8 can measure distance that the distance would be
9 zero?

10 A. Yes.

11 Q. Please do.

12 A. If we put the CCD device --

13 Q. Um-hmm.

14 A. -- right up against the platen, or any
15 source of light, one might consider that zero
16 distance.

17 Q. In your description, the platen itself then
18 becomes the subject matter.

19 A. A piece of paper on the platen I believe
20 becomes the subject matter.

21 Q. Thank you.

22 And would that example be applicable to a
23 camera traveling down a roadway?

24 A. Very unlikely.

25 Q. Thank you.

1 Dr. Fuchs, are you familiar with aerial
2 mapping?

3 A. Yes.

4 Q. Can you describe how an aerial view of a
5 map can be combined with two-dimensional image data?

6 A. Can you point me to where you're referring?

7 Q. Claim 12.

8 A. Claim 12? Of '800?

9 Q. Claim 11 and 12, actually.

10 Dr. Fuchs, as you're doing your analysis,
11 we can begin at Claim 10 where it reads: (Reading)?

12 The software is additionally operative
13 to combine the composite image within an aerial
14 view image in the geographic area;

15 And Claim 11 where it refers to 10 and
16 states, (Reading)

17 The apparatus in Claim 10, wherein the
18 aerial view comprises a perpendicular view of
19 the geographic area.

20 In your analysis how were those two
21 combined?

22 A. I'm sorry, I don't understand. How are
23 they combined in the DiBernardo, for example?

24 Q. In your analysis of the '800 patent, Claim
25 10 reads: (Reading)

1 The software is additionally operative
2 to combine the composite image with an aerial
3 view image of the geographic area.

4 A. Um-hmm.

5 Q. In your analysis, how are they combined?

6 MR. ALMELING: Let's go off the
7 record.

8 (DISCUSSION HELD OFF THE RECORD)

9 MR. KINCART: Thank you.

10 THE WITNESS: In my analysis of claim
11 10, the word combined, I used plain and ordinary
12 meaning, namely to somehow link together two
13 different things, in this case the composite
14 image and an aerial view.

15 BY MR. KINCART:

16 Q. When you say that you used the plain and
17 ordinary meaning, to which terms are you referring?

18 A. The term combined.

19 Q. And did you analyze these in your
20 declaration?

21 A. I'm sorry, what do you mean 'these'?

22 Q. These two claims.

23 A. 10 and 11?

24 Q. Yes.

25 A. Yes.

1 Q. Can you point that out to me?

2 A. For example in paragraphs 35 and 36 of my
3 '800 declaration.

4 Q. And in that declaration do you address the
5 word combine at all?

6 A. I was certainly mindful of the function
7 combine when analyzing this Claim 10. I don't
8 remember if I used it explicitly as a term.

9 Q. Thank you.

10 Dr. Fuchs, I believe in your declaration
11 you referred to DiBernardo and the Scout tool; is
12 that correct?

13 A. I referred to DiBernardo. There's the term
14 Scout tool in one of the figures.

15 Q. Thank you.

16 And in your description of aerial view
17 image, can you point out to me where that's in your
18 analysis?

19 A. This is the second sentence in 35 --

20 Q. Um-hmm.

21 A. -- which says configure present a map of
22 the image. Map of the city. That's what I take to
23 be in areal view image.

24 Q. Thank you.

25 So just to re-clarify, you're saying that a

1 map of the city is the aerial view image.

2 A. That's certainly one example of it.

3 MR. KINCART: Thank you.

4 I think we're going to take a break.

5 We're really close.

6 (RECESS FROM 11:41 A.M. TO 11:49 A.M.)

7 BY MR. KINCART:

8 Q. Just to clarify a point made earlier, and
9 perhaps I misunderstood, but Dr. Fuchs -- let me
10 phrase this correctly.

11 In speaking about your compensation from
12 Google in comparison to your other compensation, is
13 it accurate to say that any compensation other than
14 Google is a small fraction of your total income?

15 A. Yes.

16 Q. Thank you. I thought that's what I heard.
17 I just needed to clarify. Thank you.

18 And can we refer to the Fruh reference?

19 A. Fruh. Fruh I think is in -- I don't think
20 I used that in '800. I think I used it in '396.
21 Shall I put '800 away?

22 Q. Dr. Fruh -- Dr. Fruh. I'm sorry,
23 Dr. Fuchs, have you analyzed the Fruh reference?

24 A. Yes.

25 Q. Thank you.

1 And you're in a position to discuss it
2 today?

3 A. Yes.

4 Q. Thank you.

5 Can you explain to me how a 2D laser scan
6 works?

7 A. Yes. I don't remember if Fruh talks about
8 this, because I think this is a piece of equipment
9 that he bought.

10 These laser scanners give data that is
11 similar to a camera in that they have something like
12 images, but in each pixel the value typically is the
13 distance to the nearest surface of that pixel rather
14 than a color.

15 Q. Thank you. That's very good. And how do
16 they determine that distance?

17 A. Laser scanners use a number of different
18 technologies for determining distance. One of them
19 is time of light, that is how long it takes for the
20 light to hit the surface at that angle and return.

21 Q. Thank you.

22 So in his title he talks about an automated
23 method for large-scale, ground-based city model
24 acquisition. In your understanding does he move the
25 scanner down a pathway and take these depth

1 readings?

2 A. Yes.

3 Q. Thank you.

4 And as he moves down the pathway, from your
5 understanding does he ever overlap the depth
6 readings?

7 A. Yes.

8 Q. Can you point that out to me?

9 Dr. Fuchs, perhaps in the interest of time
10 can I refer you to the second column of page 6 of
11 the Fruh? And can you read to yourself the first
12 full paragraph and tell me if you'd like to
13 reconsider your answer in view of Fruh?

14 A. (Witness reviews document.)

15 Q. According to Fruh, did they overlap the 2D
16 scans?

17 A. Yes. The horizontal scans. The horizontal
18 2D scans.

19 Q. Okay, thank you.

20 And do they overlap the vertical 2D scans?

21 A. No.

22 Q. Thank you.

23 Does Fruh teach building a 3D model based
24 on the 2D scans?

25 A. I'm sorry, I don't understand that

1 specifically. Fruh teaches many, many things. Can
2 you make your question more specific, please?

3 Q. How does Fruh utilize the 2D scans? One of
4 the uses, does that include building 3D models?

5 A. Yes.

6 Q. Thank you.

7 And does Fruh also describe using cameras?

8 A. Yes.

9 Q. And does he capture data with the cameras?

10 A. Yes.

11 Q. And how does he use the data captured with
12 the cameras?

13 A. Fruh teaches multiple uses for the various
14 sensors, including multi uses for the cameras.

15 Q. Can you describe one use?

16 A. Sure.

17 Q. Please.

18 A. Fruh teaches about the use of cameras,
19 camera imagery, in multiple places --

20 Q. Um-hmm.

21 A. -- among them the top column, the top right
22 column of page 12, in which Fruh says: (Reading)

23 Furthermore, camera and laser scanners
24 are synchronized by trigger signals and are
25 mounted in a rigid configuration on the sensor

1 platform. We calibrate the camera before our
2 measurement and determine the transformation
3 between its coordinate system and laser
4 coordinate system, therefore for every arbitrary
5 3D point we can compute the corresponding image
6 coordinates and map the texture onto each mesh
7 triangle.

8 MR. ALMELING: To clarify the record,
9 the witness was referring to page 12 of the
10 exhibit nominated 1004 in the '396 IPR. The
11 reference itself also contains the page 16 for
12 further reference.

13 MR. KINCART: Thank you, counsel.

14 BY MR. KINCART:

15 Q. Is it safe to say, then, that the data
16 captured with the camera is placed pixel by pixel
17 onto the 3D model?

18 MR. ALMELING: Objection; form. You
19 can answer.

20 A. Not necessarily.

21 Q. Thank you.

22 But according to Fruh it could be?

23 A. Yes.

24 Q. Thank you.

25 In your analysis of Fruh, or Yoichi, were

1 you provided any supplemental materials?

2 A. I don't remember.

3 Q. Thank you.

4 In the many weeks coming up to the final
5 product, were you provided materials along the way?
6 Were you provided -- I'm sorry, can you hear? You
7 cocked your ear towards me. I didn't know if that
8 meant you didn't hear.

9 A. I think I heard.

10 MR. ALMELING: Counsel, the rules, of
11 course, protect communications with experts as
12 well as the drafting of a report. Perhaps you
13 could revise your question.

14 Q. Did you conduct all of your research on
15 your own?

16 A. I'm sorry, could you be more -- could you
17 clarify what you mean by research?

18 Q. In your analysis of the metapatents and the
19 work involved in generating the declarations, did
20 you conduct research?

21 A. Yes.

22 Q. Did you conduct it all on your own?

23 A. No.

24 Q. Thank you.

25 Who helped you?

1 MR. ALMELING: You can identify the
2 people. You cannot identify communications
3 you've had with counsel.

4 A. Different individuals from various law
5 firms helped me at different times in different parts
6 of the analysis.

7 Q. Thank you.

8 And are you a very good typist?

9 A. I took touch typing in middle school.

10 Q. Thank you.

11 Are there various drafts of the
12 declarations?

13 Let me rephrase that. What machine did you
14 generate the declarations on?

15 A. Mostly my laptop.

16 Q. Are there various drafts of the
17 declarations on your laptop?

18 MR. ALMELING: Objection. Counsel,
19 not only are drafts not discoverable, they're
20 not discoverable pursuant to IPR rules about
21 additional discovery, so it is both privileged
22 and outside the scope. Perhaps you could
23 rephrase your question, or not pursue a line of
24 questioning that would not be admissible.

25 BY MR. KINCART:

1 Q. Did you generate various drafts?

2 A. Yes.

3 Q. Did you type them yourself?

4 A. I -- some, yes.

5 Q. Based on your answer, were some portions
6 typed by someone other than yourself?

7 A. Yes.

8 Q. Without violating any privileged
9 information, who typed the other portions, if you're
10 able to answer?

11 A. I don't think I can answer that.

12 Q. So those people are under attorney-client
13 privilege.

14 A. Yes.

15 Q. Thank you.

16 MR. ALMELING: The -- I'm sorry,
17 please continue your question.

18 Q. Yesterday you indicated that you used --
19 let me rephrase it. Yesterday did you indicate that
20 you used search engines in your research?

21 A. Yes.

22 Q. Thank you.

23 And the search engine queries, were those
24 all devised by you?

25 A. I don't remember.

1 Q. Did anyone help you with your searching?

2 A. I don't remember.

3 Q. Did you receive data resulting from other
4 on-line tools other than search engines?

5 A. Sorry, I don't remember.

6 Q. Your understanding of the industry, and
7 public knowledge, does Google contain analytics of
8 internet use?

9 MR. ALMELING: Objection to relevance.
10 Counsel, I'm not going to stop this line of
11 questioning, but perhaps you could explain why
12 it's the appropriate subject of an IPR
13 deposition.

14 MR. KINCART: I want to determine how
15 he received assistance in creating his
16 declarations.

17 MR. ALMELING: That, too, would be
18 privileged.

19 MR. KINCART: Depending. If it was
20 only by counsel --

21 MR. ALMELING: Which he has testified
22 multiple times. I think you've asked him did he
23 receive help from assistants; he said no. Did
24 you receive help directly from Google; he said
25 no. So I think we've covered this ground. If

1 you want to ask the predicate, did you receive
2 any assistance from anyone besides an attorney
3 and the answer is yes, that may be a different
4 line of questioning.

5 BY MR. KINCART:

6 Q. If Mr. Meadow searched using the Google
7 search engine, does Google retain a record of that
8 search?

9 A. I don't know.

10 Q. If Mr. Meadow had a gmail account, does
11 Google retain information related to the content of
12 that gmail account?

13 MR. ALMELING: Objection; form and
14 relevance. You can answer.

15 A. I don't know.

16 Q. Based on your knowledge of the industry are
17 you familiar with Google apps?

18 A. A little bit.

19 Q. Calendar function --

20 A. Yeah.

21 Q. -- things like that? If Mr. Meadow used
22 Google apps, would Google retain information?

23 MR. ALMELING: Objection; form,
24 relevance, and outside the scope. You can
25 answer.

1 THE WITNESS: I don't know.

2 MR. ALMELING: And to clarify my
3 objection, when I say irrelevance, I'm going to
4 include the concept of outside the scope.

5 You may continue.

6 BY MR. KINCART:

7 Q. To the best of your knowledge, was any of
8 the content included in your declaration derived in
9 any manner from information entered into a Google
10 app or a Google search engine, or any other program
11 under the control of Google, by Mr. Meadow or any of
12 his associates?

13 MR. ALMELING: Objection; form. You
14 can answer.

15 THE WITNESS: I don't know.

16 MR. KINCART: Thank you.

17 MR. ALMELING: No further questions,
18 counsel?

19 MR. KINCART: No further questions.

20 MR. ALMELING: At this point direct
21 testimony regarding the four inter partes were
22 examining -- involving the four petitions filed
23 by petitioners is now closed. We will take a
24 break for lunch, and we will open with redirect.

25 Off the record.

1 (RECESS TAKEN FROM 12:12 P.M. TO 1:09 P.M.)

2 EXAMINATION BY COUNSEL FOR THE RESPONDENT
3 BY MR. ALMELING:

4 Q. Dr. Fuchs, I will ask you a series of
5 questions that were brought up during your direct
6 examination, the first of which relates to
7 Dr. Grindon.

8 Opposing counsel asked you a series of
9 questions about Dr. Grindon and a declaration that
10 Dr. Grindon provided under the Vederi against Google
11 litigation. Do you remember that testimony?

12 A. Yes.

13 Q. Have you ever communicated with
14 Dr. Grindon?

15 A. I don't think so.

16 Q. Have you ever collaborated with him on any
17 projects?

18 A. Not that I know of.

19 Q. Have you ever exchanged any form of
20 correspondence such as email or letters?

21 A. I don't think so.

22 Q. So you don't recall ever communicating in
23 any way with Dr. Grindon.

24 A. That's correct.

25 Q. I hand you what has been previously handed

1 to you, what's been referred to as the Grindon
2 declaration. It is a declaration with the title,
3 quote, Declaration of Dr. John R. Grindon in Support
4 of Google's Opening Claim of Construction, close
5 quote, which was submitted in the Vederi versus
6 Google litigation out in the Central District of
7 California, which was submitted in this IPR as
8 Visual Real Estate Exhibit 2002 in at least some of
9 the IPR re- -- IPR proceedings.

10 Have you conducted an analysis of
11 Dr. Grindon's declaration for any issue?

12 A. No.

13 Q. Have you conducted an analysis of
14 Dr. Grindon's declaration for that declaration
15 discussion of certain patents that were asserted by
16 Vederi against Google, and the accuracy of
17 Dr. Grindon's opinion?

18 A. No.

19 Q. Could you conduct an analysis of
20 Dr. Grindon's declaration vis-a-vis your own
21 declaration vis-a-vis the DiBernardo reference or
22 other issues?

23 A. Could I? Yes.

24 Q. In order to conduct an evaluation of
25 Dr. Grindon's declaration, what would you typically

1 need to do?

2 MR. KINCART: Objection; relevance.

3 A. I would need to obviously read his
4 declaration and analyze it, and read the documents
5 that he refers to and analyze those and compare them
6 with what I have done, and perhaps some other
7 documents that I would need to study.

8 Q. And have you done that analysis to date?

9 A. No.

10 Q. Earlier today counsel asked you a series of
11 questions about various programs referenced in the
12 131 declaration, including GDAL, Mencoder, FFmpeg,
13 OpenGL, Graphics Magic, and Apache Server, and
14 counsel asked whether any of those programs are the
15 same as or similar to various structures disclosed
16 in DiBernardo and Yoichi. Do you recall those
17 questions?

18 A. Yes.

19 Q. Have you conducted an analysis into whether
20 any of those programs were the same as or similar to
21 the structures disclosed in DiBernardo or Yoichi?

22 MR. KINCART: Objection; asked and
23 answered.

24 A. I'm sorry, you say have I done that, or
25 could I do it?

1 Q. Let me ask the question again so it's
2 clear.

3 Have you conducted any analysis into
4 whether any of those programs were the same as or
5 similar to various structures disclosed in
6 DiBernardo or Yoichi?

7 A. No.

8 Q. Could you conduct that analysis?

9 A. Yes.

10 Q. What would you need in order to conduct
11 that analysis?

12 A. I would need the specification
13 documentation for each one of those programs, each
14 one of those formats, and then I would need the
15 documentation for the corresponding programs and
16 formats used in Yoichi or DiBernardo, and then
17 perhaps some other documentation and texts.

18 Q. And you have not yet done that analysis to
19 date; correct?

20 A. That's correct.

21 Q. I hand you the '800 patent. In testifying
22 about the '800 patent I would like to read two
23 sentences of your testimony.

24 Quote, The claims of the '800 patent talk
25 about image data. They don't mention camera

1 explicitly, end quote.

2 Do you recall giving that testimony?

3 A. Yes.

4 Q. Would you like to modify that testimony in
5 any way?

6 A. Yes.

7 Q. How would you like to modify that
8 testimony?

9 MR. KINCART: Objection; form.

10 MR. ALMELING: And I want to make sure
11 that I ask the question the way that you find
12 appropriate. What is the objection to the form?

13 MR. KINCART: Which testimony?

14 MR. ALMELING: The two sentences that
15 I just quoted.

16 MR. KINCART: Okay.

17 BY MR. ALMELING:

18 Q. Those two sentences, how would you like to
19 modify that testimony?

20 A. Some of the claims do not mention the word
21 camera; others do.

22 Q. So earlier, when you said the claims don't
23 mention the camera explicitly, that is not an
24 accurate statement?

25 A. That's correct, that is not an accurate

1 statement.

2 Q. Why did you make that statement?

3 A. I was just looking at the Claim 1 preamble
4 and the other limitations of Claim 1, and I didn't
5 look further.

6 Q. I'd like to direct you to a different area.
7 I hand you your '181 declaration.

8 Is the word parcel a term in any of the
9 claims on which you provided an opinion regarding
10 the '181 patent?

11 A. No.

12 Q. Even though the word parcel is not a term
13 in any of the claims on which you provided an
14 opinion, did you consider the terms parcel and
15 parcel data in forming your various opinions?

16 A. Yes.

17 Q. How?

18 A. Parcel and parcel data refer to information
19 that is very similar to high speed address, and
20 that's relevant to the claims and the analysis.

21 Q. I'm sorry, it's relevant to what?

22 A. To the claims and the analysis. That's why
23 I considered -- I considered the entire -- the entire
24 patent, the entire '181 patent.

25 Q. I didn't mean to step on your answer. Are

1 you finished, sir?

2 A. Yes.

3 Q. I hand you what we've been referring to as
4 the DiBernardo reference.

5 Does DiBernardo disclose searching for an
6 image based on an address depicted in that image?

7 A. Yes.

8 Q. Can you describe where DiBernardo discloses
9 searching for an image based on an address depicted
10 in that image?

11 A. DiBernardo disclosed this in paragraph 79.
12 Would you like me to read some of this?

13 Q. I do not need to you read it, but if you
14 could reference to what section in particular of 79
15 that you're referring to.

16 A. First sentence: (Reading)

17 A user places inquiries about a
18 location in a geographic area to place an image,
19 and --

20 REPORTER: I'm sorry, could you direct
21 your answer this way?

22 THE WITNESS: One second, let me
23 refresh --

24 (Reviews document.)

25 THE WITNESS: Can you repeat the

1 question, please?

2 (PREVIOUS QUESTION READ BACK BY THE REPORTER)

3 THE WITNESS: Sorry, the previous one.

4 (REQUESTED QUESTION READ BACK BY THE REPORTER)

5 THE WITNESS: Thank you. One moment.

6 (Reviews document.)

7 THE WITNESS: I think he discloses

8 this starting on paragraph 90 or 91, in

9 particular I read from 91, says: (Reading)

10 The process starts in step 240. The
11 user requests information about a particular
12 street address by entering the address in the
13 address input fields.

14 Would you like me to read more?

15 BY MR. ALMELING:

16 Q. Is that sentence the only sentence that you
17 believe in DiBernardo discloses searching for an
18 image based on an address depicted in an image?

19 A. I can verify other places also if you'd
20 like me to look for them. There is I think 79 also.
21 That starts with: (Reading)

22 In a particular use of the system, a
23 user places inquiries about a location in a
24 geographic area depicted in an image database.

25 Q. And I don't need for you to give me a

1 complete itemization of all of them; that would take
2 too long.

3 Are the two sections that you referred to
4 in DiBernardo in your opinion the only ones that
5 disclose searching for an image based on the address
6 depicted in the image, or do you believe that there
7 are others?

8 A. I believe that there are probably others.

9 Q. I'd like to ask you a separate question.

10 I'm going to read back one of the answers
11 that you gave earlier today when asked a question
12 about your definition of composite image in the
13 context of the '396 patent. You said, quote,
14 Sitting here today, my recollection of my
15 interpretation of the common -- of a composite image
16 was ordinary and common means of it, that is of an
17 image made up of composition multiple images.

18 My question to you, sir, is this. Do you
19 believe that your definition of an image made up of
20 a composition of multiple images is the only
21 ordinary and common meaning of the term composite
22 image?

23 A. No; there can be others.

24 MR. ALMELING: Let's go off the
25 record.

1 (DISCUSSION HELD OFF THE RECORD)

2 BY MR. ALMELING:

3 Q. I direct your attention to page 13 of the
4 Institution Decision on the '396 patent, which I
5 just handed you. For clarification this is paper 11
6 in case number IPR 2014-01341.

7 Direct your attention to page 13 of the
8 Institution Decision on the '396 patent. Let me
9 know when you're there.

10 A. Page 13. I'm there.

11 Q. The Board provides a definition of
12 composite image as, quote, an image formed by
13 aligning portions of at least two or more image data
14 sets, end quote.

15 Do you believe that that definition of the
16 phrase composite image in the context of the '396
17 patent is an accurate definition of that term's
18 ordinary and common meaning?

19 MR. KINCART: Objection; leading.

20 MR. ALMELING: Your answer?

21 THE WITNESS: Yes.

22 MR. ALMELING: Okay. And counsel,
23 just so there's clarification, the question was
24 asked, do you believe, which suggests --

25 MR. KINCART: I'm sorry.

1 MR. ALMELING: -- a 'no' answer. Do
2 you withdraw the objection?

3 MR. KINCART: Withdraw the objection.
4 BY MR. ALMELING:

5 Q. I would like to ask you about another
6 definition on the '396 Institution Decision, and I
7 direct your attention to page 12.

8 The Board provides a construction of image
9 data set as, quote, a data set associated with an
10 image, end quote.

11 Do you see that?

12 A. Yes.

13 Q. And do you believe that that is an ordinary
14 and common meaning of the term image data set?

15 A. Yes.

16 Q. Do you believe that that is the only
17 ordinary and common meaning of the term image data
18 set?

19 A. No.

20 Q. You believe that there are others.

21 A. Yes.

22 Q. I hand you what we have been referring to
23 as the Fruh reference. Using the definition of
24 image data set that the Board provided and which I
25 just read to you, is a camera image captured by the

1 digital camera in Fruh an image data set?

2 A. Yes.

3 Q. Why?

4 A. Because it meets the definition of data set
5 associated with an image.

6 Q. Direct your attention to Fruh, page 16.

7 And to clarify, I'm referring to page 16 in
8 the original Fruh article as opposed to page 16 of
9 the exhibit that was submitted by petitioners.

10 Beginning on the second sentence, the
11 second column, page 16 of Fruh, it reads, quote, We
12 calibrate the camera before our measurements and
13 determine the transformation between its coordinate
14 system and the laser coordinate system, therefore
15 for every arbitrary 3D point we can compute the
16 corresponding image coordinate and map the texture
17 onto each mesh triangle. The result is a textured
18 facade -- pardon me. The result is textured facade
19 models of the building that the acquisition vehicle
20 drove by.

21 Do you see that?

22 A. Yes.

23 Q. Are the data provided by the vertical and
24 horizontal scanners associated with the camera image
25 captured by the digital camera?

1 A. I'm sorry, can you say that question again?

2 Q. Sure. Are the data provided by the
3 vertical and horizontal scanners associated with the
4 camera image that is captured by the digital camera?

5 A. Are they associated with it? Certainly,
6 yes.

7 Q. Are the data provided by the vertical and
8 horizontal scanners part of the image data set as
9 that term is construed by the Board, and as you
10 construe that term in its plain ordinary meaning?

11 A. Yes.

12 Q. Why?

13 A. Because they -- again Fruh clearly explains
14 how they're associated with the -- the camera, and
15 that meets the definition of the Board that you just
16 showed me, a data set associated with an image.

17 Q. I'd like to direct your attention now to
18 Figure 20 in Fruh.

19 I hand you the '396 patent. I direct your
20 attention to column 5 --

21 A. '396, column 5.

22 Q. -- lines 30 through 37.

23 A. 30 through 37. Okay.

24 Q. This section refers to Figure 4A. Can you
25 please identify in Figure 4A what are some of the

1 features?

2 A. Yes.

3 MR. KINCART: Objection. It's beyond
4 the scope of my inquiry.

5 MR. ALMELING: I believe you asked a
6 series of questions about features and the
7 definition of features, and I've provided him
8 some examples, so I'm sorry, I think we may need
9 to agree to disagree on that one.

10 So you can go ahead and answer the
11 question subject -- in light of the objection,
12 which means you need to answer that question and
13 his objection will be interposed.

14 MR. KINCART: That's fine.

15 BY MR. ALMELING:

16 Q. Okay. So let's make the record clear.

17 Can you please identify some of the
18 features that you see in Figure 4 of the '396
19 patent?

20 A. Yes, a tree, and roof. And they're
21 identified in these -- in this text.

22 Q. How do you know that the tree and the roof,
23 for example, are features as that term is used in
24 the context of the '396 patent?

25 A. Because the term features is used very

1 close to this. For example line 44 in the same
2 column, one or more features, location of one or more
3 features is registered. On line 40 it says includes
4 many of the same features as in image data 400A.

5 Q. Direct --

6 I'm sorry, are you finished, sir?

7 A. Yes.

8 Q. Direct your attention to column 5, lines 33
9 through 35.

10 What do you understand the phrase feature
11 points of a tree to mean?

12 A. I understand it to mean a particular point
13 in that feature.

14 Q. Direct your attention to Figure 20 of Fruh.

15 A. Yes.

16 Q. Are there features contained in the point
17 cloud shown in Figure 20 of Fruh?

18 A. Yes.

19 Q. Could you please identify some of those
20 features?

21 A. Trees. Roofs. They're just two of the
22 examples that are obvious.

23 Q. Yesterday opposing counsel asked you a
24 series of questions about street-level imagery,
25 including if you could identify one example in your

1 résumé of where you wrote something about street-
2 level imagery. To prevent that testimony from being
3 potentially misleading I would like to ask you a
4 series of questions about your expertise, beginning
5 with the high level question, do you consider
6 yourself an expert on the technology disclosed and
7 claimed in the instituted patents?

8 A. Yes.

9 Q. And it's obviously difficult for one to
10 boast about one's self, so I'll ask this question
11 about third parties.

12 Why do you think others would consider you
13 an expert on technology related to the technology
14 disclosed and claimed in the instituted patents?

15 MR. KINCART: Objection; beyond the
16 scope of anything I asked him.

17 MR. ALMELING: You asked him a series
18 of questions about whether or not he was
19 qualified, and they were very narrow. I'm
20 asking him a open-ended question so that he can
21 clarify his qualifications to prevent the narrow
22 questions from being too misleading.

23 MR. KINCART: You can proceed. I'd
24 like the objection to stand.

25 THE WITNESS: I think other people

1 might consider me an expert because I've been
2 working in the field since 1970, and I have
3 worked on many of the various technologies that
4 are discussed in these patents and the prior
5 art. For example I worked with aerial imagery
6 at the image processing lab, the jet propulsion
7 lab around 1970, identifying houses in a
8 development.

9 My dissertation at University of Utah
10 in 1975 dealt with building a laser scanner and
11 acquiring three-dimensional surface points, and
12 processing those surface points to create
13 polygonal models, which is very similar to what
14 is being done right now in the various
15 references that we've disclosed.

16 I have been a senior researcher on
17 multiple projects funded by the federal
18 government that have to do with processing of
19 data from street-level cameras, and
20 reconstructing three-dimensional models from
21 those.

22 I've received a variety of awards over
23 the years.

24 BY MR. ALMELING:

25 Q. Specifically within the context of street-

1 level imagery, can you describe some of the ways in
2 which you're an expert regarding that technology?

3 I will revise the question. Can you --
4 withdrawn.

5 Speaking in terms of expertise related to
6 the acquisition, processing, and delivery of street-
7 level imagery, can you describe some of the ways in
8 which you are an expert on that subject?

9 MR. KINCART: Objection; beyond the
10 scope.

11 A. Among other projects have been ones funded
12 by Office of Naval Research, in which we processed
13 imagery from cameras mounted close to street level
14 along streets in fictitious villages and towns in
15 which marines trained, and then we processed those
16 images to construct three-dimensional models that use
17 many of the same or similar technologies to ones
18 discussed in these patents, and in the associated
19 references.

20 Q. Counsel asked you a series of questions
21 about companies that counsel purported were in the
22 industry of street-level imagery. You were
23 unfamiliar with several of those companies and their
24 products and services. Given your expertise in
25 street-level imagery, can you explain why you did

1 not recognize some of the companies that opposing
2 counsel purported to be within the industry?

3 A. I concentrate on research rather than on
4 commercial products, and so much of the work that is
5 discussed here is related to work that I did some
6 years ago. And while I have some former students in
7 various companies, I concentrate on trying to work on
8 things that might be 20 years ahead.

9 Q. Your CV identifies various awards that you
10 have received for your expertise. Have there been
11 any recent awards that will be added to your CV
12 going forward?

13 MR. KINCART: Objection; beyond the
14 scope.

15 A. I was recently notified that the -- the
16 Coons award for this year, which is the highest award
17 given in -- by SIGGRAPH, the largest computer
18 graphics organization, will be given to me this
19 summer. That has not yet been made public, but I
20 have been notified about it, and I've been allowed to
21 tell various individuals.

22 Q. How many people receive the Coons award
23 every year?

24 MR. KINCART: Objection, beyond the
25 scope.

1 A. It's given once every two years. It was
2 started I think in the 1980's, so I guess 15 or 17
3 people have received it in history.

4 Q. And can you describe what the award is for?

5 MR. KINCART: Objection, beyond the
6 scope.

7 A. I think the citation is something like
8 significant lifetime contributions to the field.

9 Q. How would you characterize the other
10 winners of this award?

11 MR. KINCART: Objection; relevance and
12 beyond the scope.

13 You may answer.

14 A. I think they're generally characterized as
15 the founders of the field, and the ones who have had
16 the most significant contributions.

17 Q. By the field, what field is that?

18 A. The field of computer graphics and
19 interactive techniques.

20 MR. ALMELING: Let's go off the
21 record.

22 (DISCUSSION HELD OFF THE RECORD)

23 MR. ALMELING: No further questions.

24 (RECESS TAKEN FROM 1:44 P.M. TO 1:59 P.M.)

25 RE-EXAMINATION BY COUNSEL FOR THE RESPONDENT

1 BY MR. KINCART:

2 Q. Dr. Fuchs, you understand that you're still
3 under oath.

4 A. Yes.

5 Q. And counsel provided to you a definition
6 for composite that was authored by someone else. Do
7 you recall that?

8 A. Yes.

9 Q. And can you indicate to me if that
10 definition is contained in your declaration? Feel
11 free to look through your declaration.

12 A. I don't think so. He gave me a document.

13 Q. Did you collaborate with the author of that
14 document?

15 A. No.

16 Q. If that was your definition for composite,
17 why did you not put it in your declaration?

18 MR. ALMELING: Objection; form. You
19 can answer.

20 A. I'm concerning -- I'm not understanding
21 your question.

22 Q. You indicated that you agreed with that
23 definition for composite.

24 A. Yes.

25 Q. Why would you not put that in your

1 declaration?

2 A. I didn't know about this document at the
3 time. I thought this document came from the Board
4 that was just recently written.

5 Q. Thank you.

6 And there was also a definition for image
7 data sets read to you. Do you recall that?

8 A. Yes, I think that's from the same document.

9 Q. Thank you.

10 And did you know the author of that
11 definition?

12 A. I reckon this is the Board that wrote this.

13 Q. Did you collaborate with the author?

14 A. No.

15 Q. Thank you.

16 If that was your preferred definition for
17 image data set, why would you not have put that in
18 your declaration?

19 MR. ALMELING: Objection; form.

20 A. I didn't see this document when I was
21 writing my own declaration.

22 Q. I understand.

23 That's fine. Thank you.

24 Opposing counsel referred you to figure 20
25 of Fruh. Do you recall that?

1 A. Yes.

2 Q. Thank you.

3 Actually his declaration is probably the
4 better thing to give him.

5 Did you discuss Figure 20 of Fruh in your
6 declaration?

7 A. I think Figure 20 is just a close-up of
8 Figure 19, which I discussed in my declaration.

9 Q. Did you mention features in regard to
10 Figure 19?

11 A. I don't remember.

12 Q. Thank you.

13 Dr. Fuchs, in your discussion with opposing
14 counsel you mentioned you did some work, naval
15 contract work; do you recall that?

16 A. Yes.

17 Q. Is that in the CV that you provided to the
18 PTAB?

19 A. I think so. Yes.

20 Q. Thank you.

21 And the results of that work, were they
22 made publically available?

23 A. Yes.

24 Q. And where is that indicated?

25 A. Some of them are indicated here, for

1 example in paper 173 in my CV --

2 Q. Um-hmm.

3 A. -- titled A New Generation of Instrument
4 Ranges.

5 Q. Okay, what did that paper, paper 173, did
6 you say? What did paper 173 describe?

7 A. It described the acquisition and processing
8 of video image data from cameras that were mounted
9 near street level in these training villages, and
10 processing of that imagery.

11 Q. And what were they mounted on?

12 A. Typically telephone poles or next to the
13 buildings.

14 Q. Stationary?

15 A. Yes, I think they were stationary.

16 Q. Thank you.

17 Did you rely on that in writing your
18 declaration?

19 A. I don't know what you mean, rely on that.

20 Q. Was that reference used in the writing of
21 your declaration?

22 A. No.

23 Q. Thank you.

24 Dr. Fuchs, congratulations on your new
25 award.

1 A. Thank you.

2 Q. Is that in your CV?

3 A. No. I just found out about it this
4 weekend. Recently.

5 Q. Thank you.

6 One last series of questions, I guess. Did
7 counsel speak to you during your lunch break?

8 MR. ALMELING: I instruct the witness,
9 the question itself is a yes or no question
10 which does not elicit privileged communications,
11 so I just caution you to answer it as it was
12 intended and not to disclose any protected
13 communication as part of your answer.

14 THE WITNESS: Yes.

15 BY MR. KINCART:

16 Q. Thank you.

17 Did counsel suggest answers to the
18 questions he would ask you?

19 MR. ALMELING: Objection. This
20 question explicitly calls for privileged
21 communications between attorneys and the expert,
22 and is therefore inappropriate under Federal
23 Rules of Evidence, the USPTO Practice Guide of
24 the IPR, and the IPR regulations. I instruct
25 the witness not to answer.

1 MR. KINCART: That's fine.

2 BY MR. KINCART:

3 Q. And did counsel indicate to you what
4 question he would be asking?

5 MR. ALMELING: Same objection, same
6 instruction.

7 MR. KINCART: That's fine.

8 I think we're concluded; no more
9 questions. Thank you.

10 MR. ALMELING: Let's go off the
11 record.

12 (DISCUSSION HELD OFF THE RECORD)

13 MR. ALMELING: Nothing further from
14 the petitioner either. The deposition is
15 therefore now closed.

16 Let's go off the record.

17

18 (Continued on the following page.)

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1 (Whereupon, at 2:09 p.m., the
2 deposition in the above-entitled matter
3 adjourned.)
4

5 _____
6 Signature of the Witness

7 SUBSCRIBED AND SWORN to before me this _____ day
8 of _____, 2015.
9

10 _____
11 NOTARY PUBLIC

12 My Commission expires: _____
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RPTR: DDB

DATE: 4/23/15

TRANSCRIPTION CORRECTIONS

CASE NAME: GOOGLE INC. VS VISUAL REAL ESTATE, INC.

WITNESS NAME: HENRY FUCHS, PH.D.

FILE NUMBER: IPR2014-01340

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CERTIFICATE OF REPORTER
STATE OF NORTH CAROLINA
COUNTY OF DAVIDSON

I, DEBRA D. BOWDEN, RMR, CRR, the reporter before whom the foregoing deposition was taken, do hereby certify that the witness whose testimony appears in the foregoing deposition was previously duly sworn, that the testimony of said witness was taken by me to the best of my ability and thereafter reduced to typewriting by myself; that I am neither counsel for, related to, nor employed by any the parties to the action in which this deposition was taken; and further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.

This, the 5th day of May, 2015.



DEBRA D. BOWDEN, RMR, CRR
Registered Merit Reporter
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