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

-----X
GOOGLE LLC, Case No.:
IPR2024-00754
Petitioner,
vs. Patent
8,849,652
DIALECT, LLC,
Patent Owner.
-----X

JANUARY 29, 2025
9:34 a.m. Eastern Standard Time

Deposition of CHRISTOPHER SCHMANDT held
remotely before Suzanne J. Stotz, a Certified
Realtime Reporter, Registered Professional
Reporter, and a Notary Public of the State of
New York.

1 A P P E A R A N C E S:

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I N D E X

EXAMINATION	Page No.
CHRISTOPHER SCHMANDT	
BY MR. HELGE	4

E X H I B I T S

Exhibit	Description	Page No.
(No exhibits were marked.)		

1 C H R I S T O P H E R S C H M A N D T,
2 having first been duly sworn by a Notary
3 Public, was examined and testified as follows:

4 EXAMINATION

5 BY MR. HELGE:

6 Q. Good morning, Mr. Schmandt. My
7 name is Wayne Helge. I am the attorney for
8 Dialect, LLC in three IPRs that I'm going to
9 recite in just a moment.

10 But you understand that you are
11 here to give testimony on Declarations that you
12 submitted in those IPRs on behalf of Google,
13 correct?

14 A. Correct.

15 Q. Okay. And so the IPR numbers are
16 IPR2024-00750, IPR 2024-00752, and
17 IPR2024-00753. Is that your understanding as
18 well?

19 A. What was the -- yes. '50, '52 and
20 '53, right?

21 Q. Correct. You bet. You bet. Thank
22 you.

23 Mr. Schmandt, as you can tell,
24 we're remote here today. Have you been deposed
25 via remote setup like this before?

1 A. Yes, I have.

2 Q. Okay. I think the biggest thing
3 that I need to be careful of, and I'd ask you
4 to be careful of as well, is that even perhaps
5 more so than during an in-person deposition
6 ensuring that only one person is speaking at a
7 time is very important so that the reporter can
8 get your full testimony and my questions and
9 opposing counsel's objections and everything
10 into the record; is that understood?

11 A. Yes.

12 Q. You're doing a great job so far.
13 Thank you.

14 So, Mr. Schmandt, you -- as I
15 understand, you have copies of the materials
16 that were submitted in these IPRs on hand; is
17 that correct?

18 A. Yes, I do.

19 Q. Okay. And do you have paper copies
20 or do you have electronic copies of these
21 files?

22 A. I have both. Today I am working
23 off of paper.

24 Q. Okay. Okay. And are those clean
25 copies of documents that you are looking at

1 today?

2 A. Yes, they are.

3 Q. Okay. Thank you.

4 So, Mr. Schmandt, I know we have
5 three cases and there is probably a lot of
6 paper to shuffle around. I'll try to be as
7 clear as I can about what I'm asking you about.
8 If there is any questions that you have about
9 what I'm asking or if you want to make sure you
10 understand what I'm referring to, please ask
11 me. If you don't ask me, I will believe that
12 you understood my question; is that understood?

13 A. Yes, of course.

14 Q. Thank you.

15 So, Mr. Schmandt, I'd like to turn,
16 if you may please, to your Declaration from the
17 '73 -- I'm sorry, the '753. Case can you pull
18 that out?

19 A. Yes. It's easier for me if you
20 refer to it by patent number. But I have that.

21 Q. Oh, sure.

22 A. That's the '160, right?

23 Q. Correct, the '160 patent. Your
24 Declaration, which is a 78-page document, and
25 I'm going to ask you to turn to page 32.

1 A. Okay. I'm here.

2 Q. Okay. And so you can see the top
3 of that page is a carryover from paragraph 48
4 that began on the previous page. Do you see
5 that?

6 A. Correct.

7 Q. Okay. If you go down about five
8 lines there is a sentence that you recite here
9 that says, Ross's prior order- -- I'm sorry,
10 "Ross's priority ordering description of a
11 context list is consistent with the well-known
12 concept of a 'stack,' in which the most recent
13 item added to the stack will be the first item
14 considered from the stack in a later
15 operation." Do you see that?

16 A. Yes, I do.

17 Q. And do you stand by that statement?

18 A. Yes. That's a strict -- so I
19 believe that, you know, in the '160 stack is
20 used rather loosely. But from a computer
21 science engineering point of view, stack is an
22 ordered -- an ordered set of data where the
23 most recent data is at what we call at the top
24 of the stack. And in general stack is from top
25 to bottom, most recent to lease recent, last

1 in, first out.

2 Q. So would you agree that the order
3 of entries in a stack is important?

4 A. It is not clear that that is true
5 as the term is used in the '160 patent. It's
6 pretty vague about that.

7 Q. Okay. Now, what about, you know,
8 you mentioned a moment ago from a computer
9 science engineering point of view, I think you
10 told me that -- you were giving some testimony
11 here from the perspective of a computer science
12 engineering point of view; is that right?

13 A. Let me be clear, I'm not trying to
14 construe the term "stack." I'm using the term
15 "stack" as it is used in the '160 patent. What
16 I am saying here is that a person of ordinary
17 skill in the art would appreciate that what
18 Ross discloses is a stack, which is the term
19 used in the claim.

20 Q. Okay. Okay. So, Mr. Schmandt, in
21 a stack or a context stack the order of the
22 data in that stack has some meaning; isn't that
23 right?

24 A. It is not clear to me that that is
25 true as the term is used in the '160 patent.

1 If you'd like to point to something in the
2 patent that implies that, I'm happy to look
3 there.

4 Q. Well, I'm asking you about your
5 sentence here in paragraph 48 in the
6 Declaration on the '160 patent because you say
7 that "Ross's priority ordering description of a
8 context list is consistent with the well-known
9 concept of a 'stack'," right?

10 A. Yes, that's correct. That's what I
11 say.

12 Q. So you would agree that a priority
13 ordering of context in a context stack is also
14 consistent with the well-known concept of a
15 stack, right?

16 A. You said priority ordering. That's
17 a very vague term. I don't think I could agree
18 with that. I don't know what the priority is
19 being assigned.

20 Q. Okay. But in your sentence here
21 you say "Ross's priority ordering description,"
22 correct?

23 A. Yes. Ross is very clear, the
24 priority is last in, first out.

25 Q. Okay. So in Ross the ordering of

1 entries in a context stack is important,
2 correct?

3 A. In Ross, yes, Ross describes a data
4 structure which has last in, first out
5 ordering. And my statement is that that
6 constitutes a stack.

7 Q. And your statement is that that is
8 consistent with the well-known concept of a
9 stack, correct?

10 A. Yes.

11 Q. Okay. So if you had a context
12 stack without any priority ordering, would that
13 be consistent with the well-known concept of a
14 stack?

15 A. Well, you see, that's a bit of a
16 problem because I think that's a contradiction
17 in the '160 patent, because as a stack, as most
18 people would use it, is a data structure which
19 is last in, first out. Okay. And basically
20 by -- when I said priority, I mean that it is
21 accessed as last in and first out.

22 The '160 patent does not describe
23 such a priority or such an ordering, if you
24 will. And, again, correct me if I'm wrong, but
25 I did not see that it described such an

1 ordering. So, in fact, the '160 isn't really
2 using the term "stack" as -- in the limited way
3 that a computer engineering person would use
4 it. Okay.

5 It is using stack to mean basically
6 sets of data and -- sets of data put into a
7 data structure where different of those sets of
8 data can be accessed through some method or
9 other.

10 So that's I think a broader -- I'm
11 thinking stack in a broader context than in the
12 particularly limited context which Ross
13 describes. But the fact that Ross describes
14 meets the limited technical meaning of stack
15 also implies that it reads on the claims.
16 However, the term "stack" is construed based on
17 the '160 says.

18 Q. So, Mr. Schmandt, I just want to
19 make sure I understand. Would you say that the
20 '160 patent uses the term "stack" in a way that
21 differs from how a POSITA would have understood
22 the term "stack" as of the critical date?

23 A. It seems to use it in a very broad
24 sense.

25 Q. And is that different from how a

1 POSITA would have interpreted stack as of the
2 critical date?

3 A. A POSITA, like I, would have read
4 the '160 and shuttered around that term and
5 said, Why are they using it that way, but have
6 gone on to understand the patent I believe.

7 Q. So in your view, Mr. Schmandt, the
8 '160 patent uses the term "stack" in a way that
9 differs from how a POSITA would have understood
10 the term "stack" as of the critical date; is
11 that right?

12 MR. MACE: Object to form.

13 THE WITNESS: I have not tried to
14 construe the term "stack." The claims
15 read "stack."

16 My statement here is that what Ross
17 discloses is, by any measure, a stack.

18 And that's really all I've said.

19 BY MR. HELGE:

20 Q. So, Mr. Schmandt, as of the
21 critical data if a POSITA were faced with two
22 context stacks containing the same context
23 entries but in different orders, would a POSITA
24 have viewed those context stacks as identical?

25 MR. MACE: Object to form.

1 THE WITNESS: I think that depends
2 on how those stacks are being used.

3 BY MR. HELGE:

4 Q. In what ways?

5 A. Whether the stacks are being
6 utilized in a strict first in -- last in, first
7 out order or whether they were being used in an
8 order which was not subject to those
9 constraints.

10 Q. So given my hypothetical, if those
11 stacks were being used in a last in, first out
12 manner and those stacks had the same content
13 but in different orders within their stacks,
14 would a POSITA have viewed those stacks as
15 identical?

16 A. No, because order is a -- order is
17 an attribute of stack.

18 Q. What are other attributes of a
19 stack?

20 A. That's a pretty broad term. I
21 don't think there are any other attributes.

22 Q. There is no other attributes of a
23 stack other than order?

24 A. Well, it has data in it. I mean
25 it's a data structure.

1 Q. And I think, if I recall correctly,
2 you contrasted a stack from a queue within the
3 same paragraph, didn't you, within the last
4 sentence?

5 A. Yes.

6 Q. And what is the difference between
7 a stack and a queue in your view?

8 A. The last in, first out, LIFO,
9 behavior of a stack contrasts with, for
10 example, the first in, first, FIFO, behavior of
11 a queue.

12 Q. So I asked you a few minutes ago
13 about attributes of a stack. And I think we
14 both agree that order of data within a stack is
15 an attribute of a stack, correct?

16 A. Yes, correct.

17 Q. And would you agree that the number
18 of data entries within a stack is an attribute
19 of the stack?

20 A. Well, as I said, the data of the
21 stack, the data that is in the stack, I
22 wouldn't really call that an attribute. I
23 would call that a component, but we can use the
24 term "attribute."

25 So if one stack has different data

1 or more data than the other stack, then they
2 are not identical or they are -- they could be
3 considered attributes, but it's really the same
4 thing. It's like what is the data in the
5 stack. And that reflects both quantity data
6 types and actual values of the data.

7 Q. So, Mr. Schmandt, let's take a
8 look -- we're going to switch documents here
9 for a minute. Let's take a look at your
10 Declaration on the '652 patent, which is the
11 '752 IPR.

12 A. Okay. I have that document in
13 front of me.

14 Q. Thank you. Can you turn to page 52
15 please?

16 A. Okay. What would you like to talk
17 about?

18 Q. So, Mr. Schmandt, my first question
19 for you is as much curiosity as anything, in
20 footnote four on page 52 do you prefer to
21 pronounce this term n-uple or n-uple?

22 A. I would call it n-uple.

23 Q. N-uple.

24 MR. HELGE: So, Suzanne, just so
25 you know, it's an N with a dash U-P-L-E.

1 So if we n-uple, it will be that spelling.

2 BY MR. HELGE:

3 Q. All right. Mr. Schmandt, so
4 looking at this n-uple, you write here "An
5 'n-uple' refers to a collection of 'n'
6 elements, where 'n' is a number. Therefore,
7 for example, a '4-uple' (or 'quadruple') refers
8 to a collection of four elements." Do you see
9 that?

10 A. Yes.

11 Q. Let's take a look about four lines
12 down. Do you see the sentence beginning with
13 "Coffman's example"?

14 A. Let me just get focused on this for
15 a minute here.

16 Q. Sure.

17 A. Okay.

18 Q. So, Mr. Schmandt, I'm not trying to
19 confuse you here, but footnote 4 actually
20 refers back to a footnote that shows up in the
21 very first line of that page, that same page.
22 Do you see that?

23 A. I do. But let me start with the
24 beginning of the paragraph.

25 Q. Yeah. Let's make sure we are on

1 the same page here.

2 A. Yes. Okay.

3 Q. Okay. Mr. Schmandt, actually, I'm
4 going to read that sentence for you that
5 includes that footnote 4, and it begins on
6 page 51. The sentence reads -- I'll let you
7 get there.

8 A. Okay.

9 Q. The sentence reads "Coffman
10 explains, as shown in the excerpt above, that a
11 context stack 'accumulates the context (i.e.,
12 full query arguments list of attribute value
13 n-uples, and state/mode) or each active
14 process.'" Do you see that?

15 A. Yes.

16 Q. So in Coffman a context stack
17 accumulates context which can include n-uples,
18 correct?

19 A. Yes.

20 Q. And how does a context stack in
21 Coffman accumulate context including n-uples?
22 What is the process for that in Coffman?

23 A. Are you talking -- are you asking
24 what are the n-uples or what does it mean to
25 accumulate?

1 Q. The latter please. What does it
2 mean to accumulate context in a context stack,
3 according to Coffman?

4 A. In very general terms, Coffman
5 provides for interaction with an application
6 which is not a single sentence fire and forget.
7 So the same application can have multiple
8 queries or commands over time. And
9 accumulation is simply that it saves the
10 information from each of those interactions.

11 Q. And the interactions can be verbal
12 via speech, correct?

13 A. Yes, of course.

14 Q. And the interactions can be
15 nonverbal in Coffman as well, correct?

16 A. That is also true. Although
17 Coffman is primarily oriented towards a speech
18 system, the speech can be augmented with
19 multiple input.

20 Q. So going back to footnote 4 -- and
21 I apologize, I know we have gone a little bit
22 of a circle here -- but the n-uple in Coffman
23 is each value of n -- for example, if n is 2,
24 is each value of the uples speech based in
25 Coffman?

1 A. It doesn't matter.

2 Q. So some of the uples can be input
3 via something other than speech in Coffman,
4 correct?

5 A. Some of the them could be input by
6 other modalities some of the time.

7 Q. And in your --

8 A. Some of the -- can I finish? Some
9 of them would clearly -- and in the way Coffman
10 describes his invention, the majority of them
11 would be all input by voice.

12 Q. Well, so I'm curious about that,
13 because when I look at your footnote 4 and we
14 go back to that sentence that I was referring
15 you to before, the fourth line that begins
16 "Coffman's example," do you see that?

17 A. Yes.

18 Q. This reads "Coffman's example," and
19 then the quotation begins "'Command: open,
20 Object: Windows or task selected by the last
21 mouse click' based on the user's utterance 'I
22 would like to open this'" "is a 2-uple (or
23 'duple') because it includes two
24 attribute-value pairs." Do you see that?

25 A. Correct.

1 Q. And so one of the attribute values
2 is the Command: open, correct?

3 A. Yes.

4 Q. And then the Object is windows or
5 task selected by last mouse click, correct?

6 A. Correct.

7 Q. How does Coffman system know what
8 the window or task was selected by the last
9 mouse click?

10 A. It would probably store that in the
11 context stack.

12 Q. So Coffman would go to the context
13 stack to find out what object or -- yeah, what
14 object was selected by last mouse click; is
15 that right?

16 A. Not necessarily. Coffman doesn't
17 tell us how that is done. There is a number of
18 ways that could be done. It could be put on
19 the context stack; that would be most
20 consistent with what Coffman discloses; or it
21 could just a program variable.

22 Q. And so that would be -- in the
23 former example you just gave, that would be an
24 instance where Coffman is storing
25 non-speech-related command inputs in the

1 context stack; is that right?

2 A. No. It's storing a window or an
3 active task. It could have been -- the task
4 could have been open by clicking on it, in this
5 example it is; but it also could be open by
6 voice, Go to my e-mail.

7 Q. Right. But, Mr. Schmandt, the
8 example you just gave, "Go to my e-mail," the
9 application is identified in your command,
10 correct?

11 A. But the e-mail -- yes, the
12 application would be identified. So the
13 application is identified one way or another,
14 that's the point here. The command is open an
15 the object is what is it that you are going to
16 open, because open needs an object, it's a
17 transitive verb.

18 Q. So if you look at footnote 4 again,
19 if you go to about line five to six, in this
20 example that you're using Coffman doesn't
21 identify the object, it just says "this," "I
22 would like to open this," right?

23 A. Correct.

24 Q. So how does Coffman know what
25 "this" is?

1 A. Well, clearly, "this" is a pronoun.
2 And there has to be -- it's anaphora, it is a
3 pronoun. The reference has to be resolved one
4 way or another.

5 Q. And how does Coffman resolve that?

6 A. In this example that I cited it's
7 the window that was previously clicked in, but
8 it could be any other method involving natural
9 language understanding.

10 Q. But Coffman -- you would agree
11 Coffman could understand that you said the word
12 "this" and not know what you're referring to,
13 correct?

14 A. I think this example shows us that
15 Coffman resolves the word "this." And the
16 whole point of Coffman is that I need some
17 contextual data in order to disambiguate this
18 or, rather, to find the reference to figure out
19 what "this" means.

20 Q. And in your example here in
21 footnote 4 on page 52, how does Coffman resolve
22 the meaning of, quote, unquote, "this" in that
23 user's utterance?

24 A. In this case it is the window that
25 was most recently clicked on.

1 Q. And how does Coffman determine what
2 that window was?

3 A. Well, that would have been a prior
4 input.

5 Q. And where would have Coffman gone
6 to find that prior input -- or to identify that
7 prior input?

8 A. Well, Coffman would have
9 intercepted the mouse click. And a mouse click
10 is just another input, just like an input from
11 the speech recognizer. It could have
12 intercepted it. And in the process of
13 dispatching to the operating system to tell the
14 operating system to activate a particular
15 window, you know, usually when you click on a
16 window it comes to the forefront and the
17 decoration on the top might change, so before
18 the operating system does that it would save
19 that information in any window system. Each
20 window has a window ID which the operating
21 system tracks. And Coffman would save that
22 window ID someplace.

23 Q. I have a question for you, Mr.
24 Schmandt. When I read that sentence "I would
25 like to open this" from footnote 4 and

1 Coffman's resolution for that, you know,
2 resolving what "this" means in that sentence is
3 to open the last window or task that was
4 previously opened. So if I open Microsoft Word
5 and then I tell Coffman "I want to open this"
6 and Coffman doesn't know what "this" is,
7 Coffman might open Word even though I've just
8 opened it; isn't that right?

9 A. I think you've myself characterized
10 what Coffman does from the get-go.

11 Q. Okay. And how did I do that?

12 A. Well, I would have to go back and
13 listen to this pretty long question. But the
14 question is how does -- yeah, you lost me early
15 on.

16 Q. Okay. Well, you understand that --

17 A. If you'd like to go through it step
18 by step, that might be a better way to do it.

19 Q. Well, let me restate the question
20 here. The point I'm trying to get at is
21 Coffman is trying to resolve what the word
22 "this" means; and Coffman's resolution, as
23 you've described it in footnote 4, is to simply
24 do the last thing that you did again; isn't
25 that right?

1 A. No.

2 Q. What's wrong about what I just
3 said?

4 A. Well, in this case what I say here
5 was this is "Windows or task selected by last
6 mouse click." But nothing in this discourse,
7 nothing in this example suggests that selecting
8 the window by the mouse click was the most
9 recent activity that the user performed.

10 Q. So using this example in footnote 4
11 on page 52 of your Declaration, if my last
12 mouse click was input into the system in order
13 to open Microsoft Outlook and the very next
14 thing I say to Coffman system is "I want to
15 open this," according to footnote 4, what is
16 Coffman going to do?

17 A. Well, it would open the window that
18 you had clicked on. The implication here is
19 that clicking on the window doesn't necessarily
20 open it; it selects it.

21 Q. Okay. So, Mr. Schmandt, let's go
22 to page 31 in this same document. And this is
23 your Declaration in the '652 patent.

24 A. Okay. I'm here.

25 Q. So, Mr. Schmandt, do you have a

1 color printout of this document?

2 A. I do.

3 Q. Oh, good. So you see Figure 1 of
4 Coffman at the top printed in and annotated
5 with various colors, correct?

6 A. Yes.

7 Q. Good, good, good, good.

8 Okay. So, Mr. Schmandt, looking at
9 Figure 1 of Coffman, can you tell me where the
10 mouse input is reflected in this diagram?

11 A. I don't think that's discussed
12 here. I don't think that's disclosed in this
13 figure.

14 Q. And why not?

15 A. Because it isn't there.

16 Q. And what were you looking for to
17 find, you know, an indication of a mouse as an
18 input?

19 A. Well, you asked about mouse input,
20 so I was looking for mouse input.

21 Q. Okay. Did you look for anything
22 else in Figure 1 when you were trying to find
23 that answer?

24 A. I looked for the word "input" in
25 general.

1 This diagram isn't really actually
2 dealing with inputs at all. It's dealing with
3 the lower part of the system.

4 Q. So, Mr. Schmandt, what's element 10
5 in Figure 1?

6 A. Conversational user interface,
7 voice interface plus GUI, graphic interface.
8 So, to reflect on that, perhaps mouse input
9 comes into the GUI, perhaps it comes into
10 number 10. GUI stands for graphical user
11 interface.

12 Q. So you think the mouse input is
13 actually part of element 10 in Figure 1; is
14 that right?

15 A. It could be. I don't know whether
16 figure 10 discloses whether the mouse inputs
17 comes or not. It doesn't say.

18 Q. Well, element 10 is labeled
19 conversational UI, correct?

20 A. Yes.

21 Q. Okay. And what do you understand a
22 conversational UI to be or to include in
23 Coffman?

24 A. Gee, everything that Coffman
25 discloses that the user experiences as the user

1 interface.

2 Q. And what would that include? Would
3 that include, for example, a microphone?

4 A. The audio has to come from
5 someplace. It could be a microphone or
6 streamed in from another source. Coffman
7 discusses both architectures.

8 Q. Do you have an opinion on whether
9 the conversational UI, element 10 in Figure 1
10 of Coffman, is hardware, software or both?

11 A. Both.

12 Q. So it can include hardware?

13 A. Well, this is all -- yeah, well,
14 item 16 is hardware.

15 Q. Okay. Would you consider a
16 microphone to be hardware?

17 A. Sure.

18 Q. So in Figure 1 of --

19 A. But I would actually -- perhaps
20 it's better to say that a microphone is a
21 peripheral, because I think in the sense that
22 Coffman uses the term "hardware" here, it is
23 talking about processing hardware that can
24 execute programs. And microphones don't do
25 that; they are transducers.

1 Q. Okay. That makes sense.

2 Well so we have element 10, the
3 conversational UI in Figure 1. And that
4 interfaces with both the conventional apps, 12;
5 and conversationally aware applications, 11,
6 correct?

7 A. Correct.

8 Q. What is the difference in Coffman
9 between a conversationally aware application
10 and a conventional application?

11 A. Well, Coffman describes, what
12 should we say, a new breed of user experience
13 which is conversational, voice in, voice out.
14 And it is not a single application, but,
15 rather, an interaction paradigm that would
16 encompass the entire user experience. So it
17 could be, for example, using a computer or a
18 PDA or a car and having all of the interaction
19 be by voice.

20 So how are we going to do that?
21 And you might say that a lot of the prior art
22 before Coffman -- we are not trying to limit
23 Coffman -- but a lot of the prior art was, Oh,
24 here, I did a voice enabled e-mail system, or,
25 I did a voice dialer. I did a -- and I did all

1 these things. I did a voice calendar, right.
2 But what Coffman is designing is a single layer
3 of voice that can access all of those kinds of
4 tasks or use scenarios.

5 Now, if you've tried to put a layer
6 of voice on top of an existing application, it
7 can be sort of -- it's a little awkward
8 sometimes, it really depends on what the API,
9 the application is like, how open the
10 application is. Obviously you can't control an
11 application unless you can one way or another
12 stick things in, get things out, usually an
13 API, but you can also simulate system events
14 and do screening scraping. I've done both.
15 But what Coffman prefers is that the
16 applications themselves are next generation
17 applications which are capable of participating
18 in the richness of this natural language
19 conversational paradigm with their own dialogue
20 managers. So -- and Coffman even has a section
21 that talks about tools to build such
22 applications and debug them.

23 So I think in Coffman's world, we'd
24 like everything to be a voice-enabled
25 application, but conventional applications is a

1 realization that there are some applications,
2 especially as a conversational system like this
3 was being rolled out, that didn't have any
4 concept of being used by voice; and where it is
5 the conversational UI in the dialogue manager,
6 which is disclosed in other diagrams, which is
7 figuring out how to access those
8 non-voice-enabled applications.

9 Q. So, Mr. Schmandt, when I look at
10 Figure 1 and I see that there is a
11 conversational UI, 10, that interfaces with
12 conventional applications, 12, do you see that?

13 A. Yes.

14 Q. What sort of interfacing do you
15 think is going on between element 10 and
16 element 12 in Coffman?

17 A. I would have to look at Coffman to
18 find the details of that.

19 Q. But you would agree that
20 conventional apps 12 in Figure 1 do not
21 interface with the conversationally, I'm going
22 to say aware, but API, element 13, correct?

23 A. Yes. That's -- well, all these
24 arrows are bidirectional, so conversational app
25 certainly interact with the conversational VM,

1 virtual machine; and the conversational virtual
2 machine has bidirectional API with the
3 conversational API, CVM API. So I wouldn't
4 say -- I don't think your statement can be said
5 to be correct.

6 Q. Mr. Schmandt, do you see where
7 contexts are reflected in Figure 1?

8 A. Yes.

9 Q. That's in box 17, correct?

10 A. That's correct.

11 Q. And in the paragraph below Figure 1
12 on your page 31 of your Declaration, block 17
13 is referred to as conversational argument 17,
14 correct?

15 A. Correct.

16 Q. So tell me this, in block 17 you've
17 got contexts, FSG, vocabularies, LM, symbolic
18 maps, personality, et cetera. Do you see that?

19 A. Correct.

20 Q. Would you agree that those are
21 accurately referred to as conversational
22 arguments?

23 A. That's what Coffman called them, so
24 I'll accept that.

25 Q. In your opinion is that an accurate

1 term to reflect the contents of block 17?

2 A. Sure.

3 Q. And what is FSG in block 17?

4 A. Finite state grammar.

5 Q. I'm sorry, could you say the first
6 word again please?

7 A. Finite state grammar.

8 Q. Okay. And then vocabularies. And
9 what is LM?

10 A. Language model.

11 Q. Okay. And then what are symbolic
12 maps?

13 A. I would have to dive into Coffman
14 to answer that with confidence.

15 Q. Okay. What does Coffman mean in
16 block 17 when it says personality?

17 A. So personality is a somewhat
18 elusive concept. But Coffman is describing a
19 system that responds with speech to a user
20 input.

21 And what is -- what these
22 applications are accessing is not -- is not
23 literal speech. The user is not saying, Play
24 the recording of such-and-such. The user is
25 making a query, Do I have, Do we have any new

1 messages, What is the traffic like, What is the
2 weather like? And the system is getting some
3 objective data as a result of that. And it is
4 then describing that data in human intelligible
5 speech. Okay.

6 So different personalities could
7 reflect different ways that a person might
8 answer. Personality, a person, right. So, you
9 know, one personality, when I said, "What's the
10 weather tomorrow, it could say "Highs in the
11 80s." Another personality, which I might call
12 the sarcastic personality, might say "Hot as
13 hell." It's really conveying the same
14 information to me, but it's using different
15 words.

16 If I, you know, ask for driving
17 directions to get to my grandson's house which
18 is normally 25 minutes, one application, you
19 know, one personality might say "45 minutes;"
20 another personality might say "Don't think
21 about going there, it's awful." And in
22 advanced systems personality is what makes them
23 more human like, right. And now we're getting
24 there, now we're starting to get there with
25 these AI large language models.

1 Most of what we've seen so far
2 personality has been conveyed by different
3 voices. You know, the Uber driver may be
4 listening to his directions in Spanish. People
5 have like an English accent or a male accent or
6 a female accent. Those are aspects of
7 personality as well.

8 I had students working on
9 personalities that were excited or sad that you
10 can convey, not just by the word, but by how
11 the speech is spoken, the tone.

12 In the late '80s I built a realtime
13 spoken driving direction system. And one of
14 our personalities was taxi driver. And so
15 while you were driving down the street and
16 nothing was happening, it would tell jokes with
17 bad synthetic. Speech nobody liked that. But
18 these are sort of attempts to try to put some
19 humanness behind the artificial voice.

20 Q. So you said something that reminded
21 me, I wanted to ask you about this. In your CV
22 from 1991 to 1993 you were the principal
23 investigator for Apple Computer in voice
24 interaction in handheld computers; is that
25 correct?

1 A. That's correct.

2 Q. And are we talking about the
3 Newton?

4 A. Well, work was started before the
5 Newton. We almost had a system that was rolled
6 out as a product in the next generation Newton
7 that we had built for Apple or a prototype for
8 Apple, but then Newton died, so it never showed
9 up.

10 But our work was not specifically
11 to build software for Newton. We are not a
12 software development house, right. In fact,
13 most of that work was not done on a Newton. It
14 was built on other devices and then poured into
15 Newton because it was really nice when I went
16 to Apple and met VPs and blah, blah, show my
17 demo on a Newton. They really like that. And
18 then they would help me get more funding.

19 Q. I see. So it says here this was a
20 sponsored research activity, right?

21 A. Yes.

22 Q. So, in essence, Apple came to you,
23 or however that came about, and funded the
24 research on that project?

25 A. Yes.

1 Q. So that's 1991 to 1993 that you
2 were working on that project, right, for Apple?

3 A. Yes.

4 Q. Was the term "context stack" common
5 is in the computer science engineering field
6 back then in 1991 to 1993?

7 A. I think the idea of a discourse
8 stack, which is basically what context is
9 about, could be attributed to a seminal paper
10 by Barbara Grosz, that's G-R-O-S-Z, and Candy
11 Sidner from 1986 called Attention, Intentions,
12 and the Structure of Discourse. And they
13 proposed a stack model for understanding how
14 basically anaphora, things like pronouns, could
15 be resolved. So they were specifically looking
16 at focus space and how a conversation --
17 modeling conversations between humans, but how
18 we can shift from talking about the grandkids
19 to the weather to something else. Shifts, we
20 are talking about the grandkids and then we're
21 talking about the weather when I say, It's
22 really cold, is that going to refer to the
23 weather or is that going to refer to the
24 grandkids who won't talk to me? It could refer
25 to either, because cold can be a personality

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1 trait or a temperature trait, right. But it
2 was a stack model in that it said, Well, if I
3 use the term "cold," I would have to look at
4 the stack; and if the most recent thing I
5 talked about on the stack was weather, then I'm
6 probably talking about temperature. But if the
7 most recent thing I had talked about was kids
8 or my daughter who is the parent of the kids,
9 you know, then cold may be applied to a
10 personality trait.

11 That was their paper in '86. And
12 that was very influential.

13 Q. I see. Interesting.

14 So let's go back to that footnote 4
15 discussion that we had about the mouse click
16 and about the user utterance "I want to open
17 this," because what we said is that Coffman can
18 resolve the meaning of "this" by interpreting
19 "this" to be whatever the last window or task
20 that was clicked on, correct?

21 A. That's what Coffman says I believe.
22 It's not the way I would do it, but that's the
23 way Coffman wanted to do it.

24 Q. How would you have done it?

25 A. I actually did this in 1979 where I

1 had a multimodal system, which people still
2 talk about to today, it was my claim to fame,
3 and in that case I was interacting with graphic
4 objects and I didn't -- rather than clicking on
5 an object, I simply pointed at it.

6 So the way I would implement
7 Coffman would be whatever window your mouse
8 would be in and you wouldn't have to click on
9 it because that seems to be a little bit
10 redundant to me. It's a little bit of what
11 you're getting at. It's redundant, but it
12 works.

13 Q. Correct, right, right.

14 Well, you know, I want to go back
15 to this idea of whether a mouse click is stored
16 in the stack because -- you know, a prior mouse
17 click is stored in the stack because -- you
18 know, getting back to your discussion of
19 grandkids versus weather, you were saying,
20 well, whatever you most recently talked about
21 will assume cold refers to that, right?

22 A. Correct.

23 Q. So in that situation, the
24 conversation involving grandkids and weather,
25 all of those discussions regarding grandkids

1 and weather somehow show up in a context stack,
2 correct?

3 A. Yes.

4 Q. And so the system can go to the
5 stack and say, What's the most recent topic of
6 conversation, because cold is probably
7 referring to that, right?

8 A. Right.

9 Q. So what I'm trying to understand,
10 and I want to make sure I do understand it, is,
11 how does Coffman store the mouse click of the
12 last window or task that was clicked on to know
13 that this refers to that task or window?

14 A. I don't think Coffman tells us. I
15 could see -- as we discussed it, it could store
16 it on -- in a context stack, it could store on
17 a stack, or it just could store as, well, here
18 is a separate piece of information that may be
19 relevant for some future conversation, so I'm
20 going to save it.

21 Q. So --

22 A. It's only one piece of information,
23 right. If it is the most recent window that
24 was clicked on, that's just one word of memory.

25 Q. In your previous example you gave

1 two options: One was storing that click in the
2 stack; one was storing the click elsewhere. So
3 there is a situation where Coffman may need to
4 look outside of the stack to know what is being
5 referred to in a new user utterance, correct?

6 A. No, I am not saying that Coffman
7 stored the mouse click outside of the stack.
8 I'm saying it could have stored it in the stack
9 or it could have stored it out of the stack,
10 outside of the stack.

11 If it stored it outside of the
12 stack, then all of the information needed to
13 resolve that utterance would not be on the
14 stack.

15 Q. Mr. Schmandt, I really appreciate
16 your patience this morning. We've been going
17 about an hour. Do you want to take a
18 five-minute break?

19 A. Sure. Let's make it ten.

20 Q. Ten minutes, sounds good. Thank
21 you. We'll go off the record for ten minutes.

22 (Whereupon, a break was taken.)

23 THE WITNESS: Can I say something
24 just add to the previous conversation a
25 little bit?

1 BY MR. HELGE:

2 Q. Yes.

3 A. We were talking about that Figure 1
4 from Coffman and we were trying to impute lots
5 of specific details to it. And I just want to
6 note that that's a very general architecture
7 diagram. And the more specific answers to your
8 questions may be found elsewhere in Coffman,
9 which is a rather long document, and obviously
10 you don't want to read the whole thing right
11 now. And it's totally fair to talk about that
12 figure because it's in my Declaration. But I
13 just want to say that trying to read into that
14 figure details, that that figure may not be
15 meant to show us. That's all.

16 Q. Mr. Schmandt, in your
17 Declarations -- and we can go individually if
18 you'd like. But in any Declaration that we've
19 been talking about today, have you conducted
20 any claim construction of any term in either
21 the '160 patent, the '652 patent or the other
22 patent?

23 A. No, I have not.

24 Q. Okay. So I'm looking at -- and,
25 again, I apologize. We can jump in if you need

1 to. But I'm looking at paragraph 21 on page 13
2 of your '160 Declaration. And you say "I have
3 been" --

4 A. Hang on one second. I have to get
5 that one up here.

6 Q. Sure.

7 A. I've got the '652 open.

8 Okay. Which paragraph was that you
9 said or page?

10 Q. So I am looking at page 13,
11 paragraph 21.

12 A. Yeah.

13 Q. And this paragraph states "I have
14 been I'm instructed by counsel to apply the
15 Phillips' claim construction standard for
16 purposes of interpreting the claims in this
17 proceeding, to the extent they require an
18 explicit construction. The description of the
19 legal principles set forth above thus provides
20 my understanding of the 'Phillips' standard as
21 provided to me by counsel." Correct?

22 A. Yes.

23 Q. And you're saying that you did not
24 undertake any claim construction that did not
25 provide an opinion on any explicit

1 constructions in these proceedings, correct?

2 A. That's correct.

3 Q. Okay. So, Mr. Schmandt, going back
4 to page 32 on this --

5 A. Which Declaration?

6 Q. I'm sorry. The '160 patent, the
7 one we were just looking at.

8 A. Well, I think we were just before
9 -- okay. I have the '160 open. Before the
10 break we were talking about '652. Okay, '160.
11 Where would you like me to go?

12 Q. Back on page 32.

13 A. Okay.

14 Q. So, again, I know we've already
15 talked about this a little bit. I just want to
16 make sure I understand in the context of your
17 answer that you did not engage in any specific
18 claim construction.

19 When we go back down about five
20 lines you say "Ross's priority ordering
21 description of a context list is consistent
22 with the well-known concept of a 'stack'."
23 Correct?

24 A. Correct.

25 Q. Okay. And so is -- this sentence

1 is not a claim construction by you; is that
2 right?

3 A. No, it's not.

4 Q. Okay. But you are stating here
5 that the well-known concept of a stack is
6 consistent with Ross's priority ordering
7 description of a context list, correct?

8 A. Yes, that's correct.

9 Q. Okay. So, Mr. Schmandt, let's go
10 back to the conversation we had about, you
11 know, a conversation involving the weather and
12 the grandkids. And those -- the entries, you
13 know, associated with that conversation are
14 being stored in a context stack, correct?

15 A. In Coffman, yes.

16 Q. Yes, in Coffman.

17 And then you had been describing
18 Barbara Grosz's article, as I understood it, to
19 say that if a term like "cold" comes up and it
20 could apply to either the topic of conversation
21 the weather or the grandkids, a system like
22 Coffman would assume or would infer that "cold"
23 was referring to the most recent topic of
24 conversation; is that right?

25 MR. MACE: Object to form.

1 THE WITNESS: Well, that paper was
2 written significantly before Coffman, so
3 it was not actually talking about Coffman
4 at all. But it is talking about
5 observations and how human discourse is
6 structured. And part of that is
7 resolution of anaphora, which is figuring
8 out what something like this would mean.
9 Now "cold" is not anaphora. But
10 understanding -- basically understanding
11 have we shifted or are we on the same
12 topic? If the most recent topic we talked
13 about was the weather, are we still
14 talking about the weather or have we
15 stopped talking about the weather, in
16 which case we are going down the stack and
17 now we are talking about the family.

18 BY MR. HELGE:

19 Q. And so in that context of your
20 hypothetical, the order of the stack is
21 important because a match is going to be
22 searched for within the stack and ideally the
23 most recent match, correct?

24 A. Correct.

25 Q. So reordering a stack might

1 actually lead to confusion in determining the
2 context of a conversation; would you agree with
3 that?

4 MR. MACE: Object to form.

5 THE WITNESS: That's vague and
6 hypothetical. I can't comment on it.

7 BY MR. HELGE:

8 Q. Okay. Okay.

9 So, Mr. Schmandt, in -- you know,
10 in daily life there are instances where maybe
11 we call up a bank and we're talking to a
12 computer and a computer will give us a set of
13 options in order to get more information from
14 the bank. So, for example, it may say, To hear
15 your most recent transactions, press one or say
16 transactions; To hear your daily balance, say
17 balance or press 2; things like that. Have you
18 had instances where you called up a bank and
19 had that interaction with a computer?

20 A. Sure.

21 Q. Are you familiar with the systems
22 that banks use to implement these types of
23 computer-based conversations?

24 A. Do you mean what software a
25 particular bank uses? Well, that would be --

1 they would they never tell people because there
2 is a security issue there.

3 Q. Okay. But have you been involved
4 in the development of any of these types of
5 systems for a bank or credit card company or
6 anything like that?

7 A. I have built systems like that, but
8 not for a client like a bank or a credit card
9 company.

10 Q. Okay. What kind of client were you
11 building those systems --

12 A. Well, I was building --

13 Q. -- for?

14 A. Sorry I talked over you. I was
15 building research systems where the point was
16 to exam discourse mode style log models in
17 architectures rather than particular financial
18 information, for example. So I had systems
19 that I could get my e-mail, my voicemail, my
20 calendar, news, weather, traffic, technology
21 news, general news, stock quotes, the location
22 or status information of members of a team,
23 things like that. Personal information
24 management we call it.

25 Q. Okay. And did those systems that

1 you're talking about that you just described,
2 did that system use a context stack?

3 A. No. Those systems were much more
4 simplistic than Coffman's.

5 Q. And when were you building that
6 kind of system?

7 A. '80s and '90s.

8 Mind you, although I would not say
9 those systems used a data structure that I
10 would explicitly call a context stack, each of
11 those applications had context. So I could
12 say, for example, I could ask my e-mail system,
13 Who sent me messages, and it would say, Larry,
14 Moe, and Shemp. And I could say, Read me the
15 one from Larry; and it would be conditioning
16 the recognition on the fact that it just told
17 me Larry. Or I could say, you know, Read me
18 the one from Moe, Read me the messages from
19 Moe. And then after it read the first one, I
20 could say, Next sender; and that would mean to
21 jump to the third or whatever of the three
22 names that it had previously said to me. And
23 it certainly had a concept of next message and
24 previous message. So there was a marker of the
25 general messages. If I said, you know,

1 Messages from Larry, and it said three, and I
2 read her the first one and then I said, Next
3 message, it would play the next message from
4 Larry because we were talking about messages
5 from Larry as opposed to all of the messages in
6 my mailbox.

7 So the systems incorporated some of
8 the aspects or features of the kinds of
9 dialogue system that -- is that the patents in
10 Coffman are speaking about, but they did not
11 explicitly use a stack structure, to my
12 recollection.

13 The oldest one, a system called a
14 Chatter, may have used a stack. That was so
15 long ago I can't remember the architecture that
16 it used. It was in the '80s.

17 Q. Well, let's bring it back to
18 Coffman, the discussion back to Coffman. And
19 I'm thinking back again to that footnote 4 on
20 page 52 of your Declaration where the user
21 utterance was "I want to open this." And we
22 talked quite a bit about how Coffman would
23 determine what "this" means. Do you recall
24 that?

25 A. Yes.

1 Q. So I want to ask you about, you
2 know, a statement you just made, but I'm trying
3 to think about this in the context of Coffman.
4 If I hadn't interacted with my Coffman system,
5 you know, regarding my messages, let's say all
6 my interactions with Coffman -- my Coffman
7 system were, you know, involving let's say
8 Microsoft Word or some other conversationally
9 aware applications, but not my e-mail system.
10 And then one day I say to Coffman "Read me the
11 one from Larry," what would Coffman do when it
12 receives that utterance? How would Coffman try
13 to deal with that statement "Read me the one
14 from Larry"?

15 MR. MACE: Object to form.

16 THE WITNESS: I don't know what
17 Coffman would do because Coffman doesn't
18 tell us what Coffman would do. I can
19 guess on some different behaviors.

20 BY MR. HELGE:

21 Q. Well, what is Coffman's process for
22 parsing and, you know, determining the meaning
23 of an utterance and then acting on that
24 utterance? What is the process like in
25 Coffman?

1 A. Well, it's doing recognition.
2 It's -- each of the applications can supply
3 grammar and the language model. And it would
4 apply the grammar and the language model and a
5 whole lot of other information that the Coffman
6 describes. But the grammar and the language
7 model would be used to translate the speech
8 into text, possibly filling in holes in the
9 process. So that would get you a literal
10 reading of what was spoken. So the word "this"
11 might show up in there if it was allowed by the
12 grammar or the language model.

13 So the language model is most
14 likely going to bias the recognition
15 parameters. So the language model is going to
16 tell the recognizer that I'm probably not
17 talking about pepperoni pizza because this is
18 not a pepperoni pizza application; but I still
19 probably could say -- you know, I could use
20 those words, I'm just less likely to. You
21 know, I'm talking about Word, I'm more likely
22 to say "document," "paragraph," "italics,"
23 things like that. So language model can bias
24 those.

25 The grammar says how are words put

1 together. You put the words together. And you
2 may need to access other sources of
3 information, which is part of this fairly long
4 litany of things that are stored on the context
5 stack, to figure out what the user's intent is.
6 I think it is really the point is you want to
7 get to the user's intent in order to be able to
8 satisfy the response.

9 Does that answer your question?

10 I'm not sure.

11 Q. Well, I think it's a good
12 discussion. And it leads me to maybe a
13 refinement on my question.

14 You know, if this is the first time
15 that I've interacted with my Coffman system
16 using the term "Larry" and Coffman goes to the
17 context stack and doesn't find the term "Larry"
18 in the context stack anywhere, what does
19 Coffman do then in order -- how does Coffman
20 try to figure out what "Larry" means when I use
21 the word "Larry" in my command?

22 A. Coffman could do a number of
23 different things. And, again, I'm inferring
24 this, because Coffman doesn't give us an
25 example to that. Coffman talks about

1 applications that are active or inactive. So
2 Coffman may recognize that, okay, so he used
3 the word "Larry," it knows that Larry is a
4 proper noun. So Coffman might -- this is one
5 option -- might, for example, open my contact
6 list or open my e-mail application, which is
7 sitting around as an inactive application, and
8 activate it and say "Do you know anything about
9 this?" That's reasonable, given that Coffman
10 is sort of designed to run a constellation of
11 applications. Remember, it's a whole
12 voice-driven environment. It is not a single
13 voice application. And, in fact, that's why
14 you need context stack. And that's why, when I
15 did this work in the '90s, I didn't need a
16 context stack because each of those situations,
17 each of those kinds of applications that I
18 talked about voice enabling was sort of a
19 standalone thing, and there was no jumping from
20 one to another. Okay. We did that later. So
21 we didn't need the context stack.

22 But in this case we've got to
23 figure out what Larry means. Or it could say
24 "Who's Larry" or "Did you say Larry," because
25 as Coffman talks about having voice dialogs

1 with the user to resolve missing potential
2 error or ambiguous words, right. And if it
3 asks me about something about Harry and I say
4 "No, Harry" -- well, actually, Harry is a bad
5 one because it's a homophone for this. So the
6 user could correct it, right. Maybe it was
7 misrecognized. Or the user could say "Larry
8 Ellison," which is a proper noun and go off in
9 my head and if they can find it or something
10 like that. It could use any assortment of
11 methods like that. Or it could say "Sorry, I
12 don't know who Larry is," you know. And then
13 the user could say explicitly "Go to my address
14 book" or "Go to my e-mail," "Open my e-mail,
15 find messages from Larry," right. And then
16 that specific application would go through.
17 And it would find the messages from Larry
18 Ellison. And now it knows who I'm talking
19 about after that application has been invoked
20 through the CVM.

21 Q. Got it. Okay.

22 You haven't done any work for
23 Oracle, have you?

24 A. No. Well, I did a lot of work for
25 Sun over the years. And Oracle bought Sun, but

1 long after I was done.

2 Q. Got it. Got it.

3 So, Mr. Schmandt, within a context
4 stack, the references we're talking about
5 Coffman, Kennewick, Ross, these references are
6 storing prior discourses with a user, correct,
7 in the context stack?

8 A. Among other things. But they are
9 also storing information about each of the
10 applications, which are independent of prior
11 dialogue from the user.

12 Q. Let's talk about dialogue or at
13 least focus our conversation on dialogue here
14 for the next few questions, because I'm
15 thinking about Ross and about Kennewick, and
16 I'm trying about prior utterances that have
17 been stored in a context stack according to
18 those references. You would agree that Ross's
19 stack uses a first in -- I'm sorry, last in,
20 first out organization for the stack, correct?

21 A. Yes, that's correct.

22 Q. So in Ross when a new utterance is
23 made by a user, Ross looks for a match in the
24 context stack and the first context entry that
25 matches the new utterance is presumed to be the

1 context that the user is talking about,
2 correct?

3 A. I would have to look at Ross to
4 answer that. Should we?

5 Q. Let me get -- I'm going to direct
6 you to somewhere in your Declaration that I
7 think will help us.

8 A. Fine.

9 Q. Let's go to page 59 of your
10 Declaration dealing with the '160 patent. Page
11 59 paragraph 78.

12 A. Okay. I don't think that mentions
13 Ross, but I'm there.

14 Q. You know what, you're right, Mr.
15 Schmandt. Actually, I think paragraph 80 is a
16 little bit better here, which is on page 61.

17 A. Okay. I'm there.

18 Q. Okay. So, Mr. Schmandt, if you
19 look at the third sentence, so three lines down
20 from the beginning of paragraph 80, you're
21 describing Ross and you say here "The contexts
22 in the context list 62 are sorted in priority
23 order, such that the most-recently-accessed
24 context will be the first context evaluated
25 when processing the next user utterance." Do

1 you see that?

2 A. Yes.

3 Q. So if the most-recently-accessed
4 context in Ross is evaluated when processing
5 the next user utterance and is a match, Ross
6 presumes that that most-recently-accessed
7 context is also the context of the next
8 utterance, correct?

9 A. I believe so. That would certainly
10 be the first application that gets -- you know,
11 that application gets the right of first
12 refusal. And Ross can certainly look further
13 down the stack. I am not sure whether Ross
14 simply stops processing after it finds a first
15 possible match or whether it continues. I
16 would have to take a look at Ross.

17 Q. So take a look at your citation
18 here to Ross, paragraph 35. It is follows the
19 sentence that I just read. Do you see that
20 at -- it begins around line 5 in this
21 paragraph?

22 A. "Whenever an application which is
23 not the top priority"?

24 Q. Yes, that's correct. So Ross says
25 here, right, as you began reading it, "Whenever

1 an application 26 which is not the top priority
2 application 26 is chosen as the target for a
3 speech command, the application 26 indicated by
4 the selected context will move to the head of
5 the list 62," correct?

6 A. Yes.

7 Q. So in that way Ross is doing a
8 reordering of its context list, correct?

9 A. Yes.

10 One second. Sorry, the sun shifts
11 around. I'm facing east -- I mean I'm facing
12 south.

13 So, yes, my answer to your question
14 was yes.

15 Q. So, Mr. Schmandt, in the '160
16 patent there is this concept of expected
17 contexts stored in a context stack. Do you
18 recall that?

19 A. Yes.

20 Q. When a user makes an utterance to a
21 voice recognition system, are there any entries
22 in a context stack that would be unexpected?

23 A. That depends totally on the
24 architecture of the system. I can't answer
25 that in a vacuum.

1 Q. Well, take a look -- let's go back
2 to paragraph 78. And I'm about six lines down
3 in paragraph 78. And you say "Kennewick
4 discloses the 'one or more expected contexts'
5 in a few different ways." Do you see that?

6 A. Yes.

7 Q. And you say "First, Kennewick
8 states that, as part of determining the most
9 likely context, most multiple 'possible
10 contexts are scored and the top one or few are
11 used for further processing.'" Do you see
12 that?

13 A. Yes.

14 Q. Could any of those possible
15 contexts be unexpected by Kennewick system?

16 A. Well, the fact that they are there
17 means that Kennewick is prepared to evaluate
18 them. So, therefore, they are expected things
19 that the user might say.

20 Q. Okay. In your view is Kennewick's
21 disclosure of possible contexts understood to
22 be the same thing as expected contexts?

23 A. Well, to the best of my
24 recollection, the word "expected" in the '160
25 occurs once. And it's really in a different

1 context entirely. It's in the context of what
2 the patent calls semantic expansion. So it's
3 really sort of a strange word to use in the
4 claims. But, you know, looking at the claim
5 language in plain ordinary meaning, expected
6 means it is something that might occur.

7 If a mail truck comes down my
8 street, that's expected. If a tree truck comes
9 down my street, that's expected. If a sedan
10 comes down to my street, that's expected. If a
11 vehicle carrying a Saturn V launcher comes down
12 my street, that would be totally unexpected.

13 We had an earthquake the other day
14 and it was audible. And my first reaction when
15 I heard it was that is something really, really
16 big, which my mind says that a Saturn V
17 launcher is coming down my street. That would
18 be unexpected.

19 But any of those other things would
20 be expected. If somebody walks a dog down my
21 street, that's expected. If somebody walks an
22 elephant down my street, that's not expected.
23 So maybe I wouldn't be prepared for that.

24 Q. But --

25 A. If I had a vocabulary to talk about

1 things that walked down my street, those things
2 would be expected, they are possible.

3 Q. In evaluating claim 12 of the '160
4 patent, did you give any thought to what an
5 unexpected context might be?

6 A. Well, that's not really -- that's
7 not really required by the claim. But an
8 unexpected context could be an
9 out-of-vocabulary utterance; or it could be the
10 user asking for something that the system isn't
11 prepared to perform; or if it were an
12 architecture where there were active
13 applications that were distinguished from
14 inactive applications, an expected context
15 might be one for an active application and an
16 unexpected context might be one for an inactive
17 application, but there might be a mechanism in
18 the system to start new applications up, in
19 which case they would then become expected.

20 Q. Well, a context stack stores prior
21 utterances from a user, correct?

22 A. Context stack stores lots of
23 things, one of which is prior utterances.

24 Q. And so a new utterance could refer
25 to any prior utterance stored in the context

1 stack, correct?

2 A. Or it could refer to no -- I
3 suppose so, but it could also refer to no
4 utterance that was previously stored in the
5 stack.

6 Q. Is there a way that a POSITA could
7 look at a context stack and say these entries
8 in the context stack are expected and these
9 entries in the context stack are unexpected?

10 MR. MACE: Object to form.

11 THE WITNESS: I'm not sure what
12 these entries might refer to because there
13 is a lot of things in the context stack.
14 They are mostly relevant to the context.

15 In general, you would not make a
16 list of things that are not relevant to
17 the context because that would be an
18 infinitely long list. So my e-mail reader
19 would not say pepperoni is an unexpected
20 word.

21 BY MR. HELGE:

22 Q. Mr. Schmandt, I'm looking back at
23 paragraph 78. You know, we had discussed that
24 one sentence that you said "Kennewick discloses
25 the 'one or more expected contexts' in a few

1 different ways."

2 Looking at the preceding sentence,
3 so the sentence beginning in line 3 of
4 paragraph 78, you say here "As discussed for
5 12[a], a person of ordinary skill in the art
6 would have understood and found it obvious that
7 Kennewick's parser would access one or more
8 expected contexts that are stored in a context
9 stack to determine a most likely context." Do
10 you see that?

11 A. Yes.

12 Q. Is it your interpretation of
13 Kennewick that Kennewick looks at expected
14 contexts first to determine a most likely
15 context?

16 A. I am not sure. I would need to
17 take a look at Kennewick, unless I said
18 something in the deck that you can point me to.
19 I am not -- to the best of my recollection,
20 Kennewick does not discuss an order in which
21 contexts are examined.

22 Q. Well, you would agree that, you
23 know, just a couple sentences later, you quote
24 Kennewick paragraph 152, and you say "possible
25 contexts are scored and the top one or few are

1 used for further processing." Do you see that?

2 A. Yes.

3 Q. Does Kennewick score every context
4 stored in a context stack to come up with the
5 top one or few that are used for further
6 processing?

7 A. I don't recall that Kennewick tells
8 us that. That would be sort of a logical thing
9 to do. But it could easily apply, you know,
10 balance of recency, even if something wasn't
11 stored in the stack it could have a time stamp
12 and it could say I'm going to look back at the
13 previous five minutes of the conversation. So
14 if a context is older, you know, hasn't been
15 updated within the last five minutes, then I'm
16 not going to waste time considering. It might.
17 It is just hypothetical.

18 Q. So it might prioritize searching
19 entries from the last five minutes; and if
20 there is no hits or no good score -- you know,
21 high scoring entries, it may go beyond the
22 previous five minutes; is that fair?

23 A. I don't think I would say that. I
24 don't think we can infer that from Kennewick.
25 That is becoming too hypothetical how Kennewick

1 works. I don't think we know.

2 Q. So we just know that Kennewick says
3 "possible contexts are scored," and we don't
4 know which entries in the context stack were
5 evaluated in order to come up with that list of
6 possible contexts; is that right?

7 A. That's my recollection. But I'm
8 happy to look at Kennewick and go back to that
9 citation and see what it says.

10 Q. In your opinion would a POSITA
11 interpret every context in a context stack to
12 be expected?

13 A. Well, that's why you would put them
14 in a context stack. But, as I just said, you
15 could apply -- you could apply a metric that
16 says, you know, if it's older than a certain
17 amount of time, then no. So you could go
18 either way.

19 Q. But Kennewick doesn't clarify
20 exactly which context in the context stack are
21 evaluated in order to come up with the possible
22 contexts that are scored and used for further
23 processing, correct?

24 A. Without further information -- it
25 would be further information than the Kennewick

1 disclosure. I'm not sure I could say whether
2 or not it looked at every context.

3 Presumably context is on the stack
4 because it still has some life in the
5 conversation, and so it's possible or expected.
6 I don't think expected implies -- certainly not
7 as disclosed, expected doesn't mean, you know,
8 this has to score in the top 90 percent, you
9 know, of all the scores or something like that.
10 It doesn't have a quantitative aspect.

11 Q. Mr. Schmandt, can you go back to
12 paragraph 76, the same Declaration of the '160
13 patent. This is on page 58.

14 A. Yeah, I'm there. Let me take a
15 look at it. Okay.

16 Q. So, Mr. Schmandt, looking at your
17 very last sentence in this paragraph, it's
18 about five lines from the bottom that begins
19 "Moreover," do you see that?

20 A. Yes.

21 Q. And this sentence reads "Moreover,
22 because of the similarity of Ross's technique,
23 a person of ordinary skill in the art, seeking
24 to further understand or implement Kennewick's
25 disclosures, would have appreciated that Ross

1 picks up where Kennewick leaves off and would
2 have turned to Ross for its more detailed
3 teachings." Do you see that?

4 A. Yes.

5 Q. Do you -- is it your opinion that a
6 POSITA trying to implement Kennewick's
7 disclosures would have looked to Ross's
8 technique for searching a context stack and
9 finding -- for determining a context of a user
10 utterance?

11 A. Could you repeat that please?

12 Q. Sure. Is it your opinion that a
13 POSITA seeking to implement Kennewick's search
14 of a context stack would have turned to Ross
15 for a teaching of how to search a context
16 stack?

17 A. Yes.

18 Q. Mr. Schmandt, could we go off the
19 record for about seven to ten minutes? Would
20 that be all right?

21 A. Sure.

22 (Whereupon, a break was taken.)

23 BY MR. HELGE:

24 Q. Mr. Schmandt, I'd like to talk one
25 more time about paragraph 78 in your '160

1 Declaration. It's a paragraph we've been
2 looking at here for a little bit. Do you have
3 that handy?

4 A. I do.

5 BY MR. HELGE:

6 Q. So at the bottom of page 59 in this
7 Declaration, and it's part of paragraph 78, you
8 point to Kennewick's possible contexts as a way
9 that Kennewick discloses one or more expected
10 contexts from claim 12, correct?

11 A. Yes.

12 Q. In your opinion do you need to
13 score Kennewick's possible contexts to know
14 whether they are expected?

15 A. My understanding is the expectation
16 would be expectation prior to evaluating the
17 current utterance, but I'm not sure of that.
18 We would have to look at the claim language.

19 Q. Okay. Well, at the top of
20 paragraph 78 you do recite the claim language
21 of 12[b]?

22 A. Thank you. Let me take a look.
23 Comparing the -- okay. So given that -- could
24 you just repeat the question that I was
25 answering?

1 Q. Sure. In your opinion do you need
2 to score Kennewick's possible contexts in order
3 to know whether those possible contexts are
4 expected contexts as required by the claim?

5 A. No.

6 Q. So, Mr. Schmandt, is it your view
7 that any context that is scored in Kennewick is
8 an expected context?

9 A. I don't recall if Kennewick has a
10 concept of an inactive application or enabling
11 or turning on an application that wasn't
12 previously active. Barring that, the items in
13 the cont- -- the possible context -- sorry.
14 The entire context stack is possible contexts
15 or expected contexts.

16 MR. HELGE: Andrew, I have no other
17 questions at this point. I'd like to
18 reserve my right to recross if you do any
19 redirect. But, otherwise, I hand over Mr.
20 Schmandt as a witness to you.

21 MR. MACE: Okay. No redirect from
22 petitioner.

23 So, Mr. Schmandt, you're free. You
24 reserve the right to review and sign.
25 Thank you everyone for this time.

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THE WITNESS: Okay. Then bye.

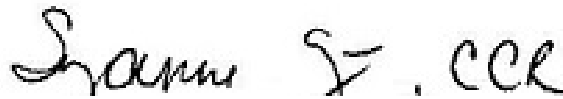
MR. HELGE: Mr. Schmandt, thanks so
much.

(The witness is excused.)

(Deposition of Christopher Schmandt
concluded at 11:50 a.m. Eastern Standard
Time.)

C E R T I F I C A T E

I, SUZANNE J. STOTZ, a
Registered Professional Reporter, Certified
Realtime Reporter, and Notary Public in and for
the State of New York, do hereby certify that
the foregoing is a true and accurate transcript
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SUZANNE J. STOTZ, RPR, CRR

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Assignment #: 7127226

Re: Deposition of Christopher Schmandt

Date: 1/29/2025

Case: Google LLC v. Dialect, LLC (PTAB)

I have read my testimony in the foregoing transcript and believe it to be true and correct to the best of my knowledge and belief with the following changes:

Page	Line	Correction/Change and Reason
11	16	“is construed” s/b “is understood” / Transcription
12	4	“shuttered” s/b “shuddered” / Transcription
24	9	“you’ve myself characterized” s/b “you’ve mischaracterized” / Transcription
30	14	“screening scraping” s/b “screen scraping” / Transcription
36	14	“poured” s/b “ported” / Transcription
48	16	“exam discourse mode style log” s/b “examine discourse mode dialog” / Transcription
48	21	“stack quotes” s/b “stock quotes”

2/5/2025

(Date)



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