

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

3 TESLA, INC.,)
4) Case No. IPR2024-00499
5 Petitioner,)
6) U.S. Patent No.
7 -vs-) 10,829,002 B2
8)
9 iQAR INC.,)
10)
11 Patent Owner.)
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11 DEPOSITION OF VASSILIOS MORELLAS, Ph.D., taken
12 via Zoom, commencing at 9:58 a.m. EST, November 1,
13 2024, before Michele L. Proesch, Certified Shorthand
14 Reporter.

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APPEARANCES

GRETCHEN A. DeVRIES, Ph.D. of the firm of Fish &
Richardson P.C., 7 Times Square, 20th Floor,
New York, NY 10036, appeared on behalf of the
Petitioner.

K. PATRICK HERMAN, of the firm of Orrick,
Herrington & Sutcliffe LLP, 51 West 52nd Street,
New York, NY 10019, appeared on behalf of the
Patent Owner.

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PROCEEDINGS

VASSILIOS MORELLAS, Ph.D.

witness herein, called as a witness by the Patent
Owner, after having been first duly sworn, was
examined and testified as follows:

EXAMINATION

BY MR. HERMAN:

Q. Good morning, Doctor. Do you mind just saying your
name for the record, please?

A. My name is Vassilios Morellas.

Q. And -- And today we're here in connection with an
IPR proceeding captioned Tesla, Inc. v. iQAR, Inc.,
and that's IPR2024-00499, and this is Patrick Herman
from Orrick, Herrington & Sutcliffe here on behalf
of Patent Owner.

Would Petitioner counsel like to introduce
themselves?

MS. DeVRIES: And I'm Gretchen DeVries. I'm
here on behalf of Petitioner, Tesla, and I work for
the law firm Fish & Richardson.

BY MR. HERMAN:

Q. So, Doctor, now, even though we talked earlier this
week I'm going to go through the same basic set of
ground rules both to get them on the record and --
and to, again, ensure that we're on the same page

5

1 and that things go smoothly today. The first is as
2 a reminder, there is a reporter here, and it's
3 important that you respond to my questions verbally
4 so that they can record your testimony.

5 Can you do that today?

6 A. Yes, I can.

7 Q. It's also important that we try not to talk over
8 each other so that there is a clear record, so I'll
9 do my best to wait for you to finish answering
10 before asking another question and I also ask that
11 you wait until I'm done with my question before
12 answering and also pause before doing so to give
13 your counsel time to object as she sees so fit.

14 Is that okay?

15 A. That is okay.

16 Q. Next, you're entitled to a question you understand,
17 so if there is anything I ask you is unclear, please
18 let me know; otherwise, I will assume that we're on
19 the same page.

20 Is that okay?

21 A. That is okay.

22 Q. And I also ask that you not look at anything during
23 the deposition besides documents that I give you,
24 and -- and if you do look at anything, I ask that
25 you let me know.

1 Is that okay?

2 A. That is okay. Can I ask if I can open my
3 documents -- documents with my counsel here -- from
4 my counsel? Is that okay?

5 Q. Are you talking about your declaration?

6 A. My declaration and the -- the -- the two patents
7 or -- yeah.

8 Q. Are those clean, unmarked copies of those materials?

9 A. Yes, they are.

10 Q. Yes, you -- you may. Although, if you are referring
11 to one of those documents in your answer or -- or
12 looking at it while answering the question, I ask
13 that you just let me know.

14 Is that okay?

15 A. Okay, that's fine.

16 Q. All right. Next, I -- I ask that you not have side
17 conversations or use technology, like e-mail or
18 chat, to communicate with anyone during the
19 deposition.

20 Is that okay?

21 A. That is okay.

22 Q. Now, is there anything that would prevent or
23 interfere with your testimony today?

24 A. No, nothing.

25 Q. Okay. Now, while I understand you may already have

1 a copy of -- of your declaration, just in case I'm
2 going to put an electronic version of what's
3 previously been marked as Exhibit 1003 in the chat.

4 A. Okay.

5 Q. And when you have Exhibit 1003, please let me know.

6 A. Yes, I do have it.

7 Q. All right, so what is Exhibit 1003?

8 A. It's my declaration.

9 Q. And that declaration relates to US Patent
10 No. 10,829,002; is that right?

11 A. That is right.

12 Q. And is it okay if I refer to that as the 002 patent?

13 A. This is okay.

14 Q. And this declaration refers to a number of prior art
15 references; is that right?

16 A. That is right.

17 Q. And -- And one of those you refer to in shorthand as
18 Kudo-325; is that right?

19 A. That is -- Yeah, that is correct.

20 Q. And is it okay if I refer to that reference as
21 Kudo-325 today?

22 A. Yes.

23 Q. Now, there is another reference that you refer to as
24 Kudo-066, I believe; is that right?

25 A. That is correct.

1 Q. Okay; and is it okay if I refer to that today, if it
2 comes up, as Kudo-066?

3 A. That's fine.

4 Q. Now, sitting here today is there anything about your
5 declaration that you believe to be inaccurate or in
6 need of correction?

7 A. No, I don't think so.

8 Q. So if you could turn to paragraph 26 of your
9 declaration. It's on page 12 of the --

10 A. I'm here.

11 Q. -- declaration, the pdf. You've found that?

12 A. Yes.

13 Q. Okay, so this is a section of your declaration
14 entitled Overview of Conclusions Formed; is that
15 right?

16 A. That is right.

17 Q. And here you're summarizing what combinations of
18 prior art you believe -- and have offered opinions
19 about with respect to the obviousness of the
20 002 patent's claims; correct?

21 A. Correct.

22 Q. And you've got three bullet points, each of which
23 discusses a different claim or claims; correct?

24 A. That is correct.

25 Q. And in all of those bullet points you reference the

1 Kudo-325 reference; is that right?

2 A. That is right.

3 Q. So Kudo-325 in your view is -- is required in
4 connection with all of the claims you've addressed
5 in this declaration; true?

6 A. That is true.

7 Q. Okay. Now, if you could turn down to paragraph 151
8 for me.

9 A. 151 you said?

10 Q. It's on page 99 of the pdf.

11 A. Yes, I am -- I've found it.

12 Q. All right, so here you're discussing the limitation
13 in Claim 1 of the 002 patent that requires storage
14 of certain specific types of historical data; is
15 that right?

16 A. That is right.

17 Q. And -- And the types of historical data that must be
18 stored, according to the claim, first includes
19 "data, regarding multiple route segments, gathered
20 from the driver's operation of the vehicle on the
21 multiple route segments during multiple trips";
22 correct?

23 A. Correct.

24 Q. So now moving on to paragraphs 152 to 153, in
25 connection with this claim limitation you're

1 pointing to what Kudo-325 refers to as transition
2 state information; is that right?

3 A. Yeah. In paragraph 153 I'm talking about the
4 histories of past node transition.

5 Q. And Kudo-325 calls that history of past node
6 transitions transition state information; is that
7 right?

8 A. Yes.

9 Q. Now, if you'd turn to page 100 of your declaration.

10 A. Page 100?

11 Q. Yes.

12 A. Yes.

13 Q. This page includes paragraphs 152 to 153; is that
14 right?

15 A. That is right.

16 Q. And in these paragraphs you're discussing Kudo-325's
17 transition state information; correct?

18 A. Yes.

19 Q. And you're discussing what that transition state
20 information, according to Kudo-325, includes;
21 correct?

22 A. Correct.

23 Q. Now, if you look at the bottom of page 100 --

24 A. Yes.

25 Q. -- you note that, "Each connection between a pair of

1 nodes represents a route segment."

2 A. Yes.

3 Q. And if you'd turn over to the next page, you've got
4 an annotated version of Figure 5 of Kudo; is that
5 right?

6 A. That is right.

7 Q. And Figure 5 is meant to show Kudo's transition
8 state information; correct?

9 A. Yeah. It's just a visual that shows how the
10 different nodes are -- are linked, multiple route
11 segments, yeah.

12 Q. And in that Figure 5 you have the lines between the
13 nodes in Kudo-325's transition state data annotated
14 green and labeled "route segments"; is that right?

15 A. That is right.

16 Q. So I'd like to discuss in a bit more detail what
17 Kudo-325 stores in the transition state data that
18 you're referencing here in this section of your
19 declaration.

20 So looking back at paragraph 153, Kudo-325's
21 transition state data, as you note, includes nodes
22 that are arranged in a tree-like data structure; is
23 that right?

24 A. Yeah. Like I said, this is a visualization that
25 shows the connection between the different nodes.

1 Q. And what it's meant to represent, Figure 5, is a
2 collection of nodes stored in a tree-like database;
3 correct?

4 A. That is correct.

5 Q. Now, as you also note in paragraph 153 the nodes
6 stored in this tree-like database include starting
7 point nodes like L6 at the top of Figure 5; is that
8 right?

9 A. That is right.

10 Q. And there is also what you call transition nodes
11 like C8 and C9 towards the middle of Figure 5; is
12 that right?

13 A. That is right.

14 Q. And there are destination nodes like L2 and A30
15 towards the bottom of Figure 5; correct?

16 A. That is correct.

17 Q. So the tree-like data structure has starting point
18 nodes, transition nodes, destination nodes; correct?

19 A. That is correct.

20 Q. Now, as you show in your annotated version of
21 Figure 5, each node also appears to include a -- a
22 list of what seem like dates and times where the
23 vehicle passed that node.

24 You've annotated that in purple; is that right?

25 A. That is right.

1 Q. Now, going back to paragraph 153, in the -- in about
2 the third sentence of that paragraph you state that,
3 "The transition state information also includes
4 'histories of past node transition from the
5 respective nodes as base points'; right?

6 A. Right.

7 Q. So -- So if we look at Figure 5 on the next page,
8 that effectively means that a node like C9 would
9 include some sort of data indicating that the
10 vehicle in the past transitions to both L24 and C18
11 from C9; is that right?

12 A. Yes, and in addition, also information from -- that
13 the C9 node gained from the L6 node.

14 Q. All right, so it came from the L6 and then went to
15 L24 and C18; is that right?

16 A. Can you repeat your question again?

17 Q. So -- So to form the tree the -- the Node C9 will --
18 will -- will indicate that the vehicle arrived at C9
19 from L6; right?

20 A. Correct.

21 Q. And -- And then from C9 in the past went to either
22 L24 or C18; correct?

23 A. That is correct, yeah.

24 Q. Okay, and that's what you mean by the transition
25 state information also including histories of past

1 node transition from respective nodes as base
2 points; correct?

3 A. That is correct.

4 Q. Now, in paragraph 154 on page 101 you -- you note
5 that in addition to the nodes and the date/time
6 information and the histories of past node
7 transitions that we just talked about, each node can
8 also include information on a driver and a fellow
9 passenger.

10 A. That is correct.

11 Q. And -- And later in that same paragraph,
12 paragraph 154, you note that the nodes can also
13 store frequency information; is that right?

14 A. Frequency information is a derived quantity by
15 looking at the data.

16 Q. So you would get that from kind of those purple
17 boxes that you annotated on Figure 5?

18 A. That is correct.

19 Q. All right, so not necessarily a separate piece of
20 data but information you could derive from the dates
21 and times that are stored in each node; is that
22 right?

23 A. That is right.

24 Q. Okay; so looking through paragraphs 152, 153, and
25 154, when it comes to the data that's stored in

15

1 Kudo-325's transition state data, I believe you've
2 identified Number 1, starting, transition, and
3 destination nodes; Number 2, time and date
4 information for each node; Number 3, a list of other
5 nodes that the vehicle transitions to from a
6 particular node; and, Number 4, driver and passenger
7 information for each node; is that right? Did I
8 miss anything?

9 MS. DeVRIES: Objection, form.

10 THE WITNESS: Can I answer the question?

11 MS. DeVRIES: Yes, you can answer.

12 MR. HERMAN: You can go ahead, yeah.

13 A. It -- It includes all this information.

14 BY MR. HERMAN:

15 Q. Now, I did not miss any information, though, that
16 you identify as being stored in the transition state
17 data in these paragraphs, did I?

18 A. I think there may be some other piece of information
19 like the -- the weather, what it looked like at
20 certain times as well.

21 Q. So weather. Anything else that I missed?

22 A. So let me just summarize, we have information about
23 the time, the date, information about the driver and
24 fellow passenger, information about the weather,
25 yeah.

1 Q. And -- And that collection of data is what you
2 identified in your declaration as the data regarding
3 the multiple route segments; correct?

4 A. These are the historical data of past routes for the
5 driver.

6 Q. I see. Now, the nodes that are stored in the
7 transition state data, what -- what do those
8 represent in Kudo-325?

9 A. Yeah, they -- they have an ID that identifies the
10 particular landmark or intersection or area, the
11 time that was -- that this node was visited, the
12 time, the driver, and all of this -- all of this
13 information that we just mentioned.

14 Q. I'm going to give you a copy of Kudo-325, which has
15 been marked as Exhibit 1004 in this proceeding, and
16 I put it in the chat, but if you have a clean,
17 unmarked copy, feel free to look at that.

18 A. Uh-huh, I'm going to use your -- your copy. Yes, I
19 have it in front of me.

20 Q. Now, I think in -- in one of your previous answers
21 you -- you noted that the nodes in Kudo-325 are
22 intersections, landmarks, or areas; is that right?

23 A. Yes.

24 Q. Now, if you -- if you'd turn to paragraph 81 of
25 Kudo, that's what Kudo appears to be saying in that

1 particular paragraph.

2 A. 81, yes.

3 Q. So Kudo explains in paragraph 81 that in the present
4 embodiment intersections, landmarks, area names, and
5 the like are expressed by the idea of node; correct?

6 A. That is correct.

7 Q. And if you look down to paragraph 82, Kudo-325
8 explains that intersections can be represented by a
9 node identifier that starts with the letter C, the
10 landmarks could be expressed by an identifier that
11 starts with an L, and areas by an identifier that
12 starts with an A; is that right?

13 A. That is right.

14 Q. So in the transition state data shown in Figure 5 of
15 Kudo-325, which you reproduced in your declaration,
16 all three of those types of nodes, the
17 intersections, the landmarks, and the areas, are
18 present; is that right?

19 A. Yes. I also forgot to mention that we have
20 positioned that information for each one of the
21 nodes, latitude and longitude.

22 Q. Now, that's stored -- That latitude and longitude
23 information --

24 A. Yes.

25 Q. -- is stored in a data structure like that shown in

1 Figure 2 of Kudo-325; is that right?

2 A. That is correct.

3 Q. So Kudo has a separate data structure where it
4 correlates the node number with, number 1, the kind
5 of node it is and intersection, the landmark, or an
6 area, and then, number 2, the latitude and longitude
7 of the particular node; correct?

8 A. That is correct.

9 Q. And then in its transition state information
10 Kudo-325 stores the node number; correct?

11 A. Yes, but it's assuming that all these other
12 information comes along with the node number.

13 Q. Now, if you look down at paragraph 83 of Kudo-325,
14 here it explains that the different types of nodes
15 may cover different ranges of positions; correct?

16 A. That is correct.

17 Q. So, for example, the intersection nodes may
18 represent a 10-meter radius of positions while the
19 area nodes may represent a 1-kilometer radius of
20 positions; is that right?

21 A. Yeah, its node -- what Kudo says its node may
22 represent this area of 10 meters and represent both
23 the points as the center.

24 Q. So what you just referred to, that 10 media --
25 10-meter radius, that's for intersection node in

1 this example; is that correct?

2 A. That is correct, yeah.

3 Q. And the radius may be larger for -- for an area node
4 according to this paragraph; is that right?

5 A. That is right.

6 Q. Now, if we look at Figure 5, either the version in
7 your declaration or in Kudo itself, in the upper
8 left of the figure there is a node that's labeled
9 L6; is that right?

10 A. Yes.

11 Q. So that's a -- that's a landmark node according to
12 Kudo-325; correct?

13 A. That is correct.

14 Q. And below that there is another node, among others,
15 labeled C9; is that right?

16 A. That is right.

17 Q. And that's an intersection node according to Kudo?

18 A. That is correct.

19 Q. And there are lists of dates and times associated
20 with each of those nodes and -- and the figure;
21 correct?

22 A. Correct.

23 Q. So the first date that's listed for both Node L6 and
24 Node C9 is 6.3; is that right?

25 A. That is right.

1 Q. And so that could be June 3rd or March 6th depending
2 upon how you're reading the date; right?

3 A. Correct.

4 Q. So when the transition state -- So what the
5 transition state data in this example is telling us
6 is that, among other things, the vehicle was present
7 in whatever radius of positions corresponds to L6 on
8 6.3 at 14:13 -- or 14:15; right?

9 A. Right.

10 Q. And then it arrived within the radius of positions
11 corresponding to C9 on the same date at 14:18;
12 right?

13 A. That is right.

14 Q. Now, if you could turn to paragraph 85 of Kudo-325.

15 A. Yes, I'm here.

16 Q. Now, in the middle of this paragraph Kudo begins
17 discussing Figure 30(a).

18 Do you see that?

19 A. Yeah, I see the paragraph; yeah.

20 Q. And it states that this particular figure depicts a
21 series of intersections arranged in order, a, b, and
22 c. If you look at Figure 30(a), you can see the
23 Intersections a, b, and c; correct?

24 A. Yes.

25 Q. And it's discussing an example of which the vehicle

1 is traveling from Intersection c through
2 Intersection b onto Intersection a; correct?

3 A. Let me just look at the figure. Yes.

4 Q. And in paragraph 85 Kudo says, "For example, it is
5 possible that an intersection that the user's
6 automobile has traveled in two or more directions
7 may be set as a node."

8 Do you see that?

9 A. Yeah, I see that.

10 Q. And then it goes on to say in that same paragraph
11 that in Figure 30(a) the user has traveled in two
12 directions through the Intersections a and c; right?

13 A. Right.

14 Q. So it says that, "accordingly, the intersections a
15 and c are set as nodes Na and Nc"; right?

16 A. Right.

17 Q. And then the paragraph concludes that, "the
18 intersection b, through which the user has traveled
19 in only one direction, is not set as a node";
20 correct?

21 A. That is correct.

22 Q. So to summarize, in this portion of Kudo-325 the
23 intersections through which the vehicle travels in
24 different directions are reported as nodes, but
25 intersections through which the vehicle travels in

1 only one direction are not reported as nodes;
2 correct?

3 A. The way I interpret this is that if there is a
4 particular intersection, for example, that the
5 driver is not taking different directions, then this
6 is not considered as a node.

7 Q. So that that Intersection b the driver is just
8 driving straight through it all the time and never
9 turns a different way, so Intersection b is not
10 recorded as a node; correct?

11 A. That is correct.

12 Q. So let me see if I could walk through another
13 example of this. I've created a handy little
14 demonstrative, which I'm going to stick in the chat
15 that I've labeled as Exhibit 2003. If you could
16 download that for me.

17 A. Yes, I have it in front of me.

18 Q. So this exhibit is meant to show a series of
19 intersections --

20 A. Okay.

21 Q. -- two of which I've labeled A and B.

22 Do you see that?

23 A. I do.

24 Q. Now, assume for me that the vehicle in the past
25 traveled in multiple directions at both

1 Intersection A and Intersection B.

2 Could you assume that for me?

3 A. You mean the curvy part of the -- the figure?

4 Q. So -- So the Circle A and Circle B are meant to
5 represent intersections.

6 Does that make sense to you?

7 A. Okay.

8 Q. Now, assume for me that at both of those
9 intersections in the past the driver went different
10 ways when exiting that intersection and that applies
11 to both Intersection A and Intersection B, okay?

12 A. Okay.

13 Q. Now, because the vehicle travels in multiple
14 directions at both Intersection A and
15 Intersection B, Kudo-325 will record A and B as
16 nodes in this transition state data; correct?

17 A. Correct.

18 Q. Now, assume for me that Intersections A and B are
19 connected by two different paths, as shown in my
20 demonstrative, a bypass path and a local route
21 path -- Does that make sense to you?

22 A. So these are two different paths that lead from
23 Point A to Point B --

24 Q. That's right.

25 A. -- is what you're saying? All right.

1 Q. Sometimes the vehicle takes the bypass when
2 traveling from Intersection A to Intersection B.

3 Do you understand that?

4 A. I understand it, but, you know, therefore, the
5 vehicle to go from A to B, it has to go through some
6 other intersection, and there should be another
7 blocked off or another node between A and B.

8 Q. So -- So I've labeled the bypass as a bypass.

9 In driving have you ever encountered a bypass
10 that avoids local intersections?

11 A. Like I said, there should be some other node that
12 should be part of this curvy segment that was there
13 between the Nodes A and B.

14 Q. So assume for me then that there is one intersection
15 on the bypass. That's what you're implying, that
16 there be at least one intersection on the bypass?

17 A. Yeah, there should be something that would
18 differentiate different ways of getting from
19 Point -- from Node A to Node B.

20 Q. Now, if there is an intersection on the bypass, but
21 the vehicle never turns at that intersection, per
22 the portion of Kudo we've just read, Kudo will not
23 record that intersection as a node; correct?

24 A. That is not correct, because it can be a landmark
25 area, for example.

1 Q. But if Kudo just drives directly through the
2 landmark area without turning, it will not record
3 the landmark area as a node; correct?

4 A. No, that is not correct.

5 Q. Kudo says that it does not record nodes when it
6 doesn't -- the vehicle does not do anything
7 meaningfully different when passing the node.
8 That's what it says; true?

9 A. The Figure -- The Figure 30 of -- of 325 has a
10 discussion about the intersection. Note the
11 landmark.

12 Q. So you're assuming that in all cases when a vehicle
13 is driving on a bypass, there must necessarily be a
14 landmark that's located on that bypass? That's how
15 you think one of ordinary skill in the art would
16 understand Kudo to be using the word "landmark"?

17 MS. DeVRIES: Objection to form.

18 THE WITNESS: Can I answer the question?

19 MR. HERMAN: Yes.

20 MS. DeVRIES: Yeah, you can answer when I --
21 when I lodge my objections. Just give me a second
22 to state them first.

23 A. So there should be a particular identification of
24 the route that goes from Land- -- from Node A to
25 Node B. When you want to connect two points, A and

1 B, there has to be some different ways of doing
2 that.

3 Q. So there are, in fact, different ways that you can
4 get from Point A to Point B; correct?

5 A. There are different ways, yes, but I don't think
6 that your demonstrative -- the figure that you put
7 in the chat reflects that. There are some missing
8 components there.

9 Q. So it's reflecting that there is a bypass route and
10 a local route that extends between Point A and
11 Point B; correct?

12 A. I'm not quite sure what you mean by -- by "bypass."

13 Q. So in driving your vehicle around you have never
14 encountered a road that would be referred to as a
15 bypass; true?

16 A. Can you be more specific what you mean by "a
17 bypass"? What -- If I am driving in that pattern,
18 okay, and I want to go from a Point A to Point B,
19 there may be different ways of doing this -- of
20 getting there, but there would be multiple
21 intersections between those two different routes
22 that I take.

23 Q. Sure. So let me see if I can give you a more
24 contextual example. So let's say I'm located on
25 East 92nd Street right next to the FDR Drive in

1 Manhattan.

2 Does that make sense to you?

3 A. Okay.

4 Q. On East 92nd Street right next to the FDR Drive in
5 Manhattan there is an entrance to the FDR Drive.

6 Does that make sense to you?

7 A. Okay.

8 Q. I can get on the FDR Drive going southbound.

9 Does that make sense to you?

10 A. Okay.

11 Q. The next exit is on East 73rd Street going
12 southbound, okay?

13 A. Okay.

14 Q. So starting on East 92nd Street traveling south, I
15 can get on the FDR Drive and drive all the way down
16 the FDR Drive and exit on East 73rd Street, okay?

17 A. Okay.

18 Q. No turns, no intersections, just a straight stretch
19 on the FDR Drive, okay?

20 A. Okay.

21 Q. I start at East 92nd Street and the FDR Drive and I
22 end at East 73rd Street and the FDR Drive, okay?

23 A. Okay.

24 Q. I can also start at East 92nd Street and drive south
25 all the way to East 73rd Street on York Avenue; so

1 I'll pass a whole lot of city blocks, everything
2 between 92nd Street and 73rd Street.

3 Does that make sense?

4 A. I'm not sure I can use all this information that
5 you're putting in front of me right now.

6 Q. All right, so -- but you understand Manhattan is a
7 grid of avenues and blocks?

8 A. That's right, I understand that, but I'm not -- I
9 mean, I could -- I could follow you to some point,
10 but then I lost you.

11 Q. Oh, okay, but -- So driving south on an avenue I
12 could pass many, many, many streets; correct?

13 A. Correct.

14 Q. Right. And I could just drive straight through all
15 those streets without turning and remain on the
16 avenue; correct?

17 A. You could do that, yes.

18 Q. And if I never ever turned at any of those streets,
19 according to the paragraphs that we read in Kudo, in
20 particular those discussing Figure 30(a), Kudo would
21 not store any of those streets that I did drive over
22 as nodes even though they're intersections; correct?

23 A. Well, Kudo -- This is -- This is -- There is the --
24 There is the -- There is a database that contains
25 the information entered, meaning all the -- all the

1 nodes that appear to be part of the history
2 accumulation database, and it gives just a little
3 information about this intersection node's creation,
4 but this may not be the only one.

5 Q. But when it comes to the transition state
6 information, in Figure 30(a) Kudo is discussing an
7 implementation where it only records nodes in the
8 transition state information where the vehicle goes
9 in multiple different directions at that particular
10 intersection; correct?

11 A. Yeah. This is just an instantiation of how it talks
12 about intersections.

13 Q. And in that instantiation Kudo will ignore any
14 intersections that the vehicle passes through where
15 the vehicle travels in only one direction; correct?

16 A. That is correct.

17 Q. Now, if we look back at my demonstrative, I've drawn
18 between Intersection A and Intersection B something
19 I've labeled as a local route.

20 Do you see that?

21 A. Yes.

22 Q. And I've stuck three dots on that local route.

23 Do you see those?

24 A. I do.

25 Q. Now, those were also meant to represent

1 intersections, but they're intersections that the
2 vehicle just drives straight through without
3 turning, okay?

4 A. Okay.

5 Q. Now, in the instantiation of Kudo-325 that we're
6 talking about, Kudo-325 will record Intersections A
7 and B as nodes; correct?

8 A. Yes.

9 Q. But it will not record any of the intersections
10 along what I've labeled as the local route as nodes
11 because the vehicle travels in only one direction
12 through those intersections; correct?

13 A. That may be possibly the case.

14 MR. HERMAN: I don't have any further questions,
15 so I pass the witness.

16 MS. DeVRIES: Could you give me just
17 5 minutes maybe? We'll come back at 11:45?

18 MR. HERMAN: Take your time. No rush.

19 MS. DeVRIES: All right. I'll come back in
20 five minutes then.

21 (A recess was taken.)

22 MS. DeVRIES: We have no further questions, so
23 we can --

24 MR. HERMAN: Great. Well, thank you very much
25 for your time today, Doctor.

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THE WITNESS: Thank you.

(Exhibit Number 30 was marked for
identification.)

(Deposition concluded at 10:46 a.m. EST)

C E R T I F I C A T E

I, the undersigned, a Certified Shorthand Reporter of the State of Iowa, do hereby certify that there came before me at the time, date, and place hereinbefore indicated, the witness named on the caption sheet hereof, who was by me duly sworn to testify to the truth of said witness's knowledge touching and concerning the matters in controversy in this cause; that the witness was thereupon examined under oath, the examination taken down by me in shorthand, and later reduced to Computer-Aided Transcription under my supervision and direction, and that the deposition is a true record of the testimony given and of all objections interposed to the best of my ability.

I further certify that I am neither attorney or counsel for, nor related to or employed by any of the parties to the action in which this deposition is taken, and further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto or financially interested in the action.

Dated at Clarence, Iowa, this 4th day of November, 2024.

Michele L. Proesch
CERTIFIED SHORTHAND REPORTER

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