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Paper No. 47
Entered: October 2, 2024

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC., META PLATFORMS TECHNOLOGIES, LLC, and TWISTED PIXEL GAMES, LLC,
Petitioner,

v.

EIGHT KHZ, LLC,
Patent Owner.

IPR2023-01019 (Patent 10,368,179 B1)
IPR2023-01020 (Patent 10,448,184 B1)

Record of Oral Hearing
Held: September 5, 2024

Before JUSTIN T. ARBES, LYNNE H. BROWNE, and SCOTT RAEVSKY, *Administrative Patent Judges*.

APPEARANCES:

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The above-entitled matter came on for hearing on Thursday, September 5, 2024, commencing at 11:00 a.m., at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia.

P R O C E E D I N G S

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JUDGE RAEVSKY: Good morning, everyone. This is Judge Raevsky and welcome to the Patent Trial and Appeal Board. I'm joined today by Judges Arbes and Browne. We're here today for oral argument in inter partes review numbers 2023-01019 and 01020.

Petitioners are Meta Platforms Inc., Meta Platforms Technologies, LLC, and Twisted Pixel Games, LLC and Eight kHz, LLC is the Patent Owner. At issue in the 01019 case is U.S. patent number 10,368,179, and at issue in the 01020 case is U.S. patent number 10,448,148.

Let's go ahead and enter appearances. Who do we have for Petitioner appearing today?

MS. OSMAN: Good morning, Your Honor. My name is Inge Osman. I'm here today on behalf of Petitioners Meta Platforms, Meta Platforms Technologies, and Twisted Pixel Games. With me I have my colleague Steven Peters.

JUDGE RAEVSKY: Thank you, Ms. Osman.

And who do we have for Patent Owner?

MS. PIANA: Good morning, Your Honor. I just want to check my audio. Can you hear me okay?

JUDGE RAEVSKY: I can, thank you.

MS. PIANA: Okay, thank you. Okay. Super, thanks. I'm Jayne Piana. I'm lead counsel for Eight kHz on the Patent Owner's side. I'm with Bochner PLLC, and with me I have my partner, Jayme Partridge, who will also be presenting.

JUDGE RAEVSKY: Excellent. And you also have a LEAP practitioner today; is that correct?

MS. PIANA: Yes. That's me, Your Honor.

JUDGE RAEVSKY: Great. And you'll be presenting part of the time as well, I assume then?

MS. PIANA: That's correct.

JUDGE RAEVSKY: Thank you.

Well, before we begin, just a few housekeeping matters. When you're referring to a slide today please refer to the slide number so that we can follow along. We do have the slides so you can choose to present them on your screen or if you prefer we will simply follow along on our own screens.

Please also remember to mute yourself at the beginning of your -- or when you're not speaking, and at the beginning of your presentation identify yourself for the benefit of the court reporter.

We have a public line today so please be aware that there may be the public listening in. I am not aware of any confidential information that will be discussed but if there should be, please let us know.

By our hearing order, each side has a default of 90 minutes of total argument time. Because Patent Owner has a LEAP practitioner arguing we will therefore add an additional 15 minutes of time, but we just want to remind you that your LEAP practitioner should be given a meaningful and substantive opportunity to argue.

Also, we have a long hearing today so assuming that we are trending toward taking all of the allotted time we will likely plan to have a break at some point somewhere in the middle. You may allocate the time that you're

allotted among your cases however you would like, and we will enter a single transcript covering both cases.

We will first hear from Petitioner followed by Patent Owner, and then we'll hear any rebuttal from Petitioner and any rebuttal from -- surrebuttal from Patent Owner.

Petitioner, would you like to reserve time for rebuttal? And if so, how much?

MS. OSMAN: Yes, Your Honor. I'd like to reserve 30 minutes for rebuttal, please.

JUDGE RAEVSKY: Okay.

And Patent Owner, how about for you?

MS. PIANA: Yes, Your Honor. Patent Owner would like to reserve 20 minutes for rebuttal.

JUDGE RAEVSKY: Okay.

So, Petitioner, you'll have 70 minutes for your -- sorry, 60 minutes for your initial time, and you may begin when you're ready.

MS. OSMAN: Thank you, Your Honor. To introduce myself again, my name is Inge Osman. I'm here on behalf of Petitioners Meta Platforms, Meta Platforms Technologies, and Twisted Pixel Games.

This case is not a complicated one. It's a set of facts that we've all seen over and over again. The Patentee drafted an application that was directed to a specific technology. Here the technology was switching binaural sound in response to a particular event. And then it filed continuation after continuation, taking advantage of that initial filing date. Those continuations ultimately led to the applications that became the '179 and the '184 patents.

The problem is by the time the Patentee filed the applications that ultimately became the '179 and the '184 patents, its understanding of what it had invented changed dramatically. And we can sit here and speculate as to why the Patentee's understanding of what it had invented changed. It could be that it was inspired by the technological development in the virtual reality field that was occurring around that time.

But what matters here today is that the claims that ultimately issued in the '179 and '184 patents are not directed to any invention that was described in the application originally filed in December of 2015. They're directed to something entirely different.

In other words, the claims lack written description support in that original application. And as the Board is aware, claims are only entitled to the benefit of an earlier filed application if the earlier filed application satisfies the written description requirement of 35 USC 112. Here they do not.

And as a result, the '179 and '184 patents that we're discussing today are not entitled to the benefit of that early December 2015 priority date. The priority chain is broken at the immediate parent application of the '179 and '184 patents. That is the 140 application that we'll be discussing today.

Now, Patent Owner disputes whether it is entitled to that early priority date, and the way they do that is by proposing claim construction positions to try to rewrite the claims to match what's actually disclosed in the specification. But that doesn't work for them, and we'll talk about why.

Even their own expert doesn't agree with the claim constructions that they have proposed in this proceeding. And so when that doesn't work they try instead to patch together disclosures plucked selectively out of the 140

application to try to create written description support, but that effort fares no better.

The Federal Circuit has expressly rejected this very approach in Novozymes v. DuPont Nutrition. There what the Federal Circuit said was that it is not proper, it's improper, to derive written description support from an amalgam of disclosures plucked selectively from the specification. That's exactly what's happening here.

At bottom, the problem for Patent Owner is that the 140 application doesn't clearly allow persons of ordinary skill in the art to recognize that the Patentee invented what is claimed. It does not -- in other words, it doesn't reasonably convey to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date. And as the Board's aware, that's the standard for description from the Federal Circuit en banc decision in Ariad.

And while there is a dispute about the priority date, it's important to recognize what is not disputed. It is not disputed that if these claims of the '179 and '184 patent claims are not entitled to that earlier priority date, then every single one of the challenged claims would have been obvious in view of the combination of Lyren and Reif.

In addition, aside from this priority date issue, certain of the challenged claims would have also been obvious in view of the combination of Clement, Osman, and Sauk. If you'll please turn to slide 4 we can get started. And this is Petitioner's slide 4.

So today, I'd like to explain why the challenged claims are not entitled to any priority date earlier than their actual filing date, and that's because the

140 application fails to reasonably convey possession of three different limitations.

The first one is warning or alerting by reducing volume and/or by altering binaural sound. So this limitation is directed to how do you warn or alert? And the claims are pretty specific about how you do that. You do it by reducing volume and/or altering binaural sound in some way. That is not disclosed in the 140 application.

And that limitation exists in every single one of the Independent Claims. So if this limitation is missing and there's no written description support for that limitation, then every one of the challenged claims would have been obvious.

Second, the 140 application also doesn't provide written description support for warning or alerting the user that the user is leaving either a 3D virtual environment, an environment, or an image in the environment. This category is directed to when do you provide that warning or alert?

This limitation, too, is present in every single one of the Independent Claims in both the '179 and '184 patents. Ad so if this doesn't have written description support, then there's no dispute that all of the challenged claims would have been obvious.

The final missing limitation is determining or sensing with the WED or HMD when the user is leaving the 3D virtual environment or environment. This limitation applies only to the '179 patent, but it does exist in all of the Independent Claims so it applies to all the challenged claims.

And again, there's no dispute that if they're not entitled to that earlier priority date then all of the clans would have been obvious in view of Lyren and Reif.

I'd also like to explain today why the combination of Clement, Osman, and Sauk would render certain claims obvious. Those Claims are 1, 3 and 4, 6 through 10 and 14 through 19 of both the '179 and '184 patents. And finally, I'd like to show why even without Sauk the combination of Clement and Osman alone renders Claim 14 of the '179 patent obvious.

So beginning with the written description issue, we can start with the first missing limitation. If you will please turn to Petitioner's slide 85?

So as I mentioned, the 140 application does not disclose warning or alerting by reducing volume and/or by altering binaural sound. I think it's helpful to take a look first at what the 140 application does disclose because the 140 application does talk about providing alerts and provides examples of the types of alerts.

So in this -- on this slide, slide 85 on the left, you'll see a portion of a paragraph from the 140 patent application. It says -- it provides examples of alerts and it says, "The alert is an audible alert and/or a visual alert and by way of examples such alerts may include, but are not limited to, one or more of displaying a visual warning, providing an audible sound, displaying or transmitting a message, altering or adding or removing an image or indicia, providing a command or instruction or notice to process, or a computer -- a notice to a processor or a computer program, actuating a light, displaying a visual or perceivable indication or warning, playing an announcement, playing a video, and/or providing another indication that notifies a user."

Notably absent from that list of alerts that the 140 application delineates is reducing the volume of sound or changing binaural sound. So this list of alerts doesn't say anything about changing the sound that exists in the environment, which is what the claims are directed to. The claims say

you change the existing sound in the environment to provide an alert, and you do that by either reducing the volume of sound and/or altering the binaural sound that exists. None of the example alerts disclosed in the 140 application are directed to that.

Now --

JUDGE RAEVSKY: Ms. Osman, I'd like to jump in and ask you about your perspective on page 115, line 31 through, I don't know, several lines on to the next page of the 140 application. While you're getting there, that disclosure refers to Figures 4 through 16 and example actions that could be taken including, but not limited to, "one or more switching the sound from binaural sound to stereo sound." And then on about line 4 of page 116, "lowering a volume of the sound." And then it refers to an audio alert two lines lower on line 6.

So why does this not disclose what you say the 140 application does not disclose?

MS. OSMAN: So, Your Honor, at page 115 you're right. It does provide a list of events that occur. That it says when you -- one of the events in Figures 4 through 16 it says you can change binaural sound, you can reduce the volume. But what it doesn't say is that changing the binaural sound or reducing the volume are used as alerts.

So yes this is an event, but that doesn't necessarily mean that that change in binaural sound or reducing the volume is used to alert the user, that the user is leaving either an environment, a 3D virtual environment, or an image in the environment. And this is really important because I asked -- they didn't make this argument. They didn't argue that it was inherently disclosed, but I did ask Petitioner's expert about this.

1 So I said, "Well, if you're changing the binaural sound and you're
2 making it either monaural or stereo, you're making that change. Does that
3 mean that it would necessarily provide an alert to the user?" And
4 Petitioner's expert's response was, "No, not necessarily." And hang on, let
5 me -- if you turn to slide 87 you'll see that testimony.
6 So I asked Petitioner's expert, I said, "If you're changing binaural
7 sound to stereo or mono would that provide an alert or warning to the user?"
8 And Petitioner's experts said, "No, not necessarily. It depends."
9 In other words, the fact that Figures 4 through 16 recite as some of the
10 events changing binaural sound or reducing volume doesn't get them there
11 because what it doesn't disclose is that change in reducing -- in sound by
12 reducing volume or changing binaural sound is actually an alert or warning.
13 It's not necessarily used in that way.
14 And if you look at the very next slide, Petitioner's slide 88, I also
15 asked Petitioner's expert Dr. Begault this very same question or a similar
16 question in the context of our specific example that Patent Owner relies on.
17 And I'll explain this example just because it's going to come up quite a bit
18 today.
19 But this example is one that comes up a lot, and so in this example,
20 Alice, a character in the 140 application, is walking around with earphones
21 on. And she gets into a car to drive the car, and when she does that the car
22 has a sensor and realizes that she's on a binaural call and switches her
23 binaural call from binaural to mono.
24 So I asked Dr. Begault, Patent Owners' expert, about this very
25 example, and I said, "Well, does that mean -- why does Alice need an alert

or a warning, frankly, that she's getting into a car?" And, you know, Alice knows that she's getting into a car. Why does she need that alert?

And their expert said, "Well, the alert has nothing to do with her getting into the car. The alert is she is getting an alert that she is -- that the system is working as it should be working." That is not what's claimed.

And I raise this because the fact that Figures 4 through 16 described as events changing binaural sound and reducing volume, is not enough to provide written description support for what's actually claimed, which is using that change in bilateral sound or reduction in volume as a warning or alert.

And it may be --

JUDGE ARBES: Counsel. Can I ask a question? If we can go back to the language on pages 115 and 116 that Judge Raevsky pointed out? I'd like to be clear about the language that's used because there the 140 application is talking about actions and it uses that term repeatedly as different from an event.

So it says that "an example action can be switching the sound from binaural sound to stereo sound or lowering of volume." So that is an example of an action, and then there are portions of the 140 application, such as Figure 6, that talk about taking an action in response to an event.

But I understand your point about maybe not calling that an alert, but it's clearly called an action. So why would that not be sufficient to provide support for the claim language?

MS. OSMAN: You're right, Your Honor. You're right. It is called an action. And I think I perhaps was using the wrong terminology. The way

that this patent -- the way that the application describes it as there's an event and in response to the event it takes an action. You're correct.

And that action could be changing sound from binaural to stereo or mono or reducing the volume of sound. What is missing is a description that that action provides a warning to the user or provides an alert to the user. And this is actually -- this is key because Patent Owner recognizes that that's missing. It doesn't argue, at least in its Patent Owner response, it didn't argue that this is expressly disclosed.

Instead, they said it's implicit and that there's an implicit disclosure that taking that action would provide a warning or an alert to the user. But implicit disclosure is not the standard for written description support. The Federal Circuit in its decision, and if you look at Petitioner's slide 86, expressly rejected implicit disclosure as sufficient for written description support.

So this is in the Federal Circuit's decision on, and it's on -- a portion of it is on Petitioner's slide 86, Novartis v. Accord Healthcare. The Federal Circuit said implicit disclosure is not enough. It needs to be express disclosure or inherent disclosure. There is no express disclosure --

JUDGE ARBES: But, Counsel, there is also the case law that says that you do not need an in haec verba disclosure. So what would the specification have to say, in your view then, to provide support for that limitation? Would it have to use the word alert or warning? I mean, it does talk about it -- it does use the word action repeatedly.

MS. OSMAN: I don't think it has to use the exact same language. But first, but certainly there is Federal Circuit case law that says you don't have to use the exact same language. But it would have to say something

like you use the change in binaural sound or a reduction in volume to notify the user, to signal to the user, to provide some information to the user and that is just not disclosed. And actually --

JUDGE RAEVSKY: Okay. Can I push back on that just a bit because you yourself in your reply pointed to, I believe page 138, there's an example around line 24 where a child is running behind a car as it's backing up. And it describes that as they're being provided an audio alert in stereo. And then it switches the alert to a binaural sound.

So I think your point in your briefing was that's the opposite of what's claimed, but at least there is some disclosure of warning or alerting and using a change in sound. So I think you might have overstated your case by saying that there's no warning of a change in sound.

MS. OSMAN: Oh, thank you, Your Honor. You're right. And if you turn back to Petitioner's slide 85, that very portion of the 140 patent application is there. And you -- I agree with you. I'm not saying that there is no warning or alert, but I think what I was trying to explain is there's no disclosure in the 140 application of changing sound from binaural to stereo or mono as a warning or alert.

This example in the 140 application is an important one. And I think it really shows that the inventor did not have possession of what's actually claimed because what this example shows is, and I'll go through the example briefly, but a user is in a car. A child runs behind the car and so what happens is that the specification discloses so you provide a video and audio alert.

That audio alert is provided in stereo. When the user doesn't hear that audio alert you change the audio alert from stereo to binaural. That's not

what's claimed. So when the 140 application talks about providing an alert or a warning it says make it binaural. It doesn't say what the claims recite, which is change the sound from binaural to stereo or mono or degrade the sound.

So this example in the specification does the opposite of what's actually claimed. The claims say change the sound from binaural or degrade binaural sound. It doesn't say what's disclosed, which is when you want to have an alert to keep a person from hitting a child when they're backing up, you make that more noticeable by making it binaural.

And there's another key distinction here that I want to bring out. The claims are directed to changing the existing sound in an environment. So if you imagine yourself in a virtual reality environment and you're getting binaural sound, one way to alert the user in that virtual reality environment that they're leaving the environment, as the claims say, is by reducing the volume of sound because if all of the sound around you is being reduced that's going to provide a signal or an alert to the user that they're leaving the environment.

Now, likewise, if all of the virtual reality sound around you is getting changed from binaural to stereo, that is also going to provide a signal, a warning, or an alert to the user that they're leaving the environment.

What's disclosed in the 140 application here is different. This is not a sound existing in the environment that's changed. This is a sound that's added to the environment. It is a video and audio alert that did not exist in the environment that's being added.

And when you're adding a sound to act as an alert, you want that added sound to be as noticeable as possible. And the way you do that is by,

one, you could raise the volume, or two, make the sound binaural. This does not disclose what's claimed. This is a very different example.

JUDGE RAEVSKY: I'd like to jump in again and just explore this disclosure issue. It's a very long disclosure. There's a lot here. And so I think we're wrestling with all the different bits and pieces spread throughout this disclosure and how to understand how they're put together.

So for instance, at the at the bottom of page 135, line 31 refers to Figure 14 as a method to provide an alert and take an action based on whether the alert is acknowledged. I realize this wasn't discussed much if at all in the briefing, but continuing on to the next page, on line 3 it says, "for example, the alert is an audible alert and/or a visual alert to a person."

So you'll remember that we referred to the bottom of page 115 referring to Figures 4 through 16, including example actions, and Figure 14 is within that range of figures that include those actions, that it could include switching binaural sound to stereo sound.

So if we read those disclosures together, again, page 115 at the bottom and then Figure 14 as I referred to a moment ago, that is making an alert that is audible and relates to taking an action, can't we read those together and say that that's the warning described or recited in the claim?

MS. OSMAN: Your Honor, I don't think so. So, if you look at Figure 14 it says you provide an alert. So that alert could be, let's say that alert is a, in the example that we just looked at, let's say it's a binaural warning. And then you assess is the alert acknowledged? It doesn't say anything about how that acknowledgement could happen, but if the alert is acknowledged you take an action.

So if the alert's acknowledged you switch the sound perhaps from binaural to stereo. I think that would be the closest, the best way that you could read that for Patent Owner. Even if you read it that way, it still doesn't fit the claims. The claims say you provide an alert, a warning or alert by reducing volume and/or by altering binaural sound. Here the alert is distinct from the action. You provide an alert and then you take an action based on whether the alert is acknowledged.

The change in binaural sound, the change in binaural sound to mono or degrading binaural sound and a reduction in volume are expressly not the alert. Here this actually supports our position because it distinguishes between the alert and the action and makes clear that when the 140 application is talking about actions those are not alerts. The alert is different. This doesn't support--this doesn't provide written description support for the claims.

JUDGE RAEVSKY: Okay. I see your point because Figure 14, box 1420, say, "Take action and provide an alert as a separate box," in box 1,400. So you're unaware of any disclosure in this application that links an alert and an action?

MS. OSMAN: Off the top of my head right now I would say that I'm unaware of any disclosure. I don't want to affirmatively say that because it could be somewhere, but the key disclosures that are closest to what is actually disclosed or is actually claimed are on, for instance, slide 85.

They've been discussed in the briefing. And there's just nothing that gets there. It doesn't provide written description support for what's actually claimed. And Claim 14 is not what's claimed, or excuse me, Figure 14 is not what's claimed.

And then the other thing that I think is really important to keep in mind is the statement here is not obviousness. So it might be true that based on what's disclosed in the 140 application you would understand that, well, if you're switching binaural sound under certain circumstances, if you're playing a virtual reality game and you change all of that sound to binaural, then it's obvious that would create an alert to the user that they're leaving an environment, which is the claim. It might be obvious. Obviousness is not the standard for written description.

JUDGE ARBES: Counsel, can I ask one more question about that? It seems that a lot of your arguments are based on this concept of providing an alert or a warning. In slide 85 alert is used as a noun, as something that is provided, but that's actually not what the claims say. The claims either just use the words "warning" or "alerting" in a method.

So, I guess the question is the claims -- because the claims don't recite providing an alert, they don't need to provide support for providing an alert. They just need to provide support for that step of the method. So why is the language that we've discussed from the specification about taking an action not sufficient to provide support for that active step of warning or alerting?MS. OSMAN: Because, Your Honor, even though you're right, it is an active step, but that language in the claim "warning or alerting" has to have some impact. So when you provide the alert it has to be that you're providing the alert to provide a warning or alert, excuse me. When you change the binaural sound or you reduce the volume, it has to provide a warning or alert to the user.

And you're right. If you look at on slide 85 the disclosure in the 140 application is really focused on a very different type of alert than what's

claimed. And this is an alert that you are adding to an environment as opposed to what's claimed, which is changing the sound in an environment. So that's why the claims are written differently. The claims are directed to you have binaural sound in an environment that is switched from binaural to stereo or mono, and that's why when you change the sound from binaural to stereo or mono that provides an alert to the user. That provides an alert or a warning to the user.

But that's not what the 140 patent application talks about. It talks about --

JUDGE ARBES: Counsel?

MS. OSMAN: Excuse me. Go ahead.

JUDGE ARBES: Do you -- do you agree that the limitation would have support if it did not have the word warning or alerting? I mean, the specification clearly talks about reducing volume and altering binaural sound, right?

MS. OSMAN: Your Honor, I would still say it doesn't have support. There are other reasons why this limitation doesn't have support.

JUDGE ARBES: Oh, I see.

MS. OSMAN: So even without warning or alerting there's still no disclosure, for instance, of altering binaural sound when a user is leaving an environment, a 3D virtual environment, or an image in the environment. So, no, I would not agree with that part.

JUDGE ARBES: Okay. So but -- yes. And I'm not talking about the other aspects or the other parts of the limitation, but just that disclosure of reducing volume and altering binaural sound. You would agree that the 140 application discloses that, right?

MS. OSMAN: Well, Your Honor, I would push back on that a little bit as well because while it's true that it does -- the application does disclose altering binaural sound and reducing volume, there's no disclosure of doing both of those together at the same time. And, frankly, this isn't something that we've looked into in detail so I don't know that I would go that far.

I would say this is still not supported.

JUDGE ARBES: Can I ask one more question? So page 115 of the 140 application, at the very bottom of page 115, talks about Figures 4 to 16 collectively and provides a number of example actions. And then there's other portions of the specification that talk about examples of events.

And at least this portion of the specification does seem to be talking about all those figures collectively, and you've made the point, I believe in your briefing, that Patent Owner is cobbling together different portions of the specification to provide support for the claims.

But does not this disclosure provide some basis for doing that? To say that these example actions would apply to all of the figures that are then going to be discussed, Figures 4 to 16?

MS. OSMAN: So, Your Honor, I think it depends. I think that is a hard question to answer and it depends on what disclosures you're cobbling together and in what way. So this might suggest that Figures 4 through 16 have the same events. So one of the events in Figures 4 through 16 is changing sound from binaural to stereo or mono. Yes, that's disclosed.

Another event is reducing the volume of sound. Yes, that is disclosed.

JUDGE ARBES: I'm sorry. Is that an event or an action?

MS. OSMAN: My apologies. You're absolutely correct. I keep calling it an event, but it's not. It's an action. So they do have the same

actions, yes, but what I would say is this doesn't mean that you can mix and match something from Figure 4 into Figure 16 and, sort of, have any number of permutations or combinations of these different figures.

The question that we're asking here is what would this reasonably convey to a person of ordinary skill in the art at the time of the filing? And I don't think this would reasonably convey that you would have any number of combinations of Figures 4 through 16.

The other thing that I would say is when we made those arguments about Patent Owner cobbling together different disclosures in the specification, those arguments are not focused on cobbling together different parts of Figures 4 through 16. And many of those permutations and combinations that Patent Owner proposes have to do with other disclosures.

So, for instance, language at the end of the specification that says things like any blocks and methods can be exchanged for different blocks and methods in the application, that all of these methods can be combined in any number of ways, that type of language.

Also, one of the Patent Owner's new arguments that is proposed in the sur-reply cobbles together something from Figure 1 with Figure 6. There's no connection between those different embodiments. So even if you think that Figures 4 through 16 perhaps there's a reason why you can mix and match those embodiments and, you know, we wouldn't agree with that, but it doesn't mean that you can, sort of, combine anything in the specification in any different way and say that that would reasonably convey possession to a person of ordinary skill in the art. And that is the test that we're talking about here today.

JUDGE ARBES: Counsel, can I ask, well, why is that not permissible? I mean, certainly this happens quite a bit in patents where you maybe describe at the beginning here are some examples. I'm going to use the term, like event or action, and here are some examples -- here are some specific examples, exemplary embodiments that I'm going to describe to provide support for my limitation. And then I use a similar term or similar language in the claim.

Why is -- and you're not per se mixing and matching things. We're just giving exemplary embodiments. Why is that not permissible?

MS. OSMAN: Well, Your Honor, I think it's easier to answer that question in a particular example instead of, sort of, talking about it theoretically, because I agree with you. In some cases it is permissible. You're right, in some cases it is permissible to say, well, here are the example actions you could take. They apply to Figures 4 through 16. I wouldn't argue that that's not permissible. Yes those actions do apply to Figures 4 through 16.

What may not be permissible is changing, for instance, Figure 6 and switching different matter -- different disclosures in Figure 6 based on something that is unconnected and has no connection to Figure 6. And that's what Patent Owner is suggesting.

And so I think this question might be easier to answer in the context of the specific alterations that Patent Owner is proposing, if that makes sense?

JUDGE ARBES: Yes.

MS. ORMAN: Okay. Well, unless there are more questions about this particular limitation, perhaps we can move to the next one. This

limitation, just as a reminder, was warning -- excuse me -- was warning or alerting by reducing sound and/or altering binaural sound.

The reason I wanted to move on is because to your question, the mixing and matching embodiments really has to do with the next limitation, which is warning or alerting the user that the user is leaving a 3D virtual environment or an image in the environment.

So if you'll please turn to slide 92, it's Petitioner's slide 92, this is one of the examples that Patent Owner talks about quite a bit. This is the example that we were just talking about where Alice is wearing earphones and she has a sensor that determines -- the car has a sensor that determines that Alice is on binaural call and instructs her HPED to switch the call from binaural to mono.

So this disclosure, so we're switching to the next limitation, which is warning or alerting that the user is leaving a 3D virtual environment. There are variations of this limitation, but I'd like to start with the 3D virtual environment limitation. Patent Owner relies on this paragraph where Alice is wearing earphones and she's getting into a car as allegedly disclosing this limitation. It doesn't.

There isn't any disclosure of warning or alerting the user that the user is leaving a 3D environment because she's not in a 3D environment. Before we jump in here I'd like to talk very briefly about claim construction. If you will turn back to Petitioner's slide 68, I just want to talk about the dispute as it exists on claim construction.

Patent Owner proposes that a 3D virtual environment should be construed to mean "a three-dimensional perceived surroundings in which a user operates that incorporates a virtual image and/or sound." The problem

with Patent Owner's construction is that it's written so that it encompasses a sound-only environment.

This construction has no basis in this specification or in the claim language. In fact, this word, "the 3D virtual environment," this claim term doesn't appear in the specification. Instead, it's tailored to manufacture written descriptions for this term.

But if you look at the claim language itself it makes clear that a 3D virtual environment cannot be sound only. It has to include virtual images, and that's in a number of different ways. If you look at the language in, for instance, the '179 patent Claim 1, it says, "Displaying with the display of an HMD worn on the head of the user a 3D virtual environment."

So that 3D virtual environment has to be displayed. And it's not just displayed, it's displayed with the display of an HMD, which is, for instance, an LCD screen. It displays visual images, not sound.

And the claim makes this even clearer because it describes displaying images as distinct from providing sound. So you'll see images are described as being displayed, the 3D virtual environment is displayed while sound is provided. And it also --

JUDGE RAEVSKY: So with the -- sorry, counsel. What do you think the correct construction would be there?

MS. OSMAN: Your Honor, I think this term can be construed according to its plain and/ordinary meaning. A 3D virtual environment is a 3D virtual environment that includes virtual images. It might also include sound, but it's a 3D virtual environment that the user interacts -- is able to interact within.

The other thing I want to point out before we leave this point is the claim also expressly recites that that 3D virtual environment includes a virtual image. So to the extent that there is any doubt, this must be a visual image.

Turning briefly to slide -- let's turn briefly to slide 71. On slide 71 I started by saying Patent Owner's expert doesn't agree with their own constructions, and this is a portion of Dr. Begault, Patent Owners' expert's, initial declaration where he testified that an environment, a 3D virtual environment and a virtual image in an environment all refer to the same type of immersive virtual world's context that the user interacts within.

That is in direct conflict with Patent Owner's position in its Patent Owner response where it says, "A 3D virtual environment does not require a 3D visual immersion or a 3D virtual world." So he uses almost exactly the same language and takes the opposite position.

If you'll turn back to slide 92, so we were talking here about this is Petitioner's slide 92, and we were talking about the 140 application and its disclosure of warning or alerting that the user is leaving a 3D virtual environment. Now, in this example, if you look at the example where Alice is wearing earphones, she's not in a 3D virtual environment because there are no visual images. She's not wearing a WED that displays a visual image. She's not wearing an HMD that displays any visual images.

She's wearing earphones. She's walking around in the real world, and this doesn't disclose any warning or alert that she's leaving at 3D virtual environment.

There's also no disclosure that this claim recites, and most of the claims, frankly, recite also both altering binaural sound and lowering the

volume of sound. There's no disclosure here of lowering the volume of sound either. And in an effort --

JUDGE RAEVSKY: Ms. Osman, before we go into the actual changing of the sound, I do want to hear your position on the disclosure on page 160 that you've characterized as boilerplate. And that starts on line 15, "Examples herein can take place in physical spaces and computer-rendered spaces, VR and AR, et cetera and in combinations there."

And my understanding is Patent Owner is pushing back on your characterization of this as mere boilerplate because it's more specific than the typical boilerplate in the cases you've identified. But if we were to take this and apply it to the example of Alice and Bob in a car, I think Patent Owner's position is it supports the claim. So I'd like to hear what you have to say about it.

MS. OSMAN: So, Your Honor, thank you for asking. You're right and there is a dispute. They say it's not boilerplate language but I think, you know, setting aside whether or not it's boilerplate, the key again, that what -- the question that we're asking is does it convey, reasonably convey possession of the claimed invention?

So let's say you take the example with Alice wearing earphones and you plop it into a virtual reality environment, which is I think what Patent Owner is suggesting. That would still not meet the claims and it wouldn't reasonably make sense or convey to a person of ordinary skill in the art that could do that because as Dr. Roginska, Petitioners' expert, testified there's nothing in the record. And a person of ordinary skill in the art would not understand that there's any reason to have an area within a virtual reality environment that doesn't allow binaural sound.

The reason for that is when you're in a 3D virtual environment all of the sound that you're receiving is virtual. You're not getting any real world sound. So while when you're in the real world there might be a reason why, for instance, you shouldn't hear binaural sound while you're driving a car. That might not be safe. You shouldn't hear binaural sound while you're next to a construction zone. That may not be safe.

The same is not true if you're in a virtual environment. So, let's say Alice is wearing earphones in a virtual environment and walking around listening to binaural sound. She gets into a car in her virtual environment. It doesn't make sense for her to suddenly switch the binaural sound to non-binaural. All of the sound that she's receiving is virtual and there's no danger if she gets into a car.

Moreover --

JUDGE RAEVSKY: What about AR? The virtual reality is almost a strawman, but what about the AR when the Alice is wearing a WED and is seeing a visual, listening to binaural, and gets in a physical car?

MS. OSMAN: So, Your Honor, that's a -- so then -- I understand the question. However, there's no -- so Alice isn't wearing a WED and it doesn't make sense to have Alice wearing a WED when she's walking around in the real world and getting into a car. A person of ordinary skill in the art would not understand that to be disclosed.

She's going to drive a car wearing a WED and seeing a visual image while you're driving a car would be unsafe. That's not something that's disclosed, and it's not something that a person of ordinary skill in the art would have understood was reasonably conveyed, reasonably conveyed possession of, according to the courts in the area.

In a --

JUDGE RAEVSKY: I wonder if that's begging the question a bit, though, because this disclosure on page 168 says that you could combine with AR. And elsewhere in the disclosure it has a WED, so why does that -- does this not? And so it's really why does this not reasonably convey to one of ordinary skill in the art that Alice could have been wearing a WED, gotten in the car, and gotten that warning?

MS. OSMAN: So, yeah. Well, Your Honor, I want to put this back a little bit as well. We're relying on this disclosure at the end of the specification and that what the disclosure actually says is that it could be -- and let me pull up the language here. "Examples herein can take place in physical spaces and computer rendered spaces and partially computer rendered spaces and in combinations thereof."

This does not -- so the Federal Circuit looks for blaze marks for written description. This is not blaze marks to the claimed invention. This is, here's an example with Alice; change it in any number of ways so that maybe you can get close to what the claims actually recite.

So what Patent Owner is doing is working backwards from the claims and says, well, here's what's claimed. What are the ways that we can modify this particular example with Alice where she's wearing earphones and walking around in the real world to get to something that looks like the claims? That's not written description support. That's how many different ways can we modify what's actually disclosed?

Maybe it would have been obvious, but that's not actually what's disclosed. And so that --

JUDGE RAEVSKY: So, is that really the case because examples herein can take place in AR, right? So that means the example disclosed, I would think, in that disclosure for Figure 6 could take place in AR?

MS. OSMAN: Well, but it's still --

JUDGE RAEVSKY: And AR is typically going to be wearing a WED, so why is that --

MS. OSMAN: Sure, but that doesn't --

JUDGE RAEVSKY: -- not there?

MS. OSMAN: Apologies. I'm sorry to interrupt you. But even if you were --

JUDGE RAEVSKY: That's okay. It's the difficulty of the virtual conversation. I apologize for also interrupting occasionally.

MS. OSMAN: No, I appreciate the questions. But even if you did that, so let's say you take this example with Alice and you put it in AR. It still doesn't meet the claim limitations because the claim says Alice is leaving a virtual environment. So that's not enough.

What you would have to do is change it so that Alice starts out in AR or she starts out in a virtual environment and then when she gets into a car she goes from AR or virtual environment into not something else, into a different environment. So you're getting to a place where it's not that you're taking an embodiment and plopping it into a different, like, virtual reality or augmented reality that isn't disclosed. You're changing her earphones into a WED. You're also changing it so that instead of her being in the real world she's in an augmented reality world, and then when she gets into a car she switches from augmented reality to the real world.

It's just there's so many steps that you have to take to get to the claimed invention that it's you can't come to the conclusion that this reasonably conveys possession.

JUDGE RAEVSKY: Assume that if I'm saying it right, the extra step is that she has to leave the virtual world? Is that it?

MS. OSMAN: She has to leave the virtual world.

JUDGE RAEVSKY: The only thing -- the only thing that's disclosed in the example is her leaving the environment outside of the car to the inside of the car.

MS. OSMAN: Correct. So the only thing that's disclosed is she's in a physical environment and Patent Owner argues she's in a physical environment and that a car is a new environment. But the claims say you have to leave the virtual environment. You have to leave the 3D virtual environment and get in and that's when you get the warning or alert.

Now, in addition, there also has to be a lowering of volume, so it's two alerts in most of the claims. The only Independent Claim that doesn't also or exclusively require lowering volume is Claim 7 of the '179. Every other one of them does and there's simply no disclosure.

So these are all of the changes that you have to make. You have to put Alice in either VR or AR and then when she gets into the car, and she has to be wearing a WED or an HMD, and then when she gets into the car you have to switch her from AR or VR back to the real world, and she has to end binaural sound has to be changed and the volume has to be changed. So, I mean, there's so many steps that have to be taken.

And this isn't just -- so you're right. This language that we call boilerplate at the end of the specification does say examples can be an AR or

VR or in combinations, but this isn't just putting it in AR or VR. It's switching back and forth.

And for us to say that all of those changes are reasonably conveyed by this particular disclosure of Alice wearing earphones outside of a car, it just doesn't get there. That's not the blaze marks that are required for written description support.

JUDGE ARBES: Counsel, can I maybe tie this back to our previous conversation? A person of ordinary skill in the art will not just be reading this paragraph about the Alice example in isolation without considering the rest of this specification.

And if we can go back to pages 140 and 141? That talks about events being triggered and uses that magic word event again. And one of those events is a change in position in a physical or a virtual environment. It talks about both physical and virtual, and the Alice example would know the earlier disclosure talking about events in general. Why would that language earlier in the specification not be considered together? That this could apply to physical environments, virtual environments, or transitions in between them?

MS. OSMAN: Your Honor, it says that -- that language you're pointing to says, "a change in position." And would you mind pointing me to the exact line? I think I might have missed it.

JUDGE ARBES: Sure. So the top of page 141, lines 2 and 3.

MS. OSMAN: That's right. So it says, "A change in the ability to detect motion and/or object location and/or orientation and/or position in a physical or virtual reality or virtual environment." That's not leaving an

environment. That's a change in position within a physical environment or within a virtual reality environment.

That's not what the claims require. That's not what's recited. The claims recite leaving an environment. The user is leaving an environment and an alert or warning happens when the user is leaving an environment. That's not -- a person of ordinary skill in the art wouldn't, reading this, wouldn't come to the conclusion that this covers leaving an environment. It says, "a position within an environment."

JUDGE ARBES: Okay. I think I understand your position. And again, reading these in isolation, but throughout that paragraph and the next paragraph it is talking of -- it is in some sense using physical and virtual environments interchangeably.

It says in a number of instances -- refers to them both, physical or virtual environment. That seems to be a pretty broad disclosure of detecting changes either in an environment or things that happen with respect to a physical or virtual environment. So a person of ordinary skill in the art reading the later examples, like the Alice example we've discussed, has that in mind that we're talking about events and these are the sort of events where we're talking about, right?

MS. OSMAN: So I agree with you. It does talk about both physical and virtual environment and it talks -- environments and it talks about these sorts of events that include changing a position or orientation within an environment. But if you look at all of this disclosure, none of it discloses what's actually claimed, which is leaving an environment. And there's nothing in the record and no support for the contention that a person of

ordinary skill in the art would have understood. Well, I shouldn't say that there's nothing in the record. Their expert testified to the contrary.

But this doesn't support --

JUDGE ARBES: But just to be clear, the Alice example does talk about leaving a physical environment, right?

MS. OSMAN: That's right.

JUDGE ARBES: Okay.

MS. OSMAN: Well, I, you know, I don't think -- so let me modify that. It talks about leaving a physical environment but it doesn't talk about leaving the claimed environment because the claimed environment has to include a virtual image.

JUDGE ARBES: Okay. But what --

MS. OSMAN: So --

JUDGE ARBES: -- so what we have in the Alice example is a description of leaving one physical environment into another physical environment, arguably whether that's also a virtual environment or not, but at least it's a disclosure of a change in physical environment. And here it's using the different environments almost interchangeably, that it could be physical or virtual. Again, why would that not be read in context with the later examples that might only be talking about a physical environment?

MS. OSMAN: So, Your Honor, I think that if you were to -- I think what you're saying is even though Alice is in a physical environment you might be able to read this and say, well, then maybe Alice's example could be put into a virtual environment. But even if you did that, even if you took the example with Alice and placed it into a virtual environment, so Alice is now walking around with headphones on in a virtual environment, one, as I

1 described, it wouldn't make sense for a person of ordinary skill in the art that
2 there is a restricted area within a virtual environment. And there is actually
3 no evidence in the record that this exists because there's no reason to have
4 areas in a virtual environment where you can't have binaural sound. It just
5 doesn't make sense in the same way that it does in a physical environment.
6 In addition, even if you did that, you take Alice and you put her in a
7 virtual environment and she's walking around, and for the sake of argument
8 let's say binaural sound is shut off when she gets into a virtual car, it still
9 doesn't meet the claims. The claims require that she leaves that virtual
10 environment. And she's not leaving the environment. She's still in the same
11 virtual environment.
12 When you are getting -- leaving -- she's still in the virtual
13 environment. She might be in a different space in a virtual environment but
14 still within the virtual environment. And that's not what the claims require.
15 And again, it's still -- even with that it still doesn't disclose what's required in
16 most of the claims, which is reducing the volume of sound.
17 It also doesn't disclose alerting or warning Alice that she's getting into
18 a car by changing binaural sound. That change in binaural sound has
19 nothing to do with alerting her that she's changing an environment. So
20 there's still so many steps and modifications that you have to make to get to
21 the claimed invention that it just simply can't provide written description
22 support.
23 I'd like to address Figure 6 that Patent Owner relies on as well, and
24 I'm not sure -- if we can please turn to Petitioner's slide 98? I would like to
25 talk about Figure 6 briefly.

So this is something that Patent Owner relies on. Patent Owner points to Figure 6 and asserts that Figure 6 meets the claims. So this is the figure that the Alice example is based on.

But Figure 6 doesn't disclose it. So if you look at the description of Figure 6, Figure 6 doesn't disclose warning or alerting the user that the user is leaving a environment or a 3D virtual environment. If you read that description of Figure 6, and Patent Owner seems to agree with this, Figure 6 is a method to determine a location of a person and to take an action when the person moves into a restricted area. In other words, Figure 6 takes an action after the person has already moved into a restricted area.

That is not what the claims require. The claims require that you change binaural sound, you reduce the volume when the user is leaving an environment. That's not what's taught in Figure 6.

Moreover, if you turn to slide 100, Figure 6, if you look at the specification and you look at the examples of the restricted areas in Figure 6 and this fits back into our discussion of the example with Alice, all of the restricted areas are physical locations.

And the reason they're physical locations is because a person of ordinary skill in the art would understand that while it might make sense to have restricted areas when you are in a physical area, a physical location. When you're in the real world it might not be safe in every instance if you're listening to binaural sound. The same is not true of a virtual world so this doesn't reasonably convey possession of a claimed invention.

So turning back to slide 93, we talked about the 3D virtual environment, but I'd also like to talk about why this example with Alice also doesn't disclose warning or alerting that the user is leaving an environment,

not a 3D virtual environment. And to do that I'd like to start by, again, talking very briefly about claim construction. If you turn back to slide 62, Petitioner's slide 62?

Patent Owner proposes that the word environment should mean physical surroundings in which the user operates. Now, as we've talked about, the '179 patent which shares the same specification with the 140 application, describes over and over again that it's talking about a physical or a virtual environment. There's simply no reason to limit the construction of environment to just a physical environment.

And if you look at slide 64, Petitioner's slide 64, again, Dr. Begault, Patent Owners' expert, in his initial declaration testified that environment, 3D virtual environment and virtual image in an environment all refer to the same type of immersive virtual world context. He didn't think it meant a physical environment either.

And then finally on slide 65, I asked Dr. Begault about this at his deposition, and he explained that an environment is real, virtual, or both simultaneously, the types of environments or things that surround us which is much closer to the plain and ordinary meaning of environment.

If you turn back to slide 93, we can talk about this example of Alice with the earphones.

JUDGE ARBES: Counsel, just one more, one question before you move on. I believe, so I believe you're saying that the word environment encompasses physical or virtual environments. It encompasses those two things. Is that the universe or are there other possible environments that it might cover?

MS. OSMAN: So, Your Honor, we would say that environment should be given its plain and ordinary meaning. I wouldn't say that it's limited to physical or virtual environment, but what I will say is if, so looking at slide 93 you see an example, Claim 14 on that slide, and it says, "A virtual image in the environment."

So in the claimed environment it has to include a virtual image. So, I wouldn't say you have to limit environment to physical or virtual, although, you know, I would say environment has its plain and ordinary meaning. But in the context of the claims, if it's a physical environment it must be an augmented reality physical environment because it includes a virtual image. So that's what the claims make clear.

JUDGE ARBES: But that does matter for purposes of assessing written description support. So, you're not aware of any other types of environments within the scope of that term other than the physical and virtual environments we're talking about, right?

MS. OSMAN: So, Your Honor, I would say physical virtual, 3D virtual, the 3D virtual environment, like, a totally immersive virtual environment, is a different type of environment. When I asked Patent Owner's expert about what environment could mean he also told me about dream environments.

So environment is a very broad term and it could encompass any number of things. The key is if an environment is a genus, and we believe that it is a genus, it has to provide -- there has to be written description support for the genus, which means there needs to be disclosure for either a representative number of species that fall within the scope of the genus or

features that are common to the genus so that a person of ordinary skill in the art can visualize or recognize the genus.

JUDGE ARBES: Okay. And would a disclosure of physical and virtual environments meeting all of the limitations of the claim, would that be sufficient to meet the genus in your view?

MS. OSMAN: Not unless you have a disclosure, so my view is no, because you need disclosure of the 3D virtual immersive environment. So the totally immersive world within a user -- with the one that Dr. Begault was talking about. So he said an immersive virtual world context. That's how he described -- defined both environment, 3D virtual environment, and even image in an environment.

So that is --

JUDGE ARBES: I guess I'm a bit confused on that. I mean, none of the claims say 3D immersive environment. I don't believe any claim uses that word immersive, right?

MS. OSMAN: None of the claims say immersive but environment encompasses a 3D immersive environment.

JUDGE ARBES: Encompasses. What I'm asking is you've made the point that environment is a genus and that we need a representative number of species. I guess my question was why is a disclosure of physical and virtual environments not sufficient to meet the genus? And you said that it wasn't. What other environments would need to be discussed in order to meet the genus?

MS. OSMAN: Well, let me modify my answer a little bit. So it has to be -- there has to be a disclosure of a physical or virtual environment, but

within the context of the claims the claims recite and are focused on warning or alerting the user when they're leaving a particular type of environment.

So when you're leaving a 3D immersive environment or a 3D virtual environment there are other considerations that need to be taken into account. And so -- and Dr. Begault agreed with that.

JUDGE ARBES: Yes. And so my hypothetical is that it does meet all those other limitations. It does talk about both of those types of environments in exactly the context of the claims. What I'm trying to get at is you've made the genus-species argument, and I'm struggling to find any other species they could have described other than a physical and virtual environment.

MS. OSMAN: So they could have described there are different types of virtual environments. There are augmented reality virtual environments where you could walk around and see images. There are also --

JUDGE ARBES: But those are all virtual, right?

MS. OSMAN: Virtual environments is a, I would say, is also a genus that has various species within it and there are different considerations for the various species within a virtual environment. So I would say an augmented reality environment has different considerations and needs to be addressed differently than this totally immersive world context that we've been talking about. That's a different species.

And to have a breadth of claims to have to claim the entire genus there has to be support for the entire breadth of claims, and we see that that's not here because if you look at what's actually disclosed in the 140 application there's nothing that describes, for instance, if you're in a 3D virtual

environment as claimed, the system has to -- you have to first define the area within which the user is operating. That's not disclosed.

There has to be special consideration for users transitioning out of that 3D virtual environment back into the real world or wherever they're transitioning. That's also not disclosed.

And then tracking considerations, tracking the user within a 3D virtual environment, also not disclosed. So there has to be -- it's not enough to just say physical and virtual. There has to be more description, particularly of the context and the specific disclosures in the claim.

So in the example with Alice that we were talking about on slide 92, Alice isn't in a 3D virtual environment or an environment. She's in the real world. We talked about how she's wearing earphones. She's not viewing a virtual image. There's no WED or HMD involved in this situation.

JUDGE RAEVSKY: So I'll just jump in and let you know it looks like you have about 3 minutes left in your main time.

MS. OSMAN: Okay.

JUDGE RAEVSKY: You're free to go beyond that as needed.

MS. OSMAN: Okay. So very briefly, I'd like to -- I just finished discussing priority. If you turn to slide 93, the other iteration, the other type of claim is warning or alerting the user that the user is leaving -- oh, sorry, excuse me. It's slide 94, an image in the environment. So please look at slide 94.

This is very similar to environment. Again, Alice is wearing earphones. There's no virtual image, but the key here is, the limitation is she has to be warned as she's leaving a virtual image in the environment.

1 And as with the environment, there's no disclosure of Alice viewing a
2 virtual image at all while she's walking around in the real world, so there's
3 no support for this.
4 So I'd like to briefly go to slide 103. These are, I think we've talked
5 thinking about these as well, but these are some of the experts from the 140
6 application that Patent Owner points to to say that this is a disclosure of
7 leaving a virtual environment or leaving a physical environment.
8 But first is a change in the ability to detect position in a physical or
9 virtual environment, but as we discussed, the change in the ability to detect
10 position could be understood and would encompass change in the ability to
11 detect position within an environment. There's nothing that's addressed that
12 means leaving an environment.
13 If we turn to slide 104, Patent Owner points to cues indicating what
14 they call a changing in a physical or virtual environment, but if you look at
15 the disclosure in the 140 application it says, "A change in a physical or
16 virtual environment such as its shape, acoustic properties, noise level, or
17 placement of objects or structures in the environment." So this is not leaving
18 an environment again. This is changes within an environment.
19 And slide 105, Patent Owner points to a degradation in the visibility
20 of a user's physical or virtual environment. Again, this has nothing to do
21 with leaving an environment. This is a change in the abilities to set -- a
22 user's ability to associate visual cues or images with the associated audio
23 cues. It's not related to leaving an environment.
24 So I'd like to discuss very briefly, and I understand that I'm at my
25 time, but I'd like to move to the final limitation that is not disclosed, and
26 that's on slide 111, Petitioner's slide 111. So the first two limitations were

1 warning or alerting by reducing volume and/or altering binaural sound.
2 That's how to warn or alert. If that's not disclosed, all of the challenged
3 claims would have been invalid as obvious.
4 The second is leaving, warning, or alerting the user that the user is
5 leaving an environment or a 3D environment or an image in the
6 environment, when to warn or alert.
7 The final one is determining or sensing with the WED or HMD when
8 the user is leaving the 3D virtual environment or an environment. There is
9 no disclosure of this final limitation either, and this is relevant to all of the
10 '179 patent challenged claims.
11 So if you'd turn briefly to slide 74, I just want to address claim
12 construction very briefly. So, Patent Owner proposes that the term
13 determining with a WED when the user is leaving the environment should
14 be construed to mean determining with the WED and independent of a
15 stationary tracking device when the user is leaving the environment. There
16 is no support for that additional limitation, the additional negative limitation
17 that Patent Owner is adding to that claim term.
18 Claim terms should be construed according to its plain and ordinary
19 meaning, that "independent of a stationary tracking device" doesn't appear
20 anywhere in the '179 or '184 specification. This isn't even importing a
21 limitation from the specification into the claim which, as the Board's aware,
22 would be improper.
23 Instead, this is creating a limitation to avoid prior art. And that's
24 improper. And I asked -- again, I asked Dr. Begault, Patent Owners' expert,
25 about this at his deposition. If you look at slide 78, I asked him about this
26 precise limitation.

So I said, "Would the WED determine when the user is leaving the environment if it's using external sensors?" He said, "It could. That's one possibility."

"What about if it's using external reference points?"

"Maybe."

"Well, what about if it's using a camera or an external camera?"

"One of many possibilities."

"Well, how about an external tracking device?"

"It could possibly be."

So, their own expert doesn't agree with their construction. If you'll turn back to slide 114, the 140 application doesn't disclose, as I mentioned, determining or sensing with a WED or HMD. Patent Owner to support its allegation that this is disclosed points back to the very same example with Alice that we've been talking about, Alice with the earphones. But again, there's no HMD or WED at all in this scenario and Alice's earphones don't determine what she gets into a car.

Instead, there's a sensor in a car or a GPS device or an object recognition device. There's no disclosure of a WED or an HMD doing the determining.

And while it might have been obvious, could have been obvious that instead of Alice wearing earphones she might wear an HMD, she might wear a WED, that's not what's taught. And obviousness is not the right standard here.

And if you turn to slide 115, this is another example of Patent Owner pointing to what I will call boilerplate, but it's language at the end of the specification to try to expand the disclosure of the 140 application. So this

1 time Patent Owner points to this language where it says, "Blocks and/or
2 methods discussed herein can be executed and/or made by a user, a user
3 agent, a software application, an electronic device, a computer firmware,
4 hardware, a processor, a computer system, and/or an intelligent personal
5 assistant. In fact, they can be executed automatically or without instruction
6 from a user."
7 So Patent Owner says, well, this says that all of the examples can be
8 executed with an electronic device.
9 And here's another. And then Patent Owner points to an entirely
10 distinct paragraph in the 140 application to say. "By way of example,
11 electronic devices include," and there is a very long list of electronic devices
12 that the 140 application identifies, including wearable electronic devices.
13 So, Patent Owner says, well, a person of ordinary skill in the art could look
14 to the first disclosure and then the second disclosure and then exchange what
15 Alice is wearing for a WED or an HMD that does the determining.
16 The problem with that is this isn't written description support. This is
17 like a choose your own adventure novel for a person of ordinary skill. This
18 doesn't guide a person of ordinary skill in the art to what's actually claimed.
19 Instead, it's here are an almost limitless number of permutations and
20 modifications that you can make to every one of the examples in the
21 specification.
22 That's not -- that doesn't meet the test which is to reasonably convey
23 possession of a claimed invention.
24 And it's important to note that that example with Alice doesn't say
25 generically an electronic device, that she's wearing an electronic device.
26 She's wearing earphones. And every one of the claims requires that the

WED or the HMD that she's wearing displays a virtual image. That isn't disclosed.

If you'll turn to slide 116, this is another example that I just want to point out briefly of this is an example of determining or sensing. And Patent Owner points to in its sur-reply, this is a new argument they make in their sur-reply, but they say, well, you could get to the claimed invention by combining scenario 114, which is from Figure 1, which is not listed in the combination of Figures 4 through 16 which were grouped together, this area from 114 with the disclosure regarding Figure 6.

At best this is an obviousness combination, but it's not even an obviousness combination because there's no motivation. There's no reason why you would combine these two disparate disclosures in the specification. Patent Owner provides a reason. It says there's a disclosure at the end of the specification that, "Methods discussed within different figures can be added to or exchanged with methods in other figures."

But if that were enough to provide written description support then every patent ever could just rely on that end, that language at the end of the specification and then be able to claim any limitless number of permutations and modifications of the examples by just mixing and matching different embodiments.

That isn't what's disclosed. It doesn't reasonably convey possession to a person of ordinary skill.

And with that, I think I'll reserve the remainder of my time for rebuttal.

JUDGE RAEVSKY: Thank you, Counsel. I show you as having about 24 minutes remaining.

1 All right. We'll proceed directly to Patent Owner's argument, and
2 we'll likely take a break after that. So, Patent Owner, you have 85 minutes
3 and you may begin when ready.
4 MS. PARTRIDGE: Good morning still, Your Honors, at least where I
5 am. My name is Jayme Partridge and I am doing the first part of the
6 argument for Eight kHz. And if we can turn to slide 2, it is just a brief
7 outline of what I'm going to cover today, or I'm going to try to cover today
8 with Your Honors.
9 I want a big note here is that Jayne Piana, who is a LEAP practitioner,
10 is going to handle the '179 additional issues that are at the bottom of this
11 outline, but she is also going to have a very meaningful and substantial role,
12 as you requested, because she is going to have to answer all the questions
13 that you ask during the presentation. So, she is going to have a very
14 meaningful and substantial role in this presentation.
15 On slide 3 I'm offering just a very brief overview of the patent. I think
16 you certainly have this, but just a reminder, the '179 and the '184 patents are
17 entitled, "Switching to binaural sound or switching binaural sound." The
18 specifications are the same, and the patent states that, "Binaural sound
19 provides a listener with the superior ability to localize sounds in the 3D
20 environment."
21 And the patent discloses that, "Providing binaural sound to a user
22 using a head-mounted display or a WED display or a WED device and
23 altering binaural sound when an event occurs to alert or warn the user that
24 the user is leaving the environment." We'll talk about environment later.
25 I'm not trying to mess with the claim limitations. We'll talk about 3D virtual

environment and environment. But when I say environment I'm just talking generally right now.

Slide 4 is just the limitations that are at issue. These are the common limitations between the two patents very high level. They are drawn to alerting or warning the user when the user is leaving an environment, and the claims are drawn to either environment or 3D virtual environment. And the real difference in these limitations is how the alert or warning is given. One of the claims has lowering the volume of binaural sound. Another of the claims has altering the process of binaural sound to change it to somehow remove some of the aspects of binaural sound or to change it to mono or stereo. And then the rest of the claims have both of these limitations for the requirements of alerting.

If we go to slide 6, these are the asserted grounds for invalidity that Meta has made against the challenged claims. In Ground 1, Meta has asserted that Clement, Osman, and Sauk make the identified claims obvious.

The second ground that I will also talk about and was talked about a lot this morning, was that Meta has asserted that all claims are unpatentable under Section 103 over Lyren, which is the first application and all the applications for these patents and Reif.

And the issue there, the linchpin issue, is whether or not the 140 patent application provides sufficient written description to support these claims and these limitations. And, of course, Patent Owner submits that they do.

So then I'm going to move to a brief overview of the prior art. This is Ground 1 that Meta has asserted in Ground 1, and that is on page 9 starting with Clement. And Clement --

JUDGE RAEVSKY: Counsel, I'm going to suggest --

MS. PARTRIDGE: -- at the outset it's important to --

JUDGE RAEVSKY: Counsel, can you hear me?

MS. PARTRIDGE: -- that Clement and we'll see with Osman, too, two of the pieces of prior art. They are drawn to virtual reality and augmented reality games. And that's important because --

JUDGE RAEVSKY: Ms. Partridge?

MS. PARTRIDGE: -- we'll see in a minute with Sauk that Sauk is drawn to real life.

COURT REPORTER: Hello, Counsel? Stand by, please. The Judge is trying to get your attention.

MS. PARTRIDGE: I’m sorry.

JUDGE RAEVSKY: I'm just trying to --

MS. PARTRIDGE: And so regarding Clement, Clement is directed to virtual reality or augmented reality games, and what Clement states is that a smooth --

JUDGE BROWNE: Ms. Partridge? This is Judge Browne. Can you hear me?

MS. PARTRIDGE: -- the virtual world to the real world as the user encounters the boundary of the virtual world --

COURT REPORTER: Hello, Counsel? Stand by, please.

MS. PARTRIDGE: -- into the real world is important because it may avoid disorientation and motion sickness for the user. And once this transition is complete under Clement, and this is important, it is complete at or before the user's electronic device reaches the boundary of the real world.

MS. PIANA: Sorry, Judy. The Judges are trying to talk to you but we can't hear them for some reason.

MS. PARTRIDGE: Oh, what do they want? Go ahead.

MS. PIANA: So --

JUDGE RAEVSKY: Can you hear me, Counsel? Can you hear me? We're speaking but it seems like your audio might be off.

MS. PARTRIDGE: I apologize, Your Honors.

JUDGE RAEVSKY: Can you hear me now?

MS. PARTRIDGE: I can. Can you hear me?

JUDGE RAEVSKY: Okay, yes. Yes we can hear you. We've been able to hear your entire presentation but it seems like your audio was temporarily off.

MS. PARTRIDGE: Yeah, I promise I wasn't ignoring you.

JUDGE RAEVSKY: Thank you. I understand. It's difficult having a virtual hearing. I was just going to suggest that you move on to Ground 2 because that was the bulk of the presentation, and if there's time then perhaps we can address Ground 1 later.

MS. PARTRIDGE: Okay. Thank you, Your Honor, I will certainly do that. So, of course, Ground 2 is the issue that was discussed heavily in the hearing and it is regarding whether or not the 140 patent application, the parent patent application to the '179 and '184 patents, whether there is adequate written description. And if there is adequate written description then Lyren is not prior art for these patents. So that's page 31 of the slides.

And then we start -- we move right on to 32 regarding claim construction, and on claim 32, in slide 32 we can, I think, do away with a lot

of the arguments regarding claim construction because we agree to Petitioner's claim constructions.

And under --

JUDGE RAEVSKY: All right. So you're conceding the claim construction issue for all three claim construction issues?

MS. PIANA: Not the third one.

MS. PARTRIDGE: Not the third one.

JUDGE RAEVSKY: So for environment and 3D virtual environment you concede those two claim constructions?

MS. PARTRIDGE: Yes, we concede those. I want one explanation about how I'm going to talk to you just real quickly about how 3D virtual environment should be construed, but we agree with these claim constructions.

JUDGE RAEVSKY: Go ahead.

MS. PARTRIDGE: And under these claim constructions we submit that the 140 patent application supports or provides adequate written description of both environment and virtual environment.

So if we move to claim -- to slide 34, I just want to make a clarification regarding 3D virtual environment. And first, the claim language clearly includes a virtual image. It says 3D virtual environment, including a virtual image, so there's some definition of 3D virtual environment in the claims.

But what I want to try to clarify is that the specification provides that the 3D part of the 3D virtual environment could include three-dimensional, a three-dimensional soundscape or 3D sound environment. And as you can see on the left-hand side of slide 34, Meta's expert has agreed to this.

Question, "Could 3D, 3-dimensional soundscape be a virtual environment?"

Answer, "Yes it could be. And, sure. It could be in a virtual environment. It could be."

JUDGE ARBES: Counsel, can you maybe explain that a little bit more? And I flagged that portion of your sur-reply on page 3 to ask about. I'm confused as to what the difference between the parties is? What exactly is the clarification that you're trying to make with respect to 3D virtual environment?

MS. PARTRIDGE: I guess the main clarification, and Ms. Piana is going to correct me if I misspeak, but we don't believe that the 3D virtual environment has to be an immersive environment. And --

JUDGE ARBES: So, the proposed construction that you had offered in your response was 3-dimensional perceived surroundings in which a user operates that incorporates a virtual image and/or sound. Are you modifying that proposed interpretation or still advocating for that?

MS. PIANA: Your Honor, this is Jayne Piana. Can you hear me okay?

JUDGE ARBES: Yes.

MS. PIANA: Okay. So I'll address your question. So we are modifying the proposed construction slightly because, as Meta has presented, the claims require a virtual image. So the 3D virtual environment in the claims must have a virtual image.

So our construction is that a 3D virtual environment must include a virtual image. That's just what claims require. So Meta made a big deal

about this in their presentation and we are just agreeing with them that the claims require the 3D virtual environment includes a virtual image.

The 3D part, however, of the 3D virtual environment does not have to be an immersive environment. The 3D part of a 3D virtual environment can be a 3D sound state, such as binaural sound.

JUDGE ARBES: Okay. And do you have the specific proposed language that you would advocate we adopt to interpret that term then?

MS. PIANA: So we would propose a modification of our original construction. So looking back at slide 32, we would propose 3-dimensional perceived surroundings in which a user operates that incorporates a virtual image and sound. So, Meta made a lot of points about the 3D virtual environment cannot mean sound only because the claim language also requires a virtual image.

We say okay, that's fine. So 3D virtual environment should be construed to mean 3D, sorry, 3-dimensional perceived surroundings in which a user operates that includes -- sorry -- that incorporates a virtual image and sound.

JUDGE ARBES: Okay. So just taking out the word "or" then?

MS. PIANA: Correct. Given the claim language that requires a virtual image.

JUDGE ARBES: Perhaps we can --

MS. PIANA: Or a virtual --

JUDGE ARBES: Okay. But I think we understand your position then and perhaps we can ask Petitioner and then address this later if necessary. But thank you for the clarification.

MS. PIANA: Okay, you're welcome.

JUDGE RAEVSKY: Ms. Piana, building off of that, if there's no longer a dispute about whether the plain and ordinary meeting can be sound only, do we need to construe this term at all?

MS. PIANA: That's an excellent question, Judge, and perhaps not. Meta has argued that the term means as its plain and ordinary meaning, although recall that Meta kept referring to an immersive environment. And it's Eight kHz's position that the 3D virtual environment does not have to be a fully immersive environment, as Your Honors pointed out in questioning Meta 's counsel. The word immersive does not appear in the claims.

So based on the plain and ordinary meaning of the term 3D virtual environment and the disclosure in the spec that shows a 3D virtual environment can be a 3D sound state, we would propose that the term be construed to be 3-dimensional perceived surroundings in which a user operates that incorporates a virtual image and sound.

JUDGE RAEVSKY: Okay.

MS. PARTRIDGE: Okay, moving on to slide 37, I'm going to talk about written description and Patent Owner submits that there is adequate support in the 140 patent application to support the limitations of the claims. Written description, it's the standard is that the disclosure of the application must reasonably convey to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date. It says, "reasonably coneys." It doesn't have to be literal.

You can see the third paragraph below, the subject of the claim need not be described literally, i.e., using the same terms or the same words for the disclosure satisfy the written description requirement.

And what's also important is the claims, the entire specification, including the specific embodiments and figures, should be here to understand the support for the various features of the claimed invention. So again, the specification of the 140 patent application should reasonably convey the support of the claims. We believe it meets this standard.

Now the claim, according to the MPEP, the claim limitations must be -- and this is slide 38, the claim limitations must be supported in the specification through express, implicit or inherent disclosure. Meta argues that implicit disclosure is not enough to meet the written description requirement and they rely on Novartis, the Novartis case.

However, Novartis does not conflict with the standard and it actually repeats the limitation that -- it repeats that a limitation need not be recited in the specification in the same words. And it is, in fact, Meta who was providing or relying on an improper legal standard for written description.

In their reply at page 22, Meta states, "There is no suggestion of the specific claim combination, nor that a POSITA would alter Figure 6 in the precise way the Patent Owner proposes to try to match the claims." This is --

JUDGE RAEVSKY: Excuse me, Counsel. This is Judge Raevsky. When you in your briefing say that there's implicit disclosure in certain places, do you mean an inherent disclosure or do you mean something else?

MS. PIANA: Your Honor, this is Jayne Piana. I will take that question. So we mean that there is implicit disclosure and there is inherent disclosure. Meta makes much of the fact that Dr. Begault, who is Eight kHz's expert, used the word implicit disclosure and that then Meta says that implicit disclosure is not enough, citing the Novartis case.

1 As Ms. Partridge just mentioned, Novartis does not conflict with the
2 standard. Novartis addresses a negative limitation. So in Novartis, the claim
3 limitation was that the claim -- I'm sorry. In Novartis the claim limitation
4 recited absent and immediately preceding loading dose. So that's a negative
5 claim limitation.
6 So in Novartis, the Federal Circuit found that when you have a
7 negative claim limitation, like absent something, and the specification is
8 silent on that particular negative claim limitation then the disclosure is
9 insufficient. But as Ms. Partridge mentioned, Novartis does say that there is
10 no in haec verba requirement. And so it's our position that the 140
11 application discloses implicitly and inherently these claim limitations, Your
12 Honor.
13 I would also, if you would permit me, Your Honor, in Meta's
14 presentation they made much of Dr. Begault's deposition testimony. So this
15 is referring to Meta's slide 87 where they've shown Dr. Begault's deposition
16 testimony.
17 As we have already pointed out, however, Meta is taking this
18 deposition testimony out of context. So the deposition testimony that Meta
19 relies on is again at page 87 of their slides, and it says, "So it sounds like you
20 are saying that changing binaural sound to stereo or mono would provide an
21 alert or warning to the user?" And Dr. Begault says, "No, not necessarily. It
22 depends."
23 Meta uses this quote to support their argument that there is not
24 inherent disclosure based on that Begault's testimony. But again, Meta has
25 taken this out of context so Dr. Begault testified, and again, this is Exhibit

1147, it's Dr. Begault's deposition transcript, and I would point you to page 86, lines 16 through 21.

The question continues, "There's nothing," so this is the question that Ms. Osman was asking Dr. Begault. "There's nothing inherent about, for instance, changing binaural sound to stereo or mono that would provide a warning to a user?" Dr. Begault says in response, "That's not true."

Also in his deposition, which is again Exhibit 1147 at page 85, lines 12 through 14, so slightly before the last reference, Dr. Begault testified that, "In the ways that are described in my declaration I believe those would be effective alerts of changes to binaural sound."

And the declaration that Dr. Begault refers to there is Exhibit 2012. If you look at paragraphs 65 through 80, Dr. Begault provides his testimony about the disclosure in the 140 application regarding alerts and warnings.

MS. PARTRIDGE: Okay. Moving on to slide 39, this slide addresses the adequate -- that the 140 patent application provides adequate written disclosure. And first it discloses providing binaural sound to a user and altering the binaural sound when an event occurs. And you can see in the language, this is Exhibit 102A, this is the 140 patent application. It provides that, "A determination could change from providing the sound in binaural sound to providing the sound in altered binaural or in stereo or mono sounds can be based on or in response to one or more events. For example, an event can trigger or cause the switch to occur. For instance, this switch occurs or execute when the event is sensed."

So in this part of the 140 or the 140 application, binaural sound can be altered when an event occurs.

Slide 40. It lists a number of events or examples of events that can trigger a change in binaural sound. I'm just going to present these at a high level, but I know you had conversation about this earlier with Meta's counsel. So I think what's important is these events are not limited to a specific type of an event.

The events can be static or dynamic and they can be selected by the user. And some examples of events are the location of the person listening to the sound, the position or movement of a person, such as direction the person walked, the distance from the person to an object, safety such as not localizing sound when the person is driving a vehicle, and proximity to a restricted area.

On slide 41 the other events include, change in the ability to detect the user's position in a physical or virtual environment, the change in the ability to detect an environment, cues detected in a user's physical or virtual environment, such as cues indicating location, position, or orientation, or a change in them. In addition, cues indicating a change in the physical or virtual environment can also be an event according to the 140 patent application.

So moving to slide 42, the 140 application discloses a switch from binaural sound when events related to a user -- when events related to a user leaving one environment and entering another environment occur. You can see with this language from the patents, exhibit -- I mean from the patent application, this is Exhibit 1028, a person can receive binaural sound corresponding to one virtual or real or augmented space, and a switch occurs such that the person receives binaural sound from a second virtual or real or augmented space.

1 So an event may be a user leaving one virtual space to enter another
2 virtual space. It can be a user leaving one real physical space to enter
3 another real physical space. It can be a user leaving one virtual space to
4 enter a real space or a combination of these according to the 140 patent
5 application.
6 And then if we move to slide 43, this is regarding Figure 6, which I
7 know you talked about extensively with Meta 's counsel, Patent Owner
8 submits this is an example of a user leaving an environment and the switch
9 occurs from binaural sound to mono or stereo. And you can see here in
10 Figure 600 or block 600 provides with a WED or HMD determining a
11 location of a person while the person moves.
12 And then the person moves into the restricted area then it says take
13 action. And this implicitly, based on 630, is that you no longer maintain
14 binaural sound. The sound moves from binaural to mono or stereo.
15 So Figure 6 --
16 JUDGE ARBES: Counsel, can you respond to Petitioner's argument
17 that although this discloses taking an action, it does not disclose the alerting
18 or warning aspect that's actually claimed?
19 MS. PIANA: Yes, Your Honor. This is Jayne Piana. I'll be
20 responding to that question. So as the Board questioned Meta 's expert, this
21 particular example does not expressly disclose alerting or warning, but there
22 are other places throughout the 140 application that discuss alerting or
23 warning and so using -- reading this specification as a whole we submit that
24 the alerting or warning of the user is adequately disclosed in the 140
25 application.

Also, in particular with this example in Figure 6, Meta found that this figure and the disclosure regarding this figure does not include virtual or augmented environments. And we would point the Board to other disclosure, again in the 140 application, specifically at exhibit -- sorry -- that's Exhibit 1038 at 110, lines 23 through 32 regarding -- and it says that there is an SLP, which is a sound localization point in an empty space and that SLP --

JUDGE ARBES: I'm sorry, counsel. What page are you referring to again?

MS. PIANA: Oh, sorry, page 110, lines 23 through 32. So this -- Your Honor, is it okay if I continue, Your Honor?

JUDGE ARBES: Yes. If you could finish that thought? Why does the portion that you've cited on page 110 there support your argument?

MS. PIANA: Your Honor, thank you for the question. This portion on page 110 discloses that an SLP can include images or video. And then the disclosure regarding Figure 6, which we can find at, I'm sorry, Your Honor. The disclosure regarding Figure 6 which we can find at pages 120 says that you can maintain the sound at an SLP.

So again, SLP includes -- it can include a virtual image, and then disclosure regarding Figure 6 says that you maintain the sound at an SLP. And you see that. That's in Figure 6 as well, Your Honor, at box 630, it says, "Maintain binaural sound at the SLP.

So Meta makes much of the fact that there's no disclosure, according to Meta regarding Figure 6, of a virtual image, but 140 application shows that the SLP expressly mentioned in Figure 6 can include a virtual image.

JUDGE ARBES: And just as a general point, can you respond to Petitioner's argument that that is not proper to go back to pages earlier in the specification talking about a different example to import into this example describing Figure 6? That is, that you are cobbling together portions of this specification to try to find written description support?

MS. PIANA; Yes, Your Honor. Thank you for the question. So Meta has alleged that you can't mix and match the figures in the disclosure regarding the figures in the 140 application. However, the 140 application says that you can do this and you should do this.

So I will point you to the NE blocks and methods disclosure, which is in Exhibit 1028, page 167, lines 9 through 14, which says that, "blocks or methods discussed herein can be executed and were made by a user, the user agent, software application, and electronic device. Furthermore, blocks and/or methods discussed herein can be executed automatically."

So Meta has made much of -- Meta tries to denigrate this clear disclosure in the 140 application by calling it boilerplate, but it's our position, as set forth in our briefs, that this language is far from boilerplate. Especially it is distinguishable from the boilerplate case that Meta relies on, which is D3 Enterprises. Here this disclosure provides actual applications and discloses that or it shows, instructs, teaches a person of skill in the art to look at the various methods and the blocks within the methods, such as the block shown in Figure 6, saying that they can be executed with different types of devices.

JUDGE ARBES: Well, I guess, Counsel, I guess I don't see how that language on page 167, lines 9 to 14, supports your position. I mean that certainly says that blocks and/or methods that are discussed can be executed

and are made by different devices, but how does that support your position, for example, that the embodiment of Figure 6 could also show an image and it could be used as a warning or alert?

MS. PIANA: Give me just one moment, if you wouldn't mind, Your Honor. I would also say -- Your Honor, I will respond to your question, but while I am assembling my thoughts I would also say that, as we discussed, the legal standard on written description is reasonably conveys to a person of ordinary skill in the art that the inventor was in possession of the claimed invention as of the filing date. So that standard of reasonably conveys, I think, is met with the disclosure around the SLP and Figure 6.

Your Honor, I may need to come back to answer your question about the methods in our rebuttal time.

JUDGE RAEVSKY: Another question that's generally related is the disclosure on page 168 of the 140 application on line 15 that's been referenced previously regarding examples taking place in virtual spaces as well as physical spaces and AR and so forth.

And when I asked Petitioner's counsel about this disclosure and combining it with Figure 6, I'll probably misquote, but I think what I understood Petitioner to be arguing is that the Figure 6 example of the car and referring to a restricted area and those other restricted areas referenced in that part of the disclosure, those only -- it only makes sense to talk about those restricted areas in a physical world. And there's no reasonable disclosure of leaving a virtual world in the 140 application. Could you respond to that, please?

MS. PIANA: Yes, Your Honor. So this may get to the claim construction issue that we were talking about earlier. So Meta is arguing

that the 3D virtual environment or the virtual environment must be an immersive world. However, the specification of the patents, and including the 140 application, provide that a virtual -- a 3D world can be a 3D soundscape.

So I will point you to our slide number 45 and this is what -- I'm sorry, Your Honor, let's go to the first slide 44. So, slide 44 includes Figure 6 on the left side and then disclosure on the right side that discusses Figure 6. So this is, again, Alice getting into her car.

So I think we all can agree that at the beginning of the example Alice is outside of her car that is in physical environment. Then Alice gets into her car and so she leaves the physical environment outside the car and enters a physical environment inside the car. So that's an example of Alice leaving the physical environment.

In addition, this example discloses Alice leaving a virtual environment because when she is outside her car she is in a 3D virtual environment. She is receiving 3D audio. She's receiving binaural audio. Then when Alice gets into her car she leaves that physical environment for a new physical environment as I think everyone agrees.

And she also leaves that 3D virtual environment because her audio changes from being 3D to mono, excuse me, from being 3D to mono. So that switch in the audio from binaural or 3D audio to mono shows that Alice has left that 3D virtual environment.

JUDGE RAEVSKY: So it sounds like you're going back to your original claim construction position here that the sound is enough, that the 3D environment could only include sound because I'm only hearing you provide support for her leaving a 3D sound environment. But you've already

conceded that it needs to -- that it also includes the virtual. So where's the support for -- I'm sorry -- the visual. So where's the support for her leaving the visual?

MS. PIANA: All right. So there are some other examples in the patent that disclose Alice leaving the visual, but what I would point you to regarding Figure 6 is, again, Figure 6 as the SLP. That's shown in box 630. The SLP can include a virtual image and so here with Alice, again, there's some disclosure in the 140 application that says that the examples could include different types of electronic devices.

So I think the Board mentioned this earlier when questioning Meta, so this disclosure here on slide 44 regarding Alice wearing the earphones, Alice, because of the disclosure in the 140 application that says that you could use different electronic devices, instead of wearing the earphones Alice could be wearing a wearable electronic device, or a WED.

And in that case when Alice gets in the car the virtual image may disappear and so she may leave the virtual environment in that respect. But --

JUDGE RAEVSKY: So where, Counsel, is the support for that virtual image disappearing when she gets in the car?

MS. PIANA: Well, I think we would refer to -- I'm sorry, Your Honor. Give me just a moment. So what she is leaving is it's sound, excuse me, Your Honor. The sound is changing from 3D to mono and that change shows that she is leaving for 3D virtual environment.

She doesn't also have to leave the image. The 3D virtual environment has changed because she's no longer receiving the 3D audio.

JUDGE RAEVSKY: So I'm not hearing any support provided by you for the image disappearing, so you're conceding that there's no support for the image disappearing when she enters the car?

MS. PIANA: Your Honor, I think that a person of skill in the art would understand that if Alice is wearing a WED and then when she gets in the car the image may disappear because she's in the car. In fact, Meta's counsel made this exact argument when discussing this particular disclosure.

JUDGE RAEVSKY: So you're saying it's inherent that the display would have turned off when Alice gets in the car?

MS. PIANA: Yes, Your Honor.

JUDGE RAEVSKY: Do you have any testimony from your expert to that effect?

MS. PIANA: I'm sorry, to what effect?

JUDGE RAEVSKY: Do you have any testimony from your expert supporting that position?

MS. PIANA: Well --

JUDGE RAEVSKY: It's okay if you can't find it right now. If you need time to look you can tell us on your surrebuttal. That's absolutely fine.

MS. PIANA: Okay. Yes, Your Honor, but let me come back to you on that, please.

JUDGE BROWNE: This is Judge Browne. Could we go back a minute because I think I'm just having a lot of difficulty with this Alice example and understanding how we're going from an example that shows earphones, and even if I agree that there is a change in the 3D landscape, that's fine, good with that, how are we getting from headphones to a WED? Can you give me some clarification on that?

MS. PIANA: Yes, Your Honor. So the 140 application, as we looked at, discloses that blocks and/or methods can be executed by a different electronic device. That's at page -- sorry, Your Honor. That's at page --

JUDGE BROWNE: Okay, but I think my problem there is that this example specifically says earphone. And I'm not -- it could have said one of, you know, any of these devices, but it specifically talked about earphones. And I think that's where I'm just having a hard time going down that trail that the disclosure of earphones in this very specific example is I'm supposed to understand that to mean a WED.

MS. PIANA: The same --

JUDGE BROWNE: Is there anything other than that rather general disclosure?

MS. PIANA: So, well, if you would just permit me, Your Honor? So the general disclosure at page 167, lines 9 through 14, does say, "blocks or methods can be executed by an electronic device." So that would include the blocks or methods in Figure 6 and that is discussed in the Alice example.

The 140 application also discloses that electronic devices include wearable electronic devices, and that is at page 159, lines 5 through 7. So a POSITA reading the disclosure as a full, which is of course the legal standard for written description, would go from Alice wearing earphones, here that's just close that page 120, lines 13 to 27, but also take into account the disclosure on page 167 that says that the blocks are methods can be executed by an electronic device. It could be a wearable electronic device. And understand that the Alice examples that we've been talking about so extensively could include Alice wearing a wearable electronic device.

This is also supported by the disclosure that we have already discussed and that you pointed me to earlier, Your Honor, that says the examples can take place in physical spaces, augmented reality spaces, or virtual computer-rendered spaces, in VR, or in combinations thereof. Again, that disclosure is at page 168, lines 15 through 16.

In addition, and if we could go to, I'm sorry, Patent Owner's slide number 78, Your Honor? So this discloses or this line references a scenario 114. This scenario 114 is in the 140 application at page 103.

And Meta brought this up in their argument. This particular scenario 114 involved a user that's wearing an optical head mounted display, or an OHMD, that provides a plurality of sound localization points. Those aren't the SLPs that we've been discussing.

These sound localization points can't coincide with visual displays. So the SLPs, as we've already established, can include visual images. And then the disclosure continues that as shown in the transition from box 160A to 160B and the boxes that they are referring to there, Your Honor, are illustrated in Figure 1.

So as shown in the transition from one -- I'm sorry -- from box 160A to 160B the sound localization point, which appears as a visual image of the person, walks through a door and out of view of the user. And when that occurs that sound switches the voice from binaural to mono. So this disclosure here shows a user leaving a 3D virtual environment that includes virtual images and the sound switching from binaural to mono.

Now, Meta argues that this scenario 114 should not be combined with the description of Figures 4 through 16, which is contained at pages 135 and 136, but Figure 1 is described in the application, in the 140 application, as a

computer system in accordance with example embodiments. And that's at page 93, line 4.

So a POSITA reading the 140 application as a whole would have combined or would have known based on this disclosure here of scenario 114 that's discussed at Figure 1, that that could also be relevant to the disclosure that's at regarding Figures 4 through 16 at pages 135 and 136 that describes actions that can be taken, including changing of the binaural sound or reducing the volume.

Your Honor, regarding your request for expert testimony for support of leaving the virtual environment, we will refer you to Exhibit 2006, which is the Begault declaration. So Dr. Begault, again, is Eight kHz's expert and at paragraph 26 Dr. Begault testifies that, "A POSITA would recognize the transition of user perception in virtual environments." So I wanted to come back to your question about expert testimony to support our position, so I refer you to Exhibit 2006, Dr. Begault's declaration at paragraph 26.

JUDGE RAEVSKY: Thank you, Counsel.

MS. PIANA: Yes, thank you.

MS. PARTRIDGE: And I'll just make a few more points regarding these examples, and on page 40 -- or slide 46, this shows that Petitioner's expert acknowledges that Alice moves. This is in the Alice example. That Alice moves to an environment where she is no longer receiving 3D sound. So she's leaving a 3D virtual environment. This is Meta's expert Dr. Roginska.

Question, "So when Alice is getting binaural audio, is she in a 3D sound environment?" Answer, "Well, the environment that Alice is in when she's outside the car is in the physical environment, so she is in an

environment and she's hearing through her headphones, I believe, 3D sound."

Question, "And then when she gets in the car she is no longer hearing 3D sound; is that correct?" Answer, "That's right. When she went from outside the car to inside the car her sound switched, I believe, from binaural to mono."

Question, "So when she is inside the car she's in an environment where she is no longer receiving 3D sound; is that correct?"

Answer, "That's what the example stated." And this is in Exhibit 214 at 280, column 2-21.

So I'll just talk to you for a few minutes about the boilerplate issue. I know that's come up a few times. So I'm on slide 47, basically. So despite Roginska's testimony that the Alice example shows Alice leaving a 3D virtual environment, Meta argues that Figure 6 and Alice disclose only leaving a physical environment, not a 3D virtual environment.

And we looked at this boilerplate before, but it's not. It's not boilerplate. We looked at -- Meta argues that this is boilerplate, but we've looked at this language before and, you know, it's important to see that this is fairly specific examples herein can take place in physical spaces, in computer rendered spaces, in partially computer rendered spaces, and in combinations thereof. This is that Exhibit 1028 and it's at 168, Column 15 through 16.

And I'll direct you to slide 52. And slide 52 has some examples of cases that have held language that's boilerplate and language that's not boilerplate. And as you can see, the first case, D3 enterprises is what Meta relies upon, but you can also see that the Northrop Grumman case has

1 language, "The present invention may be made to conform to any one of a
2 variety of data transfer algorithms." The Federal Circuit held that was not
3 boilerplate. They held it was substantive, albeit general, support.
4 And in Honeywell, the disputed language was, "While specific
5 configurations of the local display have been described, it is understood that
6 the present invention can be applied to a wide variety of display and vision
7 aid devices." In Honeywell the Federal Circuit held that this language was
8 not boilerplate.
9 And Patent Owner submits that the language that Meta argues is
10 boilerplate fits more closely to the Northrop Grumman decision and the
11 Honeywell decision of the Federal Circuit that show that it's not boilerplate.
12 And then let's move to slide 48. Okay. And this is talking, slide 48 is
13 showing in the 140 application where the user is leaving an environment,
14 both the physical and a 3D virtual environment, and it shows alerting and
15 warning a user. So in Exhibit 1028 at 136, Columns 3 -- lines 3 through 10
16 it shows that, for example, "The alert is an audible alert and/or a visual alert
17 to a person. Such alerts include providing an audible sound, displaying a
18 visual or perceivable indication or a warning, playing a video, and providing
19 another indication that notifies a user." Thus, the 140 application supports
20 that the user would be alerted, that the user is leaving the first environment,
21 leaving a physical environment, and leaving a 3D virtual environment by
22 changing from binaural sound to mono or stereo.
23 We also have support for this in the Patent Owner's expert, Dr.
24 Begault's, supplemental declaration at Exhibit 2012 at paragraphs 59, 60, 66
25 through 70, and paragraph 80. Just a few of those paragraphs, paragraph 67,

1 Dr. Begault testifies that, "Changing from binaural sound to stereo or mono
2 sound would result in a noticeable cue or alert to a listener."
3 Paragraph 70 of Exhibit 2010, Dr. Begault testifies that, "Lowering
4 the volume of sound to a user would result in a noticeable cue or alert." And
5 I will add that Petitioner's expert, Dr. Roginska, in her declaration, Exhibit
6 1003, paragraph 166, testified that lowering the volume can be an alert.
7 And finally paragraph 80 of Dr. Begault's Exhibit 2012, his
8 supplemental declaration he provides testimony that, "altering the processing
9 of binaural sound and reducing volume would alert a listener."
10 JUDGE ARBES: Counsel, can you describe in a bit more detail what
11 makes something an alert or what makes something a warning?
12 MS. PIANA: Your Honor, this is Jayne Piana. I will respond to your
13 question. So, as Dr. Begault testified, as Ms. Partridge just took us through,
14 Dr. Begault says that these changes in the sound as just described would
15 provide a noticeable cue or alert to a listener.
16 So as Board has already acknowledged, the word alert as used in the
17 claims is not a noun, it's a verb. So there are all kinds of different ways that
18 an alert -- I'm sorry. There are all kinds of different ways to alert a listener,
19 including by changing the volume of the sound or by switching the sound
20 from binaural to mono.
21 JUDGE ARBES: Grounds --
22 MS. PIANA: I'm sorry.
23 JUDGE ARBES: There are a lot of different actions that are
24 described in the 140 application. What makes those actions alerts or
25 warnings? I mean, certainly there has to be some meaning to the claim

language that's used. The term warning or alerting, I'm trying to figure out exactly what makes one of those actions into the step of warning or alerting?

MS. PIANA: So I refer you to the disclosure on slide 48 which is, again, the 140 application at 136, 3 through 10. So the 140 application says that, "The alert is an audible alert and/or a visual alert," and then it provides lots of different examples of alert.

And at the bottom of that paragraph it says, "Providing another indication that notifies the user."

JUDGE ARBES: But, I mean, certainly some of those examples, one at line 5, "providing an audible sound" -- is that always an alert or is that always a warning?

MS. PIANA: I think depending on what type of audible sound it is it could be an alert or a warning. But, I mean, providing -- what I would direct you to, Your Honor, is that this paragraph gives lots of different examples of what alerts could be. And it concludes with providing another indication, so providing an audible sound could be an alert. It may not always be an alert, but it could be an alert.

JUDGE ARBES: That's exactly what I'm trying to figure out is what makes it an alert. What makes that audible sound an alert? Is it just the content?

MS. PIANA: I think what makes it an alert is when it provides an indication that notifies the user. So if there's no change in the audible sound then there's no notification, there's no indication that notifies a use. If there is a change in that audible sound, like, the volume is decreased or the sound switches from binaural to mono then that would provide an indication that notifies the user.

JUDGE ARBES: Of something, notifies the user of something?

MS. PIANA: Right and, of course, the claims here that we've been discussing today are that the notification is of the user leaving the environment or the 3D virtual environment.

JUDGE ARBES: And that is the event that you are notifying the user of with this action, right?

MS. PIANA: Correct. Your Honor, I would like to go back to one other point before we leave ground 2 for these for these particular limitations.

And so, Judge Browne, you had asked me a question about Alice wearing headphones regarding the disclosure at page 120, so I'm now back on slide 44.

So in addition to the fact that a person of ordinary skill reading the specification as a whole would understand that these blocks, as disclosed in Figure 6, could be executed using different electronic devices. I would also refer you to, Your Honor, the disclosure of Figure 6 itself. So Figure 6 itself does not disclose headphones or earphones or any particular type of electronic device.

So Figure 6's disclosure is around detecting an event and then taking an action. So the 140 application discloses that the examples and methods can be performed with a WED, or a wearable electronic device, and these examples can take place in a virtual environment, physical environment, augmented reality environment, or any combination of those. We've already looked at those disclosures a lot today.

So it's our position that in light of the entire specification, reading the specification as a whole, which is the legal standard, a person of skill in art

would understand that the disclosure reasonably conveys to a person of ordinary skill in the art that the inventor was in possession of the claim limitation as of the filing date.

So we've talked the most so far about the leaving the environment and leaving the virtual environment limitations. I'd like to move now to the third limitation, which is determining with the WED, the wearable electronic device, or the head-mounted display, the HMD, when the user is leaving the environment. So this limitation, again, is the third limitation and is also supported by the 140 application.

So if I could direct you to slide 70? Again, these are the limitations that I'll be addressing at this point, determining with the WED when the user is leaving the environment, sensing with one or more sensors in the HMD when the user leaves a 3D virtual environment that includes a virtual image.

So again, on slide 71, we've got the legal standard for written description. We've talked about this a lot already today. I won't take up any more time on this except to emphasize that the standard is reasonably conveys and also requires that the claims and the entire spec be read as a whole.

Moving to slide 72, we have discussed this a lot today as well that the 140 application, including the Alice examples, supports -- I'm sorry -- discloses a user leaving an environment or a 3D virtual environment.

So moving to slide 73, how does the 140 application disclose determining when a user is leaving the environment or the 3D virtual environment? And that question is answered by the 140 application by using the WED. So on the left side of slide 73 is Figure 20, and you can see that this box in the lower right-hand side of Figure 20 is labeled "wearable

electronic device," given the reference number 2008. The WED includes a location tracker. That is reference number 2082.

Moving to slide 74, so the location tracker in the WED determines when the user is leaving the environment or the 3D virtual environment. That location tracker can include, for example, a GPS or other sensor to track the user's location in the environment.

Now, we've already discussed that the 140 application provides that blocks or methods that can be executed by an electronic device, including those blocks disposed in Figure 6 that we've looked at so much today. And we've also shown that electronic devices include the WED, the W-E-D. So the blocks or methods language is included here on slide 74. It's again, 140 application at 167, 9 through 14.

And the electronic device, I'm sorry, the electronic devices that can include the WED is provided on slide 73, which is the 140 application at 159, lines 5 through 7.

JUDGE RAEVSKY: Counsel, this is Judge Raevsky. I just wanted to confirm. On slide 73 you cite to the POR where Figure 20 was discussed. I couldn't find it with a quick look, but it was admittedly a quick look, if you could hone me in where I could read about that in the briefing? I'd appreciate that.

MS. PIANA: Sure, Your Honor. So is your question that you didn't find this argument in our briefing? Is that your question.

JUDGE RAEVSKY: Yes. I'm not saying it's not there. I just -- if you could give me a closer pinpoint to where it's discussed then I could explore the issue further?

MS. PIANA: Okay. So would you like me to -- so this cite on slide 73 says, "The POR of pages 57 to 58 in the '179 patent, which is the 1019 IPR and the sur-reply in the 1019 IPR at pages 23 to 26. Are you saying you didn't see it there?

JUDGE RAEVSKY: Yeah. I don't see Figure 20 discussed. I have them right now and I'm just looking at pages 57 and 58 of the POR in the 1019 case.

MS. PIANA: All right. Can I come back to that, Your Honor?

JUDGE RAEVSKY: Yeah, that's fine.

MS. PIANA: Okay, thank you. Sorry, so thank you for the question, Your Honor. I will get you an answer on that.

So back on slide 74, again, we've got the Alice disclosure. We've got the other disclosure and the 140 application that says that methods can be executed by an electronic device. The fact the disclosure that says the electronic devices can include a WED, a wearable electronic device. That's the Alice examples disclosed with respect to Figure 6 can include Alice wearing a wearable electronic device. We've already discussed this previously. So therefore the 140 application discloses that determining what's a WED when the user is leaving the environment.

Moving to slide 75, again, a person of skill in the art would understand that the embodiment in the 140 application may be implemented with WED or with the HMD. So again, Claims 14 and 7 discuss or require the WED and Claim 1 recites the HMD.

So based on all of this disclosure, therefore, it reasonably conveys to one skilled in the art that the WED determines if the user is leaving the environment or the 3D virtual environment.

So, Your Honor, I have some updates on the citations that you requested. Back on slide 73, so we'd refer you to, again, this is in the 1019 IPR. Page 9 of the Patent Owner response discusses Figure 20. So it's on page 9 of the PDF, but as we know, the PDF page numbers can be different than the page numbers at the bottom of the document. So it's PDF page 9, but paginated page 4. Does that make sense, Your Honor?

JUDGE RAEVSKY: Yes, thank you.

MS. PIANA: Thank you.

I think at this point, Your Honor, we would pause for questions, and if none, we will reserve the rest of our time for rebuttal.

JUDGE RAEVSKY: Seeing none, I think we'll go ahead and end there. Thank you counsel. It looks like you've taken about 75 minutes of your time, so we'll go ahead and take approximately a 10-minute break now and then we'll come back and hear from Petitioner again. Thank you, everyone.

(Recess.)

JUDGE RAEVSKY: Welcome back. Just verifying that we have counsel for both Petitioner and Patent Owner on the line. I can see counsel for Petitioner, Ms. Osman. Do we also have counsel for Patent Owner?

MS. PIANA: Yes.

JUDGE RAEVSKY: Thank you.

By my watch, Ms. Osman, you have 24 minutes, so you may begin when ready.

MS. OSMAN: Thank you, Your Honor. I'd just like to address a few points that were made by Patent Owner and hopefully pretty briefly with my 24 minutes.

1 So starting out I'd like to talk about claim construction. It sounds like
2 Patent Owner has abandoned their position, at least on the claim
3 construction of environment, so now both sides agree that environment is a
4 genus that includes virtual environments and physical environments. Their
5 position on 3D virtual environment is, frankly, less clear to me. It sounded
6 like when they began they were conceding that a sound only environment
7 can't be a 3D virtual environment within the meaning of the claims. We
8 certainly don't think it can be.
9 But then they seem to be changing their position a little bit, and so I
10 want to walk through a little bit how that works with the Alice example in
11 particular. And I'd like to point out that their argument in their Patent
12 Owner response was focused on the allegation that a 3D environment can be
13 a sound only environment. Their position, which sounded a lot like what
14 they said today, is that Alice is in a 3D virtual environment because she
15 hears sounds, binaural sound and that when she gets into the car she leaves
16 the 3D virtual environment because the sound has changed from binaural to
17 mono.
18 Now, if a 3D virtual environment can't be sound only, which is our
19 position, then Alice was never in a 3D virtual environment because there are
20 no virtual images.
21 JUDGE ARBES: I'm sorry. Before we get into the Alice example,
22 just for purposes of claim interpretation it sounded like Patent Owner was
23 advocating the proposed interpretation that they offered in the Patent Owner
24 response but just taking out the word "or. " Do you agree with that? If so,
25 why or if not, why?

MS. OSMAN: So let me -- give me one moment and let me pull up their proposed interpretation. So our position is -- so the new construction would be instead 3D perceived surroundings in which a user operates that incorporate a virtual image and/or sound. So we would change that to “and” sound.

Our interpretation would be they would incorporate virtual images. The way that the claim is written it says, "The 3D virtual environment is displayed. It includes at least a virtual image." It's not restricted to a virtual image. But otherwise I think we can agree that it incorporates virtual images and sound given the way the claim is written.

My concern is that doesn't seem to be Patent Owner's construction based on what the -- with the arguments they made today. They seem instead to be saying that Alice remains in a 3D virtual environment because there is binaural sound and that when she gets into the car the binaural sound switches to mono and says she's left a 3D environment.

Now, as we've discussed --

JUDGE ARBES: But just again, before we get to that interpretation, before we get to that issue, for our purposes in trying to interpret the claim language, you agree with the language the Patent Owner has proposed replacing "and" for "and/or, " correct?

MS. OSMAN: I would say I would modify it to say 3-dimensional perceived surroundings in which a user operates that includes at least one virtual image and sound. And that modification is because the claim recites that the 3D virtual environment includes a virtual image, but the 3D virtual environment is displayed, meaning that all of it is displayed. So it's visually displayed.

JUDGE ARBES: Okay.

MS. OSMAN: So that would be the modification I would suggest.

JUDGE ARBES: I think we understand your position and we can address it with Patent Owner in sur-reply then.

MS. OSMAN: Thank, Your Honor. But as I was saying, there's no disclosure in this example with Alice wearing earphones that she is leaving at 3D virtual environment because the 3D virtual environment, according to this new construction, can't be sound only. It has to include images. And there's no disclosure that Alice views images.

For her to leave the environment just to leave an environment that has a virtual image and she's only wearing earphones. So that's not disclosed.

Now, Patent Owner seemed to effectively assert that it would have been obvious that if Alice -- if we change Alice from wearing earphones to a WED that displays an image or an HMD that displays an image, that the images would be turned off when she gets into the car, but there isn't any support in the record for that.

And Patent Owner cited to a paragraph of Patent Owner's expert Dr. Begault's declaration, but I took a look. That paragraph seems to be about the other ground in this proceeding. It doesn't seem to be relevant, at least to my reading, but perhaps I missed it.

In fact, the testimony that's relevant on this point is from Dr. Roginska, Petitioners' expert. And what she said is that a person or ordinary skill in the art would not have understood that Alice could be wearing a WED or an HMD because she's getting into her car. And when you're driving a car wearing a WED or an HMD could pose a safety threat, it could pose a safety risk.

1 And so she expressly says that's not what is disclosed, and that is at
2 Exhibit 1146, paragraph 83. So that's the testimony that we have on record.
3 That's what the record shows.
4 Then I'd like to walk through very briefly the adjustments and the
5 changes to this example with Alice. The Patent Owner is proposing to
6 provide written description support. So first, they're relying on the
7 disclosure at page 167 of the 140 application, and that disclosure says, and
8 this is the quote that Patent Owner's expert or Patent Owner's counsel
9 repeated a number of times that starts with, "Blocks and methods herein can
10 be executed by a user, a user agent, software application, electronic device,
11 computer firmware, hardware," and so on and so forth. So Patent Owner's
12 counsel says, well, you could pick an electronic device out of that long list
13 of options.
14 And then if you turn to page 159 of the 140 application, there is a long
15 list of electronic devices that you could potentially use. Among that long list
16 of electronic devices is a wearable electronic device.
17 The Patent Owner's counsel says first, you realize that the blocks and
18 methods can be changed and you pick the change -- and you pick that you
19 change the electronic device. Second you go to another disparate disclosure
20 in the 140 application and out of the long list of electronic devices you pick
21 wearable electronic device, despite testimony on the record that, you know,
22 in fact, a person of ordinary skill in the art would understand that a WED
23 doesn't make sense when you're driving a car.
24 And then third, after that, you go to the disclosure at page 168 of the
25 140 application so that instead of Alice being in a physical world you now
26 change the environment to a virtual environment. And that's the disclosure

1 we talked about a little earlier today when we say examples here can take
2 place in physical, computer rendered, or partially computer rendered spaces
3 and combinations thereof.
4 So from this, Patent Owner's position is a person of ordinary skill in
5 the art would select a virtual space. But even that, that's a pretty circuitous
6 route to get to something that approximates or even starts to look like the
7 claimed invention. That's not enough for written description. It doesn't
8 reasonably convey to a person of ordinary skill in the art that this Patentee
9 had possession at the time they filed this application.
10 And even that, even if you make all of these changes to this example
11 with Alice wearing earphones, you still don't get there because Alice hasn't
12 left an environment. So as we talked about, if Alice starts out in a virtual
13 environment and she gets into a virtual car, she hasn't left an environment.
14 Even if she starts out in a physical environment and then she gets into a
15 physical car, she hasn't left an environment that includes a virtual image.
16 And every claim recites that. There's just no support.
17 And if we're talking to --
18 JUDGE RAEVSKY: Counsel? Counsel, I'm going to jump in just for
19 a moment. The one disclosure that Patent Owner mentioned that I don't
20 think I heard you mention is that on page 103, lines 21 through 31. And this
21 is the example of the user in the conference call who walks out the door and
22 the voice switches from binaural to mono, I believe, and then the
23 accompanying visual image is removed. How does that fit into your
24 argument?
25 MS. OSMAN: So, Your Honor, that's -- you're right. This is an
26 example that Patent Owner pointed out here, the user in this particular

example on page 103. The user is not leaving, right? So the user is on a conference call. The user does not leave any environment.

One of the images in the environment leaves. Yes that image represents a character and the voice of the character switches from binaural to monaural, but the user stays on the conference call. The user hasn't left any environment. That doesn't fit the claims. That's not what the claims say.

So this is --

JUDGE RAEVSKY: You don't think that walking through the door means they left the physical environment, but are you arguing that they didn't leave a virtual environment?

MS. OSMAN: Well, no. So I think my argument is a little bit different. So it says, if you look at this particular disclosure, it says in scenario 114, a user 150 wears an optical head-mounted display that simultaneously provides a plurality of sound localization points during a conference call with four individuals. So the sound localization points each associate with an individual.

And it says, "The sound localization points coincide with visual displays or images of people with whom the user talks." And then it says, "As shown in the transition box, sound localization point 154, appearing as a visual image of a person, walks through a door and out of view of the user."

The user hasn't moved. The SLP has moved. This doesn't fit the claims.

JUDGE RAEVSKY: I see.

MS. OSMAN: So the SLP has moved. The user is still in the same environment. It just doesn't fit the claims.

1 And what Patent Owner seems to be suggesting is not that this
2 discloses the claimed invention or that this provides written description
3 support. Instead, what I understood that they're suggesting is that you would
4 take this scenario 114 and combine it with Figure 6, which puts us into the
5 exact same problem that we have with many of their arguments.
6 This scenario 114 is with respect to Figure 1. Figure 1 is not related
7 to Figures 4 through 16, which potentially you could say are grouped
8 together. And Patent Owner cited to page 93 to try to suggest that Figure 1
9 could be grouped with the other figures and that you could mix and match
10 and, sort of, selectively pull out of the disclosure different aspects to
11 combine them together to get to something that approximates the claimed
12 invention.
13 But, in fact, if you look at page 93 what it says is, Figure 1 is a
14 computer system in accordance with an example embodiment. It doesn't say
15 Figure 1 is used in every example embodiment. Figure 1 is an example
16 embodiment. There's no reason why a person of ordinary skill in the art
17 reading the 140 application would understand this disclosure to be -- to
18 apply to Figure 6 or to any other embodiment. At the very best this is an
19 obviousness argument, but that's not the standard for written description
20 support.
21 I'd like to address Figure 6 briefly because that came up as well. And
22 to do that I'd like to turn to Petitioner's slide 98 just so that we can take a
23 look at Figure 6 together.
24 So I think I heard Patent Owner's counsel concede that Figure 6
25 doesn't disclose alerting or warning, and it's true it doesn't. But it doesn't
26 just not say alerting or warning. The claims also say you're alerting or

warning by changing to binaural or mono or stereo or by degrading sound and by reducing the volume. So Figure 6 doesn't disclose either of those.

But notably, I want to make clear, Figure 6 also doesn't warn or alert when the user is leaving an environment. At best Figure 6 provides -- takes an action after the user has already left and entered into a restricted area. That isn't what the claims require. They say when the user is leaving an environment that's when you provide the alert. That's not what Figure 6 says.

So even if you modify Figure 6, you take it and you plop it into the virtual world, still wouldn't get you to the claimed inventions. First --

JUDGE ARBES: I'm not sure I understand that point. So on slide 98 on the top left corner, has the timing as taking an action when the person moves into a restricted area. Why is that not when the user is leaving one environment and going into another?

MS. OSMAN: So, the distinction is this Figure 6 takes an action when the person moves into a restricted area. The person has moved into the restricted area. That is not when the person is leaving or entering a restricted area that's not what Figure 6 discloses. It says when the person has already moved into the restricted area then you take an action, but the claims say --

JUDGE ARBES: I'm sorry, I guess I'm not following that. So moving into the restricted area is not entering the restricted area? I'm not sure I follow.

MS. OSMAN: So Figure 6 recites the user is not leaving, so the Figure 6 recites when a person takes an action, when the user after -- so when the user moves into the area, as in after the user has moved into a restricted area, not as the user is leaving an environment.

So if you imagine before the user isn't in a restricted area, so if we imagine the example with Alice, Alice is in the physical environment. So Figure 6 teachers that you would take an action after Alice has gotten into the car, not as Alice is leaving the physical, the outside world and getting into the car. That's the distinction.

JUDGE ARBES: That does seem to be a very fine point as to the timing here.

MS. OSMAN: It's a fine point --

JUDGE ARBES: It seems to me that when you move into a restricted area you are at that time moving out of an unrestricted area into a restricted area. You are leaving an unrestricted area and entering a restricted area.

MS. OSMAN: So the distinction -- you're right. It is a timing distinction but the reason it matters is because, so for example, in the ground that we haven't talked about yet today, you have to -- it's a different analysis to determined that a user is leaving an environment as opposed to determining that a user has already left an environment. I you're determining that the user is leaving you have to think about things like determining the user's speed, the user's direction, the user's acceleration, right?

Whereas, if you're determining that a user has left an environment you could determine that with a GPS sensor, right? You could just find out that the user is now in a car as opposed to before was in the real world. So there is --

JUDGE ARBUS: Okay. I think I understand. I understand that point, but again, that the language there is when the user -- when the person moves into a restricted area. It doesn't say when the person has already

moved into a restricted area, so I'm not sure. I see your timing argument with respect to other disclosures. I'm not sure I see it here.

MS. OSMAN: Well, Your Honor, I understand. But the most important point with Figure 6 is even if you take it and you put it into a virtual reality environment you're still staying within the virtual reality environment. So you haven't left it. You haven't moved from -- you haven't left a 3D virtual environment. You haven't left a virtual environment and so it still doesn't with the claims.

Now, Patent Owner proposes or Patent Owner raised another argument that I wanted to address briefly and that's when she pointed to page 110. And this is an argument we haven't heard before, but I wanted to address it. She argued that an SLP, Figure 6 does talk about SLPs. That is on page 110 of the 140.

The 140 application says that, "An SLP can include images, can include video." And so she argues that, well then, a person of ordinary skill would understand that the SLP in Figure 6 must include a virtual image. But that's, again, new argument not made in any of the briefs. But in any event, an SLP is a sound localization point. Patent Owner's argument would require that every SLP has a virtual image, and that's just not supported.

An SLP, there are SLPs disclosed in the 140 application that don't have an associated virtual image. That's on the very next page on page 111. There's an SLP where Alice is not wearing any electronic devices and can't see a display and so there is no associated image for the SLP.

There's no reason that a person of ordinary skill would understand that the disclosure in 56, in Figure 6 requires or includes a visual image. An SLP is a sound localization point. It's not an image.

I'd like to address briefly the alert or warning back and forth that we talked about. So, changing binaural sound to or reducing the volume of sound is not always an alert or warning. And as we mentioned a little earlier today, Patent Owner's expert, Dr. Begault, agreed with that. He said it's not true that it's always a -- it's not necessarily, in his words, an alert or a warning.

And there's no disclosure of using this change from binaural to mono or audio as an alert or warning. And as we talked about earlier, Figure 14 actually makes clear that the specification treats the action differently from the alerts. So the action, which is changing binaural sound to mono or stereo, is not the same as the alert. So there's some support for the suggestion that the 140 application didn't even contemplate that this change could be used as an alert or warning.

And while --

JUDGE ARBES: Okay. Can I ask you the same question that I asked Patent Owner? What makes an action into an alert or warning? Patent Owner appeared to argue that it is the notification to the user of some sort of information that is conveyed by virtue of that action. Do you agree with that?

MS. OSMAN: So, Your Honor, I would say that it's the context, right? It is it's the context so it depends. It's not in the case that every time you change binaural sound to mono or stereo that you provide an alert or warning, and it's easiest to answer and to think about this in that example with Alice wearing earphones.

So she's wearing earphones. She's hearing binaural sound and she gets into a car and the sound is changed from binaural to mono. That is not

an alert or warning that she's getting into a car. As Patent Owner's own expert explained, at best that is alerting Alice that the system is working the way it should be working. She doesn't need an alert or warning that she's getting into her car because she knows she's doing it. This is a choice she's making. So it depends upon the --

JUDGE ARBES: But it is alerting her of something, some information, as you just said it's even just that the system is working as it is intended to do. It's conveying some information in that sense, right?

MS. OSMAN: Which is why my answer was it depends on the context. So there are contexts where changing binaural sound to stereo or mono might not alert, might not notify you of anything. Now, our position is you couldn't use them and that a person of ordinary skill in the art would obviously use a binaural switch from binaural sound to mono as a notification or to alert or warn users. And that there are many contexts in which it would work.

But the answer I was trying to give is that it's not necessarily true in all circumstances that it would provide an alert or warning.

JUDGE RAEVSKY: You've got 5 minutes, Counsel.

MS. OSMAN: Okay. I will go quickly. Thank you. So, I wanted to address briefly Patent Owner pointed to the paragraph at page 136 of the 140 application to provide that, and we talked about it. This is the paragraph where there are a number of alerts or warnings.

It's true there are a number of alerts or warnings but notably absent is the one that's claimed. There are no -- the claimed warnings or alerts are not disclosed and that language can't be so broad. We can't read it as so broad as to provide written description support for any type of alert or warning.

The standard that we're applying is reasonably convey possession of the claimed invention. So that doesn't get you there.

Okay. I'd like to pull up Patent Owner's slide 42. So this is a section of Patent Owner's slide 42. And the reason I want to talk about this is this is a portion of the 140 application that Patent Owner hasn't relied on for written description support, that wasn't argued in the briefs, and this is a new argument that we're hearing for the first time at oral argument.

And so Patent Owner relies on this disclosure but this doesn't disclose the claimed invention either. And I wanted to make sure I explain why. This is not degrading binaural sound. It doesn't degrade the existing binaural sound in an environment, in a 3D virtual environment, because what it does is it changes the binaural sound entirely. It takes the binaural sound from one environment and it switches it to binaural sound from an entirely different environment.

That doesn't fit the claims. The claims say you degrade, you filter, you process the existing binaural sound. That's not what this discloses. But if you look at the '179 patent claims, every one of them are recites, well, most of them recite degrading audio cues of the binaural sound to prevent the user from experiencing external localization.

Here the user is still experiencing external localization just an entirely different binaural sound. The only '179 patent claim that doesn't require degrading binaural sound, doesn't require degrading binaural sound because it says you alert by reducing the volume. And this, of course, doesn't disclose reducing the volume.

Likewise, every one of the '184 Independent Claims recites filtering the binaural sound, degrading a spatial cue of the binaural sound, altering the

1 processing of the binaural sound. Every one of the claims requires changing
2 existing binaural sound, not replacing it entirely, which is what is disclosed
3 and what Patent Owner points to on slide 42.
4 And then, of course, there's no disclosure of lowering the volume at
5 all as an alert or otherwise, and this change is not called an alert. Patent
6 Owner suggested that this is moving from one space, that a user is moving
7 from one space to another. It's, you know, it's not even clear that the user is
8 actually moving.
9 It says a person receives binaural sound corresponding to one virtual,
10 real, or augmented space and then there's a switch so the binaural sound --
11 receives binaural sound from a second virtual, real, or augmented space. So
12 this is a new argument, but it doesn't provide the missing written description
13 support either.
14 With that, I think if there are any -- unless there are any other
15 questions I will cede the rest of my time.
16 JUDGE RAEVSKY: Thank you, Counsel. I do have a question. I
17 understand, I realize the parties have not brought up Ground 1. I just have
18 one question for you one Ground 1.
19 My understanding is that the only claim that you were arguing is
20 rendered obvious by Clement and Osman alone is Claim 14; is that correct?
21 Or are there other Dependent Claims where you're making the same
22 argument?
23 MS. OSMAN: Can I have a moment to confirm that for you?
24 JUDGE RAEVSKY: That's fine.
25 MS. OSMAN: Sorry about that. That's right, Your Honor. Claim 14
26 of the '179 is rendered obvious by Osman -- by Clement and Osman alone.

JUDGE RAEVSKY: And for no other claims are you making that argument?

MS. OSMAN: For no other claims are we making that argument. I would, you know, if you'll permit me, I'd love to talk about the Ground 1, but I understand I'm out of time.

JUDGE RAEVSKY: That's okay. That's the only question that we had, but I'll just confirm. Does anyone else on the panel have any other questions?

JUDGE ARBES: Counsel, just one more question about that issue. Can I hear your response? Patent Owner argued at page 9 of the sur-reply that to the extent you were arguing a two-reference combination of Clement and Osman for Claim 14, that that is an improper new argument made on reply. Can I hear your response to that?

MS. OSMAN: Sure. If you'll pull up Petitioner's slide 161 I'll respond to that argument. So Patent Owner in their reply, you're right, makes that exact argument. They say that it doesn't -- that this is a new argument but, in fact, if you look at the petition, so Patent Owner points specifically to limitation 14(e). If you look at the petition, the petition is very clear. It says limitation 14(e), and it starts with, "Clement teaches this element. The language in the petition makes clear that we're talking about Clement disclosing this element not Sauk."

And as the Federal Circuit held in Realtime v. Iancu, that's 912 F.3d 1368, Petitioners are permitted to argue in the alternative within a single ground and that's exactly what happened here. So for Claim 14 we were arguing that it's just Clement and Osman that teach every limitation of this claim.

JUDGE ARBES: So the citation to Sauk at the very bottom right corner of slide 161, that was an argument in the alternative?

MS. OSMAN: Your Honor, that citation to Sauk was actually just, like, a citation to background information. We were not relying on Sauk for this disclosure at all. And the language makes it clear. If you read the actual paragraph we don't talk about Sauk. We talk about Clement, not Sauk.

JUDGE ARBES: Thank you.

JUDGE RAEVSKY: Thank you, Counsel.

MS. OSMAN: Thank you.

JUDGE RAEVSKY: And, Patent Owner, I have 30 minutes remaining for you, so when you're ready you may begin. Counsel, I believe you're on mute.

MS. PIANA: Do you want me to (inaudible. Okay, thanks. Right? Third time is the charm? Okay.

JUDGE RAEVSKY: Yes, we can hear you well, thank you.

MS. PIANA: Great. Thank you, Your Honor, and we will move through as much material as we can in the time remaining.

First, I would like to address the last point that you brought up with Petitioner's counsel on the new ground that they're arguing regarding Claim 14 of the '179. If you go to slide 6, Your Honor, in Patent Owner's slides, it clearly states that Ground 1, which includes Claim 14, is unpatentable over Clement with Osman and Sauk. There's no mention here in the identification of the challenges portion of their petition of just Clement plus Osman for Ground 14.

Petitioner's counsel argues that the citation to Sauk, which is in the discussion of Claim 14 in the petition is just a background citation, but

1 clearly they are relying in the initial petition on all three references for Claim
2 14 of the '179 patent. We submit that this is an improper new ground that
3 they have raised and it should not be considered.
4 Moving to the Ground 2 and some of the responses that Petitioner's
5 counsel has provided, I would like us to go back to Figure 6. So let's look
6 back at slide 43, Your Honors. So we spent a lot of time on this slide today
7 and I'd like to spend just a little more time to show you how the 140
8 application discloses with Figure 6 a user leaving a 3D virtual environment.
9 So Meta's counsel makes much of the Alice disclosures and the Alice
10 examples so the Alice examples are shown on slide 44. We've talked a lot
11 about these already, including that Alice, as disclosed in this particular
12 example, as wearing earphones. But if you look instead at these Alice
13 examples but at the broader language that's disclosed in Figure 6, box 600
14 says that you determine a location of a person while the person moves and
15 localizes sound to a sound localization point, an SLP that's away from but
16 proximate to the person, to the user.
17 Then when you go to block 610, you make a determination, the
18 system makes a determination as to whether the person has moved into a
19 restricted area. If the answer is no, then at block 630 it says to maintain a
20 binaural sound of the SLP while the person moves.
21 If the answer is yes then block 620 it says take action. And we've
22 already established that the actions that can be taken here include lowering
23 the volume or changing the binaural sound.
24 So Petitioner has made much of the fact that in Alice, and in the Alice
25 examples on slide 44, Alice is wearing earphones and therefore Figure 6
26 does not disclose a user leaving a virtual environment. But if you look at the

disclosure of Figure 6, apart from the particular Alice examples, Figure 6 discloses an SLP.

As Petitioner's counsel notes, an SLP is a sound localization point, but as we've already established, the sound localization point, the SLP can include a virtual image. And that's at page 110 of the 140 application. So page 110, line 23 it says, "An SLP, an empty space can include images or video." So this SLP in Figure 6 can include images or video.

And then if the determination is made that the person has moved into a restricted area the action is taken. The action is to no longer maintain the binaural sound at the SLP. So you don't have binaural sound anymore, but you also when you stop the binaural sound at that SLP you also would no longer have the image that's the associated with the SLP.

So when you switch from binaural sound to mono sound the virtual image goes away. Therefore, Figure 6 discloses that a user would be leaving both the physical environment. Nobody's disputing that Figure 6 discloses a user leaving a physical environment. But it also discloses a user leaving a virtual environment or a 3D virtual environment that includes a virtual image.

So based on this clear disclosure regarding Figure 6, and not getting bogged down in the details of Alice and the Alice example, so clear disclosure of Figure 6 is much broader than the Alice examples and would reasonably convey to a person of skill art that the inventors have possession of the claimed subject matter as of the filing date.

JUDGE RAEVSKY: Ms. Piana, I confess that I'm struggling to appreciate your point because when I look at Figure 6, and let's just assume for sake of argument that Figure 6 is an --

MS. PIANA: I would like to go back to the alert or warning limitations.

JUDGE RAEVSKY: Counsel?

MS. PIANA: So again --

JUDGE RAEVSKY: Counsel?

MS. PIANA: -- if we move to page 115 of the 140 application.

MS. PARTRIDGE: I think he said something.

MS. PIANA; Oh, I'm sorry.

JUDGE RAEVSKY: Counsel, I think you might not have heard me.

MS. PIANA: Oh, no. Apologies, Your Honor, technical difficulties. Okay. Again, my apologies.

JUDGE RAEVSKY: Can you hear me now?

MS. PIANA: Yes.

JUDGE RAEVSKY: Okay, great. So I confess I'm struggling a little to understand your position. So looking at Figure 6, let's just assume for the sake of argument that it's a virtual environment because, for example, I think you would rely on page 168's disclosure as we've discussed? So what I'm struggling to understand is how someone is leaving the virtual environment.

So when I look at block 600 it determines the location of the person while the person moves, and then the person moves into a restricted area, but why is it not that the restricted area is somewhere else in the virtual world? Why is it that we'd have to read this disclosure as saying moving into a restricted area is leaving the virtual environment?

MS. PIANA: So, Your Honor, when the person moves into a restricted area what happens is the binaural sound is no longer maintained at the SLP, and thus, the user has left the virtual environment. There's no

1 longer binaural -- excuse me -- there's no longer binaural sound and the
2 virtual image goes away.
3 JUDGE RAEVSKY: Okay.
4 MS. PIANA: I would also add that in the description regarding
5 Figure 6 it says that the SLP is prohibited in a restricted area. So that is
6 provided in the disclosure regarding Figure 6. So the SLP is prohibited to be
7 in the restricted area, and thus, when the person moves into the restricted
8 area the SLP goes away and its binaural sound goes away. And that is at
9 page 120 of the 140 application.
10 So moving on to alerts and warnings, we've already discussed how the
11 140 application at pages 115 and 116 describe Figures 4 through 16,
12 particularly that example actions that are illustrated in Figures 4 through 16
13 you can see the box here on Figure 6 says take action. So those example
14 actions include, but are not limited to, switching the sound from binaural
15 sound to stereo sound, switching the sound from binaural sound to mono
16 sound. It also includes lowering the volume of the sound.
17 And then as Your Honors have already pointed out, Figure 14 is
18 included in this list, right? So Figure 14 is included in Figures 4 through 16.
19 Figure 1, as you noted, specifically mentions an alert.
20 We look at the disclosure regarding the alerts and warnings in the 140
21 application, which is given, again, I'm on slide 48 of our slides, there is a
22 quote from the 140 application, page of 136, lines 3 through 10. We looked
23 at this before, but it says, "The alert is an audible alert and/or a visual alert to
24 a person and that alert provides another indication that notifies the user."
25 So, therefore, these actions that are described for Figures 4 through 16
26 on pages 115 and 116 of the 140 application, again, those actions include

switching the sound from binaural to stereo or from binaural to mono or lowering the volume of the sound. Those actions are included in the Figures 4 through 16.

Figure 14 talks about an alert and then this disclosure here at page 136 gives more information as to what those alerts can be, which would be providing another indication that notifies a user, such as switching the sound from binaural to mono or switching the sound from binaural to stereo or lowering the volume of the sound.

Thus, a person of ordinary skill in the art reviewing the specification and the examples and all of this disclosure as a whole would understand that the inventors had possession of the claimed subject matter, which is alerting or warning a user when the user is leaving an environment or a 3D virtual environment. Reasonably conveys, this disclosure reasonably conveys to a person of skill in the art that the inventor had possession of that claimed subject matter.

Going back to Figure 6 and our favorite slide, it's slide 43, Your Honors were talking with Meta's counsel about the timing aspect here and acknowledged that the distinction that Meta's counsel is making on the timing is a tiny distinction.

Eight kHz would agree with Your Honors on that and say in response that in light of, again, all of the extensive disclosure in the 140 application this disclosure reasonably conveys to a POSITA that the inventor had possession of the claimed subject patent.

I'll pause there to see if there are any questions?

JUDGE ARBES: Counsel, going back to the claim interpretation issue again, Petitioner proposed a slight tweak to the language we had

discussed earlier for a 3D virtual environment of a three-dimensional perceived surround -- I'm sorry, let me pull up your interpretation -- "3-dimensional perceived surroundings in which a user operates that includes at least one virtual image and sound." Do you agree with that proposed interpretation?

MS. PIANA: Sorry, Your Honor, give me just one moment if you don't mind? I'll pull that up. So as I understand it, BUT please correct me. what Petitioner's counsel is proposing is "3-dimensional perceived surroundings in which a user operates that incorporates at least one virtual image and sound." Is that correct, Your Honor?

JUDGE ARBES: Yes.

MS. PIANA: So they are adding the "at least one" before virtual image and we've already discussed removing the slash for. We do not have an issue with that claim construction, Your Honor.

JUDGE ARBES: Thank you.

MS. PIANA: What we want to ensure though is that the term 3D virtual environment does not require a 3D immersive environment. As Your Honors have already recognized, there's no term of immersive in any of the claim language. And it seems that based on Meta's counsel's proposal that they are not proposing that there is a 3D immersive environment in this term, but I just wanted to clarify that.

Your Honors, do you have any questions for us on Ground 1 which we have not covered yet today but wanted to ask you about?

JUDGE RAEVSKY: No questions, thank you. Does that conclude your presentation, Counsel?

MS. PIANA: Yes, Your Honor. Thank you very much.

JUDGE RAEVSKY: Thank you. So we typically ask the following question when we have a LEAP participant. Ms. Partridge, do you wish to make any corrections to Ms. Piana's presentation today?

MS. PARTRIDGE: I do not.

JUDGE RAEVSKY: Okay, thank you. We'd like to thank everyone for your participation today. We'll take the case under advisement and issue a decision in due course.

And with that, the hearing is now adjourned.

(Whereupon, the proceedings at 1:21 p.m. were concluded.)

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