

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LULULEMON ATHLETICA CANADA INC.
and LULULEMON USA INC.,
Petitioner

v.

NIKE, INC.,
Patent Owner.

IPR2023-00438
Patent 8,620,413 B2

Record of Oral Hearing
Held: April 16, 2024

Before JOSIAH C. COCKS, GEORGE R. HOSKINS, and
STEPHEN E. BELISLE, *Administrative Patent Judges*.

IPR2023-00438
Patent 8,620,413 B2

APPEARANCES:

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The above-entitled matter came on for hearing on Tuesday,
April 16, 2024, commencing at 1:30 p.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 COCKS: You may be seated.

Good afternoon, and welcome back to the board.

We're here today for the second session of the day involving the same two parties, which will be Petitioner, Lululemon Athletica Canada, Inc. and Lululemon USA, Inc., and Patent Owner, Nike, Inc.

This proceeding involves IPR 2023-00438 which concerns Patent 8,620,413.

Once again, I am Judge Cocks. I am joined in the room by Judge Belisle.

And we are joined by Judge Hoskins who is appearing remotely.

I am going to ask Judge Hoskins if he can hear us adequately?

JUDGE HOSKINS: Yes, I can.

Thank you very much.

JUDGE COCKS: Wonderful.

If counsel for Petitioner will once again introduce themselves?

MR. ARJOMAND: Good afternoon, Your Honors, Mehran Arjomand of Morrison and Foerster for Petitioner.

With me for Petitioner is Jean Nguyen, also of Morrison and Foerster.

In the audience are Alex Yap and Kyle Mooney of Morrison and Foerster.

And we have also a few associates from Morrison and Foerster in the audience as well today.

JUDGE COCKS: Thank you, Mr. Arjomand.

And will counsel for Patent Owner please introduce themselves?

1 MR. HARRIS: Thank you, Your Honor.

2 Michael Harris with Arnold and Porter for Patent Owner, Nike, Inc.

3 With me and will be arguing with me today is Jonathan Swisher also
4 from Arnold and Porter.

5 Aaron Bowling and Katie Duffy from Arnold and Porter are in the
6 audience and so is Kim Van Voorhis, in house counsel at Nike.

7 Thank you.

8 JUDGE COCKS: Thank you, Mr. Harris.

9 The format will be the same as it was this morning as we set forth in
10 the Trial Hearing Order. Each side has up to 60 minutes.

11 Petitioner will argue their case first and may reserve rebuttal time.

12 Patent Owner will then argue their opposition and may reserve
13 surrebuttal time.

14 Petitioner will then argue any rebuttal.

15 And we will complete with Patent Owner arguing any surrebuttal.

16 Once again, we have the entire record before us, but for completeness,
17 if, when you're referring to any of the documents, such as exhibits, papers,
18 or slide deck, please identify the number specifically.

19 With that said, Petitioner, you may begin and let me know what – how
20 much rebuttal time you would like.

21 MR. ARJOMAND: Twenty minutes, Your Honors.

22 JUDGE COCKS: Thank you.

23 Whenever you are ready, sir.

24 MR. ARJOMAND: Thank you.

1 Good afternoon, Your Honors, and may it please the Board, Petitioner
2 respectfully submits the challenge claims of the '413 Patent are
3 unpatentable.

4 So, turning here to Slide 2 of our presentation, this provides a
5 roadmap for Petitioner's portion of the hearing.

6 First, I'll give a brief summary of the '413 Patent.

7 Then, I'll turn to the claim construction issue in dispute in this
8 proceeding.

9 And then, my colleague, Jean Nguyen will address the prior art
10 concept.

11 So, turning to Slide 4, the '413 Patent is directed to an adaptive watch
12 that may receive sensor data from a remote electronic sensor such as a heart
13 rate monitor, as shown here in Slide 4, is a quotation from the patent, the
14 '413 Patent at column 15, lines 18-20.

15 That can be used to calculate heart rate zones for an individual athlete
16 automatically.

17 Turning to Slide 5, there are two independent claims, or actually, three
18 independent claims at issue here in this proceeding.

19 Slide 5 shows Claim 1.

20 But turning to Slide 6, there are two recitations that are the focus of
21 most of the parties' briefing. Those are specifically limitations 1-C and
22 limitation 1-D.

23 So, with respect to limitation 1-C, there's a phrase wherein an
24 exertion level is based on the level of physical fitness of a user. That is the
25 focus of the claim construction dispute.

26 So, let me turn to that.

1 So, I am on Slide 8, Your Honors, and the parties have presented two
2 constructions related to that phrase.

3 Petitioner's construction is where an exertion level is adaptive to a
4 user's physical fitness.

5 And Patent Owner's construction is an exertion level that takes into
6 account an individual user's particular physical fitness condition as assessed
7 by fitness condition criteria such as cardiorespiratory, and endurance.

8 So, in our view, the intrinsic evidence and extrinsic evidence support
9 Petitioner's construction and they do not support Patent Owner's
10 construction.

11 So, let me briefly turn to the specification. This is shown here on
12 Slide 9.

13 There's a passage at column 15, lines 54-56, and it says, quote, as will
14 be appreciated by those of ordinary skill in the art, an easy level of exercise
15 is one that only slightly elevates the user's heart rate, unquote.

16 And so, in our view, this is supportive of Patent – Petitioner's
17 construction because it goes to the level of physical fitness being adapted to
18 a user.

19 Specifically, it's tied to a user's sitting heart rate, which, in our view,
20 is an indicator of physical fitness.

21 Patent Owner's expert, Dr. Bergeron testified to that. He indicated in
22 response to our question, that resting heart rate can be an indicator of
23 cardiovascular endurance. That's show here on Slide 9, Exhibit 1017 at
24 page 28, lines 3-9.

1 Now, turning to the prosecution history, this is – we’re on Slide 10,
2 this is where we really drew the construction that Petitioner is providing in
3 this proceeding.

4 So, as you can see in the last sentence on this slide, it’s from page 8 of
5 Exhibit 1014. It provides, quote, therefore, because Lubell’s exercise test
6 protocol is predetermined, it is not adaptive to the physical fitness of the
7 user, unquote.

8 And so, we took that language adaptive to the physical fitness of a
9 user for our construction.

10 Now, I suspect that Patent Owner’s counsel will argue that this
11 portion of their prosecution history is not supportive of Petitioner’s
12 construction.

13 They believe that this sentence relates to Lubell’s exercise test
14 protocol and doesn’t equate to the language adaptive to the physical fitness –
15 or it is not equate to the language that’s at issue in claim construction.

16 But I would direct Your Honors’ attention to the accordingly sentence
17 in Slide 10, that’s three sentences above, it says, quote, according, Lubell’s
18 exercise test protocol is not based on a level of physical fitness of a user,
19 unquote.

20 So, in our opinion, these two sentences, when they are looked – are
21 considered side by side, basically equate a level of physical fitness of a user
22 to adaptive to the physical fitness of a user.

23 And both sentences, Patent Owner is arguing that Lubell’s exercise
24 test protocol is not the claimed language in dispute.

25 And then, later on, it says it is not adaptive to the physical fitness of a
26 user.

1 So, in our opinion, the prosecution history supports our construction,
2 Petitioner's construction.

3 JUDGE COCKS: Counsel, one question.

4 MR. ARJOMAND: Yes?

5 JUDGE COCKS: And we will hear from the other side, no doubt, but
6 the – it's my understand that the statements you highlighted identifying
7 Lubell, a point that Patent Owner has because Lubell has a predetermined
8 approach that's the same for every user so that it's not adaptive or based on
9 level of physical fitness because it's the same for every user.

10 Do I have that right? I think that's their position.

11 MR. ARJOMAND: That – I believe, Your Honor, you have correctly
12 stated their position.

13 And their position that – the point that I was trying to make is that, in
14 these two sentences, they're saying that Lubell's test protocol is not a claim
15 by which.

16 And then, three sentences down, they say Lubell's test protocol is not
17 adaptive to the physical fitness of a user.

18 So, I feel like, if you take a look at this passage in toto, it equates
19 based on a level of physical fitness of a user to adapt it to the physical fitness
20 of the user.

21 That's our position, Your Honor.

22 JUDGE BELISLE: Counsel, just looking at the limitation that needs
23 to be – or that we're discussing for construction wherein an exertion level is
24 based on a level of physical fitness of a user.

25 And essentially, is your construction just taking adaptive to be the
26 definition of based on?

1 MR. ARJOMAND: I think that's one reading of adaptive.

2 I think adaptive can be understood to be equating with based on in this
3 portion of the prosecution history, Your Honor, yes.

4 JUDGE BELISLE: So, are you trying to go larger than based on with
5 adaptive? Larger scope?

6 MR. ARJOMAND: Well –

7 JUDGE BELISLE: Or narrower scope?

8 MR. ARJOMAND: Well, it's interesting that you ask that question
9 because we know that Dr. Bergeron had difficulty understanding Patent
10 Owner's construction because they changed based on to take into account.

11 And I will get there.

12 But in our opinion, what we tried to do is we tried to, for the purposes
13 of claim construction, tried to, for the purposes of claim construction, tried
14 to recite or capture what based on a level of physical fitness of a user is.

15 And we looked at the prosecution history for that.

16 And so, we think adaptive is – equates with based on, that was what
17 we were trying to capture here with our construction.

18 JUDGE BELISLE: Okay.

19 MR. ARJOMAND: So, we also think that their – our claim
20 construction is consistent with Caspersen.

21 So, Caspersen is an article that Patent Owner submitted as extrinsic
22 evidence for the support of its construction.

23 And here, on Slide 11, on the left, there is a passage from Caspersen
24 at native page 130. This is Exhibit 2009.

1 And Caspersen says, quote, no member has no activity just as no
2 person has no fitness. All are active or fit to a greater or lesser degrees,
3 unquote.

4 And so, what we understood from this passage is that physical fitness
5 is a matter of degree.

6 And we asked Patent Owner's expert about that, and he agreed with
7 us and that's the testimony on the right of Slide 11.

8 And our position is that anyone that has, for a given activity, if you
9 ask them what their physical fitness is for that activity, that inherently
10 includes their level, their – they fall somewhere on that continuum.

11 So, when you – whether you talk about someone's physical fitness or
12 someone's level of physical fitness, we believe Caspersen captures the
13 concept that they're both one in the same thing.

14 And that's – that was our point in our briefing regarding Caspersen on
15 this point.

16 Now, Caspersen also talks about what physical fitness means. And
17 here on Slide 12, it has a definition for physical fitness. It's defined as,
18 quote, a set of attributes that people have or achieve that relates to their
19 ability to perform physical activity, unquote.

20 This is from native page 129 of Caspersen.

21 And as shown here on the right on Slide 12, again, Dr. Bergeron
22 agreed with that definition.

23 And so, Caspersen then goes through and explains the types of set of
24 attributes that can relate to this definition.

25 And so, here on Slide 15, it talks about cardiorespiratory endurance.

26 And on Slide 16, Caspersen talks about body composition.

1 And what's important to understand here on Slide 17 is that
2 cardiorespiratory endurance, and body composition are described in
3 Caspersen as being measured by various types of evaluation procedures.

4 So, for example, for cardiorespiratory endurance or cardiorespiratory
5 component maximum oxygen uptake is a way to evaluate that and that's
6 here shown in Slide 17 in yellow.

7 For body composition, BMI is considered, and that's shown here on –
8 in green.

9 And so, our position is that this is consistent with what based on a
10 level of physical fitness of a user means, is that you look to the physical
11 attributes of a person and that defines their level of physical fitness.

12 And this is what essentially our expert, Dr. Lynch testified.

13 So, I'm here on Slide 13, we asked him – they asked him a question
14 regarding, you know, can you rely on weight?

15 Can you rely on age?

16 Can you rely on stride length?

17 And what he said, he said it's the level of physical fitness is a very
18 broad term. And so, quote, we look to indicators or aspects of that physical
19 fitness and there are many, many, unquote.

20 So, that's our position and we think that that's consistent with the
21 specification because the specification talks about looking at an attribute, a
22 physical attribute such as heart rate.

23 Now, I will just briefly touch upon Patent Owner's construction and
24 here's on Slide 18.

25 And Patent Owner's construction is a complete rewrite of the claim
26 language. And I have shown it here at the top.

1 So, the only thing that's left of the claim language is where an
2 exertion level.

3 And so, they've taken – they've changed based on to takes into
4 account.

5 They've changed a level of physical fitness of the user to an
6 individual user's physical condition.

7 And they've added on as assessed by fitness condition criteria such as
8 cardiorespiratory endurance.

9 This, in our view, is unsupported and really is convoluted.

10 And in fact, Patent Owner's expert had – was challenged on some of
11 the aspects of this construction.

12 So, we have here on Slide 18, we asked them, is the term based on
13 different than the term that takes into account in your view?

14 And he flipfopped. He initially thought it was less inclusive, then he
15 thought it was more inclusive. He had difficulty understanding Patent
16 Owner's rewrite of the claim language.

17 And I – one of the things that I'm sure we'll hear from Patent Owner's
18 counsel is that our construction vesicates that level. And you'll also –
19 you're going to see that in their Slide 20, for example, Your Honor. They
20 have this slide that says, claim one recites a level.

21 Claim 12 recites a level.

22 Claim 17 recites a level.

23 But then, and our construction doesn't have the word level in it.

24 But if you go to their Slide 21, where is level in their construction?
25 There's no level in their construction. They've taken out level from their
26 construction.

1 Now, they might point to the fact that, well, we've replaced that with
2 particular physical fitness condition or something like that. That's our, you
3 know, rewording of the word level.

4 But that's – if they're claiming that we're not being true to the
5 language, they're not, you know, using level either.

6 And I'd like to just point out that their expert, Dr. Bergeron also
7 agreed that the claim language could be understood without the use of the
8 word level.

9 And so, here on Slide 19, from his deposition transcript at page 76,
10 lines 10-17, we asked Dr. Bergeron, so, you think that the plain and ordinary
11 meaning of wherein exertion level is based on a level of physical fitness of
12 the user could also mean an exertion level that takes into account an
13 individual user's particular cardiorespiratory endurance?

14 And he answered, for example, yes.

15 So, Dr. Bergeron also agrees with our position that the claim language
16 can be met by simply taking account physical attributes such as
17 cardiorespiratory endurance, such as weight, and stride length, and the things
18 that we'll see in the prior art.

19 JUDGE COCKS: I think I can make one point.

20 You had said that the Patent Owner's construction takes out the word
21 level. Are you drawing distinction between exertion level and the general
22 word level associated with physical fitness?

23 Because their construction has the word exertion level in it.

24 MR. ARJOMAND: Right.

25 I'm happy that you raised this point, Judge Cocks.

1 I think it's very important to understand that there are two levels in
2 the limitation at issue.

3 There's the exertion level. I don't think there is much dispute
4 between the parties, and there hasn't been really any briefing on the word
5 exertion level. All the focus has been on the word level as associated with
6 based on a level of physical fitness of a user.

7 And here, in Slide 20 of Patent Owner's presentation, you see that's
8 the level that's underlined.

9 JUDGE BELISLE: Counsel, I'm still struggling with why the phrase
10 an exertion level is based on the level of physical fitness of a user, why that
11 requires words other than the words right there in the claim?

12 Why is based on confusing? Why does that have to be redefined?

13 MR. ARJOMAND: Well –

14 JUDGE BELISLE: Or defined, if you will?

15 MR. ARJOMAND: Well, Your Honors, I think Patent Owner is the
16 party that has completely rewritten the language, so I – if you were to
17 construe the claims based on the ordinary and customary meaning as simply
18 based on an individual – based on the level of physical fitness of a user to
19 understood that to mean that you can rely on physical attributes, then we
20 would be fine with that construction.

21 We were just trying to respond to what they had provided in the
22 prosecution history and also to respond to Patent Owner's complete rewrite
23 of the claim language.

24 We presented our construction in the reply, Your Honor.

25 Unless there are any further questions, I'll turn it over the lectern to
26 my colleague, Jean Nguyen now.

1 MS. NGUYEN: May it please the Board, good afternoon, Your
2 Honors.

3 Please turn to Slide 21.

4 I would like to discuss the instituted grounds and how the prior art
5 teaches the challenge claims of the '413 Patent.

6 As you can see here on this slide, there are nine sets of grounds
7 involved in this proceeding, grounds one to three challenge the independent
8 claims, along with some dependent claims based on Amano, Matsumoto, or
9 Lubell in combination with Ceci.

10 And then, grounds four to nine challenge only the dependent claims
11 based on Gorman or Flach.

12 Now, turning to Slide 21 and Amano, so, just as an overview, Amano
13 disclosed an exercise device that helps a user determine and exercise at a
14 suitable exercise intensity.

15 And Amano as used in this proceeding can generally be thought of as
16 having two parts to it.

17 So, the first part is a testing part where it tests the level of physical
18 fitness of a user to determine that suitable exercise intensity for the second
19 part which is the training part.

20 Now, for the testing part, the first part, Amano refers to that as
21 embodiment one.

22 And for the second part, the training part, Amano refers to the training
23 part as embodiment four.

24 And so, Figure 27 shown here on Slide 23 is what is displayed in the
25 training part so that the user can see where his or her heart rate while
26 exercising is with respect to the target heart rate zones.

1 And turning to Slide 24, this slide shows a flow chart that provides an
2 overview of the first part, the training part.

3 And I wanted to walk through this flow chart so we can understand
4 how Amano's testing part operates.

5 So, looking at the top box, Step S1 to S7, Amano determines the sex,
6 body weight, and stride length of the user.

7 Moving on to the next box, Step S8, the system detects whether the
8 user has started running. And if so, Amano detects the pitch of the user
9 running.

10 Then, in Step S9, the system generates an alarm synchronized to the
11 user's pitch. This is also used to prompt the user to run at that
12 corresponding exertion level.

13 And then, in Step S11, there are two processes that are executed in
14 parallel.

15 Shown in green on the left is a process called calculation display
16 processing.

17 And in the green box, that's where the user's exercise intensity is
18 calculated based on the stride length and weight from Steps S1 to S7, and
19 also based on pitch detected in Step S9.

20 Now, Amano's testing part –

21 JUDGE HOSKINS: Counsel, I'm sorry, this is Judge Hoskins.

22 Before you move on, does anyone – you're showing this here in Slide
23 24 is related to that figure, Figure 27 that you showed us in Slide 23?

24 MS. NGUYEN: Yes, Your Honor.

1 So, this entire flow chart is used to determine what's called VO2 max,
2 maximum oxygen uptake level. And that information is then used to
3 determine the heart rate zones from Figure 27 shown in Slide 23.

4 JUDGE HOSKINS: Okay, thank you.

5 MS. NGUYEN: Yes.

6 Okay.

7 JUDGE BELISLE: While we're right there –

8 MS. NGUYEN: Yes?

9 JUDGE BELISLE: The, what did you call it, the VO2s, are those of
10 the user, say the user that's running or just of some statistical average?

11 MS. NGUYEN: Right.

12 So, in Amano, Amano calculates the VO2 max for the user running.

13 And then, what happens is Amano takes that users VO2 max, let's
14 say, 37 as an example, and if we could turn to Slide 45, what I just explained
15 would be the passage shown on the left, that's taking the user's heart rate
16 and then calculating VO2 max.

17 And then, taking that same value of VO2 max in the middle passage
18 shown in Figure 14, determining the user's pulse rate, and then, that pulse
19 rate forms the zones from Figure 27, the green, red, and yellow graph shown
20 on Slide 23.

21 So, in other words, the testing part that I had mentioned earlier is
22 Amano's – the left side shown on Slide 45.

23 And then, the training part is the right side, also Figure 27 with the
24 red, yellow, and green box, the vertical ones, horizontal ones.

25 JUDGE COCKS: And so, which one of these boxes represents
26 multiple heart rate measurements –

1 MS. NGUYEN: That –

2 JUDGE COCKS: -- and monitoring?

3 MS. NGUYEN: Sorry, Your Honor.

4 Yes, that would be the left shown in blue where it says heartbeat rate
5 during running.

6 So, while the user is being tested, again, the first part, the Amano
7 measures the heart rate and that would be the blue highlighted passage in the
8 left, from that heart rate, then calculates or estimates VO2 max, and that's
9 the pink language.

10 And then, moving on to the middle box, the VO2 max information for
11 that user running is then used to determine the pulse rate shown in yellow.

12 And then, the pulse rate then leads to Figure 27 and that graph
13 showing the user's heart rate relative to the target heart rate zones.

14 JUDGE BELISLE: So, Figure 27 on Slide 23 is created during a
15 testing phase for an individual user and then used during the training phase?

16 MS. NGUYEN: No, Your Honors, Figure 27 is used in the training
17 phase.

18 So, this is to ensure that the user is running within ideally the green
19 zone.

20 And in order to determine what the upper and lower limits are to the
21 red, yellow, and green zones, that's where the testing comes into play.

22 JUDGE BELISLE: Okay, let me try this a different way.

23 So, if I'm running a treadmill, is my data being compared to the chart
24 in 27, Figure 27?

25 MS. NGUYEN: For the training part, yes.

26 JUDGE BELISLE: The training?

1 MS. NGUYEN: Yes.

2 JUDGE BELISLE: And then, if Judge Cocks jumps on, is his data
3 being compared to the same chart?

4 MS. NGUYEN: No, Your Honor.

5 JUDGE BELISLE: No?

6 MS. NGUYEN: If you and Judge Cocks have different VO2 max
7 values, your Figure 27 will look different from Judge Cocks's Figure 27.

8 JUDGE BELISLE: So, the Figure 27 chart changes depending on
9 who the user is?

10 MS. NGUYEN: That's correct.

11 JUDGE BELISLE: Okay.

12 MS. NGUYEN: Okay, so turning back to Slide 24, this flow chart is
13 for – provides steps for each exercise intensity level.

14 And if Your Honors, there's another figure that shows an overview of
15 all of Amano's testing.

16 If you could please go to Exhibit 1018 and let me know when you're
17 there.

18 JUDGE COCKS: Okay.

19 MS. NGUYEN: So, Exhibit 1018 is one of the declarations from
20 Petitioner's expert.

21 And at the top of native page 11 is a timeline. And it starts at zero
22 seconds on the left and goes right until 360 seconds.

23 So, as you'll see here, Amano's testing part, the first part, to
24 determine the level of physical fitness of a user goes through that flow chart
25 for each exercise intensity level.

1 And there are three exercise intensity levels. The first one, Level 1, is
2 the user running its initial pitch.

3 And then, Level 2 is 10 percent above Level 1.

4 And then, Level 3 is 10 percent above Level 2.

5 So, in other words, each exercise intensity level tests the user at
6 different exertion levels.

7 And then, the results at times 360 seconds is that VO2 max.

8 So, turning to Slide 36, and limitation 1C for the '413 Patent, the party
9 primarily disputes two limitations for claim one in Amano and ground one.

10 And the first one is 1C. for this limitation, Patent Owner does not
11 dispute that Amano teaches the yellow highlighted language, in other words,
12 the term at issue for claim construction.

13 Instead, the dispute is whether Amano teaches this yellow limitation
14 under Patent Owner's construction.

15 And if we could turn to Slide 37, as my colleague just discussed,
16 stride length and body weight are characteristics of a user's physical fitness.

17 And Your Honors agreed with this as shown in the DI at the bottom
18 passage of the slide because Amano's exercise intensity is calculated using
19 stride, length, and body weight, both characteristics of a user's physical
20 fitness.

21 It is Petitioner's position that Amano teaches limitation 1C.

22 Now, even –

23 JUDGE BELISLE: Counsel, do you have something other than
24 attorneys' arguments as to why body weight and stride length constitutes
25 something relating to physical fitness?

26 MS. NGUYEN: Yes, Your Honors.

1 So, Dr. Lynch provided several paragraphs discussing this in his
2 declaration, both in his opening declaration and which is Exhibit 1009, and
3 his reply declaration, Exhibit 1018.

4 For example, he talks about this in paragraph – Your Honors, if I may
5 provide you those paragraphs in the rebuttal section?

6 JUDGE BELISLE: Okay.

7 And in the context – or for context, my concern is for all the short
8 body builders out there who have short stride –

9 MS. NGUYEN: Yes.

10 JUDGE BELISLE: -- and they have different body weights.

11 But it sounds like you would call them unfit because they have short
12 stride lengths and a lot of body weight.

13 So, I'm curious what the, you know, evidence is for why those two are
14 related.

15 MS. NGUYEN: Yes, so, the – I believe that's very similar to an
16 argument Patent Owner made.

17 I don't remember the exact details of their hypothetical, but our
18 position – Petitioner's position is that, although you may have two people
19 with the same exact characteristics, the claim, looking at the limitation, just
20 requires that the exertion level be based on a level of physical fitness of a
21 user.

22 And there is, looking at the language, again, there's nothing that
23 requires that this exertion level be unique to each user. It just needs to be
24 based on a level of physical fitness of a user.

1 So, turning to Patent Owner's arguments, the first one that they make
2 is that exercise intensity levels in Amano are not based on a level of physical
3 fitness of a user.

4 And their reason is because Amano's 10 percent pitch increases are
5 the same for every user.

6 But as I discussed earlier, back to Exhibit 1018, these 10 percent pitch
7 increases start off with the user initially running. And that initial pitch
8 varies for each user, each intensity level after that, being 10 percent above
9 means each intensity level must also vary for each user.

10 And this is consistent with our expert's testimony shown on Slide 40.
11 You can see Patent Owner's expert on the left.

12 When we asked him, you know, if your pitch increases, what
13 happens?

14 He says, intensity would also increase in proportion.

15 And then, testimony from our expert, Petitioner's expert on the right,
16 which he talks about 10 percent increases corresponds to a 10 percent
17 increase in exercise intensity.

18 So, it's not the case that these pitch increases are the same for every
19 user.

20 And then, turning to Slide 41 and Petitioner, I'm sorry, Patent
21 Owner's second argument, so, Your Honors, recall that limitation 1C
22 requires prompting, it also requires the exertion level be based on a level of
23 physical fitness of a user.

24 So, in order to try to separate limitation 1C and dodge it, Patent
25 Owner makes this argument that Amano has two different meanings for its
26 term exercise intensity.

1 And, you know, Your Honors, Patent Owner has made this same
2 argument in its POPR, which would be Paper 10, the argument is at pages
3 34-35.

4 And Your Honors got it correct at the DI. You'll see in the bottom
5 passage, as Your Honors stated, Amano uniformly uses the term exercise
6 intensity throughout its disclosure.

7 And let's just look at what Amano says. So, Slide 42, Patent Owner
8 relies on the passage at the top from Amano, and argues that this passage at
9 the top shows that exercise intensity has two different meanings.

10 But you know, Petitioner respectfully disagrees.

11 As you can see from the passage itself, the passage at the top is not
12 talking about exercise as having two different meanings.

13 Instead, what it suggests and says is that these processes, one of them
14 is calculating exercise intensity, not both.

15 And that's all this passage says.

16 And if you further look into the descriptions of each of the two
17 processes, you'll see they both refer to Steps SA2 and S9.

18 So, it cannot be the case that these two processes have different
19 meanings for exercise intensity, as these two processes not only execute in
20 parallel, but they're connected to each other. So, they operate together.

21 So, moving on to limitation 1D, 1D requires determining a plurality of
22 heart zones based on heart rate measurements.

23 And we were looking at Slide 45 earlier, the only thing I wanted to
24 note, and this is in the parties briefing, is that, again, the user's heart rate
25 measurements are measured in the left passage on this slide in blue.

1 And then, the heart rate zones are determined in the red passage as
2 underlined in red.

3 So, you'll see the logical flow of the arrows. And this just shows that
4 the heart rate measurements are connected to the heart rate zones determined
5 on the right.

6 And then, finally, Slide 46, looking at the last issue for Amano, Patent
7 Owner accuses Petitioner of improperly combining embodiments for
8 anticipation.

9 But as shown in the left passage from embodiments, Amano's
10 description of Embodiment 4, it says, the user estimates his own VO2 max
11 in advance.

12 Then, it says, using the methods explained in the first embodiment.

13 And so, in other words, Amano is explicitly suggesting that
14 Embodiment 4 be used with the first embodiment.

15 Now, Patent Owner tries to argue that these embodiments,
16 Embodiments 1 and 4 are different because they have different circuitry,
17 they have different components, interfaces, physical instantiations.
18 According to Patent Owner, those are all allegedly different.

19 Your Honors, Amano here, as it says, suggests using the methods, and
20 further, this – our petition's theory, you're welcome to look at the petition
21 page 22-23, it relied on the methods of Amano, Amano's method of
22 calculating VO2 max and Amano's method of calculating and determining
23 heart rate zones.

24 So, in the interest of time, I would like to turn to Lubell, unless Your
25 Honors have any questions about Amano.

1 So, turning to Slide 60, and I just wanted to note for the combination
2 of Lubell and Ceci and grounds three is the parties do not dispute that Lubell
3 and Ceci teach limitation 1B, sorry, limitation 1C.

4 Instead, the issue for Lubell and Ceci is that it turns on motivation
5 combined and there's a small argument regarding limitation 1D.

6 So, Lubell is a device that monitors the training of a subject and it
7 does this by operating in two modes, similar to the '413, there's a testing
8 mode.

9 And then, after that, there's a training mode.

10 So, with respect to Lubell, Lubell provides the specific protocol
11 shown on Slide 61. It starts off with running three miles per hour, sorry,
12 running four miles per hour for three minutes, six miles per hour for three
13 minutes, and all the way up until 14 miles per hour.

14 And as explained in the bottom passage, the subject stops running, or
15 the protocol ends when the subject has reached a maximal heart rate or the
16 point of exhaustion.

17 So, turning to Slide 62, Lubell provides the specific details that I just
18 described, but it also notes, as shown in the right passage, that the device
19 could be suitably adapted for use.

20 It names a few examples such as swimming, cycling, and other
21 exercises.

22 And then, Lubell says, a suitable submaximal exercise test protocol
23 could be used.

24 So, now, a POSITA would understand, there are different types of test
25 protocols.

1 Patent Owner's expert testified to this. He said, some protocols are
2 maximal test protocols where the user reaches maximal heart rate.

3 And then, other test protocols are submaximal test protocols where the
4 user does not reach maximal heart rate.

5 And this is, again, Patent Owner's Expert Exhibit 1017, and just to
6 provide the cite, 37 – page 37, lines 4-10.

7 So, Lubell's passage on the right is consistent with a POSITA's
8 knowledge that a device can be used with another type of test protocol.

9 And Your Honors, this makes sense because, as I mentioned earlier,
10 Lubell forces the user to run up to 14 miles per hour. That's almost as fast
11 as the world record holder for the one-mile race.

12 So, it's quite intense and Surgeon General report on the left, Exhibit
13 2010 talks about what the disadvantages are to a maximal test. Not only
14 does it impose a burden, but it also requires that the user reach maximum
15 effort which may not be suitable for everybody, for example, older persons
16 or those at risk for CVD, which stands for cardiovascular disease.

17 And I just want to turn your attention to Patent Owner's expert's
18 testimony on Slide 63 where Patent Owner's expert agreed, there are
19 advantages to submaximal protocols, it's quicker, it puts less stress on the
20 user.

21 And then, if we look at Slide 64, Patent Owner's expert also testified
22 that a submaximal exercise protocol could be used for cycling, swimming,
23 other exercises, just like what Lubell said.

24 Now –

25 JUDGE COCKS: Counsel, I have one question.

1 So, maybe you can ground me with the emphasis on the submaximal
2 test. It sounds like you're suggesting that Lubell itself is suggesting
3 different types of test protocols, not a singular test protocol.

4 And that's what you've said, and I do recall reading something along
5 those lines.

6 But also, in the petition somewhat unequivocal, the main tests
7 described in Lubell is the same for every user regardless of their fitness
8 level, and that puts you in – I've been saying Ceci, but you're calling it
9 something else, Ceci or something like that.

10 And so, that's the basis for reliance on Ceci.

11 But the discussion of Lubell having its own multiple test protocols, so
12 ground me as to why that's the case and why we're focusing on that.

13 MS. NGUYEN: Yes.

14 So, Your Honors, a POSITA looking at Lubell would understand –
15 would take Lubell for what it is, but would also understand that, you know,
16 looking at Slide 21, that although Lubell provides an example test protocol,
17 and provides the specific details for it, because there are other test protocols,
18 and because Lubell's protocol itself is intense, a POSITA would be
19 motivated to use Lubell and Lubell does teach more than just a protocol, it
20 teaches how to calculate calories, so there's more to Lubell in addition to its
21 device.

22 And it would – a POSITA would be motivated for certain applications
23 such as when you're faced with somebody who's older or has cardiovascular
24 disease to use a different type of protocol, one that's not so intense.

25 JUDGE COCKS: Okay, thank you for your answer.

1 MS. NGUYEN: And the other thing I wanted to note is, Patent
2 Owner makes an argument in surreply that Lubell does not use the word
3 maximal.

4 But as you can see here from Exhibit 1017, bottom of page 108, when
5 we asked Patent Owner's expert, would agree that Lubell discloses a
6 maximal test?

7 His answer was, he seems to, yes, yes.

8 So, regardless of whether Lubell uses the word maximal, a POSITA
9 would have a reason to combine Lubell with a protocol that is not
10 submaximal. And one such protocol is Ceci.

11 So, turning to Slide –

12 JUDGE HOSKINS: Counsel?

13 MS. NGUYEN: Yes?

14 JUDGE HOSKINS: If I heard you correctly, I think you described
15 Ceci as describing a protocol that is not submaximal.

16 MS. NGUYEN: Oh.

17 JUDGE HOSKINS: I think what – just to make sure we – make sure
18 that the record is clear if I heard you correctly.

19 What you're relying on Ceci is as disclosing a submaximal test?

20 MS. NGUYEN: That's correct, Your Honor, thank you very much.

21 JUDGE HOSKINS: Yes.

22 MS. NGUYEN: So, then, if we could turn to Slide – the limitation 1D
23 shown in Slide 70, I just wanted to briefly talk about how Patent Owner's
24 arguments with respect to motivation, sorry, with respect to reasonable
25 expectation success.

1 And this is provided in the record that there are a lot of
2 commonalities, looking at Slide 71, between Lubell and whether it's Ceci or
3 Ceci, I'm not sure.

4 For example, here, you'll see passages from both that talk about the
5 60 to 80 percent VO2 max training range.

6 Both of them track heart rates continuously.

7 So, there are a lot of overlapping disclosures.

8 And the testimony in the record shows that there is a reasonable
9 expectation of success for combining them.

10 With respect to Patent Owner's last argument that you can't determine
11 heart rate zones from Lubell, we've provided on Slide 72, Lubell's equation
12 for determining percent VO2 max.

13 And just one thing I wanted to point out is that in order to complete
14 the equation, you need to determine or know what the continuously
15 measured exercise heart rate, HRE, i.e., you need to determine a plurality of
16 heart rate zones in order to solve equation one.

17 Finally, I wanted to briefly discuss Gorman and Flach which are the
18 secondary reference for the dependent claims, unless Your Honors have any
19 questions about Lubell and Ceci.

20 Okay, so, with respect to Gorman and Flach, these, again, grounds
21 four to nine, they are relied on for the dependent claims.

22 And the dependent claims of the '413, they recite well known features
23 used in communication such as encoding, identification information, and
24 time slots.

25 Slide 76 provides two examples. You can see that it is very simple
26 dependent claims.

1 And Patent Owner does not dispute that Gorman or Flach teaches
2 these limitations, rather, the dispute is about motivation to combine.

3 But Your Honors, you'll see, turning to Slide 80, and this is
4 throughout the record, that there is testimony from both parties' experts and
5 evidence such as the passage shown on Slide 80 that a POSITA would have
6 known of these well known features recited in the dependent claims.

7 And there would have been both a motivation to combine and a
8 reasonable expectation of success.

9 So, please let me know if Your Honors have any questions about
10 Gorman or Flach.

11 JUDGE COCKS: I don't think we do.

12 MS. NYGUEN: Thank you.

13 JUDGE COCKS: Then you'll have 16 minutes for rebuttal.

14 MS. NGUYEN: Thank you, Your Honor.

15 MR. HARRIS: Okay, we're ready when you are, Your Honors.

16 JUDGE COCKS: Whenever you're ready, Mr. Harris.

17 MR. HARRIS: And we'll save ten minutes.

18 JUDGE COCKS: Thank you.

19 MR. HARRIS: Thank you.

20 I'll address claim construction and the anticipation ground that Lulu's
21 counsel addressed, the Amano ground.

22 And then, my colleague, Mr. Swisher will address the obviousness
23 grounds.

24 So, starting first with claim construction, I believe there was some
25 confusion around Nike's position with respect to the prosecution history,
26 what was said, what was done, and what the import of that is.

1 So, I want to start with that.

2 And then, we'll frame what the claim construction dispute really is in
3 this case.

4 So, during prosecution, as you know, the examiner rejected these
5 claims based on Lubell anticipation.

6 And Lubell teaches an exercise protocol or program that is exactly the
7 same for everybody, for all users. Right?

8 Run at 4 miles per hour, 3 minutes later, run at 6 miles per hour.

9 Three minutes later, run at 8 miles per hour.

10 All users, same prompt, same procedure.

11 The examiner rejected our claims.

12 And I have on this slide or on the overhead right now, it's Nike Slide
13 13, this is the amendment that Nike made in response to the examiner's
14 rejection. And this is Exhibit 1014 at page 3.

15 So, the original claim language was prompt a user to exercise at
16 multiple exertion levels. Well, Lubell did that, right, prompted the user 4
17 miles per hour, 6 miles per hour, 8 miles per hour, every 3 minutes.

18 Nike amended that claim language and changed it to the language
19 that's now the subject of the claim construction dispute here. Right?

20 And what did Nike say?

21 Nike, this is Slide 14 of Nike slides, and it's Exhibit 1014 at pages 7-
22 8.

23 Nike distinguished Lubell because Lubell had this prescribed exercise
24 test.

25 And our invention was different because each of the plurality of
26 successive exertion levels is based on a level of physical fitness of the user.

1 And what did Nike point to for support?

2 Nike pointed to really the only disclosure of this in the spec which is a
3 user is told to exercise at an easy level, then a medium level, then a hard
4 level.

5 And those levels are going to be different depending on the level of
6 physical fitness of an individual user.

7 Slide 15 of Nike's slides, this is Exhibit 1015, the examiner agreed.
8 Right? The examiner said, yes, Lubell doesn't teach this – how Nike has
9 revised or amended these claims, Lubell doesn't teach this.

10 Lubell – in Lubell, the device has a program that is the same for
11 everyone.

12 Nike's claims are different. They're tailored to the user. The user
13 gets to control, easy, medium, difficult, going to be difficult for every user.

14 The exertion levels are based on the user's level of physical fitness.

15 And that's what happened during prosecution history.

16 This dispute about adaptive versus based on versus the – there really
17 isn't a dispute about that. If you want to use the word adaptive instead of
18 based on, it means the same thing.

19 And it really doesn't go to what the parties are actually fighting about
20 in the context of claim construction.

21 So, let's go to that.

22 JUDGE COCKS: One question, counsel.

23 MR. HARRIS: Yes?

24 JUDGE COCKS: So, if I understand, looking back at this slide with
25 the claim language or the response exhibit, so for User A, they will be
26 prescribed an easy level, medium level, and hard level.

1 For User B, they will also be prescribed an easily level, medium,
2 level, hard level.

3 It's just User A easy, medium, and hard are different than User B's
4 easy, medium, hard?

5 MR. HARRIS: That's exactly right.

6 JUDGE COCKS: That's what – okay.

7 MR. HARRIS: That's exactly right.

8 Okay, so, now I'm on Slide 18 of the Nike slides, and it's the claim
9 language.

10 And we've highlighted the phrase that the parties are disputing for
11 claim construction.

12 And it's prompt a user to exercise the plurality of successive exertion
13 levels where in an exertion level is based on a level of physical fitness of a
14 user.

15 And counsel said earlier that we're accusing them of reading out level,
16 and that's right, we are.

17 But really, what is the dispute?

18 So, for Lululemon to prevail, they need stride length, weight, height,
19 age, sex, they need those attributes to be a level of physical fitness. That's
20 the claim construction dispute that the Court – that this Board needs to
21 resolve.

22 And Lululemon needs stride length, weight, height, age, sex to
23 constitute or to be a level of physical fitness because that's what they point
24 to on the model.

25 So, really, that's the crux of this dispute.

26 Are those attributes a level of physical fitness?

1 JUDGE COCKS: So, are you saying that they need each one of those
2 to be a separate level?

3 MR. HARRIS: Any one of them, they need one of those to be able –

4 JUDGE COCKS: Any one of them?

5 MR. HARRIS: They need one of those.

6 So, Amano, they point to weight and stride length. And we'll get it –
7 and I, respectfully, I don't think Amano actually says what they say, and I'm
8 going to walk through that.

9 But their contention in their petition is that Amano takes stride length
10 and weight and calculates an exertion level.

11 So, for Amano, they need stride length and weight to constitute a level
12 of physical activity or a level of physical fitness in order to prevail on their
13 claims in the petition.

14 JUDGE HOSKINS: Counsel?

15 MR. HARRIS: Yes?

16 JUDGE HOSKINS: Can you take us back to the previous slide please
17 with the claim language?

18 MR. HARRIS: Yes.

19 JUDGE HOSKINS: So, let me just think about that for a little.

20 The claim language is the exertion level is based on a level of physical
21 fitness.

22 So, I don't – so, let's just take weight, for example, if a person is – if
23 weight is indicative of a level of physical fitness of a user, then let's say that
24 it uses weight to determine an exertion level.

25 Why isn't then an exertion level based on a level of physical fitness of
26 a user if it's based on the weight of the user?

1 MR. HARRIS: Judge Hoskins, I think that's the claim construction
2 dispute, is weight a level of physical fitness of a user?

3 JUDGE HOSKINS: Well, I guess I'm pushing back on that. I don't
4 think that's necessarily – it needs to necessarily be the case for Petitioner to
5 prevail.

6 If a person's weight is based on a level of physical fitness, and then an
7 exertion level is based on the weight kind of by a transitive property, for lack
8 of a better term, why is not the exertion level based on a level of physical
9 fitness of the user?

10 MR. HARRIS: And I think that that's where we – I guess we
11 disagree, Your Honor.

12 In this claim language, the exertion level is based on something.
13 Right? It's not that – as I understand your argument, you're saying, okay,
14 well, weight, that attribute could be – or let me say it a different way.

15 Physical fitness could be based on an attribute like weight in some
16 instance, right?

17 And if that's the case, well then, why isn't it that an exertion level
18 based on a level of physical fitness, weight could satisfy that?

19 I think we read the claim language a little bit differently.

20 In this claim, the exertion level is based on something. The exertion
21 level is based on what is that something? It's a level of physical fitness.

22 And two individuals that have the same weight can have drastically
23 different levels of physical fitness.

24 The weight or stride length is not an indicator of physical fitness. It
25 might be an attribute, maybe someone that's in really good physical fitness,

1 has really good high physical fitness may have a certain weight, but that
2 attribute alone is not a level of physical fitness.

3 And this isn't just Nike's position, Lululemon's expert agrees.

4 Dr. Lynch, Lululemon's expert admitted that weight and stride length
5 are not level of physical fitness. They may be an attribute of physical
6 characteristic or a – I think attribute was the language that Lululemon used,
7 but it's not a level of physical fitness.

8 He was asked, and this is on Slide 22, Exhibit 2012, he was asked, is a
9 person's stride length a level of physical fitness?

10 Again, it's a characteristic of physical fitness, but it's not equated to
11 physical fitness.

12 He was asked the same thing about height, sex, age, body mass index.
13 This is on Slide 23, again, from Exhibit 2012.

14 For instance, question, is a person's height a level of physical fitness?

15 Answer, by itself, height is not a level of physical fitness.

16 And this makes sense. Two individuals with the same height, and the
17 same weight, and the same BMI, the same age, the same sex could have
18 vastly different levels of physical fitness.

19 The specification, the intrinsic record, we think also supports Nike's
20 construction that height, weight, BMI, stride length are not levels of physical
21 fitness.

22 The specification, the – really the only time it talks about an age an
23 attribute or characteristic, it says, well, if you use age to calculate a heart rate
24 that's really less than ideal because it could be vastly different for – or the
25 physical fitness could be vastly different for two individuals of the same age.

26 JUDGE COCKS: Counsel, one question.

1 I understand the points and the arguments you're making about level,
2 but – and this question may not be germane, but I'm going to ask it anyway
3 is is weight a characteristic of physical fitness?

4 I think that's what the testimony was, weight, and stride length, and
5 whatnot, do you agree with that that is a characteristic of physical fitness?

6 MR. HARRIS: It may be, it could be, yes, but it's not a level of
7 physical fitness.

8 JUDGE COCKS: Thank you.

9 JUDGE BELISLE: Counsel, if we were to agree with Patent Owner
10 that stride length, weight, the things we're talking about on these slides, that
11 those don't constitute a level of physical fitness, is that game over for the
12 patentability argument?

13 MR. HARRIS: It is, Your Honor, yes, it's game over for Lulu's
14 patentability arguments.

15 Now, what if you disagree with those and you say, okay, weight and
16 stride length is a level of physical fitness or Judge Hoskins, if you say, okay,
17 well, we don't really need a level of physical fitness, we just need an
18 attribute, I submit it's still a game over because the – and I don't walk
19 through Amano, but Amano does not disclose what the claims teach or what
20 we heard Lululemon's counsel say a little bite earlier today.

21 So, let's do that.

22 Okay, in Lulu's –

23 JUDGE HOSKINS: Wait, so before – I'm sorry, I apologize, one last
24 question.

25 MR. HARRIS: Sure.

1 JUDGE HOSKINS: In terms of the intrinsic evidence, we ran a
2 through the easy and even harder from the channel -- is that pretty much it,
3 in terms of the intrinsic evidence for what it means to determine exertion
4 level based on the level of physical fitness?

5 MR. HARRIS: That is. That is, Your Honor. That is the intrinsic
6 evidence that supports it. It's what the Patent Owner pointed to in the
7 prosecution history.

8 And I know earlier there was a question about what was there
9 something in the intrinsic evidence that says wait, or stride length can be a
10 level of physical fitness.

11 I think counsel said that they would get back to you on that. We're
12 not aware of anything in the intrinsic evidence that would support
13 interpreting level of physical fitness to include weight, or stride length.

14 JUDGE HOSKINS: Thank you. Please feel free to go to the next
15 argument. Appreciate that.

16 MR. HARRIS: Okay, thank you, Your Honor.

17 JUDGE BELISLE: Before Amato, what is this thing described as
18 being used to determine the level of physical fitness? Is it heart rate? Or
19 other features?

20 MR. HARRIS: Yeah, so, the user is prompted, run at an easy pace for
21 a certain amount of time. And the spec says, well, the user, as a skilled
22 artisan would understand, a user's going to run at a pace that the user could
23 do comfortably for an extended period of time. And so, that really gets to
24 the cardiorespiratory endurance that was in our construction. That's what
25 we are getting at, Your Honor. That's what the spec talks about.

1 Okay, so what does Lululemon point to in Amano for this – how does
2 Lululemon get to the stride length and the weight? Okay, so I've got on this
3 slide on the overhead, Lululemon, Slide 37.

4 And for this limitation 1C, which is the limitation that we're talking
5 about, they point to Step SA3, where the Amano is calculating an exercise
6 intensity based on stride length and weight.

7 Okay, no dispute about that. But that calculation of stride length and
8 weight is used to calculate VO2 nexus. All right?

9 The claim language requires prompting a user to go through these
10 different levels of exertion based on the level of physical fitness. Okay?

11 Earlier, Lulu's counsel talked about these different embodiments. In
12 Amano, there's Embodiment 1 and 4. Embodiment 1, I want to focus on
13 that one first, because that's what Lulu's relying on for Limitation 1C.

14 Embodiment 1 calculates the VO2 maps. Got on the slide Lulu's
15 Slide 24. And remember, they couldn't U2 these two different processes,
16 one in green, one in blue. This is really important.

17 One of those processes calculates a VO2 max, based on stride length
18 and weight. That's the green, the one that they highlighted in green. But it
19 doesn't prompt a user to do anything. It's just calculations. The process in
20 blue does not use stride length or weight. It prompts a user.

21 So, I'm going to walk through this. I'm going to walk through it
22 because I know it's kind of confusing. But this is really important, because
23 even if you agree that stride length and weight constitute a level of physical
24 fitness, Amano does not teach prompting a user based on stride length or
25 width.

1 Okay, Amano Figure 6, which is on Lulu's Slide 25, shows the
2 general operation of Embodiment 1. And there are a couple of things I want
3 to flag here.

4 Okay, the pitch detection at Step S-9. We heard Lulu talk about S-9,
5 how it's used in both embodiments or in both processes. Pitch detection.

6 Amano describes pitch detection at Column 11, Lines 15 to 62. I'd
7 encourage you to go back and look at Column 11, Lines 15 to 62 in Amano,
8 which is Exhibit 1002, that entire description for pitch detection.

9 Nowhere does Amano teach or disclose using stride length or weight
10 to determine pitch. Amano teaches using a motion sensor to determine
11 pitch; pitch being the speed of the user. It uses a motion sensor to see how
12 fast the arms and legs are moving. That's how Amano determines pitch.
13 Okay?

14 Okay, so then that's at Step S-9 in the general operation. Then, we
15 get to Step S-11, figure 6 of Amano.

16 Step S-11 is an interrupt. There are two interrupts that are disclosed.
17 All right? And those two interrupts correspond to what Lulu highlighted as
18 green and blue in its Slide 24.

19 We're going to take these in turn. We're going to talk about the green
20 interrupt first, which is where VO2 max is calculated, and then we'll talk
21 about the blue interrupt, which is the pitch.

22 Okay, so first, what Amano calls the calculation display processing.
23 This is where height terms over weight and stride length are actually used by
24 Amano.

1 Okay, so what happens? Instead, SA2 at Figure 7, the motion sensor
2 sensed that the user is running pitch detection. Motion sensor, no height, no
3 weight, no stride length.

4 Then, there's a calculation of exercise intensity at Step SA3. That's
5 where Amano uses stride length and weight.

6 What don't you see here in this process? You don't see a prompt.
7 There is no prompt based on stride length and weight. No prompt.

8 All right, let's go to the second intersect, or interruption. This is
9 Figure 8. This is what Lulu highlighted in blue on its Slide 24. This is the
10 exercise intensity increase.

11 Figure 8 of Amano shows the exercise intensity increase. This is
12 where a user's prompted. In Step SV1, there's a pitch detection. That pitch
13 detection is, again, based on sensors – that's Column 11, Lines 15 to 62,
14 motion sensors. Not stride length, it's not based on weight.

15 What happens in SV2? There's a prompt. It's not based on stride
16 length, it's not based on weight.

17 So, even if you disagree with us the stride length and weight are a
18 level of physical fitness, Amano still doesn't teach prompting a user to
19 perform various or multiple exertion levels based on height, or stride length
20 and weight. It's not there.

21 Okay, I also want to quickly address limitations D and E. This is
22 where Lululemon is combining Embodiment 1 with Embodiment 4. So,
23 Embodiment 1, the result of Embodiment 1 is a VO2 max number.

24 And there's no dispute, I don't think – I didn't hear a dispute – there's
25 no dispute that to get the entirety of this claim, Lululemon believes it needs
26 to combine Embodiments 1, 4, and 8 of Amano together.

1 And Lulu's Slide 46, this is what they showed you. They said, oh
2 well, you can combine these three embodiments together, because Amano
3 says that you can take the output of Embodiment 1 and feed it into
4 Embodiment 4.

5 A couple of problems with this. First, Lululemon didn't argue this in
6 its petition. Before this very argument, counsel said, look at Petition 22 to
7 23.

8 We want you to do the same. Look at Petition pages 22 to 23.
9 Lululemon did not argue in its petition, that Amano teaches connecting these
10 three embodiments together, and on Lulu Slide 46 on the left-hand side
11 there, they cite Amano Exhibit 1002, Column 19, 8 to 51. Eight to 51 isn't
12 cited anywhere on pages 22 and 23 of their petition. And what they have on
13 the slide here certainly isn't Line 8 to 51, it's 49 to 51. Forty-nine to 51 is
14 not cited anywhere on pages 22 and 23 of their petition. This is a new
15 argument that they made after the fact, which is improper.

16 But even if you consider it, their own expert agrees that to take the
17 output of Embodiment 1 and incorporate it into Embodiment 4, to arrive at
18 the claimed invention, you'd have to modify Embodiment 4.

19 That's not an anticipation argument, that's an obviousness argument.

20 This is on Nike Slide 49, Dr. Lynch testified that Embodiment 4 does
21 not allow a user to enter heart rates or multiple heart rates – heart rate zones
22 that were determined based on different levels of physical fitness – it simply
23 allows a user to enter VO2 max.

24 So, Embodiment 4 would have to be modified to arrive at the claim
25 subject matter level of Nike's independent claims.

1 And for that reason, even if Lulu could advance its argument at this
2 point in the proceeding, which we don't think they can, it's not an
3 anticipation argument and I think it should be rejected. And I will turn it
4 over to my colleague to address the obviousness grounds.

5 MR. SWISHER: Okay, thank you, Your Honors, and may it please
6 the Board.

7 As my colleague mentioned, I'm going to be discussing the
8 obviousness grounds in Lululemon's petition. That's Grounds 3 through 9.
9 I'm primarily going to focus at the beginning, on Ground 3, which is the
10 combination of Lubell and Ceci.

11 But I think just resetting here a little bit to talk about obviousness
12 since we have been talking about anticipation, it's just worth noting a few
13 things. And I think the overarching story here in Lululemon's petition, for
14 all the obviousness grounds, is that they basically committed the cardinal sin
15 of an attempted obviousness argument.

16 And really, all they did is they went out into the world and they tried
17 to find, all right, where are the limitations we're missing from the claims?
18 Where are the gaps? Let's find the reference that mentions that limitation,
19 and let's just say plop. Let's plop them together, without doing what they
20 really had to do, is explain, well, what's the rationale for combining these
21 references?

22 As Your Honors well know, it's not enough just to go out and find
23 Limitation A in this reference, Limitation B in another, and say you can
24 combine them. There has to be some rationale for it.

25 You also have to consider what the context of the certain references
26 are. Would they be compatible for the purposes of that combination? Are

1 there teachings in the reference that actually teach away or disparage making
2 the very combination that's been put forward.

3 And I think in all cases for these grounds, the answer to all those
4 question is yes, there are lots of reasons why, in the references themselves,
5 we can see why you wouldn't want to make the combination, because the
6 references says not to. And we can also see how the references are
7 compatible.

8 And this all came out very, very early during these proceedings. I
9 think it was in the first deposition that Lululemon's' expert Dr. Lynch, it
10 became apparent that he had not really even considered the differences
11 between the references that he was combining. And I'll get to that a little bit
12 later.

13 But he seemed surprised when asked questions during his deposition
14 about whether a base reference related to a wire device and whether some of
15 the combination references related to wireless teachings.

16 That seemed like it was news to him. And that gets us sort of the
17 fundamental lack of demonstrating an obviousness to combine here in the
18 petition, and then not meeting their burden.

19 Anyway, so let's get back to the Lululemon combination of Lubell
20 and Ceci; that's Ground 3. I just wanted to put before we get into some
21 more detail, again, this is from Petitioner's Slide 61. And I'll get back to
22 explaining why this is so important. But I wanted to touch on this issue of
23 the maximal versus submaximal test.

24 So, this was sort of a new argument that really only came up in
25 Lululemon's reply brief. But they're trying to make a distinction between a
26 submaximal and a maximal exercise test, and they're saying that the

1 preferred protocol in Lubell is maximal, even though every single instance
2 of referring to its test in Lubell itself, the reference calls it a submaximal
3 test.

4 I just wanted highlight here from Petitioner's Slide 61, they didn't
5 read the first line on the top box there. And this is Lubell Exhibit 1004,
6 Column 3, at Line 59, where Lubell plainly says, in its preferred fitness
7 index test, it's a submaximal exercise test.

8 It refers to it as submaximal there, and every other time that it talks
9 about it protocol in the reference itself, including all those out in Nike's
10 surreply – that's at paper 30, I believe on page 25. It appears in the abstract,
11 it appears in multiple columns throughout the reference. Lubell always
12 describes its protocol as a submaximal protocol.

13 Okay, so why does that matter? Okay, so just to reorient ourselves
14 here. This is what Lubell is really disclosing. And this is Nike's Slide 73 in
15 our demonstratives.

16 So, here on the left side you have a part of the specification from
17 Lubell; this is Exhibit 1004 at Column 4. And this describes the gist of
18 really what Lubell's getting at, right?

19 It is a protocol that uses a very specific method to estimate a user's
20 VO2 max. We don't have to get into all the details of that method. It's
21 called the Vendor World Relationship. You've seen this in the papers.

22 But the point is this. That relationship requires the user to exercise
23 within a very specific protocol for that relationship to hold, and therefore,
24 for the Lubell device to be able to estimate VO2 max.

25 Below the highlighted sections, you'll see a couple of equations there.
26 And I apologize that the type is very small. But these are the equations that

1 Lubell actually uses to calculate VO2 max. And both of them have set
2 coefficients. Right?

3 So, the first one has a 3.83, you multiply that times the time that the
4 user takes to run, then, you add thirteen. And then the second equation
5 below, that's the letter coefficients. But the point there, is that these
6 equations and these coefficients only hold if the user follows the Lubell
7 protocol. If the user does something else, this protocol doesn't work and it
8 would defeat the whole purpose of what Lubell's getting at.

9 Okay, so that's what Lubell teaches. And I'm going to skip over a
10 few slides. So, what is Ceci teaching?

11 (Simultaneous speaking.)

12 JUDGE BELISLE: It's the minimums. I think I missed this. Why is
13 it important that we pay attention to the maximal versus submaximal
14 properties? And I hope four-minute mile is at submaximal. Anyway.

15 MR. SWISHER: Yes, yes, Your Honor. And I'll get into that. But I
16 think there's a complete lack of any proof in the record, or any evidence
17 supporting the idea that Lubell's protocol is a maximal protocol.

18 Yes, it has you running at increasingly high speeds. But I think
19 there's no evidence in the record that contrasts that with any other type of
20 different protocol.

21 For example, I think we've probably all seen, maybe in a movie or on
22 TV, someone – or maybe yourself – you get a stress test or your running on
23 a treadmill or something, and you're breathing into a tube and it's having
24 you run very fast.

25 I think there are different protocols out there. Some of them could be
26 maximal. But I think the key point here is that within the reference itself,

1 within Lubell, the inventors only describe their protocol as submaximal.
2 They never say anything else.

3 And the reason for that I'll get to you right now. So, why are they
4 trying to make this combination of Lululemon with Ceci?

5 Well, they rely on Ceci only because it describes a scenario where
6 someone can run at self-regulated paces. Okay? Right? So, it's called the
7 ratings of perceived exertion scale.

8 Now, Ceci doesn't describe really a protocol. Like Dr. Lynch,
9 Lululemon's expert, admitted that it doesn't describe a protocol for
10 measuring VO2 max. That's not what Ceci was measuring at all.

11 It's an academic paper that was really just looking at, all right, if you
12 take people and put them in the two groups and you have them exercise at
13 different levels of perceived exertion, what if you asked them to run on a
14 treadmill in the one instance, and you asked them to run out on a track, like
15 outside, in another instance? Will those result in different exertion levels?

16 And if you tell someone, go run hard on the treadmill, versus go run
17 hard on a track, will you get different results?

18 And I think what they found, and what they did find, is that yes, you
19 do get different results. I think it turns out that people run a little bit harder
20 outside versus on a treadmill, and that comported with some other studies
21 that they had been looking at.

22 But that was all they did in Ceci, was just have people run on the
23 treadmill, have people run on the track, and see how the ratings of perceived
24 exertion correlated for different groups. It had nothing to do with VO2 max,
25 or anything like that.

1 So, getting back to your question, Your Honor, so, why is the
2 submaximal versus maximal issue even coming about?

3 Well, from the very beginning – let me get to the right place here.
4 Apologies. The only hook that Lululemon has ever relied on in Lubell for
5 why you would want to combine, it's a very rigid protocol that, remember,
6 makes the user go through the four-, six-, eight-, ten-, fourteen-mile
7 protocol, because that's what the equations use.

8 So, what in Lubell would cause a POSITA to look elsewhere for a
9 protocol? The only thing they've ever pointed to is – this is on Slide 79 on
10 the right-hand side, this is an excerpt from Lubell Exhibit 1004 in Column 5,
11 Line 6 to 17 – the only employees use this one sentence that refers to, in
12 such case a suitable submaximal exercise test protocol could be used.

13 And this is what I'm talking about for other types of exercise. Right?
14 So, Lubell only really in detail talks about running.

15 Okay, so Lululemon latched onto this and they said, ah, it refers to, in
16 other cases, you could use a suitable submaximal exercise test protocol.

17 So, what they're trying to do is say that when Lubell says a suitable
18 submaximal protocol in this one sentence, it's referring to something
19 different than its own protocol.

20 They're trying to say Lubell's protocol is maximal -- even though the
21 reference never says that; never uses the word maximal – and therefore,
22 here, what Lemon says is suitable submaximal exercise test protocol, that
23 must be referring to something different.

24 So, that's what Lululemon's argument is. Even though, but the point
25 is, is every time Lubell refers to its own protocol, it calls it submaximal, and

1 it also, when it refers to this other type of protocol, it also calls that
2 submaximal.

3 So, there's no indication there would be no motivation for a POSITA
4 to look somewhere else, because Lubell's only ever referring to one type of
5 protocol – submaximal. Every time.

6 And I think – and this is in the papers as well – but this sentence has
7 been stretched beyond all recognition of what it actually means, because
8 what it's actually talking about – and we know this because, again, it says a
9 suitable submaximal protocol just like its preferred protocol – is it's saying
10 you would have to change some of the parameters a bit if you use a different
11 type of exercise. Right?

12 So, if the exercise is running, which is the preferred protocol, then we
13 know you have to go four miles an hour, six miles an hour, eight miles an
14 hour, etc., and there's a specific equation that you use to calculate VO2 max.

15 Now, of course, if someone were exercising on a bicycle or
16 swimming, they wouldn't be able to do the four, six, eight miles an hour. It
17 would have to be a slightly different type of exercise, probably a different
18 equation, but it would be the same type of protocol. The same idea.

19 So, that's all this part of the reference is saying. I mean, it even says
20 below here that the invention could be adapted for monitoring non-human
21 subjects, like racehorses or dogs.

22 And I think in our opening paper, Nike pointed out that if
23 Lululemon's reading was correct that you could somehow combine with
24 Ceci, which uses a self-regulated protocol, how could that possibly be
25 compatible with Lubell, which says that even racehorses or dogs could use
26 the protocol?

1 I mean, clearly, if you're talking about an animal, that would only
2 work for a prescribed protocol, where you're forcing that animal on a track
3 or something, to run at a certain speed. It's kind of nonsensical to suggest
4 that could be used where the user – in this case, an animal – chose its own
5 pace.

6 Okay, did that answer your question, Judge Belisle, a little bit? Or
7 any other questions about that?

8 JUDGE BELISLE: Honestly, no.

9 MR. SWISHER: Okay.

10 JUDGE BELISLE: I'm still trying to figure out why do we care about
11 the maximal, submaximal? What that term –

12 MR. SWISHER: Yeah.

13 JUDGE BELISLE: Aren't we just looking at -- why do you combine
14 these references? We have references that are referring to performing
15 certain training exercises if the other reference has certain training exercises.

16 So, maybe if you keep going, what's the point of – why would the
17 skilled artisan not have seen these as combinable?

18 MR. SWISHER: Yeah, so let me try one more time just to briefly
19 touch on the submaximal maximal. Maybe I can explain it a little bit better.

20 But to our understanding, the whole reason why – remember, this is
21 Lululemon's argument. They're saying that Lubell's preferred protocol, the
22 one that's actually talked about throughout the spec, is maximal. Even
23 though it never says its maximal. Right?

24 And the reason why they want it to be maximal is so that therefore,
25 this one sentence on the right-hand side, where it refers to a suitable

1 submaximal protocol, they want that to be referred to a different type of
2 protocol.

3 So, they want the reading to be that a POSITA reads Lubell, and even
4 though it never says this protocol is maximal, they want a POSITA to think
5 it's maximal, see this sentence and say, ah, it's submaximal, therefore, I'd be
6 motivated to go out and look for such a submaximal test that's different from
7 the one that's described in the reference here.

8 (Simultaneous speaking.)

9 JUDGE BELISLE: The hook is the reference to the submaximal.

10 MR. SWISHER: Yes.

11 (Simultaneous speaking.)

12 JUDGE BELISLE: I see 1A is maximal, I see submaximal. There's
13 my hook to bring in another reference.

14 MR. SWISHER: Yes, you got it exactly right. Now, the problem, of
15 course, is that every time Lubell refers to its own protocol, it also calls it
16 submaximal. And that's on the left-hand side here of Slide 79, the first line
17 says, our preferred fitness index submaximal exercise test. Submaximal is
18 used in all occasions.

19 And so, that gets at the heart of why from the jump there's no reason
20 to combine these references. A POSITA would not have looked at this
21 Lubell reference and wanted to combine with a self-regulating protocol, first
22 of all, because there's no disclosure in the reference itself that suggests it, for
23 the reasons we just described. Suitable submaximal is just referring to the
24 same kind of maximal test that's Lubell's preferred protocol.

25 Also, it wouldn't be compatible with Lubell's protocol. So,
26 Dr. Lynch admitted that Lubell doesn't describe any other protocols, other

1 than this one for determining VO2 max. He also admitted that Ceci doesn't
2 disclose a protocol for determining VO2 max.

3 So, there's no reason to combine them. Now, there's a couple of sort
4 of self-arguments or backup points that Lululemon gets to in an attempt, I
5 think, to try to muddy the waters. So, I can briefly go through a couple of
6 those.

7 So, having admitted – Dr. Lynch admitted that on the one hand,
8 Lubell is directed to VO2 max, Ceci has nothing to do with VO2 max. We
9 asked him, well then why would you even make that combination? Like,
10 why would you need to go look to another reference when it has nothing to
11 do with the purpose with Lubell?

12 And he said, well, it could be for determining something else.
13 Something that's suitable in a different circumstance. Right?

14 And the only thing he could come up with is measuring heart rates.
15 He said, well, maybe you would look to Ceci because you want to measure
16 heart rates.

17 But the problem, of course, there, as Dr. Lynch plainly admitted, is
18 that Lubell already measures heart rates. That's what it does when it figures
19 out a user's VO2 max. So, again, that's not a reason to look outside of the
20 reference, because Lubell already does that.

21 And I think one thing – let me get to the right place here. Pardon me
22 one second. Another aspect that Lululemon didn't address at all is teaching
23 away. And so, these are in our papers as well. But from the very beginning
24 of Lubell, the reference itself tells a POSITA not to go look for self-
25 regulated protocol. You know, where a protocol where a user can pace
26 themselves, like in Ceci.

1 So, this is Slide 81 of Nike's demonstratives. And this is from Lubell
2 Exhibit 1004.

3 So, the left-hand side, we have a couple of places from the first page
4 of the specification of Lubell, where the inventor talks about previously
5 proposed fitness monitoring systems. And they talk about one where the
6 user was able to exercise at whatever speed he or she desired.

7 And then below in the second excerpt, they refer to another monitor
8 where the user was allowed to pace themselves at various speeds. And
9 Lubell specifically discourages those approaches and says they have some
10 limitations.

11 Now, Lululemon might say that the pacing yourselves was not the
12 only thing they disparaged in its previous approaches. And that's true.
13 There's some other things as well.

14 But the point is, is they specifically disparaged those. And they said
15 on the right-hand side, in contrast, what's the purpose of our invention here?

16 Well, we want to avoid those drawbacks. And we're going to
17 automatically pace the subject through a straightforward training protocol.
18 And that's the one prescribed protocol that Lubell discloses – the
19 submaximal test.

20 So, just right here, you have Lubell telling a POSITA, don't go look
21 for a self-prescribed test. Those are drawbacks, those are ones that we've
22 already thought about. And that's not what we're trying to do here.

23 Okay, and with that, I can then briefly touch on Limitation D for the
24 combination. And I think this is something where, like counsel at
25 Lululemon suggested, that there was only a small difference.

1 And I think that's not true at all. I think there's a pretty fundamental
2 dispute here on Limitation D, and that's the issue of heart rate zones versus
3 VO2 max zones.

4 Let me get back to the claim language. So, this is Slide 83 of Nike's
5 demonstratives. So, the limitation at issue here requires determining a
6 plurality of heart rate zones.

7 Okay, so they're heart rate zones. Now, Lululemon has admitted –
8 and this is in their reply papers, in the last paper that they submitted – that
9 they're relying on the combination of Lubell and Ceci to determine VO2
10 max zones, which is not what the claim requires.

11 So, there is a dispute here. We don't think the combination even
12 discloses heart rate zones, which is what was required. At most, Lubell talks
13 about a single VO2 max training zone.

14 Now, what about Ceci? Well, Ceci doesn't describe zones at all. And
15 this is something that Your Honors recognized in the institution decision,
16 which is quoted at the top here on Slide 85 of Nike's demonstratives. Your
17 Honors said we see merit in a potential argument that Ceci doesn't account
18 for heart rate zones.

19 And that's true. Here's a picture or a depiction of the graph in Ceci
20 that Lululemon relies on. And some of these details aren't important. This
21 is Exhibit 1005 at Figure 2.

22 But the point here is that the only data that Ceci presented in its paper
23 findings, were average heart rates for the group of people that they studied,
24 exercising at these different ratings of perceived exertion. Right?

25 So, people exercising at Level 11, it said on the treadmill their average
26 heart rate was 105.3, and on the field, on the track, it was 140.7. And that's

1 it. It just discloses mean heart rates. There's no zones, there's no teaching
2 about trying to ask these users to exercise within certain zones.

3 So, that's not there. Now, frankly, I'm going to briefly touch on the
4 last point here, which is this other equation that I believe you've been
5 pointed to in Lubell.

6 And to be honest here, I think they sort of lost the plot a bit. I have a
7 hard time even understand what argument they're trying to make.

8 From our perspective, what they need to show is some reason why
9 you would combine the teachings in Lubell with the teachings of Ceci. And
10 what they seem to be arguing is on the right-hand side – and this is in Nike
11 Slide 86 – that there's this other equation that you could use to measure
12 something. I think they say that this could be used to measure, or to
13 determine heart rate zones.

14 We don't see any teaching or any disclosure in Lubell that
15 corresponds to that.

16 Now, this equation is simply used to calculate percentages of VO₂
17 max after Lubell has already determined what a user's VO₂ max is. So, for
18 example, if Lubell runs through its protocol and determines that a user's
19 VO₂ max is 50, and then you wanted to know, okay, what would be a heart
20 rate for that person exercising at 60 percent of that VO₂ max?

21 You could plug those numbers in and come up with that heart rate.
22 But there's nothing about zones or setting zones. This is just purely about
23 calculating the percentage of VO₂ max, which again, that is the point of
24 Lubell. Ceci has nothing to do with calculating VO₂ max. So, there's no
25 motivation there either.

1 Okay. And with that, I can turn to the final obviousness grounds,
2 unless there's any questions about the combination of Lubell and Ceci.
3 Okay.

4 Okay, so just to reset here, I heard in Lululemon's presentation, I
5 think all they said is that the dependent claims, which are challenged in these
6 additional grounds where Gorman and Flach are added to the base
7 references, I think all they said is that these disclose some known sort of
8 ideas or concepts in the art.

9 And with respect, I don't think that's anywhere close to enough to
10 demonstrating a motivation to combine. And from the very beginning in
11 Lululemon's petition, their supposed rationales for obviousness for these
12 dependent claims was entirely deficient.

13 All they said are a few points, such as, the references come from
14 related fields, or the combination references teach things that would have
15 been known to be helpful or beneficial in the abstract. But there was no
16 attempt to making any connection for why a POSITA would have actually
17 wanted to make the combinations. And I think as the record developed
18 during this proceeding, there are very good reasons for that.

19 And I think the primary one is that the base references that Lululemon
20 relies on – so, that's Amano, Matsumoto, and Lubell – all disclose wired
21 devices. Or at least what Lululemon relies on, they only disclose why the
22 devices. I think that's one exception in Lubell where there's a bunch of
23 different embodiments, and one of them that Lululemon doesn't actually use
24 relates to a wireless device. But the point is, all the base references describe
25 wired devices.

1 And Dr. Lynch has admitted that in his depositions, and he came
2 around to it in his most recent deposition. He recognized that the Lubell
3 device, the Amano device, and the Matsumoto device, which are shown here
4 on Slide 89, all depict wires.

5 So, why does that matter? Well, Gorman, on Slide 90, relates to
6 wireless teachings. In the abstract, it's talking about a digital signal that's
7 sent wirelessly to a receiving unit. And the whole point of Gorman is
8 talking about how you can correct for errors, or avoid transmission errors for
9 things that are sent wirelessly, and how you can distinguish signals that are
10 sent from different devices, so you know, is this signal coming from
11 Person A, or from Person B, to some sort of a base station? And so, that's
12 what Gorman is talking about.

13 Now, Dr. Lynch also admitted that no other references, the base
14 references, disclose or talk about having a problem with distinguishing
15 signals.

16 And why would you? If you use a wire to connect a sensor to a
17 device, there's no need to distinguish that signal from another one. It's
18 going over the wire.

19 You also don't have to worry about errors, because there's a direct
20 transmission. So, he fully admitted that there's nothing in the base
21 references that suggest to a POSITA, hey, I need to go out there and look for
22 something to solve this problem.

23 It also doesn't even make sense conceptually. The Amano,
24 Matsumoto and Lubell references presumably all disclose operational
25 devices, things that were fully working with their wired approach. There
26 would have been no reason to go out and look for teachings on encoding for

1 using a patient ID, or a person's ID, or if we're thinking about issues like
2 noise. Okay?

3 The same is true for the last obviousness ground, the combination
4 with Flach. Again, Dr. Lynch admitted that the base references all disclose
5 wired devices. Flach is truly a wireless reference. It teaches a cellular
6 architecture that has no relevance or compatibility with those wired devices.

7 And story here, Dr. Lynch also admitted that none of those problems
8 that are allegedly solved by Flach are referenced in the base references as
9 being issues to care about.

10 Now, there's just a couple of last points here. Dr. Lynch, I think in an
11 effort to try to salvage the lack of motivation to combine for wired base
12 references with wireless teachings, he suggested, well, in some cases there
13 could be some similar wireless teachings that also have, like, a counterpart,
14 or a coil and analog, in wire teachings.

15 But there's no disclosure in any of those and the base references. I
16 think he mentions something like a can, bus, and some other things. None of
17 that stuff is in the references. That has no connections to the ground itself.

18 So, even if there was some corner case where some teaching similar to
19 wireless teachings would have some applicability in a wired setting,
20 Lululemon did not establish, let alone show any evidence, that that has any
21 relevance to the combinations that were actually instituted.

22 Okay. And with that, unless you have any questions, Your Honors,
23 can –

24 JUDGE COCKS: I have one question on the wireless/wired in
25 dichotomy. Is there anything in the petition that suggests that, hey, wireless
26 is somehow more beneficial than wire. It's more flexible. Or something

1 like that? So, that's why you would incorporate wireless technology. And
2 in doing so, you're going to address all the problems with the necessary
3 components. Is there anything like that in the petition?

4 MR. SWISHER: There's not, Your Honor.

5 JUDGE COCKS: Okay.

6 MR. SWISHER: Not to my knowledge.

7 JUDGE COCKS: Thank you.

8 MR. ARJOMAND: Your Honor, I just wanted to first respond to
9 Judge Belisle's question regarding whether Dr. Lynch had testified
10 regarding stride length and weight. I'll just direct Your Honors to
11 Exhibit 1018 -- that's his reply declaration. In Paragraph 10, Dr. Lynch
12 quotes his testimony on cross-examination --

13 JUDGE BELISLE: What is the exhibit number?

14 MR. ARJOMAND: This would be Exhibit 1018, Your Honor. And
15 I'm looking at page 8. It's Paragraph 10. And he testifies -- this is actually
16 stamped page , native page 5 -- he says, quote, as I testified at my deposition
17 on September 27, 2023, in this proceeding, a level of physical fitness, quote,
18 is obviously a very broad term that relates to a person's ability to perform
19 physical exercise, and relates to characteristics of that person, like their body
20 mass index or their weight or their age or their stride length, or many other
21 aspects. Unquote. And he's citing Exhibit 2012 at page 114, lines 2 to 7.

22 And he talks further in paragraphs 12 and 13 about the measurable
23 physical attribute of weight and heart rate, and athlete's age.

24 But in fairness, Dr. Belisle allowed that testimony, citing extrinsic
25 evidence, the Caspersen reference that relates to or describes physical fitness
26 as a set of attributes, and points to DMI, or cardiorespiratory measures.

1 So, I also wanted to briefly address the specification questions you
2 had, Judge Belisle, regarding what does the specification say regarding
3 based on level of fitness of a user.

4 And so, what I have here on Slide 9, this is column 15, lines 54 to 56.
5 The 413 count says: as will be appreciated by those of ordinary skill in the
6 art, an easy level of exercise – that would be the exertion level – is one that
7 only slightly elevates the user's heart rate.

8 So, it's look at a physical attribute like heart rate. And that's perfectly
9 consistent with what Dr. Bergeron testified. We asked him. We said, what
10 does, wherein exertion level is based on a level of physical fitness of a user,
11 mean?

12 And he said, it can mean that it takes into account an individual user's
13 particular cardiorespiratory endurance. That's in Exhibit 1017, page 76,
14 lines 10 to 17.

15 And just in case Patent Owner's counsel comes up and says:
16 Dr. Bergeron was confused; the question was confusing; he didn't
17 understand what he was answering; we asked literally the same question,
18 like, the next page in the transcript. And he said the same thing. We again
19 asked them, does this mean I will use more of the language of Patent
20 Owner's construction? And he said, yeah, it's basically, that's right, which
21 just takes into account a user's cardiorespiratory endurances as an example.

22 So, we think our construction is perfectly consistent, both with the
23 specification, with the prosecution history, and extrinsic evidence.

24 Judge Cox, on your question regarding the prosecution history, I think
25 if you take a look at the Amano reference – and my colleague will discuss
26 this – if you have User A at a given weight and stride length, their exercise

1 intensity will be different than User B, at a different weight and different
2 stride length. So, that's exactly consistent with the point that you were
3 trying to raise, is that the prosecution history would say that based on the
4 level of physical fitness of a user, would mean that the exertion levels are
5 different for two different people. And that's reflected in the Amano
6 reference. My colleague can address that in more detail. Finally, I just
7 wanted to briefly –

8 (Simultaneous speaking.)

9 JUDGE BELISLE: Sorry, Counsel. Can you go back to the slide we
10 were just on about your Patent Owner's expert?

11 MR. ARJOMAND: Yes.

12 JUDGE BELISLE: Slide 19?

13 MR. ARJOMAND: Yes, yes.

14 JUDGE BELISLE: Why are you talking about this slide?

15 MR. ARJOMAND: Oh, yes. So, what's important about this slide is
16 that it totally undercuts their claim construction argument that there has to be
17 something very special about the level of physical fitness of a user.

18 What Dr. Bergeron says here is that that language could be met by
19 simply taking into account an individual user's particular cardiorespiratory
20 endurance. In other words, an attribute. Such as their sitting heart rate. Or
21 their weight. Or their stride length. Something like that.

22 JUDGE BELISLE: You have an expert saying that cardiorespiratory
23 endurance is the same as body weight? Absolutely, cardiorespiratory
24 endurance has some heart involvement in that. It would be different than
25 stride length, weight.

1 MR. ARJOMAND: Right. And you know, Your Honor, just to go
2 back to Casperson here on Slide 17 -- this is Exhibit 2091, native page 129,
3 there's been no dispute between the parties, that these various fitness
4 components, like cardiorespiratory endurance and body composition, can be
5 the set of attributes that define physical fitness, and each of them have their
6 own measures. Body composition has BMI. So, that's consistent with the
7 extrinsic evidence.

8 JUDGE BELISLE: Okay, but are you using body composition and
9 body weight interchangeably in your arguments?

10 MR. ARJOMAND: No. The way Caspersen defines its view of
11 physical fitness, it has these components. Kind of like categories. Like,
12 cardiorespiratory and body composition.

13 And here on this Slide 17, it talks about how these categories are
14 measured. And so, for example, under the cardiorespiratory category, you
15 take a look at maximum oxygen uptake; in the body composition category,
16 you can take a look at BMI. Does that answer your question, Judge Belisle?

17 JUDGE BELISLE: Yes.

18 MR. ARJOMAND: Okay. Great. And then finally, I would just like
19 to correct one point for the record. If you do disagree with our construction,
20 the game is not over. Because the Lubell/Ceci ground, there's no dispute as
21 to that ground with respect to the claim construction dispute.

22 So, with that, let me turn over the rest to my colleague.

23 MS. NGUYEN: Okay, Your Honors, so first starting with Amano.
24 As I heard, Patent Owner made an argument that Amano's prompts do not
25 use stride length, and weight. It seems like Patent Owner is trying to again
26 disconnect prompting and exercise intensity.

1 But Your Honors, as you can see here on Slide 40 of Petitioner's
2 demonstratives, the prompts provide the tongues for the pitch. And pitch
3 corresponds to exercise intensity.

4 Exercise intensity is calculated based on stride length and weight.
5 Therefore, the prompts go hand in hand with the exercise intensity in
6 Amano.

7 And if Your Honors would like, Petitioner's expert provided
8 testimony regarding this in Exhibit 1018, paragraph 21. Specifically, he
9 says, Amano's ten percent pitch increase – and then in parentheses says,
10 prompted every 120 seconds – corresponds to a ten percent exercise
11 intensity increase.

12 And then he goes on and he says, just as each exercise intensity level
13 is based on a level of physical fitness of a user, each increase, which is ten
14 percent above, is also based on a level of physical fitness of a user.

15 Therefore, the prompt, the pitch, the exercise intensity, all go together
16 and are based on a level of physical fitness of the user.

17 Now, the other argument Patent Owner made was that Petitioner's
18 theory for Ground 1 in Amano require combining Embodiments 1, 4, and 8.

19 Just to clarify, Your Honors, we presented Embodiment 8 as an
20 alternative. And this clarification is in the briefing – the Reply Paper 26,
21 page 11.

22 Now, turning to Lubell and Ceci, I wanted to clarify, there's a bit of
23 confusion with Lubell and Ceci. And similar to Amano, where I talked
24 about Amano having a testing part and a training part, the combination of
25 Lubell and Ceci is the same. Again, testing to determine what the level of
26 physical fitness of the user is, and then training the user so that, shown in

1 this bottom page on Slide 60, so that you can monitor how the user's
2 performing while training.

3 And so, the petition's combination relies on Ceci for the testing part.
4 And that's so that you can test the user, not subject them to an intense
5 protocol, and then determine their level of physical fitness.

6 The training part after testing, relies on the combination of Lubell and
7 Ceci together. And this is all described in the Reply Paper 26, page 20.
8 Specifically, when Patent Owner argued that the petition and the Petitioner's
9 combination doesn't use Van der Walt relationship, there are these
10 coefficients, Your Honors, we're not relying on Lubell's Van der Walt
11 relationship. We're not relying on Lubell's testing. We're relying on Ceci's
12 testing.

13 JUDGE COCKS: Counsel, one question. So, at its core, does this
14 ground, the Lubell and Ceci ground, do we have to agree with you that
15 Lubell contemplates a maximal test protocol, as well as a submaximal? We
16 need to agree with you on that.

17 MS. NGUYEN: No, Your Honors, we don't think you do. And the
18 reason is because, as you can see here on Slide 61 – and the parties don't
19 dispute this – the heart of it, it's not whether Lubell uses the word maximal.
20 The heart of it is, is Lubell's protocol so intense that a POSITA would have
21 been motivated to find a different protocol and combine it?

22 And I'd just like to refer Your Honors to Lubell Exhibit 1004,
23 column 8, at the bottom, line 67. Even Lubell recognizes how intense its
24 protocol is. And it says, quote, however, only a person in superb athletic
25 condition would be expected to run for three minutes at the fastest pace.
26 And this corresponds to a speed of about four-and-a-half minutes.

1 So, this goes to, Judge Belisle, your question earlier to Patent Owner,
2 of how can Lubell's protocol be submaximal, given that it requires a user to
3 run a four-minute mile?

4 And our answer, along with Patent Owner's expert, is, it technically is
5 maximal. But it's okay if we don't call it maximal. Nevertheless, it's too
6 intense. And Lubell is limited to who it can test.

7 It cannot test individuals, as shown here on Slide 62, who are older, or
8 who are at risk for cardiovascular disease.

9 And then regarding Patent Owner's arguments about disparaging
10 Lubell's disparaging the self-regulated protocols. Your Honors, Patent
11 Owner made this argument in the Patent Owner response. We addressed it
12 in our Reply Paper 26, pages 18 and 19. So, I'd please ask you to look at
13 that.

14 And then with respect to the heart rate zones in Limitation 1D, just to
15 understand and explain this again, Lubell provides the equation for
16 calculating percent VO2 max. And this is shown at the top of Slide 72. In
17 order to determine percent VO2 max, and in order to complete this equation,
18 you need three things, and these are all highlighted: HRE in yellow; HRR in
19 green, HRM in purple, or pink. And HRE, in yellow, is the measured
20 exercise heart rate.

21 So, in other words, in order to calculate the equation, you need to
22 determine heart rate zones. And the combination of Lubell and Ceci does
23 this, because both of them look at 60 percent VO2 max, and they both look
24 at 80 percent VO2 max.

25 So, in order to get to 60 percent VO2 max, you need to know the heart
26 rate corresponding to 60 percent VO2 max. And in order to get to

1 80 percent VO2 max, you need the heart rate corresponding to 80 percent
2 VO2 max.

3 Finally, for Gorman and Flech, Patent Owner argued that you're
4 making arguments regarding the references only discussing whether
5 divisive, and that the teachings of the claims can be applied only to one of
6 those devices.

7 Your Honors, I just wanted to note that again we have evidence in the
8 record from both parties' experts that the teachings can be applied to both
9 wired and wireless devices. Both parties' experts testified regarding how the
10 problems in wireless relate to and are common to the problems in wired
11 devices. And this is also addressed at the Reply Paper 26, pages 22 to 23.

12 Unless Your Honors have any questions?

13 JUDGE COCKS: I do actually have one question. Could we go to
14 Slide 45 of your slide deck?

15 MS. NGUYEN: Yes, Your Honor.

16 JUDGE COCKS: Is what your slide deck and your associated
17 presentation today, is that pictural capturing of what is in the petition's reply
18 on page 10, which is referencing the arguments made by Patent Owner as to
19 heart rate zones, and has one second to describe his content as to a plurality
20 of heart rate measurements incurred that the other side is wrong about. It's
21 not based on heart rate measurements. Is this capturing those arguments
22 made on that page?

23 MS. NGUYEN: Yes, Your Honor.

24 JUDGE COCKS: Okay. Thank you.

25 MS. NGUYEN: Thank you.

1 MR. HARRIS: Okay. So, I want to make three points on claim
2 construction, one point on Amano, and then I'll turn it over to my colleague.

3 Claim construction. Lululemon's counsel was asked if there is
4 anything in the intrinsic record that would support interpreting weight or
5 stride length between a level of physical fitness of the user for this disputed
6 claim term that's on this Slide 35.

7 Lululemon's counsel had time to look. Their answer was to point you
8 to their expert's reply declaration, and they conceded that paragraph 10 of
9 their expert's reply declaration is primarily a sign of intrinsic evidence.

10 There is no intrinsic evidence that supports interpreting level of
11 physical fitness of a user to mean stride length of weight.

12 Next Lululemon's counsel pointed to Nike's expert testimony,
13 Dr. Bergeron's testimony, that level of physical fitness can mean
14 cardiorespiratory endurance.

15 That's our construction. That's exactly what the spec says. Easy,
16 medium, hard. Heart rate, breathing, cardiorespiratory endurance. That's
17 the spec. That's not the same as stride length or weight.

18 Lululemon's counsel also pointed to an extrinsic piece of evidence
19 Caspersen has supporting this proposition that BMI, or body composition,
20 could be a level of physical fitness.

21 Amano doesn't teach BMI. Amano doesn't teach body composition.
22 Amano teaches calculating a VO2 max based on stride length and weight.

23 Okay, moving on to Amano and what it does or does not teach, I think
24 you heard both counsels say, well, Amano teaches that ten percent increase
25 every 120 seconds may vary, depending on the user, and that Amano

1 provides prompts. But for Lululemon to succeed on Amano, it needs those
2 prompts to be based on weight and stride length.

3 That's not what Amano teaches. And I want to direct your attention
4 back to Figure 8. Figure 8 of Amano, Exhibit 1002, this is also on Lulu
5 Slide 32. This is the prompt that Amano teaches.

6 What happens? In Step SB1 there's a pitch detection. The pitch
7 detection is described, column 11, lines 15 to 62, of Amano. It's really
8 important. We encourage the Board to read column 11, lines 15 to 62.

9 That's the pitch detection. Has nothing to do with stride length or
10 weight. It's motion sensors.

11 Going back to Figure 8 of Amano, Step SB2, there's a generation of
12 alarm. That's the prompt. That's the prompt that prompts the user to go to
13 the next exertion level. It's not based on weight, not based on stride length.

14 Lululemon's anticipation argument fails for that reason, even if you
15 disagree with us on the construction of whether weight and stride length is a
16 level of physical fitness.

17 Thank you, and I'll turn it over to my co-counsel.

18 JUDGE COCKS: I have one question. And you can give your
19 colleague some time. But just so I understand. So, the dispute is not that the
20 ten percent increase – it will be different for various users. It's just that this
21 associated with the prompt, associated extradited level of not being
22 conveyed based on stride length and weight.

23 But it's not that it's not different. But it's the point that it's not going
24 to be based on stride length and weight.

1 MR. HARRIS: Yeah, I think that's right. So, every user's going to
2 get a ten percent increase. But, the increases may be different depending on
3 where the user starts. Right?

4 So, one user gets on, starts running at a really fast rate. A second user
5 gets on the treadmill and starts running at a much slower rate. They're each
6 going to have a ten percent increase. But those increases are different
7 because they started at different speeds.

8 The point is the user's not prompted to go to the next level based on
9 weight and stride length, which is what Lululemon needs in order to prevail
10 on its anticipation grounds.

11 JUDGE COCKS: Thank you.

12 MR. SWISHER: Thank you, Your Honors. And I just had a couple
13 of quick points, two points on the Lubell and Ceci combination, and then
14 one point on the Gorman and Flach, which are all the obviousness
15 combinations for the dependent claims.

16 So, for the Lubell and Ceci combination, my first point is on
17 Limitation C. So, that's the main limitation in dispute where they're relying
18 on Ceci to combine to use its self-directed running protocol.

19 So, the issue is, I heard my counsel for Lululemon say that they relied
20 on the combination for Ceci's testing. So, they were relying on it for testing.
21 But there's just a problem there. There's no teaching in Lubell for how you
22 could use the Ceci protocol to determine VO2 max, or anything else. Right?

23 Ceci doesn't teach a protocol. It doesn't teach a way to calculate
24 some sort of a metric. It just has people running at different speeds and it
25 sees what their heart rates are when they run at those different perceived
26 speeds.

1 So, the combination just doesn't make any sense. I heard counsel for
2 Lululemon mention that there's some motivation in Lubell to use a different
3 type of protocol. For example, maybe someone's not able to run a test at
4 certain speeds, and maybe they need an easier test. But there's just a couple
5 of problems with that.

6 First of all, the protocol in Lubell does not require the user to get all
7 the way to the fourteen miles per hour speed. It just says they run either
8 until they're exhausted, which could be much earlier, or until they get to the
9 highest speed, if they're able to achieve it. But they aren't required to get to
10 that highest speed.

11 So, that's one problem there. The other issue here, I think
12 fundamentally, is the 413 patent claims have nothing to do with measuring
13 VO2 max. Right? The patent claims have to do with determining heart rate
14 zones.

15 So, I haven't seen any sort of establishing in the record, of a reason
16 why it's even important to think about all of the different protocols for
17 measuring VO2 max, some easier, some harder. That has nothing to do with
18 the claims.

19 And so, the final point there is that counsel mentioned, again, that
20 there's this motivation, supposedly – we don't think it's there – to use a
21 different protocol, like the testing that's done in Ceci.

22 But a protocol to do what exactly? I have on the demonstratives here,
23 this is Slide 76 of Nike's demonstratives, and this is a quote from
24 Lululemon's expert Dr. Lynch, he suggested in his answer, line 22: While
25 you don't suggest that other test protocols might be suitable in other
26 circumstances, so Ceci is such a protocol. And we ask, well, suitable for

1 determining what exactly? And he answered, well, Ceci is not determining
2 VO2 max, but it is measuring heart rates.

3 And then we asked, well, Dr. Lynch, isn't the device in Lubell also
4 measuring heart rates? And he said, yes.

5 So, the point there is that the only other thing Dr. Lynch could think
6 of that you would want to measure is heart rates. But Lubell already does
7 that. So, why do we need to combine with Ceci for that point?

8 So, that's Limitation C. And then one quick point for Limitation D,
9 and this is in the Lubell and Ceci combination again. Lululemon is making a
10 convoluted argument that I don't fully follow, about how you would use this
11 equation on the right-hand side, which is Lubell, to supposedly calculate
12 heart rate zones, even though the equation itself has the output on the left-
13 hand side there, a percentage of VO2 max.

14 But the point here is that Lubell discloses a single VO2 max zone.
15 And that's what it tries to get the user to exercise within, after that VO2 max
16 has been calculated.

17 And they haven't identified any reason why you would want to
18 change the VO2 max zone to heart rate zones. There's just no reason to do
19 that.

20 Okay. The final point, a quick point for the Gorman and Flach
21 combinations. There, counsel for Lulu briefly mentioned, I think, some
22 testimony, it was on opinions and Dr. Lynch's declaration, sort of
23 generically talking about why there would have been reasons to use these
24 wireless techniques.

25 And I think the point there is it's telling that she didn't mention
26 anything from the references themselves. And I think if you look at the

1 record and all the papers, you'll find that there is no discussion of any
2 motivation provided by the base references themselves, for any problems
3 that are allegedly solved by wireless teachings, or any reason to look to
4 wireless teachings. It's just not there.

5 And that's all, Your Honors.

6 JUDGE COCKS: Thank you. Judge Hoskins, do you have any
7 questions?

8 JUDGE HOSKINS: No. Thank you very much.

9 JUDGE COCKS: Well, we thank both sides for their time today. I
10 realize it's been something of a marathon day for both counsels. So, we
11 appreciate your presentations. The case is submitted and we are adjourned.
12 Thank you. We are off the record.

13 (Whereupon, the proceedings at 3:37 p.m. were concluded.)

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