

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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

v.

NIKE, INC.  
Patent Owner.

Patent No. 9,278,256

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*Inter Partes* Review No. IPR2023-00189

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**PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE**

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**Petitioner's Exhibit List**

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Excerpted Prosecution File History of U.S. Patent No. 9,278,256	1002
Declaration of Dr. Kevin Lynch	1003
U.S. Patent No. 8,162,804 (“Tagliabue”)	1004
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Kuriko Miyake, <i>Is that a PC on your wrist?</i> , CNN, Oct. 14, 2001, <a href="http://www.cnn.com/2001/TECH/ptech/10/14/pc.wrist.idg/">www.cnn.com/2001/TECH/ptech/10/14/pc.wrist.idg/</a>	1010
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*\*Petitioner's Exhibits 1001 - 1014 were previously filed and are listed again here based on 37 C.F.R. § 42.63.*

*\*\*Petitioner's Exhibits 1015 - 1018 are newly filed.*

## **I. INTRODUCTION**

Nike has not shown that the Board should preserve its claims. Nike tries to distinguish Tagliabue—the reference that shares most of the '256 patent's specification—by locating support in non-overlapping parts of that specification. But the disclosures to which Nike points just recite Tagliabue's teachings. For Arrasvuori, Nike's lead argument is the same “unreasonably narrow (and unrealistic) interpretation of ‘leaderboard’” that the Board already rejected. And for Watterson, Nike's motivation-to-combine arguments just prove lululemon's point. None of the solutions for scaling exercise intensity that Nike cites relates to Watterson's competitions; the fact that Watterson discloses several solutions for scaling exercise intensity, however, confirms that a POSITA would have been motivated to modify Watterson's competitions to incorporate such a feature as presented in the Petition.

Nor do Nike's proposed constructions move the needle. The Board does not need to resolve whether Nike's construction of the “continuously generate” limitation is correct because, for that limitation, Nike just replaces a few words with synonyms that do not distinguish the prior art. For “common unit,” on the other hand, the Board should reject Nike's construction because it conflicts with the claim language, the specification, and Nike's own expert's testimony.

Finally, Nike’s attack on lululemon’s expert is meritless. Dr. Lynch, a tenured professor at Northwestern University, properly opined regarding the scope and content of the art and about whether it would have been obvious to combine it. Nothing required him to testify about claim construction before doing so.

## **II. CLAIM CONSTRUCTION**

Nike construes two terms: (1) “continuously generate and simultaneously communicate in real-time to the first user at the first location and the second user at the second location, an interface indicating whether the challenge has been met” (“Limitation 1[G]/11[E]”) and (2) “common unit.” The Board does not need to construe the first term and should reject Nike’s attempt to narrow the second.

### **A. The Board Does Not Need to Construe “continuously generate”**

For this proceeding, lululemon does not dispute Nike’s proposal to swap some of Limitation 1[G]/11[E]’s terms for synonyms: “without interruption”<sup>1</sup> for “continuously”; “at the same time” for “simultaneously”; and “without ... perceived delay” for “real time.” (*See* Paper 18 (“POR”), 28; Ex. 2005, ¶35.)

Nike’s substitutions do not impact patentability and, thus, provided Nike sticks to

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<sup>1</sup> Nike sometimes refers to “without perceived interruption.” (*See, e.g.*, POR, 35; Ex. 2005, ¶49.) lululemon’s arguments apply equally against that phrase because, if there is no interruption, there also is no interruption to perceive. (Ex. 1017, ¶9.)



those proposed substitutions, the Board need not construe Limitation 1[G]/11[E]. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms ... that are in controversy, and only to the extent necessary to resolve the controversy’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

For the same reason, the Board also does not need to resolve the four questions it posed to the parties. Nonetheless, lululemon responds to each below:

Question 1. For this proceeding, lululemon does not dispute that “an interface” is generated and communicated in real-time. (*See* Ex. 1001, 40:64-67.) Specifically, because computers transmit data encoding images rather than the images themselves, a POSITA would have understood “interface” to encompass data encoding an interface. (*See* Ex. 2006, 35:3-14.)

Question 2. For this proceeding, lululemon does not dispute that a “yes”/“no”-type indication satisfies Limitation 1[G]/11[E].

Question 3. For this proceeding, lululemon does not dispute that the claims cover athletes competing at different times. lululemon also does not dispute that “real-time” refers to providing a “current” update, *i.e.*, communicating an interface with low latency after generating it. (*See* Ex. 2006, 32:10-33:3, 38:19-39:3.)

Question 4. For this proceeding, lululemon does not dispute that Limitation 1[G]/11[E] covers providing an interface even while a user takes a break.

**B. The Board Should Give “common unit” Its Ordinary and Customary Meaning**

Nike proposes limiting “common unit” to units in which an athletic activity is not typically measured. (*See* POR, 39-41, 63-64.) The intrinsic evidence refutes Nike’s construction. Claims 7 and 15 broadly present “common unit” as a unit “used for multiple types of athletic activities” and place no other restraint on its scope. (Ex. 1001, 41:13-14, 42:17-18.) For example, miles are a common unit because they can be used to measure running, swimming, and other activities.

The specification confirms “common unit’s” meaning. In what Nike calls “the relevant portion of the ’256 patent” (POR, 40-41 (citing Ex. 1001, 32:5-36:28)), the specification expressly names “miles” as a “common unit.” (*See* Ex. 1001, 33:10-11.) It also shows how miles are a common unit by describing converting an elliptical workout into “an equivalent miles run” and then comparing those “miles run” to “actual miles run ....” (*Id.*, 36:2-8; *see also id.*, 33:19-25.) Even Nike’s expert agrees that “miles” are a common unit for comparing running to another exercise. (*See* Ex. 1016, 54:5-10 *repudiating* Ex. 2005, ¶¶74, 108.)

Against this evidence, Nike’s arguments fail. Nike gestures at the specification for support, but the specification never approaches the sort of lexicography or disclaimer required to depart from the ordinary and customary meaning. *See Thorner v. Sony Comp. Entm’t Amer. LLC*, 669 F.3d 1362, 1365-66 (Fed. Cir. 2012) (requiring “clear” expression of intent to meet “exacting”

standards). Nike does not even argue that it does. (POR, 39-41, 63-64.) And contrary to Federal Circuit precedent, Nike’s proposal would bar “miles” as a common unit for running even though that is a preferred embodiment. (*See* Ex. 1001, 33:10-11, 36:2-8.) *See Kaneka Corp. v. Xiamen Kingdomway Grp. Co.*, 790 F.3d 1298, 1305 (Fed. Cir. 2015) (“construction that excludes a preferred embodiment is ‘rarely, if ever, correct’”). There is no basis to narrow this term.

### III. GROUND 1: TAGLIABUE ANTICIPATES EVERY CLAIM

#### A. Tagliabue Teaches Limitation 1[G]/11[E] (claims 1, 11)

The Board preliminarily found Tagliabue does not, “on [its] face . . . appear to explicitly disclose” Limitation 1[G]/11[E]’s “*continuously* generat[ing] and *simultaneously* communicat[ing] in *real-time* to the users” requirements. (Paper 11 (“DI”) at 34.) lululemon respectfully disagrees: as Tagliabue’s text shows and Nike’s arguments confirm, Tagliabue teaches each bolded term. (*See* Ex. 1017, ¶¶14-32.) And, although “[n]o rule requires . . . any declaration, let alone one from an expert guiding the Board as to how it should read prior art,” both experts’ testimonies also confirm Tagliabue’s teachings. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1079 (Fed. Cir. 2015).

#### 1. A POSITA Would Have Understood that Tagliabue Teaches Limitation 1[G]/11[G] from Its Disclosures

Tagliabue’s disclosure that its system may “configure and provide a user interface showing each participant’s progress toward the goal of the challenge”

refers to generating that interface “without interruption.” (Ex. 1004, 22:60-63; Ex. 1017, ¶19.) Progress updates subject to interruptions would be of little use in a live competition, and a POSITA would have expected Tagliabue’s system to provide such updates without interruption. (Ex. 1017, ¶19.)

A POSITA also would have understood that Tagliabue communicates updates in real-time. Per Nike’s construction, an update is “real time” if a viewer does not “perceive delay.” No specific speed is required. (*See also* Ex. 1017, ¶¶11-13.) Although Nike’s expert proposed limiting real time to “processing and display” of an interface within “20 to 30 [milliseconds],” (Ex. 2005, ¶70), Nike never argued for that specific timing requirement (POR, *passim*).<sup>2</sup> A POSITA would have understood that Tagliabue’s updates are generated and communicated without perceived delay because, otherwise, a viewer would not perceive them to reflect “each participant’s progress” and “status ... relative to other participants.” (Ex. 1004, 22:55-56, 22:62; Ex. 1017, ¶¶29-30.)

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<sup>2</sup> That omission is for good reason. Nike’s expert plucked the 20-30 millisecond figure from a 1957 scientific article, not the ’256 patent (Ex. 1016, 43:5-10), struggled to apply it during her deposition (*id.*, 45:12-17), and admitted to lack of knowledge regarding any claim construction standard (*id.*, 36:7-10).

Finally, a POSITA would have understood that Tagliabue’s disclosure of displaying updates to “each participant” means that Tagliabue’s system communicates the updates “simultaneously.” (Ex. 1004, 22:58-60; Ex. 1017, ¶27.) The alternative—delaying sending one competitor the “status” update—would defeat the purpose of a “status” update by making it out-of-date. (Ex. 1017, ¶27.)

## **2. Nike’s Arguments Concede that Tagliabue Teaches Limitation 1[G]/11[E] in Each of Three Separate Disclosures**

Because most of the ’256 patent’s specification is the same as Tagliabue’s, Nike tries to save its claims by identifying supporting disclosures in non-overlapping parts of the ’256 patent’s specification. (*See, e.g.*, POR, 14-16, 36-39.) But because each disclosure just restates Tagliabue’s teachings, Nike’s arguments confirm that each disclosure meets Limitation 1[G]/11[E] on its own.

First, Nike relies on lines 48-55 of column 39 of the ’256 patent as embodying Limitation 1[G]/11[E]. (*E.g.*, POR at 31, 36; *see also* Ex. 1016, 18:16-20.) The first sentence of that passage states: “multiple avatars may be displayed in an interface *to illustrate the progress of each user in the group of challenge.*” (Ex. 1001, 39:48-50.)<sup>3</sup> That is exactly what Tagliabue teaches: “device 601 may configure and provide a user interface *showing each participant’s progress toward*

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<sup>3</sup> All emphasis is added unless otherwise stated.

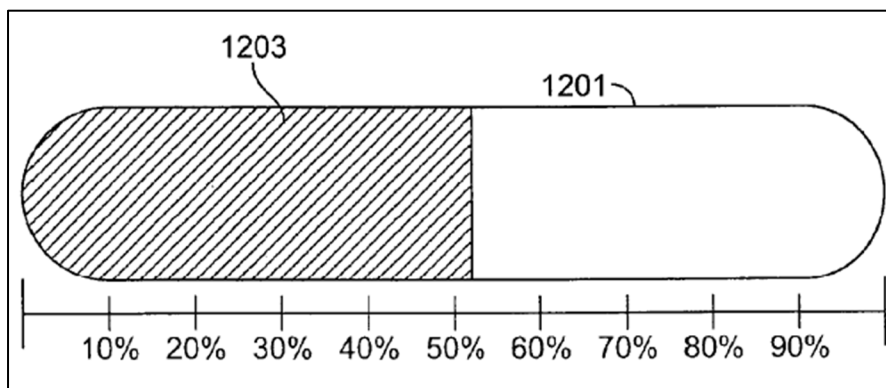
*the goal of the challenge[.]*” (Ex. 1004, 22:61-63.) Removing any doubt, Nike’s expert also testified that such an interface meets the disputed claim language:

Q. [I]s an interface displaying[,] in a group or challenge setting[,] multiple avatars to illustrate the progress of each user in the group or challenge an example of an interface that is continuously generated and simultaneously communicated in real time?

A. Yes.

(Ex. 1016, 19:12-19.)

Second, Nike relies on Figures 36 and 37 as embodying Limitations 1[G]/11[E]. (*E.g.*, POR, 31, 36; *see also* Ex. 1016, 14:5-12.) Again, those figures just depict the interface that Tagliabue describes. (*See* Ex. 1017, ¶¶20-21.) Tagliabue teaches “configur[ing] and provid[ing] a user interface showing each participant’s progress toward the goal of the challenge[.]” (Ex. 1004, 22:60-65.) And it teaches doing so via “bar graphs for each participant,” (*id.*), *i.e.*, horizontal bars filling from left to right as each participant progresses:



(*id.*, Fig. 12, 3:53-56.) That also is what the ’256 patent’s figures show:

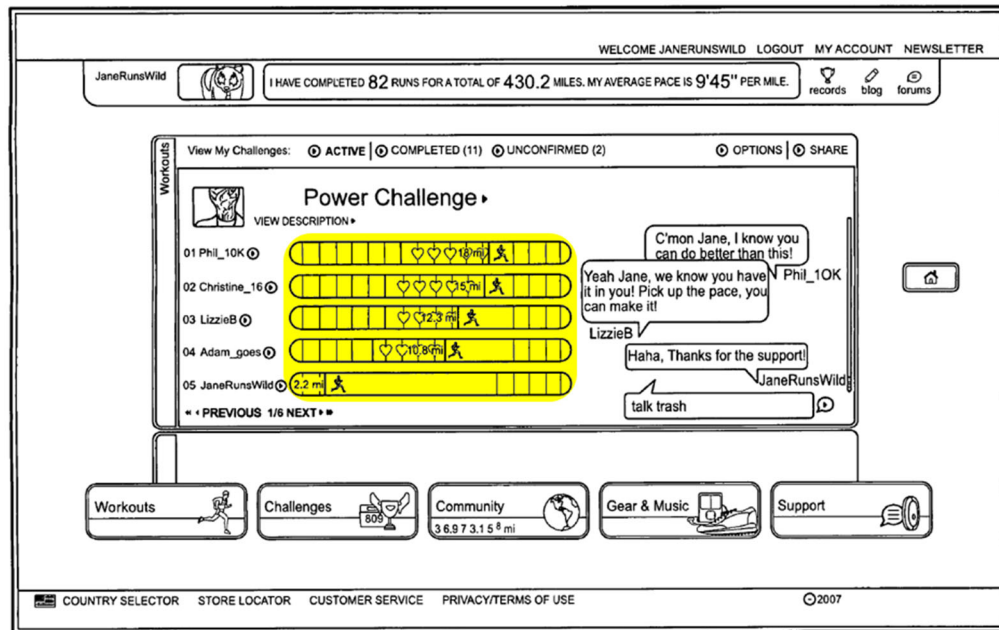


FIG. 36

(Ex. 1001, Fig. 36 (highlighted); *see also id.*, Fig. 37 (same).)

Third, Nike relies on the '256 patent's discussion of "constant updates" as embodying Limitation 1[G]/11[E]. (*E.g.*, POR at 38.) The '256 patent discloses providing its "constant updates" at once-per-mile intervals via an interface 1700. (*See* Ex. 1001, 30:45-48, 31:34-48, 33:29-43, Fig. 17 ("You are 12 Cardio Miles Behind the Leader in Your Challenge"); Ex. 1017, ¶24.) Nike's expert also confirmed that Interface 1700 embodies the claim language. (Ex. 1016, 25:22-26:1.) And, here too, Tagliabue's disclosure mirrors the '256 patent: Tagliabue describes an interface "provid[ing] updates regarding the status of a participant relative to the other participants" in a challenge to see "who can run the most miles in a given period of time." (Ex. 1004, 22:53-23:2, 23:36-40; Ex. 1017, ¶¶22-25.) As Dr. Lynch explained, "[a] POSITA reading these passages from Tagliabue

would have understood them to describe an interface that, like interface 1700, depicts a competitor's progress relative to the leader in a relevant unit.” (Ex. 1017, ¶25; *see also id.*, ¶10.) In short, Nike's arguments and its expert's testimony confirm anticipation by relying on examples of Limitation 1[G]/11[E] where each example is exactly what Tagliabue describes.

**B. Tagliabue Teaches a “common unit” (claims 7, 15)**

Nike argues Tagliabue does not teach a “common unit” under Nike's proposed construction of “common unit.” (POR, 39-41.) Nike's argument fails because it turns on its proposed construction, which is wrong. (*See supra* § II.B.)

**IV. GROUNDS 2-4: CLAIMS 1-4, 7, 8, AND 11-16 ARE UNPATENTABLE OVER ARRASVUORI & ELLIS**

**A. Arrasvuori Teaches Limitation 1[G]/11[E] (claims 1, 11)**

For grounds 2-4, Nike does not dispute Arrasvuori teaches “simultaneously” and “real time.” (POR, 42-47.) Instead, Nike disputes Limitation 1[G]/11[E] solely on the basis that Arrasvuori does not teach “continuously generate.” (*Id.*) Because Arrasvuori does so in at least two ways, Nike's arguments fail.

**1. Arrasvuori Teaches “continuously generat[ing]” Leaderboards and Other Interfaces**

Leaderboards. As the Board already found, a POSITA would have understood that Arrasvuori's leaderboards are continuously generated. (DI, 25-30; Ex. 1017, ¶¶35-40.) Arrasvuori's leaderboards can “show the performance of users with respect to other users.” (*Id.*, ¶50.) And, like other “graphical



indicators,” they are provided “*during* performance of a real-world fitness task.” (Ex. 1005, ¶52; *see also id.*, ¶50 (“wireless nodes . . . might make available leaderboards *showing*[ ] user . . . performances”).)

Given these teachings, the Board correctly found it not “credible that [a POSITA] would have understood Arrasvuori to disclose ‘leaderboards’ as being displayed (or generated) only periodically, rather than continuously.” (DI, 28.) After all, generating them subject to interruptions, or “only periodically[,] would seemingly defeat the very purpose of using a ‘leaderboard’ such as used at a . . . athletic event, where current scores are presented as the event progresses, not merely every so often.” (*Id.*) Dr. Lynch confirmed the Board’s rationale in his deposition. (Ex. 2006, 66:24-67:2 (“the continuous generation . . . needs to be appropriate to . . . the application, otherwise it has no value”).) And he did so again in his reply declaration. (Ex. 1017, ¶40 (“there is no doubt that a POSITA would have understood that Arrasvuori’s leaderboards are continuously generated”).) The Board got Arrasvuori’s leaderboards right at institution.

Graphical Representations. Arrasvuori also teaches continuously generating interfaces by depicting competitor avatars, *i.e.*, “a graphical representation for each user performing the task[,] . . . as progressing along a game-world route terminating in the game-world landmark.” (Ex. 1005, ¶53.) Arrasvuori discloses providing this feedback, too, “during performance of a real-world fitness task” (*id.*,

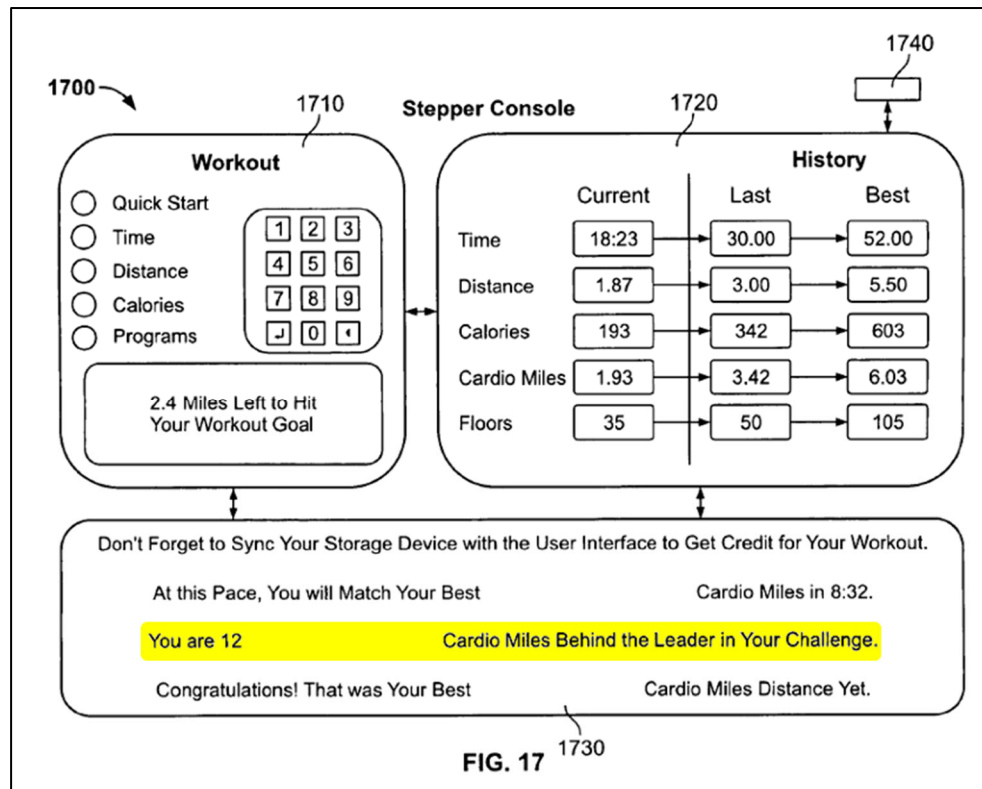
¶52). And, just as for the leaderboards, a POSITA would have understood that this interface “has to be continuously generated,” or generated without interruption. (Ex. 2006, 57:8-9; *see also* Ex. 1017, ¶¶41-43.) Otherwise, the interface would not permit “[a] user viewing such display” to “determine how close each participating user was to the goal and/or how well each such user was competing relative to other such users,” as Arrasvuori requires. (Ex. 1005, ¶53; Ex. 1017, ¶41.)

Nike’s own arguments again confirm the point. As noted above, Nike relies on lines 48-55 of column 39 of the ’256 patent as embodying Limitation 1[G]/11[E]. (*E.g.*, POR at 31, 36; *see also* Ex. 1016, 18:16-20.) That passage describes displaying “avatars ... in an interface to illustrate the progress of each user in the group or challenge.” (Ex. 1001, 39:48-50; *see also* Ex. 1016, 19:12-19 (agreeing disclosure embodies “continuously generate”).) And that is Arrasvuori’s exact teaching: “a graphical representation for each user performing the task” that lets users “determine how close each participating user was to the goal and/or how well each such user was competing relative to other such users.” (Ex. 1005, ¶53.) Thus, as Dr. Lynch testified, there also “is no doubt a POSITA would have understood that Arrasvuori’s interfaces showing graphical representations are continuously generated.” (Ex. 1017, ¶43.)

## 2. Nike Fails to Refute Arrasvuori's Teachings

Nike's lone, substantive argument regarding Arrasvuori and "continuously generate" is that a leaderboard updating in mile increments is not "continuously generat[ed.]" (POR, 46-47.) This is the same "unreasonably narrow (and unrealistic) interpretation of a 'leaderboard'" (DI, 28), that Nike advanced in its POPR (*see* Paper 8, ("POPR"), 26-27). And it fails for the same reason as before: as the Board found, nothing "precludes the skilled artisan from understanding *Arrasvuori* to disclose and use 'leaderboards' that satisfy the subject limitation[.]" (DI, 29 (emphasis in original); *see also supra* § IV.A.1.) Nike never grapples with Board's finding on this point, confirming it has no response. (*See* POR, 42-47.)

Yet even if Arrasvuori's leaderboards did update only "at certain intervals such as every mile[.]" they still would satisfy Limitation 1[G]/11[E]. (POR, 47.) Nothing in the claims or Nike's proposed construction requires generating the claimed interface at a specific frequency. (Ex. 1001, 40:41-42:34; POR, 28.) Instead, the '256 patent discloses giving "constant updates"—which Nike insists embody continuous generation (*see* POR, 15-16, 35)—*in whole-mile increments*:



(Ex. 1001, Fig. 17 (highlighted), 30:45-48, 31:34-48, 33:29-43; Ex. 1017, ¶24.)

And as Dr. Lynch explained, “[a]n interface generated once per mile would be generated “continuously,” or without interruption according to Nike’s construction, provided it was designed to update that way.” (Ex. 1017, ¶44; *see also id.*, ¶10.)

Finally, and setting aside the leaderboards, Nike offers no rebuttal at all for Arrasvuori’s graphical representation embodiment. (See Ex. 1005, ¶¶52, 53; POR, 42-47.) Nike’s procedural complaint—more on that below—is no excuse. In the Petition, lululemon explained that Arrasvuori provides graphical displays to users “*during performance*” of a challenge, and it stated that “[a] POSITA would have understood from these disclosures that the server communicates the interfaces to

users *as it generates them.*” (Paper 2 (“Petition”), 57-58.) At institution, the Board noted that Nike had “ignore[d] [] or at least unreasonably dismiss[ed]” these disclosures. (DI, 28-29.) And Dr. Lynch also pointed to them in his deposition. (Ex. 2006, 55:14-57:24.) Nike’s failure to even discuss this embodiment shows it cannot rebut it.

### 3. The Board Should Reject Nike’s Procedural Arguments

With no viable substantive arguments, Nike resorts to procedure. It accuses lululemon of failing to establish that Arrasvuori teaches Limitation 1[G] and attacks lululemon’s expert. (POR, 42-45.) Neither tactic moves the needle.

First, lululemon’s Petition adequately presented that Arrasvuori teaches “continuously generat[ing].” It recited Limitation 1[G]/11[E] in a header and identified relevant disclosures beneath it. (Petition, 55-58.) lululemon noted that Arrasvuori generated the interfaces “during” a challenge, *i.e.*, continuously: “the server communicates the interfaces to users *as it generates them.*” (Petition, 58.) And it cited the same discussion of leaderboards and other graphical indicators as the Board at institution. (*See id.*, 57-58; DI, 56-57.) So did Dr. Lynch. (*See* Ex. 1003, ¶72 (citing Ex. 1005, ¶¶50, 52).) lululemon also has properly explained how Arrasvuori teaches “continuously generat[ing]” in this brief. *See, e.g., Axonics, Inc. v. Medtronic, Inc.*, 75 F.4th 1374, 1380-81 (Fed. Cir. 2023) (“[the Board] must give a petitioner an opportunity to respond to [a] new construction”). And as for *In*

*re Magnum Oil Tools Int’l, Ltd.*, that case involved the Board crafting new obviousness theories in its final written decision, which has not happened here. *See* 829 F.3d 1364, 1380-81 (Fed. Cir. 2016). The Board already rejected this procedural attack by Nike at institution and should do so again here. (*See* POPR, 24-27; DI, 27-29.)

Second, the Board should reject Nike’s grab-bag of procedural attacks on Dr. Lynch. (*See* POR, 43-45.) Dr. Lynch did not construe “continuously generate” in his declaration because it was not yet in dispute. (*See* DI, 15.) That he applied a “common sense,” *i.e.*, ordinary and customary, definition of “continuously” has nothing to do with whether he used common sense to construct an obviousness combination. (POR, 44.) He didn’t. (*See* Ex. 1003, *passim*.) And on the merits, his understanding of “continuously”—recurring at an appropriate rate—matched Nike’s “without interruption” construction. (*See* Ex. 2006, 66:24-67, 72:25-73:2.) Indeed, for all Nike’s complaints about how Dr. Lynch interpreted “continuously,” Nike never actually disputes that his interpretation was correct. Like Nike’s lone substantive argument, its procedural attacks fail.

\* \* \*

As the Board found at institution, Arrasvuori teaches Limitation 1[G]/11[E]. The Board should make the same, well-reasoned finding at end of trial.

**B. Arrasvuori Teaches Sensors “worn on an appendage” (claims 1, 11-13)**

Apart from Limitation 1[G]/11[E], Nike’s arguments for claims 1 and 11-13 all hinge on whether Arrasvuori teaches wearing a sensor “on an appendage.” (POR, 47-48, 50-52.) Because Arrasvuori plainly does so, Nike’s arguments fail.

**1. Arrasvuori Teaches Wearing Sensors on Appendages (claims 1, 11)**

Arrasvuori teaches wrist-worn sensors by stating that its users can “wear their wireless nodes and/or other computers.” (*See, e.g.*, Ex. 1005, ¶39.) Those computers contained sensors (*see id.*, ¶40), and can take the form of a “computerized watch,” (*see, e.g.*, Ex. 1005, ¶90 (“[t]he phrase[] ‘computer’ . . . refer[s] but [is] not limited to . . . a computerized watch . . .”).) Dr. Lynch confirmed that Arrasvuori teaches this limitation at his deposition (Ex. 2006, 84:10-85:22) and again in his reply declaration (Ex. 1017, ¶45.) Nike’s assertion that “Arrasvuori never links these two [the worn wireless nodes and/or other computers and the computerized watch] together” is false. (POR, 48.)

**2. Arrasvuori Teaches that Its Wireless Nodes Had GPS Sensors (claim 12)**

Nike argues Arrasvuori does not teach “location determining” sensors because it does not disclose sensors worn on appendages. (POR, 50.) Nike is wrong because Arrasvuori does so. (*See supra* § IV.B.1.)

**3. Ellis and Arrasvuori Teach Wrist-Worn Accelerometers (claim 13)**

Nike argues that the combination of Arrasvuori and Ellis does not render obvious claim 13 because that Arrasvuori does not teach sensors worn on appendages. (POR, 52-53.) Arrasvuori does so. (*supra* § IV.B.1.) Because Nike makes no other challenge to the combination, the Board can cancel claim 13 on that basis and does not need to reach whether Arrasvuori teaches an accelerometer.

Alternatively, if the Board reaches that issue, it should find that Arrasvuori teaches accelerometers. Arrasvuori teaches incorporating pedometers into its sensors. (*See* Ex. 1005, ¶40.) And, as explained in U.S. Patent No. 6,898,500 (Ex. 1009), “pedometers” included both “weight-on-a-spring”- and accelerometer-based pedometers before the critical date (*id.*, 2:1-15). Dr. Lynch, whose scientific research involves accelerometers (Ex. 1003, ¶7), also confirmed that a POSITA would have understood “pedometer” to include accelerometer-based pedometers (Ex. 1017, ¶¶46-47). Thus, just as “car” today means both gas and electric cars, a POSITA would have understood “pedometer” meant both types of pedometers.

Nike has no real response to this evidence. Nike disputes whether a POSITA would have added Blackadar’s accelerometer to Arrasvuori’s wireless node, but that is not what lululemon argued. (POR, 51-52; *see* Petition, 64.) And although Nike’s expert claims “a POSITA would not have understood Arrasvuori’s pedometer to be the same type as that of Blackadar” (Ex. 2005, ¶86), she omits that



'256 patent itself cites Blackadar for how to “determine[e] a user’s speed from accelerometer signals” (Ex. 1001, 9:25-28). Thus, Nike cannot genuinely dispute that a POSITA in the '256 patent’s field would have known of such pedometers.

**C. Arrasvuori Teaches Receiving a Challenge from a Second User (claims 2, 3, 14)**

As explained in the Petition, Arrasvuori teaches receiving a challenge from a second user in at least two ways. First, for multiplayer video games, Arrasvuori teaches users “indicat[ing] a desire” to play and “select[ing] from one or more indicated games one or more games that she wished to play[.]” (*See* Ex. 1005, ¶¶17-22, 29, 31, 36, 51; Ex. 1017, ¶48.) Because multiplayer videogames involve more than just a first user, Arrasvuori’s system receives an indication of desire and selection of the multiplayer videogame from a second user. Second, Arrasvuori teaches that “users might ... be able to select ... the order in which they performed the fitness tasks ... [u]sers might, for example, be able to indicate ... moving from one fitness task to another.” (*Id.*, ¶36.) Because “users” is plural, Arrasvuori’s system receives such selections from at least a second user. (*See* Ex. 1017, ¶49.)

Nike’s counterarguments fail because they misread the Petition, Arrasvuori, and the claims. To start, lululemon did more than offer “one vague statement” for this limitation. (POR, 49.) It cited the above examples and noted that Arrasvuori’s server receives the challenge “from multiple users[,]” *i.e.*, at least a first and

second users. (*See* Petition, 58 (citing Petition, §VII.A.4).) It never conceded “that this limitation is not disclosed by Arrasvuori[.]” (POR, 50.)

On Arrasvuori’s substance, Nike’s appears to argue that because users can join teams, they do not compete against one another. (POR, 49; Ex. 2005, ¶¶82-83.) This is false. (*See, e.g.*, Ex. 1005, ¶¶34 (“users competing with and/or against one another”), 36 (“users might be presented with real-world fitness tasks in the context of a game-world athletic competition”); Ex. 1017, ¶50.)

Finally, Nike’s argument that “Arrasvuori does not teach receiving a challenge from a second user,” also fails. Claim 1 and its dependents require that the “challenge module”—not another user—receives the challenge. (Ex. 1001, 40:41-41:4.) Claim 11 and its dependents, meanwhile, do not even specify what receives the challenge. (*Id.*, 41:23-42:8.) And if such a limitation existed, it would have been obvious to configure Arrasvuori so that one user receives the challenge from another as a prompt. (*See* Petition, 58 (citing Petition, §VII.G.2).) Nike’s sole rebuttal to this obviousness theory, that it is “conclusory,” ignores lululemon’s page of argument and supporting expert testimony. (*Id.*, 62 (arguing that “a user could issue invitations to other users”); *see also* Ex. 1005, ¶¶62-64.)

**V. GROUND 5: CLAIMS 1, 7-8, 11-13, 15 AND 16 ARE OBVIOUS OVER WATTERSON IN VIEW OF ARRASVUORI**

**A. Nike Fails to Refute that the Independent Claims Were Obvious (claims 1, 11)**

Nike contests whether the independent claims are unpatentable under Ground 5 on two bases: (1) that Watterson's watch does not generate velocity data and (2) that it would not have been obvious to combine Watterson with Arrasvuori. (POR, 54-63.) Nike's first argument is irrelevant, and its second is wrong.

**1. Nike's Lead Argument for Ground 5 Is a Red Herring**

Nike disputes whether Watterson's pulse watch alone could have supplied the claimed athletic activity data—but that was never lululemon's argument. (POR, 54-58.) lululemon's argument is that it would have been obvious use data from Watterson's pulse watch or Arrasvuori's computerized watch *together with* raw velocity data from Watterson's treadmill to compute effective velocity. (Petition, 70-71, 74-78.) In this combination, Watterson's system would (1) use data from a treadmill and data from a watch to determine a first user's athletic activity (Limitation 1[D]), (2) receive the same data from a second user's treadmill and watch (Limitation 1[E]), (3) determine whether a challenge was met based on those data (Limitation 1[F]), and (4) provide an interface based on the same (Limitation 1[G]). (*Id.*) As the claims do not require using *only* data from the claimed sensors, this combination met the claims. (*See* Ex. 1001, 40:42-42:33.)

## 2. A POSITA Would Have Combined Watterson with Arrasvuori

As the Petition and Dr. Lynch explained, a POSITA would have combined Watterson and Arrasvuori so that users could fairly compete even if they had different levels of physical fitness. (Petition, 74-78, *see also* Ex. 1003, ¶¶110-117; Ex. 2006, 105:19-106:4, 108:25-109:20.) Nike’s rebuttal—that Watterson already teaches three solutions for that problem—fails because all three solutions were deficient. (POR, 61-62.) None of Watterson’s modifying workout intensity during a group exercise class, scaling control, nor adjusting the difficulty of computer-competitor allowed users to compensate for their athletic ability level relative to others in a head-to-head competition. (Ex. 1006, 11:14-37, 41:26-41, 49:7-11; *see also* Ex. 2006, 107:5-11.) Instead, the fact that Watterson describes so many scaling features confirms the need for that feature in head-to-head competitions.

Nike’s other arguments regarding motivation to combine also fail. Nike vaguely accuses lululemon of “hindsight” reasoning (POR at 58, 61), but lululemon’s rationale properly came from Watterson and Arrasvuori, not the ’256 patent. (Petition, 76-78). *See Application of McLaughlin*, 58 C.C.P.A. 1310, 1313-14 (1971) (so long as motivation to combine is not “gleaned only from applicant’s disclosure, such a reconstruction is proper”). And while overlapping subject matter might not prove motivation to combine, standing alone, it does

establish that the references are candidates for a combination, as lululemon argued.

*Wyers v. Master Lock Co.*, 616 F.3d 1231, 1237 (Fed. Cir. 2010). (Petition, 77.)

Finally, Nike’s attack on reasonable expectation of success fails. (Petition, 76.) Nike argues that Dr. Lynch did not state how to compute a constant in an example equation for normalizing velocity. (POR, 59.) But the constant’s magnitude does not matter. (Ex. 1016, 76:20-78:8.) As Dr. Lynch testified, the equation is just one way to normalize velocity by heart rate (Ex. 2006, 112:11-114:14); the point is that doing so would have been “trivial” (Ex. 1003, ¶117).

**B. It Would Have Been Obvious to Define a Challenge in terms of a “common unit” and “a unit in which the athletic activity is measured” (claims 7, 8, 15, 16)**

Nike attacks lululemon’s rationale for defining Watterson’s race in miles as “attorney argument” (POR, 64), but the change was so simple that no expert opinion was required, *see, e.g., Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009) (expert testimony not necessary for “easily understandable” technology). Nike’s separate argument that miles are not a common unit fails with its proposed construction of that term. (*See supra* § II.B.)

**C. A POSITA Would Added the “location-determining sensor” and “accelerometer” to Watterson (claims 12 and 13)**

Nike’s lead argument for preserving claims 12 and 13 fails because it depends on there being no motivation to use data from Watterson’s pulse watch to compute effective velocity. (POR, 65-66.) As noted above, there was ample

motivation to do exactly that. (*Supra* § V.A.2.) Nike also is wrong that adding a location-determining sensor to Watterson’s pulse watch “would provide no benefit.” (POR, 66.) Watterson requires information about the “particular location of the competitor[s]” to set the “start time” of a personalized race. (Ex. 1006, 41:48-51.) Finally, to Nike’s critique that Watterson’s pulse watch has no accelerometer, it would have been obvious to add one (*see* Petition, 84-85), or else to use Arrasvuori’s computerized watch, which has a GPS and an accelerometer (*see* Ex. 1005, ¶40; *supra* § IV.B.3), in its place (*see* Petition, 70-71, 74-78).

\* \* \*

Because Nike fails to refute unpatentability over Watterson, the Board also should cancel claims 1, 7-8, 11-13, and 15-16 under Ground 5.

## **VI. THE BOARD SHOULD REJECT NIKE’S ATTACK ON DR. LYNCH**

With no path to victory on the merits, Nike spends four-and-a-half pages attacking lululemon’s expert for not opining about claim construction in his opening declaration. (POR, 23-28.) Dr. Lynch is a professor at Northwestern University with decades of experience in computer networks.<sup>4</sup> (Ex. 1003, ¶¶4-13,

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<sup>4</sup> This is in stark contrast to Nike’s expert, who has no experience with computer networks (Ex. 1016, 89:10-21, 90:4-9), used to know one coding language (*id.*, 89:22-90:2), and mainly testifies about car crashes (*id.*, 92:18-20, 93:24-94:15).

Ex. A.) On direct, he testified how a person of ordinary skill would have understood the art and whether it would have been obvious to modify or combine the same. (*See* Ex. 1003, *passim*.) On cross, he confirmed that Arrasvuori teaches Limitation 1[G]/11[E] under any reasonable construction. (*See, e.g.*, Ex. 2006, 29:21-31:4, 37:4-40:8, 70:22-71:5.) And on reply, he explained why the prior art teaches the disputed portions of Limitation 1[G]/11[E] under Nike’s construction. (Ex. 1017, ¶¶14-44.) So from the outset, Nike’s complaint is moot. (POR, 23-28.)

In any event, the Board should reject Nike’s argument on the merits. Nike imagines that Dr. Lynch “never understood the plain and ordinary meaning of any of the claim terms.” (POR, 24.) Not so. Dr. Lynch testified that, when comparing the claims to the art, he interpreted them based on “what a POSITA would know[] and the specification of the 256 patent.” (*Id.*, 41:7-11.) That is why he could explain on cross that the art teaches Limitation 1[G]/11[E]. (*E.g., id.*) Nike is wrong that Dr. Lynch did not “know[] what he’s looking for.” (POR, 25.)

As for Nike’s specific complaints about Dr. Lynch, those fare even worse. Nike attacks Dr. Lynch for not construing “real time” before he testified that Arrasvuori discloses it. (POR, 25.) But he did not need to. Arrasvuori expressly discloses “real time” (Ex. 1005, ¶49), which Nike does not dispute (POR, 41-47). And Nike’s interpretation of “real time”—“without ... perceived delay” (POR, 28)—conveyed the same scope as Dr. Lynch’s (Ex. 2006, 32:15 (“low latency”)).

Next, Nike’s argument that Dr. Lynch did not construe “generate” or “communicate” is irrelevant. (POR, 26-27.) Neither party says those terms need construction. Nike’s expert defined them nearly identically to Dr. Lynch. (*Compare* Ex. 2006, 33:4-16 *with* Ex. 1016, 55:9-14, 56:22-57:4.) And whether the art teaches generating and communicating is not in dispute. (POR, *passim*.)

Finally, Nike’s claim that one of Dr. Lynch’s motivation-to-combine opinions is unreliable also is meritless. (POR, 27.) His opinion had nothing to do with claim construction. He testified to the factual question of whether a POSITA would have been motivated to combine two features into a third with a reasonable expectation of success, and he left the ultimate, legal question of whether that combination met the claims to the parties and the Board. (Ex. 1003, ¶¶110-117.) Nike identifies no basis to throw out Dr. Lynch’s opinions.

## **VII. CONCLUSION**

For the foregoing reasons, the Board should cancel all challenged claims.



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**Certification of Word Count (37 C.F.R. § 42.24)**

I hereby certify that this Petitioner's Reply to Patent Owner's Response has 5,428 words (as counted by the "Word Count" feature of the Microsoft Word™ word-processing system), exclusive of "a table of contents, a table of authorities, a listing of facts which are admitted, denied, or cannot be admitted or denied, a certificate of service or word count, or appendix of exhibits."

Dated: October 30, 2023

By: / Forrest McClellen /  
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**Certificate of Service (37 C.F.R. § 42.6(e)(4))**

I hereby certify that the attached Petitioner's Reply to Patent Owner's Response was served on the below date on the Patent Owner via e-mail (by consent) to the following counsel of record:

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