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.
Petitioners

v.

NIKE, INC.
Patent Owner

_____

Case IPR2023-00189
Patent 9,278,256

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PATENT OWNER'S SUR-REPLY

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Cases

EXHIBITS

Exhibit No.	Description
2001	2/16/23 Declaration of Megan Toney-Bolger, Ph.D.
2002	Excerpted Prosecution File History of U.S. Patent No. 9,278,256, Information Disclosure Statement
2003	U.S. Patent No. 7,670,263 ("Ellis '263")
2004	U.S. Patent Application Publication No. 2006/0205569 ("Watterson '569")
2005	8/7/23 Declaration of Dr. Megan Toney-Bolger, Ph.D.
2006	7/27/23 Deposition Transcript of Dr. Kevin M. Lynch
2007	OED Dictionary (1989)
2008	Redline of '256 patent against Ex. 1004 (Tagliabue)
2009	George Sziklai, Some studies in the speed of visual perception, in IRE Transactions on Information Theory vol. 2, no. 3, p. 125, September 1956 ("Sziklai")
2010	Guy Plasqui & Klaas R Westerterp. Physical activity assessment with accelerometers: an evaluation against doubly labeled water, Obesity vol. 15,10, p. 2371 (2007) ("Plasqui")
2011	David R. Bassett & Dinesh John, Use of pedometers and accelerometers in clinical populations: validity and reliability issues, Physical Therapy Reviews vol 15, no. 3, p. 135 (2010) ("Bassett 2010")
2012	David Bassett Jr, Step Counting: A Review of Measurement Considerations and Health-Related Applications, Sports Medicine vol. 47, no. 7, p. 1303 (2017) ("Bassett 2017")
2013	12/14/23 Deposition Transcript of Dr. Kevin M. Lynch

I. INTRODUCTION

Neither the Petition nor Petitioners' Reply to Patent Owner's Response (Paper 22; "Reply") demonstrates by a preponderance of the evidence that any claim of the '256 patent is unpatentable. In the Institution Decision, the Board ordered the parties to submit proposed constructions for limitations 1[G]/11[E]: "continuously generat[e] and simultaneously communicat[e] 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." Nike proposed a construction in its Patent Owner's Response. Paper 18, 28–36 ("Response"). lululemon "does not dispute Nike's proposal." Reply, 2. The Board should thus adopt this undisputed construction.

Under the parties' undisputed construction, lululemon fails to meet its burden with respect to Grounds 1–4. None of the prior art discloses "continuous generation" of an "interface" in "real-time." As to Ground 1, Tagliabue merely discloses participant-progress interfaces that generate intermittently—but not "continuously" or in "real-time." As to Grounds 2–4, Arrasvuori merely discloses leaderboards and avatar-based interfaces that display participant progress—but those interfaces are not generated "continuously." lululemon attempts to fill these missing limitations with conclusory, unsupported testimony from its expert, Dr. Lynch. According to Dr. Lynch, Tagliabue and Arrasvuori *must* disclose continuous, real-time generation of an interface because anything less would "not be consistent" with or would "not

accurately reflect" graphical representations of user progress. Ex. 1017, ¶¶20, 30, 39–41. This testimony is unsupported by any corroborating evidence and is inconsistent with the parties' undisputed construction.

As to Ground 5 (Watterson in view of Arrasvuori), the Board already correctly found lululemon's arguments unpersuasive. Nothing in lululemon's Reply changes that conclusion. lululemon's Reply only further highlights the flaws in lululemon's argument. lululemon points to Watterson's pulse watch as the "wirelessly connected sensor." But Watterson's pulse watch does not measure "the amount of athletic activity," as required by claims 1 and 11, that is compared between first and second users. And a POSITA would not have been motivated to combine Arrasvuori's computerized watch with Watterson to adjust Watterson's treadmill-generated velocity data based on differing user physical fitness levels.

For at least these reasons, lululemon has not carried its burden of proving by a preponderance of the evidence that any claim of the '256 patent is unpatentable.

II. CLAIM CONSTRUCTION

A. Undisputed construction of limitations 1[G]/11[E]

The Board ordered the parties to "submit proposed constructions" for limitations 1[G]/11[E], i.e., "continuously generat[e] and simultaneously communicat[e] 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."

Institution Decision, 16, 40–41. If "a party proposes that this limitation should have its ordinary and customary meaning," the Board ordered, "the party shall submit and explicitly identify such meaning." *Id.* The Board further ordered the parties to address four questions pertaining to the construction of that limitation. *Id.*

Nike submits that the ordinary and customary meaning is "generating and communicating to the first user at the first location and the second user at the second location, ***at the same time and without interruption or perceived delay***, an interface indicating whether the challenge has been met." Response, 28 (citing Ex. 2005, ¶35) (emphasis added); *see also id.*, 29–36 (addressing each of the Board's four questions). lululemon "does not dispute" Nike's proposed construction. Reply, 2–3. And lululemon "does not dispute" any of Nike's answers to the Board's four questions. *Id*. The Board should thus adopt this undisputed construction.

lululemon incorrectly argues that the parties' undisputed construction "do[es] not impact patentability." Reply, 2–3. But lululemon has simply misapplied and ignored key components of the parties' construction. As discussed below, lululemon takes the position that *any* interface depicting user progress is "continuously generated." Dr. Lynch also testified to this effect during his December 14, 2023 deposition. Ex. 2013, 82:21–83:16; *see also* Ex. 2013, 111:12–24. Dr. Lynch testified that "any interface" that serves the purposes of "collecting data from the real world and displaying that data in a way that's useful to the user" is a

"continuously generated" interface. *Id.* Dr. Lynch even opined that he would consider an interface that generated once every two years to be a "continuously generated" interface. Ex. 2013, 61:16–62:2 (discussing a "door status" interface that generates only when a certain door is opened or closed). But if that were the case, there would be no meaningful distinction between "an interface indicating whether the challenge has been met" and "a *continuously generate[d]* … interface indicating whether the challenge has been met." This implicit construction of "continuously generated" is improper. *See* Wasica Fin. GmBH v. Cont'l Auto Sy., Inc., 853 F.3d 1272, 1288 (Fed. Cir. 2017) ("It is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous."). And Dr. Lynch's application of "continuously generated" is not consistent with the parties' construction. As discussed below, a proper application of the parties' undisputed construction makes clear that neither Tagliabue nor Arrasvuori disclose or suggest limitations 1[G]/1[E].

First, lululemon misapplies the parties' construction to Tagliabue. lululemon argues that Tagliabue's participant-progress interfaces constitute "continuously generated" interfaces. Reply, 5–6. According to lululemon, any interface depicting participant progress is "continuously generated" because "[p]rogress updates subject to interruptions would be of little use in a live competition." *Id.* Not all interfaces showing the progress of a live competition are "continuously generated," i.e., generated "without perceived interruption." Instead, these interfaces may be updated

every five minutes or, for example, each time a given runner passes a mile-marker. lululemon also argues that Tagliabue's interfaces generate and communicate updates in "real-time." Reply, 6. According to lululemon, "real-time" requires "[n]o specific speed [of updates]." Reply, 6. But the parties agree that "real-time" updates are updates "without perceived delay." Response, 34–36; Reply, 2. In other words, the update must be generated and communicated to the interface such that the user does not perceive a delay between their performance and the displayed activity. *See* Ex. 2005, ¶70.

Second, lululemon misapplies the parties' construction to Arrasvuori. Here too, lululemon argues that *any* interface representing the relative progress of participants in an activity is "continuously generate[d]." *See* Reply, 10–14. In lululemon's view, "continuously generate[d]" does not require generation at any "specific frequency." Reply, 13. For example, lululemon relies on an interface that updates "at certain intervals such as every mile." *See* Reply, 13–14 (arguing that a continuously *displayed* interface is "continuously generated"). Dr. Lynch similarly opines that an interface that does not update for "substantial periods of time," such as "36 seconds" or "once per mile" is continuously generated. Ex. 1017, ¶¶10, 44. None of these disclosures reflect an interface that is generated "without perceived interruption," i.e., at intervals occurring so frequently they are imperceivable. Response, 47; Ex. 2005, ¶80. The specification of the '256 patent confirms that

"continuous generation" of the interface in "real-time" occurs "without perceived interruption" and "without perceived delay." For example, the '256 patent discloses "[c]onstant updates" received by portable device 203 from the athletic performance tracking site. '256 patent, 31:6–10, 31:44–46; Response, 35. The portable device that communicates with the user interface to "display athletic performance data in real-time" is able to display challenge data from all participants "based on receipt of these constant updates." *Id.*, 30:8–31:48; Ex. 2005, ¶49.

Thus, the Board should reject lululemon's incorrect application of Nike's proposed construction to the prior art.

B. "common unit"

Nike's proposed construction for "common unit" is "a representation of athletic performance data including types of data not normally expressed in that particular unit." Response, 40. As Nike explained in its Response, a "common unit," as properly construed in light of the '256 patent, facilitates comparison of different types of athletic activities, e.g., weight lifting and running, in the same unit. *See id.* lululemon misunderstands Nike's proposed construction for "common unit." Nike does not disagree that "miles" can be a "common unit." Instead, Nike contends that "miles" is a "common unit" only when used to represent at least one activity "not normally expressed in that particular unit." Response, 39–41; Ex. 2005, ¶¶73, 75. Miles, when used to measure a user's performance in walking and running, would

still be a "unit of measurement" or an "activity unit," but it would not be a "*common* unit" as contemplated by the '256 patent. This is because walking and running are already measured in units of distance, such as miles. And contrary to what lululemon states, Nike does not argue lexicography or disclaimer for this term, and its proposed construction does not exclude any embodiments from the '256 patent specification.

III. GROUND 1: LULULEMON FAILS TO DEMONSTRATE THAT TAGLIABUE ANTICIPATES CLAIMS 1–20

lululemon's Reply does no more than confirm the Board's preliminary findings: "Petitioner's foregoing challenge to claims 1–20 based on anticipation by Tagliabue is unpersuasive." Institution Decision, 35. Specifically, as the Board preliminarily found, Tagliabue does not sufficiently disclose the features of limitations 1[G]/11[E]: "continuously generating" and "simultaneously communicating" an "interface" to users "in real-time." *See id.* Tagliabue also fails to disclose a "common unit," as contemplated by the '256 patent. lululemon falls far short of the standard for showing anticipation. *See Net MoneyIN, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008) ("[D]ifferences between the prior art reference and a claimed invention, however slight, invoke the question of obviousness, not anticipation.").

A. Tagliabue does not disclose limitations 1[G]/11[E]

lululemon argues that Tagliabue discloses each bolded feature from limitations 1[G]/11[E]: "***continuously*** generat[ing] and ***simultaneously*** communicat[ing] in ***real-time*** to the users." Reply, 5. But Tagliabue discloses a slower, more conventional system in which a user syncs athletic data from a portable device with a local computer by, for example, wiring the device to the local computer. *See, e.g.*, Ex. 2005, ¶¶68, 70–71. While this interface would display a user's progress relative to other participants—it is only updated intermittently, i.e., when a user makes that connection. *Id.* The interface is therefore not instantaneously accurate. *Id.* The interface in this system is consistent with the state of the art as of Tagliabue's filing date. *Id.*

lululemon points to no explicit disclosures in Tagliabue to show these features. And lululemon's expert agrees that no such disclosures exist. *See, e.g.*, Ex. 2013, 106:7–11 ("I am not aware of any frequencies [with which the interface is generated] mentioned in Tagliabue."). Instead, lululemon repeatedly refers to what a POSITA reading Tagliabue would have purportedly "expected" or "understood." *See* Reply, 6 ("a POSITA would have expected Tagliabue's system to provide such updates without interruption"), ("A POSITA would have understood that Tagliabue communicates updates in real-time), 7 ("[A] POSITA would have understood that

Tagliabue's disclosure of displaying updates to 'each participant' means that Tagliabue's system communicates the updates 'simultaneously'.").

To prove inherent anticipation, lululemon must show that these claim limitations are "necessarily present" in Tagliabue. *See Nextremity Solutions, Inc. v. Extremity Medical, LLC*, IPR2022-00802, Paper 35, 12 (PTAB Jul. 26, 2023) (petitioner bears burden to show that any claim element not explicitly disclosed by an allegedly anticipating reference "is necessarily present" in the reference); *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed. Cir. 2002) ("necessarily present" is "not merely probably or possibly present"). But lululemon and Dr. Lynch merely argue that the absence of these features in Tagliabue would have been ill-suited for Tagliabue's application. *See* Reply, 6–7 (citing Ex. 1017, ¶¶19, 29–30) ("Progress updates subject to interruptions would be of little use in a live competition…"), ("otherwise, a viewer would not perceive [the updates] to reflect 'each participant's progress' …"). That is legally insufficient.

As to "continuous generation," lululemon argues that Tagliabue's "interface showing each participant's progress toward the goal of the challenge" constitutes an interface that is generated "without interruption." Reply, 5–6 (citing Ex. 1004, 22:60–63). The portion of the specification cited by lululemon says nothing about the manner in which the interface is generated or updated. Reply, 5–6 (citing Ex. 1004, 22:60–63). lululemon next relies on Dr. Lynch's opinion that "[a] POSITA

reading Tagliabue would have understood that such an interface would be generated 'without interruption.'" Ex. 1017, ¶19 (citing Ex. 1004, 22:55–63). "[T]he alternative," Dr. Lynch claims, "would not provide 'updates regarding the status of a participant relative to other participants.'" Ex. 1017, ¶19 (citing Ex. 1004, 22:55–63). Dr. Lynch then points to Figure 12 of Tagliabue showing a bar graph of a user's progress, opining that an interface not continuously generated "would not be consistent with either Figure 12's appearance or its description of Figure 12 as 'displaying the user's progress.'" *Id.*, ¶¶20–21. But Dr. Lynch's logic is flawed. Neither the cited passage nor Figure 12 require updating the interface at an imperceivable rate. At best, lululemon's argument is that that continuous generation in Tagliabue's system was possible—not necessarily present.

As to "real-time," lululemon says that 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.'" Reply, 6 (citing Ex. 1004, 22:55–56, 22:62). But again, Tagliabue does not discuss the elapsed time between a user's activity and the generated interface. And Tagliabue—unlike the '256 patent—never uses the phrase "real-time." Response, 38. lululemon never explains why Tagliabue's system would necessarily generate and communicate the interface quickly enough that a user does not perceive a lag, other than to say that otherwise

"a viewer would not perceive" Tagliabue's interface "to reflect 'each participant's progress.'" Reply, 6 (citing Ex. 1017, ¶¶29–30). The mere fact that adding a "real-time" limitation to Tagliabue would have improved Tagliabue's system is not a basis for showing inherent anticipation. *See U.S. Water Servs., Inc. v. Novozymes A/S*, 767 Fed.Appx. 950, 956 (Fed. Cir. 2019) (holding "the possibility" of achieving a certain condition "not legally sufficient to demonstrate inherent anticipation"). And as discussed above, Tagliabue's process of intermittently syncing a portable device to a local computer via, for example, a wired connection would not satisfy "real-time" generation and communication of the interface.

Finally, the non-overlapping portions of the '256 patent specification do not "just restate[] Tagliabue's teachings," as lululemon alleges. *See* Reply, 7–10. For example, Tagliabue fails to disclose "real-time" display of performance. Response, 15. Tagliabue also lacks any disclosure of "constant updates." *Id.*, 15–16. And Tagliabue's disclosures relating to display of relative performance lack the requirement of how much progress each user has *actually* made. *Id.*, 16. lululemon's attempt to identify certain general features in Tagliabue that also exist in the '256 patent (e.g., "avatars" that illustrate progress) is insufficient to prove anticipation. Reply, 7, 9 (criticizing Dr. Toney-Bolger's testimony that interface 1700 is an example of an interface meeting limitations 1[G]/11[E]). The mere display of a user's progress is insufficient to prove anticipation of limitations 1[G]/11[E]. Rather,

the limitation also relates to how and when the progress arrives at the interface to display.

For at least the foregoing reasons, lululemon fails to show by a preponderance of the evidence that Tagliabue anticipates any Challenged Claim in Ground 1.

B. Tagliabue does not disclose that "the challenge is defined in terms of a common unit" as properly construed

Tagliabue does not disclose a "common unit." *See* Response, 39–41. For the same reasons advanced in Nike's Response, Tagliabue fails to anticipate dependent claims 7 and 15.

IV. GROUNDS 2 AND 3: LULULEMON FAILS TO DEMONSTRATE THAT ARRASVUORI ANTICIPATES OR RENDERS OBVIOUS CLAIMS 1–4, 7, 8, AND 11–16

lululemon has not shown that Arrasvuori discloses or renders obvious "continuous generation" of an interface under the proper construction of this term, i.e., "without perceived interruption." And lululemon has not rebutted Dr. Toney-Bolger's opinion that "continuous generation" in "real-time" of an "interface" at the time of invention was not a trivial feat. In its Petition, lululemon failed to even argue that Arrasvuori teaches "continuously generating" the claimed interface. Petition, 55–58, 63; Response, 43. lululemon merely argues Arrasvouri teaches the continuous display of an interface. *See id.* But as discussed above in Section II.A, continuous display does not equate to "continuous generation" of an interface, as

recited in limitations 1[G]/11[E]. lululemon's Reply does not cure this deficiency in its Petition.

With respect to the dependent claims, lululemon fails to show that Arrasvuori anticipates or renders obvious at least two limitations recited in claims 2, 3, and 12–14. First, lululemon fails to show that Arrasvuori discloses or suggests "wherein the challenge is received from the second user," as recited in claims 2, 3, and 14. Second, lululemon fails to show that Arrasvuori discloses or suggests that the "sensor worn on the appendage of the first user comprises a location-determining sensor" or an "accelerometer," as recited in claims 12 and 13.

lululemon has thus not shown by a preponderance of the evidence that Arrasvuori anticipates or renders obvious any Challenged Claim of the '256 patent.

A. Arrasvuori's leaderboards and avatars are insufficient to disclose or suggest "continuous generation"

lululemon has not shown by a preponderance of the evidence that Arrasvuori discloses or suggests "continuously generating … to the first user … and the second user … an interface," as recited in limitations 1[G]/11[E].

There is no dispute that Arrasvuori is silent as to the frequency with which its interface is generated. *See* Reply, 10–14. lululemon's only argument is that a POSITA "would have understood" that Arrasvuori's leaderboards and avatars—which show the users' relative performance—are generated "without interruption."

Reply, 10–12. lululemon argues that a continuously generated interface would permit a user to know "how well [they are] competing relative to other [] users." *Id.* And thus, lululemon argues, *all* leaderboards are continuously generated interfaces. Reply, 10–11 (citing Ex. 1017, ¶38). But not all leaderboards in 2007—or even today—were continuously generated interfaces. Some leaderboards regenerate only upon occurrence of certain events, such as the leaderboard for the Tour de France, where the leaderboard regenerates only as cyclists complete certain stages of the race. lululemon simply assumes that the leaderboard in Arrasvuori is a continuously generated interface. But to prove anticipation by inherency, lululemon cannot rely on "probabilities or possibilities." *See PAR Pharm, Inc. v. TWI Pharm., Inc.*, 773 F.3d 1186, 1195 (Fed. Cir. 2014) ("While it is possible that [prior art] system utilizes [the claimed feature], mere possibility is not enough."). The mere fact that a reference "may" disclose a certain claimed feature is not sufficient to carry the burden of anticipation by inherency. *Id.*; *HTC Corp. v. Cellular Comm'ns Equip., LLC*, 877 F.3d 1361, 1368–69 (Fed. Cir. 2017).

lululemon also relies on Dr. Lynch's testimony that Arrasvuori's application "has no value" without continuous generation. Reply, 11 (citing Ex. 2006, 66:24–67:2). But Dr. Lynch's testimony is unsupported and conclusory, and should be rejected. *See Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1362–63 (Fed. Cir. 2016) (unsupported, conclusory statements cannot be used to fill gaps and missing

limitations from prior art). Dr. Lynch opines that video games from 2007 demonstrate the obviousness of a continuously generated interface. *See* Ex. 1017, ¶40 ("[P]eople around the world are playing in realtime shooting at each other, and those things have to be … continuously generated."). But Dr. Lynch admitted he is not an expert in the fields of video game design, nor is he an expert at designing the software that video games use to control latency and turnaround times. Ex. 2013, 34:22–35:14. His opinion as to how a skilled artisan would modify Arrasvouri using video game software is therefore unreliable.

This opinion is also inapposite because controller-based video games are far different from the system claimed in the '256 patent. Dr. Lynch opines that a multi-player "shooting" video game in 2007—namely "Call of Duty"—demonstrates the obviousness of a continuously generated interface. Ex. 2013, 116:13–117:8. But the interfaces generated in the multi-player "shooting" video games of 2007 are far different from the interfaces recited in the '256 patent. Call of Duty and similar shooting video games merely generated an interface based on buttons pressed by the user. They did not involve sensing, processing, and relaying to an interface data collected from a user's physical activity—the way that the '256 patent claims recite. The continuous generation of an interface based on user activity is far more complex than a traditional, button-based video game. *See* Ex. 2005, ¶70. Yet lululemon never addresses this critical difference. As Dr. Toney-Bolger opines, modifying Arrasvuori

to include a continuously generated interface would have required "sensing relevant data, collecting raw data, processing raw data to determine the value of the metric of interest (which can include data cleaning, filtering, rectifying, etc.), and communicating the result without perceived delay (in real-time) and without perceived interruption (continuously)." *See id.* lululemon has not shown that this modification would have been obvious.

lululemon thus fails to show by a preponderance of the evidence that Arrasvuori anticipates or renders obvious any Challenged Claim in Grounds 2 and 3.

B. lululemon fails to show that Arrasvuori discloses or suggests a "wirelessly connected sensor worn on an appendage of a first user," as recited in limitations 1[A]/11[B]

lululemon argued in its Petition and argues again in the Reply that Arrasvuori discloses a "wirelessly connected sensor worn on an appendage of a first user," as recited in limitations 1[A]/11[B]. Petition, 42–43; Reply, 17. Specifically, lululemon argues that Arrasvuori's "wireless node" "can take the form of a 'computerized watch.'" Reply, 17. But Arrasvuori never discloses or suggests that its wireless node is a computerized watch (Response, 47–48). Arrasvuori's only mention of a computerized watch falls in a generic listing of types of computers that may assist with "[v]arious operations" in "various embodiments." Ex. 1005, ¶90. For the reasons previously discussed in Nike's Response, lululemon has not shown by a

preponderance of the evidence that Arrasvuori anticipates or renders obvious any challenged claim in Grounds 2 or 3.

C. Arrasvuori does not disclose or suggest "wherein the challenge is received from the second user," as recited by claims 2, 3, and 14

lululemon's Reply confirms that Arrasvuori does not disclose or suggest a "challenge received from the second user." lululemon argues that Arrasvuori's disclosure of "multiplayer videogames" involving "plural" users indicates receiving a challenge from a second user. Reply, 19. Although Arrasvuori generally discloses two users being in a challenge, it never discloses receiving a challenge from a "second user." *See* Ex. 2005, ¶¶82–83.

lululemon thus fails to show by a preponderance of the evidence that Arrasvuori anticipates or renders obvious claims 2, 3, or 14.

D. lululemon fails to show that Arrasvuori discloses or suggests "the sensor worn on the appendage of the first user comprises a location-determining sensor," as recited in claim 12

For the same reasons discussed above in Section IV.B, lululemon fails to show that Arrasvuori discloses or suggests that the sensor is worn on an appendage of the user. Thus, lululemon fails to show by a preponderance of the evidence that Arrasvuori anticipates or renders obvious claim 12.

E. lululemon fails to show that Arrasvuori discloses or suggests "the sensor worn on the appendage of the first user comprises an accelerometer," as recited in claim 13

For the same reasons described above in Section IV.B, lululemon fails to show that Arrasvuori discloses or suggests that Arrasvuori's wireless node is worn on an appendage of the user. lululemon declines to even address Nike's arguments as to why Arrasvuori's sensor does not comprise an accelerometer. Response, 51–52. As discussed in Nike's Response, Arrasvuori makes no mention of an accelerometer, let alone an accelerometer constituting the sensor worn on the appendage of the first user. *Id.* lululemon's arguments for this claim must fail.

lululemon fails to show by a preponderance of the evidence that Arrasvuori anticipates or renders obvious claim 13.

V. GROUND 4 – LULULEMON FAILS TO DEMONSTRATE THAT ARRASVUORI AND ELLIS RENDER OBVIOUS DEPENDENT CLAIM 13

lululemon fails to show that Arrasvuori's wireless node is worn on an appendage of a user. *See supra* § IV.B; Response, 52–53. For at least that reason, lululemon's arguments for claim 13 fail.

VI. GROUND 5: LULULEMON FAILS TO DEMONSTRATE THAT WATTERSON AND ARRASVUORI RENDER OBVOUS CLAIMS 1, 7, 8, 11–13, 15, AND 16

In Ground 5, lululemon asserts that a POSITA would have combined Watterson's treadmill distance data with pulse data—either from Watterson's pulse

watch or Arrasvuori's computerized watch—to reach the inventions of claims 1, 7, 8, 11–13, 15, and 16. The Board preliminarily sided with Nike, finding persuasive Nike's arguments that lululemon selectively culled pieces of Watterson and Arrasvuori in a hindsight-based reconstruction. Institution Decision, 38. The Board was correct.

As discussed in Nike's Response, lululemon's arguments fail for two reasons. First, lululemon fails to show that pulse data from Watterson's pulse watch, i.e., "data from a wirelessly connected sensor," is used to determine an "amount of athletic activity performed" by first or second users, which is then "compar[ed]" to determine "whether the challenge has been met." Second, lululemon fails to show that a POSITA would have been motivated to combine Arrasvuori's computerized watch with Watterson to adjust Watterson's treadmill-generated velocity data based on differing user physical fitness levels.

A. Watterson does not disclose or suggest determining the "amount of athletic activity performed by the first user" based on "data from a wirelessly-connected sensor worn on an appendage of the user," and then comparing the first user's "amount of athletic activity" to that of a second user to determine "whether the challenge has been met," as recited in claims 1 and 11

Claims 1 and 11 recite that "data from a wirelessly-connected sensor" is (i) used to determine an "amount of athletic activity performed" by a first user, and then (ii) compared with the athletic activity of a second user to determine "whether a

challenge has been met." As discussed in Nike's Response, lululemon fails to show that pulse data from Watterson's pulse watch is used in this way. Response, 54–59. In its Reply, lululemon argues it would have been obvious "to use data from Watterson's pulse watch … *together with* raw velocity data from Watterson's treadmill to compute effective velocity." Reply at 21. But that can't be. Watterson's competitions track and compare the actual distance traveled by the users during the race. *See* Ex. 1006, 40:48–61, 41:43–48; Response, 56–57. In other words, when Watterson measures the "amount of athletic activity performed," it relies on the treadmill—not a "wirelessly-connected sensor"—to measure that information. *See* Ex. 1006, 40:48–61, 41:43–48; Ex. 2006, 94:14–21. Watterson's pulse watch only measures the user's pulse. And a comparison of pulse data between the first and second users would not inform who won a race, i.e., "whether the challenge has been met." Thus, Watterson's pulse watch would not measure the relevant "amount of athletic activity" to be compared between first and second users.

Watterson also never discloses a pulse watch in conjunction with any of its competitions. Watterson mentions a pulse watch only once. In describing Figure 1, Watterson states that the system may "transceive one or more signals to and from computer 14 and treadmill 12 via network 16," where the signal may include heart rate gathered by a pulse watch. Ex. 1006, 18:62–66. Dr. Lynch agreed that Watterson never describes using a pulse watch in the context of its competitions. *See* Ex. 2006,

102:8–15 (Q. So just to clarify, in Watterson's discussion of the race around the world, the race against the computer, and the personalized race … there's no mention of pulse rate; correct? A. I believe mentions of pulse rate are elsewhere, but not in those passages.). As the Board found persuasive (Institution Decision, 38), lululemon's proposed modification to "use data from Watterson's pulse watch … *together with* raw velocity data from Watterson's treadmill to compute effective velocity" (Reply, 21) is driven by impermissible hindsight. lululemon selectively culls pulse data from Watterson's pulse watch to meet the claimed limitation, with insufficient rational underpinning to do so. *See Univ. of Strathclyde v. Clear-Vu Lighting LLC*, 17 F.4th 155, 162 (Fed. Cir. 2021) (rejecting a "hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention"); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) (holding that obviousness "cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.").

lululemon also has not shown that a POSITA would have had a reasonable expectation of success in making this modification. *See Abbott Labs., Inc. v. Sandoz, Inc.*, 544 F.3d 1341, 1352 (Fed. Cir. 2009) ("[K]knowledge of [a] goal does not render its achievement obvious."). lululemon argues that doing so "would have been 'trivial.'" Reply, 23 (citing Ex. 1003, ¶117). lululemon mischaracterizes Dr. Toney-

Bolger's testimony in support of this argument. lululemon apparently argues that, because Dr. Toney-Bolger testified that parameters of the same unit in a numerator and denominator cancel one another out, a POSITA would have reasonably expected to derive Dr. Lynch's equation. *Id.* (citing Ex. 1016, 76:20–78:8). lululemon conspicuously omits Dr. Toney-Bolger's deposition testimony starting with her response to the very next question, where she indicates that she could not "explain …how that formula would work" "because it doesn't make sense." Ex. 1016, 78:9.

Thus lululemon fails to show by a preponderance of the evidence that Watterson, in view of Arrasvuori, renders obvious any challenged claim in Ground 5.

B. Watterson already solves the problem that Arrasvuori's compensation feature purports to solve

lululemon argues that a POSITA would have been motivated to combine Arrasvuori's feature of "normalizing virtual performance according to competitor physical fitness levels" with Watterson's competitions because some participants cannot perform the same exercises as others. Petition, 74–75, 77. But Watterson already solves this problem, rendering baseless lululemon's alleged motivation to combine. *See* Decision on Appeal, Appeal No. 2018-008208, at 6 (P.T.A.B. Jul. 1, 2020) (finding no motivation to combine secondary reference when primary reference "already discloses an effective" solution); Response, 60–62. lululemon

argues that Watterson never discusses these solutions in the context of a head-to-head competition. Reply, 22. But Watterson does address scaling workout difficulty in the context of a competition. Ex. 1006, 41:26–41. And lululemon fails to explain specifically why a skilled artisan—in view of these scaling features—would be motivated to combine Watterson with Arrasvuori simply to apply the features to a head-to-head competition. This type of conclusory, unsupported attorney argument cannot supply a motivation to combine. *See Facebook, Inc. v. Windy City Innovations, LLC*, 973 F.3d 1321, 1342 (Fed. Cir. 2020) (affirming Board's finding of nonobviousness where petitioner's contentions were "based on attorney argument rather than evidence in the record").

C. Watterson does not disclose or suggest that "the challenge is defined in terms of a common unit," as recited in claims 7 and 15

As discussed above in Section II.B, the unit of measurement "miles" is not a common unit, under the proper construction of that term, when representing only activities that are normally measured in units of distance. At least for that reason, lululemon's arguments fail.

lululemon fails to show by a preponderance of the evidence that Watterson in view of Arrasvuori renders obvious claims 7 or 15.

D. There would have been no motivation to implement a "location-determining sensor" or "accelerometer" into Watterson's pulse watch to meet claims 12 and 13

lululemon's arguments fail for the same reasons discussed above in Section VI.A and for those discussed Nike's Response. Response, 65–66. lululemon's notion that it would have been obvious to add a GPS or accelerometer to Watterson's pulse watch doesn't make sense. lululemon argues that Watterson "requires information about the 'particular location of the competitor[s]' to set the 'start time' of a personalized race." Reply, 24. But beyond the selection of a starting location, there is no need to track the user's position on a stationary treadmill. And Watterson's distance data comes only from its treadmill—not from its pulse watch. Therefore, measuring changes in a user's position serves no purpose in Watterson's competitions.

lululemon fails to show by a preponderance of the evidence that Watterson in view of Arrasvuori renders obvious claims 12 or 13.

VII. CONCLUSION

For the reasons discussed above, lululemon has failed to prove by a preponderance of the evidence that any of claims 1–20 of the '256 patent are unpatentable. Nike requests that the Board enter a final written decision affirming the patentability of those claims.

Dated: December 18, 2023

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CERTIFICATE OF WORD COUNT

Under the provisions of 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the Microsoft Office word count including all footnotes for the foregoing Patent Owner's Sur-Reply, excluding the table of contents, table of authorities, certificate of word count, appendix and certificate of service, totals 5,445 words, which is less than the 5,600 words allowed under 37 C.F.R. § 42.24(c)(4).

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), I certify that on December 18, 2023, I caused a true and correct copy of **PATENT OWNER'S SUR-REPLY** to be served by electronic mail on Petitioners' counsel at the following email addresses:

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