## 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.

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Case IPR2023-00189 Patent No. 9,278,256

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#### PATENT OWNER'S PRELIMINARY RESPONSE

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## **EXHIBITS**

Exhibit No.	Description
2001	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")

#### I. INTRODUCTION

Patent Owner Nike, Inc. ("Nike") submits this Preliminary Response to the Petition of lululemon athletica canada inc. and lululemon usa inc. ("Petitioner") challenging the validity of Claims 1-20 (the "Challenged Claims") of U.S. Patent No. 9,278,256 (the "'256 Patent") (Ex. 1001). Petitioner has not established a reasonable likelihood that it will prevail for any claim in any of the Grounds raised in the Petition.

The '256 Patent relates to the collection and display of athletic information, and the Challenged Claims specifically recite comparing athletic activity between two users participating in a challenge and continuously generating and simultaneously communicating an interface in real-time to the users to indicate whether the challenge has been met. Petitioner presents five grounds challenging Claims 1-20 of the '256 Patent. Ground 1 is based on U.S. Patent No. 8,162,804 ("Tagliabue"), a purported prior art reference that was substantively before the examiner during prosecution of the '256 Patent. Grounds 2-4 are based primarily on U.S. Patent Publication No. 2007/0239479 ("Arrasvuori"), and Ground 5 is based on a combination of U.S. Patent No. 6,458,060 ("Watterson") and Arrasvuori.

Each of Petitioner's asserted grounds suffers from fundamental flaws. In Grounds 1-4, Petitioner glosses over key limitations of the independent claims, and

fails to show how the asserted prior art references disclose, teach, or suggest "continuously generat[ing] and simultaneously communicat[ing] 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." In Ground 5, Petitioner has not identified a sufficient reason why a POSITA would have been motivated to combine Watterson and Arrasvuori. Instead, Petitioner's proffered motivation to combine the references is based on improper reconstruction of the Challenged Claims. Furthermore, Petitioner's allegations are inconsistent. Petitioner contends that Watterson's "pulse watch" (which measures heart rate) corresponds to the claimed wirelessly-connected sensor of the '256 Patent. But Petitioner later argues that the data compared to determine whether the challenge has been met is the distance run—data not measured by the "pulse watch." To the contrary, Patent Owner's expert explains that in Watterson, the distance run would be calculated based on input from the treadmill's sensors, not a pulse watch.

For at least these reasons, and as discussed further below, Petitioner has not carried its burden of proving a reasonable likelihood of unpatentability for at least one Challenged Claim. Patent Owner therefore respectfully requests that the Board decline to institute review.

#### II. BACKGROUND

#### **A.** '256 Patent

The '256 Patent is directed to the collection and display of athletic information. '256 Patent at 1:27-28. The '256 Patent explains that many people have difficulty finding motivation to maintain a regular exercise program. *Id.* at 1:34-36. The '256 Patent provides athletes more motivation for regular exercise through the use of a more immediate, visual type of feedback. *Id.* at 1:47-49. In addition, some athletes are more motivated to exercise when competing against another person. *Id.* at 1:50-57. Accordingly, the invention of the '256 Patent provides functionality to challenge other users to a competition regarding athletic activities and display a comparison of the user's athletic performance substantially in real-time. *Id.* at 21:59-62, 30:35-44, 37:11-13, Figs. 36, 37; *see also* Ex. 2001 ¶25.

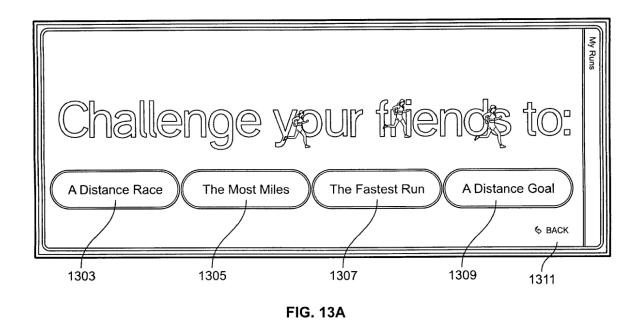
To this end, the '256 Patent discloses an athletic parameter measurement device 207 that is worn by the user while he is performing an athletic activity.

'256 Patent at 7:67-8:4. As shown in Figure 3, the athletic parameter measurement device 207 includes one or more sensors 301, which may be accelerometers. *Id.* at 8:11-19; Fig. 3. The athletic parameter measurement device 207 transmits signals to the electronic interface device 205, which provides the received information to the digital music player 203 or other portable electronic device. *Id.* at 8:44-46, 56-

60. When the digital music player 203 is subsequently connected to a computing device, the computing unit 313 will download the athletic data to a display configuration tool. *Id.* at 9:58-63. Furthermore, the '256 Patent discloses bidirectional communication between portable device 203/athletic equipment and an athletic performance tracking site, such that "[c]onstant updates can be provided from the athletic performance tracking site to the athletic equipment and portable device 203." *Id.* at 31:42-44-46; Ex. 2001 ¶26.

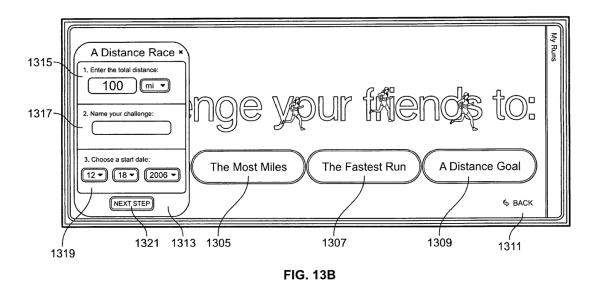
In Figure 13A, the '256 Patent illustrates an exemplary user interface that may be provided to create a challenge to other users. '256 Patent at 4:5-7. A user may issue a challenge to one or more other athletes to a distance race 1303, most miles race 1305, fastest run 1307, or a distance goal 1309. *Id.* at 21:65-22:1.

1301~



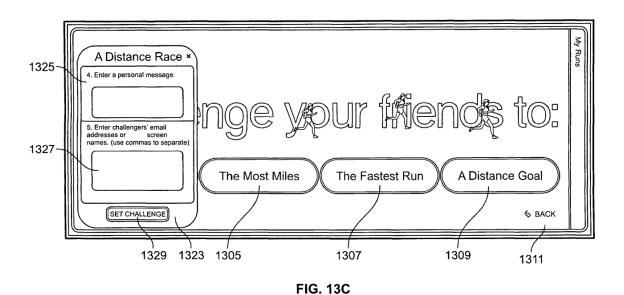
If the user activates the Distance Race button 1303, Figure 13B shows the next sub-interface, where the user indicates the total distance for the race 1315 and the start date 1319.

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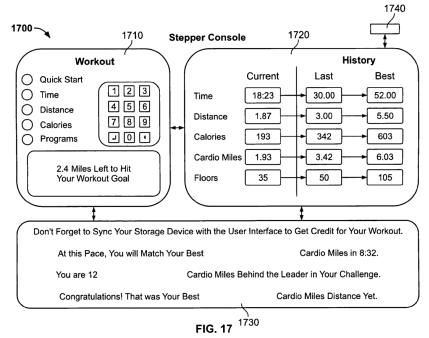
After selecting "next step" 1321, the user enters the email address or screen name of the athlete that the user wishes to invite to participate in the challenge 1327, as shown in Figure 13C.

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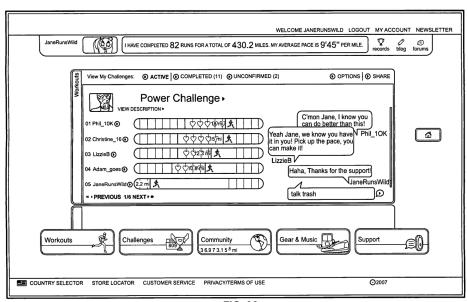


After the participants agree to join the challenge, the athletic data display configuration device 601 monitors the collected athletic data for each of the participants and aggregates the relevant data values. *Id.* at 23:4-7. The athletic data display configuration device 601 may additionally provide updates regarding the status of a participant relative to other participants. *Id.* at 23:26-38.

The athletic performance device may be coupled to a console with a user interface 1700 that displays the athlete's athletic performance substantially in real-time. *Id.* at 30:35-41. The message portion 1730 of interface 1700 "may provide an indication as to the user or athlete's progress or comparison to the challenge or competition leader." *Id.* at 33:37-40. As shown in Figure 17 below, the message portion 1730 indicates that the user is 12 cardio miles behind the leader of the challenge. A POSITA would have understood that updates from the athletic performance tracking site, such as the messages indicating the user's relative status in a challenge, may be continuously generated and communicated to the user. *See id.* at 31:42-46; Ex. 2001 ¶¶26-27.



Figures 36 and 37 illustrate additional exemplary user interfaces showing various challenges in which the user is participating. '256 Patent at 4:59-60. As shown below, user interface 2400 displays the progress of one or more users or athletes participating in the challenge. *Id.* at 37:11-20.



#### **B.** Relevant File History

During prosecution, the examiner considered U.S. patent and patent application publications related to two of the prior art references asserted in this Petition. Specifically, the examiner electronically signed an Information Disclosure Statement (IDS) that listed, among other references, U.S. Patent No. 7,670,263 to Ellis ("Ellis '263," Ex. 2003) and U.S. Patent Application Publication No. 2006/0205569 to Watterson ("Watterson '569," Ex. 2004). Ex. 2002 at 1 (cite no. 4), 6 (U.S. patent application publications cite no. 5). Notably, Ellis '263 is a continuation of international application No. PCT/US02/4947, which is the international application for International Publication No. WO 02/067449 to Ellis asserted in the instant Petition (Ex. 1007). Watterson '569 is also related to U.S. Patent No. 6,458,060 to Watterson asserted in the instant Petition (Ex. 1006). See Ex. 2004 at 1 (listing application No. 09/496,560 as a related U.S. application). At the bottom of the IDS, the examiner noted: "ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH." Ex. 2002. The examiner did not line through any of the references, thereby indicating that the Ellis '263 and Watterson '569 references related to the references that Petitioner asserts in the instant Petition were considered. Id. at 1 (cite no. 4), 6 (U.S. patent application publications cite no. 5). On May 29, 2015, the examiner issued a non-final rejection of the originally filed claims of the '256 Patent under 35 U.S.C. § 102 as

being anticipated by U.S. Patent Application Publication No. 2008/0300914 to Karkanias, and under 35 U.S.C. § 103 as being unpatentable over Karkanias alone and in view of U.S. Patent No. 6,013,007 to Root. Ex. 1002 at 1-9.

Patent Owner amended the claims following the examiner's non-final rejection. In particular, Patent Owner amended independent Claims 1 and 11 to recite that the first and second users perform the athletic activities at different locations and to further recite "continuously generating and simultaneously communicating 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." Ex. 1002 at 10-13. In its remarks, Patent Owner argued that Karkanias did not disclose, teach or suggest either of these newly added limitations. Ex. 1002 at 16-17. The examiner agreed and issued the '256 Patent on March 8, 2016. Ex. 1002 at 19-21; Ex. 1001.

## C. Alleged Prior Art References

## 1. Tagliabue

As Petitioner admits, the '256 Patent incorporates by reference Tagliabue's non-provisional Application No. 12/031,380. Petition at 7-8 (citing '256 Patent at 33:25-28). Thus, the examiner was aware of Tagliabue's substantive disclosure by virtue of the incorporation of its non-provisional application, but nevertheless granted the '256 Patent. *See Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247

F.3d 1316, 1329 (Fed. Cir. 2001) ("When a document is 'incorporated by reference' into a host document, such as a patent, the referenced document becomes effectively part of the host document as if it were explicitly contained therein."); *Free Stream Media Corp. v. Alphonso Inc.*, IPR2019-00762, Paper 13, at 12 (PTAB Sept. 4, 2019) (finding that the examiner was aware of the substantive disclosure of the asserted international patent application publication, where the application that issued as the corresponding U.S. version of the prior art was incorporated by reference in the challenged patent).

Petitioner contends that Tagliabue discloses "word-for-word and figure-for-figure, most of the specification of the '256 Patent." Petition at 7. Not so. While Tagliabue and the '256 Patent share some common disclosures with respect to the steps to create a challenge to other users, the '256 Patent discloses much more than Tagliabue. The '256 Patent contains 42 figures, whereas Tagliabue only contains 33 figures. Notably, Tagliabue does not include Figures 36 and 37 of the '256 Patent, showing the progress of each user participating in the challenge.

Furthermore, the specifications of the '256 Patent and Tagliabue are not identical; the '256 Patent specification spans 40 columns, whereas Tagliabue's specification spans only 32 columns. As discussed further in Section VI below, Tagliabue lacks key disclosures related to the claims of the '256 Patent, particularly disclosures relating to the real-time display of the progress of users participating in

challenges.<sup>1</sup> For instance, Tagliabue lacks the disclosure in the '256 Patent that "a user interface may display both avatars in relative position to one another based on

Because the Board may deny institution for the reasons discussed below,

Patent Owner does not address whether Tagliabue constitutes prior art in this

preliminary response. Patent Owner reserves the right to challenge the prior art

<sup>&</sup>lt;sup>1</sup> Petitioner contends that Tagliabue is prior art by at least February 14, 2008, the filing date of its first provisional application No. 60/889,753. Petition at 8. To the extent that Petitioner is not entitled to the earlier priority date of the '753 provisional application, Petitioner has not met its burden of showing that Tagliabue is entitled to the priority date of its second provisional application No. 60/909,298, filed on March 30, 2007. Petitioner only alleged that "the remaining cited disclosure from Tagliabue was added to its March 30, 2007, provisional Application No. 60/909,298, which also includes the material from the '753 application." Petition at 11. Petitioner, however, did not show that the '298 provisional application provides sufficient support for at least one claim of Tagliabue, as required by Dynamic Drinkware. Dynamic Drinkware, LLC v. Nat'l Graphics, Inc., 800 F.3d 1375, 1381 (Fed. Cir. 2015); Ex parte Mann, 2016 WL 7487271, at \*6 (PTAB Dec. 21, 2016).

how far each user has actually run. This may help motivate users to close the gap if they are behind and to further increase a lead if they are leading in the challenge." '256 Patent at 39:50-55. Tagliabue also lacks the disclosure in the '256 Patent that "the user interface 1700 console may display a comparison of substantially real-time athletic performance data to historical or otherwise stored athletic performance data." *Id.* at 30:41-44; *see also* Ex. 2001 ¶¶30-31.

#### 2. Arrasvuori

Arrasvuori is directed to systems and methods of gaming "wherein one or more users are, in the context of the video game, presented with one or more real-world fitness tasks to be performed." Ex. 1005 ¶¶1, 5; Ex. 2001 ¶32. Figure 1 shows exemplary steps involved in game initiation and game play operations according to various embodiments. Ex. 1005 ¶7. After the user indicates a desire to participate in a video game, the game may offer team-related functionalities—for instance, allowing the user to learn of available users and/or to accept

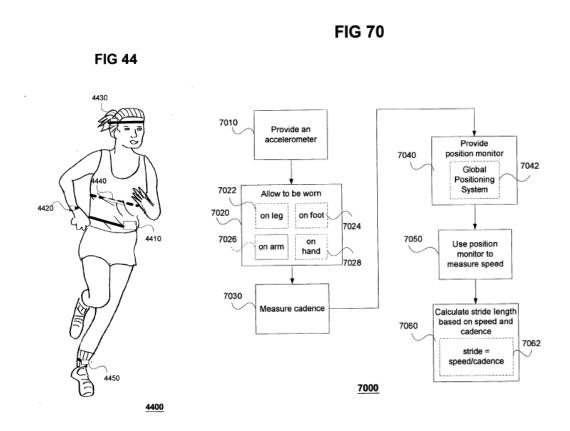
status of Tagliabue, including whether Tagliabue is entitled to the earlier priority date of the '753 provisional application and whether the invention of the '256 Patent was reduced to practice or conceived prior to the critical date of Tagliabue, if this *inter partes* review is instituted.

invitations to join one or more new and/or existing teams. *Id.* ¶18. The wireless node and/or computer then allows the user(s) to select one or more games to play. *Id.* ¶20. Then the user's wireless node and/or other computer provides game play functionality to the user. *Id.* ¶23. The game presents the user(s) with one or more real-world fitness tasks to be performed. *Id.* ¶24. Arrasvuori discloses that feedback regarding the performance of real-world fitness tasks may be provided to users, such as scores and/or presentation depicting progress of a user performing a real-world fitness task relative to other users performing the real-world fitness task. *Id.* ¶48, 50; *see also id.* ¶30; Ex. 2001 ¶33.

#### 3. Ellis

Ellis is directed to solving problems with portable personal devices that provide individual functions and cannot be combined with other devices to provide improved functions. Ex. 1007 at 1:13-22. Ellis solved this problem by providing "a system that allows multiple individual network components (INCs), each with one or more primary functions, to be used in a wireless personal network, and that INCs may be added and removed modularly to add or remove functions of the [modular personal network] MPN." *Id.* at 4:17-20; *see also id.* at 1:8-11, 1:23-26. The INCs may be worn, carried, mounted on personal equipment, or otherwise used in proximity to the person associated with the MPN. *Id.* at 4:21-23.

Petitioner relies on the MPN shown in Figure 44, which provides guidance to an athlete. Figure 44 shows exemplary INCs that may be worn on a waistband (4410), wristband (4420), headband (4430), chest strap (4440), and ankle band (4450). *Id.* at 64:11-19. Ellis discloses that INC 4420 worn on a wristband and INC 4450 worn on an ankle band may include an accelerometer, which is used to perform functions such as measuring cadence and providing form feedback. *Id.* 



In Figure 70, Ellis provides a flow chart of an illustrative process for providing an athlete with cadence and stride information using an MPN. *Id.* at 22:10-11. The accelerometer provided in the INC sends acceleration data to a control unit, which measures the frequency at which the data reaches its relative

maximums and minimums. *Id.* at 84:12-21. This data "may correspond to the rate at which the user is swinging his or her arms or moving his or her legs, which translates directly to cadence." *Id.* at 84:21-22; *see also* Ex. 2001 ¶37.

#### 4. Watterson

Watterson is described in the context of a motorized treadmill and generally directed to exercise devices that utilize motors or any other electrically driven actuators to control any operating parameter of the device. Ex. 1006 at 5:66-6:7. Such exercise machines include but are not limited to treadmills, exercise cycles, Nordic-style ski exercise devices, rowers, steppers, hikers, climbers, and elliptical or striding exercise devices. *Id.* at 6:10-15. Watterson discloses that in one embodiment, activation of the iFit.com button connects the treadmill or other exercise device to a communication system such as a website, which enables one or more users to interact with one another, and optionally compete against one another. *Id.* at 10:7-9, 10:48-58. The communication system 18 includes an interface 190 that is configured to receive signals, including audio and visual signals of the user exercising, the status of the exercise device, and data and information about the user, such as heart rate, blood pressure, and the like, that has been gathered by one or more health monitoring devices such as a pulse watch. *Id.* at 18:62-19:8. Watterson explains that the communication system can transmit the signals to and receive signals from a trainer, including audio, visual, and/or control signals for controlling the exercise device operating parameters, such as the treadmill speed and degree of incline. *Id.* at 19:8-12, 21:10-16, 21:42-48. In this manner, a trainer may observe the user in real-time and control the user's treadmill remotely. *Id.* at 22:64-67. The trainer may also selectively choose groups of participants based on various criteria, such as participants' heart rates, and change those participants' exercise program, while maintaining other participants at the original or a different exercise level. *Id.* at 49:7-11; Ex. 2001 ¶¶35-36.

Figures 17A-17D depict the operation of the competition module in the iFit.com website. Ex. 1006 at 40:17-19, 40:28-30. The user first selects the particular race that they wish to engage in. As shown in Figure 17A, there are three types of races: (1) race around the world, (2) race against the computer, and (3) personalized race. *Id.* at 40:30-33. In the race around the world, competitors compare their total distance travelled against other competitors to see who runs a number of miles equivalent to running around the world in the shortest time. *Id.* at 40:37-47. In the race against the computer, the user can select the particular type of race and skill level of the computer against which to race. *Id.* at 41:25-40, Fig. 17C. In the personalized race, "two or more individuals schedule a live on live session . . . where they may race one against the other, while viewing graphical representations of the distan[ce], time, and speed of the other competitors." Id. at 41:43-48.

#### III. DEFINITION OF A PERSON OF ORDINARY SKILL IN THE ART

For the purposes of this Preliminary Response only, Patent Owner applies Petitioner's proposed level of skill in the art: a POSITA for the technology of the '256 Patent would have had (1) a bachelor's degree in engineering, computer science, industrial design, biomechanics, or a related field, and (2) at least two years of experience researching, developing, designing, and/or testing fitness or physiological sensors, wearable devices, physiological or biomechanical devices, remotely-controlled systems or interfaces, and/or network-based applications and/or equipment, or the equivalent experience or education. Petition at 23. Patent Owner reserves the right to further address Petitioner's formulation of a POSITA if trial is instituted.

#### IV. CLAIM CONSTRUCTION

Petitioner contends that no claim construction is necessary for the purposes of this proceeding. Petition at 22. Patent Owner agrees. All terms and phrases in the '256 Patent have their ordinary and customary meanings, which are readily apparent, and no further construction is required.

# V. PETITIONER HAS NOT ESTABLISHED A REASONABLE LIKELIHOOD OF PREVAILING FOR ANY CHALLENGED CLAIM

"Petitioner bears the burden on institution of demonstrating a reasonable likelihood that it will prevail in showing the unpatentability of at least one claim. . .

. In making this showing, Petitioner must file a Petition that [] 'identifies ... the evidence that supports the grounds for the challenge to each claim." *SMIC, Ams. v. Innovative Foundry Techs., LLC*, IPR2020-00837, Paper 13, at 13-14 (PTAB Oct. 9, 2020) (citing 35 U.S.C. §§ 314(a) and 312(a)(3)). Applying that standard here, the Board should deny institution of *inter partes* review under 35 U.S.C. § 314(a) because Petitioner has not met its burden to demonstrate a reasonable likelihood that it will prevail as to any challenged claim based on the information contained within the Petition.

Anticipation requires evidence "that a single prior art reference discloses each and every element of a claimed invention." *Silicon Graphics, Inc. v. ATI Techs., Inc.*, 607 F.3d 784, 796 (Fed. Cir. 2010). Furthermore, a single embodiment must disclose each and every element of the challenged claim.

Disclosures from multiple, distinct embodiments of a prior art reference cannot be combined to anticipate the challenged claim. *Net MoneyIN, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008). To be anticipatory, a reference must not only explicitly or inherently disclose every claimed feature, but those features must also be "arranged as required by the claim." *Id.* at 1369-71. A claim feature is only inherent if it is necessarily present. *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed. Cir. 2002) ("Inherent anticipation requires that the missing descriptive material is 'necessarily present,' not merely probably or

possibly present, in the prior art."). When a claim feature is only possibly, but not necessarily, present, it is not inherent in the prior art reference. *Id.*; *Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952, 961 (Fed. Cir. 2014) (finding no inherent anticipation where something "may" happen). "[D]ifferences between the prior art reference and a claimed invention, however slight, invoke the question of obviousness, not anticipation." *Net MoneyIN*, 545 F.3d at 1371.

A claim is invalid under 35 U.S.C. § 103(a) only if "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made" to the POSITA. KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007). An obviousness determination must be based on four factual inquiries: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the art; and (4) objective indica of nonobviousness. Id. at 406 (citing Graham v. John Deere Co. Kan. City, 383 U.S. 1, 17-18 (1996)). A party alleging obviousness is "required to place themselves in the minds of those of ordinary skill in the relevant art at the time the invention was made, to determine whether that which is now plainly at hand would have been obvious at such earlier time." Millennium Pharms., Inc. v. Sandoz Inc., 862 F.3d 1356, 1367 (Fed. Cir. 2017) (citation omitted) (emphasis added).

Here, Petitioner has not shown a reasonable likelihood of success for any challenged claim under any ground of unpatentability as discussed in detail below.

Accordingly, the Board should deny institution.

#### VI. GROUND 1: TAGLIABUE DOES NOT ANTICIPATE CLAIMS 1-20

A. Tagliabue does not disclose the "continuously generat[ing] and simultaneously communicat[ing]" element of Claims 1[G] and 11[E]

Independent Claims 1 and 11 recite that the challenge module is configured to "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." *See* Ex. 2001 ¶39. Petitioner fails to show that Tagliabue discloses this limitation of Claims 1 and 11. *Id.* ¶¶ 38, 40, 44.

Petitioner's entire analysis for this limitation consists of four sentences and is not supported by any expert testimony:

Tagliabue discloses notifying users whether a challenge has been met via a "special-purpose interface ...." (Ex. 1004, 22:45-50.) During the challenge, "the athletic data display configuration device 601 may additionally provide updates regarding the status of a participant relative to other participants." (*Id.*, 22:54-56.) It "may configure and provide a user interface showing each participant's progress toward

the goal of the challenge using, e.g., bar graphs for each participant of the type previously described with regard to monitoring individual goals." (*Id.*, 22:61-65.) As explained above, the competing users can be located remotely from each other. (*Supra* § VI.A.4.)

#### Petition at 33.

Petitioner's argument is insufficient for institution because it does not explain how the cited portions of Tagliabue show Tagliabue's "special purpose interface" is *continuously* generated and *simultaneously* communicated in *real*time to the users. Rather, Tagliabue discloses that an athletic data display configuration device 601 identifies participants in a challenge, monitors the collected athletic data for the participants (and aggregates it), and identifies the first participant to meet or exceed the specified challenge as the winner. Ex. 1004 at 22:31-45; Ex. 2001 ¶41. Tagliabue further discloses that the athletic data display configuration device 601 may notify the participants of (1) the winner or (2) updated status of a participant relative to the other participants "by displaying a special-purpose interface when each participant connects to the athletic data display configuration device 601." Ex. 1004 at 22:45-65. Thus, Petitioner has not even seriously attempted to show that Tagliabue's "special purpose interface" is continuously generated and simultaneously communicated in real-time to the users, as required by limitation 1[G] and 11[E]. Ex. 2001 ¶¶42-43.

First, Tagliabue's notification of a winner occurs *after* the challenge has been completed—not "continuously" and "simultaneously communicated in real-time." *See* Ex. 1004 at 22:39-45 ("In response, the athletic data display configuration device 601 will notify each participant of the winner."). Thus, this portion of Tagliabue's specification says nothing about "continuously generat[ing] and simultaneously communicat[ing] in real-time . . . an interface indicating whether the challenge has been met," which would require such interface to be generated continuously and in real-time *during* the challenge. Ex. 2001 ¶41.

Second, to the extent Tagliabue teaches notifications about the status of a participant relative to the other participants, it does not teach that those notifications are "continuously" and "simultaneously communicated in real-time." As Dr. Toney-Bolger explains, a POSITA would have understood that Tagliabue may generate an interface with relative status updates of each participant's progress relative to other participants at certain checkpoints only, such as when the participant first connects to the athletic data display configuration device. Ex. 1004 at 22:56-60. As an example, Participants A and B may compete in a challenge to run 100 miles; at the end of January 1, Participant A has run 5 miles, and Participant B has run 7 miles. When Participant A and Participant B connect to the athletic data display configuration device the next day, on January 2, Tagliabue's interface may show a bar graph depicting their respective progress as

of the end of the first day. In this example, this interface is neither "continuously generated" nor "simultaneously communicated in real-time" to the participants, as required by limitation 1[G] and 11[E]. Ex. 2001 ¶43.

For the reasons discussed above, Petitioner has failed to establish a reasonable likelihood that Tagliabue anticipates independent Claims 1 and 11 and the Challenged Claims dependent thereon because Petitioner has not shown Tagliabue discloses "continuously generat[ing] and simultaneously communicat[ing] 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."

# VII. GROUNDS 2 AND 3: ARRASVUORI DOES NOT ANTICIPATE OR RENDER OBVIOUS CLAIMS 1-4, 7, 8, AND 11-16

A. Arrasvuori does not disclose, teach, or suggest the "continuously generat[ing]" element of Claims 1[G] and 11[E]

Grounds 2 and 3 suffer from the same deficiency as Ground 1. As discussed above, independent Claims 1 and 11 recite that the challenge module is configured to "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." Petitioner fails to show that Arrasvuori discloses, teaches, or suggests this limitation, for either anticipation or obviousness, specifically that Arrasvuori has any disclosure of *continuously* 

generating an interface indicating whether the challenge has been met. Tellingly, Petitioner omits the term "continuously" from its discussion of this limitation altogether. *See* Petition at 55 ("The server 'generate[s] and simultaneously communicate[s]' whether a challenge has been met to users . . . ."), 56 ("Generating the interface."), 57 ("the server also simultaneously communicates the interface to multiple users at different locations in 'real-time'"); Ex. 2001 ¶¶45-46. Indeed, Petitioner's arguments focus on whether the server generates the interface without ever addressing whether it does so continuously. Petition at 55-57. Likewise, Petitioner's obviousness rationale focuses on centralized processing at a server and not continuous generation. *Id.* at 57. Petitioner's expert also ignores the requirement for *continuous* generation. Ex. 1003 ¶72.

Petitioner and its expert's failure to address the "continuously generat[ing]" element of Claims 1[G] and 11[E] is fatal to these Grounds. The fact that the interface is communicated to the users "in real time, i.e., as the server generates them" (Ex. 1003 ¶72) does not necessarily mean that the server is *continuously* generating the interface. For instance, the server may collect the users' athletic performance information, but only generate and communicate the interface display containing leaderboards and graphics depicting the users' relative progress at certain intervals, such as every mile. Ex. 2001 ¶¶51-52. Petitioner bore the burden of sufficiently establishing, for purposes of institution, not only that Arrasvuori's

challenge module (i.e., server) is configured to generate the interface indicating whether the challenge has been met, but also that the interface is *continuously* generated and *simultaneously communicated in real-time* to the users. Petitioner failed to meet this burden.

In addition, examining the portions of Arrasvuori on which Petitioner relies (Ex. 1005 at Fig. 2, ¶¶49-55) shows that none of these passages disclose, teach, or suggest *continuously* generating an interface to the users. In those cited portions, Arrasvuori discusses providing feedback regarding real world fitness task performance. *Id.* at Fig. 2, ¶¶48-49. Arrasvuori notes that "in various embodiments, real-time feedback might be provided." *Id.* ¶49. As Dr. Toney-Bolger explains, however, real-time feedback may be provided without the interface being continuously generated. Ex. 2001 ¶¶50, 52. For instance, the interface may notify users of their progress or score relative to other users at every mile checkpoint. Such feedback would be real-time at the mile checkpoints, but it would not be continuously generated to provide feedback between the mile checkpoints. *Id.*; *see also id.* ¶48.

Arrasvuori also discloses leaderboards showing user and/or team performances. Ex. 1005 ¶50. Arrasvuori does not, however, disclose that such leaderboards are *continuously* generated throughout the real-world fitness task. Arrasvuori discloses that "[i]n various embodiments, with completion of and/or

during performance of a real-world fitness task, one or more scores (e.g., taking into account quality of real-world fitness task performance) might be presented."

Id. ¶51. Arrasvuori's interface would not be continuously generated if the leaderboard is presented to users only at the completion of the real-world fitness task. Even in the embodiments where leaderboards are presented during performance of a real-world fitness task, those embodiments do not disclose continuous generation of the interface because, as discussed above, a POSITA would have understood that the leaderboards in Arrasvuori could be presented during performance of the fitness task but only at designated checkpoints. Ex. 2001 ¶¶48-49. The same is true for Arrasvuori's embodiment with graphical indicators corresponding to users that are performing and/or that have performed the real-world fitness task. Ex. 1005 ¶52; Ex. 2001 ¶¶47-48.

In sum, Petitioner failed to provide even a conclusory statement addressing whether Arrasvuori discloses *continuously* generating an interface indicating whether the challenge has been met. Petitioner did not cite to any evidence to show continuous generation, nor provide any expert testimony on this point. This is insufficient for Petitioner to show a reasonable likelihood of success for either anticipation or obviousness based on Arrasvuori for any challenged claim.

# VIII. GROUND 4: PETITIONER'S RELIANCE ON ELLIS IN GROUND 4 DOES NOT CURE THE DEFICIENCIES WITH RESPECT TO THE INDEPENDENT CLAIMS IN GROUNDS 2 AND 3

In Ground 4, Petitioner relies on teachings of Ellis for dependent Claim 13 only, which additionally recites "wherein the sensor worn on the appendage of the first user comprises an accelerometer." Specifically, Petitioner argues that a POSITA would have been motivated to add Ellis's accelerometer to Arrasvuori's computerized watch. Petitioner's additional contentions for Ground 4 do not address the deficiencies of Arrasvuori with respect to the independent claims. Petition at 65-67. Petitioner does not rely on the combination of Arrasvuori and Ellis for any of the independent claims. Accordingly, Petitioner has not shown a reasonable likelihood of prevailing on unpatentability for Claim 13, which depends on independent Claim 11, for the same reasons discussed above for Grounds 2 and 3. See Section VII; Ex. 2001 ¶53.

# IX. GROUND 5: WATTERSON AND ARRASVUORI DO NOT RENDER OBVIOUS CLAIMS 1, 7, 8, 11-13, 15, AND 16

A. Petitioner has failed to show that Watterson teaches or suggests determining the amount of athletic activity performed by a first user based on data from a sensor worn on the user's appendage, and comparing the amount of athletic activity performed by the first user to that of a second user, as required by Claims 1[F] and 11[D]

As an initial matter, the requirements of Claims 1[F] and 11[D] are properly understood in the context of the other limitations of Claims 1 and 11. Claim 1[A]

recites that the "athletic performance module [is] configured to receive athletic activity data from a wirelessly-connected sensor worn on an appendage of a first user." Claim 1[D] recites that the challenge module is configured to "determine, from the received athletic activity data, a first amount of athletic activity performed by the first user." Notably, "the received athletic activity data" in Claim 1[D] refers to the athletic activity data received from the wirelessly-connected sensor in Claim 1[A]. Furthermore, Claim 1[F] recites that the challenge module is configured to "determine whether the challenge has been met by the first user based on a comparison of the first amount of athletic activity performed by the first user and a second amount of athletic activity performed by the second user." Here, "the first amount of athletic activity performed by the first user" refers to the athletic activity of the first user determined using the athletic activity data received from the wirelessly-connected sensor, as previously recited in Claim 1[A] and 1[D]. Ex. 2001 ¶56.

Similar to Claim 1, Claim 11[B] recites "determining an amount of athletic activity performed by the first user based on sensor data received from a sensor worn on an appendage of the first user." Claim 11[D] further recites "determining whether the challenge has been met by the first user based on a comparison of the amount of athletic activity performed using the first user to the amount of athletic activity performed by the second user." Petitioner has failed to show that

Watterson teaches or suggests Claims 1[F] and 11[D], as properly understood in view of the entirety of the claims. Ex. 2001 ¶¶54-55.

In an attempt to show that Watterson teaches or suggests these limitations, Petitioner strings together two unrelated disclosures from Watterson. Petitioner's argument, however, is internally inconsistent and contrary to Watterson's disclosures. First, Petitioner contends that Watterson's "pulse watch" corresponds to the claimed wirelessly-connected sensor. Petition at 70.<sup>2</sup> Watterson discloses the pulse watch as an example of a "health monitoring device" that gathers information about the user, such as "heart rate, blood pressure, and the like." Ex.

<sup>&</sup>lt;sup>2</sup> To the extent that Petitioner relies on Watterson's disclosure that "[t]readmill 12 may include[] other sensors that gather various other operating parameters, such as but not limited to, maximum pulse and heart rate, average pulse and heart rate, target heart rate, length of workout session, and the like" (Ex. 1006 at 25:17-20 (cited at Petition at 70)), Petitioner has failed to show that such other sensors are worn on an appendage of the user, as required by Claim 1[A] and Claim 11[B]. To the contrary, the language in Watterson that such other sensors are included in the treadmill 12 suggests that the other sensors disclosed in Watterson would not be worn on an appendage of the user, but rather connected as a component of the treadmill itself. Ex. 2001 ¶58.

1006 at 18:66-19:6. Thus, the user's heart rate corresponds to the claimed "received athletic activity data," which is used to determine the first amount of athletic activity. Ex. 2001 ¶57.

With respect to Claim 1[F], Petitioner relies on Watterson's disclosure that "[c]ompetition module 314, within communication module 254, [] compares user athletic performance, including 'distance traveled by the user,' in the race around the world" and "deliver[s] comparison data to communication module 254 [which] ... deliver[s] a graphical representation of the user's exercise, distan[ce] times, speed, and other information compared against other competitors to the user . . . . " Petition at 79 (citing Ex. 1006 at 40:48-61). Similarly, in the personalized race option, Watterson discloses that the users race against each other "while viewing graphical representations of the distan[ce], time, and speed of the other competitors." Ex. 1006 at 41:43-48. Thus, in both the race around the world and the personalized race options in Watterson, the amount of athletic activity that is compared to determine whether the challenge has been met is the distance that users travelled.

The distance travelled by the user is not an amount of athletic activity determined based upon the athletic activity data *from the wirelessly-connected sensor*, which Petitioner contends corresponds to Watterson's pulse watch.

Watterson does not disclose that the challenge in either the race around the world

or the personalized race options involves comparisons of the heart rate of the participants or any determination of the amount of activity based upon the heart rate (the only measurement of Watterson's pulse watch to which Petitioner points). Notably, Watterson does not disclose that the pulse watch receives each user's actual velocity data. Instead, a POSITA would have understood that the treadmill determines the distance travelled by the user based on the speed output and the duration of the workout session. Treadmill 12 includes a belt speed sensor 230 and incline sensor 232 that gather the operating parameters of the treadmill. Ex. 1006 at 25:10-17; Ex. 2001 ¶59.

Apparently recognizing this problem, Petitioner argues with respect to Claim 1[D] that its proposed combination changes "how Watterson's software determined user speed during a personalized race so that a user's apparent velocity equaled the multiple of the user's actual speed and heart rate divided by the constant." *See* Petition at 71, 74-75. Petitioner proposes this modification in a hindsight-based attempt to incorporate athletic activity data from Watterson's pulse watch to meet the claimed limitation. However, as explained above, Petitioner's theory is nowhere disclosed or suggested in Watterson, and Petitioner does not provide sufficient reasoning based on rational underpinning as to why a POSITA would have been motivated to make this modification. Ex. 2001 ¶¶60-61.

Watterson teaches that the race around the world and personalized race options involve a comparison of the *actual* distance travelled by the users, which can be determined based on a simple calculation using the belt speed multiplied by the duration of the workout. As explained in Section IX.B below, a POSITA would have had no need to modify Watterson to incorporate the user's heart rate to calculate an *apparent* velocity.

In addition, neither Petitioner nor its expert establish a reasonable expectation of success for the proposed modification. For example, neither Petitioner nor its expert explain how a POSITA would have determined the constant that Petitioner proposes dividing the multiple of the user's actual speed and heart rate by. *See* Petition at 75; Ex. 1003 ¶¶115-16 (Petitioner's expert only defining "a constant, hc, which has the same units as h"); Ex. 2001 ¶62.

Thus, Petitioner has not shown that Watterson teaches or suggests the recited "determin[ing] whether the challenge has been met by the first user based on a comparison of the first amount of athletic activity performed by the first user and a second amount of athletic activity performed by the second user," where the amount of athletic activity is determined from athletic activity data received from the wirelessly-connected sensor worn on an appendage of the user. Petitioner has also not shown that a POSITA would have been motivated to modify Watterson to arrive at this limitation. Accordingly, Petitioner failed to carry its burden of

proving a reasonable likelihood that Watterson and Arrasvuori render obvious independent Claim 1 or 11. The remaining claims challenged in Ground 5 depend from either independent Claim 1 or 11, and thus Petitioner's contentions as to those claims are deficient for the same reasons.

B. Petitioner has not shown that a POSITA would have been motivated to combine Watterson and Arrasvuori to normalize competing users' velocities by their heart rates

Claim 1[D] recites: "determine, from the received athletic activity data, a first amount of athletic activity performed by the first user." Petitioner asserts "[t]his limitation is obvious over a combination of Watterson and Arrasvouri." Petition at 74. Specifically, Petitioner proposes combining Watterson's disclosure with "Arrasvuori's disclos[ure of] normalizing virtual performance according to competitor physical fitness levels." *Id.* at 74-75 (citing Ex. 1005 ¶ 60).

Specifically, Arrasvuori discloses that the score of a real-world fitness task or graphical indicator "might take into account one or more fitness levels of a user such that the performance of the task in a certain manner would result in greater progress being depicted by the display in the case where one or more lower fitness levels were associated with the user and/or would result in lesser progress being depicted by the display in the case where one or more higher fitness levels were associated with the user." Ex. 1005 ¶60. Thus, if two users ran the same distance

in the same amount of time, the user with the higher heart rate (and lower fitness level) would appear to travel further. *See* Ex. 2001 ¶34.

However, Petitioner's purported motivation to combine Watterson and Arrasvuori is insufficient to support institution. A party seeking to invalidate a patent on obviousness grounds must demonstrate not only that a POSITA could have made the proposed combination, but that a POSITA would have been motivated to make the combination of prior art to arrive at the claimed invention. See InTouch Techs., Inc. v. VGO Commc'ns, Inc., 751 F.3d 1327, 1352 (Fed. Cir. 2014) (finding that hindsight bias in defendant's expert's testimony that "primarily consisted of conclusory references to her belief that one of ordinary skill in the art could combine these references, not that they would have been motivated to do so."). Petitioner needed to provide a rational and supported reason that a POSITA would have been motivated to combine Watterson with Arrasvuori's disclosure of normalizing user's performances. Petitioner failed to meet this burden. Ex. 2001  $\P 63.$ 

Petitioner contends that a POSITA would have been motivated to modify Watterson because some participants cannot perform the same exercises as others. Petition at 77. However, Petitioner concedes that Watterson already addressed this problem, by allowing the trainer to "selectively choose groups of participants based on various criteria, such as participant's heart rates, and change those

participants' exercise program, while maintaining other participants at the original or different exercise level." *Id.* (citing Ex. 1006 at 49:7-11); Ex. 2001 ¶¶64-65.

In addition, Watterson discloses a scaling control that enables users to vary the operating parameters of the treadmill to their individual abilities. Ex. 1006 at 11:14-37. For instance, "if an exercise program requires a maximum speed of 6 miles per hour (mph) with a maximum incline of 15 degrees for a period of 30 minutes, an individual may activate scaling control 86 to require only 66% intensity of the exercise program; stated otherwise, reduce the intensity by one third." *Id.* at 11:23-28. Thus, a user with lower fitness level could still perform the same exercise program as a user with a higher fitness level by scaling the program to a suitable intensity level. Ex. 2001 ¶¶66-67.

Furthermore, Petitioner's contention that "Watterson's athletic competitions are unlikely to motivate users who lack others with whom to compete" is insufficient. Petition at 77. Watterson discloses an option to race against the computer. Ex. 1006 at Fig. 17A. The user may select the difficulty level for the particular race as well as the skill level of the computer, such as a beginner runner, intermediate runner, or advanced runner. *Id.* at 41:26-41; Fig. 17C. Thus, Petitioner has not established that there was any reason for a POSITA to make the proposed Watterson-Arrasvuori combination, other than hindsight reconstruction of the claimed invention. Ex. 2001 ¶¶68-69. *See Kinetic Concepts, Inc. v. Smith &* 

Nephew, Inc., 688 F.3d 1342, 1369 (Fed. Cir. 2012) ("Because each device independently operates effectively, a person having ordinary skill in the art, who was merely seeking to create a better device to drain fluids from a wound, would have no reason to combine the features of both devices into a single device."); Broadcom Corp. v. Emulex Corp., 732 F.3d 1325, 1334 (Fed. Cir. 2013).

In addition, Petitioner's contention (Petition at 77) that the references relate to the same general subject matter is insufficient. *See, e.g., Microsoft Corp. v. Enfish, LLC*, 662 F. App'x 981, 990 (Fed. Cir. 2016) ("[The] Board correctly concluded that [Petitioner] did not articulate a sufficient motivation to combine . . . [because Petitioner] gave no reason for the motivation of a person of ordinary skill to combine [the two references] except that the references were directed to the same art or same techniques."). Petitioner has failed to provide adequate reasoning here to combine the teachings of Watterson and Arrasvuori.

Petitioner relies on its contentions for limitation 1[D] for limitation 11[B] (see Petition at 84), and the remaining claims challenged in this ground depend from either Claim 1 or 11. Thus, Petitioner has not met its reasonable likelihood burden as to any claim challenged in Ground 5.

#### X. CONCLUSION

For the reasons set forth above, Nike respectfully requests that the Board deny institution of the Petition for all Challenged Claims of the '256 Patent.

Dated: February 17, 2023 /s/ Christopher J. Renk

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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 Preliminary Response, excluding the table of contents, table of authorities, certificate of word count, appendix and certificate of service, totals 7,605 words, which is less than the 14,000 words allowed under 37 C.F.R. § 42.24(b)(1).

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#### **CERTIFICATE OF SERVICE**

The undersigned hereby certifies service on the Petitioner, pursuant to 37 C.F.R. § 42.6(e) and by agreement of counsel, by electronic (e-mail) delivery of a true copy of the foregoing **PATENT OWNER'S PRELIMINARY RESPONSE**, which was served on February 17, 2023 to the following Counsel for Petitioner via e-mail:

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