

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND**

IA LABS CA, LLC

Plaintiff

v.

**NINTENDO CO., LTD and
NINTENDO OF AMERICA, INC.**

Defendants

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Civil No. PJM 10-833

OPINION

IA Labs CA, LLC (“IA Labs”) has sued Nintendo Co., Ltd. and Nintendo of America, Inc. (collectively, “Nintendo”), alleging infringement of U.S. Patent No. 7,121,982, “Computer Interactive Isometric Exercise System and Method for Operatively Interconnecting the Exercise System to a Computer System for use as a Peripheral” (the “’982 patent”).¹

Nintendo develops, manufactures, and sells interactive entertainment products, including video game consoles, controllers, and software. IA Labs contends that Nintendo’s Wii gaming system infringes various claims of the ’982 patent.² Specifically, IA Labs argues that (1) the Wii Balance Board (the “Balance Board”), which is used to control games on the Wii Fit and Wii Fit Plus software played through the Wii Console, satisfies each element of Claims 1, 2, 4, 8, 9, 13, 16, 20, 21, 23, 25, 27, and 28 of the ’982 patent, (2) the Balance Board and the Wii Remote together satisfy each element of Claims 6, 7, 14, and 15 of the ’982 patent, and (3) the

¹ IA Labs purchased the ’982 patent from Interaction Labs (a.k.a. PowerGrid Fitness, Inc.) in 2009.

² IA Labs initially alleged that the Wii products also infringe U.S. Patent No. 7,331,226, but it has withdrawn these claims. IA Labs has also abandoned its claims that certain Wii accessories unrelated to the Balance Board—specifically, the Wii Nunchuck, Wii MotionPlus, Wii Wheel, and Wii Zapper—infringe the ’982 patent.

Balance Board, when used in conjunction with a television set or computer monitor, satisfies each element of Claim 5 of the '982 patent.

The Court considers Nintendo's Motion for Summary Judgment of Non-Infringement [Docket No. 204], Nintendo's Motion for Partial Summary Judgment of No Willful Infringement [Docket No. 219], Nintendo's Motion to Bifurcate [Docket No. 152], IA Labs' Motion in Limine [Docket No. 283], Nintendo's Omnibus Motion in Limine [Docket No. 288], Nintendo's Motion to Exclude the Expert Testimony of Gregory Lewis Merrill [Docket No. 333], and IA Labs' Motion to Exclude the Testimony of Defendant Witnesses Rodrigo, Li, and Berme [Docket No. 335].³ The Court has heard oral argument on the two Motions for Summary Judgment and the Motion to Bifurcate and has conducted a *Markman* hearing, during which it construed certain disputed claim terms and deferred construction of others.

For the reasons that follow, Nintendo's Motion for Summary Judgment of Non-Infringement [Docket No. 204] is **GRANTED**. Because the Court finds no infringement as a matter of law, it need not reach the merits of Nintendo's Motion for Partial Summary Judgment [Docket No. 219] nor any of the Motions pertaining to the trial of the claims [Docket Nos. 152, 283, 288, 333, and 335], all of which are deemed **MOOT**.

I. Background

A. The '982 Patent

On October 17, 2006, the United States Patent and Trademark Office issued the '982 patent to PowerGrid Fitness, Inc. The patent covers "an isometric exercise system that serves as a computer system peripheral and facilitates user interaction with a host computer

³ Also pending are Nintendo's Motion for Costs and Attorneys' Fees on Dismissed Claims [Docket No. 188] and Nintendo's Motion to Review the Clerk's Order Denying Costs [Docket No. 228], as well as various Motions to Seal, all of which the Court will address at a later date.

system while the user performs isometric exercise.” (’982 patent, col. 1 ll. 11-14.) The patent includes 28 distinct claims, each of which constitutes various permutations of the same core invention described in Claims 1 and 9.⁴

1. Purpose and Scope of the ’982 Patent

The background section of the ’982 patent distinguishes prior art isometric exercise devices from the “vast majority” of exercise devices, which utilize only isokinetic and/or isotonic exercise. (*Id.* col. 1 ll. 20-23.) According to the patent, “[i]sometric exercise involves the exertion of force by a user against an object that significantly resists movement as a result of the exerted force such that there is substantially minimal or no movement of the user’s muscles during the force exertion.” (*Id.* col. 1 ll. 29-34.) The background section provides examples of isometric exercise, including a person pushing against a stationary surface, attempting to pull apart tightly gripped hands, or attempting to bend or flex a rigid steel bar. (*Id.* col. 1 ll. 34-37.) It goes on to explain that isometric exercise can be “very useful for rehabilitation, fitness and/or training,” but that due to its “inherently tedious nature, isometric exercise devices are less popular” than their isotonic and isokinetic counterparts. (*Id.* col. 1 ll. 25-26, 37-41.)

The background section of the ’982 patent identifies the drawbacks of the existing related art. Though a “particularly important feature in many isometric exercise devices is the ability to measure forces applied to a resistive object by one or more muscle groups” (*id.* col. 1

⁴ The patent identifies two independent claims—Claim 1 is an independent system claim and Claim 9 is an independent method claim. Each of the 26 remaining claims incorporates all of the limitations of either Claim 1 or 9, and, as such, is a dependent claim, which can only be infringed if Claim 1 or 9 is also infringed. *See, e.g., Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 n.5 (Fed. Cir. 2008) (“A conclusion of noninfringement as to the independent claims requires a conclusion of noninfringement as to the dependent claims.”). Because the Court ultimately concludes that IA Labs cannot show infringement as to Claim 1 or 9, it is unnecessary to describe or analyze the dependent claims.

ll. 42-45), the existing isometric exercise devices are said to be “tedious” and “provide limited feedback.” (*Id.* col. 2 ll. 45-46.) The patent identifies one item of existing related art that attempts to combine virtual reality with an isometric exercise device, but notes that this existing invention is limited to specific forms of isometric knee and ankle exercise. (*Id.* col. 3 ll. 50-60.)

Given the “tedium” associated with the existing art, the ’982 patent sought to create a device that would interact with a host computer system so as to “enhance the level of interest and enjoyment associated with performing isometric exercises.” (*Id.* col. 3 l. 65 – col. 4 l. 2.) More particularly, the invention would facilitate user participation in a virtual reality simulation based on the performance of isometric exercise. (*Id.* col. 4 ll. 7-12.) Other objectives of the invention were to determine the type, amount, or degree of force applied by the user, to create a system that was adaptable for use with a variety of computer systems, and to allow customization for a desired purpose or application. (*Id.* col. 4 ll. 3-7, 12-20.) The ’982 patent, however, does not require that two or more of these objects be combined, if not otherwise required by the claims. (*Id.* col. 4 ll. 21-25.)

2. Specification and Claims of the ’982 Patent

The ’982 patent discloses two preferred embodiments. The first preferred embodiment is depicted in Figure 1, below.⁵

⁵ The Court notes that due to amendments made during the course of patent prosecution, the preferred embodiment depicted in Figure 1 does not itself satisfy Claim 1 because it lacks the requisite “frame to support a user” and effector “fixedly secured to said frame.” (’982 patent, col. 15 ll. 37, 39.) Nevertheless, the Court describes this embodiment so as to provide the full context of the patent specification.

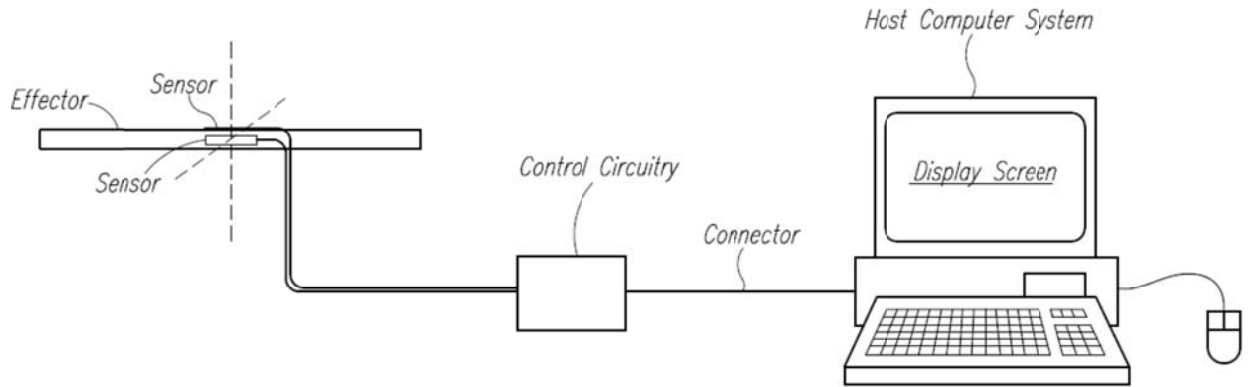


Figure 1⁶

Central to the invention is what the Applicant called an “effector,” against which the user exerts herself in performing an isometric exercise. In Figure 1, the effector includes “an elongated and generally cylindrical bar or rod constructed of any suitably rigid material (e.g. a metal alloy) that is capable of being slightly deformed within its elastic limit.” (*Id.* col. 5 ll. 38-41.) Two sensors “are affixed on the effector” and are offset so as to measure “bending deflections” in different directions. (*Id.* col. 6 ll. 6-27.) The sensors are connected to a processor within the control circuitry, which receives electrical signals from the sensors resulting from an application of force to the effector bar and “converts” the signals into information that is, preferably, “indistinguishable from the inputs of any standard peripheral device.” (*Id.* col. 6 ll. 28-39.)

The second preferred embodiment of the ’982 patent is depicted in Figure 2, below. This embodiment uses a “cockpit” configuration, described as useful for flying and driving type games. (*Id.* col. 11 ll. 43-46.)

⁶ For ease of reference, the Court has included the “annotated” versions of Figures 1 and 2 provided in Nintendo’s Opening Claim Construction brief, which modify the drawings in the patent itself to include descriptions of, rather than mere reference to, the component parts.

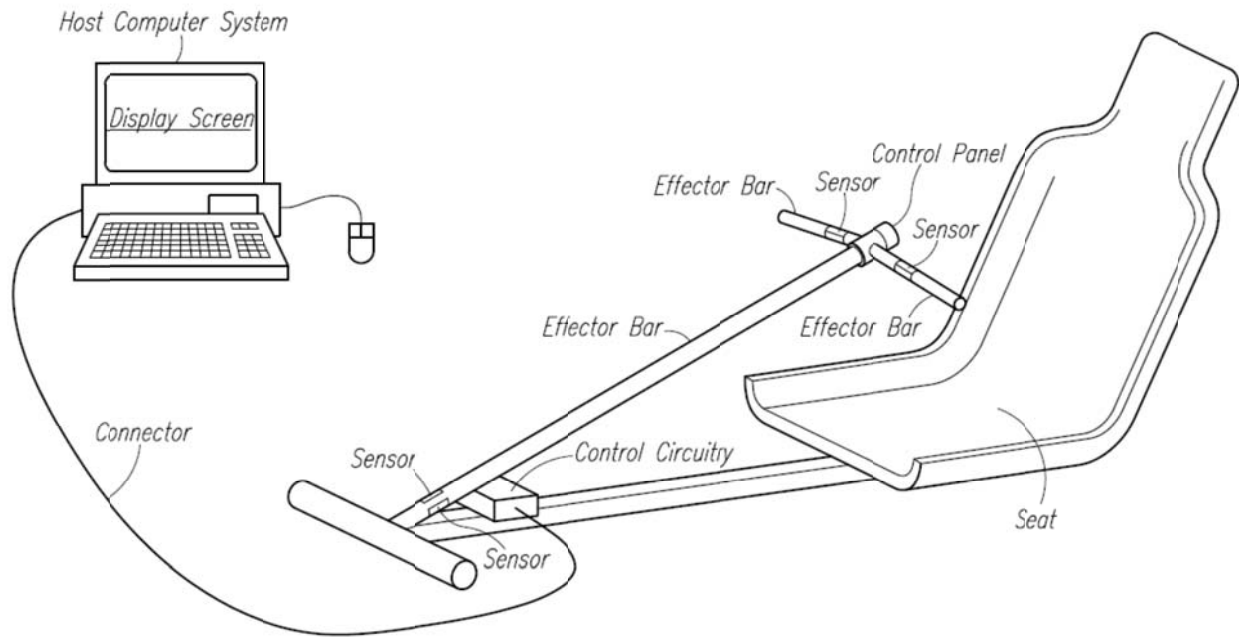


Figure 2

The second embodiment “includes a set of elongated and generally cylindrical effector bars” that form an unmovable “T-type handle-bar configuration for manipulation by a user.” (*Id.* col. 8 ll. 10-13.) The bars are made of “a suitably rigid material (e.g., a metal alloy) that is capable of being slightly deflected within its elastic limit in response to any combination of bending, twisting, tension and compression forces applied by the user to the bars.” (*Id.* col. 8 ll. 24-29.) The sensor and processor work much the same way as in the first embodiment. (*Id.* col. 8 ll. 34-62.)

In both embodiments, the user connects the system to a host computer system and “engages in a combined isometric exercise and interaction with the software program by gripping at least one effector bar and applying a force to exert a strain on the bar.” (*Id.* col. 10 ll. 47-55; *id.* col. 11 ll. 21-25.) The sensor measures microscopic bending resulting from the force applied by the user to the effector bars, and the resulting data then feeds into a software

application, such as a game, running on the host computer. (*Id.* col. 10 l. 55 – col. 11 l. 20; *id.* col. 11 ll. 25-40.)

After describing the preferred embodiments, the '982 patent sets forth the patent claims. Claim 1, an independent system claim, reads as follows:

1. An isometric exercise system serving as a peripheral to manipulate a virtual reality scenario of a host processing system in accordance with user exercise, comprising:
 - a frame to support a user;
 - an effector to provide an isometric exercise for said user, wherein said effector is fixedly secured to said frame and includes an elongated rod;
 - at least one sensor coupled to said rod and responsive to at least one force applied by said user to said effector to perform said isometric exercise, wherein said applied force effects a measurable deformation of said rod that is measured by said at least one sensor; and
 - a processor coupled to said at least one sensor and including a data processing module to receive and process data corresponding to applied force information measured by said at least one sensor and to transfer information to said host processing system to control said virtual reality scenario of said host processing system in accordance with performance of said isometric exercise and manipulation of said effector by said user.

(*Id.* col. 15 ll. 34-54.) Claim 9, an independent method claim, reads as follows:

9. A method of performing an isometric exercise utilizing a system that serves as a peripheral to manipulate a virtual reality scenario of a host processing system, wherein said system includes a frame to support a user, an effector including an elongated rod, at least one sensor coupled to said rod, and a processor, the method comprising:
 - (a) measuring at least one force applied by a user to said effector, wherein said effector provides an isometric exercise for said user and is fixedly secured to said frame, and wherein said applied force effects a measurable deformation of said rod that is measured by said at least one sensor;
 - (b) processing data corresponding to applied force information measured by said at least one sensor; and
 - (c) transferring information from said processor to said host processing system to control said virtual reality scenario of said host processing system in accordance with performance of said isometric exercise and manipulation of said effector by said user.

(*Id.* col. 16 ll. 13-31.)

3. Prosecution History

The '982 patent application was filed on December 4, 2002. During prosecution, the Patent Examiner initially rejected all purportedly original claims as “anticipated” under 35 U.S.C. § 102(b) by U.S. Patent No. 4,691,694 issued to Boyd et al. (“Boyd”), which generally describes an exercise device that measures the forces applied by a user’s leg to a movable fixture.

In response, the Applicant amended the independent claims to add two requirements. The first provided that the “applied force” was “effecting a measurable deformation of the at least one effector that is measured by the at least one sensor.” ('982 patent Amendment, July 22, 2005, at 11.) The second provided that the applied force would “control a virtual reality scenario of the host computer in accordance with manipulation of the at least one effector by the user.” (*Id.*) In remarks submitted along with the amendments, the Applicant argued that Boyd was different from the amended claims of the '982 patent, in that Boyd detects “strain on a torque sensing tube mounted on a shaft to which the fixture is secured” and not “deformations effected by force applied by a user to the effector.” (*Id.* at 12.) Further, Boyd discloses “that a computer can be used in conjunction with control circuitry” but not “that the exercise system serves as a user interface or peripheral to control the computer system or, for that matter, controlling a virtual reality scenario of a host computer in accordance with manipulation of the at least one effector.” (*Id.*)

After considering the amendments, the Patent Examiner once again rejected the claims, this time as “obvious” under 35 U.S.C. § 103(a), based on Boyd viewed in combination with U.S. Patent No. 5,989,157 issued to Walton (“Walton”). Walton describes a system that facilitates user exercise and video game play by means of a controller that is worn by the user.

One described configuration of Walton includes two handle bars that are movable such that they can be pressed together or pulled apart, with two force-sensing strain gauges fixed near the handles to measure deformations in the handle bars.

The Applicant once again amended the claims, this time further detailing structural limitations and the role of isometric exercise. The second amendment required that (1) the effector be “fixedly secured” to the frame that supports the user; (2) the effector include an “elongated rod;” (3) the force applied by the user to the effector be a force “to perform said isometric exercise;” and (4) the virtual reality game be controlled “in accordance with isometric exercise.” (’982 patent Amendment, April 3, 2006, at 2.) In accompanying remarks, the Applicant explained that the second amendments were intended to clarify “the structural aspects” of the invention, to wit: “The Examiner recognized patentable features within the present invention, but indicated that the claims included functional language. Consequently, no agreement was reached. Applicant, subsequent [*sic*] the interview, submitted a proposed claim to the Examiner further clarifying the present invention [*sic*] structural aspects. The Examiner indicated that the proposed claim was acceptable.” (*Id.* at 9.)

The Examiner accordingly allowed Claims 1-28 of the ’982 patent.

B. The Accused Device

The Wii Console is a special purpose computer system for playing Wii gaming applications in conjunction with a standard television set or computer display. The Wii distinguishes itself from traditional video game systems by responding to a user’s movement and exercise, rather than the pushing of buttons, to control the video game being played. The Wii Console works with several accessories and controllers, only one of which—the Balance Board—is the subject of this infringement suit.

The Balance Board is a horizontal, rectangular platform on which the user stands, resembling, in size and shape, a household bathroom scale. The Balance Board rests on four support legs, one in each corner, each of which contains a highly-sensitive force sensor, called a “balance sensor” or “load cell.” The load cells contain a rectangular, aluminum block sandwiched between two metal plates, on which is mounted a sensor called a “strain gauge.” When force is applied on the Balance Board, the center portion of each load cell, including the block, microscopically deforms in accordance with the amount of force applied. Each strain gauge generates a signal corresponding to the deformation and sends it to a “processor board.” The processor board, which includes a microcontroller and Bluetooth Module, processes the data corresponding to the forces applied to the four load cells and wirelessly sends that information to the Wii Console.

The Balance Board is sold with Nintendo software that connects the device with the Wii Console, namely the “Wii Fit” and a later, updated version called “Wii Fit Plus.” Wii Fit products include a collection of Balance Board compatible games and activities, including strength training, aerobics, yoga, and balance games. Wii Fit software is able to convert the information sent from the load cells into weight values and uses the changes across the four load cells to detect shifts in the user’s center of gravity. Since virtually every change in the center of gravity results from movement by the user, the software extrapolates motion by sensing how a person shifts her position across the four load cells. Those shifts in position are converted into information that the Wii Console uses to control a game, allowing the user, for example, to rotate her hips to simulate using a hula-hoop, or to duck or dodge a punch while simulating boxing. Each of these movements results in a shift in the user’s center of gravity sensed by the Balance Board.

One particular Balance Board game at issue here is called the Ski Jump. During this game, the primary image on the screen is that of a character skiing down a ramp who, upon reaching the edge, launches forward in a “jump.” The upper right corner of the screen displays a rectangular box (representing the Balance Board), which contains a light blue dot positioned in the upper middle portion of the rectangle. This display also contains a red dot, which represents the user’s center of gravity on the Balance Board. Depending on the user’s shifts and movements on the Balance Board, the red dot moves within the rectangular box.

The user, standing on the Balance Board, controls this game in two distinct phases. In phase one, the user crouches down as the character on the screen skis downhill, imitating the position of the skier (a duration of 5-6 seconds). The user’s goal is to crouch down and shift forward so as to align the red dot over the blue dot on the screen.⁷ The user’s success in aligning the two dots and maintaining that position determines the character’s speed. In phase two, the user moves out of the crouching position to stand upright when the character reaches the end of the ramp and maintains that upright position while the character completes the jump and lands. The user is awarded points based on both the speed of the skier and distance of the jump.

This sets the background for IA Labs’ claim of infringement.

II. Summary Judgment Standard

Under Rule 56(a), summary judgment is appropriate when there is no genuine dispute as to any material fact, and the moving party is entitled to judgment as a matter of law. FED. R. CIV. P. 56(a); *see Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23 (1986). Only “facts that might affect the outcome of the suit under the governing law” are material. *Anderson v.*

⁷ The image on the display is depicted here.



Liberty Lobby, Inc., 477 U.S. 242, 248 (1986). A dispute of fact is genuine “if the evidence is such that a reasonable jury could return a verdict for the nonmoving party.” *Id.* In considering a motion for summary judgment, the Court must “draw all justifiable inferences in favor of the nonmoving party.” *Masson v. New Yorker Magazine, Inc.*, 501 U.S. 496, 520 (1991) (citing *Anderson*, 477 U.S. at 255). However, a party cannot create a genuine dispute of material fact “through mere speculation or the building of one inference upon another.” *Beale v. Hardy*, 769 F.2d 213, 214 (4th Cir. 1985). Merely presenting a “scintilla of evidence” is insufficient to preclude summary judgment. *Anderson*, 477 U.S. at 252.

In a patent case, “[s]ummary judgment of noninfringement is . . . appropriate where the patent owner’s proof is deficient in meeting an essential part of the legal standard for infringement, because such failure will render all other facts immaterial.” *TechSearch, LLC v. Intel Corp.*, 286 F.3d 1360, 1369 (Fed. Cir. 2002). “An infringement analysis entails two steps. The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device accused of infringing.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995), *aff’d*, 512 U.S. 370 (1996) (citations omitted). “To support a summary judgment of noninfringement it must be shown that, on the correct claim construction, no reasonable jury could have found infringement on the undisputed facts or when all reasonable factual inferences are drawn in favor of the patentee.” *TechSearch*, 286 F.3d at 1371 (citing *Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1351 (Fed. Cir. 2001)).

III. Claim Construction

A. Legal Standard

The first step in infringement analysis, known as claim construction, is determined as a matter of law. *See Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 391 (1996);

Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc). A court looks first to the claims of the patent to define the scope of the patented invention and the limits of the patentee's rights. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001).

Generally, the terms of a claim are given "their ordinary and accustomed meaning as understood by one of ordinary skill in the art" at the time the patent application was filed. *Phillips*, 415 F.3d at 1312–13; *Bell Atl. Network Servs.*, 262 F.3d at 1267. But because the meaning of a claim term is often not immediately apparent to persons of skill in the art, and "because patentees frequently use terms idiosyncratically, the court must often look to those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean." *Phillips*, 415 F.3d at 1314 (internal quotations omitted); *see also Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1343 (Fed. Cir. 2001) ("[I]f the term or terms chosen by the patentee so deprive the claim of clarity that there is no means by which the scope of the claim may be ascertained by one of ordinary skill in the art from the language used, a court must look to the specification and file history to define the ambiguous term in the first instance.") (internal quotations omitted).

At the outset, the Court considers evidence intrinsic to the patent, including (1) the words of the claims themselves; (2) the remainder of the patent specification; and (3) the prosecution history. *See Phillips*, 415 F.3d at 1314. The court may then turn to relevant extrinsic evidence, such as dictionary definitions, treatises, and expert and inventor testimony, but such evidence "is less significant than the intrinsic record in determining the legally operative meaning of claim language." *Id.* at 1317 (internal quotations omitted). It is "improper

to rely on extrinsic evidence” if the meaning of a claim limitation is clear from the intrinsic evidence. *Bell Atl. Network Servs.*, 262 F.3d at 1268–69.

When examining the words of the claims, the use of a claim term within the context of a claim can provide a firm basis for construction. *See Phillips*, 415 F.3d at 1314. Further, how a term is used in other claims of the patent can be instructive, as “claim terms are normally used consistently throughout the patent.” *Id.* The terms of a claim must also be examined in the context of the patent specification, of which they are a part. *See id.* at 1315. “[T]he specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). In the specification, the patentee may explicitly define a claim term differently from its ordinary or accustomed meaning. *See id.* at 1316; *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116-17 (Fed. Cir. 2004) (“A patent applicant thus has the flexibility to imbue new or old terms with a different meaning than they would otherwise have to a person of ordinary skill in the art . . . [by] set[ting] out the different meaning in the specification in a manner sufficient to give one of ordinary skill in the art notice of the change from the ordinary meaning.”). “In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. But while “claims must be read in view of the specification, . . . limitations from the specification are not to be read into the claims.” *Teleflex, Inc. v. Ficoso N. Am. Corp.*, 299 F.3d 1313, 1326 (Fed. Cir. 2002).

As part of the intrinsic evidence, the court also considers the patent’s prosecution history, which consists of the complete record of the proceedings before the United States Patent and Trademark Office, including the prior art cited during the patent examination, and “any express representations made by the applicant regarding the scope of the claims.” *Bell Atl.*

Network Servs., 262 F.3d at 1268; *see also Phillips*, 415 F.3d at 1317. The prosecution history can demonstrate “whether the patentee has relinquished a potential claim construction in an amendment to the claim or in an argument to overcome or distinguish a reference.” *Bell Atl. Network Servs.*, 262 F.3d at 1268.

B. Claim Terms

At the *Markman* hearing held on January 17 and 18, 2012, the Parties advanced arguments regarding 15 distinct claim terms.⁸ At the request of the Parties, the Court construed certain of the disputed terms orally from the bench (later crystallized in a written order) and deferred ruling on others. The Court now construes the key terms as to which it deferred and summarizes its prior rulings to the extent they are relevant to the Court’s non-infringement analysis.⁹

1. “isometric exercise” (Claims 1 and 9)

The Parties dispute construction of the term “isometric exercise.” This term is at the heart of the ’982 patent and permeates the claims and the specification. Not surprisingly, the specification expressly defines this key term: “Isometric exercise involves the exertion of force by a user against an object that significantly resists movement as a result of the exerted force

⁸ While mindful that Claims 1 and 9 are separate, independent claims, the Court notes that the terms in dispute serve the same role in each of the two claims. As such, where the same term is repeated in slightly different forms in the two claims (e.g. Claim 1 requires “an effector to provide an isometric exercise” (’982 patent, col. 15 l. 38), whereas Claim 9 requires “said effector provides an isometric exercise” (*id.* col. 16 ll. 20-21)), the Court applies a single construction. *Cf. Baldwin Graphic Sys., Inc. v. Seibert, Inc.*, 512 F.3d 1338, 1344-45 (Fed. Cir. 2008).

⁹ In addition to the terms discussed below, the Court construed “peripheral” (Claims 1 and 9) to mean “an accessory device that is external to the host processing system and either provides input to or receives output from the host processing system” as well as “process data” (Claim 1) and “processing data” (Claim 9) to mean “transforming the applied force information into some desired result using the processor.” The Court also construed certain terms in the various dependent claims, which it need not discuss here. *See supra*, n.4.

such that there is substantially minimal or no movement of the user’s muscles during the force exertion.” (’982 patent, col. 1 ll. 29-34.) Nintendo proposes that the Court adopt this express definition verbatim. IA Labs argues that some minor alterations are in order and suggests the following modified construction (the proposed additions are underlined): “the exertion of force by a user against an object (an object can include a user) that significantly resists movement as a result of the exerted force such that there is substantially minimal or no movement of the user’s muscles associated with the isometric exercise during the force exertion.”

IA Labs argues that the description of isometric exercise contained in the specification is not a “definition” and should not limit how the court construes the term. It further contends that its proposed construction addresses two flaws in this “definition” (i.e. Nintendo’s proposed construction). First, says IA Labs, it is not clear from Nintendo’s proposed construction that a person’s own body can be the “object” against which the user exerts force and that significantly resists movement as a result of that force, when, in fact, the tensing of muscles against one’s own body *is* isometric exercise. To support this proposition, IA Labs relies on a report submitted by its exercise physiology expert, Dr. Daniel Drury, who opines that it is possible for a person to engage in “isometric exercise” by placing her body in a position that requires the muscles to strain to counteract the forces of gravity.¹⁰ IA Labs cites two examples of isometric exercise in the patent specification that allegedly require a person’s body to be the “object” against which the user exerts force and that significantly resists movement as a result of that force: (1) an individual “attempting to pull apart tightly gripped hands” (*id.* col. 1 ll. 36-37);

¹⁰ Dr. Drury provides examples of training exercises that “use bodyweight and gravity alone to improve muscular strength.” (Plf. Opp. Ex. 2 (“Drury Decl.”) ¶ 22.) These include, among others, “plank” (where a person, facing downward, holds her body off the floor on her toes and elbows), “flex arm hang” (where a person maintains a static chin-up position on a bar), and “V-sit” (where a person, while sitting, holds her legs up so her body takes on a “V” shape). (*Id.*)

and (2) “fighter jet pilots who perform isometric muscular contractions of the lower limbs and body core during flights” (*id.* col. 1 ll. 26-29). IA Labs also argues that a person’s body has to be able to function as said “object” because this is what happens during use of the commercial embodiment of the invention—a user of this device experiences isometric tensing of her abdominal muscles. Second, says IA Labs, Nintendo’s proposed construction erroneously implies that *none* of the user’s muscles may substantially move, whereas the ’982 patent limits only those muscles engaged in isometric exercise. In fact, IA Labs continues, Claim 7 modifies Claim 1 to add “at least one input device that is manipulable by said user to effect at least one of isokinetic and isotonic exercise by said user during system operation.” (*Id.* col. 16 ll. 5-8.) That the claims allow for a user to conduct isometric exercise and dynamic exercise simultaneously allegedly indicates that isometric exercise, as defined in the patent, does not restrict movement in all of a user’s muscles.

Nintendo counters that, under *Phillips*, the inventor’s own lexicography controls. Since the patent specification expressly defines isometric exercise, there is no reason to alter that definition. In addition, IA Labs’ proposed modifications are said to be inconsistent with the patent claims and other intrinsic evidence. First, modifying the definition in the specification to allow for the user’s body to be the “object” against which she exerts force and that significantly resists movement as a result of that force makes no sense in the context of Claim 1, which clearly requires an “effector to provide an isometric exercise” and “force applied by said user to said effector to perform said isometric exercise.” (*Id.* col. 15 ll. 38, 42-43.) If the user’s body were the “object” in question, there would be no role for the effector. Second, modifying the definition in the specification to allow for other muscle movement is inconsistent with the prosecution history. In light of *Walton*, which measured a user’s movement to control a virtual

reality scenario, the Applicant amended Claim 1 to require that the virtual reality scenario be controlled “in accordance with performance of said isometric exercise.” (*Id.* col. 15 ll. 52-53.) Adopting IA Labs’ proposed construction here would allow for a wholesale expansion of the amendment and erroneously permit argument to the jury that the ’982 patent covers a system that uses body motions—as opposed to isometric exercise—to control a virtual reality scenario.

The Court adopts IA Labs’ construction in part and Nintendo’s construction in part.

There can be little doubt that the patent defines “isometric exercise.”¹¹ As such, “the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. At the same time, the patent’s express definition may be subject to modification where necessary in light of the patent’s claims and specification. *See, e.g., Trading Techs. Int’l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1353 (Fed. Cir. 2010) (altering the express definition to more accurately comport with the remainder of the patent); *Ecolab, Inc. v. FMC Corp.*, 569 F.3d 1335, 1345 (Fed. Cir. 2009) (modifying the patent’s express definition to resolve an ambiguity). But, for the following

¹¹ The Court rejects IA Labs’ unsupported contention that the patent’s description of isometric exercise does not amount to a “definition” merely because it uses the word “involves.” Although some terms may be more unequivocally definitional than others, there is no magic language to signify when a patentee is acting as his own lexicographer. Instead, courts have pointed to a variety of terms to signify that a specification contains an explicit definition. *See, e.g., Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1334 (Fed. Cir. 2009) (“[T]he specification’s use of ‘i.e.’ signals an intent to define the word to which it refers.”); *Fractus, S.A. v. Samsung Elecs. Co.*, No. 6:09cv00203, 2010 WL 5287531, at *32 (E. D. Tex. Dec. 17, 2010) (finding that the patent specification “explicitly defined” the term “conducting surface” based on the language: “there are three types of geometries that can be used for the conducting surface according to the present invention:”); *cf. Abbott Labs. v. Andrx Pharm., Inc.*, 473 F.3d 1196, 1210-11 (Fed. Cir. 2007) (noting that “[t]he word ‘is’ may signify that a patentee is serving as its own lexicographer,” but finding that it had not done so where “significant evidence”—including contrasting unambiguous definitions, the absence of expert support, and inconsistency with the remainder of the specification—indicated otherwise). In the case at bar, the sentence beginning “Isometric exercise involves . . .” clearly sets out to define what constitutes “isometric exercise,” and the definition that follows is wholly consistent with the patent’s claims and the remainder of the specification.

reasons, the Court rejects IA Labs' contention that the user's own body can be the "object" against which the user exerts force and that significantly resists movement as a result of that force, accepting nonetheless its proposed clarification that the requirement of substantially minimal or no muscle movement is limited to those muscles actually engaged in isometric exercise.

The Court explains.

Fundamental to isometric exercise, under either Party's proposed construction, is the application of force between two items that are fixed relative to one another so that both items resist any significant motion. If a person exerts significant pushing force with her arms against an item that is not fixed relative to her, either the item will move in the direction of the pushing or she will move away from the item. In either case, the muscles in the arm will extend and there can be no isometric exercise. Only when both the item and the person remain fixed in position can isometric exercise commence. For example, if a person standing on ice pushes against a single fixed item, such as a wall, the person will slide away from the wall because the frictional forces on the ice are insufficient to hold her in a fixed position. If, however, that person is held in a fixed position (e.g. by an external structure or the frictional forces on the ground), she will be able to conduct isometric exercise and exert force against the wall. In the latter scenario, the wall is an "object" against which the person exerts force and that significantly resists movement as a result of that force.

IA Labs' first proposed modification to the definition found in the specification—to allow for the user's own body to be the "object" against which the user exerts force and that significantly resists movement as a result of that force—is plainly incompatible with Claim 1. *See Voda v. Cordis Corp.*, 536 F.3d 1311, 1319 (Fed. Cir. 2008) (rejecting a claim construction

argument because it “ignores the context in which the phrase . . . is used in claim 1”); *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003) (“While certain terms may be at the center of the claim construction debate, the context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms.”). A critically important component of Claim 1 is the “effector,” which the Court separately construes to be a rigid object that slightly and measurably deforms within its elastic limit when muscle force is applied. Claim 1 requires “an effector to provide an isometric exercise for said user, wherein said effector is fixedly secured to said frame and includes an elongated rod,” as well as “at least one sensor . . . responsive to at least one force applied by said user to said effector to perform said isometric exercise.” (’982 patent, col. 15 ll. 38-43.) The Court separately construes these phrases to mean that the user’s isometrically exercised muscles must exert force against the effector either through direct contact or indirect contact. In other words, for the effector “to provide an isometric exercise,” and for the sensor to be “responsive” to that isometric exercise force, the *effector* must be the “object” against which the user exerts force and that significantly resists movement as a result of that force. The effector allows the user to perform isometric exercise that she could not otherwise perform.

If, as IA Labs argues, the user’s body is the “object” against which the user exerts force and that significantly resists movement as a result of that force, the user’s isometrically exercised muscles do not exert force against the effector, and the effector, therefore, does not “provide an isometric exercise.” *See AIA Eng’g Ltd. v. Magotteaux Int’l S/A*, 657 F.3d 1264, 1278 (Fed. Cir. 2011) (“[W]here, as here, the specification reveals a special meaning for a term that differs from the meaning it might otherwise possess, that special meaning governs, particularly when it also serves to avoid an inoperable claim construction.”). As demonstrated

by each of Dr. Drury's proffered examples, where the user's own body is the "object" against which the user exerts force and that significantly resists movement as a result of that force during an allegedly "isometric" exercise, the force of the user's isometrically exercised muscles is exerted against the body to maintain the body's fixed position against the force of gravity. During these activities, the total force exerted against any external point of contact, such as the ground or a chin-up bar, is unchangingly equal to the person's weight (or a portion of their weight), and is unaffected by isometric exercise.¹² For example, a person holding a "plank" position exerts isometric muscle force against her body to hold it fixed in position. When she ceases to engage in isometric exercise, her body falls to the ground. Both when she holds the "plank" position and when she rests on the ground, the only force exerted against the ground is the force of her weight.¹³ Thus, even if one engages in an allegedly "isometric" activity while standing on, leaning against, or hanging from an "effector," if the person's body is the "object" against which she exerts force and that significantly resists movement as a result of that force, that activity would not alter the total amount of force exerted against the "effector." In that case, the "effector" would not be the "object" against which the user exerts isometric force, and no sensor placed on that "effector" would be responsive to that force.

In fact, the only way a person's isometrically exercised muscles could exert force against an effector would be if the person were fixed relative to the effector, either by an external

¹² Consistent with Newton's Second Law, the force of a person's weight is equal to her mass times the acceleration due to gravity. Because the acceleration due to gravity at a point on the surface of the earth is constant, a person's weight remains constant unless there is a change in mass. Thus, without the addition of some additional force, a person's body cannot alone exert force greater than its weight. *See* Sir Isaac Newton, *NEWTON'S PRINCIPIA: THE MATHEMATICAL PRINCIPLES OF NATURAL PHILOSOPHY* 395 (Andrew Motte trans., New York, Daniel Adee 1846) (1726) ("Hence the weights of bodies do not depend upon their forms and textures.").

¹³ This applies also to the specification's example of a person attempting to pull apart tightly gripped hands, where the person's isometric muscular force is exerted against her body, but the force of her weight against the ground remains unchanged.

structure—such as the frame contemplated by Claim 1—or by frictional or other similar forces. IA Labs’ computer software expert, Dr. Benjamin Bederson, says as much in his report. He opines that the claims require “an effector that significantly resists movement in response to force applied by the user” and that “by being fixedly secured to the frame in a way that allows the user to perform isometric exercise, the effector provides isometric exercise.”¹⁴ (Bederson Decl. ¶¶ 52, 54.) The necessary implication is that the user must be fixed in position by the frame relative to the effector, or else the *user* would move in response to the applied force (as in the example of a person standing on ice moving away from the fixed wall). Only where the user has something to brace against can she exert isometrically exercised muscle force (and not just the force of weight) against the effector.¹⁵ However, where it is the frame or another force that holds the body in a fixed position, and not the user’s isometrically exercised muscles, the user’s body does not act as the “object” against which the user exerts force and that significantly resists movement as a result of that force.¹⁶ Accordingly, in the Court’s view, the user’s body cannot be

¹⁴ To support this, Dr. Bederson quotes the Patent Examiner as saying: “Using the plain meaning, ‘fixedly secured’ is taken to mean that the two parts that are firmly secured together do not move relative to each other. This definition clearly enables the isometric exercise that has been claimed.” (Plf. Opp. Ex. 45 (“Bederson Decl.”) ¶ 54 (emphasis in Bederson Decl).)

¹⁵ The Court notes that a person could move in such a way as to exert additional force on an effector, e.g. by jumping on it, but since this would not involve “substantially minimal or no movement of the user’s muscles,” it would be outside the scope of “isometric” activity by any definition.

¹⁶ IA Labs points to the example in the specification of a fighter jet pilot performing isometric muscular contractions as an example of a user’s own body being the “object” in question. In fact, this is an example of an effector being fixed relative to the user. Were one to add an effector to that scenario—so that, for example, the pilot could push her legs or feet against an effector while in her pilot seat—isometric exercise would only occur if the effector were fixed relative to her seat. Thus, it would be the effector and the seat—not the pilot’s own body—against which the pilot exerts force and that significantly resist movement as a result of that force. Additionally, it is of no moment that a user may experience “isometric” abdominal tensing incidental to using the claimed invention. Unless that exercise is provided by the effector and responded to by the sensor, it is not “isometric exercise” within the limitations of Claim 1.

the fixed “object” against which the user exerts force and that significantly resists movement as a result of that force in the context of Claim 1.

But there is more.

Allowing IA Labs to divorce the term “isometric exercise” from the context of the claims “would be to ignore the totality of the facts of the case and exalt slogans over real meaning.” *Ormco Corp. v. Align Tech., Inc.*, 498 F.3d 1307, 1316 (Fed. Cir. 2007); *see also Kyocera Wireless Corp. v. Int’l Trade Comm’n*, 545 F.3d 1340, 1347 (Fed. Cir. 2008) (“[T]his court does not interpret claim terms in a vacuum, devoid of the context of the claim as a whole.”). It is for precisely this reason that the Court is not persuaded by IA Labs’ proffered extrinsic evidence—including Dr. Drury’s expert reports and medical dictionary definitions—which is “clearly at odds with the claim construction mandated by the claims themselves.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1318 (Fed. Cir. 2005) (en banc) (quoting *Key Pharms. v. Hercon Labs. Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998)); *see also Bell Atl. Network Servs., Inc. v. Covad Commc’ns Grp., Inc.*, 262 F.3d 1258, 1269 (Fed. Cir. 2001) (“[S]uch evidence as expert testimony, articles, and inventor testimony . . . may not be used to vary, contradict, expand, or limit the claim language from how it is defined, even by implication, in the specification or file history.”); *Tech. Patents LLC v. Deutsche Telekom AG*, 774 F. Supp. 2d 732, 742 (D. Md. 2010) (crediting intrinsic evidence over expert testimony and dictionary definitions in light of *Phillips*). Under those circumstances, the express definition in the patent controls, even though it may be narrower than the term’s objective meaning. *See Honeywell Int’l, Inc. v. Universal Avionics Sys. Corp.*, 493 F.3d 1358, 1361 (Fed. Cir. 2007) (“When a patentee defines a claim term, the patentee’s definition governs, even if it is contrary to the conventional meaning of the term.”).

In contrast, the Court finds IA Labs’ second proposed modification—that only the muscles associated with the user’s isometric exercise must substantially not move—to be a valid clarification of the patent’s express definition of “isometric exercise.” The requirement that there be “substantially minimal or no movement of the user’s muscles during the force exertion” need only apply to the muscles engaged in isometric exercise and not to all of the muscles in the user’s body. Nothing in Claim 1 prevents a person from, for example, attempting to bend a rigid steel bar with her hands while pedaling on a stationary bicycle. In fact, Claim 7 encompasses just that scenario. Claim 7 requires an “input device” on the system described in Claim 1 “that is manipulable by said user to effect at least one of isokinetic and isotonic exercise by said user during system operation.”¹⁷ (’982 patent, col. 16 ll. 5-8.) Because, by the terms of Claim 1, “system operation” necessarily requires the user to engage in isometric exercise, Claim 7 contemplates a user simultaneously performing isometric and dynamic exercise. *See Paragon Solutions, LLC v. Timex Corp.*, 566 F.3d 1075, 1084 (Fed. Cir. 2009) (construing a term in one claim, in part, based on the implications of claims that depend from it). Nintendo has pointed to nothing in the specification other than the express definition to argue against this clarification. Yet modifying the express definition to explicitly restrict the limitation of minimal muscle movement to only those muscles engaged in the isometric exercise is an appropriate resolution of an ambiguity. *See Ecolab, Inc. v. FMC Corp.*, 569 F.3d 1335, 1344-45 (Fed. Cir. 2009) (construing the term “sanitize” in accordance with the patent’s definition—“a bacterial

¹⁷ Descriptions of this configuration appear throughout the specification as well. (*See, e.g.*, ’982 patent, col. 7 ll. 32-36 (“Further, exercise components, such as foot pedals in combination with a flywheel, may be provided to permit combinations of isokinetic, isotonic and isometric forms of exercise where the exercise components may further serve as others controls in a virtual reality scenario.”); *id.* col. 12 ll. 61-64. (“In addition, input devices such as foot pedals may be incorporated into any system design to combine isometric exercise with isokinetic and/or isotonic exercises for a particular application.”).)

population reduction to a level that is safe for human handling and consumption”—but adding the requirement that it be “post-cooking,” to resolve the ambiguity).

The Court is not persuaded that the prosecution history precludes this second construction. The Applicant’s amendments and remarks made in response to Walton focused on the fact that “the Walton patent is directed toward a user worn device that measures user body motion to control a game scenario.” (’982 patent Amendment, April 3, 2006, at 9.) Although this language may disclaim devices worn by a user that measure user movement, the Applicant has not “unequivocally disavowed” devices that allow for the possibility of any user movement. *Omega Eng’g, Inc. v. Rayteck Corp.*, 334 F.3d 1314, 1324-25 (Fed. Cir. 2003); *see also Voda v. Cordis Corp.*, 536 F.3d 1311, 1321-22 (Fed. Cir. 2008) (finding that the patentee’s remarks accompanying the amendment distinguished the prior art on a basis other than that advanced by the party). Nintendo argues that IA Labs’ proposed construction would allow it to argue to a jury that a device that measures a user’s movement is properly within the scope of Claim 1, even though it explicitly disclaimed such an invention in light of Walton. The Court disagrees. Construing “isometric exercise” to make clear that a user engaged in isometric exercise can simultaneously move other parts of her body does not undermine the Claim 1 requirement that isometric exercise must control the virtual reality scenario.

In sum, the Court construes the term “isometric exercise” to mean: “the exertion of force by a user against an object that significantly resists movement as a result of the exerted force such that there is substantially minimal or no movement of the user’s muscles associated with the isometric exercise during the force exertion.”

2. isometric exercise “system” (Claim 1) and isometric exercise . . . “system” (Claim 9)

The Parties dispute construction of the term isometric exercise “system” as used in Claim 1 (“an isometric exercise system”) and Claim 9 (“a method of performing an isometric exercise utilizing a system”).¹⁸ The dispute is not about the meaning of the term—both agree that said “system” is a “device”—but, rather, about its import. IA Labs argues that because it appears in the claims’ preambles, the term “system” is a descriptive introductory phrase, not a claim limitation, and, as such, it should be accorded its plain and ordinary meaning. Nintendo argues that “system” should be construed as “device” to avoid juror confusion.

Whether the phrase “isometric exercise system” is an independent claim limitation or not is a distinction without a difference. Both Parties agree that the “system” claimed is a “device,” and Nintendo’s proposed construction does not impose a limitation beyond that. Nonetheless, the Court agrees with IA Labs that the term “isometric exercise system,” as found in the preamble to Claims 1 and 9, does not constitute an independent claim limitation. *See Am. Med. Sys., Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1359 (Fed. Cir. 2010) (“If the preamble is reasonably susceptible to being construed to be merely duplicative of the limitations in the body of the claim . . . we do not construe it to be a separate limitation.”) (quoting *Symantec Corp. v. Computer Assocs. Int’l, Inc.*, 522 F.3d 1279, 1288-89 (Fed. Cir. 2008)) (internal quotations omitted); *Innova/Pure Water Inc. v. Safari Water Filtration Sys. Inc.*, 381 F.3d 1111, 1118 (Fed. Cir. 2004) (“Language in a preamble limits a claim where it breathes life and meaning into the claim . . . but not where it merely recites a purpose or intended use of the invention.”) (internal citation omitted). Instead, it “merely gives a descriptive name to the set of

¹⁸ Although Nintendo initially submitted a proposed construction for the entirety of the phrase “isometric exercise system,” during argument at the *Markman* hearing, it urged the Court to construe the term “system” alone and to instruct the jury that “system” modifies “isometric exercise” as separately construed.

limitations in the body of the claim that completely set forth the invention.” *IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1434 (Fed. Cir. 2000).

Accordingly, the Court finds that the limitations of Claim 1 describe an isometric exercise device, and the limitations of Claim 9 describe a method for performing isometric exercise utilizing a device, but the phrases “isometric exercise system” in the preamble of Claim 1 and “a method of performing an isometric exercise utilizing a system. . .” in the preamble of Claim 9 do not constitute independent claim limitations.

3. “effector” (Claims 1 and 9)

The Court previously construed the term “effector” to mean “a rigid object that slightly and measurably deforms within its elastic limit when muscle force is applied.”

4. “an effector to provide an isometric exercise” (Claim 1); “said effector provides an isometric exercise” (Claim 9); “force applied by said user to said effector to perform said isometric exercise” (Claim 1); and “force applied by a user to said effector” (Claim 9)

The Court previously construed the terms “an effector to provide an isometric exercise” (Claim 1), “said effector provides an isometric exercise” (Claim 9), “force applied by said user to said effector to perform said isometric exercise” (Claim 1), and “force applied by a user to said effector” (Claim 9) to mean “the user’s isometrically exercised muscles exert force against the effector either through direct contact or indirect contact.”

5. “a frame to support a user” (Claims 1 and 9) and “fixedly secured to said frame” (Claims 1 and 9)

The Court previously construed the term “a frame to support a user” to have its plain and ordinary meaning. The Court rejected the limitations advanced by Nintendo and agreed with IA Labs that the term need not be construed, thereby resolving the dispute. *See 02 Micro Int’l Ltd. v. Beyond Innovation Tech. Co., Ltd.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (“When the parties present a fundamental dispute regarding the scope of a claim term, it is the

court's duty to resolve it."); *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). Although the Court has declined to construe the term "frame to support a user," it notes that, given the requirement that the effector be "fixedly secured to said frame" (a phrase not brought before the Court for construction), and the role that the effector plays in relation to isometric exercise, *see supra* III(B)(1), it is clear to the Court that, in the context of Claim 1, the frame must support the user in relation to the effector. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc) ("[T]he context in which a term is used in the asserted claim can be highly instructive.").

6. "in accordance with performance of said isometric exercise and manipulation of said effector by said user" (Claims 1 and 9)

The Parties dispute construction of two specific words within the phrase "in accordance with performance of said isometric exercise and manipulation of said effector by said user": "manipulation" and "and."

IA Labs argues that the Court should construe "manipulation" to mean "the amount of deformation." It argues that the specification and claims are clear that when a force is applied to the effector, it slightly and measurably deforms within its elastic limits. It is this level of deformation to which the sensor responds. Therefore, the amount of deformation controls the virtual reality scenario.

Nintendo argues that the specification and prosecution history require that the Court construe "manipulation" to mean "the system allows exertion of force against the effector in opposite directions." Nintendo argues that throughout the written description the word "manipulate" refers to movement in opposite directions (e.g., the effector is physically "manipulated" to effect the transfer of the types of inputs associated with a conventional computer peripheral producing X and Y axis data ('982 patent, col. 6 ll. 39-44), and the effectors

form a T-type handle-bar for “manipulation” by a user and capable of deflections in response to bending, twisting, tension, and compression forces (*id.* col. 8 ll. 10-29)). Additionally, Nintendo points to the Applicant’s remarks to the Patent Examiner distinguishing Boyd, noting that Boyd “discloses that the strain gauges are sensitive only to the torque applied to the fixture which is transmitted through the shaft, and is not sensitive to other movements, such as axial compression of the shaft.” (’982 patent Amendment, July 22, 2005, at 12.) Nintendo argues that by requiring that the claimed device be able to control the virtual reality scenario in accordance with manipulation of the effector in order to distinguish Boyd, the Applicant disclaimed an invention that could only measure force in a single direction. Permitting IA Labs to argue now that manipulation can be achieved with a force in only one direction would improperly permit IA Labs to include features that have already been disclaimed.

IA Labs replies that Nintendo’s proposed construction would add a requirement that is inconsistent with the plain language of Claims 1 and 9, which simply require “at least one force.” (’982 patent, col. 15 l. 42; *id.* col. 16 l. 19.) The specification, IA Labs says, confirms this by referring to foot pedals as effectors. Further, the fact that the phrase “manipulate a virtual reality scenario” also appears in Claims 1 and 9 (*id.* col. 15 l. 35; *id.* col. 16 ll. 14-15) means that the word cannot refer to the application of opposing forces. Finally, IA Labs argues that Nintendo overstates the Boyd distinction and reads far more into the limitation than is appropriate. The Applicant made numerous amendments to distinguish Boyd, and IA Labs sees no basis for assuming that the language at issue relates to the manipulation term. In any event, says IA Labs, that language does not support Nintendo’s conclusion that the patent requires the exertion of force in opposite directions.

The Court finds both arguments unpersuasive. Nintendo's reading of the specification is too restrictive. The patent uses the word "manipulate" differently across the specification and claims, and it would be improper to read the meaning from only one of these uses into the claim. *Cf. Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1271 (Fed. Cir. 2001) ("[W]hen a patentee uses a claim term throughout the entire patent specification, in a manner consistent with only a single meaning, he has defined that term by implication."). Further, Nintendo ascribes unwarranted significance to the Applicant's remarks distinguishing Boyd. "Because the statements in the prosecution history are subject to multiple reasonable interpretations, they do not constitute a clear and unmistakable departure from the ordinary meaning of the term." *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1332 (Fed. Cir. 2004). At the same time, the Court does not agree with IA Labs that the words "manipulation" and "deformation" are interchangeable. The word "deformation" appears elsewhere in Claim 1. (*See* '982 patent, col. 15 ll. 43-45 ("said applied force effects a measurable deformation of said rod").) If the Patentee intended to refer to the amount of deformation, he would have presumably said so. *See Innova/Pure Water Inc. v. Safari Water Filtration Sys. Inc.*, 381 F.3d 1111, 1119 (Fed. Cir. 2004) ("[W]hen an applicant uses different terms in a claim it is permissible to infer that he intended his choice of different terms to reflect a differentiation in the meaning of those terms.").

In the Court's view, manipulation of the effector is something the user does that *causes* a deformation of the effector. As such, the word "manipulation" stands on its own. The Court rejects both proposed constructions and declines to construe "manipulation" as having anything other than its ordinary meaning. *See U.S. Surgical Corp.*, 103 F.3d at 1568 ("The *Markman* decisions do not hold that the trial judge must repeat or restate every claim term in

order to comply with the ruling that claim construction is for the court. . . . It is not an obligatory exercise in redundancy.”); *Pulse Med. Instruments, Inc. v. Drug Impairment Detection Servs., Inc.*, No. DKC 07-01388, 2009 WL 6898404, at *2 (D. Md. March 20, 2009) (“[T]erms that are commonplace or that a juror can easily use in her direction from the court do not need to be construed because they are neither unfamiliar to the jury, confusing to the jury, nor affected by the specification or prosecution history.”) (internal quotations and modifications omitted).

In any event, the Court’s infringement analysis does not turn on the term “manipulation.”

As for construction of the term “and,” after hearing the Parties’ argument at the *Markman* hearing, it appears that this term is not actually in dispute. Both Parties appear to agree that the performance of isometric exercise generates a force that causes manipulation of the effector, such that the two are effectively one and the same and occur more or less simultaneously. And, that is how the Court construes the word “and.”

In sum, the Court construes the phrase “in accordance with performance of said isometric exercise and manipulation of said effector by said user” to mean “in accordance with performance of said isometric exercise and the resulting manipulation of the effector.”

IV. Infringement

A. Legal Standard

“[I]nfringement is assessed by comparing the accused device to the claims, and the accused device infringes if it incorporates every limitation of a claim, either literally or under the doctrine of equivalents.” *Nazomi Commc’ns, Inc. v. Arm Holdings, PLC*, 403 F.3d 1364, 1372 (Fed. Cir. 2005). The burden is on the patentee to provide evidence of infringement. *See*

Tech. Licensing Corp. v. Videotek, Inc., 545 F.3d 1316, 1327 (Fed. Cir. 2008); *TechSearch, LLC v. Intel Corp.*, 286 F.3d 1360, 1372 (Fed. Cir. 2002).

Under a theory of literal infringement, if “even one claim limitation is missing or not met, there is no literal infringement,” and summary judgment is appropriate. *MicroStrategy Inc. v. Bus. Objects, S.A.*, 429 F.3d 1344, 1352 (Fed. Cir. 2005); *see also Gen. Mills, Inc. v. Hunt–Wesson, Inc.*, 103 F.3d 978, 983 (Fed. Cir. 1997) (“Where the parties do not dispute any relevant facts regarding the accused product . . . but disagree over possible claim interpretations, the question of literal infringement collapses into claim construction and is amenable to summary judgment.”). To prevail on a theory of equivalents, a plaintiff must “provide particularized testimony and linking argument as to the insubstantiality of the differences between the claimed invention and the accused device or process . . . on a limitation-by-limitation basis.” *AquaTex Indus., Inc. v. Techniche Solutions*, 479 F.3d 1320, 1328 (Fed. Cir. 2007) (quoting *Texas Instruments Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1567 (Fed. Cir. 1996)) (internal quotations omitted).

Whether a device infringes on the properly construed claims of a patent, either literally or under the doctrine of equivalents, is a matter of fact. *See Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1301 (Fed. Cir. 2011); *Townsend Eng’g Co. v. HiTec Co., Ltd.*, 829 F.2d 1086, 1089 (Fed. Cir. 1987). “A district court should approach a motion for summary judgment on the fact issue of infringement with great care.” *Amhil Enters. Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1557 (Fed. Cir. 1996). However, “[a] party may not overcome a grant of summary judgment by merely offering conclusory statements.” *SRI Int’l, Inv. v. Internet Sec. Sys., Inc.*, 511 F.3d 1186, 1198 (Fed. Cir. 2008) (citing *Moore U.S.A., Inc. v. Standard Register Co.*, 229 F.3d 1091, 1112 (Fed. Cir. 2000)). “Thus, the party opposing the motion for summary judgment

of noninfringement must point to an evidentiary conflict created on the record, at least by a counter-statement of a fact set forth in detail in an affidavit by a knowledgeable affiant.”

TechSearch, 286 F.3d at 1372 (citing *Arthur A. Collins, Inc. v. N. Telecom, Ltd.*, 216 F.3d 1042, 1046 (Fed. Cir. 2000)).

B. The Parties’ Arguments

IA Labs contends that Nintendo directly infringes the ’982 patent by making, using, selling, offering for sale, and/or importing the Balance Board under 35 U.S.C. § 271(a). It further contends that Nintendo indirectly infringes the patent by inducing and contributing to infringement under 35 U.S.C. §§ 271(b) and (c). Both contentions presuppose that the Balance Board literally infringes Claim 1 and that normal use of the Balance Board literally infringes Claim 9.

IA Labs’ literal infringement argument proceeds as follows.¹⁹ Each leg of the Balance Board contains a load cell (i.e. “effector”), comprising two plates and a small aluminum block (i.e. “elongated rod”). These effectors are fixedly secured to a metal frame (i.e. “frame”), encased in plastic, on which the user stands, such that they significantly resist movement when

¹⁹ Although IA Labs baldly asserts infringement under the doctrine of equivalents, it has presented no “particularized testimony and linking argument on a limitation-by-limitation basis” to support this theory. *AquaTex Indus.*, 479 F.3d at 1328-29. IA Labs, in fact, does not even address the doctrine of equivalents in its opposition to Nintendo’s motion. When asked about this at oral argument, counsel confirmed that its case is based on literal infringement and stated that IA Labs would rely on the doctrine of equivalents only to the extent that it could not make a case of literal infringement consistent with the Court’s claim construction. However, “evidence and argument on the doctrine of equivalents cannot merely be subsumed in plaintiff’s case of literal infringement.” *Amgen Inc. v. F. Hoffman-LA Roche Ltd*, 580 F.3d 1340, 1382 (Fed. Cir. 2009) (quoting *Lear Sigler, Inc. v. Sealy Mattress Co.*, 873 F. 2d 1422, 1425 (Fed. Cir. 1989)). Because IA Labs has presented no evidence to support a claim of infringement under the doctrine of equivalents, it has abandoned this argument. *See 02 Micro Int’l Ltd. v. Monolithic Power Sys.*, 467 F.3d 1355, 1369 (Fed. Cir. 2006) (upholding a district court’s grant of summary judgment where plaintiff failed to timely provide evidence supporting its theory of infringement).

the user exerts force. A strain gauge (i.e. “sensor”) is attached to each elongated rod and measures the forces applied by the user to deform the rod. A processor board (i.e. “processor”) includes a microcontroller and a Bluetooth Module (i.e. “data processing modules”), which receive and process data from the sensors and transfer that data to the Wii Console (i.e. “host processing system”) to control the Wii Fit or Wii Fit Plus games (i.e. “virtual reality scenario”). IA Labs argues that a Balance Board user controls certain Wii Fit and Wii Fit Plus activities—including, e.g., the Ski Jump and certain yoga activities—by performing isometric exercise while standing on the Balance Board.

Nintendo responds that it does not infringe the ’982 patent because the Balance Board fails to meet several of the limitations found in Claim 1. Its primary argument is that the Balance Board does not infringe based on proper construction of the term “isometric exercise” because the Balance Board neither provides nor responds to isometric exercise as required by the ’982 patent.²⁰ This argument extends to three separate limitations in Claim 1: (1) “an effector to provide an isometric exercise;” (2) “at least one sensor coupled to said rod and responsive to at least one force applied by said user to said effector to perform said isometric exercise;”²¹ and (3) “isometric exercise system.”

First, Nintendo argues that the load cells in the Balance Board do not “provide an isometric exercise,” in that they do not comprise an immovable object that resists muscle force.

²⁰ Nintendo presents other arguments of non-infringement unrelated to isometric exercise, but inasmuch as the Court finds that the Balance Board does not read on the claim limitations regarding isometric exercise, it does not address these other arguments.

²¹ The Court notes that Nintendo’s argument regarding this second limitation extends as well to the limitation of “a processor coupled to said at least one sensor . . . to receive and process data corresponding to applied force information measured by said at least one sensor . . . to control said virtual reality scenario . . . in accordance with performance of said isometric exercise and manipulation of said effector by said user,” which depends on the sensor being “responsive to” isometric exercise force.

Although Nintendo concedes that one could, in theory, engage in isometric exercises while standing on the Balance Board, one could perform that same isometric exercise equally well on the floor. This is at odds with the '982 patent, where the isometric exercise is only possible because of the force on the effector, such as the rigid steel bar described in both embodiments, and cannot be conducted without it. For example, in both preferred embodiments of the '982 patent, the user grips the effector and tries to bend, twist, push, or pull it. The effector resists the user's force, thereby "providing an isometric exercise." This, quite simply, is missing from the Balance Board. Further, the load cells on the Balance Board respond only to the user's distributed weight; they cannot detect any other type of force. In contrast, one benefit of the '982 patent is its ability to provide an isometric exercise by detecting and measuring multiple types of force. The Balance Board cannot detect whether a user is tensing her muscles, except to the extent that such tension causes the user to shift the distribution of her weight, so that what the Balance Board detects are only shifts in the distribution of weight, not the tensing of muscles. Thus, it does not "provide an isometric exercise."

Second, Nintendo argues that the "sensors" in the Balance Board are not "responsive to" isometric exercise forces. Instead, the strain gauges respond to and measure the user's distribution of weight in order to detect the user's center of gravity. By way of example, Nintendo analyzes how the Balance Board works when the user crouches in connection with the Ski Jump game, which IA Labs contends constitutes isometric exercise. Again, Nintendo submits that when the user moves from a standing to a crouching position, or vice versa, the strain gauges detect that the user has redistributed her weight across the four load cells, and that her center of gravity has shifted. Because the aggregate force of the user's weight applied to the

Balance Board does not change, the Balance Board does not detect any additional force applied by any isometric exercise of the user's muscles.

Third, Nintendo argues that the Balance Board is not an "isometric exercise system." The Balance Board, it says, is a weight-sensing device used to measure motion and balance—both dynamic activities—and the majority of Balance Board activities involve extensive body movement. Therefore, in addition to not meeting particular claim limitations, the Balance Board is not even properly within the category of an "isometric exercise device," which the '982 patent invented with the goal of making isometric exercise less tedious.

IA Labs counters that the Balance Board does meet each limitation of Claim 1, including those pertaining to isometric exercise. First, it argues that the effectors in the Balance Board do "provide an isometric exercise" just as Nintendo argues is required. When a user engages in isometric exercise atop the Balance Board, the effectors significantly resist movement and deform slightly when the user's muscles are exerted against them. As an example, Dr. Drury opines that during the Ski Jump game, the user applies a downward force, 98% of which comes from the isometrically exercised lower legs and 2% of which comes from the weight of the user's foot. The effectors in the Balance Board significantly resist that downward force and thereby "provide an isometric exercise."

Second, IA Labs argues that the sensors in the Balance Board are "responsive to" isometric exercise forces. IA Labs cites the expert report of Dr. Drury, who opines that three types of forces are at play when a user crouches during the Ski Jump game: (1) muscle contraction force resulting from isometric contractions of the user's muscles; (2) the weight of the user's foot; and (3) the upward force from the ground reaction force. The user exerts

isometrically exercised muscle force against the Balance Board, which, in turn, deforms the elongated rods. The sensors are responsive to this deformation.²²

Third, IA Labs argues that the Balance Board is an isometric exercise system according to the plain and ordinary meaning of the term because it does not significantly move in response to the application of force. Further, certain Wii Fit games, such as the Ski Jump, require a user to engage in isometric exercise on the Balance Board as required by Claim 1.

C. No Disputed Facts

As a preliminary matter, the Court notes that only disputed material facts will preclude summary judgment. Although IA Labs identifies twenty-nine “facts” allegedly in dispute, the vast majority of these “facts” are nothing more than attorney arguments, disagreements over claim construction, or are otherwise wholly immaterial to the Court’s analysis. *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986) (“Only disputes over facts that might affect the outcome of the suit under the governing law will properly preclude the entry of summary judgment. Factual disputes that are irrelevant or unnecessary will not be counted.”); *Merritt v. Old Dominion Freight Line, Inc.*, 601 F.3d 289, 300 (4th Cir. 2010) (“[F]actual disputes must be both material and genuine, and district courts must ensure both conditions are satisfied before sending a case to trial.”); *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc) (confirming that apparent disputes of fact regarding the proper construction of claim terms are to be resolved by the court as a matter of law).

²² IA Labs proffers an experiment that its computer software expert, Dr. Benjamin Bederson, conducted to support the argument that the Balance Board responds to and measures isometric muscle contractions. As this Court has previously ruled, however, Dr. Bederson, a computer software expert, is not qualified to offer expert testimony regarding isometric exercise. Any testimony regarding isometric exercise experiments that he may have conducted has been deemed inadmissible, and the Court does not consider it. (*See Order at Docket No. 306.*)

As the Court sees it, the only disputed issues material to its analysis concern the direction of muscular forces involved in isometric exercise and the characterization of the force applied to the Balance Board during normal use (and to which it is capable of responding). But these disputes are not factual in nature; rather, they consist of competing expert opinions and judgments that rely on a single set of facts which, as explained below, the Court can resolve as a matter of law. *See Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1278 (Fed. Cir. 2004) (“It is well settled that an expert’s unsupported conclusion on the ultimate issue of infringement is insufficient to raise a genuine issue of material fact, and that a party may not avoid that rule simply by framing the expert’s conclusion as an assertion that a particular critical claim limitation is found in the accused device.”); *Arthur A. Collins, Inc. v. N. Telecom, Ltd.*, 216 F.3d 1042, 1047-48 (Fed. Cir. 2000) (finding that plaintiff’s expert report did not designate specific facts sufficient to avoid summary judgment).

D. Direct Infringement

The first four words of Claim 1 best describe the invention of the ’982 patent: it is “an isometric exercise system.”²³ The requirement of isometric exercise is the touchstone of the patent. The claimed invention is a device that provides a user with isometric exercise, responds to the force of that isometric exercise, and uses the force of that isometric exercise to control a virtual reality scenario. The claimed invention is able to do this by including an “effector” against which the user can exert muscle force and that resists movement such that the user’s muscles cannot extend. This enables the user to perform isometric exercise she could not otherwise perform and allows the device to respond to the force generated by that exercise to control a virtual reality scenario. Hence, if a device lacks an effector that substantially prevents

²³ Although “isometric exercise system” is not an independent claim limitation, *see supra* III(B)(2), it provides a helpful description of the claimed invention as a whole.

movement of a user's exercised muscles or if it does not detect the force applied by the exertion of those muscles, the device does not infringe Claim 1, and using that device does not infringe Claim 9.

Resolving all reasonable factual inferences in IA Labs' favor, the Court finds that no reasonable jury could find infringement of the '982 patent. *See MicroStrategy Inc. v. Bus. Objects, S.A.*, 429 F.3d 1344, 1352 (Fed. Cir. 2005); *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998). Although IA Labs argues that the Balance Board contains each individual component required by Claim 1 (e.g. a frame, an effector, a sensor, etc.), it misses the broader point that the Balance Board does not infringe because its components do not facilitate isometric exercise in the ways required by that claim as a whole. *See Kyocera Wireless Corp. v. Int'l Trade Comm'n*, 545 F.3d 1340, 1347 (Fed. Cir. 2008); *Hockerson-Halberstadt, Inc. v. Converse Inc.*, 183 F.3d 1369, 1374 (Fed. Cir. 1999) (“[P]roper claim construction . . . demands interpretation of the entire claim in context, not a single element in isolation.”). Ignoring this fundamental reality, IA Labs is essentially parrying and thrusting with unsupported conclusory assertions.

IA Labs' case depends entirely on the contention that the Balance Board and Wii Console, when used as intended, meet all the limitations of at least Claim 1.²⁴ Yet IA Labs has failed to identify any allegedly isometric activity that can be performed in conjunction with the Balance Board that would satisfy the limitations of Claim 1. For starters, each of IA Labs' proffered examples of allegedly infringing activities requires the user to exert force against her

²⁴ Claim 9 discloses “[a] method of performing an isometric exercise utilizing a system . . .” where both the “system” described and the method itself are limited by terms substantially similar to the limitations of Claim 1. (*Compare* '982 patent, col. 16 ll. 13-31; *id.* col. 15 ll. 34-54.) Notwithstanding the different scopes of the two, independent claims, for the same reasons that IA Labs does not establish infringement of Claim 1, it similarly does not establish infringement of Claim 9.

own body to hold it in a fixed position and not against the Balance Board. These activities fall squarely outside the Court’s construction of isometric exercise. In any event, IA Labs has not shown that a reasonable jury could determine that one using the Balance Board exerts her isometrically exercised muscles against the load cells in the Balance Board, that the strain gauges of the Balance Board are responsive to any force generated by isometric exercise, or that the Wii Console controls the various Wii Fit games in accordance with any isometric exercise. Though IA Labs contends that each of these limitations is met when a user plays the Ski Jump game or engages in yoga activities, these contentions are not reasonably supported by evidence in the record, and their explanations would even seem to run contrary to the laws of physics. Instead, it is clear, that when a user stands on the Balance Board, the only force exerted against and detected by the Balance Board is the shifting force of her aggregate weight, regardless of whether she is engaging in an allegedly isometric activity. Because IA Labs has failed to present any evidence of infringement during normal use of the Balance Board, a reasonable jury could not find infringement of Claims 1 or 9 of the ’982 patent. *See TechSearch, LLC. v. Intel Corp.*, 286 F.3d 1360, 1372 (Fed. Cir. 2002).

1. “isometric exercise”

Claim 1 requires three separate limitations based on “isometric exercise.” First, there must be “an effector to provide an isometric exercise for said user, wherein said effector is fixedly secured to said frame and includes an elongated rod.” (’982 patent, col. 15 ll. 38-40.) Second, there must be “at least one sensor . . . responsive to at least one force applied by said user to said effector to perform said isometric exercise.” (*Id.* col. 15 ll. 42-43.) Third, there must be “a processor coupled to said at least one sensor . . . to receive and process data corresponding to applied force information measured by said at least one sensor . . . to control said virtual reality scenario . . . in accordance with performance of said isometric exercise and manipulation

of said effector by said user.” (*Id.* col. 15 ll. 46-54.) Thus, for the Balance Board to infringe the ’982 patent, it must allow for a user to engage in isometric exercise as required by these terms.

As explained above, the Court has construed “isometric exercise” to mean “the exertion of force by a user against an object that significantly resists movement as a result of the exerted force such that there is substantially minimal or no movement of the user’s muscles associated with the isometric exercise during the force exertion.” The Court has expressly declined to construe “isometric exercise” to allow the user’s own body to be the “object” against which the user exerts force and that significantly resists movement as a result of that force because a person’s own body is alone insufficient to facilitate isometric exercise in conjunction with the effector, as it is not fixed for relative exertion against the effector.

Each Balance Board activity that IA Labs has identified as “isometric” is at odds with this construction and requires that the user’s body be said “object.” For example, if a person holds a squatting position,²⁵ that person resists the gravitational pull on her upper body toward the ground by exerting isometric muscular force in her legs equal to the weight carried, so as to hold the upper body in a fixed position.²⁶ Here, the Balance Board (because it is stationary on the ground) serves as one fixed item and the upper body serves as another fixed item. The user’s “isometric” muscular force will always be exerted “against” the user’s own body to hold it in that static position. It will never be exerted “against” the Balance Board, which receives a virtually constant amount of aggregate force equal to the user’s weight,

²⁵ There is no genuine controversy over the proposition that holding a squatting position on the Balance Board is within the intended activities of the Ski Jump game. While Nintendo argues that this is not sufficiently strenuous to constitute “exercise,” drawing all inferences in IA Labs’ favor, as it must, *see Masson v. New Yorker Magazine, Inc.*, 501 U.S. 496, 520 (1991), the Court assumes that squatting does constitute “exercise.”

²⁶ If the user exerts muscular force greater than the weight her legs are supporting, her legs will extend and the upper body will rise. If the user exerts muscular force less than the weight carried, her upper body will accelerate toward the ground.

regardless of the position of the user's body.²⁷ Because any alleged "isometric" activity conducted on the Balance Board necessarily requires the user's body to be the "object" against which the user exerts force and that significantly resists movement as a result of that force, these activities fall outside of the Court's construction of "isometric exercise."²⁸

Because IA Labs has not identified any Balance Board activity that requires "isometric exercise" as construed by the Court, the Court finds that "no reasonable jury could find" that the Balance Board meets "every limitation recited in the properly construed" Claim 1 or that using the Balance Board meets "every limitation recited in the properly construed" Claim 9. *Innovention Toys, LLC v. MGA Entm't, Inc.*, 637 F.3d 1314, 1319 (Fed. Cir. 2011) (quoting *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998)).

Yet, as explained in detail below, even if the allegedly infringing Balance Board activities did fall within the Court's construction of isometric exercise (which they do not), the Balance Board would still fail to meet each of the isometric exercise limitations of Claims 1 and 9 for the *same reason* that the Court has construed the term "isometric exercise" as it has.

At the risk of being repetitious, the Court restates its earlier analysis construing the term "isometric exercise" in light of the specific arguments made regarding the Balance Board.

²⁷ These principles apply equally to all of the alleged infringing activities, none of which utilizes an external item to hold the body in a position fixed relative to the Balance Board.

²⁸ The Court will not consider whether some alteration of the Balance Board might allow a user to engage in isometric exercise as required by Claim 1. *See High Tech Med. Instrumentation, Inc. v. New Image Indus., Inc.*, 49 F.3d 1551, 1555 (Fed. Cir. 1995) ("[A] device does not infringe simply because it is possible to alter it in a way that would satisfy all the limitations of a patent claim.").

2. “an effector to provide an isometric exercise for said user, wherein said effector is fixedly secured to said frame and includes an elongated rod”

As indicated, to infringe the '982 patent, the Balance Board must contain “an effector to provide an isometric exercise for said user, wherein said effector is fixedly secured to said frame and includes an elongated rod.” ('982 patent, col. 15 ll. 38-40.) The Court has construed “an effector to provide an isometric exercise” to mean “the user’s isometrically exercised muscles exert force against the effector either through direct contact or indirect contact.” To satisfy this limitation, then, the Balance Board must contain an “effector” against which the user’s isometrically exercised muscles are able to exert force. But in each of the allegedly infringing uses of the Balance Board, the user’s isometrically exercised muscles exert force against the body, not against the effector. Thus, the Balance Board fails to meet this limitation of Claim 1.

The Balance Board consists primarily of a platform for a user to stand on and four load cells supporting the platform, one at each corner. The load cells include strain gauge sensors that measure the amount of force applied, i.e. the portion of the user’s weight that is applied to each corner. As a user shifts the distribution of her weight, the data relayed by the sensors is used to control the Wii Fit games and activities. Importantly, the Balance Board does not have any fixed elements relative to the Balance Board and none of the alleged infringing activities require use with any fixed items.

IA Labs alleges that when the user stands on the Balance Board and simultaneously performs isometric exercise (e.g. by squatting), the '982 patent is infringed. It relies on Dr. Drury’s report to argue that because the user engages in isometric exercise while standing on the Balance Board, the force exerted against the Balance Board (and that which causes the effectors to deform) is the force of the isometric exercise. The Court finds this

argument to be fundamentally flawed. When a user squats on the Balance Board, the isometrically exercised muscles exert force on the body to counteract the weight carried and must hold the body in a fixed position. This exercise does not affect the total downward force exerted against the Balance Board, which is equal to the force of the user's weight. That aggregate force remains unchanging regardless of whether the user stands upright, squats slightly, or squats deeply. In fact, a user could not exert any additional force (isometric or other) against the Balance Board during ordinary use, without bracing against some external item fixed relative to the Balance Board or jumping upon it (which clearly would not be an "isometric" action).²⁹ Only then could a user apply a force to the Balance Board above and beyond the force of her weight. *See supra*, n.12. Thus, although the Balance Board may act as one fixed item holding the user's lower body in a fixed position, it is not the "object" against which the user exerts force and that significantly resists movement as a result of that force, as required by Claim 1.

IA Labs does not dispute any fact underlying this analysis. Indeed, Dr. Drury's own report confirms these physical realities. He agrees that "the muscles engaged in isometric muscle contraction also exert an upward force equal to the downward force applied to the Balance Board. This force supports the player's upper body." (Drury Decl. ¶ 37.) Dr. Drury further agrees that a squat engages "gravity and bodyweight alone" (i.e. there is no force external to the weight of the body). (*Id.* ¶ 22.) The only thing in Dr. Drury's report that is inconsistent with the Court's analysis is his conclusion that isometric force is also exerted downwards onto the Balance Board. But this is merely "an unsupported assertion that the accused device contains

²⁹ While the Court does not base its finding of non-infringement on the lack of a "frame to support a user," it does appear that the only way a user could exert additional isometric force against the effectors in the Balance Board would be if they were "fixedly secured" to a *separate* frame that could support the user relative to the effectors.

a critical claim limitation and clearly would be insufficient, standing alone, to create a genuine issue of material fact.” *Arthur A. Collins, Inc. v. N. Telecom, Ltd.*, 216 F.3d 1042, 1046 (Fed. Cir. 2000). Dr. Drury has not set forth the “factual foundation” for his conclusion that a user can exert isometric exercise force against the Balance Board “in sufficient detail for the court to be certain that features of the accused product would support a finding of infringement.”

Intellectual Sci. and Tech., Inc. v. Sony Elecs., Inc., 589 F.3d 1179, 1183 (Fed. Cir. 2009) (citing *Arthur A. Collins*, 216 F.3d at 1047-48); *see also Novartis Corp. v. Ben Venue Labs., Inc.*, 271 F.3d 1043, 1051 (Fed. Cir. 2001) (“The necessity for such an explicit factual foundation should be self-evident. If all expert opinions on infringement or noninfringement were accepted without inquiry into their factual basis, summary judgment would disappear from patent litigation.”).

A closer inspection of Dr. Drury’s explanation reveals that this apparent dispute is really just semantics. He asserts that when a user weighing 200 pounds maintains a crunch position on the Balance Board, there are:

four pounds of force directed downward onto the Balance Board from the weight of the player’s feet, and 196 pounds of force directed downward to the Balance Board from muscle force created by the player’s muscles that are engaged in isometric exercise. In comparison between the isometric muscle force and the weight force, the isometric force is 98% of the force applied to the Balance Board by the player.

(Drury Decl. ¶ 36.) But Dr. Drury agrees that there is a force of 200 pounds exerted against the Balance Board at all times that the user stands upon it. What he is doing is merely describing a portion of that force as “isometric force” when the user engages in isometric exercise. This does not advance the cause of IA Labs. The force of the user’s weight does not cease to exist while she engages in isometric exercise such that her weight somehow converts into “isometric force.” Instead, at all times that the user stands on the Balance Board—before, during, and after she

engages in isometric exercise—she exerts a constant, aggregate force of 200 pounds against the Balance Board.

Stated another way, the Balance Board does not contain an effector to “provide an isometric exercise” because the Balance Board has no feature that enables a user to perform isometric exercise that she could not otherwise perform. The question is not whether isometric exercise can theoretically occur while a person stands on the Balance Board, but, rather, whether the force applied against the Balance Board results from such exercise. Each and every isometric activity that IA Labs has identified as occurring on the Balance Board is possible only by reason of the force of gravity on the user’s body—which effects a constant aggregate force on the Balance Board during use—not because of any structural component provided by the Balance Board.

IA Labs may not manufacture a dispute of fact simply by renaming a portion of the user’s weight “isometric force” whenever a user engages in isometric exercise. It has identified no fact in dispute that prevents a finding, as a matter of law, that when one engages in a squat or in any other allegedly isometric activity on the Balance Board, the isometrically exercised force is exerted against the body and the force of weight is exerted against the effectors in the Balance Board. IA Labs has failed to prove that the Balance Board contains “an effector to provide an isometric exercise for said user, wherein said effector is fixedly secured to said frame and includes an elongated rod.”

3. “at least one sensor . . . responsive to at least one force applied by said user to said effector to perform said isometric exercise”

To infringe the ’982 patent, the Balance Board must also contain “at least one sensor . . . responsive to at least one force applied by said user to said effector to perform said isometric exercise.” (’982 patent, col. 15 ll. 42-43.) The Court has construed “force applied by

said user to said effector to perform said isometric exercise” to mean “the user’s isometrically exercised muscles exert force against the effector either through direct contact or indirect contact.” In order to satisfy this limitation, then, the strain gauge in the Balance Board must be responsive to the force exerted by the user’s isometrically exercised muscles against the effector. Because a Balance Board user’s isometrically exercised muscles do not exert any additional force against the effector, as explained above, the sensor cannot be responsive to such a force, and the Balance Board fails to meet this claim limitation.

That the Balance Board does not contain sensors responsive to isometrically exercised muscle force is evident from the way in which the Balance Board operates. The Balance Board detects the distribution of a user’s weight across the four load cells. The Wii calculates the user’s center of gravity—and movements that alter that center of gravity—based on information sensed by the load cells indicating the distribution of the user’s downward force across the four load cells. This only works because at all times that the user’s feet remain planted on the Balance Board there is a virtually constant aggregate downward force equal to the user’s weight distributed across the four load cells. During normal use, the Balance Board does not effectively sense anything other than the shifting distributions of this downward force.³⁰

Even assuming, arguendo, that a portion of a user’s weight could be characterized as “isometric muscle force” when she squats on the Balance Board, there is no evidence in the record showing that the Balance Board could sense or respond to that portion of the force. The isometric muscular force would always be indistinguishable from the downward force of the

³⁰ IA Labs has repeatedly cited the following deposition testimony of a Nintendo engineer to support its conclusions: “[We] were the first persons inside Nintendo who came up with a product like [*sic*] Wii Balance Board which can measure the force as well as the person’s weight.” (Plf. Opp. Ex. 30 at 36:10-13.) It is not at all clear to the Court what the witness meant by this unadorned statement, nor does the Court see how the statement would in any way alter its analysis.

user's weight. Again, Dr. Drury's example of the 200 pound user in a balanced crunch position underscores this conclusion. Even if he were correct that when a user squats on a Balance Board 98% of the force exerted against the Balance Board is "isometric force," nothing in the record suggests that the Balance Board could distinguish that "isometric force" from the other 2% of downward force, which, Dr. Drury concedes, is the force of the user's weight. Dr. Drury's simple assertion that it does creates no dispute of fact. See *TechSearch, LLC. v. Intel Corp.*, 286 F.3d 1360, 1375 (Fed. Cir. 2002) (discounting an expert's "wholly conclusory allegations" that a "multiplexer" in the accused product was capable of acting as the "decoder" in the claim, where the patentee "failed to provide evidence to explain how the multiplexer of the P6 performs the functions of the claimed decoder" so that the accused infringer's evidence of how the accused product works "stands uncontradicted").

IA Labs has presented no admissible evidence to support its conclusory assertion that the Balance Board sensors are responsive to the force exerted by the user's isometrically exercised muscles against the effector, and not the distribution of the user's weight.³¹ As a matter of law, the Court finds that the Balance Board does not contain "at least one sensor . . . responsive to at least one force applied by said user to said effector to perform said isometric exercise."

4. "data corresponding to applied force information measured by said at least one sensor . . . to control said virtual reality scenario . . . in accordance with performance of said isometric exercise and manipulation of said effector by said user."

To infringe the '982 patent, the Balance Board must also contain "a processor coupled to said at least one sensor . . . to receive and process data corresponding to applied force

³¹ The Court once again reminds that it has excluded from consideration the so-called expert testimony of Dr. Bederson, a computer expert, concerning his personal experiments in which he allegedly applied isometric exercise force to the Balance Board.

information measured by said at least one sensor . . . to control said virtual reality scenario . . . in accordance with performance of said isometric exercise and manipulation of said effector by said user.” (’982 patent, col. 15 ll. 46-54.) Because the “applied force information measured by” the “sensor” corresponds only to the distribution of the user’s aggregate weight across the four load cells, and not to any variable isometrically exercised muscle force, the “data corresponding to applied force information” cannot “control said virtual reality scenario . . . in accordance with performance of said isometric exercise and manipulation of said effector by said user.” (*Id.*)

Even if the Balance Board were capable of providing and being responsive to isometric exercise, IA Labs has offered no evidence to suggest that a user could, in fact, control any of the Wii Fit games “in accordance with isometric exercise.” At oral argument, counsel for IA Labs attempted to demonstrate that the act of holding a squat during the Ski Jump game is detected by the Wii Console and used to control the game. Counsel pointed to the fact that the game rewards the user’s holding a static position where the red dot (representing the center of gravity) was positioned towards the front of the Balance Board. But what became clear to the Court during these demonstrations was that the Balance Board detects shifts in the user’s center of gravity as her weight is redistributed over the four load cells. The Balance Board detects the user moving into and out of the squat position as well as any minor movements made while attempting to maintain the squatting position (i.e. during the alleged isometric exercise). These movements control the game. If the user could maintain a perfectly still squatting position, her center of gravity would not shift, and she could not control the game. IA Labs’ effort to demonstrate that a user could control a Wii Fit game by isometrically tensing her toes and pressing them onto the Balance Board was wholly unpersuasive. It was apparent to the Court that when counsel allegedly isometrically exercised his toes, nothing registered on the screen.

For these reasons, the Court finds, as a matter of law, that the Balance Board does not contain “at least one sensor . . . responsive to at least one force applied by said user to said effector to perform said isometric exercise.”

E. Indirect Infringement

Because there is no direct infringement of Claim 1 or 9, there can be no indirect infringement. *See DSU Med. Corp. v. JMS Co., Ltd.*, 471 F.3d 1293, 1303 (Fed. Cir. 2006) (“[T]he patentee always has the burden to show direct infringement for each instance of indirect infringement.”); *Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 770, 774 (Fed. Cir. 1993) (“Liability for either active inducement of infringement or contributory infringement is dependent upon the existence of direct infringement.”).

V. Conclusion

For the foregoing reasons, Nintendo’s Motion for Summary Judgment of Non-Infringement [Docket No. 204] is **GRANTED**, Nintendo’s Motion for Partial Summary Judgment of No Willful Infringement [Docket No. 219] is **MOOT**, Nintendo’s Motion to Bifurcate [Docket No. 152] is **MOOT**, IA Labs’ Motion in Limine [Docket No. 283] is **MOOT**, Nintendo’s Omnibus Motion in Limine [Docket No. 288] is **MOOT**, Nintendo’s Motion to Exclude the Expert Testimony of Gregory Lewis Merrill [Docket No. 333] is **MOOT**, and IA Labs’ Motion to Exclude the Testimony of Defendant Witnesses Rodrigo, Li, and Berme [Docket No. 335] is **MOOT**.

A separate order will **ISSUE**.

/s/
PETER J. MESSITTE
UNITED STATES DISTRICT JUDGE

February 29, 2012

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND**

IA LABS CA, LLC

Plaintiff

v.

**NINTENDO CO., LTD and
NINTENDO OF AMERICA, INC.**

Defendants

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Civil No. PJM 10-833

ORDER

Upon consideration of Defendants' Motion for Summary Judgment of Non-Infringement [Docket No. 204] and Plaintiff's Opposition thereto, oral argument having been held thereon, as well as various other motions pending before the Court, it is, for the reasons stated in the accompanying Opinion, this 29th day of February, 2012

ORDERED

1. Defendants' Motion for Summary Judgment of Non-Infringement [Docket No. 204] is **GRANTED**;
2. Defendants' Motion for Partial Summary Judgment of No Willful Infringement [Docket No. 219] is **MOOT**;
3. Defendants' Motion to Bifurcate [Docket No. 152] is **MOOT**;
4. Plaintiff's Motion in Limine [Docket No. 283] is **MOOT**;
5. Defendants' Omnibus Motion in Limine [Docket No. 288] is **MOOT**;
6. Defendants' Motion to Exclude the Expert Testimony of Gregory Lewis Merril [Docket No. 333] is **MOOT**;

