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

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| IMPULSE TECHNOLOGY LTD., | ) | |
| | ) | |
| Plaintiff, | ) | |
| | ) | |
| v. | ) | Civil Action No. 11-586-RGA-CJB |
| | ) | |
| MICROSOFT CORPORATION; ELECTRONIC ARTS, INC.; UBISOFT, INC.; THQ INC.; KONAMI DIGITAL ENTERTAINMENT INC., | ) | |
| | ) | |
| Defendants. | ) | |

**REPORT AND RECOMMENDATION**

Currently pending before the Court in this patent dispute are two motions for summary judgment. Defendants Microsoft Corporation, Electronic Arts, Inc., and Ubisoft, Inc. (collectively, "Defendants") filed a Motion for Partial Summary Judgment of Noninfringement and No Willful Infringement ("Motion for Summary Judgment of Noninfringement") as to United States Patent Nos. 6,308,565 (the "'565 patent"), 6,765,726 (the "'726 patent"), 6,876,496 (the "'496 patent"), 7,359,121 (the "'121 patent"), and 7,791,808 (the "'808 patent"). (D.I. 332; D.I. 333 at 1-4) Defendants also filed a Motion for Partial Summary Judgment of Invalidity ("Motion for Summary Judgment of Invalidity") as to claim 11 of U.S. patent No. 6,430,997 (the "'997 patent"),[1] as well as claims 1 and 5 of the '565 patent, and claim 22 of the '121 patent. (D.I. 330; D.I. 331 at 1-3) The Court recommends that Defendants' Motion for Summary Judgment of Noninfringement be GRANTED, and that Defendants' Motion for Partial Summary Judgment of

[1] The Court will refer to the '565, '726, '496, '121, '808, and '997 patents collectively as "the asserted patents." The asserted patents are found in a number of places on the docket, including at D.I. 4, exs. 1-2 & 4-7. Hereinafter, they will most often be referred to by their individual patent number.

Invalidity be DENIED.

## I. BACKGROUND

### A. Factual Background

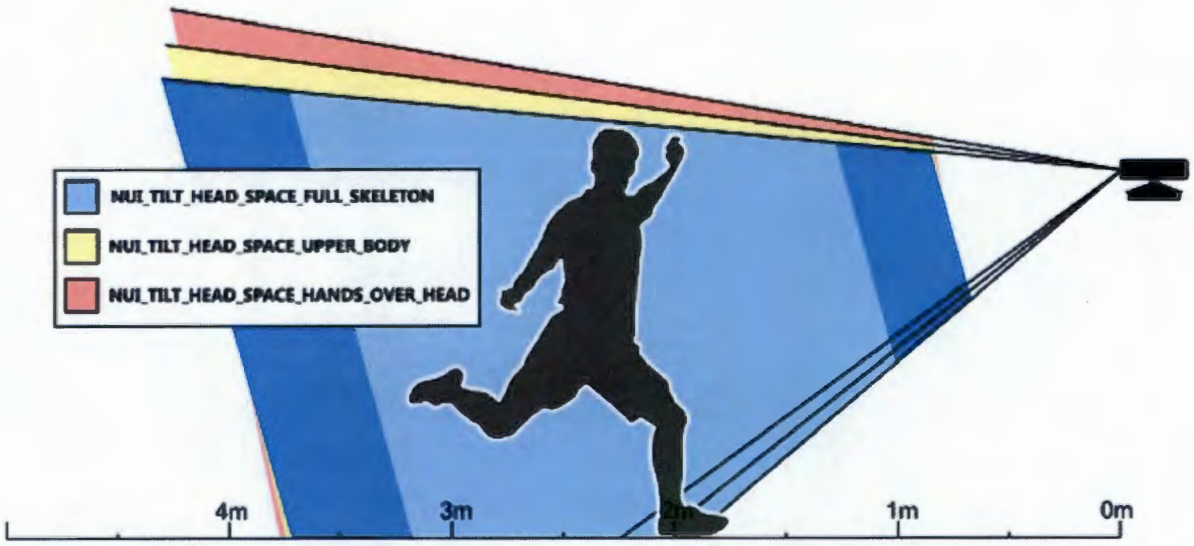
#### 1. The Asserted Patents

In this action, Plaintiff Impulse Technology Ltd. ("Plaintiff") asserts six related patents, each of which share a similar specification. (D.I. 333 at 1; *see* D.I. 4, exs. 1-2 & 4-7) Each of the asserted patents are entitled "System and Method for Tracking and Assessing Movement Skills in Multidimensional Space[.]" (D.I. 4, exs. 1-2 & 4-7) The asserted patents relate to the field of motion tracking and performance assessment. The patents explain that the prior art included various types of virtual reality systems that were used for entertainment purposes or for measuring physical exertion. (*See, e.g.*, '565 patent, col. 4:8-10) However, these systems lacked realism in their presentations and/or provided no measurement or inadequate measurement of physical activity. (*Id.*, col. 4:25-27) The present invention, then, was designed as a system for quantifying physical motion of a player or subject, and providing feedback to facilitate training and athletic performance in part by creating an accurate simulation of sport. (*See, e.g.*, *id.*, col. 4:30-34) To accomplish these purposes, the invention employs: (1) sensing electronics for determining, in essentially real time, a player's three-dimensional positional changes, and (2) computer controlled sport-specific cuing that evokes or prompts specific responses from the player. (*Id.*, col. 4:36-42)

#### 2. The Accused Products

The accused products are video games designed to run on an Xbox 360 video game console with a Kinect sensor. (D.I. 333 at 6; D.I. 334, ex. B at ¶ 20) The Kinect sensor is a

motion sensing input device that allows users to interact with the game console using gestures and spoken commands. (D.I. 333 at 6; D.I. 334, ex. B at ¶¶ 20-21) The Kinect sensor is physically separate from the Xbox 360 console, but the console and Kinect sensor are connected by a cable. (D.I. 333 at 32; D.I. 336, ex. 3 at 45-46) In use, the Kinect sensor is ideally positioned above or below the user's television set so that it can track movement in the space in front of the television. (D.I. 333 at 6; D.I. 336, ex. 19 at 1) It includes a front-facing camera that tracks motion within a viewing area (or "cone") located in front of the device. (D.I. 333 at 7; D.I. 336, ex. 3 at ¶ 169) The cone has a horizontal field of view of about 57 degrees, a vertical field of view of about 43 degrees, and a practical depth range of about 0.8-4.0 meters. (*Id.*) These dimensions form the Kinect sensor's viewing area. (*Id.*) The following figure, from Plaintiff's answering brief, illustrates a portion of the viewing area of the Kinect sensor:




(D.I. 361 at 10; D.I. 366, ex. 21 at 10) The Xbox 360 and the Kinect together use an algorithm to track the user and determine the location of 20 points that correspond to various joints of the user's body, using a coordinate system centered at the Kinect sensor. (D.I. 333 at 6; D.I. 334, ex.

B at ¶¶ 21, 94)

Games utilizing the Kinect sensor often include a "virtual player" (also referred to as an "avatar") whose movements are meant to partially correspond to movements of the player as determined by the sensor. (D.I. 333 at 24; D.I. 336, ex. 4 at 229-30) In some games, the virtual player's movements correspond on a "close[] to 1:1" basis with those of the user. (D.I. 361 at 35; D.I. 336, ex. 3 at ¶¶ 231-33) These movements are sometimes shown within a "virtual environment" in the game, which remains constant irrespective of the physical space in which the Kinect or the user is in. (D.I. 333 at 6-7; D.I. 334, ex. B at ¶¶ 102-07) One accused product, for example, is a "mini-game" called "River Rush" that places the player in a virtual environment involving a "twisting and turning river through which a raft (with the player inside) travels." (D.I. 333 at 7; *see also* D.I. 334, ex. B at ¶ 107)

### B. Recent Procedural History

The Court held a *Markman* hearing on November 20, 2012, and issued its Report and Recommendation regarding claim construction on May 13, 2013. (D.I. 300) The District Court adopted the Court's Report and Recommendation on claim construction with clarifications on September 19, 2013. (D.I. 314) The instant summary judgment motions ("Motions") are fully briefed. The Court held oral argument regarding those Motions, as well as the parties' respective *Daubert* motions, (D.I. 326, 337), on October 28, 2014. Fact and expert discovery are now complete, (D.I. 315, 333 at 1), and the matter is currently scheduled for trial on November 9, 2015, (D.I. 399).

## II. STANDARD OF REVIEW

A grant of summary judgment is appropriate where "the movant shows that there is no

genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). The moving party bears the burden of demonstrating the absence of a genuine issue of material fact. *See Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 585-86 (1986). If the moving party meets this burden, the nonmovant must then "come forward with specific facts showing that there is a *genuine issue for trial*." *Id.* at 587 (emphasis in original) (internal quotation marks omitted). If the nonmoving party fails to make a sufficient showing on an essential element of its case with respect to which it has the burden of proof, the moving party is entitled to judgment as a matter of law. *Celotex Corp. v. Catrett*, 477 U.S. 317, 322-23 (1986). During this process, the Court will "draw all reasonable inferences in favor of the nonmoving party, and it may not make credibility determinations or weigh the evidence." *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150 (2000).

However, in order to defeat a motion for summary judgment, the nonmoving party must "do more than simply show that there is some metaphysical doubt as to the material facts." *Matsushita*, 475 U.S. at 586-87; *see also Podobnik v. U.S. Postal Serv.*, 409 F.3d 584, 594 (3d Cir. 2005) (party opposing summary judgment "must present more than just bare assertions, conclusory allegations or suspicions to show the existence of a genuine issue") (internal quotation marks and citation omitted). The "mere existence of *some* alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment; the requirement is that there be no *genuine* issue of *material* fact." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-48 (1986) (emphasis in original). Facts that could alter the outcome are "material," and a factual dispute is genuine only where "the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Id.* at 248. "If the evidence is

merely colorable, or is not significantly probative, summary judgment may be granted." *Id.* at 249-50 (internal citations omitted). A party asserting that a fact cannot be—or, alternatively, is—genuinely disputed must support the assertion either by citing to "particular parts of materials in the record, including depositions, documents, electronically stored information, affidavits or declarations, stipulations (including those made for purposes of the motion only), admissions, interrogatory answers, or other materials"; or by "showing that the materials cited do not establish the absence or presence of a genuine dispute, or that an adverse party cannot produce admissible evidence to support the fact." Fed. R. Civ. P. 56(c)(1)(A) & (B).

## III. DISCUSSION

### A. Motion for Summary Judgment of Non-infringement

#### 1. Legal Standards Regarding Patent Infringement

The standard for patent infringement is set forth in 35 U.S.C. § 271, which states that "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent." An infringement analysis is performed on a claim-by-claim basis. *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001). In order to prove infringement, "the patentee must show that an accused product embodies all limitations of the claim either literally or by the doctrine of equivalents." *Cephalon, Inc. v. Watson Pharms., Inc.*, 707 F.3d 1330, 1340 (Fed. Cir. 2013).

To literally infringe the claim, an accused device must embody each limitation of the claim; the absence of any limitation defeats literal infringement. *Research Plastics, Inc. v. Fed. Packaging Corp.*, 421 F.3d 1290, 1297 (Fed. Cir. 2005). To prove infringement under the

doctrine of equivalents, "a patentee must provide particularized testimony and linking argument with respect to the 'function, way, result' test." *Cephalon*, 707 F.3d at 1340 (noting that the essential inquiry in any such determination is whether "the accused product or process contain[s] elements identical to or equivalent to each claimed element of the patented invention") (internal quotation marks and citation omitted). The function-way-result test "asks whether an element of an accused product performs substantially the same function in substantially the same way to obtain the same result as an element of the patented invention." *Id.* (internal quotation marks and citation omitted).

**2. Discussion**

The first basis for relief raised in Defendants' Motion for Summary Judgment of Noninfringement is that the accused products do not include a "defined physical space" as required by all but one of the asserted claims.[2] (D.I. 333 at 8-22) The Court previously construed "defined physical space" as "indoor or outdoor space having size and/or boundaries known prior to the adaptation of the testing and training system." (D.I. 300 at 19; *see* D.I. 314 at

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[2] This aspect of the motion relates to 14 of the 15 asserted claims in this case: claims 1, 5, 9, 30, 36, and 57 of the '565 patent; claim 16 of the '726 patent; claims 1, 3, and 5 of the '496 patent; claim 22 of the '121 patent; and claims 12, 15, and 17 of the '808 patent. (D.I. 333 at 8) The terms "defined physical space," "first physical space," and "second physical space" were construed identically. (D.I. 300 at 19; D.I. 314 at 1) One of those three terms appears in 11 of these 14 asserted claims. As to the 3 additional claims, claim 22 of the '121 patent requires a "representation[,]" and claims 15 and 17 of the '808 patent require "virtual space." The parties agree that the Court's construction of "representation" and "virtual space" require application of the "defined physical space" limitation into the three additional claims. (D.I. 333 at 8 & n.5; *see* D.I. 361 at 4-21 (not contesting Defendant's assertion that the claims require these elements); D.I. 336, ex. 4 at 238-40 (Plaintiff's expert agreeing that the Court's construction of "representation" and "virtual space" each include a "defined physical space")) Thus, the only asserted claim not implicated by Defendants' "defined physical space" non-infringement argument is claim 11 of the '997 patent. (*Id.*)

1 (District Court's adoption of the Court's recommendations regarding claim construction))

**a. Plaintiff's literal infringement argument fails**

At the time that the claim construction decision was issued, the Court was of the view that it had resolved the dispute between the parties as to this term. More specifically, during the *Markman* hearing, the parties argued over whether the "defined physical space" could be defined in relation to the sensor viewing area, or must instead be an actual physical space known in advance of the adaptation of a testing and training system. (D.I. 299 at 113-15, 122-23) The Court resolved that dispute by finding that the defined physical space must be defined independently from the sensor viewing area. (D.I. 300 at 16-19)

Plaintiff now accuses a defined physical space represented by "hardcoded values" within each accused video game. (D.I. 361 at 4) These hardcoded values are numbers that are "burned onto each game disc at the time it is manufactured[,]" and "define boundaries of a physical space within which the player plays the game." (*Id.*) The values are set using a coordinate system relative to the Kinect sensor—the same coordinate system through which player movements are tracked. (*Id.* (citing D.I. 364, ex. 17 at 180, 182-83 & 188)) These accused hardcoded values do not meet the Court's claim construction, for several reasons.

First, as noted by Defendants, those hardcoded values are "just numbers . . . contained in the source code for the Accused Games, and . . . burned onto the game discs." (D.I. 386 at 3) As a result, Plaintiff's alleged "defined physical space" is not an actual *physical space* at all—that is, it is not a physical area with dimensions that can be measured such that the claimed system can be adapted to it. (*See* D.I. 333 at 12 n.8 (Defendants' noting that a person cannot "take out a tape measure and actually measure a defined physical space that is only defined with respect to the

position of a moveable object and that cannot be seen") (internal quotation marks and citations omitted)) Instead, it is a list of abstract dimensions, defined only in relation to the position and direction of the Kinect sensor. (D.I. 361 at 4-5; D.I. 401 at 21) As the Court concluded during claim construction, the specification of the patents makes clear that the "defined physical space" envisioned by the patentee is independent from the placement of the sensor, and as such it is fundamentally different from these hardcoded values. (D.I. 300 at 17-19) The patent specification provides a representative example of a defined physical space where the "optical sensors . . . [are] mounted about 30 inches apart on a support mast *centered laterally with respect to the defined physical space **12** at a distance sufficiently outside the front boundary **40*** to allow the sensors **14**, **16** to track movement in the desired physical space." (*Id.* at 18 (emphasis in original); '565 patent, col. 9:29-34) In contrast, the Kinect sensor is *always* "centered laterally," and it cannot be positioned relative to the pre-existing boundaries of Plaintiff's alleged defined physical space; instead, as to that alleged space, the position of the sensor *defines* the location of those boundaries, based on the hardcoded values within the games. (D.I. 361 at 4-7) The hardcoded values represent a hypothetical space set out in dimensions relative only to the direction in which the Kinect sensor is pointed; to the extent the hardcoded values can be argued to have any relation to a physical space at all, they are only so related through their association with the Kinect sensor. (D.I. 361 at 6-7 (Plaintiff acknowledging that its expert "states that the hardcoded values are a subset of the Kinect's [field of view] . . . and the values *are specified relative to* the Kinect's coordinate system") (emphasis added); D.I. 401 at 28-29 (Plaintiff's counsel acknowledging that where the defined physical space is found depends on "where you

put the sensor"))[3] Therefore, Plaintiff cannot show that the hardcoded values correspond to an actual, specific, *physical space* with a real-world location, as required by the claims at issue.

Second (and relatedly), Plaintiff's alleged defined physical space is not an "indoor or outdoor space" as required by the Court's claim construction. (D.I. 300 at 19; *see* D.I. 333 at 11-12) Plaintiff asserts that because the alleged space is defined relative to the Kinect, and since the Kinect must always be located in either an indoor or outdoor space, the limitation can be met. (D.I. 361 at 13) This argument misses the mark. The alleged space is purely abstract, and exists only as a mathematical construct in relation to the location and direction of the sensor—it cannot be characterized as any particular physical space that exists indoors or outdoors. It is thus not an "indoor or outdoor space" as required by the claims and the Court's construction.

Third, the accused hardcoded values cannot meet the defined physical space claim limitation because, to the extent that those values can be said to represent an actual, physical space, that space cannot be "'known and defined *prior* to the adaptation of the system to a particular space'" as required by the Court's claim construction.[4] (D.I. 300 at 18 (emphasis in original); *see* D.I. 334, ex. B, at ¶ 66 (Defendants' expert stating that until the Xbox 360 console is turned on, the hardcoded values are "just code on a disc.")) The Court's Report and

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[3] (*See also* D.I. 334, ex. B, at ¶ 65 (Defendant's expert describing any space that could be represented by the hardcoded values as a "software construct" that "disappears" if the Xbox 360 console is turned off))

[4] The parties agree that "adaptation of the testing and training system" is the process of setting up the Kinect device in a particular location. (D.I. 361 at 5 (citing D.I. 364, ex. 17 at 156-57); D.I. 386 at 7 (Defendants asserting that "both sides agree" that adaptation occurs when "the Kinect is placed in a particular location") (internal quotation marks omitted); *cf.* D.I. 401 at 24 (Plaintiff's counsel asserting that "everybody agrees" that adaptation of the testing and training system is "the point in time you put the Kinect in the room and turn it on"))

Recommendation on claim construction made clear that the space *itself* must be known prior to the adaptation of the system *to that (now, already known) space*. That conclusion was at least implicit in the actual phrasing of the Court's construction of "defined physical space." But it was certainly explicit in the Court's reasoning leading up to its adoption of the construction. (*See, e.g.*, D.I. 300 at 17-18 ("the physical space must be known and defined prior to the introduction of the testing and training system claimed in the patents."); *id.* at 18 ("the physical space must be known and defined *prior* to the adaption of the system to a particular space") (emphasis in original); *id.* at 19 ("a 'defined physical space' is . . . a space that is known prior to the adaption of the testing and training system to that space")) Plaintiff cannot now ignore that requirement and accuse a set of products implicating an alleged defined physical space that is entirely unknown prior to the adaption of the system at issue.

Thus, the accused hardcoded values are not a physical "space," nor are they an "indoor or outdoor space[,]" and to the extent that they could be said to represent a space at all, that space could not be "known prior to the adaptation of the testing and training system" as required by the Court's claim construction. Plaintiff has thus failed to prove literal infringement as a matter of law.

**b. Plaintiff's doctrine of equivalents argument fails**

Plaintiff asserts that even if the Court concludes that the accused products cannot literally infringe because they use a defined physical space that is set relative to a sensor, the accused products still infringe under the doctrine of equivalents.

Plaintiff provides only the skeletal framework of its doctrine of equivalents argument—an argument set out in merely a single short paragraph of its answering brief. (D.I. 361 at 17-18)

The paragraph cites to the report of its expert, Dr. Earl Sacerdoti, in which Dr. Sacerdoti concludes that "[a] defined physical space that is defined in reference to a sensor position (such as the spaces I have identified in the Accused Video Games) performs the same function, in a substantially similar way, to achieve the same result as a physical space that is defined without relation to the sensor position." (*Id.*; D.I. 336, ex. 5 at ¶ 11)[5] Dr. Sacerdoti focuses on a comparison between coordinate systems using different reference points. (*Id.* at ¶¶ 11-15) For example, he reasons that the math that is required to track the player must be performed in a similar way regardless of what reference point is used. (*Id.* at ¶¶ 12-14 ("[D]efining the physical space from the perspective of the sensor rather than in the coordinate system of the living room, for example, makes an insubstantial difference in how the tracking is done. It just changes the matrix and vector multiplications and additions that must be performed on tracked position information to process the data.")) But the question is not whether a coordinate system defined in relation to the sensor is equivalent to a coordinate system defined with reference to some other point. Here, the patent calls for an actual, known, physical space, to which the system could be adapted, while Plaintiff asserts that this limitation is met by an abstract set of coordinates that do

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[5] Defendants argue that Dr. Sacerdoti did not express his doctrine of equivalents argument until his submission of an untimely filed supplemental expert report; thus, they argue that Plaintiff's arguments regarding the doctrine of equivalents should not be considered. (*See, e.g.*, D.I. 333 at 16-17; D.I. 386 at 10) Defendants, however, did not file a motion to strike this portion of Dr. Sacerdoti's supplemental report; instead they raised the issue for the first time in their opening brief on non-infringement. (D.I. 333 at 16-17) Moreover, they include no citation to, nor analysis of, the relevant case law regarding motions to strike expert reports. (*Id.*; D.I. 386 at 10) In light of these deficiencies, and because the Court has herein determined that the challenged expert testimony is inapposite, it will not address the timeliness of the expert report. Indeed, this Court has routinely denied motions to strike as moot when the challenged papers would not affect the Court's holding. *See, e.g.*, *Hopkins v. City of Wilmington*, 844 F. Supp. 2d 549, 553 n.2 (D. Del. 2012); *Cordance Corp. v. Amazon.com, Inc.*, 730 F. Supp. 2d 333, 348 (D. Del. 2010).

not correspond to any real-world physical space. And so, the relevant comparison for purposes of invoking the doctrine of equivalents is whether a coordinate system defined relative to the sensor is equivalent to the real-world physical space required by the claims. Plaintiff has offered no argument or expert testimony comparing an abstract set of coordinates to this real-world physical space. Summary judgment is warranted on that basis alone. *Cf. Network Commerce, Inc. v. Microsoft Corp.*, 422 F.3d 1353, 1363 (Fed. Cir. 2005) (holding that a "generalized" expert opinion lacking a limitation-by-limitation analysis was insufficient to create a genuine issue of material fact regarding the doctrine of equivalents); *Eastcott v. Hasselblad USA, Inc.*, 564 F. App'x 590, 595 (Fed. Cir. 2014) (same); *see also Centricut, LLC v. Esab Grp., Inc.*, 390 F.3d 1361, 1369 (Fed. Cir. 2004) (holding that expert testimony is typically "necessary in cases involving complex technology," and reversing a determination of infringement where the plaintiff failed to provide expert testimony).

Even if Plaintiff had offered expert testimony on this point, summary judgment would still be warranted under the present circumstances in light of the doctrine of vitiation. The United States Court of Appeals for the Federal Circuit has held that "'[v]itiation'" is "a legal determination that the evidence is such that no reasonable jury could determine two elements to be equivalent." *Brilliant Instruments, Inc. v. GuideTech, LLC*, 707 F.3d 1342, 1347 (Fed. Cir. 2013) (quoting *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1347 (Fed. Cir. 2012)) (internal quotation marks omitted). "'If no reasonable jury could find equivalence, then the court must grant summary judgment of no infringement under the doctrine of equivalents.'" *Id.* (quoting *Deere*, 703 F.3d at 1356).

The concept of vitiation "has its clearest application 'where the accused device contain[s]

the antithesis of the claimed structure[,]'" because "two elements likely are not insubstantially different when they are polar opposites." *Id.* (quoting *Planet Bingo, LLC v. GameTech Int'l, Inc.*, 472 F.3d 1338, 1345 (Fed. Cir. 2006)). "[V]itiation applies when one of skill in the art would understand that the literal and substitute limitations are not interchangeable, not insubstantially different, and when they do not perform substantially the same function in substantially the same way, to accomplish substantially the same result." *Id.*

Here, no reasonable jury could find that an abstract space is "interchangeable" with an actual, physical space, or that the differences between the two are "insubstantial." The relative, abstract space accused by Plaintiff performs a substantially different function than a defined physical space. The function of the defined physical space in the claim is to provide a known area for the player to move, such that the player's movements may be tracked by a tracking system. ('565 patent, col. 5:19-26; D.I. 300 at 17-19). Such a tracking system may be adapted to the defined physical space; in other words, the defined physical space of the claims is known *before* adaption of the sensor. ('565 patent, col. 9:8-34; D.I. 300 at 18-19). The abstract, hardcoded coordinates accused by Plaintiff cannot serve this function because they do not represent any real-world physical space. A tracking system cannot be adapted to the hardcoded values; instead, the location of the hypothetical space that those hardcoded values represents depends on the location of the accused tracking system itself. As such, the particular space that will serve as the alleged defined physical space in the accused products cannot be known until *after* the system is adapted. *See Planet Bingo, LLC v. GameTech Int'l, Inc.*, 472 F.3d 1338, 1345 (Fed. Cir. 2006) (affirming summary judgment of no infringement under the doctrine of equivalents where "the proposed application of the doctrine of equivalents would change '*before*'

to '*after*[]'") (emphasis added). This "is not a subtle difference in degree, but rather, a clear, substantial difference or difference in kind." *Freedman Seating Co. v. Am. Seating Co.*, 420 F.3d 1350, 1361-62 (Fed. Cir. 2005) (internal quotation marks and citations omitted); *see Applied Med. Res. Corp. v. Tyco Healthcare Grp. LP*, 534 F. App'x 972, 979 (Fed. Cir. 2013) (stating that vitiation can occur "when the aspect of the accused device that allegedly meets that limitation represents a difference in kind from what is claimed in the limitation."). For the foregoing reasons,[6] Plaintiff's abstract, hardcoded values set relative to the Kinect sensor cannot be said, as a matter of law, to serve a substantially similar function as the defined physical space in the claims.

The Court therefore recommends that the District Court hold that no reasonable jury could find that the Plaintiff's accused abstract space is equivalent to the defined physical space set forth in the claims.[7]

**B. Motion for Summary Judgment of Invalidity**

Defendants move for summary judgment of invalidity on three separate grounds. After setting out the applicable legal standards, the Court will address each of Defendants' arguments

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[6] Defendants also raise counter-arguments in their opening brief regarding Dr. Sacerdoti's arguments as to a geometric projection of his alleged defined physical space onto the floor of the room in which a Kinect is located. (D.I. 333 at 18-19) Plaintiff, however, has made clear that it is not asserting a doctrine of equivalents argument based on these "floor projections." (D.I. 361 at 9-10 ("[B]oth parties agree that projections of the defined physical space on the floor are not the defined physical space") (emphasis in original); *see* D.I. 401 at 43) The Court will therefore not address these counter-arguments herein.

[7] Because the Court finds for Defendants with regard to their "defined physical space" arguments (with a resulting finding that Defendants could not infringe any of the 14 asserted claims that are at issue in the Motion for Summary Judgment of Noninfringement), it will not address Defendants' remaining non-infringement arguments regarding other claim terms.

in turn.

### 1. Legal Standards Regarding Invalidity

A patent granted by the United States patent and Trademark Office (the "PTO") is presumed to be valid. 35 U.S.C. § 282(a); *Microsoft Corp. v. i4i Ltd. P'ship*, 131 S. Ct. 2238, 2245-46 (2011). The rationale underlying this presumption of validity is that "the PTO, in its expertise, has approved the claim[.]" *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 426 (2007). The burden of proving invalidity rests with the patent challenger at all times, who must establish a patent's invalidity by clear and convincing evidence in order to prevail. *Microsoft Corp.*, 131 S. Ct. at 2245-49. Clear and convincing evidence places within the mind of the fact finder "'an abiding conviction that the truth of [the] factual contentions are highly probable.'" *Procter & Gamble Co. v. Teva Pharms. USA, Inc.*, 566 F.3d 989, 994 (Fed. Cir. 2009) (quoting *Colorado v. New Mexico*, 467 U.S. 310, 316 (1984)).

#### a. Anticipation

A claim is anticipated under 35 U.S.C. § 102(a) or (b) if:

> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or
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> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States . . . .

35 U.S.C. § 102.[8] To anticipate, a "reference must disclose each and every element of the

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[8] The Court will rely upon the version of 35 U.S.C. § 102 in effect prior to passage of the Leahy-Smith America Invents Act ("AIA"); this prior version of Section 102 applies to all patents with an effective filing date of on or before March 16, 2013, including each of the asserted patents in this action. *See Solvay S.A. v. Honeywell Int'l Inc.*, 742 F.3d 998, 1000 n.1

claimed invention, whether it does so explicitly or inherently." *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009) (citing *Eli Lilly & Co. v. Zenith Goldline Pharms., Inc.*, 471 F.3d 1369, 1375 (Fed. Cir. 2006)). This test mirrors, to some extent, the test for infringement, and "it is axiomatic that that which would literally infringe if later anticipates if earlier." *Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1378 (Fed. Cir. 2001). In order to anticipate, however, a reference must enable one of skill in the art to make and use the invention without undue experimentation, *In re Gleave*, 560 F.3d at 1334 (citing *Impax Labs., Inc. v. Aventis Pharms. Inc.*, 545 F.3d 1312, 1314 (Fed. Cir. 2008)), and must also "show all of the limitations of the claims arranged or combined in the same way as recited in the claims[,]" *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1370 (Fed. Cir. 2008).

**b. Obviousness**

An invention cannot be patented "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a);[9] *see also Helios Software, LLC v. SpectorSoft Corp.*, C.A. No. 12-081-LPS, 2014 WL 4796111, at *13 (D. Del. Sept. 18, 2014). Generally, a party seeking to invalidate a patent as obvious must demonstrate "'by clear and convincing

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(Fed. Cir. 2014) (noting that the "AIA amendments apply only to applications and patents with an effective filing date of March 16, 2013, or later").

[9] The Court quotes the pre-AIA version of 35 U.S.C. § 103, which governs here. *See PAR Pharm., Inc. v. TWI Pharms., Inc.*, No. 2014-1391, 2014 WL 6782649, at *5 n.6 (Fed. Cir. Dec. 3, 2014) ("Pursuant to § 3(n)(1) of the America Invents Act ("AIA"), Pub. L. No. 112-29, amended § 103 applies to patent applications with claims having an effective filing date on or after March 16, 2013.").

evidence that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.'" *Procter & Gamble Co.*, 566 F.3d at 994 (quoting *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007)); *see also Amgen Inc. v. F. Hoffman-La Roche Ltd*, 580 F.3d 1340, 1362 (Fed. Cir. 2009). "A reference qualifies as prior art for a determination under § 103 when it is analogous to the claimed invention." *Innovention Toys, LLC v. MGA Entm't, Inc.*, 637 F.3d 1314, 1321 (Fed. Cir. 2011).

In determining what would have been obvious to one of ordinary skill in the art, the use of hindsight is not permitted. *See KSR*, 550 U.S. at 421 (cautioning the trier of fact against "the distortion caused by hindsight bias" and "arguments reliant upon *ex post* reasoning" in assessing obviousness); *see also Pfizer Inc. v. Teva Pharm. U.S.A., Inc.*, 882 F. Supp. 2d 643, 664 (D. Del. 2012). Put another way, the task of determining whether a patent is invalid requires a court to "step back in time to before the moment of actual invention, and out of the actual inventor's shoes into those of a hypothetical, ordinary skilled person who has never seen the invention." *Eisai Co., Ltd. v. Teva Pharms. USA, Inc.*, No. 03 Civ. 9223(GEL), 2006 WL 2872615, at *2 (S.D.N.Y. Oct. 6, 2006) (citing *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983)).

The Court should also, as part of its analysis of all of the evidence on the question of obviousness, consider evidence regarding objective considerations of nonobviousness (also referred to as "secondary considerations of nonobviousness"). *In re Cyclobenzaprine Hydrochloride Extended-release Capsule Patent Litig.*, 676 F.3d 1063, 1075-76 (Fed. Cir. 2012). An analysis of objective considerations of nonobviousness may not be deferred until after the fact

finder makes an obviousness finding, nor should a fact finder shift the burden of proof at any point to the patentee (including when considering evidence of objective considerations). *Id.* at 1075-79. Instead, at all times, the party challenging the patent bears that burden, and must prove by clear and convincing evidence that the claim at issue of the patent is invalid. *Id.*

Obviousness is a question of law that is predicated on several factual inquiries, as set forth in *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17 (1966). Specifically, the finder of fact must assess the following considerations, referred to as the *Graham* factors: (1) the scope and content of the prior art; (2) the differences between the claimed invention and the prior art; (3) the level of ordinary skill in the pertinent art; and (4) the aforementioned objective considerations of nonobviousness, such as commercial success, long-felt but unmet needs, the failure of others, etc. *Graham*, 383 U.S. at 17–18; *see also Daiichi Sankyo Co. v. Matrix Labs.*, Ltd., 619 F.3d 1346, 1352 (Fed. Cir. 2010).

**2. Anticipation of claim 22 of the '121 patent**

With regard to the '121 patent, Defendants assert anticipation of independent claim 22 by U.S. Patent No. 5,423,554 to Davis ("Davis"). (D.I. 336, ex. 25 ("Davis"); D.I. 331 at 5) Claim 22 of the '121 patent reads as follows:

> **22.** A computer-readable medium having instructions stored thereon for execution by a processor to perform a method comprising:
> displaying a *representation* of a user on a monitor, wherein the displaying of the *representation* includes moving the *representation* of the user to reflect movement of the user;
> displaying one or more virtual objects on the monitor, wherein the displaying of the one or more virtual objects includes displaying the one or more virtual objects to prompt physical motion of the user; and
> reporting at least one indicium of physical activity performance of the user;

> wherein the displaying of the representation of the method includes using an image capturing device in positioning the representation of the user on the monitor.

('121 patent at col. 47:23-48:9 (second, third, and fourth emphasis added))

As for Davis, it discloses a "virtual reality" basketball game where a player is tasked with "put[ting] a virtual basketball into a virtual basketball hoop before his/her virtual opponent steals the ball." (Davis at Abstract) The user stands in front of a "backlit Chromakey background," and a camera records the user's image, while a computer separates the image of the user from that of the background. (Davis at Abstract & col. 7:10-52) The user's image is then overlaid onto a new, digital background (i.e., a basketball court), as shown in Figure 1 (in which the person on the left, identified as "14[,]" is the representation of the user):

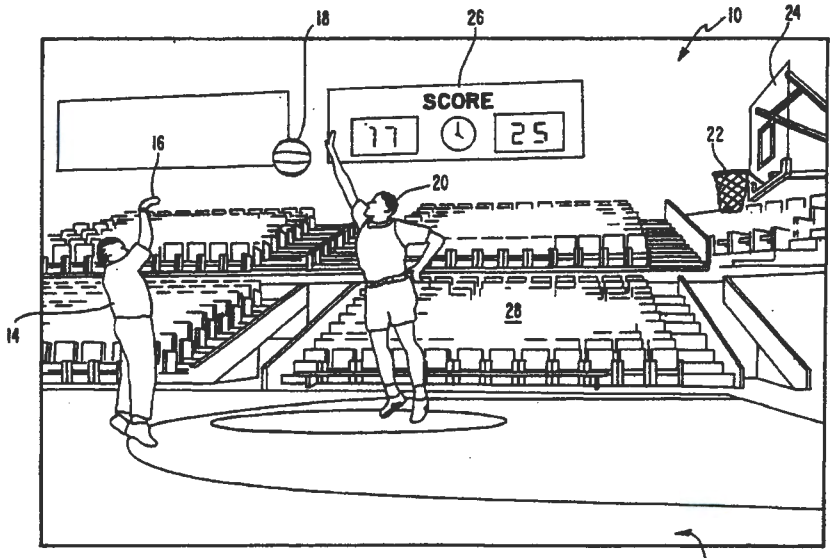


FIG. 1

(Davis, col. 7:10-52; D.I. 331 at 6-7) This image is displayed to the user on an array of nine monitors. (Davis, col. 6:26-38)

The user wears a "distinctly colored glove" so that the system can detect the position of

his or her hand. (*Id.* at Abstract & col. 3:55-4:40) The system searches for the glove against the background based on the glove's color, and "[w]hen the glove is located, its centroid is determined in order to assign consistently to the glove a single (x,y) value." (*Id.* at Abstract & col. 3:55-4:40) Based on the movement and position of the glove, the player can interact with a virtual basketball in order to play the game:

> The play of the game is typically made against a 60-second shot clock. The player initially touches one of the basketballs and makes a dribbling motion. The virtual opponent then comes out to try to block the player. If the virtual opponent touches the basketball, then the virtual opponent scores a steal and slam dunks the ball through the basket, thereby giving the virtual opponent a score. The real player, whose image is superimposed on a display with the virtual player, can shoot the basket by making one of three distinctive gestures including a flick shot, a dribble shot and an overhand throw. The system can recognize these motions as three distinct gestures and interpret them as instructions for the simulated basketball to leave the hand of the player. If the direction and velocity of the hand is substantially in the direction of the virtual basketball hoop, i.e. the goal, then the ball will appear to go through the basket and the player will get two points. If the real player makes more points then the virtual opponent during the 60 seconds of play, then the real player wins.

(Davis, col. 3:34-54) The system can also determine the height of the player in order to scale the size of the virtual opponent in proportion to that of the player, and can acquire the "width and the outline of the player" in order to determine "when the player bumps into objects or the side frame of the background." (*Id.*, col. 4:41-47; *see also id.*, col. 16:21-41)

The parties do not dispute that Davis pre-dates the earliest priority date of the '121 patent. (D.I. 331 at 5; D.I. 355 at 6) Indeed, the Davis reference was addressed by the Examiner during

prosecution of the '565 patent, the parent of the application that became the '121 patent.[10] (D.I. 362, ex. 7 at IMPULSE1000501-12). There, the Examiner rejected all pending claims of the '565 patent as anticipated by Davis. (*Id.*) The patentee, in response, distinguished Davis as "an example of a chroma-key system, which superimposes an image of the player on a screen image, in a manner similar to which images of TV weather forecasters are superimposed over weather map images." (*Id.* at IMPULSE10000530)

The parties' dispute with regard to the Davis reference centers on the claim term "representation," along with certain subsidiary terms that the parties agree are incorporated into the Court's definition of "representation." (*See, e.g.*, D.I. 355 at 7-9) The Court has construed "representation" to mean a "portrayal, depiction, or rendering of the user with virtual coordinates in *virtual space*." (D.I. 300 at 39 (emphasis added) (internal quotation marks omitted)) The Court's construction of "representation" thus incorporates the meaning of the term "virtual space"—a term that the Court has, in turn, construed as a "computer-generated scaled representation of the *physical space*." (*Id.* at 24 (emphasis added) (internal quotation marks omitted)) The parties agree that the "physical space" referred to therein is the type of "defined physical space" previously discussed above: an "indoor or outdoor space having size and/or boundaries known prior to the adaptation of the testing and training system." (*Id.* at 19 (internal quotation marks omitted); *see* D.I. 355 at 7-8; D.I. 333 at 8 n.5). And so, taking all of this together, the parties agree that the term "representation" in claim 22 of the '121 patent requires

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[10] The Examiner did not address Davis directly during prosecution of the '121 patent itself. However, Davis was listed on an Information Disclosure Statement filed by the patentee as to the '121 patent, and the Examiner reviewed and signed that Statement. (D.I. 362, ex. 8 at IMPULSE100002885-88)

the existence of a virtual object that exists within coordinates in a virtual space, wherein that virtual space is itself a computer-generated scaled representation of a defined physical space. (*See* D.I. 355 at 7-8; D.I. 333 at 8 n.5)

The parties spend much of their briefing regarding Davis addressing a dispute about whether a "representation" must have three-dimensional virtual coordinates, or whether the claim can encompasses a system, like Davis, that superimposes a two-dimensional video image of the player on top of a two-dimensional virtual play area.[11] Plaintiff, however, also relatedly argues that "Davis unambiguously does not disclose any defined physical space that has size and/or boundaries that are known in advance[.]" (D.I. 355 at 8; *see also* D.I. 363, ex. 11 at 259 (Plaintiff's expert asserting that Davis "doesn't have the virtual space [as] it uses image processing in order to do the various functions that are described" and "it doesn't go back to the actual location in physical space"); D.I. 401 at 187-88)

It is on this latter basis that the Court agrees that summary judgment is not well taken, as Defendants have not explained how Davis discloses a "defined physical space." Dr. Christoph Bregler, Defendant's expert, does not address in his report what the defined physical space in Davis is alleged to be. (D.I. 334, ex. A, at X-2 to X-4) As a result, it is simply unclear what the Defendants intend to rely upon, if anything, to show how Davis discloses a defined physical space (and therefore meets the "representation" element of the claim).

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[11] (D.I. 355 at 7-8 (Plaintiff asserting that as to the '121 patent, the "representation" of the player must have "three dimensional coordinates" within the virtual space, and that the system of Davis "at best, describes a two-dimensional (x,y) coordinate plane for the player's glove and 'superimposes' a two dimensional video feed of the player on top of that (x,y) plane"); D.I. 385 at 2-4 (Defendants asserting that nothing in the '121 patent or the Court's construction of "representation" requires that the virtual coordinates in virtual space be limited to three-dimensional coordinates))

Indeed, it is unclear to the Court whether Davis *does* disclose a defined physical space. Based on the descriptions of Davis provided by Defendants, it appears that the physical space in which the player's movements are monitored may be defined solely as the area that can be photographed by the camera used in association with the chroma key system. (*Id.* at X-2 to X-4; Davis at 7:10-52) Yet the Court has already concluded that the defined physical space of the patents may not be defined by the viewing area or position of the sensor (i.e., the camera). (D.I. 300 at 19) Without further explanation from Defendants, it is not clear to the Court that Davis includes any defined physical space that is not defined solely relative to the camera. At the very least, this presents an issue of fact sufficient to preclude summary judgment.

Because Defendants have not shown that Davis meets all of the elements of claim 22 of the '121 patent, the Court will recommend that the District Court deny Defendants' motion for summary judgment of anticipation by Davis.

**3. Obviousness of claim 11 of the '997 patent**

Defendants assert that claim 11 of the '997 patent is invalid as obvious in light of a combination of the following five references:

(1) Steve Warme, *Mandala Sport Simulators*, Virtual Reality World, Sept.-Oct. 1994, at 44, (D.I. 336, ex. 28 ("Warme"));

(2) U.S. Patent No. 5,534,917 to MacDougall, (D.I. 336, ex. 30 ("MacDougall"));

(3) Susan Wyshynski & Vincent John Vincent, *Full-Body Unencumbered Immersion in Virtual Worlds (The Vivid Approach and the Mandala® VR System), in* Virtual Reality: Applications and Explorations 123 (1993), (D.I. 336, ex. 31 ("Wyshynski"));

(4) Vincent John Vincent, *The Mandala® Virtual Reality System – The Vivid Group*, Presentation at the Virtual Reality 3rd annual conference and exhibition (September 1992), *in* "VR Becomes a Business: Proceedings of Virtual Reality '92" (1993), (D.I. 336, ex. 34 ("Vincent"));

(5) Videotape: Step N Motion (1990), (D.I. 336, ex. 37 ("Step N Motion")).[12]

(D.I. 331 at 11-12; *see* D.I. 385 at 5 (clarifying that Defendants are asserting each of the four Mandala references as part of a five-reference combination, along with the Step N Motion reference, rather than as one prior art system)) Plaintiff does not dispute that any of these references qualify as prior art to the '997 patent. (D.I. 355 at 10-14)

Claim 11 of the '997 patent depends on claim 5. Together, the claims read as follows:

> **5.** A reactive power training system comprising:
> a reactive training device which provides cues to elicit responsive changes in an overall physical location of a subject in at least two dimensions; and
> a resistive training device;
> wherein the reactive training device and the resistive training device are used in a training sequence.
>
> . . .
>
> **11.** The system of claim **5**, wherein the reactive training device includes positional tracking of the subject in at least two vectors of movement.

('997 patent, col. 45:1-7, 31-33)

**a. Additional information about the Mandala references and the Step N Motion reference**

The Mandala references are a series of references that describe a system, called the Mandala system, that is used to provide "interactive computer-generated simulations" of various sports. (Warme at 45) As described in Warme, "[t]he Mandala [s]ystem uses a video camera interface to allow players to interact directly with a virtual world. The players see their own image superimposed over digital backgrounds, and they can interact without having to wear,

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[12] References (1) through (4) will be referred to collectively as the "Mandala references." Reference (5) will be referred to as "Step N Motion." All of the references predate the earliest priority date of the patent-in-suit.

touch, or hold any hardware." (Warme at 45; *see also* D.I. 363, ex. 10, at 37-40). The system was created by "the Vivid Group," who "developed a series of modules [for the system] designed to provide a portable 'arena' for game players. These modules may be configured to offer any single sport or give the user a choice of several sports." (Warme at 45) Players using the system were "unencumbered[,]" in the sense that the system used only a camera to capture the user's position; however, certain simulations on the device involved the use of additional hardware, such as a tennis racquet or a golf club. (*Id.* at 45, 49) The system could also be used for exercise: "Users can follow and control a preprogrammed aerobics workout . . . or follow along with an onscreen trainer and receive feedback about body positioning. . . . Exercise within a Mandala System can be tailored exactly to a user's desires to enhance interest in the experience." (*Id.*)

The other reference at issue is the Step N Motion reference. Step N Motion is a 1990 exercise video consisting of an exercise routine that "depicts aerobic exercise, where a trainer elicits movement from the exercisers, followed by resistive training, where the exercisers supplement their exercise using weights." (D.I. 334, ex. A at Appendix W at W-7 (citing Step-N-Motion at 37:55-43:15 & 44:30-47:50)).

**b. Prima facie obviousness under Section 103**

As previously noted, in order to invalidate claim 11 of the '997 patent as obvious, Defendants must demonstrate by clear and convincing evidence that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success from doing so. To that end, the parties essentially agree that the combination of the Mandala

references and Step N Motion meets all of the *elements* of claim 11.[13] (D.I. 401 at 194) The main area of disagreement relates to whether a person of skill in the art would have been motivated to combine the Mandala references with Step N Motion.

Taking up that question, the Court first finds there to be no meaningful dispute that a person of skill in the art[14] would view each of the Mandala references themselves as being related, and would combine them to the extent necessary. The four references all describe

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[13] Plaintiff included one conclusory statement in its answering brief asserting that Mandala references and Step N Motion "either alone or in combination with one another, do not disclose each limitation of claim 11 as arranged in the claim[.]" (D.I. 355 at 10) Plaintiff, however, provided no further explanation as to this argument in its brief or at oral argument. Moreover, claim 11 and independent claim 5, on which claim 11 depends, do not require an intricate, technical combination of specific structure; instead, they are broadly phrased using functional terms. Plaintiff's conclusory statement is insufficient to create an issue of fact as to whether the references at issue disclose all of the limitations of claim 11.

[14] For the purposes of this motion, the Court will adopt the level of skill in the art set forth in the report of Plaintiff's expert, Dr. Grindon:

> [A] person of ordinary skill in the art at the time of the inventions disclosed in the Impulse Patents had a bachelor of science degree in computer science, computer engineering, or electrical engineering or equivalent work experience, plus two or more years experience developing any one or more of the following: sensor-based computer systems, simulation-based video games, virtual reality systems, three-dimensional imaging systems, or experience in technologies of these systems.

(D.I. 362, ex. 1 at ¶¶ 57-58 (quoting D.I. 336, ex. 3 at ¶ 61)) Defendants' expert, Dr. Bregler, defined the level of skill in the art slightly differently, concluding that a person of ordinary skill in the art of the '997 patent "would have a bachelor's degree in computer science or electrical engineering and two years of practical experience, or alternatively, at least two years of experience in the field of movement quantification and motion tracking or capture or the equivalent." (D.I. 334, ex. A, at ¶ 33) The Court's conclusions would not change if it were to adopt the level of skill set forth in Dr. Bregler's report. (*See* D.I. 355 at 11-12 (Plaintiff describing Dr. Bregler's proposed level of skill in the art for the '997 patent, and arguing that even in view of it, summary judgment should be denied))

versions of the Mandala system, and each of the four references contain a number of links to the people or entities mentioned in the other three documents. More specifically, the first reference, Warme, is a 1994 article from the periodical "Virtual Reality World" that describes the functionality of the Mandala system, created by the Vivid Group; the article includes screen shots showing different "modules" that users can participate in, and refers to certain individuals involved in creation of the system. (Warme at 46-49) The second reference, MacDougall, is a patent filed in 1991 and assigned to "Very Vivid, Inc." (MacDougall at 1) The sole listed inventor in the patent, Francis MacDougall, is described in Warme as a partner in the creation of the Mandala system. (Warme at 45, 49) Dr. Bregler asserts, and Plaintiff does not contest, that MacDougall was filed by the Vivid Group, that it was intended to cover the Mandala system, and that it describes the operation of a version of that system. (D.I. 334, ex. A, at ¶ 53) The third reference, Wyshynski, is a chapter in a textbook titled "Virtual Reality: Applications and Explorations[.]" (Wyshynski at 123; D.I. 331 at 11) The authors of Wyshynski, Susan Wyshynski and Vincent John Vincent, were likewise described in Warme as partners with Francis MacDougall in the creation of the Mandala system. (Warme at 49) Wyshynski discusses "how the Mandala VR System works[,] the various component configurations, [and] the new emerging features[.]" (Wyshynski at 125; *see also* D.I. 334, ex. A, at ¶¶ 149-51 (describing Wyshynski)). The final Mandala reference, Vincent, is a short description by Vincent John Vincent of the Mandala system and its uses. (Vincent at 167-70)

Plaintiff calls the combination of the Mandala references "an improper shortcut" because "each of the documents relied upon by Defendants is a separate piece of prior art that refers to different versions in time of Mandala." (D.I. 355 at 10) Yet Plaintiff does not back up this one-

line argument with any specifics. It makes no further articulation in its briefing as to how the "versions" of the Mandala system described in these four references meaningfully differ. Nor does it point out any problems or unexpected results that would result from combining the references. And Plaintiff does not cite to any portion of Dr. Grindon's report in which Dr. Grindon challenges the propriety of combining the Mandala references.[15] (*Id.*) There is therefore no disputed issue of material fact as to whether the Mandala references represent analogous art, whether a person skill in the art would have been motivated to combine the Mandala references, or whether such a person would have had a reasonable expectation of success from doing so.

The Court also concludes that Defendants have demonstrated, as a matter of law, that a person of skill in the art would be motivated to combine the Mandala references with an exercise routine like that disclosed in Step N Motion.

To that end, the record demonstrates that the Mandala references (and Warme in particular) disclose systems that use video cameras to superimpose the user's image over computer-generated graphics, and that allow the user to interact with objects or cues within that environment in order take part in virtual sports (such as basketball, hockey, or soccer) or aerobic exercise routines. (Warme at 45-49; *see also* D.I. 334, ex. A, at ¶¶ 53, 145-48) With regard to exercise routines in particular, Warme discusses how "[u]sers can follow and control a preprogrammed aerobics workout . . . or follow along with an onscreen trainer and receive feedback about body positioning." (Warme at 49) "The technology allows you to have the

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[15] Indeed, having reviewed the Grindon report, the Court cannot find any part of it in which Dr. Grindon makes such a challenge. (*See, e.g.*, D.I. 362, ex. 1, at ¶¶ 198-207) In paragraphs 198-207 of that report, Dr. Grindon does take issue with Dr. Bregler's various opinions that the Mandala references could be combined with other systems, but Dr. Grindon treats the Mandala references themselves as a single unit. (*Id.*)

freedom of movement to achieve a real workout, and provides interesting content to engross and amuse." (*Id.*) It is also clear that the Mandala systems were intended to be *customized* by the developer to allow the users to participate not only in different games of sport but also in different workout routines.[16]

The record also demonstrates that the Step N Motion reference represents an alternative workout routine that could be used with the Mandala System—one resulting in a system where a "resistive training device" and a "reactive training device" are "used in a training sequence" as required by the claims. ('997 patent, col. 45:5-7) As set forth by Defendants in their opening brief, "the combination of the Mandala References and Step N Motion is nothing more than a simple substitution of Step N Motion's exercise routine for the aerobic routine described in the Mandala References." (D.I. 331 at 14) The result of such a combination is entirely predictable—an implementation of the Mandala references where the user uses weights for part of the aerobic training sequence.[17]

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[16] (*See* Warme at 45 ("To accompany its new line of simulators, the Vivid Group has developed a *series of modules* designed to provide a portable 'arena' for game players. These *modules may be configured* to offer any single sport or give the user a choice of several sports.") (emphasis added); *id.* at 48-49 ("One recent project for the Vivid Group [wa]s the creation of three Soccer Simulator Modules to tour in conjunction with World Cup Soccer '94[.]"); *id.* at 49 ("Exercise within a Mandala System can be tailored exactly to a user's desires to enhance interest in the experience."))

[17] Indeed, Plaintiff's own expert agreed that it was obvious to look to the aerobics space to improve the invention disclosed in the Mandala references. During his deposition, Dr. Grindon was asked whether "in the case of the Mandala system . . . which discloses that the system can be used in the context of aerobics, do you think it would be appropriate . . . for persons of ordinary skill in the art to look at the aerobics space to see what else is being done in the aerobics space, and would that be a reasonable place to combine references in your opinion[?]" (D.I. 336, ex. 9 at 297) Dr. Grindon responded: "Offhand, it sounds like it would be." (*Id.*)

Plaintiff makes two primary arguments as to why the Mandala references should not be combined with Step N Motion. For the reasons set out below, the Court does not find those arguments to be well taken.

Plaintiff first counters that Step N Motion is not "analogous art"—and thus may not properly be considered for a combination under Section 103. (D.I. 355 at 10-11) The Federal Circuit has held that "'[t]wo separate tests define the scope of analogous art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.'" *Innovention Toys*, 637 F.3d at 1321 (quoting *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004)). While this is a question of fact, *see In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992), the Federal Circuit has dealt with it in the summary judgment context where "no reasonable jury could find that the . . . references do not qualify as analogous prior art." *Innovention Toys*, 637 F.3d at 1323 (reversing, on these grounds, a lower court's determination at the summary judgment stage that a prior art reference was not analogous art); *Old Town Canoe Co. v. Glenwa, Inc.*, 55 F. App'x 918, 926 (Fed. Cir. 2003) (vacating a grant of summary judgment that the patent was not invalid as obvious, based in part on a determination that the prior art was analogous); *see also DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1364 (Fed. Cir. 2006) (reversing denial of judgment as a matter of law following a jury verdict of non-obviousness, in part because the prior art was "not merely analogous art, it [wa]s the same art.").

No reasonable jury could find that the Step N Motion reference is not "from the same field of endeavor" as the '997 patent under the first prong of the test set forth in *Innovention*

*Toys*. The proper inquiry here is whether the prior art reference is analogous "to the claimed invention"—i.e., whether Step N Motion is analogous to the claims of the '997 patent. *Innovention Toys*, 637 F.3d at 1321.[18] The '997 patent involves aerobic exercise routines featuring an aerobics instructor: "the protagonist icon functions as an aerobics instructor directing the player through a series of aerobic routines." ('997 patent, col. 15:32-34) Claims 5 and 11 are directed to a "resistive training device[.]" (*Id.*, col. 45:1-7) The Step N Motion video, in turn, *is* an aerobic exercise routine featuring an aerobics instructor, and it is one that involves the use of a resistive training device. In fact, the '997 patent itself even makes reference to "unsupervised home [aerobics] programs" as an area to which the invention could contribute—and the Step N Motion video depicts just such an unsupervised home aerobics program. (*Id.* at col. 15:44-46; *see also* D.I. 334, ex. A at ¶ 297) Plaintiff's own expert, Dr. Grindon, described Step N Motion as "a video cassette of an aerobics workout *one could perform at home*[.]" (D.I. 362, ex. 1 at ¶ 202 (emphasis added)); *see Wyers v. Master Lock Co.*, 616 F.3d 1231, 1237-38 (Fed. Cir. 2010) (Fed. Cir. 2010) (holding that a prior art padlock was analogous

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[18] Plaintiff focuses its argument on "the question of whether Step N Motion is in the same field as the Mandala references[,]" rather than on whether Step N Motion is analogous to the '997 patent. (*See, e.g.*, D.I. 355 at 11-12) Plaintiff did not present any argument or cite to any expert testimony regarding whether Step N Motion is analogous art to the '997 patent, and a review of Dr. Grindon's expert report shows that his objections to the combination of Step N Motion and the Mandala references do not mention the issue of whether Step N Motion is analogous art at all. (D.I. 362, ex. 1 at ¶¶ 202-04)

Plaintiff has cited no authority for the proposition that a comparison of the prior art references to each other, rather than to the asserted patent, is proper. In contrast, the cases cited by Plaintiff express the question as whether the prior art reference is analogous to the asserted patent. *See TASER Int'l, Inc. v. Karbon Arms, LLC*, No. CV 11-426-RGA, 2013 WL 6705149, at *8 (D. Del. Dec. 19, 2013) (comparing the prior art to the asserted patents); *see also Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010) (same).

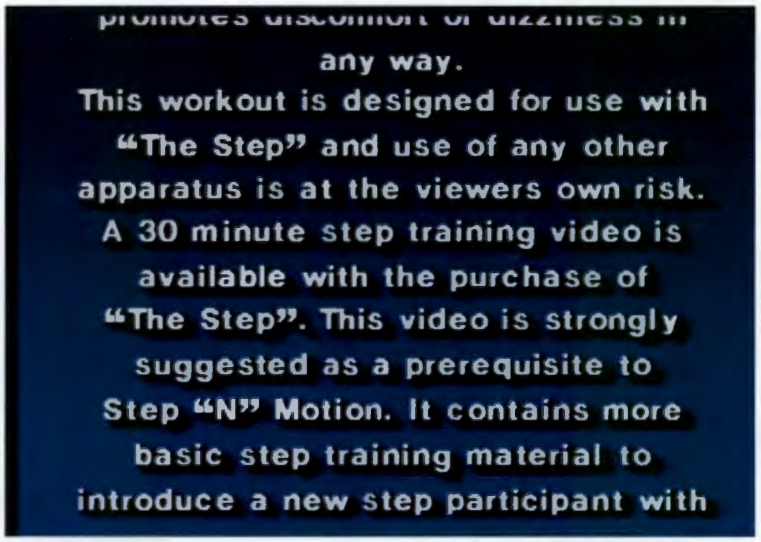
art where "the [asserted] patent itself refers to 'the prior art padlock' in the background of the invention").

Even if the first prong of the "analogous art" test were not satisfied, Step N Motion is plainly "reasonably pertinent to the particular problem with which the inventor is involved[,]" under the second prong of the test. That is, the video addresses exactly the kind of aerobic workout that the patent discloses. ('997 patent, col. 15:32-34, 44-46) One of the goals of the '997 patent is to provide an improved method of performing an exercise routine, and there can be no question that a person of skill in the art would look to prior art exercise routines in addressing that problem. Plaintiff's primary argument to the contrary is that a person of skill in the art would not look to a "*VHS exercise tape* for ideas on how to modify the chroma key systems described in the Mandala references." (D.I. 355 at 11 (emphasis added)) But the relevant portion of Step N Motion is the *exercise routine* that it discloses, not the fact that this routine is found on a VHS tape. Plaintiff does not explain why the *medium* on which the exercise routine in question was contained would stand as a barrier to that otherwise pertinent reference being considered by a person of skill in the art. *See KSR*, 550 U.S. at 421 ("A person of ordinary skill is . . . not an automaton."); *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985) (stating that the hypothetical person of skill in the art "is presumed to be aware of all the pertinent prior art").

For these reasons, no reasonable jury could conclude that the prior art is not analogous.

Plaintiff's second argument against a motivation to combine is that the Step N Motion video "teach[es] away" from a combination with the Mandala references, because the beginning of the video includes a warning that "[t]his workout is designed for use with 'The Step' and the

use of any other apparatus is at the viewer[']s own risk":




(D.I. 355 at 12-13; Step N Motion at 1:06) This argument also fails. Plaintiff contends that "[u]pon viewing this warning, a person of ordinary skill in the art would be led away from combining the exercise routines of Step N Motion with any of the systems in the Mandala references." (D.I. 355 at 12) Yet the disclaimer in question is, if anything, an acknowledgment that Step N Motion will in fact be used with other apparatuses. The warning does not teach away from such use;[19] it simply amounts to an attempt by Step N Motion to avoid any liability when that use occurs.

Even if this warning could be said in some way to teach away from a combination with another reference, its import could not have anything to do with teaching away from the use of handheld weights with an aerobic exercise routine (like that disclosed in the Mandala references). The reason that Defendants seek to use this reference is that it discloses the use of handheld

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[19] Indeed, were this its intent, the video itself would contradict its own warning. The video involves exercises using handheld weights. (D.I. 334, ex. A at W7-W8.)

weights as part of an aerobic exercise sequence. A reasonable juror could not conclude that the disclaimer discourages such a use of weights, because in the video the instructor actually uses weights as a part of the exercise routine.

For these reasons, the Court concludes that no reasonable jury could find that Step N Motion teaches away from a combination with the Mandala references.

**c. Objective Considerations of Nonobviousness**

Finally, Plaintiff argues that certain objective considerations of nonobviousness are set out in the record, and contribute to its argument that the motion should be denied. (D.I. 355 at 13-14) Objective considerations of nonobviousness make up the final part of the obviousness test under *Graham*, and the Federal Circuit has emphasized that such objective considerations are an essential component of the obviousness analysis. *Graham*, 383 U.S. at 17-18; *see, e.g.*, *Leo Pharm. Products, Ltd. v. Rea*, 726 F.3d 1346, 1358 (Fed. Cir. 2013) ("Objective indicia of nonobviousness play a critical role in the obviousness analysis. They are 'not just a cumulative or confirmatory part of the obviousness calculus but constitute[] independent evidence of nonobviousness.'") (quoting *Ortho–McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1365 (Fed. Cir. 2008)). These considerations "are crucial in avoiding the trap of hindsight[,]" *Leo Pharm. Products*, 726 F.3d at 1358, and "may be the most probative and cogent evidence in the record[,]" *Apple Inc. v. Int'l Trade Comm'n*, 725 F.3d 1356, 1366 (Fed. Cir. 2013) (internal quotation marks and citations omitted).[20]

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[20] Defendants cite *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010) for the assertion that "secondary considerations of non-obviousness 'simply cannot overcome a strong prima facie case of obviousness.'" (D.I. 385 at 7 (quoting *Wyers*, 616 F.3d at 1246)) Since *Wyers*, however, the Federal Circuit has clarified that "there is no hierarchy of evidence" under the *Graham* obviousness test, *Apple*, 725 F.3d at 1366 n.3, and that "all evidence

In support of its arguments regarding objective considerations, Plaintiff focuses on the concept of commercial success. It argues that its "Trazer Product," which Plaintiff alleges embodies the claims, was "well known and successful" in "the relevant . . . professional and institutional market[.]" (D.I. 355 at 13) Plaintiff cites to expert testimony from Dr. Grindon to that effect—testimony indicating that the relevant "professional and institutional market . . . . includes physical therapy applications, medical applications, fitness clubs, and training for athletic teams." (*Id.*; D.I. 362, ex. 1 at ¶ 235) According to Dr. Grindon, the product "faces no significant competition" within its market. (D.I. 362, ex. 1 at ¶ 235) Dr. Grindon also notes that the product "has been adopted by two of the top teams in NCAA football[,]" "the Alabama Crimson Tide and the Ohio State Buckeyes[.]" (*Id.* at ¶ 236) Dr. Grindon found it noteworthy that "Alabama Head Coach Nick Saban specifically wanted to use the Trazer system as a recruiting tool for prospects visiting Alabama's facilities, and expedited the purchasing process for the Trazer system so that it could be displayed to potential recruits during the current recruiting season." (*Id.*)

Defendants contest these allegations of commercial success only by pointing to contrary deposition testimony, primarily that of Plaintiff's principal Barry J. French. (D.I. 385 at 7-8) Mr. French stated in a deposition that Plaintiff's business partner, Cybex International ("Cybex"), "had not been successful" in selling the Trazer product, that Plaintiff at times did not make a profit on selling Trazer, and that a business dispute arose in relation to Plaintiff's agreement with

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pertaining to the objective indicia of nonobviousness must be considered before reaching an obviousness conclusion[,]" *Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343, 1355 (Fed. Cir. 2013).

Cybex to sell the Trazer product. (*Id.* at 7-8; D.I. 387, ex. 40 at 805-06)[21] These statements, however, serve at most to raise a dispute of fact as to whether the Trazer product was commercially successful, and are insufficient to show a lack of commercial success as a matter of law. *See Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343, 1356 (Fed. Cir. 2013) (reversing grant of summary judgment of obviousness where there was a genuine issue of fact regarding commercial success and copying, and where, viewed in the light most favorable to Plaintiff, the Court "cannot hold that the claims would have been obvious as a matter of law").

Plaintiff also relies upon the fact that the '997 patent was licensed to Cybex along with other technology. Evidence of license to others may serve as evidence of commercial success if a nexus can be shown between the license and the merits of the claimed invention. *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1324 (Fed. Cir. 2004). Plaintiff's primary evidence of a nexus with regard to this license is that "Cybex's corporate witness testified that the value of the license agreement from Cybex's perspective was the value of the patents." (D.I. 355 at 13 (citing D.I. 364, ex. 14 at 211-13)) Defendants contend that the Cybex license was "much broader than just the patents-in-suit," and included other intellectual property, a functioning product, and access to certain personnel. (D.I. 385 at 8) But Defendants do not dispute the fact that the relevant claims of the '997 patent were licensed. The relevant questions are (1) what portion of the value of the license could be attributed to those claims, and (2) whether the license was a result of the merits of the invention. As to those points, there remains

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[21] Defendants also cite to a lone statement from Raymond Giannelli, whom Plaintiff identified as its Cybex's corporate representative, that the Trazer technology "[w]as not successful." (D.I. 385 at 7-8 (citing D.I. 387, ex. 41 at 77); D.I. 355 at 14 (identifying Mr. Giannelli as Cybex's corporate representative))

a question of fact regarding commercial success.[22]

In the end, the evidence put forward by Plaintiff as to nonobviousness is certainly not overwhelming or anything close to it. But, on the other hand, the Court cannot say that it is so wanting that after considering it, no "reasonable jury could return a verdict for the nonmoving party." *Anderson*, 477 U.S. at 248. In light of that, the obviousness of claim 11 is a question that,

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[22] In addition to commercial success, Plaintiff asserts that there was "a long felt need for 'an interactive video game system that would incorporate the feedback and interactivity desired by children . . . as well as the health benefits of physical activity and exercise.'" (D.I. 355 at 13-14 (quoting D.I. 362, ex. 1 at ¶ 252) Plaintiff attempts to show a nexus between this long-felt need and the claim at issue by asserting that "the long felt need for exercise and physical activity during video game play is directly linked to the resistive and reactive training sequences of the '997 patent," because "reactive and resistive training used in a training sequence are particular[ly] effective at elevating the heart rate." (*Id.* at 13-14)

Plaintiff has failed to show such a nexus. Plaintiff points to a long felt need for "an interactive video game system" that would help encourage "children" to exercise, but that need is also met by the systems disclosed in the prior art Mandala references. (*See, e.g.*, Warme, at 48-49 (describing that the system can be used for exercise, and describing the reaction to an interactive hockey simulation within the system, which "[h]undreds of satisfied players agreed . . . was a challenge worthy of any hockey fan *regardless of age*[.]" (emphasis added))); *see also Ohio Willow Wood Co. v. Alps S., LLC*, 735 F.3d 1333, 1344 (Fed. Cir. 2013) (holding that the patentee had failed to show a nexus with regard to a long-felt need and industry praise where "these factors equally apply to the prior art . . . device"); *In re Huai-Hung Kao*, 639 F.3d 1057, 1074 (Fed. Cir. 2011) ("Because here [the patentee] has not provided any evidence of secondary considerations with a nexus to the novel components of [the asserted claim], the secondary considerations do not compel a holding of nonobviousness."). Moreover, Plaintiff provides no expert testimony on this point. As for Plaintiff's citation to "accolades from ESPN, Disney, the Today Show, and Oprah" as recognition that its system fulfilled this long-felt need, none of that recognition is described as relating to the use of a resistive training device. (*See* D.I. 362 ex. 1, at ¶¶ 242-50) Even Plaintiff's own expert, Dr. Grindon, attributes this praise to other features of the invention, namely "the real-time interactive nature of the system, and its ability to allow player motions in the physical space to control movements of the representation in the virtual space, along with its ability to provide indications of player performance." (*Id.* at ¶ 250) These are all features that are either: (1) not relevant to claims 5 and 11, or (2) are met by the prior art systems disclosed in the Mandala references. (*See, e.g.*, Warme at 49) Thus, Plaintiff's evidence regarding an alleged long-felt need would not be sufficient, on its own, to create a genuine issue of material fact as to non-obviousness.

in the Court's view, will need to be resolved by a jury.

**4. Anticipation of claims 1 and 5 of the '565 patent**

Defendants also assert that U.S. Patent No. 5,659,691 to Durward et al. anticipates claims 1 and 5 of the '565 patent. (D.I. 331 at 15; *see* D.I. 336, ex. 35 ("Durward")) Claims 1, 4, and 5 read as follows:

> **1.** A testing and training system comprising:
> a tracking system for continuously tracking an overall physical location of a player in a defined physical space; and
> a computer operatively coupled to the tracking system for updating in real time a player virtual location in a virtual space corresponding to the physical location of the player in the physical space, for updating a view of the virtual space, and for providing at least one indicium of performance of the player moving in the physical space, wherein the at least one indicium is or is derived from a measure of a movement parameter of the player.
>
> . . .
>
> **4.** The testing and training system of claim **1**, wherein the view of the virtual space is a first person perspective view from the player virtual location.
> **5.** The testing and training system of claim **4**, wherein the first person perspective view includes a representation indicating part of a virtual being corresponding to the player.

('565 patent, col. 38:62-39:7, 39:28-33)

Defendants set forth in their opening brief how they believe each claim element is anticipated by Durward.[23] (D.I. 331 at 15-23) Durward discloses a "virtual reality network" in which users equipped with head-mounted displays can remotely interact with each other and with the environment. (Durward, cols. 1:7-11, 1:46-51, 2:49-4:42) The users wear "[i]nstrumented

[23] Durward was granted on an application filed over five years before the earliest claimed conception date of claims 1 and 5 of the '565 patent; there is no dispute that it is prior art. (D.I. 331 at 15-16)

garment[s]" so that their movements may be captured by the system, including gloves, "shirts, pants, or full-body suits[.]" (Durward, col. 3:19-22) The "[i]nstrumented garment . . . typically senses the position, orientation, and/or flexure of the associated body part relative to [a] computer . . . or some other reference point[.]" (Durward, col. 3:22-26) Durward also purports to "incorporate[s] . . . by reference" the "systems and components" disclosed in nine other patents. (Durward, col. 1:15-19)[24]

Plaintiff asserts, *inter alia*, that Durward does not disclose a "defined physical space[.]" (D.I. 355 at 17-18) Defendants implicitly concede that Durward itself does not disclose the limitation, but in order to account for it, they cite to a portion of a sentence in U.S. Patent No. 4,984,179 (the "'179 patent") (one of the nine other patents purportedly incorporated by reference in Durward). (D.I. 331 at 18-19; D.I. 385 at 11; *see* D.I. 336, ex. 36 ("'179 patent")) Defendants largely focus on column 2, lines 51-53 of the '179 patent, which states that "[p]referably the said spatial coordinates are at least partly coincident with a known real 3-dimensional space in which said user is located . . . ." (D.I. 331 at 18-19) The "said spacial coordinates" are the coordinates of "a virtual model" with which the user interacts. ('179 patent, col. 2:40-47)

There are multiple problems with Defendants' argument. First, Defendants do not explain how the disclosure of the '179 patent fits into the system disclosed in Durward. Even assuming it is proper to treat the '179 patent and Durward as a single reference, it is not enough

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[24] Plaintiff argues that Defendants are incorrect when they claim that a clause in Durward operates to incorporate by reference these systems and components from the nine other patents. (D.I. 355 at 14-16) Defendants rely on this incorporation argument to capture specific features of the asserted claims that are missing from Durward itself. (D.I. 331 at 18-21) Because it is not necessary to resolve this issue in order to reach the Court's conclusion, the Court will simply assume *arguendo* that Durward properly incorporates the other references.

to show that all of the elements of the claims are present in that reference; Defendants must show that the elements are "arranged or combined in the same way as recited in the claims[.]" *Net MoneyIN, Inc.*, 545 F.3d at 1370. Defendants have failed to do so in this case. Durward describes a system that tracks users "relative to [a] computer . . . or some other reference point[.]" (Durward, col. 3:22-26) The '179 patent discloses a different system, which includes a "known real 3-dimensional space." ('179 patent, col. 2:51-53) Defendants do not explain how what is disclosed in the '179 patent would relate to, or be incorporated into, the system disclosed in Durward itself, such that Durward could be interpreted to disclose a *single system* that includes all of the elements of the claim at issue, arranged as recited in the claim.

Further, it is not even clear that the key sentence of the '179 patent discloses a "defined physical space" as that term has been construed. The sentence does not describe exactly what constitutes a "known real 3-dimensional space," including whether the precise boundaries or size of that space are known, or whether the space is known prior to the adaptation of the system (as opposed to being defined, for example, by a sensor sweep—which would be excluded by the Court's claim construction). Likewise, although the sentence refers to "spacial coordinates[,]" those are the coordinates of a "a virtual model" with which the user interacts, rather than the location of the player. ('179 patent, col. 2:40-47) Indeed, in other portions of its specification, the '179 patent suggests that the size and/or boundaries of any physical space in which the user happens to be are irrelevant to the system described in the patent. (*Id.*, col. 3:48-52 ("The area within which the user can 'move' *is not limited* and physical movement is unnecessary so that the user can, e.g., remain seated in a chair while viewing a computer generated virtual model from all possible angles and from any distance around, above, or below it.") (emphasis added); *id.*, col.

5:61-63 (noting that "[i]t will be appreciated that the physical area designated **10** in FIG. **1** has no subjective significance for the helmet wearer" and that "there are no 'physical' limits to variation of that [virtual] environment")). Defendants have not cited to a disclosure in Durward or the '179 patent of a single system where the physical location of the user is tracked in a "defined physical space" as required by the claims.

Because Defendants have not shown that the "defined physical space" element is met by Durward, the Court recommends that Defendant's motion for summary judgment of invalidity be denied as to claims 1 and 5 of the '565 patent.

## IV. CONCLUSION

For the reasons set forth above, the Court recommends that Defendants' Motion for Summary Judgment of Noninfringement be GRANTED, and that Defendants' Motion for Summary Judgment of Invalidity be DENIED.

This Report and Recommendation is filed pursuant to 28 U.S.C. § 636(b)(1)(B), Fed. R. Civ. P. 72(b)(1) and D. Del. LR 72.1. The parties may serve and file specific written objections within fourteen (14) days after being served with a copy of this Report and Recommendation. Fed. R. Civ. P. 72(b). The failure of a party to object to legal conclusions may result in the loss of the right to de novo review in the district court. *See Sincavage v. Barnhart*, 171 F. App'x 924, 925 n.1 (3d Cir. 2006); *Henderson v. Carlson*, 812 F.2d 874, 878-79 (3d Cir. 1987).

The parties are directed to the Court's Standing Order for Objections Filed Under Fed. R. Civ. P. 72, dated October 9, 2013, a copy of which is available on the District Court's website, located at http://www.ded.uscourts.gov.

Because this Report and Recommendation may contain confidential information, it has

been released under seal, pending review by the parties to allow them to submit a single, jointly proposed, redacted version (if necessary) of the Report and Recommendation. Any such redacted version shall be submitted no later than **April 8, 2015** for review by the Court, along with a clear, factually detailed explanation as to why disclosure of any proposed redacted material would "work a clearly defined and serious injury to the party seeking closure." *Pansy v. Borough of Stroudsburg*, 23 F.3d 772, 786 (3d Cir. 1994) (internal quotation marks and citation omitted). The Court will subsequently issue a publicly-available version of its Report and Recommendation.

Dated: March 27, 2015

Christopher J. Burke
UNITED STATES MAGISTRATE JUDGE