No. 19-1557

United States Court of Appeals for the Federal Circuit

MCRO, INC., dba PLANET BLUE,

Plaintiff-Appellant,

v.

BANDAI NAMCO GAMES AMERICA INC., NAUGHTY DOG, INC., ELECTRONIC ARTS, INC., DISNEY INTERACTIVE STUDIOS, INC., SQUARE ENIX, INC., TREYARCH CORPORATION, SONY COMPUTER ENTERTAINMENT AMERICA LLC, SUCKER PUNCH PRODUCTIONS, LLC, INFINITY WARD, INC., LUCASARTS, A DIVISION OF LUCASFILM ENTERTAINMENT COMPANY LTD., ACTIVISION PUBLISHING, INC., BLIZZARD ENTERTAINMENT, INC.,

Defendants-Appellees.

Appeal from the United States District Court for the Central District of California in Nos. 2:12-cv-10322-GW-FFM, 2:12-cv-10329-GW-FFM, 2:12-cv-10333-GW-FFM, 2:12-cv-10335-GW-FFM, 2:12-cv-10338-GW-FFM, 2:14-cv-00332-GW-FFM, 2:14-cv-00336-GW-FFM, 2:14-cv-00352-GW-FFM, 2:14-cv-00358-GW-FFM, and 2:14-cv-00383-GW-FFM, Honorable George H. Wu, United States District Court Judge

PLAINTIFF-APPELLANT MCRO, INC.'S REPLY BRIEF

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OCTOBER 4, 2019

CERTIFICATE OF INTEREST

Counsel for Plaintiff-Appellant certifies the following:

1. The full name of every party represented by me is:

   McRo, Inc., dba Planet Blue.

2. The name of the real party in interest (Please only include any real party in interest NOT identified in Question 3. below) represented by me is:

   None.

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party represented by me are:

   None.

4. The names of all law firms and the partners or associates that appeared for the party now represented by me in the trial court or agency or are expected to appear in this court (and who have not or will not enter an appearance in this case) are:

   Mishcon de Reya New York LLP: Eric P. Berger, Vincent Filardo Jr., Lana Milojevic (formerly of Mishcon de Reya New York LLP); and

   Russ August & Kabat, Marc A. Fenster, Irene Y. Lee, Paul A. Kroeger.

5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal. See Fed. Cir. R. 47(a)(5) and 47.5(b). (The parties should attach continuation pages as necessary).

   None.

October 4, 2019

/s/ Robert A. Whitman
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TABLE OF ABBREVIATIONS AND CONVENTIONS

Abbreviation	Meaning
"'278 Patent"	U.S. Pat. No. 6,611,278 (Appx0056-0067)
"Appellees"	Collectively, Defendants-Appellees Activision Publishing, Inc.; Blizzard Entertainment, Inc.; Infinity Ward, Inc.; Electronic Arts, Inc.; Disney Interactive Studios, Inc.; LucasArts, a Division of Lucasfilm Entertainment Co. Ltd. LLC; Square Enix, Inc.; Sony Computer Entertainment America LLC; Sucker Punch Productions, LLC; Naughty Dog, Inc.
"BALDI"	BALDI Facial Synthesis Software
"Opening"	Plaintiff-Appellant McRo, Inc.'s Opening Brief in this appeal
"Planet Blue"	Plaintiff-Appellant McRo, Inc., dba Planet Blue
"POSITA"	Person of ordinary skill in the art
"Pelachaud"	Catherine Pelachaud, Communication and Coarticulation in Facial Animation, A Dissertation in Computer and Information Science, Presented to the Faculties of the University of Pennsylvania in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy (1991)
"Real Time Rendering"	Akenine-Moller, T., Haines, E., Hoffman, N., Real-Time Rendering (3rd Edition, CRC Press Taylor & Francis Group, 2008)
"Response"	Response Brief of Defendants-Appellees in this appeal

INTRODUCTION

Appellees largely abandon the district court's rationale for granting summary judgment with respect to both non-infringement and non-enablement. Appellees' new theories fare no better.

The district court's non-infringement ruling rests on an erroneous construction of the term "morph weight set." The district court's construction limits a "morph weight set" to a collection of vectors having "direction and magnitude in three-dimensional space," *i.e.*, simple, straight-line vectors. Appx0021. Planet Blue demonstrated that the district court erred by re-writing the '278 Patent's lexicographical definitions and misinterpreting key passages in the specification. Appellees ignore those errors. Instead, Appellees claim an unidentified non-technical dictionary provides the appropriate definition of "vector" in the field of computer animation. Yet, Appellees' dictionary cannot overcome the '278 Patent's lexicography or the consistent, unrebutted evidence regarding the meaning of "vector" to a person of ordinary skill in computer animation. Further, Appellees' requests for affirmance on alternative grounds are unavailing, as in the case of Appellees' new argument for judgment under Planet Blue's construction, or baseless, as with their argument regarding acquiescence.

Turning to enablement, the district court granted judgment because it found rule sets pertaining to a prior art BALDI system and the accused "bones" technology not enabled as a matter of law. Appellees abandon that rationale. Instead, Appellees

argue for the first time that no claimed rule sets are enabled. That new argument is inconsistent with the district court's opinion and all evidence, including Appellees' concessions below. Further, with respect to the *Wands* factors, Appellees either ignore the facts supporting enablement or identify evidence that creates a factual dispute. Under the summary judgment standard, reversal is required.

Regarding reassignment, Appellees do not dispute that the district court injected itself into the merits of this action in an unusual manner following the first appeal. Instead, Appellees contend that evidence of actual bias is required for reassignment. That is not the law.

ARGUMENT

I. Summary Judgment of Non-Infringement Should Be Reversed

A. The '278 Patent's Express Definition of "Morph Weight Set" Controls

The district court erred by importing limitations into the '278 Patent's lexicographical definitions. This Court's precedent establishes that it is "improper to override the patentee's express definition" of a term "to limit the scope of the claims" in the absence of "words or expressions" of manifest exclusion. Opening at 21-22.

Appellees fail to address Planet Blue's argument or the case law. In particular, Appellees do not dispute that the '278 Patent expressly defines "morph weight set" and "delta set." *See* Opening at 20-21. Nor do they dispute that the specification's express definitions do not limit vectors to those with direction and magnitude in

three-dimensional space. As Appellees do not identify "words or expressions" that justify departing from the '278 Patent's definitions, the district court's construction should be rejected and Planet Blue's construction should be adopted. *Id.* at 21-22. Indeed, Appellees conceded below that Planet Blue's "construction … fairly informs the jury of the express definitions given by the patents-in-suit." *See* Appx0750-0751.

B. The '278 Patent Does Not Require Vectors Having a Direction and Magnitude in 3-Dimensions

1. The Definition of Delta Set Does Not Require Only One Vector Between Vertices

In defining "delta set," the '278 Patent explains that "[t]he deltas of each vertex on each morph target relative to the neutral are computed as ***a vector*** …." Appx0061, 1:60-63.

Relying on well-settled precedent, Planet Blue argued that the district court was wrong to construe the word "a" in that portion of the specification to mean "a single" or "only one." Opening at 23-24. In response, Appellees do not dispute that in patent parlance "a" generally means "one or more." Response at 33. Instead, citing nothing, Appellees argue that this Court's precedent is not applicable because the word "a" is used in a definition from the specification and not the claims. Response at 34.

This Court does not have different rules for interpreting the specification and the claims:

> A fundamental rule of claim construction is that terms in a patent document are construed with the meaning with which they are presented in the patent document. Thus claims must be construed so as to be consistent with the specification, of which they are a part.

Merck & Co., Inc. v. Teva Pharms. USA, Inc., 347 F.3d 1367, 1371 (Fed. Cir. 2003) (citations omitted). Indeed, "[t]he words of patent claims have the meaning and scope with which they are used in the specification and the prosecution history." *Kinik Co. v. Int'l Trade Comm'n*, 362 F.3d 1359, 1365 (Fed. Cir. 2004). As such, the Court should reject Appellees' unsupported argument that "a" means "only one" if used in the specification but "one or more" in the context of the claims. In fact, when the patentee intended to mean "one," the specification states it expressly. Opening at 24; Appx0061, 1:60-64 (specifying "one delta set" and "a vector"); Appx0062, 4:35-36 (same), 4:39-40 ("[p]referably, one model i[s] designated as the anchor model"). Appellees fail to address this fact.

Lastly, Appellees do not dispute that if "a vector" in the specification is understood to be "one or more vectors," then the district court's construction is wrong. *See* Opening at 25.

2. The Specification Does Not Limit Vectors to Directions with Magnitude in 3-Dimensions

In addressing the specification, Appellees focus on whether vectors must represent movement in 3-dimensions, a point not in dispute, and ignore the district court's requirement that vectors have a direction and magnitude. Response at 29-30. Yet, the district court wrongly read-in the requirement that each vector must have a

direction and magnitude based on its finding that a formula disclosed in the specification is the "appropriate formula" required by the claims. Opening at 27.

The district court misapplied basic claim construction principles by reading the disclosed formula into the claims based merely on the specification's alleged failure to identify the formula as exemplary. It further erred by requiring Planet Blue to prove that the accused method's vectors could operate in the disclosed formula before it would adopt a construction encompassing the accused vectors. Opening at 27-28. Appellees fail to address these legal errors.

As a factual matter, the '278 Patent holds out the disclosed formula as exemplary, *i.e.*, not limiting. Opening at 26-29. It teaches that the disclosed formula can—not must—be used in the "typical case," when one-to-one correspondence exists between vertices on a neutral model and vertices on another mouth position. Opening at 26-27; Appx0061, 1:54-59. In response, Appellees concede that a POSITA would not use the disclosed formula when a vertex exists on a second model without a corresponding vertex on a neutral model. Response at 32 (recognizing the "final location" of such vertices would be "computed another way"). Appellees, however, do not address the logical repercussions of their concession: if the final

location of some vertices can be computed without using the disclosed formula, then the disclosed formula is not required.[1]

In addressing the specification, Appellees urge that a vertex is a point in 3-dimensional space and that the movement from one such vertex to another must be represented as a vector in 3-dimensional space. Response at 29-30. That is not in dispute. However, merely because vectors represent movement in three dimensions does not mean the movement must be represented as a vector with "direction and magnitude," as found by the district court. Appx0021. Appellees nowhere address how those critical elements of the district court's construction (*i.e.*, direction and magnitude) are supported by the intrinsic evidence.[2] Response at 29-30.

In sum, the '278 Patent does not support the district court's determination that "vector" in the context of "delta set" is limited to "a vector with direction and magnitude."

[1] Appellees argue that Dr. Gleicher's testimony is inconsistent with Planet Blue's supposed position that "the correct construction of 'morph weight set' … does not require a delta set to have a vector for each vertex…." Response at 33. Planet Blue does not make that argument. Instead, Planet Blue's construction recognizes that a "delta set" must have at least one vector associated with each vertex. Opening at 20.

[2] Planet Blue accepted judgment because bone vectors are not vectors with a direction and magnitude as required under the district court's construction. Bone vectors, however, represent the movement of vertices in 3-dimensional space. *See infra*, I.E.

C. The Ordinary Meaning of "Vector" Is Not Limited to Directions with Magnitude in 3-Dimensions

As used in computer animation, a "vector" is an ordered list of numbers that, in the context of the '278 Patent, is associated with vertex movement. Such understanding corresponds with the meaning ascribed to "vector" by both sides' technical experts, a seminal computer animation textbook, and the relevant prior art.

Appellees concede that in the field of computer animation "vector" means an ordered list of numbers. Response at 30. Yet, Appellees argue that the district court selected another customary meaning that supposedly exists in the field of computer animation. *Id.* In support, Appellees rely on a non-technical Merriam-Webster dictionary. Response at 30, n.2. The district court did not entertain that evidence, Appx0016, n. 10, nor should this Court. The dictionary is not in the record and, if it was, it would not evidence a meaning of "vector" in the field of computer animation. Despite this, the dictionary is Appellees' only support for the district court's conclusion that a vector in computer animation requires direction and magnitude in 3-dimensions. Response at 30.

In the field of computer animation, vectors are represented as ordered lists of numbers. There is no dispute that in geometry the simplest "vector" is a direction with an associated magnitude. Yet, computers do not compute, store or operate on directions, they operate on numbers. As such, in computer animation, a direction-type vector would be a 3-vector, an ordered list of three numbers (with each number

representing the x, y, and z direction, respectively). Appx2289, ¶11. Appellees' expert explained that the vectors used in "bones" animation are known as "10-vectors" that contain ten different values associated with vertex movement (rotation, translation and scaling). *See* Appx6717, 46:11-23. In computer animation, a vector is not a directional line with a magnitude; it is an ordered list of numbers that, in the context of the '278 Patent, is associated with vertex movement. *Id.* Indeed, the specification states that vertex movement is "computed as a vector." *See* Appx0061, 1:60-64. Such movement is computed as numbers or lists of numbers, not directions with magnitude.

The court's construction requiring a vector to have direction and magnitude is inconsistent with its meaning in the field of computer animation. As previously shown, Real Time Rendering, "one of the seminal texts on computer graphics," Appx2289, ¶10,[3] defines a vector as an ordered list of numbers such that a vector is not limited to a direction with a magnitude. Appx2068-2069. Similarly, computer animation prior art uses the term "vector" consistently. Appx3793-3794, Table 5-3. Appellees do not attempt to square the district court's construction with how "vector" is used in the computer graphics field, Real Time Rendering, or the prior art in the field of computer graphics. Opening at 30-31.

[3] Planet Blue has demonstrated that the district court wrongly disregarded Real Time Rendering because it was "not necessarily tied to the understanding … at the time of the invention." Opening at 30-31. Appellees do not respond to that argument. Instead, they recognize Real Time Rendering provides a valid definition to a POSITA at the relevant time. Response at 30.

Turning to the expert opinions, Dr. Gleicher opined that a POSITA would understand "vector" consistently with the relevant literature. Opening at 29-30. Appellees identify no competing expert declaration. Instead, Appellees urge that Dr. Gleicher's opinions can be disregarded because he did not apply that definition for purposes of infringement. Response at 36. That argument is factually false and legally irrelevant. In opining on infringement, Dr. Gleicher applied a POSITA's understanding of "vector" to "bones" animation. *See, e.g.*, Appx2292-2299, ¶¶18, 23-25, 36-38. Moreover, application of the proper construction is a factual inquiry separate from claim construction. *See, e.g.*, *Power Mosfet Techns., L.L.C. v. Siemens AG,* 378 F.3d 1396, 1406 (Fed. Cir. 2004) (recognizing two-step inquiry for infringement).[4]

Appellees do not dispute that their expert, Dr. Dobkin, repeatedly recognized that vectors in the field of computer animation would not be limited to a direction and magnitude. Opening at 31 (collecting quotations). Similarly, Appellees do not dispute that Dr. Dobkin admitted the specification does not limit how vectors are stored, or represented, by a computer. Opening at 25. In this manner, Dr. Dobkin's testimony was consistent with the relevant literature and Dr. Gleicher's testimony concerning the meaning of "vector" in the art. In response to their expert's concessions, Appellees point to Dr. Dobkin's understanding that the district court's claim construction requires vectors representing movement in 3-dimensions.

[4] Appellees do not dispute that the district court was wrong to rely on evidence that "bones" animation was not an "attractive" approach for facial animation in support for its construction of "vector." Opening at 32.

Response at 35 (citing Appx6733, 112:20-113:21). As detailed above, there is no dispute that the claimed vectors must represent vertex movement in 3-dimensions. The dispute here concerns the district court's determination that such movement must be represented as "direction and magnitude." Appx0021. The cited testimony does not address that dispute. *Id.*

In sum, the consistent meaning ascribed to "vector" in the field of computer graphics should not be rejected in favor of a definition lifted from a non-technical dictionary not in the record.

D. Planet Blue Did Not Acquiesce to the District Court's Construction

Appellees' waiver argument has no merit. During the *Markman* process, the parties agreed to the construction of "morph weight set" that Planet Blue requests this Court adopt on appeal. The district court originally adopted that construction. Appx0902. In so doing, the district court stated that it would not construe the word "vector" appearing in its construction of "morph weight set," and, further, that any "additional explanation" concerning the meaning of "vector" could be provided to the jury. *Id.* At that time, the district court was aware of Planet Blue's position that a POSITA would understand "a vector" to be a "list of numbers" representing parameters. Appx0808, 12:09-13:01. Appellees provided no contrary definition at that time.

During the summary judgment process, the district court changed its mind and decided to construe the term "vector." The district court found that the parties "disagree[d] in their interpretations of the Court's construction," and specifically how a POSITA "would interpret … the vectors that make up delta set[s] in the context of the claim phrase 'morph weight set[s].'" Appx0014; *see* Appx0023 (finding "a claim construction dispute"). The district court decided the dispute, rejecting Planet Blue's arguments in the process. Appx0014-0021.

This Court has long recognized "the general rule that a party may raise on appeal any issue that was raised *or* actually decided below." *Lifestyle Enter., Inc. v. United States*, 751 F.3d 1371, 1377 (Fed. Cir. 2014). Here, the district court "actually decided," over Planet Blue's objections, that the claims are limited to "vectors" with direction and magnitude in 3-dimensions. Appx0013–0021. Planet Blue is entitled to ask for review of that decision. *See Conoco, Inc. v. Energy & Env't Int'l, L.C.*, 460 F.3d 1349, 1359 (Fed. Cir. 2006) (granting review where "the court explicitly construed the term *sua sponte* and applied that construction …").

Far from acquiescing, Planet Blue presented the same arguments to the district court that it is raising here. *Compare* Opening at 20-32 *with* Appx6134-6142. At a minimum, Planet Blue "made its legal position . . . sufficiently clear to the trial court." *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1378-79 (Fed. Cir. 2009). Moreover, on appeal, Planet Blue "attempt[s] to protect the original breadth" of the construction it originally agreed to, "by rejecting the imposition of an additional

limitation not required or recited by [that] claim construction." *Interactive Gift Exp., Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1348 (Fed. Cir. 2001).

Planet Blue was not required to press forward with an alternative construction, which did not require vectors or vertices, when the district court found that the meaning of "vector," in the agreed construction, could be presented to the jury. Appx0902. Indeed, Appellees' contention that Planet Blue is arguing for a construction of "'delta set' [that] functions to permit a delta set to be represented via any 'mathematical representation'" is not true. Response at 21. On appeal, Planet Blue seeks the construction the parties agreed to below. That construction requires a set of vectors representing the movement of each vertex on a facial model. Opening at 20-21.

The two cases Appellees rely on do not support their position. In *Digital-Vending*, the parties stipulated that "registered user" meant "a person who has previously been registered with a registration server." *Digital-Vending Servs. Int'l, LLC v. Univ. of Phoenix, Inc.,* 672 F.3d 1270, 1277–78 (Fed. Cir. 2012). Thereafter, this Court found that the plaintiff could not argue that a "registered user" was not required to have registered with a "registration server." *Id.* In *SuperGuide*, this Court found that the plaintiff could not dispute that the term "meet[s]" was limited to "matches or equals," where the plaintiff had argued for that construction throughout the *Markman* process. *SuperGuide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 889

(Fed. Cir. 2004). Here, Planet Blue has never agreed or argued that vectors are limited to a direction and magnitude in 3-dimensions.

E. The District Court's Erroneous Construction Requires Reversal

Appellees' non-infringement motion hinged "entirely on a claim construction dispute." Appx0013. Despite this, Appellees argue judgment should be affirmed under Planet Blue's construction. Response at 34-38.

First, Appellees urge Planet Blue's infringement theory can be disregarded because it is allegedly new and unsupported by expert testimony. Response at 37-38. Yet, Planet Blue raised the same arguments to the district court, relying on the same evidence, for the same propositions. *Compare* Opening at 32-33 *with* Appx6142-Appx6147. Further, as detailed below, Planet Blue's position is plainly supported by expert testimony. During the summary judgment process, Appellees objected to one of Dr. Gleicher's declarations, which contained opinions regarding the application of Planet Blue's construction of "morph weight sets." Appx7462-7464. That objection, however, was overruled. Appx0054.

Second, Appellees argue that they are entitled to summary judgment under Planet Blue's construction because: (1) "bone transforms" do not describe vertex movement, Response at 38-39; and (2) additional information (besides "bone transforms") is needed to move vertices, Response at 39-40. Appellees did not seek summary judgment with respect to those theories of non-infringement. Appx4072-4079. Although this Court has discretion to affirm a judgment on alternative grounds,

here, the alternative grounds for affirmance are premised on new technical arguments that are more appropriately addressed on remand. *See Oracle Corp. v. Parallel Networks*, LLC, 375 F. App'x 36, 40-41 (Fed. Cir. 2010).

Further, on the merits, Appellees' new theories of non-infringement fail. "Bones" animation employs a "set of vectors" from "each vertex on the neutral" model to "each vertex" on another mouth position. Opening at 32-33. At a minimum, questions of fact exist regarding the application of Planet Blue's construction.

In its Opening, Planet Blue, citing detailed evidence, explained:

> In 'bones' animation, displacement for each vertex in a facial model is defined by the set of vectors associated with three basic bone transforms: translation (change in position), scale (change in size) and rotation (change in orientation). The collection of these vectors defines the movement of each vertex from the neutral model to the model of another mouth position.

Opening at 32-33 (citations omitted). Without addressing the evidence, Appellees state that the vectors used in "bones" animation describe how bones move but not how vertices move. Response at 39. Not so. "Bones" animation uses vectors to represent the movement of vertices. *See* Opening at 32-33 (relying on, *e.g.*, Appx2292-2299, ¶¶18, 23-25, 36-37; Appx4649-4651, ¶¶2.6-2.12; Appx6721, 64:16-66:17).

Further, Appellees request judgment because a single "bones" transform, *i.e.* a single vector, is not sufficient to describe the movement of a vertex from a neutral mouth position to another mouth position. Response at 39. Yet, Planet Blue's

proposed construction, which Appellees' purport to apply, allows for one or more vectors to define the movement of each vertex from the neutral model to another mouth position. Opening at 20. As such, a single vector is not required to describe the movement of a vertex from the neutral model to another mouth position.

Appellees also argue that in "bones" animation the bone transform vectors alone are insufficient to define the new position of a vertex from a position on a neutral model. Response at 39-40. That is a red-herring. In "bones" animation, the vectors represent the movement of vertices from the first position to a second position. See Appx2292-2299, ¶¶18, 23-25, 36-38; Appx4649-4651, ¶¶2.6-2.12. A new vertex position is determined by combining the "bone" vectors with information concerning the original vertex. *Id.* Indeed, even when using "direction and magnitude" type vectors, the final position of any vertex is determined using such additional information. That additional information includes the association between such vectors and the vertices on the neutral model and information regarding the position of vertices on the neutral model. This is the same type of information required by "bone" vectors to determine the final position of vertices. *Id.*

Put simply, Dr. Gleicher explained that bones animation utilizes a set of vectors that define the movement of each vertex from a first position to a second position. Appx5033, 321:17-322:7 ("I can even then look here and see a different set of vectors, the collective -- the collective set of Ws, Bs, and Ms, that also provide a representation of how each one of those points is going to go from its position on P

to where it goes on U"); Appx4996-Appx4997, 173:6-186:24. That testimony was consistent with his other opinions, *see* Opening at 32-33, which Appellees ignore. At an absolute minimum, questions of fact exist that preclude judgment in Appellees' favor.

II. Non-Enablement Should Be Reversed

A. The District Court Erred in Granting Judgment Based on an Alleged Failure to Enable Prior Art and the Accused Method

The district court found the '278 Patent not enabled as a matter of law because two example rule sets, a rule set disclosed in the prior art BALDI system and a rule set pertaining to "bones" animation, were "covered" by the claims and required excess experimentation. Appx0047. Planet Blue demonstrated that finding was not supported. Opening at 26–30. In response, Appellees argue that the district court did not base its enablement finding on the specification's failure to enable those two rule sets. Response at 48-49. Appellees are wrong.

As explained by the district court:

> Defendants have submitted expert testimony and ***specific evidence of rule sets*** that would be covered by the 'first set of rules' limitation even though they are not specifically disclosed by the '278 Patent. Defendants have further submitted expert testimony to support their position that a person of skill in the art at the time of the invention ***would not find these examples enabled by the patent disclosure***. As previously explained, Plaintiff fails to provide adequate rebuttal to this …

Appx0047 (emphasis added). The only "specific evidence of rule sets" and "examples" addressed by the district court are rule sets pertaining to BALDI and the accused "bones" technology. Opening at 35-36.

Prior to reaching its enablement conclusion, the district court found it important that Appellees' expert "identified some example" rule constructs that were both covered by the claims and required excess experimentation. Appx0042. In the next sentence, the district court identified and addressed the "rules for bones animation." *Id.* One paragraph later, the district court identified BALDI as containing "another example" rule set. Appx0043. The district court identified no other example rule sets.

As previously explained, the district court was wrong to find that the prior art BALDI system discloses a ***claimed*** rule set. Opening at 36. Appellees do not address that argument. Response at 48-49. Further, with respect to experimentation, Appellees do not dispute the evidence relied on by the district court concerning BALDI fails to mention experimentation, and was insufficient to support a finding of non-enablement as a matter of law. *Id.*

With respect to a rule set applicable to "bones" animation, Planet Blue demonstrated that the district court wrongly focused on the accused technology and the relied-upon testimony was insufficient to support non-enablement. Opening at 37-38. Appellees do not address either argument. Instead, Appellees state that the district court did not require a rule set concerning "bones" animation to be enabled.

Response at 50. Yet, as detailed above, the district court relied on the "bones" rule set as one of two allegedly exemplary claimed rule sets not enabled as a matter of law.

Put simply, Appellees neither support the district court's finding with respect to the identified rule sets nor identify different rules sets that would be covered by the claims and allegedly require excess experimentation. As such, there is no need for this Court to address the *Wands* factors; reversal is required.

B. Example Working Rule Sets Are Enabled

Unable to support the district court's non-enablement rationale, Appellees assert for the first time that no working rule sets are enabled. Response at 20, 41, 47. That argument is contradicted by the district court's findings, Appellees' concessions, and the undisputed evidence.

The district court found that the specification provides a "working example" of a rule set for practicing the claimed method. Appx0049 (relying on A0064, 7:33-9:14). That finding was not in dispute. *Id.*; *see* Appx0496-0497 ("[W]e are not disputing that the rules for the example 'hello' are there, but the rules for the example 'hello' are for the keyframing approach."). Further, as recognized by the district court, Appellees did not dispute that rule sets using keyframing and rule sets using logic statements were enabled. Appx0049-0050.

Appellees' concessions were consistent with the evidence. Appellees' expert recognized that "it would have been within the knowledge and skill of a person of

ordinary skill in the art … to come up with certain types of claimed rules ….” Appx5894, ¶379. Planet Blue’s expert agreed. Appx4945, ¶206.

Put simply, Appellees’ new argument does not present an alternative ground to support judgment of non-enablement.

C. Each *Wands* Factor Supports Enablement

In addressing the *Wands* factors, Appellees fail to acknowledge that Planet Blue was entitled to receive all reasonable inferences on summary judgment. Properly viewed, a reasonable jury could find each *Wands* factor favors enablement.

1. The Nature of the Invention, the State of the Prior Art and the Skill of Those in the Art (Factors 4-6)

The district court wrongly found each of these factors irrelevant as a matter of law. Opening at 39-45.

With respect to the nature of the invention (factor 4), a reasonable jury could find that the time-consuming aspect of computer animation and its predictable nature each support a finding of enablement. Opening at 39-40. With respect to computer animation’s time-consuming nature, Appellees conclusorily state “whether hand animation was time-consuming … is irrelevant.” Response at 56. Yet, contrary to Appellees’ suggestion, the evidence concerned the prior art method described in the ’278 Patent of computer animation using keyframes, not hand drawn animation. Appx0061, 1:47-2:13 (discussing keyframe approach); Appx8150-8151, ¶¶326-327;

Appx4652, ¶2.19. Indeed, a reasonable jury could consider relevant the time-consuming nature of the prior art method.

With respect to whether computer animation was a well-developed field, Appellees, at best, raise factual disputes. Appellees state the development of rule sets beyond those disclosed in the specification would have been unpredictable. *See* Response at 56 (citing Appx5889). Tellingly, Appellees fail to identify any such rule set, fail to explain why any such rule set would be unpredictable, and fail to explain why a reasonable jury ***must*** find in their favor in the face of conflicting evidence from both parties' experts. *See* Appx4946-4947, ¶¶208–209 (recognizing well-developed nature of computer animation); Appx5842, ¶244 (opining that the nature of the invention was not in an art that had unexpected results). At a minimum, in light of the conflicting evidence, the district court erred in declaring this factor irrelevant as a matter of law.

With respect to the prior art (factor 5), Appellees do not dispute that a reasonable jury could find the state of the prior art well-developed by 1998. Opening at 40. Appellees further do not dispute that co-articulation rules were known and that additional co-articulation rules were not required to be disclosed. *Id.* Indeed, Appellees nowhere address how this factor could be irrelevant as a matter of law in light of the evidence. *Compare* Opening at 40 *with* Response at 57-58.

With respect to the knowledge of a POSITA (factor 6), both parties' experts and the inventor, Mr. Rosenfeld, testified that, based on the '278 Patent's

teachings, a POSITA could modify known, prior art co-articulation rules without undue experimentation. Opening at 41-45. Further, during the relevant time, a POSITA could create "high quality" facial models that could be used in the claimed invention. *Id.* Appellees' Response, at best, highlights the factual disputes with respect to the modification of prior art rules and ignores the evidence concerning the creation of "high quality" facial models.

Appellees first urge that Dr. Gleicher's opinions concerning the modification of known co-articulation rules, *see* Opening at 41-42 and 49-50, can be ignored because they are inconsistent with his opinions concerning obviousness. Response at 57-58. There is no inconsistency. With respect to obviousness, Dr. Gleicher opined that the prior art rules did not define the requisite morph weight sets and taught away from using morph weight sets. Appx4899-4900; Appx4923-4924. Dr. Gleicher further opined that, ***based on the teachings of the '278 Patent***, the prior art's co-articulation rules can be modified to define morph weight sets without undue experimentation. *See* Opening at 49-50. Certainly, giving Planet Blue all reasonable inferences, a reasonable jury would not be required to find an inconsistency.

Appellees further state that Dr. Gleicher cited no specification support for his opinions. Response at 58. Yet, Dr. Gleicher relied on over 20 portions of the specification including the specification's teaching that a rule can specify a "morph weight set as [a] transition target" to account for a co-articulation effect. Appx4944, ¶204. Dr. Gleicher further identified the portions of the specification teaching the

structural characteristics of the claimed rule sets. *See* Appx4941-4942, ¶¶198-200, Appx4949, ¶202 (identifying common structural characteristics of claimed rule sets).

Dr. Wyvill's opinions also support enablement. He opined that it would have been "trivial" for a POSITA to generate a claimed rule set by modifying prior art co-articulation rules, such as those taught in Pelachaud and BALDI. Opening at 42-43 (*citing* Appx5813, ¶173; Appx5840, ¶238). In response, Appellees ignore Dr. Wyvill's opinions concerning Pelachaud. Further, Appellees concede that it would not be difficult to ***modify*** BALDI's co-articulation rules based on the teachings of the '278 Patent. *See* Response at 49, n. 7. Appellees urge, however, that ***generating*** the unclaimed BALDI rule set would have been difficult using only the '278 Patent. *Id.* That is irrelevant. The factual dispute here does not concern the generation of the unclaimed BALDI rule set, it concerns whether a POSITA could modify preexisting prior art rule sets for use in the patented method without excess experimentation. On that question, a reasonable jury could find in Planet Blue's favor.

With respect to Mr. Rosenfeld, Appellees do not address his testimony evidencing that a POSITA would have little difficulty understanding the '278 Patent's rule schemes or creating additional rules based on those rule schemes. Opening at 43 (citing Appx7780-7782, 104:5-109:23). Instead, Appellees urge that Mr. Rosenfeld's testimony evidencing that it would take little time to create a rule set applicable to every word in the English language can be disregarded because it is disputed by Appellees' expert. Response at 53, n. 9. That is incorrect. Mr. Rosenfeld's testimony

is consistent with the expert testimony, Opening at 41-43, and Appellees fail to identify any alleged contrary expert testimony. Response at 53, n. 9. Regardless, Planet Blue is entitled to receive all reasonable inferences regarding disputed facts.

In addressing the case law relied on by the district court, Appellees ignore Planet Blue's distinctions. *See* Opening at 43-44. For example, Appellees state that the claimed yet unknown "electronic sensor" addressed in *Automotive Technologies International, Inc. v. BMW of North America, Inc.*, 501 F.3d 1274 (Fed. Cir. 2007), is "like the first set of rules here." Response at 58. That is not the case. *See* Opening at 43-44. Unlike the "electronic sensor" in *Automotive*, here, certain exemplary claimed rule sets in the '278 Patent are both disclosed and enabled. *See supra*, II.B.

Similarly, with respect to *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361 (Fed. Cir. 1997), Appellees do not address the difference between the "unpredictable" gene-based technology at issue in *Genentech* and the well-developed field of computer animation. *See* Opening at 43-44. Further, Appellees' assertion that the '278 Patent merely provides "vague intimations of general ideas," Response at 59, cannot be squared with Appellees' concession and the district court's finding that the '278 Patent provides actual working examples.

Lastly, Appellees urge that "competent expert testimony … supported the District Court's conclusion" regarding this factor. Response at 59. Yet, on summary judgment, the appropriate question is whether competent evidence supports Planet Blue's position. Appellees avoid that question.

2. Quantity of Experimentation (Factor 1)

Planet Blue demonstrated that the district court wrongly found this factor favors invalidity as a matter of law. *See* Opening at 45-52.

First, the district court wrongly relied exclusively on Dr. Wyvill's opinions directed to a system for outputting an unknown quantity of "high quality" or "realistic" animation. Appx5894, ¶379, Appx5893, ¶378. Appellees now urge that Dr. Wyvill's opinions were not premised on "high-quality" or "realistic" animation. Response at 51. A reasonable jury, however, could find differently. Dr. Wyvill expressly conceded he understood the "claims" require the production of "accurate and realistic" animation. *See* Appx3175, 236:8-237:7. Moreover, Dr. Wyvill's enablement opinions were all directed to unidentified systems requiring high quality or realistic animation. Opening at 45-46.

In *CFMT*, this Court found that where the claims specified "no standard of cleaning," non-enablement could not be based on undue experimentation necessary to clean silicon wafers in a commercially satisfactory manner. *CFMT, Inc. v. Yieldup Int'l Corp.*, 349 F.3d 1333, 1338 (Fed. Cir. 2003) (citation omitted) ("Enablement does not require an inventor to meet the lofty standards for success in the commercial marketplace" but instead "is met if the description enables any mode of making and using the claimed invention."); *see* Opening at 46-47. Appellees urge that *CFMT* is distinguishable because here the "claims do not require … 'any level' of lip synchronization …;" they require "***accurate and realistic lip synchronization*** …."

Response 51-52 (emphasis in original). Contrary to Appellees' representation, the "accurate and realistic lip synchronization" language appears in the '278 Patent's ***specification***, not the ***claims***. Appx61, 2:43-48. As such, Appellees do not credibly distinguish *CFMT*.

Second, Planet Blue demonstrated that the "experimentation time" necessary to achieve a non-specific, subjective quality of animation depends on the artistic intentions and abilities of the artist; and that a reasonable jury could conclude that fine-tuning animation for artistic purposes is routine experimentation. Opening at 47 (relying on Appx4946, ¶207; Appx3176, 238:8–22). Appellees do not address that argument. Thus, even if some subjective standard of "high quality" animation was required, a reasonable jury could find that this factor still favors enablement.

Third, Dr. Wyvill's opinions were all based on the incorrect assumption that the claimed method requires first building a system with a rule for "all visual phoneme groups." Opening at 48-49 (relying on Appx5894, ¶379). Appellees do not dispute that Dr. Wyvill misunderstood the claims, yet they ignore the consequences of that misunderstanding. A reasonable jury could find any phrase of any reasonable length could be animated using the ***claimed method*** without undue experimentation because Dr. Wyvill offered no opinions with respect to such method. Instead, his opinions were all associated with constructing an ***unclaimed system*** requiring a rule for all visual phoneme groups. *See* Appx5894, ¶379.

Fourth, Planet Blue argued that, at a minimum, Dr. Gleicher's testimony raised factual disputes regarding the amount of experimentation necessary to practice the claims. Opening at 49-50. In response, Appellees state that Dr. Gleicher's opinions are "legally insufficient" and conclusory. Response at 53. Yet Dr. Gleicher's opinions are more detailed than those offered by Appellees' expert, Dr. Wyvill. *Compare* Appx4943-4947 *with* Appx5893-5896. Indeed, Dr. Wyvill does not identify a single claimed rule set that would allegedly require undue experimentation. Appx5893-5896. Dr. Wyvill further fails to identify any alleged time-consuming aspect of obtaining any hypothetical rule set. *Id.* As such, to the extent Dr. Wyvill's opinions are not conclusory (as argued by Appellees), Dr. Gleicher's more detailed opinions that rebut Dr. Wyvill's opinions on a paragraph by paragraph basis cannot be conclusory. Response at 53.

At a minimum, factual disputes exist regarding the amount of experimentation necessary to practice the claimed invention.

3. Guidance Presented (Factor 2)

As previously explained, the specification discloses numerous examples of rules and rule types, describes how they can be modified, and describes how a POSITA would be able to employ other rules and rule types based on those examples. Opening at 51-52. In response, Appellees allege that Dr. Gleicher failed to identify the rule scheme taught and failed to explain how the '278 Patent would guide a POSITA. Response at 52. That is wrong. Appx4943, ¶202 (identifying structural

characteristics of rule scheme); Appx4944-4945, ¶¶204–205 (opining on specification's teaching of scheme).

Further, Planet Blue has demonstrated that the district court erred by giving substantial weight to the "if … then … else" structure of the disclosed rules. Opening at 52. In response, Appellees ignore the district court's rationale for finding this factor favors non-enablement as a matter of law and assert that the disclosed rules are insufficient to perform the claimed method at all. Response at 55. That new argument is inconsistent with the evidence including Appellees' concessions below. *See supra*, II.B.

4. Working Example (Factor 3)

The specification teaches working example rule sets and explains how such rule sets can be modified. Opening at 52-53; *see supra,* II.B. As such, a reasonable jury could find this factor favors enablement. *Id.* Appellees do not address this factor. Response at 54-55.

5. Predictability of the Art (Factor 7)

Appellees do not dispute that in the predictable arts a claim can be enabled by the disclosure of a single embodiment. Opening at 53-55. Instead, Appellees attempt to raise a factual dispute concerning whether computer animation is a predictable art. Response at 56-57.

Dr. Gleicher opined that computer animation is a predictable field and that rules for defining morph weight set streams would operate predictably. Appx4943,

¶202. In response, Appellees argue that Dr. Gleicher ignored a supposed but unidentified "challenge" in formulating the content of the rules. Response at 56-57. In fact, Dr. Gleicher explained that formulating the content of new rules could be done by modifying prior art co-articulation rules. Appx5884, ¶353. Even Appellees' expert, Dr. Wyvill, agreed that using known co-articulation rules to perform the claimed method would have "predictable results." Appx5884, ¶353.

Appellees urge that a jury could find in Appellees' favor based on Dr. Wyvill's opinion. Response at 56-57. Dr. Wyvill stated: "experimenting with new sets of rules would have been difficult to predict, particularly for more complicated sets of rules." Response at 55-56 (citing Appx5889). A reasonable jury, however, could also reject Dr. Wyvill's conclusory testimony, in the face of Dr. Gleicher's contradictory testimony. Appx5884, ¶353. Similarly, a reasonable jury could find Dr. Wyvill's opinion regarding "complicated rule sets" irrelevant as unclaimed and/or inconsistent with Dr. Wyvill's opinion that the claimed method yields "predictable results." Appx5884, ¶353. On summary judgment, Planet Blue was entitled to receive all reasonable inferences regarding this factual dispute.

6. The Breadth of the Claims (Factor 8)

Planet Blue has urged that a reasonable jury could find the breadth of the claims tailored to the invention described in the specification. Opening at 55-56 (citing Appx4943, ¶202).

Appellees identify no contrary evidence. During claim construction, Appellees argued that the phrase "first set of rules" should be construed as "logic statements" because "logic statements" would be easier for a jury to understand. *See* Appx0761. The district court declined to adopt Appellees' proposal. Appx0909. Now, Appellees argue that their rejected claim construction position requires a fact-finder to conclude that the claims are overly broad. Response at 60. Appellees' argument has no merit.

First, a failed claim construction argument is not evidence. As such, the only evidence concerning this factor supports enablement. Opening at 55-56 (citing Appx4943, ¶202). Second, the issue disputed during claim construction had no material impact on the breadth of the claims. Instead, Appellees' rationale for their proposed construction was it would be easier for a jury to understand.

III. Reassignment Is Warranted

Appellees do not dispute that, following the first remand, the district court injected itself into this action in a highly unusual manner. *See* Opening at 57-58. Instead, Appellees argue that the district court's actions were "not improper" and that Planet Blue has failed to establish "bias." Response at 60-61. The Ninth Circuit does not require "bias" for reassignment. Opening at 57-58. Instead, reassignment is advisable to preserve the appearance of justice in unusual circumstances such as these. *Id.* Indeed, Appellees' failure to even attempt to support the district court's rationale for finding non-infringement and non-enablement highlights the unusual nature of this action and weighs in favor of reassignment.

CONCLUSION

Planet Blue requests that this Court reverse and vacate the judgments of non-infringement and non-enablement and remand to a different district court judge.

Respectfully submitted,

Date: October 4, 2019

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PROOF OF SERVICE

I, Robert A. Whitman, hereby certify that on October 4, 2019, I caused one copy of the documents listed below:

PLAINTIFF-APPELLANT MCRO, INC.'S REPLY BRIEF

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Date: October 4, 2019 */s/ Robert A. Whitman*

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