

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

CIVIL MINUTES - GENERAL

Case No. CV 12-10322-GW(FFMx) Date November 13, 2018

Title *McRO, Inc., v. Namco Bandai Games America, Inc., and Related Actions*

Present: The Honorable GEORGE H. WU, UNITED STATES DISTRICT JUDGE

Javier Gonzalez None Present

Deputy Clerk Court Reporter / Recorder Tape No.

Attorneys Present for Plaintiffs: Attorneys Present for Defendants:

None Present None Present

**PROCEEDINGS: IN CHAMBERS - FINAL RULING AND ORDER RE STATUS
CONFERENCE FOR ALL REMAINING MATTERS**

Attached hereto is the Court's Final Ruling and Order Re: status Conference for All Remaining Matters. A Telephonic Status Conference is set for November 26, 2018 at 8:30 a.m. to discuss any remaining issues the parties wish to have addressed before they are directed to meet and confer regarding the form of a final judgment for this matter.

Initials of Preparer JG

McRO, Inc., d.b.a. Planet Blue v. Namco Bandai Games America, Inc., Case No. CV 12-10322-GW (FFMx) (LEAD TRACK 1 CONSOLIDATED CASE); Adoption of Amended Tentative Ruling (Docket No. 755) as Final Ruling and Order re Status Conference for All Remaining Matters

The Court has issued a Final Ruling on Defendants' Motion for Summary Judgment of Invalidity for Lack of Enablement. *See* Docket No. . Consistent with previous discussions with the parties, the Court hereby also adopts its "Amended Tentative Ruling on Scheduled Motions" at Docket No. 755 as a Final Ruling of this Court. As stated in the Amended Tentative Ruling, the Court rules as follows:

The Court **GRANTS** Defendants' Motion for Summary Judgment of Non-Infringement. Docket No. 643. The Court **OVERRULES** Defendants' Objections to Plaintiff's Opposition to Defendants' Motion for Summary Judgment of Non-Infringement or Invalidity. *See* Docket Nos. 711, 727. The Court **DENIES** all of the Defendants' other pending motions before this Court as **MOOT**.¹

In light of the Court's Final Ruling finding the asserted claims invalid for lack of enablement, the Court would also modify the Amended Tentative Ruling to **DENY** Plaintiff's Motion for Summary Judgment of No Anticipation as **MOOT**.

As discussed in Footnote 3 of the Court's Final Ruling on Defendants' Motion for Summary Judgment for Lack of Enablement, the Court understands that a dispute remains regarding the terms of dismissal of Defendants' (except Square Enix's) counterclaims regarding the '576 Patent. The parties are **ORDERED** to file a joint status report by November 19, 2018 not to exceed seven pages indicating whether their respective positions regarding this dispute have

¹ This includes:

- Defendants' Motion for Summary Judgment or Partial Summary Judgment of Non-Infringement Under 35 U.S.C. § 271(g) (Docket No. 638);
- Defendants' Motion for Summary Judgment of No Willful Infringement (Docket No. 634 (public notice of motion); Docket No. 655 (sealed));
- Defendant Square's Motion to Strike Portions of Gleicher Expert Report (Docket No. 628);
- Defendant Square's [Corrected] Motion for Summary Judgment of Non-Infringement Due to Failure of Proof (Docket No. 632; *see also* Docket No. 629 (original Notice of Motion for Failure of Proof));
- Defendant Square's Motion for Summary Judgment that Plaintiff's Claims are Barred by 35 U.S.C. § 287(b)(2) (Docket No. 635); and
- Defendants' still-pending early Motion for Summary Judgment of Non-Infringement, filed June 23, 2017. *See* Docket No. 431; *see also* Docket No. 448 (Plaintiff's *ex parte* application for leave to file a sur-reply to Defendants' early summary judgment motion); Docket No. 455 (Minutes of Hearing on early summary judgment motion and attached tentative ruling).

changed and, if they so choose, providing additional information to support their respective positions. A Telephonic Status Conference is set for November 26, 2018 at 8:30 am to discuss any remaining issues the parties wish to have addressed before they are directed to meet and confer regarding the form of a final judgment for this matter.

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

CIVIL MINUTES - GENERAL

Case No. CV 12-10322-GW(FFMx) Date November 13, 2018

Title *McRO, Inc., v. Namco Bandai Games America, Inc., and Related Actions*

Present: The Honorable GEORGE H. WU, UNITED STATES DISTRICT JUDGE

Javier Gonzalez	None Present	
Deputy Clerk	Court Reporter / Recorder	Tape No.

Attorneys Present for Plaintiffs:	Attorneys Present for Defendants:
None Present	None Present

PROCEEDINGS: IN CHAMBERS - FINAL RULING ON DEFENDANTS' MOTION FOR SUMMARY JUDGMENT OF INVALIDITY (FOR LACK OF ENABLEMENT) [756]

Attached hereto is the Court's Final Ruling on Defendants' Motion for Summary Judgment of Invalidity (for Lack of Enablement). Defendants' Motion is GRANTED.

Initials of Preparer JG

McRO, Inc., d.b.a. Planet Blue v. Namco Bandai Games America, Inc., Case No. CV 12-10322-GW (FFMx) (LEAD TRACK 1 CONSOLIDATED CASE); Final Ruling on Defendants’ Motion for Summary Judgment of Invalidity (for Lack of Enablement)

Plaintiff McRO, Inc., d.b.a. Planet Blue (“Plaintiff” or “Planet Blue”) filed numerous patent infringement cases in this District.¹ Plaintiff alleges that the remaining Defendants² directly or indirectly infringe Claims 1, 4, and 13 of U.S. Patent No. 6,611,278 (“the ’278 Patent”).³ See Docket No. 710 ¶¶ 13, 14. The ’278 Patent relates to automatically animating the lip synchronization and facial expressions of 3-D characters.

In previous orders and hearings in this case, the Court expressed concerns about whether the “first set of rules” limitation of the asserted claims met the enablement requirements of 35 U.S.C. § 112. Despite the Court’s comments on the issue, Defendants failed to challenge the asserted patents on the basis of enablement until ordered to do so at the hearing on the parties’ latest round of summary judgment briefs. In that latest summary judgment round, the Court issued a tentative order that would grant Defendant’s Motion for Summary Judgment of Non-Infringement (Docket No. 643).⁴ See Docket No. 755. The Court indicated that it would not issue

¹ The remaining cases are: *McRO, Inc. v. Electronics Arts, Inc.*, CV 12-10329; *McRO, Inc. v. Naughty Dog, Inc.*, CV 12-10335; *McRO, Inc. v. Square Enix, Inc.*, CV 12-10338; *McRO, Inc. v. Sucker Punch Productions, LLC*, CV 14-332; *McRO, Inc. v. Activision Blizzard Inc.*, CV 14-336; *McRO, Inc. v. Infinity Ward, Inc.*, CV 14-352; *McRO, Inc. v. LucasArts Entertainment Company LLC*, CV 14-358; *McRO, Inc. v. Sony Computer Entertainment America, LLC*, et al., CV 14-383; and *McRO, Inc. v. Disney Interactive Studios, Inc.*, CV 12-10333.

² The remaining Defendants are: Electronic Arts Inc.; Naughty Dog, Inc.; Square Enix, Inc.; Activision Publishing, Inc.; Blizzard Entertainment, Inc.; Infinity Ward, Inc.; Sony Computer Entertainment America LLC (now known as Sony Interactive Entertainment LLC); Sucker Punch Productions LLC; Disney Interactive Studios, Inc.; and LucasArts, a division of Lucasfilm Entertainment Company Ltd. LLC (collectively, “Defendants”).

³ Although Plaintiff has not formally withdrawn its infringement claims as to the other previously-asserted patent (*i.e.* U.S. Patent No. 6,307,576 (“the ’576 Patent”)) from the case, Plaintiff states it has dropped its infringement claims for that patent. All of the remaining Defendants except Square Enix, Inc. have asserted non-infringement and invalidity counterclaims as to the ’278 and ’576 Patents. See Docket No. 488 (Activision and Blizzard’s Answer and Counterclaims); Docket No. 322 (LucasArts’ Answer and Counterclaims); Docket No. 318 (Infinity Ward’s Answer and Counterclaims); Docket No. 284 (Sony’s Counterclaim); Docket No. 283 (Sucker Punch’s Counterclaim); Docket No. 174 (Naughty Dog’s First Amended Counterclaim); Docket No. 159 (Disney’s First Amended Answer and Counterclaim). For the first time in the current motion papers, the parties raise a dispute regarding the status of Defendants’ counterclaims regarding the ’576 Patent. The parties separately filed a report indicating that they dispute whether those counterclaims must be dismissed with or without prejudice. Docket No. 765. The Court declines to address this issue at this time and finds that additional briefing will be necessary to clarify the scope/circumstances of the dispute.

⁴ The tentative ruling on the parties’ summary judgment motions also included the Court’s tentative views

a final ruling, however, until the parties had submitted briefs regarding the enablement issue for the Court's consideration.

With this directive, Defendants filed their Motion for Summary Judgment of Invalidity (for Lack of Enablement) on July 19, 2018. *See* Docket No. 756-1. Plaintiff has filed an Opposition (Docket No. 758) and Defendants have filed a Reply (Docket No. 760). The parties have also submitted their chart outlining allegedly uncontroverted/genuinely disputed facts. *See* Docket No. 761 (Defendants' Response to Plaintiff's Statement of Genuine Disputes in Response to Defendants' Statement of Uncontroverted Facts). A hearing was held on the Motion and a Tentative Order was issued. Docket No. 769. The matter was taken under submission. *Id.*

For the reasons stated in this Order, Defendants' Motion for Summary Judgment of Invalidity for Lack of Enablement (Docket No. 756) is **GRANTED**.

I. BACKGROUND

A. The '278 Patent

The '278 Patent issued August 26, 2003 to inventor Maury Rosenfeld. It is titled "Method for Automatically Animating Lip Synchronization and Facial Expression of Animated Characters."

Much of the factual background regarding the '278 Patent is explained in the Court's Final Ruling on Claim Construction (Docket No. 298), the Federal Circuit's opinion regarding the patent eligibility of the '278 and '576 Patents, *see McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1303-07 (Fed. Cir. 2016), and the Court's tentative ruling on Defendants' Motion for Summary Judgment of Non-infringement (Docket No. 755). Briefly, the patent "relate[s] to automating part of a preexisting 3-D animation method." *Id.* at 1303; *see also* '278 Patent Abstract, *id.* at 1:35-52. The animation method relies on a "neutral model" of a character's face

that it would: (1) **OVERRULE** Defendants' Objections to Plaintiff's Opposition to Defendants' Motion for Summary Judgment of Non-Infringement or Invalidity (*see* Docket Nos. 711, 727); (2) **DENY** all of the Defendants' other pending motions before the Court (including Defendants' still-pending early Motion for Summary Judgment of Non-Infringement, filed June 23, 2017 (*see* Docket No. 431)) as **MOOT** (*see also* Docket Nos. 638, 634, 628, 629, 632, and 635); and (3) **GRANT-IN-PART**, based on representations by Defendants, Plaintiff's Motion for Summary Judgment of No Anticipation except as to two prior art references: (1) Catherine Pelachaud, "Communication and Coarticulation in Facial Animation" (1991); and (2) Antai Peng, "Speech Expression Modeling and Synthesis" (1996). At the hearing on the summary judgment motions, Defendants further informed the Court that – if the Court adopted its tentative ruling regarding Defendants' Motion for Summary Judgment of Non-Infringement, but the Court ultimately denied Defendants' Motion for Summary Judgment for Lack of Enablement – Defendants would seek to withdraw their invalidity counterclaim for the '278 Patent. If Defendants were permitted to do so, this would also moot the remainder of Plaintiff's Motion for Summary Judgment of No Anticipation.

in conjunction with “morph targets.” *Id.* at 1:48-59. A “morph target” is a character’s expression as it pronounces a particular phoneme, *i.e.*, makes a certain sound. *Id.* Each morph target corresponds to a delta set “consisting of the vectors by which the vertices on that morph target differ from the neutral model.” *McRO, Inc.*, 837 F.3d at 1303; *see also* ’278 Patent 1:63-65.

Facial expressions are “described as a function of the amount each morph target, and its corresponding delta set, is applied to modify the character model.” *McRO, Inc.*, 837 F.3d at 1304; *see also* ’278 Patent 2:1-2:13. “In producing animation products, a value usually from 0 to 1 is assigned to each delta set by the animator and the value is called the ‘morph weight.’” ’278 Patent 1:65-67.

Animators previously accomplished lip synchronization using a “keyframe approach” where the artist manually set morph weights “at certain important times (‘keyframes’).” ’278 Patent 2:29-32. “Animators knew what phoneme a character pronounced at a given time from a ‘time aligned phonetic transcription’ (‘timed transcript’).” *McRO*, 837 F.3d at 1305.

The purported aim of the ’278 Patent was to “provide a method for automatically animating lip synchronization and facial expression.” ’278 Patent 2:44-45. In particular, the claims require using a computer to obtain and apply a set of rules to data to ultimately “generate an output sequence of animated characters with lip and facial expression synchronized to said audio sequence.” *Id.* at Claim 1.

For instance, Claim 1 of the ’278 Patent (the only remaining asserted independent claim in this case) recites:

1. A method for automatically animating lip synchronization and facial expression of three-dimensional characters comprising:
 - obtaining a first set of rules* that defines a morph weight set stream as a function of phoneme sequence and times associated with said phoneme sequence;
 - obtaining a plurality of sub-sequences of timed phonemes corresponding to a desired audio sequence for said three-dimensional characters;
 - generating an output morph weight set stream *by applying said first set of rules* to each sub-sequence of said plurality of sub-sequences of timed phonemes; and
 - applying said output morph weight set stream to an input sequence of animated characters to generate an output sequence of animated characters with lip and facial expression synchronized to said audio sequence.

’278 Patent, Claim 1 (emphasis added). The term “first set of rules” as it appears in Claim 1 of

the '278 Patent is the central issue of Defendants' current motion.

B. Relevant Procedural History

(1) Early District Court Proceedings

During claim construction, the Court found no construction necessary for the claim term “first set of rules.” *See* Docket No. 298-1 at 18. In doing so, the Court rejected Defendants’ argument that the claimed “first set of rules” means “a group of logic statements that are embodied in a computer software program and used together.” *See id.* at 14-16. As part of its analysis, the Court noted that “the claims themselves set out meaningful requirements for the first set of rules: they ‘define[] a morph weight set stream as a function of phoneme sequence and times associated with said phoneme sequence’ . . . [and] ‘generat[e] an output morph weight set stream by applying said first set of rules to each sub-sequence of said plurality of sub-sequences of timed phonemes.’” *Id.* at 16.

However, in deciding a Motion for Judgment on the Pleadings filed soon after, the Court concluded that the asserted claims were still drawn to patent-ineligible subject matter. *See* Docket No. 365. The Court found that the claimed first set of rules limitation was a critical aspect of the claimed invention. *Id.* at 18. The Court noted that according to the specification, “[i]n operation and use, the user must manually set up default correspondence rules’ that ‘specify the durational information needed to generate appropriate transitional curves between morph weight sets, such as transition start and end times.’”⁵ *Id.* (citing '576 Patent at 6:16-54). The Court further noted that “while the patent does provide an example of a very partial set of default and secondary rules, it expressly states that ‘this is only an example of a set of rules which could be use[d] for illustrative purposes, and many other rules could be specified according to the method of the invention.’” *Id.* (citing '576 Patent at 7:36-9:23). The Court concluded that the asserted claims “preempt[ed] the field of such lip synchronization using a rules-based morph target approach.” *Id.* at 19.

(2) The Federal Circuit’s Decision

The Federal Circuit reversed this Court’s § 101 determination. *See generally, McRO*, 837 F.3d at 1302-03 (“We hold that the ordered combination of claimed steps, using unconventional rules that relate subsequences of phonemes, timings, and morph weight sets, is not directed to an

⁵ In Plaintiff’s briefing on the issue, Plaintiff’s expert opined “that a central part of the patents is ‘using morph weight set representations of the facial shape coupled with rules, including explicit and distinct timing rules, to generate keyframes.’” Docket No. 365 at 17.

abstract idea and is therefore patent-eligible.”). In describing the claimed invention, the Federal Circuit observed that:

[e]ssentially, the patents aim to automate a 3-D animator’s tasks, specifically, determining when to set keyframes and setting those keyframes. This automation is accomplished through rules that are applied to the timed transcript to determine the morph weight outputs. The patents describe many exemplary rule sets that go beyond simply matching single phonemes from the time transcript with the appropriate morph target. Instead, these rule sets aim to produce more realistic speech by “tak[ing] into consideration the differences in mouth positions for similar phonemes based on context.”

Id. at 1307 (quoting ’576 Patent at 10:6-7). The Federal Circuit went on to describe the patents’ exemplary set of rules for a character transitioning from silence through saying “hello” and observed, “[t]he invention . . . uses rules to automatically set a keyframe at the correct point to depict more realistic speech, achieving results similar to those previously achieved manually by animators.” *Id.* (citing ’576 Patent at 7:36-9:22).

The Federal Circuit further characterized the rules claimed in the asserted patents as “limited to rules with certain common characteristics, i.e., a genus.” *Id.* at 1313. The Federal Circuit observed:

Claims to the genus of an invention, rather than a particular species, have long been acknowledged as patentable . . . Patent law has evolved to place additional requirements on patentees seeking to claim a genus; however, these limits have not been in relation to the abstract idea exception to § 101. Rather they have principally been in terms of whether the patentee has satisfied the tradeoff of broad disclosure for broad claim scope implicit in 35 U.S.C. § 112. *Carnegie Mellon Univ. v. Hoffmann-La Roche Inc.*, 541 F.3d 1115, 1122 (Fed. Cir. 2008).

Id. at 1313-14 (internal citation and parenthetical omitted). The Federal Circuit concluded that in the context of § 101, the use of the “genus” of rules claimed in the asserted patents improved an existing technological process “by allowing the automation of further tasks.” *Id.* at 1314, 1315. The Federal Circuit further observed: “Claim 1 [of the ’576 Patent] requires that the rules be rendered in a specific way: as a relationship between sub-sequences of phonemes, timing, and the weight to which each phoneme is expressed visually at a particular timing (as represented by the morph weight set).” *Id.* at 1315. On this basis, the Federal Circuit concluded that “[t]he specific structure of the claimed rules would prevent broad preemption of all rules-based means of automating lip synchronization, unless the limits of the rules themselves are broad enough to cover

all possible approaches.”⁶ *Id.*

(3) District Court Litigation after the Federal Circuit’s Decision

After the Federal Circuit remanded the case back to this Court, Defendants filed an early summary judgment motion for non-infringement and requested supplemental claim construction regarding the “first set of rules” limitation. Defendants sought a new construction of the term “first set of rules” based on Plaintiff’s characterization of the “first set of rules” limitation during appeal. Specifically, Defendants requested that the term be construed as “rules that evaluate the time-aligned phonetic transcript and (depending on the sequence of phonemes, the context of each phoneme with respect to surrounding phonemes, and the pace of speech) automatically determine when to set keyframes, the appropriate morph weight set at each keyframe, and how the animation should transition between keyframes.” *See* Docket No. 455 at 14 (Court’s Tentative Order⁷ on Defendants’ early motion for summary judgment of non-infringement and request for supplemental claim construction). The Court’s Tentative Order found that Defendants’ proposal was not supported by the record. The Tentative Order observed, for instance that:

[t]he specification . . . repeatedly provides that its disclosure regarding rules is non-limiting and exemplary. ’576 Patent 4:5-11 (describing “correspondence rules” and “transition rules” as part of “one embodiment”); 4:50-51 (stating “[p]referably, each rule comprises two parts”); 7:1-4 (“According to the method of the invention, other rules involving phoneme’s duration and/or context can be specified.”); 7:53-57 (“The following is an example of a set of rules, according to the present method, of course this is only an example of a set of rules which could be used for illustrative purposes, and many other rules could be specified according to the method of the invention.”); 9:23-26 (“The rules of the present invention are extensible and freeform in the sense that they may be created as desired and adapted to a wide variety of animation, characters, situations, and products.”).

Docket No. 455 at 15-16. The Tentative Order noted that even if the Court were to accept Defendants’ argument that the exemplary rules in the specification only related to rules in the categories of “correspondence rules” and “transition rules,” “Defendants [had] not demonstrated that the patentee had a clear intention to limit the claim scope to these two categories of rules.” *Id.*

⁶ The Federal Circuit noted Defendants’ arguments to the contrary on the preemption point, but observed that there was “no record evidence” to support the conclusion that “any rules-based lip-synchronization process must use the claimed type of rules.” *McRO*, 837 F.3d at 1315.

⁷ The Court’s Tentative Order regarding Defendants’ early summary judgment motion and request for supplemental claim construction has not been adopted as the final ruling of this Court, and thus the views on supplemental claim construction expressed in the Tentative Order have not been entered in this matter.

at 16.

After further discussion after oral argument, a decision was made to wait until the normal dispositive motion deadline for Defendants to renew their non-infringement motion. Defendants eventually did bring a second motion for summary of non-infringement, but in that motion, Defendants did not renew their claim construction argument for the “first set of rules” limitation.

II. LEGAL STANDARD

A. Summary Judgment

Under Federal Rule of Civil Procedure (“Rule”) 56, a party may move for summary judgment, identifying each claim or defense – or the part of each claim or defense – on which summary judgment is sought, and the court shall grant it when the pleadings, the discovery and disclosure materials on file, and any affidavits show that “there is no genuine issue as to any material fact and that the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a); *see also Miranda v. City of Cornelius*, 429 F.3d 858, 860 n.1 (9th Cir. 2005). As to materiality, “[o]nly disputes over facts that might affect the outcome of the suit under the governing law will properly preclude the entry of summary judgment.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). A dispute as to a material fact is “genuine” if there is sufficient evidence for a reasonable jury to return a verdict for the nonmoving party. *Id.*

To satisfy its burden at summary judgment, a moving party with the burden of persuasion must establish “beyond controversy every essential element of its [claim or defense].” *S. Cal. Gas Co. v. City of Santa Ana*, 336 F.3d 885, 888 (9th Cir. 2003); O’Connell & Stevenson, *Rutter Group Prac. Guide: Fed. Civ. Proc. Before Trial* (“*Federal Practice Guide*”) § 14:126 (2016). By contrast, a moving party without the burden of persuasion “must either produce evidence negating an essential element of the nonmoving party’s claim or defense or show that the nonmoving party does not have enough evidence of an essential element to carry its ultimate burden of persuasion at trial.” *Nissan Fire & Marine Ins. Co., Ltd. v. Fritz Cos., Inc.*, 210 F.3d 1099, 1102 (9th Cir. 2000); *see also Devereaux v. Abbey*, 263 F.3d 1070, 1076 (9th Cir. 2001) (en banc) (“When the nonmoving party has the burden of proof at trial, the moving party need only point out ‘that there is an absence of evidence to support the nonmoving party’s case.’”) (quoting *Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986), and citing *Fairbank v. Wunderman Cato Johnson*, 212 F.3d 528, 532 (9th Cir. 2000) (holding that the *Celotex* “showing” can be made by “pointing out through argument . . . the absence of evidence to support plaintiff’s claim”)).

If the party moving for summary judgment meets its initial burden of identifying for the court the portions of the materials on file that it believes demonstrate the absence of any genuine issue of material fact, the nonmoving party may not rely on the mere allegations in the pleadings in order to preclude summary judgment[, but instead] must set forth, by affidavit or as otherwise provided in Rule 56, specific facts showing that there is a genuine issue for trial.

T.W. Elec. Serv., Inc., v. Pac. Elec. Contractors Ass’n, 809 F.2d 626, 630 (9th Cir. 1987) (internal citations and quotation marks omitted) (citing, among other cases, *Celotex*, 477 U.S. at 323). “A non-movant’s bald assertions or a mere scintilla of evidence in his favor are both insufficient to withstand summary judgment.” *See FTC v. Stefanchik*, 559 F.3d 924, 929 (9th Cir. 2009). In addition, the evidence presented by the parties must be admissible. *See* Fed. R. Civ. P. 56(e). Conclusory, speculative testimony in affidavits and moving papers is insufficient to raise genuine issues of fact and defeat summary judgment. *See Thornhill Publ’g Co., Inc. v. GTE Corp.*, 594 F.2d 730, 738 (9th Cir. 1979). Relatedly, “[a]ny objections to declarations or other evidence must be made at or (preferably) before the hearing, and should be ruled upon by the court before ruling on the motion itself.” *Federal Practice Guide* § 14:333 (citing *Hollingsworth Solderless Terminal Co. v. Turley*, 622 F.2d 1324, 1335 n.9 (9th Cir. 1980); *Sigler v. American Honda Motor Co.*, 532 F.3d 469, 480 (6th Cir. 2008)). In judging evidence at the summary judgment stage, however, courts do not make credibility determinations or weigh conflicting evidence at the summary judgment stage, and must view all evidence and draw all inferences in the light most favorable to the non-moving party. *See T.W. Elec.*, 809 F.2d at 630-31 (citing *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574 (1986)); *Anderson*, 477 U.S. at 255 (“The evidence of the non-movant is to be believed and all justifiable inferences are to be drawn in [the non-movant’s] favor.”).

“If the court does not grant all the relief requested by the motion, it may enter an order stating any material fact – including an item of damages or other relief – that is not genuinely in dispute and treating the fact as established in the case.” Fed. R. Civ. P. 56(g); *see also* *Federal Practice Guide* § 14:352 (“A partial summary judgment may be granted on motion of either party for adjudication of particular claims or defenses.”) (citing *id.* § 14:33).

B. Patent Invalidity for Lack of Enablement

A patent’s specification shall describe “the manner and process of making and using [the invention], in such clear, concise, and exact terms as to *enable* any person skilled in the art to

which it pertains, or with which it is most nearly connected, to make and use [the invention].” 35 U.S.C. § 112, ¶ 1 (emphasis added).⁸ The enablement requirement implicit in 35 U.S.C. § 112, ¶ 1, “serves the dual function in the patent system of ensuring adequate disclosure of the claimed invention and of preventing claims broader than the disclosed invention.” *MagSil Corp. v. Hitachi Glob. Storage Techs., Inc.*, 687 F.3d 1377, 1380-81 (Fed. Cir. 2012) (citations omitted). Enablement is a question of law based on underlying facts. *Wyeth and Cordis Corp. v. Abbott Labs.*, 720 F.3d 1380, 1384 (Fed. Cir. 2013).

The search for enablement requires a determination of whether there is “sufficient disclosure, either through illustrative examples or terminology, to teach those of ordinary skill how to make and how to use the invention as broadly as it is claimed.” *In re Vaeck*, 947 F.2d 488, 496 (Fed. Cir. 1991). Even if a considerable amount of experimentation would be necessary for a person of skill in the art to practice the full scope of the claimed invention, a claim is sufficiently enabled “so long as the experimentation ‘is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed.’” *Vasudevan Software, Inc. v. MicroStrategy Inc.*, 782 F.3d 671, 684 (Fed. Cir. 2015) (citing *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988)). In determining whether experimentation is undue, courts may consider the *Wands* factors: (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. *Id.* (quoting *In re Wands*, 858 F.2d at 737). The *Wands* factors, however, are “illustrative, not mandatory.” *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1213 (Fed. Cir. 1991). “What is relevant depends on the facts.” *Id.*

For claims that cover multiple embodiments, “the specification must enable the full scope of the claims.” *Auto. Techs. Int’l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1285 (Fed. Cir. 2007) (finding the asserted patent invalid for lack enablement when the specification, which enabled mechanical side impact sensors, did not satisfy the enablement requirement for claim

⁸ The America Invents Act did not change the relevant language of 35 U.S.C. § 112 at issue here, but did change the paragraph numbering convention for this section of the statute from numbers to letters. In other words, for patent applications filed after September 16, 2012, 35 U.S.C. § 112(a) applies rather than 35 U.S.C. § 112 ¶ 1. The patent at issue in this case was first filed before September 16, 2012, and thus the Court will refer to the pre-AIA section numbers.

limitations which included both mechanical and electronic side impact sensors). However, this does not necessarily mean that a patent must disclose every embodiment, *i.e.* species, implicated by a claimed genus. *In re Vaeck*, 947 F.2d 488, 496 (Fed. Cir. 1991) (“It is well settled that patent applicants are not required to disclose every species encompassed by their claims, even in an unpredictable art.”). Instead, “the disclosure must adequately guide the art worker to determine, without undue experimentation, which species among all those encompassed by the claimed genus possess the disclosed utility.” *Id.* (footnote omitted); *cf. Auto Techs.*, 501 F.3d at 1285 (“[e]lectronic side impact sensors are not just another known species of a genus consisting of sensors, but are a distinctly different sensor compared with the well-enabled mechanical side impact sensor that is fully discussed in the specification.”).

III. ANALYSIS

A. Scope of the Claims

Apparently the parties still dispute the scope of the claims, particularly as to the meaning of the phrase “first set of rules.” The parties’ dispute over the scope of the claims does not take center stage in their briefs. Plaintiff takes the position that the claims do not require a person to be in possession of a set of rules for every visual phoneme relating to every word in the English language. As Plaintiff puts it, “the claims require only rules that are applied to the phoneme subsequences in a transcript. For example, as taught in the specification, animating the word ‘hello’ requires as few as four rules.” Docket No. 758 at 17. Defendants respond by arguing that, according to the specification, “[i]n operation and use, the user must manually set up default correspondence rules between **all visual phoneme groups** and morph weight sets.” Docket No. 760 at 15 (citing ’278 Patent at 6:43–45). Relatedly, the parties dispute whether the animation produced by the claimed method must be “high-quality” to be consistent with the disclosure in the specification. *See* Docket No. 758 at 16 (“the claims are not directed to ‘high quality’ animation at all, let alone for every known phoneme sequence in the English language.”); Docket No. 760 at 15 (“the specification states that the ‘primary object’ of the invention is ‘producing **accurate and realistic** lip synchronization and facial expressions in animated characters.’” (emphasis in original).)

Although these disputes raise unique claim scope issues that, notably, neither party has previously raised in this litigation, it is not necessary to resolve them for purposes of Defendants’ summary judgment motion. Plaintiff argues that these issues are relevant based on the Federal

Circuit's decision in *CFMT, Inc. v. Yieldup Int'l Corp.*, 349 F.3d 1333, 1338-40 (Fed. Cir. 2003). In *CFMT*, the Federal Circuit considered whether claims directed to a "method for the cleaning of semiconductor wafers" were enabled. *Id.* at 1336. The district court in that case had construed the term "cleaning" in the claim preamble to mean removing contaminants from the water surface but found that the claims were not enabled. The district court relied on data showing that practicing the claimed method led to wafers that appeared clean to the naked eye, but that were filthy when viewed using laser scanning. *Id.* at 1337. The Federal Circuit reversed, finding that "[a]bsent some standard for cleanliness in the claims, this court proceeds to examine the record for a showing that the disclosures of the CFMT patents would enable a person of skill in the art to make and use a system or apparatus to achieve any level of contaminant removal without undue experimentation." *Id.* at 1338-39. The Federal Circuit further stated, "[b]ecause the preamble term 'cleaning' means only 'removal of contaminants,' not removal of all contaminants or removal of contaminants according to the TI commercial standard, the inventor shows utility and enables the invention by disclosing 'removal of contaminants.'" *Id.* at 1339.

The issues raised in *CFMT* are not the same as those raised here. At least on appeal, the issue in *CFMT* was not whether the actual method steps recited in the claims at issue were enabled. The issue in *CFMT* was essentially a question of utility: whether the claimed method could even achieve cleanliness as required under the district court's interpretation and understanding of the term "cleaning" in the preamble. The Federal Circuit found that the district court improperly placed a standard of cleanliness on the claims where none existed, and on this basis, found that the claimed method could be practiced without undue experimentation.

Here, the issue is not one of improperly narrow claim interpretation leading to questions of utility. The "first set of rules" limitation is not a preamble term, but part of a specific claim limitation. *See* '278 Patent, Claim 1 ("A method . . . comprising: obtaining a first set of rules that defines a morph weight set stream as a function of phoneme sequence and times associated with said phoneme sequence."). The parties no longer dispute the asserted claims' utility, and the specification provides at least one example for applying a set of rules to a time aligned phonetic transcription ("TAPT") for the word "hello" in a manner that would suggest that the claims have utility. *See* '278 Patent at 7:33-9:14. Moreover, the parties agree for purposes of this motion that the Court's construction of "first set of rules" is broad, encompassing more than simply a rule scheme that involves rules applied at keyframes or rules in the form of "if . . . then . . . else"

constructs.⁹ See, e.g., Docket No. 758 at 4-5; Docket No. 760 at 1 (“Defendants do not dispute that McRO prevailed on having the Court adopt its broad construction of ‘first set of rules.’”); Expert Report of Michael Gleicher Regarding Validity (“Gleicher Decl.”), Docket No. 658-6 ¶ 199 (Plaintiff’s expert opining that the invention is not limited to “if . . . then . . . else” rules). Plaintiff’s new claim interpretation arguments would make the claims even broader in scope, encompassing not only expansive sets of sophisticated rules defining morph weight set streams as a function of phoneme sequence and time for all phonemes, but also “crude” rules or small rule sets directed at specific subsets of phonemes. In other words, the parties are presenting a dispute about the “floor” for the meaning of the “first set of rules” term. But this dispute is irrelevant when the real enablement question goes to the “ceiling.” That is, in the context of the claim language, the relevant question for enablement is not whether the specification enables a person of skill in the art at the time of the invention to use a minimal/unsophisticated rule set to practice the invention, but instead whether the specification enables the *full scope* of rule sets that could be used to practice the invention, including complex, detailed rule sets for all known phonemes.

As the Federal Circuit observed in *MagSil*,

[e]nablement serves the dual function in the patent system of ensuring adequate disclosure of the claimed invention and of preventing claims broader than the disclosed invention. This important doctrine prevents both inadequate disclosure of an invention and overbroad claiming that might otherwise attempt to cover more than was actually invented. Thus, a patentee chooses broad claim language at the peril of losing any claim that cannot be enabled across its full scope of coverage.

MagSil Corp. v. Hitachi Glob. Storage Techs., Inc., 687 F.3d 1377, 1380–81 (Fed. Cir. 2012) (citations omitted). The analysis in *MagSil* is instructive. The claims at issue in *MagSil* required a device where “applying a small magnitude of electromagnetic energy . . . causes a change in the resistance by at least 10% at room temperature.” *Id.* at 1381. The Federal Circuit found the claims were not enabled. In relevant part, the panel observed that the patent specification “only disclose[d] enough information to achieve an 11.8% resistive change,” even though the claims were construed to cover resistive changes “from 10% up to infinity.” *Id.* at 1383. The Federal Circuit further stated, “[t]he record contains no showing that the knowledge of that artisan would permit, at the time of filing, achievement of the modern values above 600% without undue

⁹ Defendants state that they reserve the right to appeal the Court’s claim construction for this term, but accept the current interpretation of the limitation for purposes of their motion only.

experimentation, indeed without the nearly twelve years of experimentation necessary to actually reach those values.” *Id.* at 1384. Here, the issue is similar: do the exemplary rules disclosed in the specification enable the full scope of the “first set of rules” limitation as broadly urged by Plaintiff and construed by the Court? The question depends on the specification’s disclosure and whether it would “teach those of ordinary skill how to make and how to use the invention as broadly as it is claimed.” *In re Vaeck*, 947 F.2d 488, 496 (Fed. Cir. 1991).

B. Scope of Specification’s Exemplary Disclosure

Defendants spend a significant portion of their opening brief “setting the stage” for their enablement arguments by characterizing the ’278 Patent specification as only providing any amount of specific information about rules that are part of a “keyframe approach.” According to the ’278 Patent, the general structure of a “keyframe approach” is a two-step process. First, a set of “correspondence rules” marks the beginning of each new phoneme (*i.e.*, each “keyframe”). *See, e.g.*, ’278 Patent at 4:1-11. Second, a set of “transition rules” is used to interpolate between the keyframes.¹⁰ *Id.* Defendants argue that the ’278 Patent’s only general description explaining how rules are applied to create an animation is explained in terms of these correspondence rules and transition rules. Docket No. 756-1 at 4 (citing ’278 Patent at 5:45-6:2). Defendants further state that the “small set of examples of specific rules – twenty in all” each “hew” to these same correspondence and transition rules. *Id.* at 5.

Plaintiff refers to two portions of the specification to support its argument that “none of the disclosed rules require implementation as a ‘correspondence’ or ‘transition’ at keyframes.” Docket No. 758 at 4. Plaintiff cites a portion of the ’278 Patent describing “post processing rules” that states, “some rules may apply only to keyframes before interpolation, some to interpolated data.” ’278 Patent at 7:17-19. Notably, as Defendants observed at the hearing, Plaintiff’s cited portions of the specification relate to an embodiment that still uses keyframing and interpolation as part of the animation process, but simply includes additional rules on top of those applied at keyframes. *See* ’278 Patent at 7:16-32; 9:15-27; *see also* ’278 Patent at 9:15-27 (describing post-processing rules that can be applied to a morph weight set stream after interpolation).

¹⁰ This approach is very similar to the process for manual animation described in the Background of the Invention section of the ’278 Patent. *See* ’278 Patent at 2:27-32 (“to animate speech, the artist needs to set all of these weights at each frame to an appropriate value. Usually this is assisted by using a ‘keyframe’ approach, where the artist sets the appropriate weights at certain important times (‘keyframes’) and a program interpolates each of the channels at each frame.”).

Ultimately, the Court agrees with Plaintiff that the specification uses broad, sweeping language to state that the invention is intended to encompass a wide range of rule sets. Indeed, it is for this reason that the phrase “first set of rules” has been construed broadly. Nor do Defendants dispute this broad construction for purposes of their motion. In one memorable portion, the specification states, “[t]he rules of the present invention are extensible and freeform in the sense that they may be created as desired and adapted to a wide variety of animation characters, situations, and products.” ’278 Patent at 9:28-31. Elsewhere, the specification describes the rules as “categorized in three main groupings; default rules, auxiliary rules and post processing rules.” ’278 Patent at 5:5-7. The ’278 Patent states,

[t]he default rules must be complete enough to create valid output for any TAPT encountered at any point in the TAPT. The secondary rules are used in special cases; for example, to substitute alternative morph weight set correspondences and/or transition rules if the identified criteria are met. The post processing rules are used to further manipulate the morph weight set stream after the default or secondary rules are applied, and can further modify the members of the morph weight sets determined by the default and secondary rules and interpolation.

Id. at 5:7-16.

However, as far as tangible examples of rules that would fall into the claimed “first set of rules” limitation, Plaintiff does not present persuasive evidence to show that the specification describes any exemplary rules that fall outside of rules related to a keyframe approach. Indeed, even the ’278 Patent’s general description of its three groupings for rules assumes interpolation, a concept related to a keyframe approach. *See id.* at 5:16.

Relatedly, the ’278 Patent focuses on “the rule’s criteria and the rule’s function.” *See id.* at 4:46-47; *see also id.* at 9:31-34 (“As each rule comprise a criteria and a function, as in an ‘if . . . then . . . else’ construct. The following are illustrative examples of other rules which may be used with the present methodology.”). Plaintiff calls the specification’s reference to “if . . . then . . . else” statements a “preferred embodiment,” but Plaintiff does not identify any other preferred embodiments in the specification disclosing rules relying on an alternative programming construct.

A review of the specification supports the conclusion that the patent disclosure only provides working examples of rules related to a keyframe approach using an “if . . . then . . . else” construct. A review of the specification also supports the conclusion that the specification, on its face, does not disclose a full set of rules for all English phonemes. Although Plaintiff disagrees with Defendants that the patent’s twenty keyframe examples represent only a “small set” of

examples, Plaintiff does not provide any context for its challenge to Defendants' characterization. After establishing the Court's legal interpretation of the scope of the claims and patent disclosure, the Court considers whether a person of skill in the art reviewing the disclosure of the '278 Patent would find the full scope of the "first set of rules" limitation enabled.

C. The Understanding of a Person of Skill in the Art as to the Meaning/Scope of "First Set of Rules" (Examples of Rules that Defendants Argue Are Not Enabled)

Plaintiff argues that the claim language itself places meaningful boundaries on the "first set of rules" claim phrase such that the full scope of the claims could be practiced by a person of skill in the art at the time of the invention without undue experimentation. Specifically, Plaintiff reiterates that the claims require a "rule scheme" of a first set of rules "that defines a morph weight set stream as a function of phoneme sequence and times associated with said phoneme sequence." Based on the claim language and the exemplary rules disclosed in the specification (and the statements of its expert, Gleicher), Plaintiff argues that the claims are enabled.

At the hearing, Plaintiff also argued that Defendants had not met their burden to prove lack of enablement in part because "counsel has said something other than keyframing is not enabled . . . in every case [Defendants] rely on, there is a specific example of something covered by the claims that an expert opines would require excess experimentation. Defendants and their expert provide no such example." Transcript of Hearing on Defendants' Motion for Summary Judgment, September 14, 2018 ("Tr."), Docket No. 771 at 34:11-20.

Plaintiff's position raises concerns. As one district court has explained in the context of a written description challenge,

[a] patentee may not draft claims that are sweepingly broad and then defend against a challenge to their breadth by pointing out that the challenger has failed to show that there are any operative embodiments within the broad scope of the claims other than those that were specifically disclosed in the specification. To sustain patent claims on that ground would permit a patentee to "attempt to preempt the future before it has arrived," *Fiers v. Revel*, 984 F.2d 1164, 1171 (Fed. Cir. 1993), and then be rewarded in that effort if the challenger cannot point out exactly how the future will unfold.

Pernix Ireland Pain DAC v. Alvogen Malta Operations Ltd., 323 F. Supp. 3d 566, 629 (D. Del. 2018). Here, as in *Pernix*, Plaintiff does not dispute that the phrase "first set of rules" as currently construed covers more than a keyframe approach. Indeed, beyond citing to the language of the claim itself, Plaintiff does not provide the Court with any exemplary metric that might allow the Court to understand the exact bounds of what is claimed in the '278 Patent as a first set of rules.

Although “[a]n applicant is not required to describe in the specification every conceivable and possible future embodiment of his invention,” *Cordis Corp. v. Medtronic AVE Inc.*, 339 F.3d 1352, 1365 (Fed. Cir. 2003), Plaintiff has received the broad claim construction that it sought, and it cannot now avoid an enablement challenge by simply arguing that Defendants have failed to identify an operative alternative embodiment.

More importantly, as Defendants noted at the hearing, their expert, Wyvill, has identified some examples of constructs that he believes would be covered by Plaintiff’s interpretation of the claims, but would require excess experimentation when considering the scope of the patent disclosure. Expert Report of Defendants’ Expert Dr. Brian Wyvill (“Wyvill Decl.”), Docket No. 659 at ¶¶ 370-74. Wyvill, for instance, refers to rules for bones animation in the context of his written description opinions:

Bones animation . . . relies on the manipulation of ‘bones’ – disembodied objects used to manipulate relatively large portions of a body or facial model. Because bones are disembodied objects, bones are not ‘on’ the model. When an animator manipulates a bone, the bone manipulation has a cascade effect (defined by a complex set of rules) that results in the movement of potentially thousands of vertices that are actually on the model.

Nothing in the ’278 Patent even remotely suggests that the inventor had possession of the species of rule sets that defines a morph weight set stream as a function of phoneme sequence and time for bone animation The crude, simplistic examples provided by the ’278 Patent in no way inform a person of ordinary skill in the art that the inventor had in his possession a rule set for generating morph weight sets streams for a system using bones.

Id. ¶ 373-74. Plaintiff’s expert, Gleicher, does not respond to this point. Defendants do not dispute Plaintiff’s argument that “[i]t is the asserted claims rather than the accused device which must be ‘enabled’ by the patent-in-suit.” Docket No. 758 at 9 (quoting *Edwards Lifesciences AG v. CoreValve, Inc.*, No. C.A. 08-91-GMS, 2011 WL 446203, at *6 (D. Del. Feb. 7, 2011), *aff’d in part, remanded in part on other grounds*, 699 F.3d 1305 (Fed. Cir. 2012)). Although Plaintiff’s position is supported by legal authority, the accused products are still a relevant example of a modern system Plaintiff previously argued as covered by the “first set of rules” limitation of the claims.¹¹ *MagSil*, 687 F.3d at 1382–84 (“The record contains no showing that the knowledge of that artisan would permit, at the time of filing, achievement of the modern values above 600%

¹¹ The Court’s tentative order on Defendants’ Motion for Summary Judgment of Non-Infringement concluded that “bones” animation does not infringe the asserted claims of the ’278 Patent because it does not use morph weight set streams comprised of delta sets.

without undue experimentation.”); *cf. Edwards*, 2011 WL 446203 (“In this case, the court did not construe the asserted claims to cover the four attributes of the accused device that CoreValve raises in its non-enablement argument, and CoreValve does not appear to make any effort to tie those attributes back to the actual claim language or to argue that actual limitations appearing in the asserted claim are not enabled.”). Notably, in performing his infringement analysis, Gleicher acknowledged that bones were not an attractive approach to facial animation at the time of the invention because of the computations involved:

[a]t the time of the invention and patent filing (circa 1997), “bones” were not a common approach to facial animation. While the technique was known . . . , it was not applied to facial animation in that era. “Bones” did not become an attractive approach for facial animation until computer hardware advanced to provide [Graphical Processing Units] capable of performing the computations efficiently. Therefore, it is not surprising that the ’278 patent does not mention the approach.

Declaration of Michael Gleicher in Support of Plaintiff’s Opposition to Defendants’ Motion for Summary Judgment of Non-Infringement, Docket No. 658-5 (sealed), ¶ 2.15. Gleicher’s statements, in combination with Wyvill’s, suggest that at the time of the invention, a person of skill in the art would not have the tools to practice the full scope of the “first set of rules” limitation (that is, a person of skill in the art at the time of the invention would not have the tools based on the patent specification to create a set of rules for a bones animation application that would meet the requirements of the claims) without undue experimentation.

Wyvill also discloses another example based on the prior art:

The BALDI system provides a good example of a system that uses “rules” that are far more complex and intricate than anything the ’278 Patent describes. Its “rules” consist of an interlocking set of mathematical equations . . . that balance the influence of different proximate phonemes on various aspects of the model’s facial expression to calculate its “strength” value for each parameter for each phoneme at each point in time. While the system starts with a simpler set of “correspondence” rules that define a target value for each parameter for each phoneme, it then applies a complex set of mathematical operations that (while they can still be characterized as “rules”) are far beyond anything the ’278 Patent describes.

Wyvill Decl. ¶ 371. Interestingly, rather than take the position that the patent specification on its face would enable rules similar to those disclosed in the BALDI system, Plaintiff relies on BALDI and another prior art reference, Pelachaud, to support an argument that, because systems for formulating rules for lip synchronization were disclosed in the prior art, it was not necessary for the ’278 Patent to disclose detailed rule sets.

In support of Plaintiff's position, Gleicher opines that the '278 Patent "instructs one of skill in the art on how to transfer known rules from other systems."¹² Expert Report of Dr. Gleicher Decl. ¶ 204; *see also id.* ¶ 205 ("[t]he '278 [Patent] does not waste time listing the sets of coarticulation rules that were known in the literature (such as from Pelachaud or CM93). Instead, it instructs one of skill in the art in how to transfer this knowledge into a production compatible system."). Gleicher's support for this claim is based on what he refers to as the specification's disclosure of a "rule schema" and the specification's "examples of . . . the different types of rules and how they may be framed within the schema." *Id.* ¶ 205.

Both Plaintiff and Gleicher use the phrase "rule schema"/"rule scheme" even though it appears nowhere in the claims or specification of the '278 Patent. Through this catchphrase, Plaintiff and Gleicher appear to simply be attempting to refer back to the claim language itself and the requirement that the "first set of rules" be used to "define[] a morph weight set stream as a function of phoneme sequence and times associated with said phoneme sequence." *See* Docket No. 758 at 13 (citing Gleicher Decl. ¶ 202). This claim language falls a step short of defining an actual required rule set. Plaintiff calls it a "rule schema;" Defendants call it language relating to

¹² When it comes to the prior art, each side's expert puts itself between a rock and a hard place in attempting to balance opinions relating to § 103 and § 112. Wyvill, for instance, makes statements about the BALDI system in the context of the written description requirement, but elsewhere asserts that the '278 Patent's claimed rules were "one of the simplest and best-known ways known in the art to describe a facial expression, and prior art like Pelachaud and the BALDI system used rule-based algorithms to output more sophisticated forms of blending parameters." Wyvill Decl. ¶ 343; *see also id.* ¶ 173 ("[o]ne of skill in the art in 1996 would have known that it was trivial to apply the algorithms described in Pelachaud to blend AUs defined as delta sets."). As for Gleicher, in disputing obviousness, he argues that:

Pelachaud shows that the system creator can define the behavior of the face in response to a sequence of phonemes by defining rules that govern the influence of the phonemes over the human face model's detailed musculature in order to create resulting motion . . . it means that the rule author must think in terms of the complexities of human anatomy. This means that defining new rules, or tweaking existing ones, requires a great deal of specialized knowledge. ***It also means that the approach may not apply to characters whose facial features are not defined on human musculature.***

Gleicher Decl. ¶ 61 (emphasis added).

Wyvill's and Gleicher's seemingly conflicting statements in the § 103 and § 112 contexts are notable, but they ultimately distract from the core issue: whether the '278 Patent's disclosure would enable a person of skill in the art at the time of the invention to practice the invention without undue experimentation. This issue is not necessarily the same as the question of whether a person of skill in the art at the time of the invention reviewing the disclosure of the prior art would find that all elements of the invention were previously disclosed (or would be obvious to a person of skill). In other words, whether a person of skill in the art at the time of the invention presented with Pelachaud could reimagine Pelachaud in a way consistent with the '278 Patent claims ***is a different question*** from whether a person of skill presented with the '278 Patent specification would understand how to practice the '278 Patent claims without undue experimentation using rules modified from those disclosed by Pelachaud.

the required inputs and outputs for a first set of rules. Either way, the parties do not dispute that beyond this information, there are no limits on any exact rule sets that must be employed to practice the claims in the claim language itself. As to what is taught in the specification, as previously noted, the exemplary rules all relate to a narrow subset of rules that are relevant to an “if . . . then . . . else” keyframing approach. In other words, the “different types of rules” in the specification to which Gleicher refers all fall into a few narrow species within the claimed rule genus. Beyond these two aspects of the disclosure – the claim language itself and the “different types of rules” disclosed in the specification – Gleicher provides no explanation to support his conclusory assertion that a person of skill in the art would understand the ’278 Patent to teach how to “transfer” complex rule sets as described in the prior art and modify them for use consistent with its disclosure. Indeed, there is no language in the specification relating to “transferring” rules from other systems for use consistent with the claimed invention, particularly rule sets that do not rely on “if . . . then . . . else” keyframing. Because Gleicher’s assertions are conclusory and unsupported by the patent intrinsic record, they can be rejected. *Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1329 (Fed. Cir. 2001) (“Broad conclusory statements offered by Telemac’s experts are not evidence and are not sufficient to establish a genuine issue of material fact.”). Gleicher’s conclusory assertions do not create a genuine question of material fact regarding whether the prior art can supply the relevant disclosure missing from the patent specification to enable a person of skill in the art to practice the full scope of the “first set of rules” limitation.

The shortcomings in Gleicher’s assertions are relevant. There can be no dispute that the novel aspect of the ’278 Patent’s asserted claims relates to the “first set of rules” limitation. That limitation was the entire focus of Plaintiff’s arguments that the claims satisfied § 101 and the entire focus of the Federal Circuit’s § 101 determination at the pleadings stage. *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1315 (Fed. Cir. 2016) (“The claimed process uses a combined order of specific rules that renders information into a specific format that is then used and applied to create desired results: a sequence of synchronized, animated characters.”). As the novel aspect of the claim language, enablement requires disclosure in the specification itself:

that general, oft-repeated statement [that a specification need not disclose what is well known in the art] is merely a rule of supplementation, not a substitute for a basic enabling disclosure. It means that the omission of minor details does not cause a specification to fail to meet the enablement requirement. However, when

there is no disclosure of any specific starting material or of any of the conditions under which a process can be carried out, undue experimentation is required; there is a failure to meet the enablement requirement that cannot be rectified by asserting that all the disclosure related to the process is within the skill of the art. It is the specification, not the knowledge of one skilled in the art, that must supply the novel aspects of an invention in order to constitute adequate enablement.

Genentech, Inc. v. Novo Nordisk A/S, 108 F.3d 1361, 1366 (Fed. Cir. 1997); *Auto. Techs. Int'l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1283 (Fed. Cir. 2007) (“Although the knowledge of one skilled in the art is indeed relevant, the novel aspect of an invention must be enabled in the patent.”). Here, Wyvill has provided examples of rule sets that would be covered by the “first set of rules” limitation but are not disclosed in any form in the patent specification. As the “first set of rules” is the novel aspect of the invention, enabling disclosure related to the full scope of that limitation must be found in the patent specification itself, not just in prior art systems employing rules in a different way. Indeed, there are no tangible rule sets described in the '278 Patent beyond an “if . . . then . . . else” keyframing approach as the starting place for creating an exemplary set of rules for defining a morph weight set stream as a function of time and phoneme sub-sequence. Setting that information aside, the '278 Patent provides no information to support how/why a set of “transferred” prior art rules could be appropriately implemented consistent with the claimed invention. In other words, to the extent there could even be a question of “transferred” prior art rule sets, “there is no disclosure of any specific starting material or of any of the conditions under which a process can be carried out.” *Genentech*, 108 F.3d at 1366; *Auto. Techs.*, 501 F.3d at 1283.

Defendants rely on – and Plaintiff attempts to distinguish – the Federal Circuit’s decision in *Auto. Techs.*. The patent in that case involved side-door crash-sensing devices. *Auto. Techs.*, 501 F.3d at 1276-77. The district court construed the claims to cover not only mechanical switch assemblies, but also electronic switch assemblies to serve as the claimed sensing device. *Id.* at 1279. The Federal Circuit affirmed the district court’s conclusion that the claims were not enabled to cover their full scope. *Id.* at 1285. The Federal Circuit observed that even though there was some disclosure of electronic switch assemblies in the specification, there was not any discussion of the circuitry involved or other information about how the circuit operated. *Id.* at 1282-83 (“Figure 11 represents a concept of an electronic sensor, not a figure providing details that would show one skilled in the art how to make or use an electronic side impact sensor”). The patentee’s expert opined that electronic sensors for frontal impacts were widely known at the time the patent was filed and that a person of skill in the art would have known how to adapt then-existing

technology to create an electronic side-impact sensor. *Id.* at 1285-86. The court observed, however, that the expert provided no detail on how to adapt the existing technology and on that basis found the expert's testimony did not create a genuine issue of material fact. *Id.* The situation is analogous here. The specification discloses limited examples of certain types of rules that could be instituted consistent with the claims. Defendants have submitted clear and convincing evidence of rule sets that are uniquely different from those disclosed in the '278 Patent. Although the '278 Patent claims' reference to a "first set of rules" has been characterized as a genus, the evidence shows that the species within that genus are distinct. Beyond the requirement that the first set of rules define a morph weight set stream as a function of time and phoneme sub-sequence, the evidence suggests that they do not necessarily share common traits such that identifying one is sufficient to identify the rest. As in *Auto. Techs.*, Plaintiff's expert here attempts to rely on prior art systems to supply additional information about the "first set of rules," but fails to explain how a person of skill in the art would be able to adapt then-existing technology to satisfy the requirements of the claimed invention of the '278 Patent.

D. Whether the "First Set of Rules" Limitation Is Enabled as a Matter of Law

Defendants have submitted expert testimony¹³ 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 evidence; Plaintiff either fails to provide a response at all or submits conclusory evidentiary arguments that are premised on an incorrect understanding of the law of enablement. Although they are "illustrative, not mandatory," *Amgen*, 927 F.2d at 1213, the *Wands* factors further confirm that on the current record Plaintiff has failed to present a genuine factual dispute to rebut Defendant's showing that the "first set of rules" limitation is not enabled.

(1) The quantity of experimentation necessary

As previously discussed *supra*, Plaintiff improperly relies on *CFMT* to support its position

¹³ Plaintiff also argues that Defendants' expert's testimony should be rejected because Wyvill demonstrated a "fundamental misunderstanding of the '278 Patent and the claims" during his deposition. Docket No. 758 at 18. A review of Plaintiff's narrow citations from Wyvill's deposition do not support Plaintiff's sweeping claim. Moreover, as Defendants observed, none of Plaintiff's citations relate to the issue of enablement at all. The Court declines to reject the portions of Wyvill's opinions that it relies upon in this Order.

that the claims need only enable elementary rules without undue experimentation, including rule sets for limited subsets of phonemes. Plaintiff's arguments can be rejected for relying on an inconsistent understanding of the law of enablement. The full scope of the claims must be enabled.

In addition to the aspects of enablement caselaw already discussed, Plaintiff's brief and its expert's report both further imply that the requirements of enablement are satisfied when a patent adequately discloses a single "mode" to achieve the claimed invention. This assumption also colors some of Plaintiff's positions and arguments, particularly those related to undue experimentation. For instance, Plaintiff states in opposition, "[a]s a general rule, in the predictable arts 'the enablement requirement is met if the description enables *any mode of making and using the invention.*'" Docket No. 758 at 8 (quoting *Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1071 (Fed. Cir. 2005)); *see also id.* at 16-17. The *Invitrogen* case, however, was specifically limited to addressing the enablement of a claimed composition, not a claimed method. Indeed, *Invitrogen* specifically distinguished itself from other cases involving questions of enablement of method claims more similar to the ones at issue in this case. *Invitrogen*, 429 F.3d at 1071 (citing *Nat'l Recovery Techs., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1198 (Fed. Cir. 1999)) (observing that in *National Products*, "[t]he claim was to a method, not a compound."). In the context of method claims, the issue is not as black and white as composition claims. Disclosing only one species of a genus is not necessarily enough. *See, e.g., Auto Techs.*, 501 F.3d at 1285; *In re Vaeck*, 947 F.2d 488, 495-96 (Fed. Cir. 1991) ("[i]t is well settled that patent applicants are not required to disclose every species encompassed by their claims, even in an unpredictable art However, there must be sufficient disclosure, either through illustrative examples or terminology, to teach those of ordinary skill how to make and how to use the invention as broadly as it is claimed."). Plaintiff's assumptions about the sufficiency of disclosing only a "single mode" similarly conflict with Federal Circuit law that focuses on and emphasizes the importance of enabling the full scope of the claims. *See, e.g., Auto. Techs.*, 501 F.3d at 1276-77.

In addition to his statements regarding "bones" animation and BALDI/Pelachaud, in the context of his written description opinions, Wyvill submits expert testimony stating,

[t]here are innumerable ways a programmer might use "rules" to define a morph weight set stream, including many ways that are far more complex than anything that Mr. Rosenfeld described in the '278 Patent. However, to the extent the specification discloses specific examples of particular rules at all, its disclosure is limited to a handful of crude, simplistic "if [] then" statements And even here, the specification does not provide a set of rules sufficient to actually construct a

working system.

Wyvill Decl., ¶ 363. Wyvill observes that the '278 Patent itself explains that all rules must be manually set up by the user. *Id.* ¶ 378 (citing '278 Patent at 6:43-45). Wyvill notes that even the examples disclosed by the '278 Patent “fail[] to provide default rules that cover even a small percentage of the potential sequences that could arise in a time-aligned phonetic transcript.” *Id.* ¶ 379. This evidence supports a conclusion that the full scope of the claims requires undue experimentation.

Gleicher responds to Wyvill’s assertions in part by asserting that Wyvill “applies an incorrect standard as the claims do not recite a limitation that the animation necessarily be ‘high-quality.’” Gleicher Decl. ¶ 206. For the reasons stated, Gleicher fails to meaningfully respond to Wyvill’s position regarding undue experimentation because his arguments are drawn to the incorrect legal standard. There is no genuine dispute of material fact related to this factor. It weighs in favor of a finding that the claim term is not enabled.

(2 & 3) The amount of direction or guidance presented and the presence or absence of working examples

The experts’ dispute regarding *Wands* factors 2 and 3 relates back to issues already addressed *supra*. The '278 Patent provides 20 examples of individual rules, but all of those examples are in the context of “if . . . then . . . else” keyframing. Plaintiff’s attempt to characterize the patent specification as providing examples of rules beyond those related to an “if . . . then . . . else” keyframing approach has already been rejected. The '278 Patent also provides just one working example for a character speaking the word “hello.” *See* '278 Patent at 7:55-8:55. This working example similarly relates to an “if . . . then . . . else” keyframing approach.

There is no reasonable dispute that the claim phrase “first set of rules” has been construed to be much broader than rules related to “if . . . then . . . else” keyframing. For reasons previously stated, there is also no reasonable dispute that a person of skill in the art at the time of the invention would find the disclosure related to “if . . . then . . . else” keyframing insufficient to provide guidance as to other types of rules that define morph weight set streams as a function of time and phoneme sub-sequence. Namely there is insufficient evidence to suggest how a person of skill would adapt or “transfer” other rule constructs for use consistent with the claimed invention and its “rule scheme.” Although Defendants conceded at the hearing that the claims might be enabled to the extent they related to a set of rules for the word “hello” and the patent could be interpreted

to conclude that they are enabled for “if . . . then . . . else” rules or rules relating to keyframing, the claims have been interpreted much more broadly. There is no genuine dispute of material fact related to these factors. They weigh in favor of a finding that the claim term is not enabled.

(4 - 6) The nature of the invention, the state of the prior art, and the relative skill of those in the art

Plaintiff argues that *Wands* factors 4-6 “strongly counsel” against a finding of non-enablement because “computer animation was a well-developed field at the time of the invention.” Docket No. 758 at 20. It is in discussing these factors that Plaintiff refers to the rules known in the prior art and how rules regarding co-articulation from prior art references could be modified consistent with the ’278 Patent disclosure without undue experimentation. *Id.* at 21-22.

As previously stated, the nature of the invention and specifically the novel aspect of the invention relates to using a first set of rules to define a morph weight set stream as a function of timing and phoneme sub-sequence. The invention is thus not just related to the field of computer animation, but to the field of automating lip-sync computer animation using certain rules. In this area, the ’278 Patent suggests that it is at the forefront as far as technological innovation, explaining how prior art systems involved animators manually entering morph weights for a character’s facial expression based on listening to a time aligned phonetic transcript. ’278 Patent 2:29-32.

Although both experts apparently agree that the state of computer animation overall and the development of rules for animation was well-developed in other contexts (*e.g.*, Pelachaud and BALDI) as previously discussed, the prior art cannot serve as a substitute for enabling disclosure for the novel aspects of the invention.

These factors are largely irrelevant to the core issue influencing enablement in this case: whether the novel aspect of the claimed invention is enabled based on the specification’s disclosure. *See Auto. Techs.*, 501 F.3d at 1283.

(7) The predictability or unpredictability of the art

As Plaintiff puts it, “the ’278 Patent’s preferred embodiment teaches a computer program comprised of if-then-else statements Such a computer program would necessarily yield predictable results, *i.e.*, if X, then Y, else Z, and Defendants do not identify any rule set that would not yield predictable results.” Docket No. 758 at 23. Plaintiff’s argument rests on similar logical fallacies to those already addressed. First, Plaintiff focuses on the ’278 Patent’s disclosure of “if . . . then . . . else” rules even though Plaintiff and its expert take the position that the asserted claims

are not limited to “if . . . then . . . else” rules. Second, Plaintiff blames Defendants for allegedly failing to identify relevant rule sets that would not yield predictable results. As previously noted, such an argument both loses focus of the relevant § 112 inquires and is factually incorrect.

Wyvill states that “the results of experimenting with new sets of rules would have been difficult to predict, particularly for more complicated sets of rules.” Wyvill Decl. ¶ 380. Wyvill also specifically emphasizes that:

formulating a set of rules with the necessary complexity would require far more technical sophistication than the patent even hints at, as I know from attempting to do it myself in the 1980s, and as is evident from, for example, the PhD work of Catherine Pelachaud and the BALDI system. For example, the '278 Patent provides no real insight on how to implement rules to perform coarticulation, which is a complicated subject that scholars have spent years studying.

Wyvill Decl. ¶ 381. As with other *Wands* factor, the key issue is that the programmed/automated aspect of the claims, and specifically the use of a first set of rules that can define morph weight set streams as a function of time and phoneme sequence, is the novel aspect. As also previously stated, Plaintiff has not provided substantial evidence to show how complex rule sets from prior art systems could be transferred for use consistent with the requirements of the claims. Particularly as to predicting whether certain rules would function adequately in the context of the requirements of the claimed “first set of rules,” Plaintiff has not submitted factual matter based on the proper understanding of the law to support its argument and to rebut Defendants’ clear and convincing evidence.

(8) The breadth of the claims

Although Plaintiff argues that the breadth of the claims is narrow, Plaintiff again does not dispute that the “first set of rules” limitation encompasses far more than “if . . . then . . . else” keyframing rules. Indeed, beyond the requirement that claimed rules “define[] a morph weight set stream as a function of phoneme sequence and times associated with said phoneme sequence,” there is no evidence establishing the boundaries of the “first set of rules” limitation. Like the claims in *MagSil*, the “first set of rules” limitation has the ability to expand to absorb modern rule sets even though the '278 Patent fails to disclose even a full set of rules for a simple “if . . . then . . . else” keyframe approach. *MagSil, Inc.*, 687 F.3d at 1380-81. There is no genuine dispute of material fact related to this factor. It weighs in favor of a finding that the claim term is not enabled.

E. Dependent Claims

In the Motion, Defendants argue that the asserted dependent claims are not enabled for the same reasons as Claim 1. Docket No. 756-1 at 17. Defendants observe that neither Claim 4 nor Claim 13 “are directed to a narrower species of rules than the ‘first set of rules’ recited in claim 1.” *Id.* Plaintiff does not respond to this argument, and an independent review of Claims 4 and 13 support Defendants’ position. A non-enablement determination is appropriate as to all three asserted claims.

III. CONCLUSION

Plaintiff’s “difficulty in enabling the asserted claims is a problem of its own making.” *Id.* at 1384. Plaintiff received broad claim scope and presents arguments suggesting it should be even broader in response to Defendants’ summary judgment motion. Plaintiff has failed to submit sufficient evidence to demonstrate a question of material fact – in light of the state of the law on enablement and Defendants’ clear and convincing evidence that the asserted claims are not enabled.

For the reasons stated in this Order, Defendants’ Motion for Summary Judgment of Invalidity for Lack of Enablement (Docket No. 756) is **GRANTED**.

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

CIVIL MINUTES - GENERAL

Case No.	CV 12-10322-GW(FFMx)	Date	July 11, 2018
Title	<i>McRO, Inc., v. Namco Bandai Games America, Inc., and Related Actions</i>		

Present: The Honorable GEORGE H. WU, UNITED STATES DISTRICT JUDGE

Javier Gonzalez	None Present	
Deputy Clerk	Court Reporter / Recorder	Tape No.

Attorneys Present for Plaintiffs:	Attorneys Present for Defendants:
None Present	None Present

PROCEEDINGS: IN CHAMBERS - COURT ORDER

Attached hereto is the Court's Amended Tentative Ruling on Scheduled Motions.

Initials of Preparer JG

McRO, Inc., d.b.a. Planet Blue v. Namco Bandai Games America, Inc., Case No. CV 12-10322-GW (FFMx) (LEAD TRACK 1 CONSOLIDATED CASE). Amended Tentative Ruling on Scheduled Motions:

- (1) **Defendants' Motion for Summary Judgment of Non-Infringement or Invalidity** (Docket No. 643); Plaintiff's Opposition (Docket No. 668 (public); Docket No. 686 (sealed)); Defendants' Reply (Docket No. 709); Defendants' Response to Statement of Alleged Disputes of Material Fact (Docket No. 710); Defendants' Request for Evidentiary Rulings on Specified Objections (Docket No. 711); Plaintiff's Response to Defendants' Request for Evidentiary Rulings (Docket No. 727)
- (2) **Plaintiff's Motion for Summary Judgment of No Anticipation** (Docket No. 640); Defendants' Opposition (Docket No. 681); Plaintiff's Reply (Docket No. 697); Plaintiff's Response to Statement of Genuine Disputes (Docket No. 698)
- (3) **Defendants' Motion for Summary Judgment or Partial Summary Judgment of Non-Infringement Under 35 U.S.C. § 271(g)** (Docket No. 638); Plaintiff's Opposition (Docket No. 675 (public); Docket No. 690 (sealed)); Defendants' Reply (Docket No. 704); Defendants' Response to Statement of Genuine Disputes (Docket No. 705); Defendant Square's Request for Evidentiary Ruling on Specified Objections (Docket No. 706-3 (public – attached to application to seal); Docket No. 732 (sealed)); Plaintiff's Response to Request for Evidentiary Rulings (Docket No. 729 (public); Docket No. 726-1 (sealed – attached to application to seal))
- (4) **Defendants' Motion for Summary Judgment of No Willful Infringement** (Docket No. 634 (public notice of motion); Docket No. 655 (sealed)); Plaintiff's Opposition (Docket No. 678 (public); Docket No. 691 (sealed)); Defendants' Reply (Docket No. 712 (public); Docket No. 719 (sealed)); Defendants' Response to Statement of Genuine Disputes (Docket No. 713 (public); Docket No. 720 (sealed)); Defendants' Request for Evidentiary Ruling on Specified Objections (Docket No. 715); Plaintiff's Response to Defendants' Request for Evidentiary Rulings (Docket No. 728)
- (5) **Defendant Square's Motion to Strike Portions of Gleicher Expert Report** (Docket No. 628); Plaintiff's Opposition (Docket No. 680 (public); Docket No. 693 (sealed)); Defendant's Reply (Docket No. 699)
- (6) **Defendant Square's [Corrected] Motion for Summary Judgment of Non-Infringement Due to Failure of Proof** (Docket No. 632; *see also* Docket No. 629 (original Motion for Failure of Proof; still marked as pending)); Plaintiff's Opposition (Docket No. 672 (public); 688 (sealed)); Defendant's Reply (Docket No. 702); Defendant's Response to Statement of Genuine Disputes (Docket No. 703); Defendant Square's Request for Evidentiary Ruling on Specified Objections (Docket No. 706-3 (public – attached to application to seal); Docket No. 732

(sealed)); Plaintiff's Response to Request for Evidentiary Rulings (Docket No. 729 (public); Docket No. 726-1 (sealed – attached to application to seal))

(7) Defendant Square's Motion for Summary Judgment that Plaintiff's Claims are Barred by 35 U.S.C. § 287(b)(2) (Docket No. 635); Plaintiff's Opposition (Docket No. 670); Defendant's Reply (Docket No. 700); Defendant Square's Response to Statement of Genuine Disputes (Docket No. 706-4 (public – attached to application to seal); Docket No. 734 (sealed)); Defendant Square's Request for Evidentiary Ruling on Specified Objections (Docket No. 706-3 (public – attached to application to seal); Docket No. 732 (sealed)); Plaintiff's Response to Request for Evidentiary Rulings (Docket No. 729 (public); Docket No. 726-1 (sealed – attached to application to seal)).

I. INTRODUCTION

Plaintiff McRO, Inc., d.b.a. Planet Blue (“Plaintiff” or “Planet Blue”) filed numerous patent infringement cases in this District.¹ Plaintiff alleges that the remaining Defendants² directly or indirectly infringe independent Claim 1 and dependent claims 4 and 13 of U.S. Patent No. 6,611,278 (“the ’278 Patent”). *See* Defendants’ Response to Plaintiff’s Statement of Alleged Disputes of Material Fact (“Ds’ Resp.”) ¶¶ 13, 14, Docket No. 710. The ’278 Patent relates to automatically animating the lip synchronization and facial expressions of 3-D characters.

Before the Court are seven motions:

- Defendants’ Motion for Summary Judgment of Non-Infringement or Invalidity (Docket No. 643);
- Plaintiff’s Motion for Summary Judgment of No Anticipation (Docket No. 640);
- Defendants’ Motion for Summary Judgment or Partial Summary Judgment of Non-Infringement Under 35 U.S.C. § 271(g) (Docket No. 638);

¹ The remaining cases are: *McRO, Inc. v. Electronics Arts, Inc.*, CV 12-10329; *McRO, Inc. v. Naughty Dog, Inc.*, CV 12-10335; *McRO, Inc. v. Square Enix, Inc.*, CV 12-10338; *McRO, Inc. v. Sucker Punch Productions, LLC*, CV 14-332; *McRO, Inc. v. Activision Blizzard Inc.*, CV 14-336; *McRO, Inc. v. Infinity Ward, Inc.*, CV 14-352; *McRO, Inc. v. LucasArts Entertainment Company LLC*, CV 14-358; *McRO, Inc. v. Sony Computer Entertainment America, LLC*, et al., CV 14-383. One other case, *McRO, Inc. v. Disney Interactive Studios, Inc.*, CV 12-10333, also remains pending but stayed pending settlement discussions. The Defendants in that case, Disney Interactive Studios, Inc. and LucasArts, a division of Lucasfilm Entertainment Company Ltd. LLC, have requested leave to join three of the pending motions and be bound by the Court’s rulings on those motions, including Defendants’ Motion for Summary Judgment of Non-Infringement. *See* Docket No. 733. The Court **GRANTS** Disney’s and LucasArts’ request.

² The remaining Defendants are: Electronic Arts Inc.; Naughty Dog, Inc.; Square Enix, Inc.; Activision Publishing, Inc.; Blizzard Entertainment, Inc.; Infinity Ward, Inc.; Sony Computer Entertainment America LLC (now known as Sony Interactive Entertainment America LLC); Sucker Punch Productions LLC; Disney Interactive Studios, Inc.; and LucasArts, a division of Lucasfilm Entertainment Company Ltd. LLC (collectively, “Defendants”).

- Defendants’ Motion for Summary Judgment of No Willful Infringement (Docket No. 634 (public notice of motion); Docket No. 655 (sealed));
- Defendant Square’s Motion to Strike Portions of Gleicher Expert Report (Docket No. 628);
- Defendant Square’s [Corrected] Motion for Summary Judgment of Non-Infringement Due to Failure of Proof (Docket No. 632; *see also* Docket No. 629 (original Notice of Motion for Failure of Proof)); and
- Defendant Square’s Motion for Summary Judgment that Plaintiff’s Claims Are Barred by 35 U.S.C. § 287(b)(2) (Docket No. 635).

All motions have been fully briefed.

In the tentative order on Defendants’ previous summary judgment motion, the Court expressed concerns about whether the “first set of rules” limitation of the asserted claims meets the enablement requirements of 35 U.S.C. § 112.³ The Court again questions why Defendants failed to challenge the patents on the basis of enablement. Even though the Court provides a tentative herein regarding some of the parties’ briefed summary judgment motions, the Court will not issue a final ruling until the parties have submitted – and the Court has considered – briefing regarding the question of whether the “first set of rules” limitation of the asserted claims is enabled. The Court **ORDERS** the parties to submit a joint proposed schedule for summary judgment on the issue of enablement as to this limitation within seven (7) days of this Order.

The Court would tentatively **GRANT** Defendants’ Motion for Summary Judgment of Non-Infringement. Docket No. 643. The Court would also **OVERRULE** Defendants’ Objections to Plaintiff’s Opposition to Defendants’ Motion for Summary Judgment of Non-Infringement or Invalidity. *See* Docket Nos. 711, 727. The Court would **DENY** all of the Defendants’ other pending motions before this Court as **MOOT**.⁴ The Court would **GRANT-IN-PART** Plaintiff’s Motion for Summary Judgment of No Anticipation except as to two prior art references: (1) Catherine Pelachaud, “Communication and Coarticulation in Facial

³ The Court has questions, for instance, about how the asserted claims would adequately inform a person of ordinary skill in the art to apply a phoneme to a character’s face when that character is actively moving.

⁴ This includes Defendants’ still-pending early Motion for Summary Judgment of Non-Infringement, filed June 23, 2017. *See* Docket No. 431; *see also* Docket No. 448 (Plaintiff’s *ex parte* application for leave to file a sur-reply to Defendants’ early summary judgment motion); Docket No. 455 (Minutes of Hearing on early summary judgment motion and attached tentative ruling).

Animation” (1991); and (2) Antai Peng, “Speech Expression Modeling and Synthesis” (1996).

II. BACKGROUND

A. The Asserted Patent

The ’278 Patent issued on August 26, 2003 to inventor Maury Rosenfeld. It is titled “Method for Automatically Animating Lip Synchronization and Facial Expression of Animated Characters.”

Much of the factual background regarding the ’278 Patent is explained in the Court’s Final Ruling on Claim Construction (Dkt. 298) and in the Federal Circuit’s opinion regarding the patent eligibility of the ’278 Patent and its parent patent, U.S. Patent No. 6,307,576 (“the ’576 Patent”).⁵ See *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1303-07 (Fed. Cir. 2016). Briefly, the patent “relate[s] to automating part of a preexisting 3-D animation method.” *Id.* at 1303; see also ’278 Patent Abstract, *id.* at 1:35-52. The animation method relies on a “neutral model” of a character’s face in conjunction with “morph targets.” *Id.* at 1:48-59. A “morph target” is a character’s expression as it pronounces a particular phoneme, *i.e.*, makes a certain sound. *Id.* Points “in certain places on the face” of the neutral model (“vertices”) correspond to vertices on the morph targets. *McRO, Inc.*, 837 F.3d at 1303; see also ’278 Patent 1:54-59 (“Each morph target has the same topology as the neutral model, the same number of vertices, and each vertex on each model logically corresponds to a vertex on each other model.”). “The set of differences in the location of these vertices (and the corresponding point on the face) between the neutral model and the morph target form a ‘delta set’ of vectors representing the change in location of the vertices between the two models.” *McRO, Inc.*, 837 F.3d at 1303; see also ’278 Patent 1:60-63 (“The deltas of each vertex on each morph target relative to the neutral are computed as a vector from each vertex n on the reference to each vertex n on each morph target. These are called the delta sets.”). Each morph target corresponds to a delta set “consisting of the vectors by which the vertices on that morph target differ from the neutral model.” *McRO, Inc.*, 837 F.3d at 1303; see also ’278 Patent 1:63-65.

Facial expressions are “described as a function of the amount each morph target, and its corresponding delta set, is applied to modify the character model.” *McRO, Inc.*, 837 F.3d at 1304; see also ’278 Patent 2:1-2:13. “In producing animation products, a value usually from 0 to

⁵ Plaintiff originally alleged that Defendants infringed claims of the ’576 Patent as well, but has dropped those allegations. Docket No. 710 ¶¶ 13, 14.

1 is assigned to each delta set by the animator and the value is called the ‘morph weight.’” ’278 Patent 1:65-67. The set of morph weights for all the delta sets is called a “morph weight set.” *Id.* at 4:35-38. “For each morph weight set, the resulting facial expression is calculated by determining the displacement of each vertex from the neutral model as the product of the morph weights in the morph weight set and the corresponding delta sets for the morph targets.” *McRO*, 837 F.3d at 1304 (citing ’576 Patent 2:2-15); *see also* ’278 Patent 2:4-20.

Animators previously accomplished lip synchronization using a “keyframe approach” where the artist manually set morph weights “at certain important times (‘keyframes’).” ’278 Patent 2:29–32. “Animators knew what phoneme a character pronounced at a given time from a ‘time aligned phonetic transcription’ (‘timed transcript’).” *McRO*, 837 F.3d at 1304. The purported aim of the ’278 Patent was to automate this keyframe approach. It “provide[s] a method for automatically animating lip synchronization and facial expression.” ’278 Patent 2:44-45. In particular, the claims require using a computer to obtain and apply a set of rules to data to ultimately “generate an output sequence of animated characters with lip and facial expression synchronized to said audio sequence.” *Id.* at Claim 1.

B. Accused Products/Bone Animation

Defendants develop a wide variety of computer and video games. Plaintiff alleges that Defendants’ accused games infringe the ’278 Patent by using a method called “bone animation” in conjunction with one of two third-party software products, *i.e.* FaceFX and Annosoft. Docket No. 710 ¶ 27. For purposes of the parties’ summary judgment dispute regarding non-infringement, the parties focus on bone animation.

Defendants do not appear to dispute Plaintiff’s expert’s overall description of bone animation, and for purposes of Defendants’ summary judgment motion, the Court will accept the following description of bone animation from Plaintiff’s expert as undisputed. According to Plaintiff’s expert, bone animation systems “create[] configurations of a character’s skin by moving the vertices of a base mesh.” *See* Ex. F of Malloy Declaration, “Gleicher Decl.,” ¶¶ 2.12. Docket No. 658-5 (sealed). Bone animation works by attaching the vertices of a character’s facial model to special control objects, sometimes referred to as “bones.” *Id.* at ¶ 2.7. Many vertices can be attached to a single bone. *Id.* at ¶ 2.14 (“The set of ‘bones’ used to control a character is typically much smaller than the number of vertices.”). A particular vertex may also be attached to one or more bones “with a weight.” *Id.* at ¶ 2.7. “The ‘bones’ serve to

control the vertices of a character, they typically are not drawn as part of the character.” *Id.* at 2.11. A user manipulates the smaller number of bones, rather than the individual vertices on the face, in order to animate the facial model. *Id.* at ¶ 2.14 (“For any particular pose (e.g., frame of animation), only the configurations of the ‘bones’ need to be specified, reducing the workload of the artist.”).

Plaintiff’s expert further explains that “[e]ach ‘bone’ is a linear transformation (i.e., a matrix) that defines how vertices connected to it should move.” *Id.* at ¶ 2.7. Bones can be represented as a 4x4 matrix. *Id.* at ¶ 2.10. Plaintiff’s expert further opines that “[t]hese matrices can be represented as ‘vectors’ of length 16. To simplify control, ‘bones’ are sometimes specified or represented as simpler linear transformations such as rotations, translations, scales, or combinations of these.” *Id.*

III. LEGAL STANDARD

A. Summary Judgment

Under Federal Rule of Civil Procedure (“Rule”) 56, a party may move for summary judgment, identifying each claim or defense – or the part of each claim or defense – on which summary judgment is sought, and the court shall grant it when the pleadings, the discovery and disclosure materials on file, and any affidavits show that “there is no genuine issue as to any material fact and that the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a); *see also Miranda v. City of Cornelius*, 429 F.3d 858, 860 n.1 (9th Cir. 2005). As to materiality, “[o]nly disputes over facts that might affect the outcome of the suit under the governing law will properly preclude the entry of summary judgment.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). A dispute as to a material fact is “genuine” if there is sufficient evidence for a reasonable jury to return a verdict for the nonmoving party. *Id.*

To satisfy its burden at summary judgment, a moving party with the burden of persuasion must establish “beyond controversy every essential element of its [claim or defense].” *S. Cal. Gas Co. v. City of Santa Ana*, 336 F.3d 885, 888 (9th Cir. 2003); O’Connell & Stevenson, *Rutter Group Prac. Guide: Fed. Civ. Proc. Before Trial* (“*Federal Practice Guide*”) § 14:126 (2016). By contrast, a moving party without the burden of persuasion “must either produce evidence negating an essential element of the nonmoving party’s claim or defense or show that the nonmoving party does not have enough evidence of an essential element to carry its ultimate burden of persuasion at trial.” *Nissan Fire & Marine Ins. Co., Ltd. v. Fritz Cos., Inc.*, 210 F.3d

1099, 1102 (9th Cir. 2000); *see also* *Devereaux v. Abbey*, 263 F.3d 1070, 1076 (9th Cir. 2001) (en banc) (“When the nonmoving party has the burden of proof at trial, the moving party need only point out ‘that there is an absence of evidence to support the nonmoving party’s case.’”) (quoting *Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986), and citing *Fairbank v. Wunderman Cato Johnson*, 212 F.3d 528, 532 (9th Cir. 2000) (holding that the *Celotex* “showing” can be made by “pointing out through argument . . . the absence of evidence to support plaintiff’s claim”)).

If the party moving for summary judgment meets its initial burden of identifying for the court the portions of the materials on file that it believes demonstrate the absence of any genuine issue of material fact, the nonmoving party may not rely on the mere allegations in the pleadings in order to preclude summary judgment[, but instead] must set forth, by affidavit or as otherwise provided in Rule 56, specific facts showing that there is a genuine issue for trial.

T.W. Elec. Serv., Inc., v. Pac. Elec. Contractors Ass’n, 809 F.2d 626, 630 (9th Cir. 1987) (internal citations and quotation marks omitted) (citing, among other cases, *Celotex*, 477 U.S. at 323). “A non-movant’s bald assertions or a mere scintilla of evidence in his favor are both insufficient to withstand summary judgment.” *See FTC v. Stefanichik*, 559 F.3d 924, 929 (9th Cir. 2009). In addition, the evidence presented by the parties must be admissible. *See* Fed. R. Civ. P. 56(e). Conclusory, speculative testimony in affidavits and moving papers is insufficient to raise genuine issues of fact and defeat summary judgment. *See Thornhill Publ’g Co., Inc. v. GTE Corp.*, 594 F.2d 730, 738 (9th Cir. 1979). Relatedly, “[a]ny objections to declarations or other evidence must be made at or (preferably) before the hearing, and should be ruled upon by the court before ruling on the motion itself.” *Federal Practice Guide* § 14:333 (citing *Hollingsworth Solderless Terminal Co. v. Turley*, 622 F.2d 1324, 1335 n.9 (9th Cir. 1980); *Sigler v. American Honda Motor Co.*, 532 F.3d 469, 480 (6th Cir. 2008)). In judging evidence at the summary judgment stage, however, courts do not make credibility determinations or weigh conflicting evidence at the summary judgment stage, and must view all evidence and draw all inferences in the light most favorable to the non-moving party. *See T.W. Elec.*, 809 F.2d at 630-31 (citing *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574 (1986)); *Anderson*, 477 U.S. at 255 (“The evidence of the non-movant is to be believed and all justifiable inferences are to be drawn in [the non-movant’s] favor.”).

“If the court does not grant all the relief requested by the motion, it may enter an order

stating any material fact – including an item of damages or other relief – that is not genuinely in dispute and treating the fact as established in the case.” Fed. R. Civ. P. 56(g); *see also* Federal Practice Guide § 14:352 (“A partial summary judgment may be granted on motion of either party for adjudication of particular claims or defenses.”) (citing *id.* § 14:33).

B. Infringement

A determination of patent infringement requires a two-step analysis. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995). The first step is to construe the claims; *i.e.*, to determine the scope and meaning of what is allegedly infringed. *Id.* This step is a question of law. *Id.* at 970-71. The second step is to compare the properly construed claims to the accused product to determine whether each of the claim limitations is met, either literally or under the doctrine of equivalents.⁶ *Id.* at 976; *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1365 (Fed. Cir. 2002); *Tex. Instruments Inc. v. U.S. Int’l Trade Comm’n*, 988 F.2d 1165, 1173 (Fed. Cir. 1993) (although no literal infringement of a claim, an accused device may still infringe under the doctrine of equivalents.). This determination is a question of fact. *Bai v. L & L Wings Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998); *Schoell v. Regal Marine Indus., Inc.*, 247 F.3d 1202, 1207 (Fed. Cir. 2001).

“Since the ultimate burden of proving infringement rests with the patentee,” an accused infringer may establish that summary judgment is proper “either by providing evidence that would preclude a finding of infringement, or by showing that the evidence on file fails to establish a material issue of fact essential to the patentee’s case.” *Novartis Corp. v. Ben Venue Labs., Inc.*, 271 F.3d 1043, 1046 (Fed. Cir. 2001). If the moving party meets this initial criterion, the burden shifts to the party asserting infringement to provide by affidavit or as otherwise provided in Rule 56, “specific facts showing there is a genuine issue for trial.” *Anderson*, 477 U.S. at 248; *accord, Novartis*, 271 F.3d at 1046. If the non-moving 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*, 477 U.S. at 325.

IV. ANALYSIS

A. Claim Construction of “Delta Set[s]” as It Relates to “Morph Weight Set[s]”

The parties’ non-infringement dispute hinges entirely on a claim construction dispute.

⁶ It is undisputed that “[t]here is no allegation in this case of infringement via the doctrine of equivalents – only literal infringement.” *See* Ds’ Resp. ¶ 85, Docket No. 710.

Namely, the parties' disagree in their interpretations of the Court's construction of the term "morph weight sets." Specifically, they dispute how a person of ordinary skill in the art at the time of the invention would interpret delta set[s] and the vectors that make up delta set[s] in the context of the claim phrase "morph weight set[s]." Plaintiff posits that "vector" is a term of art with a broader meaning. Docket No. 686 at 6, 9-10. Plaintiff specifically notes that its understanding of the term "vector" would cover any "ordered set of numbers" and is "not limited to a vector in three-dimensional space." *Id.* at 6. Plaintiff asserts, for instance, that vectors representing bones would be covered by a proper understanding of the term "vector" as it is used in the patent specification. *Id.* at 6-7. In the context of its infringement arguments, Plaintiff describes the relevant one or more bones transformations corresponding to a particular vertex on a facial model as "the set of vectors associated with three basic bone transforms: translation (change in position), scale (change in size) and rotation (change in orientation)." *Id.* at 12. Defendants, meanwhile, argue that the term "vector" as used in the context of the patent specification should be understood as a 3-vector, or a vector representing a direction in 3-dimensional space. Docket No. 709 at 13-17. Defendants rely heavily on the Court's tentative ruling on Defendants' early summary judgment motion to support their position.⁷ *Id.*; see Docket No. 455 (Minutes for Hearing on Defendants' early summary judgment motion).

During claim construction, the Court construed the claim term "morph weight set" consistent with Plaintiff's proposal as "[a] set of values, one for each delta set, that, when applied, transform the neutral model to some desired state, wherein each delta set is the set of vectors from each vertex on the neutral (reference) model to each vertex on a model of another mouth position." Docket No. 298-1 at 9. The term "delta set" itself does not appear in the claims.⁸ Instead, the same as in the Court's construction, the specification explicitly defines the

⁷ The Court's tentative ruling on Defendants' early summary judgment motion has not been adopted as a final ruling. After oral argument on Defendants' early summary judgment motion, the Court asked the parties to conduct further discovery before making a final determination on the motion. After conferring further, a decision was made to wait until the normal dispositive motion deadline for Defendants to renew their motion.

⁸ For reference, asserted Claim 1 of the '278 Patent recites:

1. A method for automatically animating lip synchronization and facial expression of three-dimensional characters comprising:
 - obtaining a first set of rules that defines a morph weight set stream as a function of phoneme sequence and times associated with said phoneme sequence;
 - obtaining a plurality of sub-sequences of timed phonemes corresponding to a desired audio sequence for said three-dimensional characters;
 - generating an output morph weight set stream by applying said first set of rules to each

term “morph weight set” in relation to delta sets, explaining “as used herein, a ‘morph weight set’ is a set of values, one for each delta set, that, when applied as described, transform the neutral mode to some desired state.” ’278 Patent 4:35-37.

The portion of the Court’s construction relating to “delta sets” corresponds to another portion of the patent specification, which states:

Each morph target has the same topology as the neutral model, the same number of vertices, and each vertex on each model logically corresponds to a vertex on each other model. For example, vertex #n on all models represents the left corner of the mouth, and although this is the typical case, such rigid correspondence may not be necessary.

The deltas of each vertex on each morph target relative to the neutral are computed as a vector from each vertex n on the reference to each vertex n on each morph target. These are called the *delta sets*. There is one delta set for each morph target.

Id. at 1:54-64 (emphasis added). The specification is unambiguous: “deltas of *each vertex on each morph target* relative to the neutral *are computed as* a vector *from each vertex n* on the reference *to each vertex n* on each morph target.” *See id.* Importantly, the specification refers to the deltas of each vertex on each morph target as being computed as a single vector. In the disclosure that follows, the specification then discloses an algorithm for creating a desired facial expression:

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$$|\text{result}| = |\text{neutral}| + \sum_{x=1}^n |\text{delta set}_x| * \text{morph weight}_x$$

Id. at 2:6. To determine a resulting vector (“|result|”) for a desired facial expression, the appropriate corresponding vector in the delta set (“|delta set_x”) is multiplied by the corresponding morph weight (“morph weight_x”) and that value is then added to the value of the neutral vector (“|neutral|”). *Id.* at 11:15. If the desired facial expression involves blending multiple phonemes, the products of the delta set and morph weight corresponding to each relevant phoneme are added together before adding to the neutral.

Together, these aspects of the patent disclosure reveal the same thing: vertices exist on

sub-sequence of said plurality of sub-sequences of timed phonemes; and applying said output morph weight set stream to an input sequence of animated characters to generate an output sequence of animated characters with lip and facial expression synchronized to said audio sequence.

’278 Patent, Claim 1.

the models and the difference between two corresponding vertices (obtained through simple subtraction) represents the vector for those corresponding vertices in a delta set.⁹

Plaintiff disputes that the intrinsic record supports this understanding. First, Plaintiff argues that because the specification lexicographically defined the terms “morph weight set” and “delta set,” but did not specifically define the term “vector,” it would be improper to limit “vector” to mean vectors that are magnitudes and directions in three dimensional space. *See* Docket No. 686 at 5-6. Second, Plaintiff argues that limiting the term “vector” would essentially be departing from the lexicographic definition of “delta set” because it would be “reading in an additional requirement that a ‘vector’ can only be a specific type of vector, . . . where the specification does not state, suggest, or imply that specific limitation or any limitation whatsoever.” *Id.* at 6. Third, Plaintiff discounts the specification’s mathematical formula on the basis that it appears in the background section of the patent specification, arguing that the formula is related to a “typical case” and is not limiting. *Id.* at 7. Fourth, Plaintiff refers to a portion of the specification for the proposition that “a rigid correspondence between vertices is *not* necessary,” further arguing that “vectors that are directions in three-dimensional space between such vertices cannot be mandatory.” *Id.* at 7. Plaintiff also cites to general statements from Defendants’ expert regarding the meaning of “vector” to support its position. *Id.* at 7-9 (citing Deposition of Dr. Dobkin, Ex. 21 (“Dobkin Tr.”), 108:15-109:6, 109:20-110:5, Dkt. 667-29); *see also* Gleicher Decl. ¶ 2.16.

Plaintiff’s first two arguments rely on an understanding of “vector” divorced from the statements in the ’278 Patent. As noted, the patent specification refers to “deltas” as “***computed as a vector from each vertex n*** on the reference ***to each vertex n*** on each morph target.” ’278 Patent 1:60-64 (emphasis added). A simple reading of this language supports the conclusion that the specification is defining the disclosed vectors as vectors with 3-D magnitude and direction¹⁰

⁹ The Federal Circuit likewise stated, “[t]he set of ***differences in the location*** of these vertices (and the corresponding point on the face) between the neutral model and the morph target ***form a ‘delta set’ of vectors representing the change in location of the vertices between the two models.***” *McRO, Inc.*, 837 F.3d at 1303 (emphasis added). Plaintiff argues that the Federal Circuit’s statements do not conflict with its interpretation of the invention, including its interpretation of the meaning of the term “delta set.” This Court disagrees.

¹⁰ Defendants also suggest, in a footnote, that this understanding is consistent with the first definition of “vector” in the Merriam-Webster dictionary. *See* Docket No. 709 at 14 n.3 (“The first definition of ‘vector’ in the Merriam-Webster dictionary reads: ‘a quantity that has a magnitude and direction and that is commonly represented by a directed line segment whose length represents the magnitude and whose orientation in space represents the direction.’”). Defendants, however, failed to provide a citation for this statement and although it is consistent with

computed by pure subtraction/addition between the neutral and target models, with one vector corresponding to each set of two vertices.

Notably, during claim construction, the Court rejected Plaintiff's request to construe "delta set" in the context of "morph weight set" as "wherein each delta set is the *mathematical representation* of the difference between the neutral model and another model." Dkt. No. 298 at 9 (emphasis added). The Court found that the change was "not an innocuous 'simplification,' but rather, a significant generalization." *Id.* Although Plaintiff frames the dispute as one where the Court is impermissibly narrowing the meaning of "vector," Plaintiff is effectively urging the same impermissibly broad meaning of the term "vector," when considered in the context of the patent specification, that it argued during claim construction and that the Court rejected.

Plaintiff's attempts to discount the mathematical formula disclosed in the background section of the '278 Patent are also unpersuasive. Plaintiff refers to the formula as depicting the "typical case." In describing the formula, however, the '278 Patent states,

In producing animation products, a value usually from 0 to 1 is assigned to each delta set by the animator and the value is called the "morph weight". From these morph weights, *the neutral's geometry is modified as follows*: Each vertex N on the neutral has the corresponding delta set's vertex multiplied by the scalar morph weight added to it. This is repeated for each morph target, and the result summed. *For each vertex v in the neutral model:*

$$5 \quad |\text{result}| = |\text{neutral}| + \sum_{x=1}^n |\text{delta set}_x| * \text{morph weight}_x$$

where the symbol |xxx| is used to indicate the corresponding vector in each referenced set. For example, |result| is the corresponding resultant vertex to vertex v in the neutral model |neutral| and |delta set_x| is the corresponding vector for delta set x.

'278 Patent 1:65-2:13 (emphasis added). This portion of the patent specification makes no reference to the "typical case" and does not hold itself out as exemplary. Instead, it affirmatively provides the appropriate formula for computing a desired facial expression.

At the hearing, Plaintiff observed that the second sentence following the equation states, "[f]or example, |result| is the corresponding resultant vertex to vertex v in the neutral model |neutral| and |delta set_x| is the corresponding vector for delta set x." *See id.* (emphasis added). Plaintiff suggested that the phrase "for example" demonstrated that the disclosed formula is

the Court's determination, the Court does not find it necessary to rely on Defendants' contention in reaching its determination.

exemplary. Plaintiff does not credibly argue that the patent specification's use of the phrase "for example" in the context of explaining "the symbol |xxx|" should be imputed back to diminish the importance of the disclosed mathematical formula.

Plaintiff makes two passing comments that the '278 Patent's disclosed formula does not require any of the particular vectors to be a direction in three-dimensional space. *See* Docket No. 686 at 7, 9. Plaintiff does not cite to any evidence to support this assertion. As the formula states, the result is based on *adding* the neutral vector to the *product* of the delta set vector and the morph weight to obtain the result vector. Plaintiff fails to explain how this formula would still lead to the correct result (without some additional undisclosed math) if a delta set vector was understood to encompass, for example, a transform vector. At the hearing, Plaintiff made the same assertion that other vectors could satisfy the formula, again without further explanation or support. Indeed, Plaintiff followed up by insisting that it has no burden to submit evidence to prove this point because it is Defendants who are asking for a narrower claim construction. Plaintiff's argument – that it is somehow relieved of its responsibility to provide evidence to support the statements made by its attorneys because of its understanding of the nature of the dispute – is unpersuasive. The Court has explained why, on its face, the intrinsic record does not support Plaintiff's argument. Without evidence (or even a cogent explanation) to the contrary, Plaintiff's conclusory attorney statement holds no weight.

That this disclosure is in the "Background of the Invention" Section is also no reason to discount it. This disclosure comes immediately after the '278 Patent provides a definition for the term "delta set." Plaintiff's argument that the mathematical formula must be minimized because it is disclosed in the background section is undercut by its agreement that the immediately preceding disclosure regarding "delta set" is lexicographic. Indeed, the background section sets the stage for the disclosed invention. The '278 Patent explains that "the current practice for three dimensional computer generated speech animation is by manual techniques commonly using a 'morph target' approach." '278 Patent 1:48-50. The '278 Patent explains the shortcomings with manual speech animation, including that it can be "very tedious and time consuming, as well as inaccurate." *Id.* at 2:31-34. According to the '278 Patent,

it is the *primary object* of this invention to provide a method for *automatically* animating lip synchronization and facial expression of three dimensional characters The method of the present invention further provides an extremely rapid and cost effective means to *automatically* create lip synchronization and

facial expression.

Id. at 2:43-52 (emphasis added). It is logical that explanations about speech animation methods in the background section are lexicographic where the “primary object” of the invention is aimed at automation. *See McRO*, 837 F.3d at 1303 (stating that the patent “relate[s] to *automating* part of a *preexisting* 3-D animation method.” (emphasis added)).

As Defendants also note, this portion of the specification is the only aspect of the specification that describes delta sets and their relationship to morph weight sets, including how to use that relationship to create a desired facial expression. It would be improper to ignore this aspect of the '278 Patent's disclosure when there is no other disclosure otherwise describing this process, which is relevant to the asserted claims because of their reference to “morph weight sets.”

The '278 Patent's disclosure regarding the work previously manually performed by animators and the invention's primary goal of automating that work is relevant for another reason. As Plaintiff's own expert states regarding bones animation,

[a]t the time of the invention and patent filing (circa 1997), ‘bones’ were not a common approach to facial animation. While the technique was known . . . , it was not applied to facial animation in that era. ‘Bones’ did not become an attractive approach for facial animation *until computer hardware advanced to provide [Graphical Processing Units] capable of performing the computations efficiently*. Therefore, it is not surprising that the '278 patent does not mention the approach.

Gleicher Decl ¶ 2.15 emphasis added). Even though submitted long after claim construction proceedings, this extrinsic evidence, consistent with the '278 Patent's disclosure, supports the conclusion that a person of ordinary skill in the art at the time the invention was filed would not understand the patented invention to relate to complex, non-three-dimensional-space delta vectors.

Of course, at the hearing, Plaintiff did not reference this statement, but instead heavily emphasized that both its expert *and* Defendants' expert purportedly agree that the term “vector” has a broader meaning. Dr. Gleicher, for instance, testifies in his expert report that

[t]he term “vector” in mathematics, computer science and computer graphics is a general concept that roughly means an ordered list of numbers. My understanding of this term is consistent with one of the seminal texts on computer graphics, *Real Time Rendering*, which defines a “vector” as “an ordered list of real numbers.”

Gleicher Decl. ¶ 2.16. But unlike Dr. Gleicher's other statement, Dr. Gleicher's testimony regarding the meaning of "vector" is not necessarily tied to the understanding of a person of ordinary skill in the art *at the time of the invention*. Indeed, Dr. Gleicher's cited "seminal text," Real Time Rendering, was published in 2008, over ten years after the priority date of the '278 Patent. See Gleicher Decl., Ex. 2.

Dr. Dobkin's deposition testimony appears similarly divorced from the question of what a person of ordinary skill in the art at the time of the invention would understand the term "vector" to mean in the context of the '278 Patent. After counsel read the '278 Patent's definition of "delta set" to Dr. Dobkin, he testified:

Q. It only says that the vectors must be – are computed, correct?

A. It says . . . the vectors are computed. It doesn't, you know, say more than that.

Q. Does it say how the vectors must be stored?

A. It doesn't specifically say how they have to be stored.

Q. Could the vectors be stored in a different form, say, angle of magnitude?

A. That's a speculation that I'm not sure how to answer it.

Q. Can you think of a way in which the vectors could be stored other than delta X, delta Y, delta Z?

A. Hypothetically, I could imagine a number of ways, you know, create vectors and store vectors. But the court is pretty clear that if – you use a vector as a three-dimensional vector with three components.

Dobkin Tr. 108:24-110:5 (objections omitted). None of Dr. Dobkin's testimony directly tackles the relevant question. First, how vectors are stored is not relevant to the dispute at issue. Second, while Dr. Dobkin agrees that "hypothetically" he could "imagine" a number of ways to "create vectors and store vectors," it is unclear whether his testimony is tied to considering the term "vector" in the context of a person of ordinary skill in the art reading the '278 Patent at the time of the invention. Plaintiff's proffered testimony fails to rebut Dr. Gleicher's other testimony or the intrinsic disclosure.

Plaintiff's fourth argument relates to a portion of the patent specification that states that in a "morph target" speech animation approach:

a reference model of a neutral mouth position, and several other mouth positions, each corresponding to a different phoneme or set of phonemes is used. These

models are called “morph targets”. Each morph target has the same topology as the neutral model, the same number of vertices, and each vertex on each model logically corresponds to a vertex on each other model, or example, vertex #n on all models represents the left corner of the mouth, ***and although this is the typical case, such rigid correspondence may not be necessary.***

'278 Patent 1:50-59 (emphasis added). The '278 Patent does not provide any further explanation for its assertion that “although this is the typical case, such rigid correspondence may not be necessary.” *See id.* At most, this phrase may be referring to whether or not there is a perfect correspondence between vertices on the neutral model and target model. But as Defendants note, “it does not logically follow that the vectors need not be three-dimensional vectors.” Docket No. 709 at 16. Ultimately, this statement in the specification does not outweigh the remainder of the intrinsic record regarding the meaning of the term “vector” in the context of the '278 Patent.¹¹

For the reasons stated, the Court clarifies that the term “vector” in the context of the claim term “morph weight set[s]” refers to a vector with direction and magnitude in three-dimensional space.

B. Under the Proper Construction of Morph Weight Sets, Plaintiff Cannot Demonstrate Infringement as a Matter of Law

In its opposition to Defendants’ motion for summary judgment of non-infringement, Plaintiff relies on the bones transform vectors to argue that the “delta set” aspect of the claim limitation “morph weight sets” is met by the accused games. Docket No. 686 at 16; *see also id.* at 17 (“‘delta sets’ are met by the ‘vectors’ that constitute the bone transforms. These ‘vectors’ are used to derive the positions of the vertices.”). Defendants argue that Plaintiff’s position is inconsistent with the testimony of Plaintiff’s expert, Dr. Gleicher, but that under either Plaintiff’s theory in opposing summary judgment or Defendants’ understanding of the opinions disclosed by Dr. Gleicher in his expert report, Plaintiff cannot demonstrate infringement. Docket No. 709 at 1-13.

Plaintiff urges that it has maintained a consistent infringement theory with respect to bone animation throughout this litigation. Specifically, Plaintiff asserts that its position is that the bones transformation vectors constitute the delta sets necessary to correspond to the claimed morph weight sets. *See* Docket No. 727 at 2-6 (Plaintiff’s Responses to Defendants’ Request for

¹¹ As Defendants note, Dr. Gleicher also agrees that “[u]nder the Court’s construction, a Delta Set also requires that each of the models has a corresponding set of vertices, otherwise there cannot be a vector between each vertex on the Neutral and Delta models.” *See* Gleicher Decl. ¶ 6.10.

Evidentiary Rulings on Specified Objections re Defendants’ Motion for Summary Judgment of Non-Infringement or Invalidity). For purposes of Defendants’ Motion for Summary Judgment of Non-Infringement or Invalidity, the Court will accept as true Plaintiff’s position that it has not changed its infringement theories over the course of recent litigation. In doing so, however, the Court understands that Plaintiff’s sole infringement position is that bones transform vectors constitute delta sets, as argued in Plaintiff’s opposition to Defendant’s motion for summary judgment. In other words, the Court understands that Plaintiff is not maintaining that a resulting hypothetical 3-vector in the accused games could be calculated by simple subtraction between the vertex on the neutral model and target model and would constitute the claimed delta sets.¹² See Docket No. 710 ¶ 127 (Defendants’ Response to Plaintiff’s Statement of Alleged Disputes of Material Fact) (Plaintiff disputes Defendants’ assertion that “[i]n his deposition, Dr. Gleicher said that the required vectors could be computed by subtraction or deduced via an equation in a textbook.” In response, Plaintiff states, in part, “[t]he ‘delta sets’ are constituted in the bone transform vectors.”); *but see id.* at ¶¶ 6, 62 (responding to Defendants’ alleged undisputed fact by quoting from Dr. Gleicher’s Expert Report, which states, “[t]he requirement for a vector between each corresponding pair of vertices is always met because every pair of vertices defines a vector (via subtraction).” Gleicher Decl. ¶ 6.11).

Under its infringement theory, Plaintiff fails to even attempt to argue that the accused products infringe the claims under the appropriate understanding of the term “vector.” Plaintiff’s entire opposition to Defendants’ summary judgment motion of non-infringement is premised on its arguments that vectors in the context of the ’278 Patent refer simply to an ordered set of numbers. See Docket No. 686 at 10-19. Because the Court has explained that the term “vector” in the context of the claim term “morph weight set[s]” refers to a vector with direction and magnitude in three-dimensional space, and Plaintiff nowhere disputes that bones transform vectors are not vectors with direction and magnitude in three-dimensional space, Plaintiff’s sole

¹² The Court notes that an argument that a hypothetical 3-vector could constitute the claimed delta sets – even where bones animation does not actually perform such a calculation or output such a vector – would be unpersuasive. Such an understanding would impermissibly broaden the scope of the phrase “delta set” by implying that any time a person of ordinary skill in the art *could* perform a calculation that would satisfy the phrase, it would be met. Such a hypothetical understanding would mean that any time speech animation was performed by changing a neutral model with vertices to a target model with vertices, a person of ordinary skill in the art could backtrack and identify a resulting delta set as required by the ’278 Patent, even if a delta set was not necessarily used to calculate the positions of the vertices of the target model in the first place. As Defendants observe, such a position would be inconsistent with the teachings of the patent and is rejected. See Docket No. 643-1 at 15-18.

infringement position fails as a matter of law.

Plaintiff attempts to characterize the issue regarding the proper interpretation of “vector” as a question of fact. Docket No. 686 at 10. However, the issue presented regarding the meaning of the term does not simply relate to its application to the accused products, *i.e.*, a question of infringement. Instead, both parties disputed the contents of the patent’s intrinsic record at length to support their competing positions regarding the term “vector.” *See id.* at 5-10. In other words, the parties submitted a dispute about the scope of the claims, a claim construction issue that is “exclusively within the province of the court.” *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996); *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S.Ct. 831, 837-40 (2015) (claim construction is a question of law with underlying questions of fact).

Even if the Court had concluded that the ’278 Patent refers to the term “vector” as simply an ordered set of numbers, Plaintiff’s infringement position has other shortcomings. As Plaintiff notes, through bones animation, a small set of bones control large sets of vertices. Gleicher Decl., ¶¶ 2.7, 2.14. But more importantly, a single vertex can be attached to multiple bones. *Id.* In other words, in bones animation, the same vertex is likely to be influenced by multiple different bones transformations. As noted, Plaintiff’s position is that the bones transformation vectors represent the delta sets. Docket No. 686 at 10. However, the ’278 Patent explains that deltas are “*computed as a vector from each vertex *n* on the reference to each vertex *n* on each morph target.*” ’278 Patent 1:60-64. Plaintiff’s interpretation would result in a complex relationship between different bones transformations and individual vertices rather than the one-to-one relationship contemplated by the patent. The Court, however, need not reach a conclusive determination on this issue given its other conclusions regarding the meaning of “vector” and how they relate to Plaintiff’s infringement position.

For the reasons stated, the Court would **GRANT** Defendants’ Motion for Summary Judgment of Non-Infringement. Docket No. 643. Because the Defendants’ remaining motions similarly relate to issues of non-infringement, the Court would **DENY** all of the Defendants’ other pending motions before this Court as **MOOT**.

C. Defendants’ (Except Square) Counterclaims for Patent Invalidity

Except for Square (*see* Docket No. 112 (Answer only)), the remaining Defendants in this action have counterclaims seeking a declaration of patent invalidity. Docket No. 488 (Activision and Blizzard’s Answer and Counterclaims); Docket No. 322 (LucasArts’ Answer and

Counterclaims); Docket No. 318 (Infinity Ward's Answer and Counterclaims); Docket No. 284 (Sony's Counterclaim); Docket No. 283 (Sucker Punch's Counterclaim); Docket No. 174 (Naughty Dog's First Amended Counterclaim); Docket No. 159 (Disney's First Amended Answer and Counterclaim).

For Square, because the Court would conclude that summary judgment should be granted on the basis that Defendants do not infringe the asserted claims of the '278 Patent, no disputes remain for adjudication and Square's affirmative defense of invalidity (and all other defenses to Plaintiff's claim of patent infringement) would be moot.

For the remaining Defendants besides Square, because the Court concludes that the term "vector" as used in the '278 Patent is limited to vectors with magnitude and direction in 3-dimensional space, it is the Court's understanding that Plaintiff's Motion for Summary Judgment of No Anticipation would be appropriately granted.¹³ (*See* Docket No. 640.) At the hearing, Defendants indicated that, assuming the Court's tentative determination with respect to their motion for summary judgment of non-infringement does not change, they may be willing to drop their invalidity counterclaims if they do not succeed on their arguments regarding lack of enablement. On that basis, the Court finds that the remainder of the parties' dispute regarding patent invalidity on the ground of anticipation is not ripe for adjudication at this time.

V. CONCLUSION

The Court would tentatively **GRANT** Defendants' Motion for Summary Judgment of Non-Infringement. Docket No. 643. The Court would also **OVERRULE** Defendants' Objections to Plaintiff's Opposition to Defendants' Motion for Summary Judgment of Non-Infringement or Invalidity. *See* Docket Nos. 711, 727. The Court would **DENY** all of the Defendants' other pending motions before this Court as **MOOT**.¹⁴ The Court would **GRANT-IN-PART** Plaintiff's Motion for Summary Judgment of No Anticipation except as to two prior art references: (1) Catherine Pelachaud, "Communication and Coarticulation in Facial

¹³ As Plaintiff notes, Defendants agree that except for two of the references raised in Plaintiff's motion, they "do not intend to rely on these references to prove anticipation," although they reserve the right to rely on them for other purposes. Docket No. 681 at 5 n.4. On this basis, the Court would **GRANT-IN-PART** Plaintiff's motion except as to two prior art references: (1) Catherine Pelachaud, "Communication and Coarticulation in Facial Animation" (1991); and (2) Antai Peng, "Speech Expression Modeling and Synthesis" (1996).

¹⁴ This includes Defendants' still-pending early Motion for Summary Judgment of Non-Infringement, filed June 23, 2017. *See* Docket No. 431; *see also* Docket No. 448 (Plaintiff's *ex parte* application for leave to file a sur-reply to Defendants' early summary judgment motion); Docket No. 455 (Minutes of Hearing on early summary judgment motion and attached tentative ruling).

Animation” (1991); and (2) Antai Peng, “Speech Expression Modeling and Synthesis” (1996).