NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

INFERNAL TECHNOLOGY, LLC, TERMINAL REALITY, INC.,
Plaintiffs-Appellants

v.

ACTIVISION BLIZZARD INC.,
Defendant-Appellee

2021-2349

Appeal from the United States District Court for the Northern District of Texas in No. 3:18-cv-01397-M, Chief Judge Barbara M.G. Lynn.

Decided: January 24, 2023

ERIC WILLIAM BUETHER, Buether Joe & Counselors, LLC, Dallas, TX, argued for plaintiffs-appellants. Also represented by CHRISTOPHER MICHAEL JOE, KENNETH PAUL KULA.

JOHN D. GARRETSON, Shook, Hardy & Bacon, LLP, Kansas City, MO, argued for defendant-appellee. Also represented by LAUREN ELIZABETH DOUVILLE, BASIL TRENT WEBB; SHARON A. ISRAEL, DAVID MOREHAN, Houston, TX.

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Before MOORE, *Chief Judge*, CHEN and STOLL, *Circuit Judges*.

CHEN, *Circuit Judge*.

Appellants Infernal Technology, LLC and Terminal Reality, Inc. (collectively, Infernal) sued Defendant-Appellee Activision Blizzard Inc. (Activision) for infringement of two patents related to rendering light and shadow in computer graphics. After the district court issued a claim construction order adopting the parties' agreed-upon construction of the term "observer data," the district court granted Activision's summary-judgment motion of noninfringement. Because the district court properly analyzed the limitation "said observer data" in view of its construction of "observer data" to find that Infernal failed to raise a genuine issue of material fact as to infringement, we *affirm*.

BACKGROUND

I

United States Patent Nos. 6,362,822 ('822 patent) and 7,061,488 ('488 patent) are in the same family and share a specification. Both are entitled "Lighting and Shadowing Methods and Arrangements for Use in Computer Graphic Simulations" and are related to methods of improving how light and shadow are displayed in computer graphics. Claim 1 of the '822 patent recites:

1. A shadow rendering method for use in a computer system, the method comprising the steps of:

[1(a)] providing *observer data* of a simulated multi-dimensional scene;

[1(b)] providing lighting data associated with a plurality of simulated light sources arranged to illuminate said scene, said lighting data including light image data;

[1(c)] for each of said plurality of light sources, comparing *at least a portion of said observer data* with at least a portion of said lighting data to determine if a modeled point within said scene is illuminated by said light source and storing at least a portion of said light image data associated with said point and said light source in a light accumulation buffer; and then

[1(d)] combining at least a portion of said light accumulation buffer with *said observer data*; and

[1(e)] displaying resulting image data to a computer screen.

'822 patent col. 12 ll. 4–20 (emphases added). The italicized phrases are the focus of this appeal.[1]

II

Infernal sued Activision in the Northern District of Texas, alleging that nineteen Activision video games (Accused Games) infringe one or more of claim 1 of the '822 patent and claims 1 and 27 of the '488 patent (collectively, Asserted Claims). *Infernal Tech. LLC v. Activision Blizzard Inc.*, No. 3:18-cv-01397-M, 2021 WL 4391250, at *1, *3 (N.D. Tex. Sept. 16, 2021).

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[1]   The district court explained that its analysis of steps 1(a), 1(c), and 1(d) in claim 1 of the '822 patent applies equally to all asserted claims because each asserted claim contains these same claim limitations. *Infernal Tech. LLC v. Activision Blizzard Inc.*, No. 3:18-cv-01397-M, 2021 WL 4391250, at *3 n.2 (N.D. Tex. Sept. 16, 2021). Infernal's analysis does the same. Appellants' Br. 18. Thus, our analysis of these steps in claim 1 of the '822 patent applies equally across the asserted claims.

Before the district court, the parties agreed the term "observer data" means "data representing at least the color of objects in a simulated multi-dimensional scene as viewed from an observer's perspective," and the district court adopted this construction. *Infernal Tech., LLC v. Activision Blizzard Inc.*, No. 3:18-cv-1397-M, 2019 WL 4247227, at *5, *18 (N.D. Tex. Sept. 6, 2019). Based on the plain and ordinary meaning of the limitation "said observer data" in step 1(d), which incorporates the district court's construction of "observer data," Activision moved for summary judgment of noninfringement. *Infernal*, 2021 WL 4391250 at *1, *3–8. The district court granted summary judgment of noninfringement on this basis. *Id.* at *8.

Infernal timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

"We review claim construction based on intrinsic evidence de novo and review any findings of fact regarding extrinsic evidence for clear error." *SpeedTrack, Inc. v. Amazon.com, Inc.*, 998 F.3d 1373, 1378 (Fed. Cir. 2021) (citation omitted). "[W]e review a district court's summary judgment ruling under the law of the regional circuit." *Intell. Ventures I LLC v. Cap. One Fin. Corp.*, 850 F.3d 1332, 1337 (Fed. Cir. 2017) (citation omitted). The Fifth Circuit "review[s] a grant of summary judgment *de novo*, viewing all evidence in the light most favorable to the nonmoving party and drawing all reasonable inferences in that party's favor." *Pierce v. Dep't of U.S. Air Force*, 512 F.3d 184, 186 (5th Cir. 2007) (citation omitted). Summary judgment is proper "if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a).

Infernal argues that the district court erred in granting summary judgement of noninfringement by (1) misapplying its own construction of "observer data," Appellants' Br. 18–28; and (2) finding that the Accused Games cannot

perform the claimed steps in the specified sequence, *id.* at 28–39. We hold that the district court properly analyzed the limitation "said observer data" in view of its construction of "observer data" to find that Appellants failed to raise a genuine issue of material fact as to infringement.[2] We first address the court's analysis of the "observer data" term, followed by the lack of any material factual disputes regarding noninfringement.

I

Although the parties agree on the construction of "observer data," the parties dispute whether the term "observer data" can refer to *different* data sets in steps 1(a), 1(c), and 1(d) in which each different data set mapped to a given step, when considered in isolation of the other relied-upon data sets, meets the "observer data" construction. *See* Appellants' Br. 18–22; Appellants' Reply Br. 1–11. It cannot.

The term "observer data" appears in three steps in claim 1 of the '822 patent: (1) "providing observer data" in step 1(a); (2) "comparing at least a portion of said observer data" in step 1(c); and (3) "combining . . . with said observer data" in step 1(d). '822 patent col. 12 ll. 6–19. The parties do not dispute the long-standing principle that "[i]n grammatical terms, the instances of ['said'] in the claim are anaphoric phrases, referring to the initial antecedent phrase." *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008); *see* Appellants' Br. 23, 32–33; Appellee's Br. 30–31. Under this principle, the term "said observer data" recited in steps 1(c) and 1(d) must

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[2] Our decision on this argument resolves the parties' dispute as to noninfringement and renders moot Infernal's separate argument that the district court erroneously excluded Plaintiffs' damages expert report. Appellants' Br. 39–58.

refer back to the "observer data" recited in step 1(a)—i.e., the "observer data" in step 1(a) is the *same* "observer data" in steps 1(c) and 1(d). This conclusion holds even though the district court's construction of "observer data" is open-ended such that it encompasses "at least color data" as well as other types of data. *See Baldwin*, 512 F.3d at 1342 ("The subsequent use of definite articles 'the' or 'said' in a claim to refer back to the same claim term does not change the general plural rule [of 'an'], but simply reinvokes that non-singular meaning."). Although the initial "observer data" in step 1(a) includes data that is "at least color data," the use of the word "said" indicates that each subsequent instance of "said observer data" must refer back to the same "observer data" initially referred to in step 1(a). An open-ended construction of "observer data" ("data representing at least the color of objects") does not permit each instance of "observer data" in a claim to refer to an independent set of data. Thus, the term "observer data" cannot refer to different data among steps 1(a), 1(c), and 1(d).[3]

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[3] Our construction of "said observer data" is consistent with other decisions by this court concluding that use of the word "said" or "the" refers back to the initial limitation, even when the initial limitation refers to one or more elements. *See, e.g.*, *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1356 (Fed. Cir. 1999) ("It is clear from the language of the claim itself that the term 'a discharge rate' in clause [b] is referring to *the same* rate as the term 'the discharge rate' in clause [d]." (emphasis added)); *Creative Internet Advert. Corp. v. Yahoo!, Inc.*, 476 F. App'x 724, 725–26, 728–29 (Fed. Cir. 2011) (holding that "said end user communication message" required an infringing system to operate on "the same message or messages" recited in prior limitation, even though antecedent phrase was "broad enough to cover multiple messages,"

Infernal argues that "said observer data" in step 1(d) can refer to a narrower set of data than "observer data" in step 1(a) because both independently meet the district court's construction of "observer data." Appellants' Br. 22; Appellants' Reply Br. 2–3. That argument misunderstands basic claim construction law, as explained above. In addition, step 1(c) recites "*at least a portion of* said observer data," indicating that the patentee knew how to draft a limitation that refers to a subset of the "observer data." That the patentee did not claim a subset of "observer data" in step 1(d) indicates that the patentee intended to refer to the same "observer data" in steps 1(a) and 1(d). *See Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001) ("[A] claim term should be construed consistently with its appearance in other places in the same claim or in other claims of the same patent." (citations omitted)).

Infernal disagrees, arguing that the presence of "*at least a portion of*" in step 1(c) does not indicate that the "observer data" in step 1(d) refers to *all* the "observer data" from step 1(a) because such a construction ignores the district court's open-ended construction of "observer data." Appellants' Br. 24–26; Appellants' Reply Br. 10. Infernal's argument, however, would render the limitations "at least a portion of" in step 1(c) and "said" in step 1(d) superfluous. *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 962–64 (Fed. Cir. 2006) ("[C]laims are interpreted with an eye toward giving effect to all terms in the claim." (citations omitted)). We decline to apply such an interpretation.

II

Having determined that "said observer data" in step 1(d) must refer to the same "observer data" in step 1(a), we

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because a system operating on different messages "would render the word 'said' a nullity").

agree with the district court that Infernal failed to raise a genuine issue of material fact as to the Accused Games performing the limitation "combining . . . with said observer data" in step 1(d).

As shown below, Infernal's infringement theory maps different sets of data from the Accused Games to the term "observer data" throughout the claim:
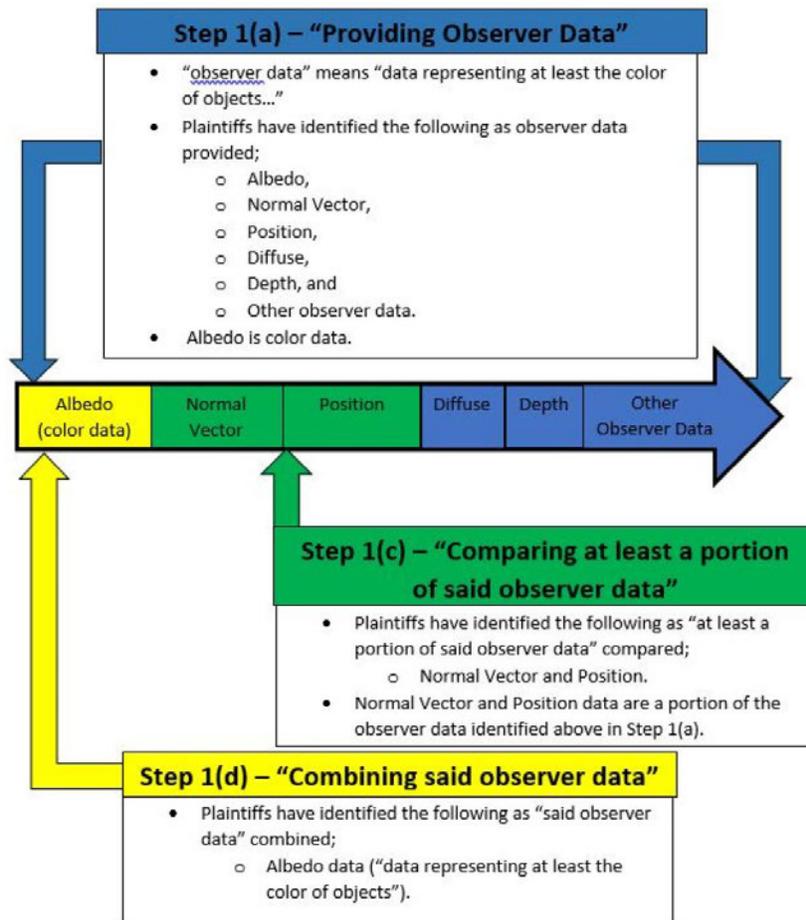
Appellants' Reply Br. 9; *see also* Appellee's Br. 12–13. For step 1(a), Infernal identifies "observer data" as albedo (color data), normal vector, position, diffuse, depth, and other observer data. However, for step 1(d), Infernal identifies "said observer data" only as albedo (color data).

Because it is undisputed that the mapping of the Accused Games's "observer data" in step 1(a) is different than the mapping of the "observer data" in step 1(d), we agree with the district court that there is no genuine issue of material fact as to whether the Accused Games infringe the "combining . . . with said observer data" limitation in step 1(d).

Moreover, Infernal's infringement mapping with respect to step 1(d) improperly excludes data that is mapped to "a portion of said observer data" in step 1(c). For step 1(c), Infernal identifies "a portion of said observer data" as normal vector and position data (shown in the above-figure). So based on its mapping for step 1(c), Infernal's infringement theory requires "observer data" to—at minimum—include normal vector, position, and albedo (color data). Thus, for example, an internally consistent infringement theory would map: (1) "observer data" in step 1(a) to normal vector, position, and albedo (color data); (2) "a portion of said observer data" in step 1(c) to normal vector and position data; and (3) "said observer data" in step 1(d) to normal vector, position, and albedo (color data). By only relying on albedo data to meet "said observer data" in step 1(d), Infernal improperly excludes data that was necessary for Infernal's infringement mapping for "a portion of said observer data" in step 1(c).

Because Infernal fails to show a genuine issue of material fact as to whether the Accused Games infringe the "combining . . . with said observer data" limitation in step 1(d), we uphold the district court's grant of summary judgment.

CONCLUSION

We have considered Infernal's remaining arguments and find them unpersuasive. For the foregoing reasons, we affirm the district court's grant of summary judgment of noninfringement.

AFFIRMED