

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner,

v.

AUTONOMOUS DEVICES, LLC
Patent Owner

IPR2023-01169
U.S. Patent No. 10,607,134

**PETITIONER'S REPLY
TO PATENT OWNER'S PRELIMINARY RESPONSE**

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Pursuant to the Board's authorization on November 13, 2023, Petitioner submits this Reply to Patent Owner's Preliminary Response.

I. "OBJECT REPRESENTATION"

Patent Owner's ("PO") construction of the term "object representation" as a "data structure that includes an object property generated by object processing" is wrong and should be rejected for the reasons addressed below. POPR, 8. Moreover, even if PO's construction applied, Grounds 1-3 would still disclose or render obvious all challenged claims.

A. Patent Owner's Proposed Construction Should Be Rejected

PO's overly narrow construction of "object representation" is unsupported, and indeed contradicted, by the specification of the '134 Patent. The specification describes object representations as follows:

Collection of Object Representations 525 comprises the functionality for storing one or more Object Representations 625, Object Properties 630, **and/or** other elements or information. ... As such, Object Representation 625 may include **any information related to an object**. In other designs, Object Representation 625 **may include ... an object itself**]
EX1001, 68:66-69-8 (emphasis added).

Far from limiting an "object representation" to a particular data structure as proposed by PO, the specification confirms that an object representation can include **"any information related to an object."** *Id.* (emphasis added). "[A]ny information

related to an object” plainly encompasses more than a “data structure that includes an object property generated by object processing.” The disclosed “storing [of] one or more Object Representations 625, Object Properties 630, and/or other elements or information” likewise indicates that object representations can be stored apart from object properties. EX1001, 68:64, 69:2 (emphasis added). PO’s importation of limitations from preferred embodiments while excluding other embodiments expressly disclosed is improper. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (“avoid the danger of reading limitations from the specification”).

Also significant, PO identifies no lexicography or disclaimers from the specification or file history of the ’134 Patent that would even possibly justify PO’s proposed narrowing of “object representation”—i.e., a term that the specification alternately refers to “simply as ... representations of objects.” EX1001, 68:61-63. Lacking this basis from the intrinsic record, “object representation” should be given its plain meaning and not limited to the particular data structure that PO proposes. *Polaris Innovations Ltd. v. Brent*, 48 F.4th 1365, 1376 (Fed. Cir. 2022) (“only two exceptions to the general rule that terms are given their ordinary and customary meaning ... —lexicography and disavowal”) (internal quotations omitted).

B. Thomas Discloses “Object Representations” Even Under Patent Owner’s Proposed Construction

PO argues that Thomas stores the information mapped in the Petition to the claimed “object representation” in a “database” rather than a “data structure,” as

allegedly demanded by PO's construction. *See* POPR, 18 ("Thomas's system merely records input data for a first user and stores it in a database and does not discuss data structures that include an object property ..."), 19 ("As shown in Figure 2A above, information is simply stored in a database, whereas the claimed object representation is a data structure"). But the '134 Patent explains that a "database" itself is a type of "data structure." EX1001, 65:54-60 (emphasis added). Therefore, even if Thomas limited its storage of information to a database, this would not distinguish Thomas's object representations from PO's construction.

The Petition and Dr. Janet also explained that Thomas's storage of information such as "the spatial position of avatars and the virtual road conditions" constitute "object representations" as claimed. Pet., 12-13; EX1003, ¶234. PO's assertion that this information somehow does not include "an object property generated by object processing" is wrong. POPR, 14-18. Spatial positions are properties of avatars (objects) and road conditions are properties of roads (also objects). It follows that this information constitutes "object properties." Thomas further processes and stores this information in substantially the same way as PO's identified "object processing" functions in the '134 Patent. *Compare* EX1001, 70:63-66 (cited by POPR, 27) *with* EX1005, 4:16-54, 7-65:8-1, 8:66-9:9 9:43-53.

II. THE BOARD SHOULD NOT DENY INSTITUTION UNDER § 314(a)

The *Fintiv* factors collectively weigh strongly against discretionary denial.

Factor 1: Stay: Petitioner filed IPR petitions on all six patents asserted by Patent Owner in its original complaint of November 2022, although neither party has yet requested a stay. This factor is neutral. *See Sand Revolution II, LLC v. Cont'l Intermodal Grp.*, IPR2019-01393, Pap. 24 at 7 (PTAB June 16, 2020) (informative).

Factor 2 (Proximity of Trial Dates): A Final Written Decision (“FWD”) in this IPR, barring extensions, will be due no later than January 10, 2025. Trial in Delaware is currently not scheduled to begin until June 23, 2025—i.e., 5+ months after the FWD. Ex. 2005. The current median time-to-trial in Delaware (36.7 months) also projects that trial would not begin until late November 2025—i.e., 10+ months after the FWD. Factor 2 weighs strongly against denial.

Factor 3 (Investment in Parallel Proceedings): Petitioner filed its Petition June 30, 2023, more than four months before the statutory deadline (November 8, 2023), and currently, “the most burdensome stages of the case[]—completing discovery, preparing expert reports, filing and responding to pretrial motions, preparing for trial, going through the trial process, and engaging in post-trial motions practice—all lie in the future.” *IOENGINE, LLC v. PayPal Holdings, Inc.*, No. 18-452-WCB, 2019 WL 3943058, at *5 (D. Del. Aug. 21, 2019). Fact discovery in the Delaware action does not close until February 23, 2024.¹ Claim construction briefing

¹ The scheduling order cited by Patent Owner (Ex. 2006) was modified via stipulation on September 15, 2023. Ex. 1009 (D.I. 91).

is set for April-June 2024, with a hearing on July 26, 2024. Ex. 2006. Expert discovery does not even *start* until September 2024. *Id.* Trial is set for June 2025. *Id.* Thus, Factor 3 weighs strongly against exercising discretion to deny institution.

Factor 4 (Overlap of Issues): With trial in Delaware lagging significantly behind a FWD in this IPR (*see* Factor 2), Petitioner would be estopped under 35 U.S.C. § 315(e) from asserting in Delaware that any challenged claim in this IPR is invalid based on the same grounds or any other ground that reasonably could have been raised here. There is therefore no risk of adjudication of overlapping issues.

Nonetheless, to the extent any concern remains, Petitioner stipulates that, if the Board institutes IPR on the Petition grounds, Petitioner will not pursue an invalidity defense in the district court (C.A. No. 22-cv-1466-MN) that the patent claims subject to the instituted IPR are invalid based on the same Petition grounds. *Sand Revolution II*, Paper 24 at 12. Thus, Factor 4 weighs strongly against denial.

Factor 6: (Other Circumstances): Grounds 1-3 based on Thomas and Bueller demonstrate that the “details of the object representations, avatars, determining instruction sets, and causing an avatar to perform operations,” which the Examiner found lacking from the prior art identified during prosecution (*see* Ex. 1002, p. 331), were in fact known and obvious before the ’134 Patent. The Petition’s unpatentability challenges are thus compelling, and *Fintiv* denial is not warranted.

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e)(4), the undersigned certifies that on November 20, 2023, a complete and entire copy of this Petitioner's Reply to Patent Owner's Preliminary Response, were provided via email, to the Patent Owners by serving the email correspondence addresses of record as follows:

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