

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner

v.

AUTONOMOUS DEVICES, LLC,
Patent Owner

Case: IPR2023-01054
U.S. Patent No. 10,452,974

**PATENT OWNER'S SUR-SUR-REPLY IN SUPPORT OF
CONTINGENT MOTION TO AMEND**

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I. INTRODUCTION

PO submits this MTA Sur-Sur-Reply, as authorized by the Board (Paper 43). Petitioner improperly injected many new arguments into its MTA Sur-Reply (Paper 38). 37 C.F.R. § 42.23(b) (“A sur-reply may only respond to arguments raised in the corresponding reply...”). Although these new arguments and numerous errors in Petitioner’s analysis are discussed below, they are still impermissible new arguments that should be rejected according to the PTAB’s rules.

II. THE SUBSTITUTE CLAIMS ARE PATENT-ELIGIBLE

A. The MTA Sur-Reply is Wrong About Step One of the *Alice* Test.

First, Petitioner’s reliance on *Intellectual Ventures I*—an impermissible new argument—is wrong. MTA Sur-Reply, 10. In that case, the claim recited exactly two method steps—“**storing**, in a database, a profile...” and “**causing communication** ... of transaction summary data in the database...”, and the Court found the claim directed to the abstract idea of “tracking financial transactions to determine whether they exceed a pre-set spending limit (i.e., budgeting).” *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1367 (Fed. Cir. 2015). The Court found the abstract idea “not meaningfully different” from the abstract ideas of *Bilski* and *Alice*. *Id.* at 1367-68. **But the methods of organizing human activity in Intellectual Ventures I, Bilski, and Alice are nothing like the substitute claims** here that recite

many technical, non-abstract features rooted in computer technology, including a device autonomously performing operations defined by instruction sets learned in a learning process, and also numerous specific computer-rooted limitations added via amendment regarding specific data structures correlated with instructions sets.

Second, the AI Guidance (MTA Sur-Reply, 10) does not alter the *Alice* test. Petitioner wrongly asserts that the substitute claims are “simply applying an abstract idea on a computer.” MTA Sur-Reply, 10. But they recite limitations formerly in claim 1 that ***are rooted in computer technology*** and that themselves make the claim non-abstract, as the Preliminary Guidance (PG) correctly found. The added limitations regarding details of specific first and second data structures correlated with first and second instruction sets further confirm that Petitioner is wrong.

Third, even Petitioner’s hand-picked examples—“collect[ing] information on a user’s movements and location history [and] electronically record[ing] that data” and “monitoring the location of a mobile thing and notifying a party in advance of arrival of that mobile thing”—***are nothing like the substitute claims***. MTA Sur-Reply, 11. Petitioner mistakenly analogizes the substitute claims—reciting many computer-rooted limitations, including those discussed above—to those examples.

B. The MTA Sur-Reply is Wrong About Step Two of the *Alice* Test.

Because Petitioner fails at *Alice* step one, the Board need not even consider *Alice* step two. But Petitioner fails at step two, also (as the PG correctly noted). **First**,

PO was not required to present expert testimony, particularly given the PG siding with PO for both *Alice* steps. Moreover, the Board does not need an expert to confirm the apparent—that data structures that include only several key object properties (i.e., types and coordinates) help achieve less memory usage, faster computation, and improved object representation accuracy for the autonomous operating or driving than storage-intensive, processing-intensive, and inaccurate images each containing a huge number of pixels. Additionally, the substitute claims themselves confirm that the claimed invention amounts to significantly more than any alleged abstract idea. **Second**, the *MTA Sur-Reply cherry-picks words and concepts, such as using a camera and accessing a database, and ignores the claims as a whole*. For example, the substitute claims recite a method that includes a device autonomously performing operations defined by instruction sets learned in a learning process, and further recite details of the learning process, in addition to specific details regarding first and second data structures, including specific claimed features, that are correlated with first and second instruction sets.

III. THE SUBSTITUTE CLAIMS ARE PATENTABLE OVER THE ART

A. The MTA Sur-Reply Makes Impermissible New Arguments, and Incorrect Arguments, About Grotmol-Hickman

1. Limitation [Sub-3]

For [Sub-3], the MTA Sur-Reply states that “Grotmol itself discloses and renders obvious a knowledgebase having multiple data structures (e.g., training sets)

that each include images representing the same set of multiple objects correlated with respective motor commands (e.g., first and second instruction sets).” The MTA Sur-Reply further states that the PG “did not fully account[] for Grotmol’s role in the combination.” MTA Sur-Reply, 2-3. This is a new argument and new theory, as the Opposition (Paper 31), when addressing the above portion of [Sub-3], did not make this argument about Grotmol. ***On the contrary, Petitioner used Hickman for this limitation, effectively admitting that Grotmol does not disclose it.*** Petitioner’s attempt to now use Grotmol should be rejected. And the substitute claims recite first and second data structures that each includes labels indicating types of the multiple objects and coordinates indicating locations of the multiple objects specifically to distinguish Grotmol’s images. Object depictions in Grotmol’s images are collections of pixels, not the recited first/second data structures including labels and coordinates (i.e., pixels don’t involve any labels and coordinates). Further, the last sentence of page 4 of the MTA Sur-Reply (“In this context, it would have been obvious...”) is a new argument. Pages 12-13 of the Opposition about motivation to combine are completely divorced from the new limitations. *See* MTA Reply (Paper 34), 11. Petitioner’s attempt to tie that back to [Sub-3] is an impermissible new argument.

The annotated figure 3 found at page 5 of the MTA Sur-Reply, and associated discussion, is also an impermissible new argument—and an incorrect argument. **First**, regarding Petitioner’s annotated figure 3, there is not even a hint in Grotmol

or Hickman that portions of Grotmol's image depicting objects can be replaced by rows containing object data in Hickman, which is technically and logically unfeasible as discussed below. **Second**, Petitioner places two separate tables 313/314 next to each other incorrectly implying a single table, and wrongly cherry-picks some rows to represent a tree, rectangle, and circle in Grotmol's image 2000 and other rows to represent the tree, rectangle, and circle in Grotmol's image 2010. But random groupings of rows from a table are not data structures. As its name dictates, *a data structure is data that is actually disclosed as structured, not a random grouping of rows or other data* that Petitioner retrospectively attempts to structure to fit its purpose. **Third**, if tables 313/314 are considered as separate data structures in Petitioner's annotated figure 3, then *table 314 does not include the claimed coordinates* recited in both the first and second claimed data structures. **Fourth**, Petitioner argues Grotmol's images show the same objects, but replaces each of Grotmol's images with multiple rows from Hickman that represent different objects in its annotated figure 3. The rows in purple (that Petitioner maps to the multiple objects in the first data structure) and the rows in orange (that Petitioner maps to the *same* multiple objects in the second data structure) *do not represent the same objects since the rows in Hickman's tables all represent different objects*. In other words, no row in Hickman's tables represents the same object as any other row (i.e., since Hickman always operates on a single object, duplicate rows representing the same

object would confuse the system). Hickman never meant multiple rows to be structured in a first data structure that represents a first multi-object circumstance, let alone a second such data structure as recited. *In fact, there is no concept of a multi-object circumstance in Hickman.* **Fifth**, Petitioner is attempting to replace Grotmol's time series of images with Hickman's rows in a table that have nothing to do with (and even teach away from) any time series. *Since Hickman always operates on a single object at a time, rows in Hickman's tables represent objects each at a different time.* An image, in a time series of images in Grotmol, depicting multiple objects at a particular time cannot be replaced by multiple object rows in Hickman that represent objects at different times. Hickman never meant multiple rows to be structured in a first data structure that represents a first multi-object circumstance at a particular first time in a time series, let alone a second such data structure at a second time in the time series as recited. *In fact, Hickman has no concept of rows being in a time series as recited in the amendment.*

2. Limitations [Sub-4] and [Sub-5]

For [Sub-4]/[Sub-5], *the Opposition relied entirely on Hickman effectively admitting that Grotmol does not disclose these limitations.* Opp., 23-25. The MTA Sur-Reply makes impermissible new arguments regarding Grotmol, stating that "Grotmol's training sets themselves correlate circumstance representations (e.g., images of a robot's environment) with instruction sets (e.g., motor commands)."

MTA Sur-Reply, 6. The MTA Sur-Reply further states that “[e]ven when Hickman’s data structures are applied to Grotmol’s training sets, the correlations *remain* and *therefore meet* the limitations of the substitute claims”—i.e., *Grotmol’s* correlations are being improperly mapped to these new limitations. *Id.*

The MTA Sur-Reply wrongly argues that “[d]ata structure 313 specifically links each unique object to a corresponding general object in data structure 314 via the general object identifier (GID), and each general object entry in data structure 314 includes corresponding TASKS data.” *Id.* **First**, in Petitioner’s figure 5 at page 7 of MTA Sur-Reply, two separate tables 313 and 314 are not a single data structure since they need to be linked using an extra process step of linking. As its name dictates, a data structure is data that is actually disclosed as structured, not something that requires an extra process step to be structured after the fact to fit Petitioner’s purpose. **Second**, even if the two linked tables are considered as a single data structure (which they cannot be), the single data structure only allegedly discloses the first recited data structure, and cannot then disclose the second recited data structure. **Third**, Petitioner cannot just carve up *random groupings of rows from Hickman’s tables as desired in hindsight, to form recited data structures to fit Petitioner’s purpose*, as discussed in more detail above.

The MTA Sur-Reply’s argument that “Hickman contemplates other configurations that provide a merged data structure including object location, type,

and task fields,” citing Hickman 10:57-11:7, is an impermissible new argument for [Sub-4]/[Sub-5]. MTA Sur-Reply, 7. Even if Petitioner may have cited that portion for another limitation, it didn’t for [Sub-4]/[Sub-5], and PO replied to what the Opposition actually asserted (Opp., 24-25). PO is not required to divine Petitioner’s arguments from other elements. Anyway, that portion of Hickman has extremely broad, essentially meaningless, language without any explanation of the unspecified configurations proposed by Petitioner. Figure 5 at page 7 of the MTA Sur-Reply and associated text are another impermissible new argument. PO’s arguments that defeat the annotated figure, if the Board considers it at all, are above.

B. The MTA Sur-Reply Makes Impermissible New Arguments, and Incorrect Arguments, About Grotmol-Tolstedt

1. Limitation [Sub-3]

Regarding [Sub-3] for Grotmol-Tolstedt, the second paragraph of Section II.C of Petitioner’s MTA Sur-Reply (page 8) is impermissible new argument. Like it did for Grotmol-Hickman (*supra* Section III.A.1), Petitioner is injecting new argument regarding Grotmol where the *Opposition only relied on Tolstedt, effectively admitting that Grotmol does not disclose this limitation*. Opp., 23. And Petitioner’s argument about what “[a] POSITA would have understood” (last sentence of Section II.C of MTA Sur-Reply) is also impermissible new argument because it flows from the preceding sentence, which is new argument about Grotmol. MTA Sur-Reply, 8.

Petitioner is also wrong substantively. The MTA Sur-Reply states that “[t]he first and second data structures correspond to two respective thematic maps that include labels and coordinates of multiple objects around a vehicle at two different times and locations.” *Id.* This is a conclusory, unsubstantiated, and incorrect assertion. *Tolstedt simply does not disclose two thematic maps*—rather, Tolstedt only discloses *one* thematic map, *whereas the amendment recites two (first and second) data structures*. Petitioner cited paragraphs 123, 134, and 83-88 as support, but none of those portions of Tolstedt disclose or even suggest two thematic maps, and instead refer to “the map.” Furthermore, the MTA Sur-Reply does not contain any obviousness analysis about the second thematic map, and to the extent the Opposition’s conclusory, cursory mention of “obvious” at page 23 is considered, that falls well short of the mark, too. The relevant inquiry is not what the second data structure *can* or *cannot* be, but what Tolstedt *actually discloses or suggests*—and it is apparent that Petitioner has engaged in impermissible hindsight reconstruction. MTA Reply at 9; *InTouch Techs.*, 751 F.3d at 1352 (“[The] expert also succumbed to hindsight bias [Her’s] testimony primarily consisted of conclusory references to her belief that [a POSITA] *could* combine these references, not that they *would* have been motivated to do so.”) (emphasis in original); *see also TQ Delta, LLC v. Cisco Sys., Inc.*, 942 F.3d 1352, 1361 (Fed. Cir. 2019). Petitioner has provided no rationale for modifying Tolstedt’s system, which includes *one* thematic map. And

Petitioner's expert testimony regarding a second map is merely a *verbatim copy* of Petitioner's Opposition. *Compare* Opp. at 23, with Ex. 1010 at ¶88.

2. Limitation [Sub-5]

Similarly, the MTA Sur-Reply's sentence at page 9 beginning "Accordingly, it would have been obvious" and discussing obviousness of correlating first/second thematic maps is wrong for the same reason as discussed above regarding no second thematic map for [Sub-3]. That sentence is also impermissible new argument. Even if the Opposition discussed a second thematic map for [Sub-3], it did not do so for [Sub-5]. PO replied to what Petitioner actually asserted for this limitation in the Opposition; PO is not required to divine arguments from other elements. Opp., 25. Additionally, that sentence is not supported by expert testimony. *More fundamentally, Tolstedt does not even contemplate any data structures correlated with instruction sets.* Rather, Tolstedt's planning is based on a calculated path, not data structures correlated with instruction sets. Ex. 1015, ¶99 ("utilizes path planning module 904 to plan a path that follows the movement of the operator"). In light of Tolstedt's very different approach, a POSITA would not have been motivated to modify Grotmol in the manner conclusorily proposed by Petitioner.

IV. CONCLUSION

For the above and previously presented reasons, the MTA should be granted.

Date: October 11, 2024

Respectfully submitted,

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CERTIFICATION OF SERVICE

The undersigned hereby certifies that the foregoing **PATENT OWNER'S
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