

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner,

v.

AUTONOMOUS DEVICES, LLC,
Patent Owner.

IPR2023-01173
Patent 11,055,583 B1

Before BARBARA A. PARVIS, ROBERT J. WEINSCHENK, and
RUSSELL E. CASS, *Administrative Patent Judges*.

WEINSCHENK, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background and Summary*

Tesla, Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 10, 11, 25, 27, and 30 (“the challenged claims”) of U.S. Patent No. 11,055,583 B1 (Ex. 1001, “the ’583 patent”). Autonomous Devices, LLC (“Patent Owner”) filed a Preliminary Response (Paper 11, “Prelim. Resp.”) to the Petition. With our authorization, Petitioner filed a Reply (Paper 19, “Reply”) to the Preliminary Response, and Patent Owner filed a Sur-reply (Paper 20, “Sur-reply”) to the Reply.

An *inter partes* review may not be instituted unless “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Further, when instituting an *inter partes* review, we “will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.” 37 C.F.R. § 42.108(a). Here, Petitioner demonstrates a reasonable likelihood of prevailing in showing that at least one of the challenged claims is unpatentable. Thus, we institute an *inter partes* review of the challenged claims on all the grounds of unpatentability in the Petition.

B. *Real Parties in Interest*

Petitioner identifies itself as the only real party in interest. Pet. 1. Patent Owner likewise identifies itself as the only real party in interest. Paper 5, 1.

C. Related Matters

The parties indicate that the '583 patent is the subject of the following district court case: *Autonomous Devices, LLC v. Tesla, Inc.*, No. 22-cv-1466 (D. Del.) (“District Court Litigation”). Pet. 1; Paper 5, 1. The parties indicate that the '583 patent is the subject of another petition for *inter partes* review in IPR2023-01172.¹ Paper 1, 1; Paper 5, 2. The parties also indicate that other patents in the District Court Litigation are the subject of petitions for *inter partes* review in IPR2023-01054, IPR2023-01055, IPR2023-01169, IPR2023-01170, and IPR2023-001171. Pet. 1; Paper 5, 1–2.

D. The '583 Patent

The '583 patent relates to “machine learning for computing enabled systems and/or devices.” Ex. 1001, code (57). The '583 patent states that “[a] machine learning solution is needed for computing enabled systems and/or devices to be less dependent on or fully independent from user input.” *Id.* at 1:37–39. The '583 patent describes a system for “learning and/or using visual surrounding for autonomous device operation” comprising “learning one or more digital pictures of a device’s surrounding along with correlated instruction sets for operating the device, storing this knowledge in a knowledgebase (i.e. neural network, graph, sequences, etc.), and autonomously operating a device.” *Id.* at 59:10–18.

¹ Petitioner states that it filed two petitions because the '583 patent “contains 34 claims . . . span[ning] eight columns,” and Petitioner “could not reasonably challenge all of the claims in a single petition.” Paper 1, 1. Patent Owner does not dispute Petitioner’s rationale for filing two petitions for *inter partes* review of the '583 patent.

E. Illustrative Claim

Of the challenged claims, claim 10, which depends from claims 1 and 4, is illustrative. Claims 1, 4, and 10 are reproduced below.

1. A system comprising:

one or more processors; and

one or more non-transitory machine readable media storing machine readable code that, when executed by the one or more processors, causes the one or more processors to perform at least:

receiving or generating a first one or more digital pictures, wherein the first one or more digital pictures depict at least a portion of a first device's surrounding;

receiving or generating a first one or more instruction sets for operating the first device; and

learning the first one or more digital pictures correlated with the first one or more instruction sets for operating the first device.

Ex. 1001, 160:41–54.

4. The system of claim 1, wherein the machine readable code, when executed by the one or more processors, causes the one or more processors to further perform at least:

receiving or generating a new one or more digital pictures;

determining the first one or more instruction sets for operating the first device based on at least partial match between the new one or more digital pictures and the first one or more digital pictures; and

at least in response to the determining, causing the first device or a second device to perform one or more operations defined by the first one or more instruction sets for operating the first device.

Id. at 161:15–27.

10. The system of claim 4, wherein the first one or more digital pictures correlated with the first one or more instruction sets for operating the first device are included in a knowledgebase, and wherein the knowledgebase further includes a second one or more digital pictures correlated with a second one or more instruction sets for operating the first device, and wherein at least a portion of the first one or more digital pictures or at least a portion of the first one or more instruction sets for operating the first device is learned in a first learning process that includes operating the first device at least partially by a first user, and wherein at least a portion of the second one or more digital pictures or at least a portion of the second one or more instruction sets for operating the first device is learned in a second learning process that includes operating the first device at least partially by a second user.

Id. at 162:4–20.

F. Evidence

Petitioner submits the following evidence:

Evidence	Exhibit No.
Declaration of Jason Janet, Ph.D.	1003
Grotmol, US 9,604,359 B1, issued Mar. 28, 2017 (“Grotmol”)	1005
Hickman, US 8,639,644 B1, issued Jan. 28, 2014 (“Hickman”)	1007
Hoffman, US 9,283,674 B2, issued Mar. 15, 2016 (“Hoffman”)	1009

G. Asserted Grounds

Petitioner asserts that the challenged claims are unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
10, 11	103	Grotmol ²
25, 27	103	Grotmol, Hickman
30	103	Grotmol, Hoffman

² Petitioner also relies on the knowledge of a person of ordinary skill in the art. Pet. 4.

II. ANALYSIS

A. 35 U.S.C. § 314(a)

Patent Owner argues that we should exercise our discretion under 35 U.S.C. § 314(a) to deny the Petition in light of the District Court Litigation. Prelim. Resp. 15–21; Sur-reply 1–2. Section 314(a) states that

[t]he Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Under § 314(a), we have discretion to deny institution of an *inter partes* review. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016). We consider several factors when determining whether to deny institution under § 314(a) based on a parallel district court proceeding, specifically

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Apple Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11 at 5–6 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”). We also consider “several clarifications” made by the Director of the United States Patent and Trademark Office (“USPTO”). See USPTO Memorandum, Interim

Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation, 2 (June 21, 2022), *available at* https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf (“Director’s Memo”).

1. *Factor 1 – Whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted*

Under the first *Fintiv* factor, we consider “whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted.” *Fintiv*, Paper 11 at 6. Patent Owner argues that the first factor “favors denial of institution because presently there is no stay in the district court proceeding, and there is a low likelihood of a stay.” Prelim. Resp. 17; *see* Sur-reply 1. Petitioner contends that this factor is neutral because “neither party has yet requested a stay.” Reply 1.

Neither party identifies any statements by the District Court or other evidence that specifically address a stay of the District Court Litigation pending this proceeding. *See* Prelim. Resp. 17; Reply 1; Sur-reply 1. We decline to speculate based on the record in this case whether the District Court would grant a stay of the District Court Litigation. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 (PTAB May 13, 2020) (informative) (“*Fintiv IP*”). As a result, we determine that the first *Fintiv* factor is neutral.

2. *Factor 2 – Proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision*

Under the second *Fintiv* factor, we consider the “proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision.” *Fintiv*, Paper 11 at 6. Patent Owner argues that although

“[t]he projected statutory deadline for a final written decision in this IPR is . . . 5 months prior to the . . . district court trial date,” “no single factor is dispositive . . . and the other *Fintiv* factors favor denial.” Prelim. Resp. 17; see Sur-reply 2. Petitioner contends that “Factor 2 weighs strongly against denial” because “[t]rial in Delaware is currently not scheduled to begin until . . . 5+ months after the FWD,” and “[t]he current median time-to-trial in Delaware (36.7 months) also projects that trial would not begin until . . . 10+ months after the FWD.” Reply 1–2.

The current trial date in the District Court Litigation is June 23, 2025. Ex. 2005, 3. According to Petitioner, the median time-to-trial for civil actions in the District of Delaware indicates that the trial in the District Court Litigation is likely to occur later than the current trial date. Reply 1–2. The projected statutory deadline for a final written decision in this case is in January 2025. Thus, the trial in the District Court Litigation is likely to occur at least five months after the projected statutory deadline for a final written decision in this case. As a result, we determine that the second *Fintiv* factor weighs against discretionary denial of institution.

3. *Factor 3 – Investment in the parallel proceeding by the court and the parties*

Under the third *Fintiv* factor, we consider the “investment in the parallel proceeding by the court and the parties.” *Fintiv*, Paper 11 at 6. Patent Owner contends that “Factor 3 strongly favors denial because the parties have invested and will continue to invest significant resources in the parallel district court litigation.” Prelim. Resp. 17. According to Patent Owner,

[b]y th[e] time [of the Board’s institution decision], the district court and the parties will have completed the following: motion to dismiss briefing, exchanged preliminary infringement and invalidity contentions, exchanged list of claim terms and proposed constructions, and substantially completed document production. Moreover, fact discovery closes on February 23, 2024. Patent Owner has spent hundreds of hours reviewing [Petitioner’s] technical production and the parties have exchanged thousands of documents. Further, by January 2024 (the institution decision deadline), the parties will have likely begun deposition discovery. Finally, Petitioner waited over seven months after the parallel district court litigation was filed to file its petition. This unreasonable delay counsels against institution.

Id. at 18 (citations omitted); *see* Sur-reply 1–2. Patent Owner also notes that “Petitioner has not filed an IPR on every patent involved in the district court litigation.” Sur-reply 2.

Petitioner argues that “Factor 3 weighs strongly against exercising discretion to deny institution” because the Petition was filed “more than four months before the statutory deadline.” Reply 2. Petitioner also argues that in the District Court Litigation, fact discovery “does not close until February 23, 2024,” the claim construction hearing is “on July 26, 2024,” expert discovery will not commence “until September 2024,” and trial “is set for June 2025.” *Id.*

The evidence of record indicates that the District Court and the parties have invested only some resources in the District Court Litigation as to issues of unpatentability involving the ’583 patent. We recognize that Petitioner served initial invalidity contentions regarding the ’583 patent. Ex. 2006. But the District Court has yet to issue a claim construction order addressing any terms of the ’583 patent. Ex. 2005, 3. And the evidence of

record indicates that fact discovery is ongoing, expert discovery has not begun, and the deadline for dispositive motions is not until January 2025. *Id.* at 2–3. Further, Petitioner exercised reasonable diligence in filing the Petition about three months before serving its initial invalidity contentions in the District Court Litigation. Pet. 44; Ex. 2006, 90. Accordingly, we determine that the third *Fintiv* factor weighs against discretionary denial of institution.

4. *Factor 4 – Overlap between issues raised in the petition and in the parallel proceeding*

Under the fourth *Fintiv* factor, we consider the “overlap between issues raised in the petition and in the parallel proceeding.” *Fintiv*, Paper 11 at 6. Petitioner argues that “[w]ith trial in Delaware lagging significantly behind a FWD in this IPR,” estoppel under 35 U.S.C. § 315(e) would prevent the “risk of adjudication of overlapping issues.” Reply 2–3. Nonetheless, 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.” *Id.* at 3. Patent Owner argues that Petitioner “provided a weak stipulation under *Sand Revolution* that falls short of a *Sotera* stipulation.” Sur-reply 2.

The Petition challenges claims 10, 11, 25, 27, and 30, and relies on Grotmol, Hickman, and Hoffman. Pet. 4. Petitioner’s invalidity contentions in the District Court Litigation also rely on Grotmol and Hickman. Ex. 2006, 44. Nonetheless, Petitioner’s stipulation that it will not rely on the grounds asserted in the Petition in the District Court Litigation mitigates to at least some degree concerns of duplicative efforts and potentially

conflicting decisions. Reply 3; *see Sand Revolution II, LLC v. Continental Intermodal Grp. – Trucking LLC*, IPR2019-01393, Paper 24 at 12 (PTAB June 16, 2020) (informative). Thus, we determine the fourth *Fintiv* factor weighs at least slightly against exercising our discretion to deny institution.

5. *Factor 5 – Whether the petitioner and the defendant in the parallel proceeding are the same party*

Under the fifth *Fintiv* factor, we consider “whether the petitioner and the defendant in the parallel proceeding are the same party.” *Fintiv*, Paper 11 at 6. Here, Petitioner is the defendant in the District Court Litigation. Prelim. Resp. 20; Sur-reply 2. But, as discussed above, the trial in the District Court Litigation is likely to occur at least five months after the projected statutory deadline for a final written decision in this case. Under these circumstances, we determine that the fifth *Fintiv* factor weighs against exercising our discretion to deny institution.

6. *Factor 6 – Other circumstances that impact the Board’s exercise of discretion, including the merits*

Under the sixth *Fintiv* factor, we consider “other circumstances that impact the Board’s exercise of discretion, including the merits.” *Fintiv*, Paper 11 at 6. “[W]here the PTAB determines that the information presented at the institution stage presents a compelling unpatentability challenge, that determination alone demonstrates that the PTAB should not discretionarily deny institution under *Fintiv*.” Director’s Memo at 4–5. Patent Owner argues that “the merits of the Petition are weak in light of at least Petitioner’s failure to demonstrate that the cited references disclose all of the limitations of the claims.” Prelim. Resp. 21. Petitioner argues that “[t]he Petition’s unpatentability challenges are compelling, and *Fintiv* denial is not warranted.” Reply 3.

On balance, we determine that *Fintiv* factors 1–5 do not favor discretionary denial of institution. Specifically, we determine that the projected trial date (at least five months after the projected statutory deadline for a final written decision), the parties’ minimal investment in the District Court Litigation, and Petitioner’s stipulation all weigh against (or at least slightly against) discretionary denial of institution. As a result, we need not decide whether Petitioner presents a compelling unpatentability challenge. *See CommScope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 at 4–5 (PTAB Feb. 27, 2023) (decision on Director review) (precedential) (“[I]n circumstances where the Board determines that the other *Fintiv* factors 1–5 do not favor discretionary denial, the Board shall decline to discretionarily deny under *Fintiv* without reaching the compelling merits analysis.”).

7. Summary

Based on our holistic view of the *Fintiv* factors, we decline to exercise our discretion under § 314(a) to deny the Petition.

B. Level of Ordinary Skill in the Art

According to Petitioner,

[a] person having ordinary skill in the art . . . relevant to the ’583 patent as of November 26, 2017—the earliest possible priority date of the ’583 patent—would have had at least: (1) a bachelor’s degree in electrical engineering, computer engineering, computer science, systems engineering, or equivalent course work with two to three years of work experience in computer vision, image/video processing, and/or machine learning; or (2) a master’s degree in electrical engineering, computer engineering, computer science, systems engineering, or equivalent course work with a focus in computer vision, image/video processing, and/or machine learning.

Pet. 4–5 (citing Ex. 1003 ¶ 41). Petitioner’s description of the level of ordinary skill in the art is supported by the testimony of Petitioner’s declarant, Dr. Jason Janet. Ex. 1003 ¶ 41. Patent Owner does not dispute Petitioner’s description at this stage of the proceeding. Prelim. Resp. 4. We adopt Petitioner’s description for the purposes of this Decision.

C. Claim Construction

In an *inter partes* review proceeding, a patent claim is construed using the same standard used in a civil action under 35 U.S.C. § 282(b), including construing the claim in accordance with the ordinary and customary meaning of the claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b). Neither party proposes an express construction for any claim terms at this stage of the proceeding. Pet. 5; Prelim. Resp. 8–9. We determine that no claim terms require express construction for purposes of this Decision.

D. Obviousness of Claims 10 and 11 over Grotmol

Petitioner argues that claims 10 and 11 would have been obvious over Grotmol.³ Pet. 12–26. For the reasons discussed below, Petitioner demonstrates a reasonable likelihood of prevailing in showing that claims 10 and 11 would have been obvious over Grotmol.

1. Claim 10

Claim 10 depends from claims 1 and 4, and thus includes the limitations of claims 1 and 4. Ex. 1001, 162:4–20. As a result, we address the limitations of claims 1, 4, and 10 below.

³ Petitioner also relies on the knowledge of a person of ordinary skill in the art. Pet. 12.

Claim 1 recites “[a] system.” Ex. 1001, 160:41. Petitioner presents evidence that Grotmol teaches “‘a system’ implemented as a ‘self-contained robotic apparatus.’” Pet. 12 (citing Ex. 1005, 3:27–30). Patent Owner does not dispute that Grotmol teaches the preamble of claim 1. On this record, Petitioner shows sufficiently that Grotmol teaches the preamble of claim 1.⁴

Claim 1 recites “one or more processors.” Ex. 1001, 160:42. Petitioner presents evidence that Grotmol teaches one or more processors. Pet. 12–13 (citing Ex. 1005, 3:27–30, 8:5–15, Fig. 7). Patent Owner does not dispute that Grotmol teaches this limitation of claim 1. On this record, Petitioner shows sufficiently that Grotmol teaches this limitation of claim 1.

Claim 1 recites “one or more non-transitory machine readable media storing machine readable code . . . executed by the one or more processors.” Ex. 1001, 160:43–46. Petitioner presents evidence that Grotmol teaches “[a] non-transitory computer-readable storage medium having instructions embodied thereon, the instructions being executable by a processor.” Pet. 13–14 (citing Ex. 1005, 49:4–50:13). Patent Owner does not dispute that Grotmol teaches this limitation of claim 1. On this record, Petitioner shows sufficiently that Grotmol teaches this limitation of claim 1.

Claim 1 recites “receiving or generating a first one or more digital pictures, wherein the first one or more digital pictures depict at least a portion of a first device’s surrounding.” Ex. 1001, 160:47–49. Petitioner presents evidence that Grotmol teaches receiving images “‘of a visual scene seen when following a trajectory,’ *i.e., first one or more digital pictures . . .*

⁴ We need not decide whether the preamble of claim 1 is limiting because Petitioner presents evidence that the prior art teaches the recitations in the preamble.

depict[ing] at least a portion of a first device's surrounding." Pet. 14–15 (citing Ex. 1005, code (57), 8:57–9:3, 10:16–22, 38:28–60, 39:13–22, Fig. 20A) (emphasis original). Patent Owner does not dispute that Grotmol teaches this limitation of claim 1. On this record, Petitioner sufficiently shows that Grotmol teaches this limitation of claim 1.

Claim 1 recites "receiving or generating a first one or more instruction sets for operating the first device." Ex. 1001, 160:50–51. Petitioner presents evidence that Grotmol teaches receiving "'an instance of a motor control indication configured to cause the robot to execute an action,' *i.e., a first one or more instruction sets for operating the first device.*" Pet. 15 (citing Ex. 1005, 3:27–39, 33:14–30, 39:17–19) (emphasis original). Patent Owner does not dispute that Grotmol teaches this limitation of claim 1. On this record, Petitioner sufficiently shows that Grotmol teaches this limitation of claim 1.

Claim 1 recites "learning the first one or more digital pictures correlated with the first one or more instruction sets for operating the first device." Ex. 1001, 160:52–54. Petitioner presents evidence that Grotmol teaches "generating and storing 'training sets,' . . . where each training set 'may comprise an instance of the video frame' . . . 'and an instance of a motor control indication configured to cause the robot to execute an action.'" Pet. 15–16 (citing Ex. 1005, 3:27–39). Petitioner further contends that "Grotmol describes training behaviors in a robotic device by 'learning of *associations* between sensory context . . . and a respective action . . . during training.'" *Id.* at 16 (citing Ex. 1005, 33:59–62, 39:17–19, 43:6–9) (emphasis original).

Patent Owner argues that “the claimed correlation between digital pictures and instruction sets is the result (output) of the learning recited in claim 1, whereas Grotmol’s training sets are inputs into Grotmol’s process that simply stores the pre-associated training sets with no need for learning the correlations since Grotmol’s images and commands are already associated in the training sets.” Prelim. Resp. 11. In other words, Patent Owner contends that Grotmol’s “generation and storage is different than the claimed learning of digital pictures correlated with instruction sets, which specifically involves correlating uncorrelated pictures and instruction sets.” *Id.* at 13.

On this record, Patent Owner’s argument is unavailing. Grotmol states that “[t]rained behaviors of the robotic device may be configured based on *learning of associations* between sensory context (e.g., presence of an obstacle in front of the robotic vehicle) and a respective action (e.g., right turn) *during training*.” Ex. 1005, 33:59–62 (emphases added). Thus, Grotmol teaches “learning” associations during training, not just storing pre-associated training sets.

Patent Owner also argues that “the associations disclosed by Grotmol are associations between a sensory context (not a digital picture, as claimed) and an action (not an instruction set, as claimed).” Prelim. Resp. 13. On this record, we disagree. Grotmol states that “[d]uring training, images . . . may be stored in a memory buffer” and “[m]otor commands issued by a trainer corresponding to time instances when the images are acquired may be stored.” Ex. 1005, 39:13–19. Thus, Grotmol teaches learning associations between images (i.e., digital pictures) and motor commands (i.e., instruction sets).

Claim 4 recites “receiving or generating a new one or more digital pictures.” Ex. 1001, 161:18–19. Petitioner presents evidence that Grotmol teaches receiving a “most recent, current” image. Pet. 18–19 (citing Ex. 1005, 39:23–26). Patent Owner does not dispute that Grotmol teaches this limitation of claim 4. On this record, Petitioner shows sufficiently that Grotmol teaches this limitation of claim 4.

Claim 4 recites “determining the first one or more instruction sets for operating the first device based on at least partial match between the new one or more digital pictures and the first one or more digital pictures.” Ex. 1001, 161:20–23. Petitioner presents evidence that Grotmol teaches comparing “an acquired image . . . with one or more images from the training buffer in order to determine the most likely match.” Pet. 19–20 (citing Ex. 1005, code (57)). Petitioner also presents evidence that Grotmol teaches that “motor commands at a given time step may be obtained by taking the stored motor commands from the training buffer that may correspond to the *best matching* stored image.” *Id.* at 19 (citing Ex. 1005, 43:5–9) (emphasis original). Patent Owner does not dispute that Grotmol teaches this limitation of claim 4. On this record, Petitioner shows sufficiently that Grotmol teaches this limitation of claim 4.

Claim 4 recites “at least in response to the determining, causing the first device or a second device to perform one or more operations defined by the first one or more instruction sets for operating the first device.” Ex. 1001, 161:24–27. Petitioner presents evidence that Grotmol teaches that “one or more potential control signals corresponding to the image from the training set . . . are determined and executed.” Pet. 21–23 (citing Ex. 1005, 2:34–41, 3:12–13, 43:4–11). Patent Owner does not dispute that Grotmol

teaches this limitation of claim 4. On this record, Petitioner shows sufficiently that Grotmol teaches this limitation of claim 4.

Claim 10 recites

wherein the first one or more digital pictures correlated with the first one or more instruction sets for operating the first device are included in a knowledgebase, and wherein the knowledgebase further includes a second one or more digital pictures correlated with a second one or more instruction sets for operating the first device, and wherein at least a portion of the first one or more digital pictures or at least a portion of the first one or more instruction sets for operating the first device is learned in a first learning process that includes operating the first device at least partially by a first user, and wherein at least a portion of the second one or more digital pictures or at least a portion of the second one or more instruction sets for operating the first device is learned in a second learning process that includes operating the first device at least partially by a second user.

Ex. 1001, 162:4–20. Petitioner presents evidence that Grotmol teaches a memory that stores a correlation between a first digital picture and a first instruction set, as well as a correlation between a second digital picture and a second instruction set. Pet. 23–24 (citing Ex. 1003 ¶¶ 243–245, 339; Ex. 1005, code (57), 3:27–39). Petitioner also presents evidence that Grotmol “does not limit the number of users that can train the multiple behaviors for the robot, and a [person of ordinary skill in the art] would have understood that different users can train different behaviors.” *Id.* at 24–25 (citing Ex. 1003 ¶¶ 193–196, 340–341; Ex. 1005, 23:3–11, 24:17–67, 26:1–20). Patent Owner does not dispute that Grotmol teaches the above limitations of claim 10. On this record, Petitioner shows sufficiently that Grotmol teaches the above limitations of claim 10.

For the foregoing reasons, on this record, Petitioner shows sufficiently that Grotmol teaches the limitations of claim 10.

2. Claim 11

Petitioner presents evidence that Grotmol teaches the limitations of claim 11. Pet. 25–26. Other than the arguments discussed above, Patent Owner does not present any additional arguments for claim 11. Prelim. Resp. 13. On this record, Petitioner shows sufficiently that Grotmol teaches the limitations of claim 11.

3. Summary

For the foregoing reasons, Petitioner demonstrates a reasonable likelihood of prevailing in showing that claims 10 and 11 would have been obvious over Grotmol.

E. Obviousness of Claims 25 and 27 over Grotmol and Hickman

Petitioner argues that claims 25 and 27 would have been obvious over Grotmol and Hickman. Pet. 27–37. Petitioner identifies evidence indicating that the Grotmol and Hickman combination teaches the limitations of claims 25 and 27, and that a person of ordinary skill in the art would have had reason to combine these references. *Id.* Other than the arguments discussed above, Patent Owner does not raise any arguments relating to this asserted ground. Prelim. Resp. 14. On this record, Petitioner demonstrates a reasonable likelihood of prevailing in showing that claims 25 and 27 would have been obvious over Grotmol and Hickman.

F. Obviousness of Claim 30 over Grotmol and Hoffman

Petitioner argues that claim 30 would have been obvious over Grotmol and Hoffman. Pet. 37–43. Petitioner identifies evidence indicating that the Grotmol and Hoffman combination teaches the limitations of claim

30, and that a person of ordinary skill in the art would have had reason to combine these references. *Id.* Other than the arguments discussed above, Patent Owner does not raise any arguments relating to this asserted ground. Prelim. Resp. 14. On this record, Petitioner demonstrates a reasonable likelihood of prevailing in showing that claim 30 would have been obvious over Grotmol and Hoffman.

III. CONCLUSION

Petitioner demonstrates a reasonable likelihood of prevailing in showing that at least one of the challenged claims is unpatentable. Accordingly, we institute an *inter partes* review on all grounds of unpatentability in the Petition. At this stage of the proceeding, we have not made a final determination with respect to the patentability of any of the challenged claims.

IV. ORDER

It is hereby

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 10, 11, 25, 27, and 30 of the '583 patent is instituted with respect to all grounds of unpatentability set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '583 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

IPR2023-01173
Patent 11,055,583 B1

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