

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

JUMIO CORPORATION,
Petitioner,

v.

FACETEC, INC.,
Patent Owner.

IPR2025-00109
Patent 11,874,910 B2

Before GARTH D. BAER, NABEEL U. KHAN, and BACH V. HOANG,
Administrative Patent Judges.

HOANG, *Administrative Patent Judge.*

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

I. INTRODUCTION

On November 7, 2024 Jumio Corporation (“Petitioner”) filed a petition requesting an *inter partes* review of claims 1–24 (i.e., all claims) of U.S. Patent No. 11,874,910 B2 (Ex. 1001, “the ’910 Patent”). Paper 1 (“Pet.”). FaceTec, Inc. (“Patent Owner”) timely filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). With our authorization, Petitioner filed a pre-institution reply (Paper 10, “Prelim. Reply”), and Patent Owner filed a pre-institution sur-reply (Paper 14, “Prelim. Sur-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).

Having reviewed the parties’ papers and the evidence of record, we are not persuaded to discretionarily deny institution, and we determine that Petitioner has shown a reasonable likelihood it will prevail in establishing the unpatentability of at least one challenged claim. Accordingly, we institute an *inter partes* review.

A. *Real Parties in Interest*

Petitioner identifies itself as the real party in interest (“RPI”). Pet. 86. Patent Owner identifies itself as the RPI. Paper 4, 2.

Patent Owner argues we should deny institution under 35 U.S.C. § 312(a)(2) because the Petition does not name iProov Ltd. (“iProov”) as an RPI. Prelim. Resp. 5–19; Prelim. Sur-Reply 2–3.

We need not consider whether iProov must be named as an RPI because Patent Owner does not allege that the failure to name iProov would implicate time bar, estoppel, or anything else material to this case. Our

precedential authority, *SharkNinja Operating LLC et al. v. iRobot Corp.*, controls this case, and explains that we need not determine whether a third party is an RPI to the Petitioner because “even if it were, it would not create a time bar or estoppel under 35 U.S.C. § 315.” IPR2020-00734, Paper 11, 18–19 (P.T.A.B. Oct. 6, 2020) (precedential).

Patent Owner acknowledges that, in this IPR, “the time-bar is not implicated.” Prelim. Resp. 5–6. Nevertheless, Patent Owner argues that we should reach the RPI question here because *other* IPRs challenging *different* patents implicate the time bar under 35 U.S.C. § 315(b). *Id.* at 5–6. Patent Owner’s request effectively asks us to extend the § 315(b) time bar to implicate patents not asserted in an applicable infringement complaint.

We decline to do so. The plain language of § 315(b) does not extend the time bar to any patent other than the patent subject to the instant petition:

An inter partes review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of *the patent*

(emphasis added). Nor are we aware of any other authority which requires us to interpret § 315(b) to extend the time bar to patents other than the challenged one. Because Patent Owner admits this Petition challenging the ’910 Patent is not time barred, the treatment in *SharkNinja* controls. Accordingly, on this record, we need not consider whether iProov must be named as an RPI and decline to deny institution under 35 U.S.C. § 312(a)(2).

B. Related Matters

Petitioner indicates the '910 Patent has been asserted in a district court litigation: *FaceTec, Inc. v. Jumio Corporation*, Case No. 5:24-cv-3623 (N.D. Cal.) (“California litigation”). Pet. 86.

In addition to the California litigation, Patent Owner identifies the following matters as related matters:

- *FaceTec, Inc. v. iProov Ltd.*, Case No. 2:21-cv-02252 (D. Nev.)
- *Jumio Corporation v. FaceTec, Inc.*, IPR2025-00106 (PTAB)
- *Jumio Corporation v. FaceTec, Inc.*, IPR2025-00107 (PTAB)
- *Jumio Corporation v. FaceTec, Inc.*, IPR2025-00108 (PTAB)

Paper 4, 2. Patent Owner further

identifies the following administrative matters: United States Patent Nos. US 9953149, US 10614204, US 10262126, US 10698995, US 10915618, US 10776471, US 10803160, US 11657132, US 11256792, US 11157606, US 11574036, US 11693938, US 11727098, US 11562055, US 12141254, US 11991173, and US 12130900; United States Patent Application Nos. US 18/920,106 and US 18/926181; United States Patent Application Publication Nos. US 2023/0031087, US 2023/0409685, US 2024/0061919, US 2024/0211567, US 2024/0346852, US 2024/0348603, US 2024/0297879; and United States Provisional Application Nos. US 62/043224, US 62/043224, US 62/054847, US 62/064415, US 62/085963, US 62/101317, US 62/139558, US 62/188584, US 62/460670, US 62/621471, US 62/621493, US 62/621504, US 62/668158, US 62/718275, US 63/255804, US 63/457085.

Id. at 2–3. Patent Owner still further identifies a number of “non-US patents or patent applications that claim priority to the same ultimate parents as the patent at issue.” *Id.* at 3–4 (citations omitted).

C. Asserted References

Petitioner’s unpatentability challenges rely on five references:

- Derakhshani et al., US 8,437,513 B1, issued May 7, 2013. Ex. 1005 (“Derakhshani”).
- Zhang et al., US 2011/0299741 A1, published Dec. 8, 2011. Ex. 1006 (“Zhang”).
- Tanii et al., US 2002/0113884 A1, published Aug. 22, 2002. Ex. 1007 (“Tanii”).
- Tahk et al., US 2014/0028823 A1, published Jan. 30, 2014. Ex. 1008 (“Tahk”).
- Hoyos et al., US 2010/0014720 A1, published Jan. 21, 2010. Ex. 1010 (“Hoyos”).

Pet. 3.

D. Testimonial Evidence

Petitioner submits a declaration from Dr. Chris Daft. Ex. 1003.

E. The Petition’s Asserted Grounds

Petitioner asserts the following grounds of unpatentability:

Claim(s) Challenged	35 U.S.C. ¹ §	References
1–13, 15–24	103	Derakhshani, Tanii
14	103	Derakhshani, Tanii, Tahk

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. §§ 102 and 103 effective March 16, 2013. Because the challenged patent was filed after March 16, 2013, we refer to the AIA version of § 103.

Claim(s) Challenged	35 U.S.C. ¹ §	References
1–3, 5–12, 15–17, 19–24	103	Zhang, Tanii
4, 13, 14	103	Zhang, Tanii, Tahk
18	103	Zhang, Tanii, Hoyos

Pet. 3.

F. The '910 Patent

The '910 patent generally relates to “facial recognition authentication systems.” Ex. 1001, 1:9–10. Figure 1, reproduced below, illustrates an example facial recognition authentication system. *Id.* at 4:44–46, 5:33–34.

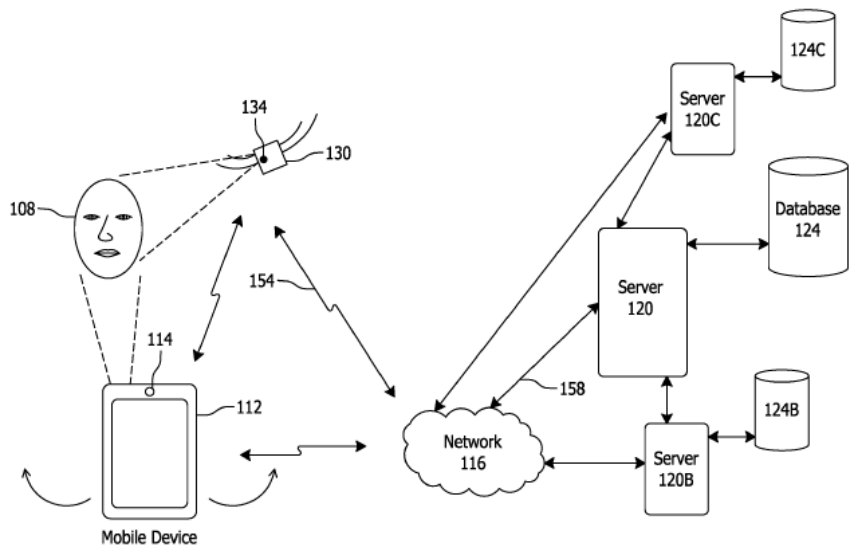


FIG. 1

Figure 1 above illustrates a user 108, a mobile device 112 with a camera 114, and a network 116. *Id.* at 5:40–50. The mobile device 112 is used to access one or more user accounts. *Id.*

The patent explains two-dimensional facial recognition is unsecure because faces may be photographed or recorded and resulting prints or video

displays of a user may be used to spoof the system. *Id.* at 1:45–51. The patent observes when images are taken at relatively close distances between a subject and a camera (such as a mobile phone camera) the images are distorted by perspective distortion. *Id.* at 28:57–62. For example, a person’s nose may appear as much wider and taller relative to a person’s face when an image is taken at a close proximity as compared to when an image is taken at a distance. *Id.* at 29:10–43.

Embodiments take advantage of this distortion effect to increase security of an authentication system. *Id.* at 29:59–67. In such embodiments, images are obtained at both close and far distances during authentication. *Id.* “[B]ecause perspective distortion is expected when an actual, three-dimensional person is present, an absence of the relative change in the dimensions of the facial features alerts the system to a fraudulent attempt at authentication.” *Id.* According to the patent, the distortion effect could not easily be re-created with a two-dimensional picture and thus embodiments provide a secure test to prevent a two-dimensional picture (in place of a 3D face) from being used for authentication. *Id.*

G. Challenged Claims

Petitioner challenges claims 1–24 of the ’910 patent. Of these, claims 1, 10, and 22 are independent, and for purposes of this Decision, claim 1 is representative. Claim 1 is reproduced below, including Petitioner’s bracketed annotations for discussion purposes:

1[pre]. A computing device for verifying three-dimensionality of a user via a user's camera equipped computing device, the computing device comprising:

1[a] a processor configured to execute machine executable code;

1[b] a screen configured to provide a user interface to the user;

1[c] a camera configured to capture images;

1[d] one or more memories configured to store machine readable instructions that are stored on the memory of the authentication server which when executed by the processor, cause the computing device to:

1[d1] capturing at least one first image of the user taken with the camera of the computing device at a first location which is a first distance from the user;

1[d2] processing the at least one first image or a portion thereof to create first data;

1[d3] capturing at least one second image of the user taken with the camera of the computing device is at a second distance from the user, the second distance being different than the first distance, the capturing at least one second image of the user occurring after movement of the camera or the user to establish the camera at the second distance from the user;

1[d4] processing the at least one second image or a portion thereof to create second data;

1[d5] comparing the first data to the second data to determine whether expected differences exist between the first data and the second data which indicates three-dimensionality of the user;

1[d6] verifying the images of the user exhibit three dimensional traits when the expected differences exist between the first data and the second data as a result of capturing the at least one first image and the at least one second image at different distances from the user.

Pet. x; Ex. 1001, 45:57–46:25.

II. DISCRETIONARY DENIAL

A. 35 U.S.C. § 314(a)

Patent Owner argues the Board should exercise its discretion to deny institution under 35 U.S.C. § 314(a) in light of two co-pending district court

cases. Prelim. Resp. 47–53. We addressed this same issue in our institution decision in IPR2025-00106. *See* IPR2025-00106, Paper 17 at 6–9. For the same reasons we explained there, we decline to exercise our discretion to deny institution based on the related district court cases.

B. 35 U.S.C. § 325(d)

Patent Owner argues we should deny institution under 35 U.S.C. § 325(d) because Petitioner’s asserted references are the same or substantively as those the Office previously considered during prosecution. Prelim. Resp. 18–33. We addressed this same issue in our institution decision in IPR2025-00106. *See* IPR2025-00106, Paper 17 at 9–16. For the same reasons we explained there, we decline exercising our discretion to deny institution under § 325(d).

III. ANALYSIS

A. Legal Standards

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden of persuasion never shifts to the patent owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

“A single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation.” *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375–76 (Fed. Cir.

2005). To establish anticipation, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001).

Further, a “reference must describe the claimed invention with sufficient precision and detail to establish that the subject matter existed in the prior art.” *Verve, LLC v. Crane Cams, Inc.*, 311 F.3d 1116, 1120 (Fed. Cir. 2002). The reference does not need to use the same terminology. *Kennametal, Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1381 (Fed. Cir. 2015) (A reference anticipates if a person of skill in the art “would at once envisage the claimed arrangement or combination.” (internal quotation marks and citation omitted)). But, an ambiguous reference will not anticipate a claim. *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1284 (Fed. Cir. 2017). The dispositive question for anticipation is whether one skilled in the art would reasonably understand or infer from the reference that every claim element is disclosed. *Eli Lilly v. Los Angeles Biomedical Research Inst.*, 849 F.3d 1073, 1074–75 (Fed. Cir. 2017).

The legal question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness.² *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966). One seeking to establish obviousness based

² The current record does not include allegations or evidence of objective indicia of nonobviousness.

on more than one reference also must articulate sufficient reasoning with rational underpinnings to combine teachings. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

B. Level of Ordinary Skill in the Art

Petitioner asserts a

person of ordinary skill in the art (“POSITA”) in August 2014 would have had a Bachelor’s degree in electrical engineering, computer engineering, computer science, physics, or a related field, and two years’ work experience related to biometrics, facial authentication, computer vision, and/or optics, such that they would have had significant academic and/or work experience in both software development and optics. Formal education can substitute for work experience and relevant work experience could substitute for formal education.

Pet. 5 (citing Ex. 1003 ¶¶ 129–131).

At this stage, Patent Owner does not address the level of ordinary skill in the art. *See Prelim. Resp.*

For purposes of this Decision, we adopt Petitioner’s proposed level of skill, as articulated above. We are satisfied that Petitioner’s proposed definition generally comports with the level of skill necessary to understand and implement the teachings of the ’910 patent and the asserted prior art. *Cf. Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (noting that the prior art itself may reflect an appropriate level of skill in the art). This definition is also supported by the testimony of Dr. Daft. *See Ex. 1003 ¶¶ 129–131.*

To the extent the level of ordinary skill in the art is in dispute or makes a material difference in the obviousness analysis, the parties should brief their respective positions in this regard during trial.

C. Claim Construction

We interpret claim terms using “the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b). Under the principles set forth by our reviewing court, the “words of a claim ‘are generally given their ordinary and customary meaning,’” as would be understood by a person of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)).

Petitioner states it does not “believe any formal claim constructions are necessary to resolve the issues presented in this petition.” Pet. 5. Petitioner does allege certain ambiguities recited in the claims but nevertheless asserts we need not resolve those ambiguities to evaluate patentability. *Id.* at 6–7.

At this stage, Patent Owner does not expressly address the construction of any claim terms or phrases. *See* Prelim. Resp.

At this stage, it is not necessary to address the construction of any other claim terms or phrases. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))). Petitioner’s alleged ambiguities do not affect our determination on the merits of Petitioner’s challenges, Patent Owner’s present challenge of the merits of Petitioner’s challenges are not contingent on resolving those alleged ambiguities, and we decline to needlessly opine Petitioner’s allegations. During the trial, the parties should directly address any claim construction adopted in this

Decision if the party contends we should not adopt that construction in the final written decision.

However, if Patent Owner believes the Petition is premised on an understanding of a claim term or phrase that is erroneous in a way material to this proceeding, then it should specifically identify the claim construction dispute, articulate its contrary understanding, and support its position with argument and evidence.

D. Summary of Asserted Prior Art References

Below we summarize the asserted references. We discuss any additional pertinent details of the references in our patentability analysis.

1. Derakhshani (Ex. 1005)

Derakhshani describes embodiments that “may prevent spoofing of an eye biometric based authentication system using objects that are not a living human eye.” Ex. 1005, 1:6–7, 3:46–48. Derakhshani describes verifying whether a user’s face is 3D instead of a 2D photo by obtaining a plurality of images at different camera focus settings to determine distances to various facial landmarks and determining whether such distances deviate from a 2D plane. *Id.* at 16:44–17:44. Derakhshani describes an alternative embodiment where a camera obtains a plurality of images from different perspectives and the images are examined to determine whether the images exhibit parallax effects indicative of 3D objects. *Id.* at 17:45–18.4.

2. Zhang (Ex. 1006)

Zhang generally relates to “distinguishing live faces from flat surfaces.” Ex. 1006, code (54) (capitalization and bold omitted). Zhang describes a 3D structure determination module 112 that uses a homography-

based technique for determining whether a face is a 3D structure or a flat surface. *Id.* ¶¶ 24–34. “The homography based technique leverages the fact that two views of a flat (planar) surface are related based on a homography matrix H .” *Id.* ¶ 25. Figure 3, reproduced below, is a flowchart illustrating an example of Zhang’s homography based technique.

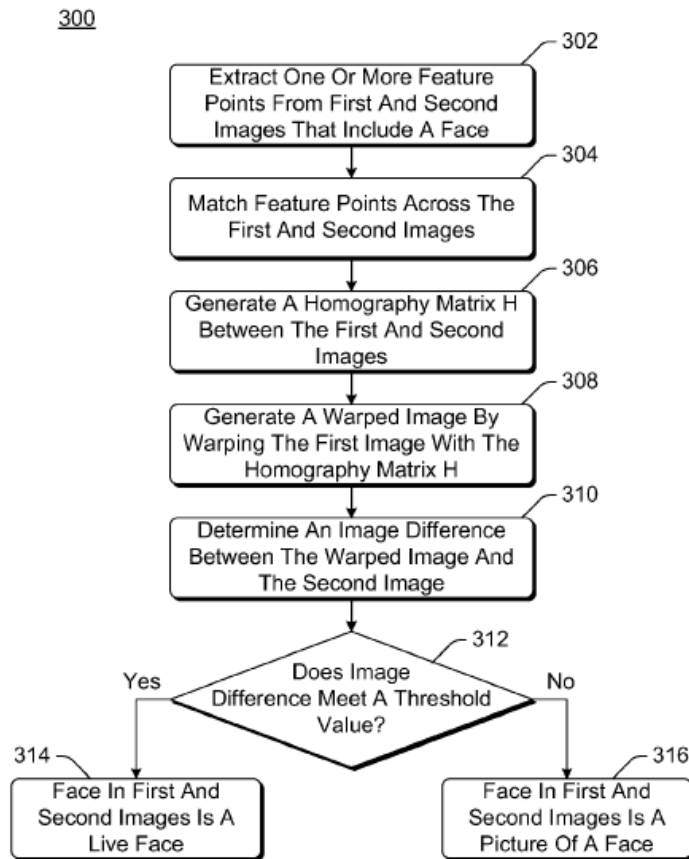
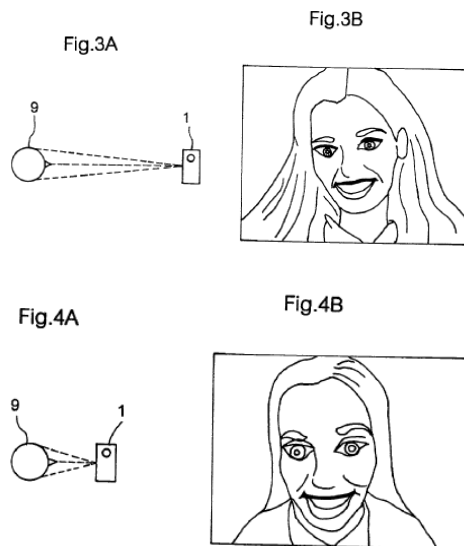


Fig. 3

3. *Tanii (Ex. 1007)*

Tanii relates to digital photography and image processing, including “technology to correct warp of a captured image.” *Ex. 1007*, code (54), ¶ 3. Figures 3A and 4A, reproduced below, illustrate arrangements when image

capture is performed and Figures 3B and 4B, also reproduced below, illustrate the resulting images, respectively. *Id.* ¶ 47.



Figures 3A and 4A, above, illustrate a main object 9 and cellular phone 1 when image capture is performed and Figures 3B and 4B, above, illustrate the resulting images, respectively. *Id.* ¶¶ 47, 48, 56.

4. Tahk (Ex. 1007)

Tahk generally relates to “mobile terminal having a face recognition function and a control method” using a photographic unit. Ex. 1008, code (57)

E. Ground 1: Obviousness Based on Derakhshani and Tanii

Petitioner contends that the subject matter of claims 1–13 and 15–24 would have been obvious over Derakhshani and Tanii. Pet. 3, 7–46. Patent Owner argues that Petitioner’s showing is insufficient. Prelim. Resp. 33–42.

We have considered the parties’ arguments and the evidence presented at this stage, and we address them in the context of representative claim 1. For the reasons explained below, we determine that Petitioner has

demonstrated a reasonable likelihood that it will prevail in showing that the subject matter of claim 1 would have been obvious over the combination of Derakhshani and Tanii, notwithstanding Patent Owner's arguments to the contrary.

1. Combination of Derakhshani and Tanii

Petitioner argues that “a POSITA would have been motivated to combine Derakhshani and Tanii because both identify and account for the three-dimensionality of a face when capturing an image.” Pet. 13 (citing Ex. 1003 ¶ 877). According to Petitioner, Derakhshani uses changes in focus distance and/or parallax effect, whereas Tanii looks for distortions in a face caused by the interaction between the camera's lens and the distance from the imaged object. *Id.* Petitioner argues that Tanii merely recognizes an obvious alternative to evaluating the depth of a face and Petitioner contends that “a POSITA would have been motivated to incorporate Tanii's evaluation into Derakhshani.” *Id.* Thus, when evaluating multiple images taken at either different focus distances, as Derakhshani teaches, or actual distances, as Tanii teaches, the different types of diffraction in these images provide information about an object's depth. *Id.* at 14 (citing Ex. 1003 ¶ 879).

Petitioner notes that to implement Derakhshani's focus-distance approach requires a camera with the ability to set a focal plane with extreme sensitivity and that cameras in mobile phones often do not have this ability. Pet. 15 (citing Ex. 1003 ¶ 882; Ex. 1005, 16:48–51). Therefore, especially in the case of mobile phones, “a POSITA would have been motivated to modify Derakhshani. . . to capture at least two images at different *actual* distances and evaluate whether they exhibit different degrees of distance-

induced (barrel/fish-eye) distortion, as Tanii suggests.” *Id.* at 15–16 (citing Ex. 1003 ¶ 884). Petitioner argues that both techniques involve the application of well-known optics principles and Tanii already taught a mechanism to identify such distance-induced distortions and thus indicate when the face being captured has depth. Pet. 16 (citing Ex. 1003 ¶ 884; Ex. 1007 ¶ 56). Thus, the modification would have been nothing more than the use of known technique to improve similar devices or a simple substitution. *Id.* at 16.

Patent Owner argues that the combination of Tanii with Derakhshani would destroy the basic objective of Derakhshani. Prelim. Resp. 40. This is because Derakhshani, according to Patent Owner, requires distortion to determine whether a face is three-dimensional. *Id.* at 41 (citing Ex. 1003 ¶¶ 182, 400, 885). Tanii, however, works to correct the distortion that Derakhshani requires to operate. *Id.* (citing Ex. 1003 ¶ 110–113).

At this stage of the proceeding, we are persuaded that Petitioner has established a reasonable likelihood that a person of ordinary skill would have combined the teachings of Derakhshani and Tanii for the reasons provided by Petitioner and summarized above. Patent Owner’s argument that Tanii would destroy Derakhshani’s basic objective does not address Petitioner’s specifically proposed combination. “The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. . . . Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.” *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). As noted above, Petitioner proposes to modify “Derakhshani . . . to capture at least two images at different *actual* distances and evaluate whether they exhibit different degrees of distance-induced (barrel/fish-eye)

distortion, as Tanii suggests.” Pet. 14–15 (citing Ex. 1003 ¶ 881). Thus, Petitioner relies on Tanii for its teaching of evaluating distance induced distortions in a face caused by the camera’s lens and the distance from the object. *Id.* Petitioner does not propose to modify Derakhshani by incorporating Tanii’s teaching of correcting the distortion. At this stage of the proceeding, we do not agree with Patent Owner that combining Tanii with Derakhshani would destroy Derakhshani’s basic objective. Further, at this stage, we also agree that improving Derakhshani’s spoof detection and substituting techniques for spoof detection adequately supports the combination. *See KSR*, 550 U.S. 418.

2. Independent Claim 1

Petitioner contends the combination of Derakhshani and Tanii, teaches each of the limitations of claim 1, supporting its contentions with evidence from the asserted prior art and from the testimony of Dr. Daft. Pet. 17–28. Patent Owner does not directly dispute whether the cited portions of the relied upon references disclose the respective limitations of claim 1 for which they are relied upon. *See Prelim. Resp.* Thus, Petitioner’s contentions with respect to the limitations of claim 1, which we summarize below, are undisputed at this stage of the proceeding.

We have reviewed Petitioner’s contentions and determine that, at this stage of the proceeding, Petitioner has demonstrated a reasonable likelihood that the combination of Derakhshani and Tanii teach the preamble and limitations of claim 1. Our determination is not final and based only on the current record and arguments. At this stage of the proceeding, we have not made a final determination with respect to the patentability of the challenged claims.

a) Preamble

Petitioner contends that Derakhshani discloses or suggests the preamble, “[a] computing device for verifying three-dimensionality of a user via a user's camera equipped computing device, the computing device comprising.” Pet. 17 (citing Ex. 1006, 1:11–25, 3:14–15, 5:22–27, 6:3–5, 9:10–22, 16:44–18:4; Ex. 1003 ¶¶ 886–887). Patent Owner does not dispute this contention. On this record, we agree with Petitioner that Derakhshani discloses or suggests the preamble.³

b) Limitation 1[a]

Petitioner contends that Derakhshani discloses or suggests “a processor configured to execute machine executable code.” Pet. 18 (citing Ex. 1005, 2:4–12, 2:31–38, 5:22–27, 7:15–20, 7:38–50, 8:48–9:4, 9:27–31, 10:16–19, 22:12–14, 23:14–44, 24:49–25:8, Fig. 9; Ex. 1003 ¶¶ 888–889).

c) Limitation 1[b]

Petitioner contends that Derakhshani discloses or suggests “a screen configured to provide a user interface to the user.” Pet. 19 (citing Ex. 1005, 6:8–11, 9:22–24, 14:35–37, 22:33–38, 23:14–52, Fig. 9; Ex. 1003 ¶¶ 890–891).

³ Generally, a preamble does not limit a claim. *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002). At this stage of the proceeding, we need not resolve whether the preamble is limiting because Petitioner shows sufficiently for purposes of institution that the prior art satisfies the recitation in the preamble.

d) Limitation 1[c]

Petitioner contends that Derakhshani discloses or suggests “a camera configured to capture images.” Pet. 19 (citing Ex. 1005, 5:23–27, 6:3–10; Ex. 1003 ¶¶ 892–893).

e) Limitation 1[d]

Petitioner contends that Derakhshani discloses or suggests “one or more memories configured to store machine readable instructions that are stored on the memory of the authentication server which when executed by the processor, cause the computing device to” perform the functions recited, *infra*. Pet. 20–22 (citing Ex. 1005, 2:4–12, 2:31–38, 8:29–39, 9:27–58, 10:1–24; 22:12–18, 22:26–44, 23:14–25, 24:49–25:8, Fig. 9; Ex. 1003 ¶¶ 894–899).

f) Limitation 1[d1]

Petitioner contends that Derakhshani discloses or suggests “capturing at least one first image of the user taken with the camera of the computing device at a first location which is a first distance from the user.” Pet. 22–23 (citing Ex. 1005, 1:44–46, 16:44–17:11, 17:45–18:4, Fig. 8A; Ex. 1003 ¶¶ 900–902).

g) Limitation 1[d2]

Petitioner contends that Derakhshani discloses or suggests “processing the at least one first image or a portion thereof to create first data.” Pet. 23 (citing Ex. 1005, 16:44–54, 17:32–36, 17:45–64; Ex. 1003 ¶¶ 903–905).

h) Limitation I[d3]

Petitioner contends that Derakhshani, alone or combined with Tanii, teaches “capturing at least one second image of the user taken with the camera of the computing device is at a second distance from the user, the second distance being different than the first distance, the capturing at least one second image of the user occurring after movement of the camera or the user to establish the camera at the second distance from the user.” Pet. 23–26 (citing Ex. 1005, 1:44-46, 16:44-17:11, 17:45-18:4; Ex. 1007 ¶ 48; Ex. 1003 ¶¶ 906–915).

i) Limitation I[d4]

Petitioner contends that Derakhshani discloses or suggests “processing the at least one second image or a portion thereof to create second data.” Pet 26 (citing Ex. 1005, 17:45–52; Ex. 1003 ¶¶ 916–917).

j) Limitation I[d5]

Petitioner contends that Derakhshani, alone or combined with Tanii, teaches “comparing the first data to the second data to determine whether expected differences exist between the first data and the second data which indicates three-dimensionality of the user.” Pet. 26–28 (citing Ex. 1005, 16:66–17:2, 17:55–59; Ex. 1003 ¶¶ 918–923).

k) Limitation I[d6]

Petitioner contends that Derakhshani, alone or combined with Tanii, teaches “verifying the images of the user exhibit three dimensional traits when the expected differences exist between the first data and the second data as a result of capturing the at least one first image and the at least one

second image at different distances from the user.” Pet. 28 (citing Ex. 1003 ¶ 924–927).

3. *Institution of Inter Partes Review*

As discussed above, at this stage in the proceeding, we determine Petitioner has established a reasonable likelihood that the combination of Derakhshani and Tanii teaches the limitations of claim 1 and a reasonable likelihood that Petitioner will prevail in demonstrating that claim 1 is unpatentable as obvious over Derakhshani and Tanii.

Because we are persuaded that Petitioner has shown a reasonable likelihood of prevailing in demonstrating that the subject matter of claim 1 would have been obvious over Derakhshani, alone or combined with Tanii, we institute an *inter partes* review of all claims and all challenges raised in the Petition. *See SAS Inst. Inc. v. Iancu*, 584 U.S. 357, 365 (2018) (stating 35 U.S.C. § 314 “simply requires [the Director] to decide whether the petitioner is likely to succeed on ‘at least 1’ claim. Once that single claim threshold is satisfied, it doesn’t matter whether the petitioner is likely to prevail on any *additional* claims; the Director need not even consider any other claim before instituting review.”); 37 C.F.R. § 42.108(a).

F. Ground 2: Obviousness Based on Zhang and Tanii

Petitioner asserts additional grounds challenging claims 1–24 over the combination of Zhang and Tanii. Pet. 3. Although it is sufficient to institute based on Petitioner’s obviousness challenge of claim 1 over Derakhshani and Tanii, in order to further guide the parties after institution, we provide additional observations regarding the parties’ arguments for the other grounds and challenged claims below. *See* Patent Trial and Appeal Board

Consolidated Trial Practice Guide 6, 64 (Nov. 2019), *available at* <https://www.uspto.gov/TrialPracticeGuideConsolidated>. We focus on issues raised by Patent Owner's arguments in those grounds.

1. Combination of Zhang and Tanii

Petitioner argues that a person of ordinary skill in the art “would have been motivated to combine Zhang and Tanii because both concern identifying and accounting for the three-dimensionality of a face when capturing an image.” Pet. 52. According to Petitioner, the two references differ because Zhang looks for distortions in a homography transform, whereas Tanii looks for distortions caused by the interaction between the user's face and the camera's lens. *Id.*

Petitioner identifies several ways in which a POSITA would be motivated to combine Zhang and Tanii. For example, Petitioner argues that a POSITA would have been motivated to use Zhang's existing process, but take advantage of the distance induced distortions at two different distances which would allow Zhang's procedure to identify the two images as different due to the differences in the distance-induced distortions and thus allow it to verify three dimensionality. Pet. 54 (citing Ex. 1003 ¶¶ 1015–1016).

Petitioner also identifies a second way in which Zhang and Tanii would be combined. Petitioner argues that instead of Zhang warping an image using a homography transform, it could instead warp a close image using Tanii's distortion-correction procedure and then compare that image to a far image and if the two are sufficiently similar that would indicate a three-dimensional face. *Id.* Petitioner states that A POSITA would be motivated to combined Zhang and Tanii in this way because it would reduce spoofing

of Zhang's system and provide a simpler mathematical operation that requires less computational resources. *Id.* at 54–55 (citing Ex. 1003 ¶¶ 1017–1021).

Still further, Petitioner asserts the combination could be further simplified by eliminating the need to mathematically transform an image and instead compare the two images directly to each other to determine whether they exhibit the expected differences in degree of distance-induced distortions. *Id.* at 55–56 (citing Ex. 1003 ¶¶ 1019–1020).

Patent Owner relies on the same arguments here as it did for the combination of Derakhshani and Tanii arguing that Tanii corrects the distortion that Zhang requires to detect whether a face is three-dimensional. Prelim. Resp. 40–42. Specifically, Patent Owner argues that Zhang generates a warped image that it then compares to a second image to detect whether a face is three-dimensional and that Tanii works to correct this distortion preventing Zhang from accomplishing its goal of detecting a three-dimensional face. *Id.* at 41–42.

At this stage of the proceeding, we are persuaded that Petitioner has established a reasonable likelihood that a person of ordinary skill would have combined the teachings of Zhang and Tanii for the reasons provided by Petitioner and summarized above. As before, we disagree with Patent Owner's arguments because it does not address Petitioner's proposed combinations. One of Petitioner's proposed combinations (identified above as the second combination) is still able to detect a three-dimensional face even with Tanii's distortion correction. Petitioner's alternative combination does not incorporate Tanii's distortion correction, and instead merely uses the distortion as part of detecting a three-dimensional face. We therefore disagree that the combination would render the system non-functional.

2. Independent Claim 1

Petitioner contends that the combination of Zhang and Tanii teaches each of the limitations of claim 1, supporting its contentions with evidence from the asserted prior art and from the testimony of Dr. Daft. Pet. 56–66. Patent Owner does not directly dispute whether the cited portions of the relied upon references disclose the respective limitations of claim 1 for which they are relied upon. *See* Prelim. Resp. Thus, Petitioner’s contentions with respect to the limitations of claim 1 are undisputed at this stage of the proceeding.

We have reviewed Petitioner’s contentions and determine that, at this stage of the proceeding, Petitioner has demonstrated a reasonable likelihood that the combination of Zhang and Tanii teach the preamble and limitations of claim 1. Our determination is not final and based only on the current record and arguments. At this stage of the proceeding, we have not made a final determination with respect to the patentability of the challenged claims.

G. Whether Tanii is Analogous Art

A prior art reference is analogous to a claimed invention if it is either from the same field of endeavor or reasonably pertinent to the particular problem with which the inventor is involved. *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). Patent Owner argues Tanii is non-analogous art to the ’910 patent because it is not in the same field endeavor as the ’910 patent and is not reasonably pertinent because Tanii’s “critical feature” is correcting distance-induced image distortion whereas the problem addressed by the ’910 patent is preventing spoofing in a facial recognition system by detecting whether an image includes a three-dimensional face. Prelim. Resp. 33; *see id.* at 33–42. On this record, we disagree.

First, Patent Owner has not identified any logical reason or case law to support its position that only a prior-art reference’s “critical feature” counts in the reasonably-pertinent inquiry. *See* Prelim. Resp. 37–38. Here, Tanii’s relevant teaching is that a three-dimensional face exhibits distortions when a cellular phone camera and a face are close together during image capture. Ex. 1007 ¶¶ 47, 48, ’910. 4B; *see* Pet. 11–13. Because that teaching is reasonably pertinent to the ’471 patent’s particular problem of detecting whether a face is two-dimensional (i.e., a photograph) or three-dimensional, we agree with Petitioner that Tanii is analogous art. *See* Ex. 1003 ¶ 110.

Second, because Tanii and the ’471 patent both address processing “distortions of [3D] faces in images captured using a camera,” we disagree with Patent Owner that Tanii is from a different field of endeavor as the ’471 patent. Prelim. Reply 5 (citing Ex. 1001 28:36–59, 1007 ¶¶ 5, 7; *see Netflix, Inc. v. DivX LLC*, 80 F.4th 1352, 1359 (Fed. Cir. 2023) (explaining that the field-of-endeavor test is “not limited to the specific point of novelty, the narrowest possible conception of the field, or the particular focus within a given field”).

H. Particularity

Patent Owner asserts the Petition lacks particularity as required by 35 U.S.C. § 312(a)(3) for three reasons. Prelim. Resp. 42–46. First, Patent Owner alleges that Petitioner relies on differing disclosures in Derakhshani to teach first and second “data.” *Id.* at 42–44. Second, Patent Owner alleges Petitioner relies on differing disclosures in Zhang to teach “first data.” *Id.* at 44–46. And, third, Petitioner does not take a position on two possible claim

constructions. *Id.* at 46–47. None of those reasons convince us the Petition lacks the requisite particularity. Our detailed discussion follows.

1. Petitioner’s Mapping of Derakhshani

Independent claim 1 recites “first data” and “second data” and its dependent claim 5 similarly recites “first data” and “second data.” Ex. 1001, 46:4–5, 14–15, 52–57. In claim 1, Petitioner relies on “*facial landmarks*” that Derakhshani identifies in captured first and second images to respectively teach “first data” and “second data.” Pet. 23, 26 (citing Ex. 1005, 16:44–54, 17:32–36, 17:45–64) (emphasis added). In claim 5, Petitioner relies on “*extracted features* from the captured images” to meet the “first data” and “second data” recited in claim 5. *See id.* at 37–37 (citing Ex. 1005, 9:59–67, 13:62–14:9; 17:32–36) (emphasis added).

Patent Owner’s argument that Petitioner contradictorily relies on “landmarks” to teach first and second “data” in claim 1 and “features” to teach first and second “data” in claim 5 splits hairs. Prelim. Resp. 42–44. However, we understand Petitioner to use the terms “landmarks” and “features” synonymously. For example, Petitioner asserts that, in Derakhshani, a “landmark” may be a “user’s eyes, nose, ears, and *other features* on the user’s head.” Pet. 23 (emphasis added) (citations omitted). Petitioner further shows its synonymous use of “landmarks” and “features” by describing “processing the images to identify *feature landmarks*.” Pet. 32 (emphasis added). Accordingly, we determine Petitioner does not contradict itself or inconsistently map Derakhshani to the claims.

2. *Petitioner's Mapping of Zhang*

In limitations 1[d2], 1[d4], and 1[d5] of claim 1, Petitioner relies on extracted “feature points,” e.g., “a corner of an eye, a corner of a mouth, a tip of a nose, and so forth,” from a captured first face image to teach “first data.” Pet. 60–61, 63–64 (citations omitted). In limitation 1[d6], Petitioner states Zhang teaches “first data” is met by “the position of facial features after the first image is ‘warped.’” Pet. 66 (citations omitted).

Patent Owner’s assertion that Petitioner’s mapping of “first data” in limitation 1[d6] is inconsistent with Petitioner’s mapping “first data” earlier in the claim is unavailing. Prelim. Resp. 44–46. Patent Owner’s argument distinguishes between different *images*, namely, a captured image and a warped version of the captured image. *See id.* But Petitioner relies on *extracted facial features* to teach “first data.” That is, the extracted facial features correspond to the “first data,” not the images themselves. *See* Pet. 60–61, 63–64. Accordingly, we determine Petitioner does not inconsistently map Zhang to the claims.⁴

3. *Petitioner's Claim Construction*

As noted above in § III.C, Petitioner asserts “it is unclear whether claim 1 is directed to a server computing device that must have a processor, screen, and camera; or a networked, client-computing device that merely receives instructions from an authentication server.” Pet. 6–7. Petitioner

⁴ Patent Owner argues “to the extent the ground is understood, it cannot establish a *prima facie* case of obviousness.” Prelim. Resp. 46. That argument is better suited to Patent Owner’s arguments on the merits of Petitioner’s challenge, not to whether Petitioner’s presents its challenge with particularity. Further, Patent Owner does not explain why Zhang’s extracted facial features do not meet the claimed “first data.” *See id.*

asserts it must offer two possible interpretations because of alleged ambiguousness in the claim. *Id.* Petitioner, however, asserts that we need not resolve the ambiguity because under either interpretation its challenges meet the claim. *Id.*

Rather than address Petitioner's allegation that the claim is susceptible to two interpretations, Patent Owner instead attempts to have the Petition denied that basis. Prelim. Resp. 46; *see generally id.* But, Patent Owner does not challenge whether either of those interpretations are met by Petitioner's challenge. As discussed above, Petitioner's combinations meet both interpretations for institution purposes on the current record. Therefore, as this construction is not in controversy and not material to any dispute between the parties, we need not address the construction. *See Nidec Motor*, 868 F.3d 1017. Accordingly, we do not determine that Petitioner's proffered claim constructions lack the requisite particularity.

IV. CONCLUSION

As explained above, we determine that Petitioner has established a reasonable likelihood of prevailing in its challenge to at least one claim of the '910 Patent, and we are not persuaded to exercise our discretion to deny institution. Thus, we institute an *inter partes* review of all challenged claims on all asserted grounds.

The factual findings and conclusions of law in this Decision are preliminary and based on the current record. They are made for the sole purpose of determining whether Petitioner meets the threshold for initiating review. Any final decision as to the patentability of the challenged claims will be based on the full record developed during trial, including any

response timely filed by Patent Owner. Any arguments not raised by Patent Owner in such a response may be deemed forfeited.

V. ORDER

It is:

ORDERED that an *inter partes* review is instituted on all challenged claims, i.e., claims 1–24 of the '910 Patent, on all grounds of unpatentability specified 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 '910 Patent shall commence on the entry date of this Decision, and notice is hereby given of the institution of a trial.

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Patent 11,874,910 B2

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