

# APPENDIX

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UNITED STATES COURT OF APPEALS  
FOR THE FEDERAL CIRCUIT

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Nos. 2023-1501, 2023-1554

APPLE INC.,  
*Appellant*

LG ELECTRONICS INC., LG ELECTRONICS USA, INC.,  
GOOGLE LLC,  
*Appellees*

v.

GESTURE TECHNOLOGY PARTNERS, LLC,  
*Cross-Appellant*

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Decided: January 27, 2025

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Before Lourie, Dyk, and Hughes, Circuit Judges.

Dyk, Circuit Judge.

In this inter partes review proceeding (“IPR”), the Patent Trial and Appeal Board (the “Board”) determined that claims 1-3, 5-10, and 12-17 of U.S. Patent No. 8,878,949 (the “’949 patent”) were unpatentable, but it determined that claims 4, 11, and 18 were not shown to be unpatentable. Patent owner Gesture Technology Partners, LLC (“Gesture”) cross-appeals the Board’s unpatentability findings as to claims 1-3, 5-10, and 12-17,<sup>1</sup> and IPR petitioner Apple Inc. (“Apple”) appeals the Board’s findings as to claims 4,

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<sup>1</sup> LG Electronics Inc., LG Electronics USA, Inc., and Google LLC are appellees in Gesture’s cross-appeal, as well. *See* Appellant’s Reply Br. at 4 n.1.

11, and 18. We limit our discussion to claims 1-7 because we have separately affirmed the Board's decision holding claims 8-18 unpatentable in its ex parte reexamination decision *In re Gesture Tech. Partners*, No. 2023-001857, Reexamination No. 90/014,903 (P.T.A.B. Aug. 8, 2023). See *In re Gesture Tech. Partners, LLC*, No. 24-1038, slip op. at 2 (Fed. Cir. 2025) (nonprecedential). We affirm the Board's determination that claims 1-3 and 5-7 are unpatentable and reverse the Board's determination that claim 4 is not unpatentable. We also reject Gesture's suggestion that the Board lacks jurisdiction in IPRs over patents after their expiration.

#### BACKGROUND

Gesture owns the '949 patent, entitled "Camera Based Interaction and Instruction," which is directed to image capture technology. '949 patent describes a portable device that uses an electro-optical sensor to scan the field of vision and detect a user command, i.e., a gesture. When the device detects a gesture, its processing unit controls a digital camera to capture a digital image. Claim 1 is exemplary as to the claims in Gesture's cross-appeal and recites:

A portable device comprising:

a device housing including a forward facing portion, the forward facing portion of the device housing encompassing an electro-optical sensor having a field of view and including a digital camera separate from the electrooptical sensor; and

a processing unit within the device housing and operatively coupled to an output of the electrooptical sensor, wherein the processing unit is adapted to:

determine a gesture has been performed in the electro-optical sensor field of view based on the electro-optical sensor output, and

control the digital camera in response to the gesture performed in the electro-optical sensor field of view, wherein the gesture corresponds to an image capture command, and wherein the image capture command causes the digital camera to store an image to memory.

'949 patent, col. 15, ll. 21-38. Claim 4 depends from claim 1 and requires the electro-optical sensor to be “fixed” in relation to the digital camera:

The portable device of claim 1 wherein the electro-optical sensor is fixed in relation to the digital camera.

'949 patent, col. 15, ll. 43-44.

In June 2021, Apple filed an IPR petition for the then-expired '949 patent, asserting that each of its claims was unpatentable as obvious over U.S. Patent No. 6,144,366 (“Numazaki”) and Japanese Patent Application No. H4-73631 (“Nonaka”). Numazaki discloses an “information input generation apparatus” that detects subjects using a “reflected light extraction unit” and “visible light photo-detection array,” J.A. 959, and Nonaka discloses a camera that captures images when an equipped remote release device detects a user command.

Apple argued that Nonaka suggested combining three of Numazaki’s embodiments to arrive at a portable device that captures video images in response to detecting predetermined gestures. Apple further argued that Numazaki’s light extraction unit is fixed in relation to its photo-detection array. The Board concluded that Apple had demonstrated that claims 1-3 and 5-7 are unpatentable as obvious but not claim 4, finding that Numazaki does not disclose the “fixed” limitation. Apple appeals, and Gesture cross-appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

## DISCUSSION

“Obviousness is a mixed question of fact and law.” *Novartis AG v. Torrent Pharms. Ltd.*, 853 F.3d 1316, 1327 (Fed. Cir. 2017). We review the Board’s legal conclusion of obviousness de novo and its factual findings for substantial evidence. *Okajima v. Bourdeau*, 261 F.3d 1350, 1354 (Fed. Cir. 2001). We interpret claim terms by looking to their ordinary meaning in light of the specification and prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315-17 (Fed. Cir. 2005) (en banc); *Vasudevan Software, Inc. v. MicroStrategy, Inc.*, 782 F.3d 671, 677 (Fed. Cir. 2015).

## I

Gesture argues that the Board could not exercise jurisdiction over this IPR because the ’949 patent expired in May 2020, before Apple filed its petition in June 2021. According to Gesture, this is because the Supreme Court’s decision in *Oil States Energy Services, LLC v. Greene’s Energy Group, LLC*, 584 U.S. 325, 138 S.Ct. 1365, 200 L.Ed.2d 671 (2018), explained that the “decision to *grant* a patent is . . . the grant of a public franchise,” Cross-Appellant’s Br. 42 (quoting *Oil States*, 584 U.S. at 334-35, 138 S.Ct. 1365), and once a patent expires “the public franchise ceases to exist and the patent owner no longer has the right to exclude others,” *id.* at 43. Since the patentee’s right becomes limited to collecting damages that formerly existed through an infringement action in an Article III court, Gesture argues, jurisdiction over the expired patent becomes limited to the Article III courts.

To date, our prior cases have not squarely addressed whether the Board may institute IPRs for patents after they have expired; however, we have previously reviewed IPR decisions involving expired patents, implicitly assuming that the Board had jurisdiction in

such cases. *See, e.g., Immunex Corp. v. Sanofi-Aventis U.S. LLC*, 977 F.3d 1212, 1217 (Fed. Cir. 2020) (acknowledging cases where the challenged patents “had expired before the Board’s decision”); *Axonics, Inc. v. Medtronic, Inc.*, 75 F.4th 1374, 1382 n.8 (Fed. Cir. 2023) (discussing claim construction in “IPR proceedings concerning expired and soon-to-be-expired patents”). We confirm here that the Board has jurisdiction over IPRs concerning expired patents.

The public-rights doctrine recognizes that Congress may assign some matters either to the Article III judiciary or to a non-Article III forum. Matters “involving public rights . . . may be presented in such form that the judicial power is capable of acting on them, . . . but which congress may or may not bring within the cognizance of the courts of the United States, as it may deem proper.” *Murray v. Hoboken Land & Improvement Co.*, 59 U.S. (18 How.) 272, 284, 15 L.Ed. 372 (1855). The Supreme Court has thus long held that Congress has the authority to assign to non-Article III forums those matters “arising between the government and others, which from their nature do not require judicial determination and yet are susceptible of it.” *Crowell v. Benson*, 285 U.S. 22, 50, 52 S.Ct. 285, 76 L.Ed. 598 (1932) (quoting *Ex parte Bakelite Corp.*, 279 U.S. 438, 451, 49 S.Ct. 411, 73 L.Ed. 789 (1929)).

In *Oil States*, the Supreme Court held that the Board’s jurisdiction over IPRs does not run afoul of Article III under the public-rights doctrine. 584 U.S. at 334-35, 138 S.Ct. 1365. The Court first recognized that the grant of a patent inherently involves public rights, since “by issuing . . . patents, the PTO take[s] from the public rights of immense value and bestow[s] them upon the patentee.” *Id.* at 335, 138 S.Ct. 1365 (alterations in original) (quoting *United States v. Am.*



*Bell Tel. Co.*, 128 U.S. 315, 370, 9 S.Ct. 90, 32 L.Ed. 450 (1888)). The Court then explained that, because an IPR is “a second look at an earlier administrative grant of a patent,” it involves the public’s same “interest in seeing that patent monopolies are kept within their legitimate scope.” *Id.* at 336-37, 138 S.Ct. 1365 (quoting *Cuozzo Speed Techs., LLC v. Lee*, 579 U.S. 261, 279-80, 136 S.Ct. 2131, 195 L.Ed.2d 423 (2016)). Recognizing that a public franchise can be qualified by an agency’s authority to cancel it outside of an Article III court, the Court concluded that IPRs fall within the public-rights doctrine and do not violate Article III. *Id.* at 337, 138 S.Ct. 1365.

Gesture’s argument that the “public franchise ceases to exist” after a patent expires, Cross-Appellant’s Br. at 43, is incompatible with the Court’s logic in *Oil States*. There, the Court’s conclusion that an IPR falls under the public-rights doctrine was based on the fact that the procedure involves a “second look” at the earlier determination of granting a public right in the first place. 584 U.S. at 336, 138 S.Ct. 1365 (quoting *Cuozzo*, 579 U.S. at 279, 136 S.Ct. 2131). The review of an earlier grant of a patent thus inherently involves the adjudication of a public right, and it is irrelevant whether the patent has expired, since the patent itself continues to confer a limited set of rights to the patentee. *See id.* at 337, 138 S.Ct. 1365.

As we have explained, although a “patentee has fewer rights . . . when [its] patent has expired,” *Kera-nos, LLC v. Silicon Storage Tech., Inc.*, 797 F.3d 1025, 1033 (Fed. Cir. 2015), it nevertheless maintains some rights, such as bringing an action for past damages, *see Genetics Inst., LLC v. Novartis Vaccines & Diagnostics, Inc.*, 655 F.3d 1291, 1299 (Fed. Cir. 2011). The existence of those rights creates a live case or

controversy, which can be adjudicated by an IPR and in proceedings before this court on appeal. *See Sony Corp. v. Iancu*, 924 F.3d 1235, 1238 n.1 (Fed. Cir. 2019). Gesture fails to explain why an IPR, which “would have a consequence on any infringement that occurred during the life,” *id.*, of the patent, falls outside the scope of the public-rights doctrine solely because the patentee’s prospective right to exclude others has terminated. We accordingly reject Gesture’s challenge to the Board’s jurisdiction.

## II

We next address the Board’s decision holding obvious claims 1-3 and 5-7. Numazaki discloses several configurations for detecting, capturing, and processing visual information. Numazaki’s fifth embodiment relates to videoconferencing functionality and is directed to the extraction of useful image information. *See* J.A. 959 (col. 39, ll. 6-14). The embodiment’s light extraction unit extracts feature data of a target (e.g., the speaker), while the photo-detection array captures the entire field of view. Numazaki teaches transmitting only essential information by superimposing the output of the photo-detection array and light extraction unit and capturing only the overlap as a video image. Numazaki’s third embodiment relates to gesture recognition and discloses the execution of a user command when a gesture camera detects a predetermined gesture. Numazaki’s eighth embodiment discloses a laptop that can incorporate functionalities described in previous embodiments.

The Board found that a person of ordinary skill in the art would apply Nonaka’s teachings about the benefits of remote release functionality to insert Numazaki’s third embodiment’s gesture recognition

and fifth embodiment's video capture into the eighth embodiment's laptop. The Board found that Numazaki's light extraction unit corresponded to the '949 patent's electro-optical sensor and that Numazaki's photo-detection array corresponded to the '949 patent's digital camera. Accordingly, the Board determined that the combination of Numazaki and Nonaka disclosed a device that controls a digital camera to capture video images in response to an electro-optical sensor's detection of predetermined gestures, rendering claims 1-3 and 5-7 obvious. The Board thus determined that Apple had sufficiently demonstrated a motivation to combine Nonaka and Numazaki.

On the cross-appeal, Gesture argues that the Board's finding that a person of ordinary skill in the art would be motivated by Nonaka to combine Numazaki's third, fifth, and eighth embodiments to render obvious claims 1-3 and 5-7 was not supported by substantial evidence.

#### A

First, Gesture argues that the Board erred in concluding that Numazaki's light extraction unit mapped onto the '949 patent's electro-optical sensor. Gesture points to a portion of its expert's conclusory declaration in which he asserted that "[b]ecause of its 'difference calculation unit . . .' and its two separate [photo-detection units] having specific timing and lighting requirements, in [his] opinion, a [person of ordinary skill in the art] would not have understood Numazaki's 'reflected light extraction unit . . .' as being the 'electro-optical sensor' of claim [1.]" J.A. 1987 ¶ 45. But Gesture's expert provided no explanation for why an electro-optical sensor cannot comprise two units with distinct timing requirements. The Board was accordingly not required to accept this conclusory

assertion. *See cxLoyalty, Inc. v. Maritz Holdings, Inc.*, 986 F.3d 1367, 1378 (Fed. Cir. 2021). The Board examined Numazaki’s disclosure and concluded that its reflected light unit “senses light and converts the sensed light into electronic signals,” which it found satisfies the “plain meaning of an ‘electrooptical sensor.’” J.A. 18 & n.7. We see no error in the Board’s weighing the plain import of Numazaki’s disclosure over Gesture’s expert’s cryptic, unsupported statement to the contrary.<sup>2</sup>

## B

Gesture also challenges the Board’s finding that a person of ordinary skill in the art would be motivated to modify Numazaki to teach a processing unit that “determine[d] a gesture has been performed in the electro-optical sensor field of view based on the electro-optical sensor output.” Cross-Appellant’s Br. at 38 (quoting ’949 patent, col. 15, ll. 26-32). Gesture’s argument appears to be that the Board’s analysis did not sufficiently explain why a person of ordinary skill in the art would understand how to combine Numazaki’s third, fifth, and eighth embodiments because of their specialized processing units. But Apple was

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<sup>2</sup> Relatedly, Gesture faults the Board for failing to explain “how the sensor and camera are included on the ‘forward facing portion’ of the device housing.” Cross-Appellant’s Br. at 37. As a preliminary matter, Gesture did not make this argument before the Board, and we can hardly fault the Board for failing to precisely respond to an argument Gesture failed to raise before it. *See Rembrandt Diagnostics, LP v. Alere, Inc.*, 76 F.4th 1376, 1382-83 (Fed. Cir. 2023). Putting forfeiture to the side, we can “reasonably discern[]” the Board’s path, *Nucor Corp. v. United States*, 414 F.3d 1331, 1339 (Fed. Cir. 2005) (citation omitted), since it found that Numazaki’s sensor and camera were both forward facing and had overlapping fields of view, which would naturally require situating them on the same forward-facing “portion.” *See* J.A. 16-17, 21.

not required to identify embodiments with identical processing units, since the obviousness inquiry looks to the “combined teachings of the references” and “does not require an actual, physical substitution of elements.” *In re Mouttet*, 686 F.3d 1322, 1332-33 (Fed. Cir. 2012). Moreover, the Board *did* explain how a person of ordinary skill in the art would understand how to combine these embodiments, crediting Apple’s expert’s uncontroverted explanation that a person of ordinary skill would recognize how to “utilize the same output by two separate processing blocks” by “arranging multiple distinct processing units that separately process the same output of a single unit.” J.A. 24 (quoting J.A. 1777 ¶ 9).

### C

Finally, Gesture argues that the Board improperly found that Nonaka suggested modifying Numazaki so as to “control the digital camera in response to the gesture performed in the electro-optical sensor field of view.” Cross-Appellant’s Br. at 40 (quoting ’949 patent, col. 15, ll. 33-38). Gesture argues that if Numazaki’s third and fifth embodiments were inserted into its eighth embodiment’s laptop, there would be no reason to implement Nonaka’s remote-control functionality, since the user of a laptop usually sits directly adjacent to the device. But the Board expressly considered and rejected this argument based on its review of Numazaki and Nonaka, concluding that a person of ordinary skill in the art would still perceive benefits in implementing Nonaka’s teachings to Numazaki. Specifically, the Board found that “even if Numazaki does suggest that the user would need to be within reach to physically interact with the laptop, this does not mean that one of ordinary skill in the art would not have recognized the advantages of using

remote gestures taught by Nonaka,” J.A. 28, including a “higher degree of freedom, good portability, and cost benefits,” J.A. 29. Accordingly, we affirm as to Gesture’s cross-appeal.

### III

The sole issue presented by Apple’s appeal is whether the Board properly determined claim 4’s “fixed” limitation was not obvious in light of Numazaki. Apple argues that the Board improperly ignored Apple’s expert’s testimony and that, with that testimony, the record indisputably showed agreement between the experts that a fixed relationship between the components would have been desirable. This, in turn, would compel the conclusion that claim 4’s fixed limitation is obvious. We agree.

We first consider the Board’s decision to ignore Apple’s expert’s testimony relating to the fixed limitation. In its IPR petition, Apple argued that Numazaki taught the fixed limitation because Numazaki’s fifth embodiment positioned its photo-detection array and light extraction unit “side-by-side such that they have overlapping fields of view.” J.A. 156. Apple’s expert explained that “[g]iven . . . [that] the output of [the light extraction unit] is used to define which portions the video captured by [the photo-detection array] are retained, a [person of ordinary skill in the art] would have understood that both . . . have overlapping fields of view.” J.A. 778 ¶ 52. Apple expressly cited to this portion of the declaration with regard to claim 1, and then by incorporation with regard to claim 4. *Compare* J.A. 146 (claim 1), *with* J.A. 156 (claim 4). In his supplemental declaration, Apple’s expert elaborated that the fact that the two components require overlapping fields of view was “key” to his conclusion that a person of ordinary skill in the art would find fixing

them in relation to one another to be desirable. J.A. 1782-84 ¶¶ 13-15.

In its final written decision with respect to claim 4, the Board ignored Apple’s expert’s testimony, reasoning that Apple’s IPR petition “[did] not reference any such analysis in connection with the subject matter of claim[] 4.” J.A. 34. But under our precedent, Apple’s expert’s testimony was sufficiently confined to the argument made in Apple’s IPR petition to warrant consideration by the Board, since “a party is ‘not barred from elaborating on [its] arguments on issues previously raised.’” *Masimo Corp. v. Apple Inc.*, No. 2022-1631, 2023 WL 5921622, at \*5 (Fed. Cir. Sept. 12, 2023) (nonprecedential) (alteration in original) (quoting *Chamberlain Grp., Inc. v. One World Techs., Inc.*, 944 F.3d 919, 925 (Fed. Cir. 2019)); see also *Apple Inc. v. Andrea Elecs. Corp.*, 949 F.3d 697, 705-06 (Fed. Cir. 2020). Here, Apple’s expert simply expanded upon the significance of Numazaki’s components retaining overlapping fields of vision to the fixed limitation, an argument that was expressly raised in Apple’s IPR petition. Accordingly, the Board erred in failing to consider this material evidence properly before it.

The issue then becomes whether the record, properly including Apple’s expert’s testimony, provides substantial support for the Board’s conclusion that claim 4 was not obvious. We note that the term “fixed” is not defined anywhere in the patent and thus consider its meaning in light of the specification, which is the “single best guide to the meaning of a disputed term.” *Trs. of Columbia Univ. in City of New York v. Symantec Corp.*, 811 F.3d 1359, 1362 (Fed. Cir. 2016) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)).

In the context of claim 4, “fixed” contemplates a relationship between the portable device’s electro-optical sensor and digital camera. The ’949 patent’s specification explains that the goal of the invention is to cause a digital camera to capture an image of a subject when the device detects a gesture in the camera’s field of view. *See* ’949 patent, col. 2, ll. 4-8. This is accomplished by processing the electro-optical sensor’s output and automatically capturing images when a gesture is detected. *Id.* at col. 5, ll. 24-38. It follows that, in the context of the ’949 patent, the electro-optical sensor and digital camera must have overlapping fields of vision while the digital image is captured. *See* J.A. 1782-84 (Apple’s expert); J.A. 1809 (Gesture’s expert). It would seem that in the context of the ’949 patent, the electro-optical sensor and digital camera are necessarily “fixed” in relation to one another when their spatial relationship stays constant while an image is being captured, and Numazaki disclosed this limitation.

But we need not reach this issue of claim construction, since even under the Board’s construction, which suggests that the components must remain fixed at all times, the undisputed evidence in the record clearly showed that a person of ordinary skill in the art would have been motivated to fix Numazaki’s photo-detection array and light extraction unit in relation to one another.

Both experts agreed that to accomplish Numazaki’s fifth embodiment’s purpose, the photo-detection array and light extraction unit must retain overlapping fields of view. The Board itself found that Numazaki’s light extraction unit extracted only the “overlapping portion” of the two components’ fields of view. J.A. 13. Apple’s expert testified that “a [person of ordinary



skill in the art] would have understood . . . [that] to perform the basic function of the fifth embodiment, [the components] must have *and* maintain overlapping fields of view” and that “fixing them retains overlapping fields of view.” J.A. 1783-84 ¶¶ 14-15. Although Gesture’s expert testified that Numazaki’s “purpose could be satisfied with partial overlap potentially,” J.A. 1809, i.e., that a small degree of movement would be permissible, he did not explain how such movement could possibly serve the invention’s purpose of capturing images simultaneously and did not suggest that a person of ordinary skill in the art would find such movement to be desirable. Instead, he *agreed* “that to accomplish its goal, the fifth embodiment in Numazaki requires [the light extraction unit] and [photo-detection array] to retain overlapping fields of view” and that “fixing them ensures that . . . the fields of view, whatever they are, will be maintained,” J.A. 1810.

There is accordingly “no reasonable dispute” that fixing the two components was desirable because doing so ensured the necessary overlap, and that doing so was “readily achievable” and would “serve [Numazaki’s] undisputed goal.” *Google LLC v. Koninklijke Philips N.V.*, 795 F. App’x 840, 844-46 (Fed. Cir. 2020). Because correcting the Board’s analysis results in “only one permissible factual finding,” reversal is appropriate. *Corning v. Fast Felt Corp.*, 873 F.3d 896, 903 (Fed. Cir. 2017).

#### CONCLUSION

For the forgoing reasons, we hold that the Board had jurisdiction in this IPR. We affirm the Board’s determination that claims 1-3 and 5-7 are unpatentable and reverse the Board’s determination that claim 4 is not unpatentable.

15a

**AFFIRMED-IN-PART AND REVERSED-IN-PART**

COSTS

Costs to appellant Apple.

UNITED STATES COURT OF APPEALS  
FOR THE FEDERAL CIRCUIT

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No. 2024-1038

IN RE GESTURE TECHNOLOGY PARTNERS, LLC,  
*Appellant*

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Decided: January 27, 2025

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Before Lourie, Dyk, and Hughes, Circuit Judges.

Lourie, Circuit Judge.

Gesture Technology Partners, LLC (“Gesture”) appeals from an *ex parte* reexamination decision of the United States Patent and Trademark Office (“PTO”) Patent Trial and Appeal Board (“the Board”) holding claims 8-18 of U.S. Patent 8,878,949 (“the ’949 patent”) unpatentable as obvious. *In re Gesture Tech. Partners*, No. 2023-001857, Re-examination 90/014,903 (P.T.A.B. Aug. 8, 2023) (“*Decision*”), J.A. 1-29. For the reasons provided below, we *affirm*.

BACKGROUND

The ’949 patent is directed to a portable device that uses a sensor to scan a field of vision and detect a user command, *i.e.*, a gesture. When the device detects a gesture, its processing unit controls a digital camera to capture an image.

On appeal, Gesture directs its arguments to claims 13, 15, and 18, stating, as did the Board, that resolution of issues relating to those claims resolves the appeal of claims 8-12, 14, 16, and 17. We therefore also address only those claims.

Independent claim 13 of the '949 patent recites:

13. An image capture device comprising:

[13.a] a device housing including a *forward facing portion*, the forwarding facing portion encompassing a digital camera adapted to capture an image and having a field of view and encompassing a sensor adapted to detect a gesture in the digital camera field of view; and

[13.b] a *processing unit* operatively coupled to the sensor and to the digital camera, wherein the processing unit is adapted to:

[13.b.i] detect a gesture has been performed in the electro-optical sensor field of view based on an output of the electro-optical sensor, and

[13.b.ii] correlate the gesture detected by the sensor with an image capture function and *subsequently capture* an image using the digital camera, wherein the detected gesture is identified by the processing unit apart from a plurality of gestures.

'949 patent col. 16, ll. 23-39 (numbering and emphasis added). Claim 15 depends from claim 13 and recites that “the detected gesture includes a pose.” *Id.* at col. 16, ll. 42-43. Claim 18 also depends from claim 13 and recites that “the sensor is fixed in relation to the digital camera.” *Id.* at col. 16, ll. 49-50.

Samsung Electronics Co., Ltd. filed a request for *ex parte* examination of the '949 patent, contending that U.S. Patent 6,115,482 (“Sears”) raises a substantial new question of patentability as to the challenged claims. Sears discloses an electronic reading device that converts text to synthesized speech and allows users to navigate within text and select text using manual command gestures. [J.A. 391, 398-401] The

PTO granted the request, and an examiner rejected claims 8-18 on the ground that Sears would have rendered the claims obvious. Gesture appealed the rejection to the Board, which affirmed.

Gesture timely appeals to this Court. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

#### DISCUSSION

“Obviousness is a mixed question of fact and law.” *Novartis AG v. Torrent Pharms. Ltd.*, 853 F.3d 1316, 1327 (Fed. Cir. 2017). We review the Board’s legal conclusion of obviousness *de novo* and its factual findings for substantial evidence. *See In re Enhanced Sec. Rsch., LLC*, 739 F.3d 1347, 1351 (Fed. Cir. 2014). Whether a reference qualifies as analogous prior art is also a question of fact that we review for substantial evidence. *Airbus S.A.S. v. Firepass Corp.*, 941 F.3d 1374, 1379 (Fed. Cir. 2019). We interpret claim terms by looking to their ordinary meaning in light of the specification and prosecution history. *Vasudevan Software, Inc. v. MicroStrategy, Inc.*, 782 F.3d 671, 677 (Fed. Cir. 2015).

The Board determined that Sears teaches claim element 13.a’s “forward facing portion [of the device housing] encompassing a digital camera . . . [and] a sensor” limitation. *Decision*, J.A. 16-17. Gesture first argues that Sears is not analogous art because Sears is narrowly directed towards solving problems associated with electronic reading machines. But the Board found that Sears was analogous art because it relates to a processing unit that navigates through a document based on gestures, within the ’949 patent’s field of endeavor. We agree. Sears is in fact entitled “Voice-Output Reading System with Gesture-Based Navigation.” It is analogous art.

Gesture further argues, assuming that Sears is analogous art, that the Board's finding concerning claim element 13.a was not supported by substantial evidence because claim element 13.a requires: (1) a single portion of the device housing that includes both the sensor and digital camera, and (2) said portion to face horizontally, and Sears does not teach either requirement. We disagree. As the Board explained, Sears primary embodiment discloses a digital camera and sensor next to each other in a "common" device housing—*i.e.*, in a single portion of the device housing. *Id.*, J.A. 17 (citing Sears at Figure 3, col. 18, ll. 15-18). Sears further discloses an embodiment in which the device, including the sensor and digital camera, is worn by a user as glasses that face horizontally on an upright person. *Decision*, J.A. 17 (citing Sears at Figure 4). The Board's finding that Sears teaches claim element 13a was therefore supported by substantial evidence.

The Board next determined that Sears teaches claim element 13b.'s "processing unit operatively coupled to the sensor and to the digital camera, wherein the processing unit is adapted to: detect a gesture . . . and subsequently capture an image using the digital camera" limitation. *Id.*, J.A. 19-20. Gesture contends that finding was not supported by substantial evidence because claim element 13b requires: (1) a processing unit, and (2) a digital camera that starts capturing an image after detecting a gesture, and Sears does not teach either requirement. We again disagree because the Board's findings are consistent with Sears. As the Board noted, Sears discloses a computer that is operatively coupled to a digital camera and sensor—*i.e.*, a "processing unit." *Id.*, J.A. 20 (citing Sears at col. 18, ll. 9-13). And for the processing unit's claimed

function of taking a picture after a gesture is detected, Sears discloses an embodiment where an image capture only “begin[s]” once a gesture has been identified. *Id.* (citing Sears at col. 18, ll. 35-38).

Next, the Board concluded that Sears teaches or suggests claim 15: “The image capture device of claim 13 wherein the detected gesture includes a pose.” *Id.*, J.A. 22. Gesture argues that the Board’s finding was not supported by substantial evidence because it was dependent on an erroneous claim construction. According to Gesture, “pose,” as used in claim 15, means a gesture that involves a body part other than a hand and, because Sears makes no such disclosure, the Board’s finding with respect to claim 15 was not supported by substantial evidence. But the Board considered and rejected Gesture’s construction, explaining that the plain and ordinary meaning of “pose” does not reference any specific body part, and therefore can include a hand-only gesture. *Decision*, J.A. 22 (discussing dictionary definitions of “pose”). Because Sears discloses hand-only gestures, *e.g.*, a closed fist, Sears at col. 10, l. 29, the Board’s finding was supported by substantial evidence.

The Board finally found that Sears discloses claim 18: “The image capture device of claim 13 wherein the sensor is fixed in relation to the digital camera.” ’949 patent col. 16, ll. 49-50. Gesture asserts that the Board did not adequately explain its finding as to claim 18. We disagree. Gesture overlooks the Board’s well-reasoned explanation which provides that Sears discloses an embodiment where the sensor and digital camera are mounted in immovable positions on the opposite sides of a user’s head, and therefore “fixed in relation” to one another. *Decision*, J.A. 23 (citing Sears at col. 11, ll. 1-7).

Because Gesture does not present separate argument regarding the remaining claims of the '949 patent that the Board found obvious, viz., claims 8-12, 14, 16, and 17, we do not disturb those findings. Nor do we need to deal with claims 1-7 of this patent, as we have considered those claims in a separate opinion to be issued simultaneously with this opinion. See *Apple Inc. v. Gesture Tech. Partners, LLC*, No. 23-1501, slip op. at 3 (Fed. Cir. 2025).

Finally, Gesture argues that the Board lacked jurisdiction over this reexamination proceeding because the '949 patent has expired. That issue has been resolved, and rejected, in the separate opinion of *Apple*, No. 23-1501, slip op. at 5-7.

#### CONCLUSION

We have considered Gesture's remaining arguments and find them unpersuasive. For the foregoing reasons, we *affirm* the decision of the Board.

**AFFIRMED**



UNITED STATES COURT OF APPEALS  
FOR THE FEDERAL CIRCUIT

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No. 2024-1037

IN RE GESTURE TECHNOLOGY PARTNERS, LLC,  
*Appellant*

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Decided: January 27, 2025

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Before Lourie, Dyk, and Hughes, Circuit Judges.  
Lourie, Circuit Judge.

Gesture Technology Partners, LLC (“Gesture”) appeals from an *ex parte* reexamination decision of the Patent Trial and Appeal Board (“the Board”) holding claims 1-9, 11, 12, and 14-30 of U.S. Patent 8,553,079 (“the ’079 patent”) unpatentable. *In re Gesture Tech. Partners, LLC*, No. 2023-001713, Reexamination No. 90/014,900 (P.T.A.B. Jun. 25, 2024), J.A. 1-30. For the following reasons, we *affirm*.

BACKGROUND

The ’079 patent generally relates to gesture-based communication technology. Specifically, it discloses a method and apparatus “for determining a gesture illuminated by a light source . . . [within] a work volume above the light source” and “a camera . . . positioned to observe and determine the gesture performed in the work volume.” ’079 patent at Abstract. The Board granted a third party’s petition for *ex parte* reexamination and found claims 1, 4-9, 11, 12, and 17-20 of the ’079 patent anticipated by U.S. Patent 5,982,853 (“Liebermann”). J.A. 13-16. The Board also

determined that claims 2, 3, 14, and 15 were obvious over the combination of Liebermann and U.S. Patent 6,115,482 (“Sears”). J.A. 17-25. Liebermann and Sears both relate to computer-implemented methods and apparatuses that enable gesture-based communication by using cameras oriented to observe a work volume. Liebermann at Abstract; Sears at Abstract.

Gesture timely appealed with respect to claims 1-9, 11, 12, 14, 15, and 17-20,<sup>1</sup> and we have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

### DISCUSSION

Gesture first argues on appeal that the Board’s anticipation analysis regarding claims 1, 4-9, 11, 12, and 17-20 was flawed because the Board applied an incorrect construction of the term “apparatus” in claim 11.<sup>2</sup> Gesture further argues that, even absent the Board’s legal error, the Board’s anticipation finding was not supported by substantial evidence because the Board misapplied Liebermann. We disagree.

The Board properly rejected Gesture’s narrow construction of “apparatus” as precluding a distributed system because the term’s plain meaning “include[s] either a singular device or a combination of devices.” J.A. 10. Accordingly, the Board properly rejected Gesture’s nonanticipation argument that relied on Liebermann’s distributed system operating over several different devices. *Id.* at 13.

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<sup>1</sup> The Board additionally determined that claims 16 and 21-30 were obvious over Liebermann and other various prior art, but those claims are not at issue on appeal. J.A. 28-29.

<sup>2</sup> The Board’s anticipation analysis addressed representative claims 1 and 11, as also applying to their dependent claims 4-9, 11, 12, and 17-20, and separately addressed dependent claim 8.

The Board also properly rejected Gesture's argument that Liebermann fails to anticipate claims 1 and 11's "determining a gesture" limitation because Liebermann's system determines gesture data *indirectly* through Liebermann's "identifiers" instead of direct camera output. *Id.* at 12-14. Because neither claim limits how the gesture data are sent to the processing unit (*i.e.*, directly or indirectly from the camera), we agree with the Board that Liebermann's system anticipates representative claims 1 and 11.

Finally, the Board separately addressed dependent claim 8, finding that it was anticipated by Liebermann. *Id.* at 16. We conclude that the Board's finding was supported by substantial evidence because, contrary to Gesture's argument, Liebermann does in fact characterize how its system determines a "point on a user," as recited by claim 8. *Id.*

Gesture next argues that the Board's obviousness determination regarding claims 2, 3, 14, and 15 was flawed because Sears is nonanalogous art, and even if Sears is analogous art, the combination of Liebermann and Sears fails to render any claims of the '079 patent obvious. We disagree.

First, substantial evidence supports the Board's finding that Sears is analogous art because both the '079 patent and Sears relate to performing functions based on detecting gestures under the field of endeavor test, and regardless, Sears is reasonably pertinent to the '079 patent's identified problem of selecting an appropriate light source. *Id.* at 18-22.

Second, the Board correctly determined it would have been obvious to one of ordinary skill in the art to substitute Sears' LEDs into Liebermann's lamps 48 to illuminate the claimed work volume given Liebermann's disclosures about the need to ensure adequate

lighting of the user’s hands, face, and body. *Id.* at 23-25. As the Board explained, replacing Liebermann’s lamps with Sears’ LEDs was a matter of “simple substitution” for a person of ordinary skill in the art. *Id.* at 25.

Finally, Gesture argues that the Board lacked jurisdiction over this reexamination proceeding because the ’079 patent has expired. That issue has been resolved, and rejected, in the separate opinion of *Apple Inc. v. Gesture Tech. Partners, LLC*, No. 23-1501, slip op. at 5-7 (Fed. Cir. 2025).

#### CONCLUSION

We have considered Gesture’s remaining arguments and find them unpersuasive. For the foregoing reasons, we *affirm*.

**AFFIRMED**

UNITED STATES COURT OF APPEALS  
FOR THE FEDERAL CIRCUIT

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No. 2023-1463

GESTURE TECHNOLOGY PARTNERS, LLC,  
*Appellant*

v.

APPLE INC., LG ELECTRONICS INC.,  
LG ELECTRONICS USA, INC., GOOGLE LLC,  
*Appellees*

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Decided: January 27, 2025

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Before Lourie, Dyk, and Hughes, Circuit Judges.

In our companion opinion, *In re Gesture Tech. Partners, LLC*, No. 24-1037, slip op. at 2 (Fed. Cir. 2025) (“*In re Gesture*”), issued concurrently with this opinion, we affirm the Board’s decision that claims 1-9, 11, 12, and 14-30 of U.S. Patent 8,553,079 (“the ’079 patent”) are unpatentable. All but two of those claims (*i.e.*, claims 10 and 13) overlap with the claims at issue in the underlying *inter partes* review proceeding of this appeal. Accordingly, for the reasons we explained in *Apple Inc. v. Voip-Pal.com, Inc.*, 976 F.3d 1316, 1321 (Fed. Cir. 2020), the appeal of those overlapping claims is rendered moot in light of our companion decision in *In re Gesture*.

We are left with claims 10 and 13, which depend from claim 1 and 11, respectively. The Board held claims 1, 2, 4-14, 17, 19, 21, 22, 24-28, 30 unpatentable as obvious over U.S. Patent 6,144,366 (“Numazaki”). Because

Gesture does not independently address claim 10 or 13 on appeal, we do not either. The decision of the Board, holding those remaining claims unpatentable, is therefore affirmed.

Finally, Gesture argues that the Board lacked jurisdiction over this IPR proceeding because the '079 patent has expired. That issue has been resolved, and rejected, in the separate opinion of *Apple Inc. v. Gesture Tech. Partners, LLC*, No. 23-1501, slip op. at 5-7 (Fed. Cir. 2025).

**AFFIRMED**

UNITED STATES PATENT  
AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* GESTURE TECHNOLOGY PARTNERS, LLC,  
Patent Owner and Appellant

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Appeal 2023-001857  
Reexamination Control 90/014,903  
Patent 8,878,949 B2  
Technology Center 3900

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[August 8, 2023, Decided]

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Before ALLEN R. MacDONALD, MICHAEL J.  
ENGLE, and BRENT M. DOUGAL, *Administrative  
Patent Judges*.

MacDONALD, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(b) and 306, Gesture Technology Partners, LLC (Appellant)<sup>1</sup> appeals from the final rejection of claims 8-18. Appeal Br. 8. Patent claims 1-7 have been confirmed by the Examiner, and thus are not at issue. Final Act. 21. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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<sup>1</sup> Appellant identifies the real party in interest as Gesture Technology Partners, LLC. Appeal Br. 1.

## CLAIMED SUBJECT MATTER

Claims 13, 15, and 18, are illustrative of the claimed subject matter (emphasis, formatting, and bracketed material added):

13. An image capture device comprising:

[13.A.] a device housing including a ***forward facing*** portion, the forwarding facing portion encompassing a digital camera adapted to capture an image and having a field of view and encompassing a sensor adapted to detect a gesture in the digital camera field of view; and

[13.B.] a processing unit operatively coupled to the sensor and to the digital camera, wherein the processing unit is adapted to:

[13.B.i.] ***detect a gesture*** has been performed in the electro-optical sensor field of view based on an output of the electro-optical sensor, and

[13.B.ii.] ***correlate the gesture*** detected by the sensor ***with*** an image capture ***function*** and subsequently capture an image using the digital camera, wherein the detected gesture is identified by the processing unit apart from a plurality of gestures.

15. The image capture device of claim 13 wherein the detected ***gesture includes a pose***.

18. The image capture device of claim 13 wherein the sensor is ***fixed in relation*** to the digital camera.

Appeal Br. 39, 40 (Claims App.).



REFERENCE<sup>2</sup>

The Examiner relies on the following reference:

Name	Reference	Date
Sears	US 6,115,482	Sept. 5, 2000

REJECTION<sup>3</sup>

The Examiner rejects claims 8-18 under 35 U.S.C. § 103 as being unpatentable over Sears. Final Act. 5-11.

Appellant presents separate arguments for claims 13, 15, and 18. Appeal Br. 20-28. Appeal Br. 10-27.

To the extent that Appellant discusses this rejection of claims 14, 16, and 17, Appellant merely references (or repeats) the argument directed to claim 13. Appeal Br. 27. Such a referenced (or repeated) argument is not an argument for “separate patentability.” Thus, Appellant does not present separate arguments for this rejection of claims 14, 16, and 17. Therefore, this rejection of claims 14, 16, and 17 turns on our decision as to the rejection of claim 13. Except for our ultimate decision, we do not address the merits of this § 103 rejection of claims 14, 16, and 17 further herein.

To the extent that Appellant discusses this rejection of claim 8, Appellant merely repeats (or references) the arguments directed to claim 13. Appeal Br. 27-31. Such a repeated (or referenced) argument is not an argument for “separate patentability.” Thus, Appellant does not present a separate argument for this rejection of claim 8. Therefore, this rejection of claim 8 turns on our decision as to the rejection of claim 13.

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<sup>2</sup> Citations herein is by the first named inventor.

<sup>3</sup> For simplicity herein, we refer to the Examiner’s rejection under § 103(a) as a rejection under § 103.

Except for our ultimate decision, we do not address the merits of this § 103 rejection of claim 8 further herein.

To the extent that Appellant discusses this rejection of claim 10, Appellant merely references (or repeats) the arguments directed to claims 8 and 15. Appeal Br. 31. Such a referenced (or repeated) argument is not an argument for “separate patentability.” Thus, Appellant does not present separate arguments for this rejection of claim 10. Therefore, this rejection of claim 10 turns on our decision as to the rejection of claims 8 and 15. Except for our ultimate decision, we do not address the merits of this § 103 rejection of claim 10 further herein.

To the extent that Appellant discusses this rejection of claim 11, Appellant merely references (or repeats) the arguments directed to claims 8 and 18. Appeal Br. 31-32. Such a referenced (or repeated) argument is not an argument for “separate patentability.” Thus, Appellant does not present separate arguments for this rejection of claim 11. Therefore, this rejection of claim 11 turns on our decision as to the rejection of claims 8 and 18. Except for our ultimate decision, we do not address the merits of this § 103 rejection of claim 11 further herein.

To the extent that Appellant discusses this rejection of claims 9 and 12, Appellant merely references (or repeats) the argument directed to claim 8. Appeal Br. 32. Such a referenced (or repeated) argument is not an argument for “separate patentability.” Thus, Appellant does not present separate arguments for this rejection of claims 9 and 12. Therefore, this rejection of claims 9 and 12 turns on our decision as to the rejection of claim 8. Except for our ultimate decision, we do not address the merits of this § 103 rejection of claims 9 and 12 further herein.

## PRINCIPLES OF LAW – CLAIM CONSTRUCTION

A.<sup>4</sup>

During examination of a patent application, a claim normally is given its broadest reasonable construction consistent with the specification. *In re Prater*, 415 F.2d 1393, 1404-1405 (CCPA 1969). However, “[w]hen a patent expires during a reexamination proceeding, the PTO should thereafter apply the *Phillips* [*v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc)] standard for claim construction.” *In re CSB-Sys. Int’l, Inc.*, 832 F.3d 1335, 1341 (Fed. Cir. 2016).

“[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1313.

## B.

“Claims must be read in view of the specification, of which they are a part.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc). However, “limitations are not to be read into the claims from the specification.” *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) (citing *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989)).

## OPINION

We have reviewed the Examiner’s rejections in light of Appellant’s arguments (Appeal Brief) that the Examiner has erred.<sup>5</sup> We disagree with Appellant’s

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<sup>4</sup> The subject patent of this appeal expired in May 2020 before the filing of the November 11, 2021 Request for Reexamination. See Appeal Br. 34. The Examiner acknowledges the ’949 Patent has expired. See Final Act. 2; Ans. 12.

<sup>5</sup> Although Appellant also argues (Appeal Br. 5-7) “‘processing unit’ does not invoke 35 U.S.C. § 12, ¶6” (Appeal Br. 7), we do not

conclusions. Except as noted below, we adopt as our own (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken and (2) the reasons set forth by the Examiner in the Examiner's Answer in response to Appellant's Appeal Brief.

#### A. Analogous Art

Appellant raises the following arguments in contending that the Examiner erred in citing Sears because Sears is non-analogous art. Appeal Br. 8-9. Appellant correctly states:

A reference qualifies as prior art for an obviousness determination ***only when it is analogous to the claimed invention***. See *In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011). Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *Donner Technology, LLC v. Pro Stage Gear, LLC*, 979 F.3d 1353, 1359 (Fed. Cir. 2020).

Appeal Br. 8 (emphasis added).

##### A.1. Analogous Art – First Test

Appellant argues:

Regarding the first test for analogous art, Sears describes itself as relating to

an electronic reading system for converting text to synthesized speech that may be used

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find where Appellant explains how this assertion results in an error in the rejection.

by low-vision and blind people . . . and more particularly relat[ing] to an electronic reading system that includes improved functionality for allowing the user to navigate within the text.

*Sears*, 1:23-29. In contrast, the '949 Patent is directed to a picture-taking system that performs a real-time analysis of a gesture (e.g., pose) observed by a sensor, and then captures an image using a digital camera upon determining that the gesture corresponds to an image capture command. *See, e.g.*, '949 Patent, 3:29-60, 4:66-5:3, 5:24-49, 6:23-29, 9:60-10:30. This picture-taking system achieves

a method for taking pictures when certain poses of objects, sequences of poses, motions of objects, or any other states or relationships of objects are represented.

'949 Patent, 1:63-66. Accordingly, *Sears* and the '949 Patent are not from the same field of endeavor, and *Sears* fails the first test for analogous art.

Appeal Br. 8-9 (emphasis and formatting added).

The Examiner's position is flawed because the Examiner arbitrarily excludes "electronic reading machines" from the Examiner-identified field of endeavor for *Sears*. The Examiner's position is clearly contrary to the *Sears* reference, which is replete with references to "electronic reading machines:" *Sears*' Title, Abstract, "Technical Field" section, "Background Art" section, "Summary of the Invention" section, and independent claims all disclose or reference electronic reading machines.

Reply Br. 4.

We are not persuaded by Appellant’s argument. Firstly, Appellant starts from the wrong perspective—the field of endeavor of Sears—and then looking to see if the ’949 Patent is in that field. As Appellant notes in its citation of the law, the focus of the first test is whether Sears is “within the field of the inventor’s endeavor,” not the other way around. Appeal Br. 8; *see also In re Klein*, 647 F.3d at 1348 (citing *In re Bigio*, 381 F.3d 1320, 1325 (Fed.Cir.2004); *In re Clay*, 966 F.2d 656, 658 (Fed.Cir.1992)). Thus, even if Sears is focused on a subset of the field of endeavor of the ’949 Patent, it can still be within the same field of the ’949 Patent.

The Federal Circuit has further explained that “[t]he field of endeavor of a patent is not limited to the specific point of novelty, the narrowest possible conception of the field, or the particular focus within a given field.” *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1001 (Fed. Cir. 2016).

Here, the Examiner correctly starts by analyzing the field of the ’949 Patent, and then determining whether Sears is in that field. Final Act. 15; *see also* Ans. 4-5. The Examiner determines:

The ’949 patent first states that “stereo photogrammetry is combined with digital image acquisition to acquire or store scenes and poses of interest, and/or to interact with the subject in order to provide data to or from a computer.” Col. 1 lines 6-10 (emphasis added). Sears likewise uses photogrammetry and digital image acquisition to interact with a subject and provide data to or from a computer. Both references are drawn to cameras that take actions based on detected gestures. This is the same general field.

Final Act. 15; *see also* Ans. 4-5. The record confirms the Examiner's findings and ultimate conclusion.

The Examiner cites to the opening paragraph of the '949 Patent which provides a number of general statements concerning the disclosed invention. Final Act. 15 (citing '949 Patent, 1:6-10). The Examiner's focus on cameras that take actions based on detected gestures is further supported by the title of the '949 Patent, "*Camera Based Interaction* and Instruction." '949 Patent, [54] (emphasis added, capitalization omitted). Similarly, the "Background" and "Summary of the Invention" sections support the Examiner's findings concerning the field. *See, e.g.*, '949 Patent, 1:24-30 ("there are few cases known to the inventor where the camera taking the picture actually determines some variable in the picture and uses it for the process of obtaining the picture"); 1:30-35; 1:44-46 ("There is no known picture taking reference based on object position and orientation with respect to the camera, or other objects that I am aware of."); 1:63-2:8 (discussing taking pictures as a result of certain poses in the image).

The rest of the '949 Patent also confirms the Examiner's findings concerning the field of endeavor. For example, in the '949 Patent, "[t]he sequence of frames of this activity (a 'gesture' of sorts by both parties) is recorded, and the speed of approach, the head positions and any other pertinent data determined." '949 Patent, 6:66-7:2. Such gesture data is treated as a command. "When a subject undertakes a particular signal comprising a position or gesture—i.e. a silent command to take the picture (this could be programmed, for example, to correspond to raising one's right hand)." '949 Patent, 5:46-49.

Similarly, Appellant interprets the '949 Patent's field of endeavor as "a picture-taking system that performs a real-time analysis of a gesture (e.g., pose) observed by a sensor, and then captures an image using a digital camera upon determining that the gesture corresponds to an image capture command." Appeal Br. 8-9. Though Appellant attempts to improperly narrow the '949 Patent's field of endeavor by including excessive detail, Appellant's argument further supports the Examiner's findings concerning the '949 Patent's field of endeavor.

Thus, the above shows that the '949 Patent encompasses the broader field of specifying commands using gestures captured by a camera.

The Examiner also correctly determines that Sears is within the field of endeavor of the '949 Patent. Final Act. 15; *see also* Ans. 4-5. This is supported by the disclosure of Sears. Sears is titled "Voice-Output Reading System *with Gesture-Based Navigation*." Sears, [54] (emphasis added, capitalization omitted).

Like the '949 Patent, Sears points out that "[i]t is an object of the invention . . . **to specify control system parameters through manual gestures**." Sears 3:19-21 (emphasis added). Further, the Abstract of Sears states:

An optical-input print reading device with voice output for people with impaired or no vision in which the user provides input to the system from hand gestures. Images of the text to be read, on which the user performs finger- and hand-based gestural commands, are input to a computer, which decodes the text images into their symbolic meanings through optical character recognition, and further tracks the location and movement of



the hand and fingers in order to interpret the gestural movements into their command meaning.

Sears, Abstr. Furthermore, Sears at column 4, lines 3-7, states, “[t]he method includes . . . determining a command signal from a sequence of user-generated spatial configurations of at least one pointer[.]” Also further, Sears claims:

capturing a temporal sequence of digital images of user-generated spatial configurations of at least one pointer;

determining a command signal from the temporal sequence of digital images;

Sears, claim 1, 28:39-42.

All of the above supports the Examiner’s position concerning Sears.

Appellant states that Sears is directed to “an electronic reading system for converting text to synthesized speech that may be used by low-vision and blind people . . . and more particularly relat[ing] to an electronic reading system that includes improved functionality for allowing the user to navigate within the text.” Appeal Br. 8 (quoting Sears, 1:23-29). Appellant does not go into further detail in the Appeal Brief, but later argues that it is improper for the Examiner to “exclude[] ‘electronic reading machines’ from the Examiner-identified field of endeavor for *Sears*.” Reply Br. 4; *see also id.* at 4-6 (discussing the many references to electronic reading machines and optical character recognition in Sears).

We agree that Sears appears to be directed to a narrower field of endeavor than the ’949 Patent. “However, that does not mean that it is not within the field of endeavor of the ’949 Patent. As recognized by Appellant, Sears is also directed to navigation of the

document (Appeal Br. 8), which as shown above, is done through specifying commands using gestures captured by a camera. Thus, we reject Appellant's attempt to narrowly interpret Sears' field of endeavor to only "an electronic reading system." Reply Br. 4-6; Appeal Br. 8.

We conclude that Sears is within the field of endeavor of the claimed invention and thus analogous art.

#### A.2. Analogous Art – Second Test

Appellant also argues:

When addressing whether a reference is analogous art with respect to a claimed invention under a reasonable-pertinence theory (i.e., the second test for analogous art), the **problems** to which both relate must be identified and compared. *Donner*, 979 F.3d at 1359. According to the Examiner, the problem being solved by the '949 Patent is the lack of automatic "picture taking [] based on object position and orientation with respect to the camera." Action, p. 15 (citing '949 Patent, 1:44-46). In contrast, *Sears* discloses that it is solving "the problems of the prior art, both with regards to OCR-based electronic reading machines as well as electronic magnifying system." *Sears*, 3:12-15. These are not the problems to which the '949 Patent relates, and thus *Sears* fails the second test for analogous art.

Appeal Br. 9 (emphasis added).

Both Patent Owner and the Examiner now agree that *Sears* fails the second test for analogous art. See Answer, p. 5 ("Upon further consideration, *Sears* does not pass the second test") (emphasis added).

Reply Br. 4.

We do not rely on the pertinent problem test in reaching our decision. However, we are compelled to state that we disagree with the Examiner's determination that *Sears* fails the second test for analogous art.

In *Donner*, the Federal Circuit held that the Board defined the pertinent problem too "narrowly." *Donner*, 979 F.3d at 1360. The analysis of "[t]he problems to which the claimed invention and reference at issue relate" "must be carried out from the vantage point of a PHOSITA who is considering turning to the teachings of references outside her field of endeavor" and therefore must not "rule out all such art" that is "outside her field of endeavor." *Id.* The Federal Circuit held that "if the two references have 'pertinent similarities' such that [the prior art reference] is reasonably pertinent to one or more of the problems to which the [patent-in-suit] pertains, then [the prior art reference] is analogous art." *Id.* at 1361. Such is the case here with *Sears*. Thus, the Examiner's conclusion that the test only looks at the narrow general purpose of a reference is misguided. We note that for the reasons discussed above, Appellant's claimed invention addresses the particular problem of specifying commands using gestures and *Sears* is directed to gesture-based navigation.

#### B. Claim 13

Appellant raises the following arguments in contending that the Examiner erred in rejecting claim 13 under 35 U.S.C. § 103 as being unpatentable over *Sears*. See Appeal Br. 10-21.

##### B.1. Claim 13, element [a]

##### B.1.a. Claim 13, element [a] – Appellant's Contentions

Appellant argues:

[B]ecause the Examiner uses the embodiment from *Sears* that only has cameras and sensors

that face downwards, the Examiner is forced to improperly recast the downward direction as being “forward facing.” Action, p. 7 (“The ‘forward facing’ direction may be considered down towards the printed material.”) (emphasis added). But one of skill in the art would not consider forward facing to mean downwards facing. [Occhiogrosso] ExpertDec, ¶¶ 47-54.

Appeal Br. 10-11. According to Appellant:

The Examiner contends that[:]

it is apparent that “forward facing” would be understood by a [POSITA] in the context of which direction the device itself is facing. For a camera, this would be the direction in which the camera is pointing, where it is going to take a picture. This could be up, down, north, south, in some diagonal—it all depends on the direction of the camera.

Action, p. 16. That cannot be the correct interpretation because the Examiner’s interpretation renders “forward facing” superfluous.

Appeal Br. 13-14 (formatting added).

Further, the Examiner mapped *Sears*’ “camera 87” and “camera 89” to the claimed “sensor” and “digital camera,” respectively. Action, p. 7. According to the Examiner, *Sears* “discloses that the cameras may be included in a common device housing.” *Id.* (citing *Sears*, 18:15-18). But that is insufficient to meet claim element 13[a]. *Sears* is **completely silent** regarding the **shape** of the “common housing” and the positioning/location of “camera 87” and “camera 89” within the “common housing” (i.e., Examiner identified “device housing”). *Sears*, 18:15-18. In fact, *Sears* provides **no details at all** regarding **the structure or**

**geometry** of the “common housing.” *Id.* The “common housing” is not even shown in Figure 3. *Sears*, Fig. 3. Accordingly, the Examiner **provides no evidence** that *Sears*’ “common housing” (i.e., Examiner identified “device housing”) has a single “forward facing portion” encompassing both “camera 87” and “camera 89” (i.e., Examiner identified “sensor” and “digital camera,” respectively), as required by claim element 13[a].

Appeal Br. 15 (emphasis added).

To the extent that the Examiner is **relying on inherency** to argue that the “front” of *Sears*’ “common housing” (the Examiner-identified “device housing”) consists of a single portion encompassing both “camera 87” and “camera 89” (the Examiner-identified “sensor” and “digital camera,” respectively), that **is improper**.

Reply Br. 8 (emphasis added).

#### B.1.b. Claim 13, element [a] – Panel’s Analysis

We are not persuaded by Appellant’s argument. First, claim 13 sets forth the requirements for “forward facing” as being “the forwarding facing portion encompassing a digital camera adapted to capture an image and having a field of view and encompassing a sensor adapted to detect a gesture in the digital camera field of view.” These requirements do not exclude a portable device’s forward facing portion from facing *downward*. Occhiogrosso’s Declaration (paragraphs 47-52) attempts to define “forward facing” without addressing the claim requirements for the “forward facing” portion. Although the Declaration points to embodiments in the Specification as support for “forward facing” excluding *downward*, we do not find the phrase “forward facing” in the Specification. Also, we do not find language in the Specification that precludes the

Declaration's cited embodiments at Figure 1, 2C, and 5 from involving, for example, reclining users (e.g., facing upward or downward) as opposed to standing users. Even if we were to agree with Appellant that "forward facing" excludes *downward*, it would have been obvious to modify Sears to this restrictive forward facing (i.e., horizontal direction) direction of reading the text because it is very well-known to read notices posted for reading in such a forward-facing direction (e.g., a sign or notice posted on a business' door or window). Given the language of claim 13, we agree with the Examiner that "forward facing" would have been understood by a POSITA in the context of which direction the device itself is facing. Contrary to Appellant's assertion, this does not render "forward facing" superfluous. Essentially, Appellant is asking this Panel to read the phrase "forward facing" as requiring pointing in a horizontal direction as opposed to a forward facing portion only specifying where the camera is located. Even if we agreed with Appellant, the "forward facing" limitation still would have been obvious as it merely limits claim 13 to one of the known directions of camera operation which is shown by Sears at, for example, figure 4 (items 103 and 105) and column 21, lines 8-15.

Second, we disagree that the Examiner errs because "the Examiner provides no evidence that *Sears*' 'common housing' (i.e., Examiner identified 'device housing') has a single 'forward facing portion' encompassing both 'camera 87' and 'camera 89'[" We find that Figure 3 of Sears discloses the location and positional relationship of the cameras. We agree with the Examiner that "Sears further discloses that the cameras may be included in a common device housing. Col. 18 lines 15-18." Final Act. 6. Essentially, Appellant

is arguing that the artisan is an automaton capable of only rote application of the teachings of the Sears reference. We disagree. We conclude this premise is contrary to our reviewing court’s guidance. “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007). We determine that extension of Sears’ common housing to include both cameras in the same configuration as taught in Sears’ Figure 3 to be such ordinary creativity.

Third, contrary to Appellant’s inherency argument (Reply Br. 8), we conclude that the Examiner does not rely on inherency to reject claim 13.

B.2.a. Claim 13, element [b] – Appellant’s Contentions  
Appellant argues:

Claim element 13[b] recites, in part, a “processing unit[] adapted to: detect a gesture . . . and subsequently capture an image using the digital camera.” . . .

The Examiner contends that the corresponding structure for this alleged means-plus-function limitation is “computer 220, which may be a microprocessor” executing software that “will detect when a particular pose occurs” and send “a signal . . . to the camera control module 255 to hold the last frame, store it in memory, or transmit it.” Action, pp. 3-5 (citing ’949 Patent, 6:6-19) (emphasis added). As shown in Figure 2B, the “camera control module 255” is connected to both “computer 220” and “cameras 202, 210, 211.” ’949 Patent, Fig. 2B. *Sears* does not teach a “camera control module.” Accordingly, *Sears* does not teach a “computer” or “microprocessor” (e.g., “main system 35”) that sends a signal to the non-existent “camera control module.” Thus, even if the

Examiner-identified corresponding structure were proper, *Sears* does not teach this corresponding structure. Further, the Examiner provides no evidence that *Sears* discloses an equivalent of the identified corresponding structure.

Appeal Br. 18-20.

Appellant also argues:

Further, claim element 13[b] recites, in part, “detect a gesture has been performed . . . and correlate the gesture detected by the sensor with an image capture function and subsequently capture an image.” Accordingly, the image capture function must be triggered by detection of a gesture. The Examiner mapped *Sears*’ image capture and interpretation via optical character recognition (OCR) to claim element 13[b]. See Action, p. 8 (“*Sears* discloses that if a gesture command directs the system to read text, and that text has not yet been interpreted, then image capture via OCR occurs.”) (citing *Sears*, 18:33-38). *Sears* does not wait for a gesture to start capturing images. *Sears* begins capturing images “immediately, before [user] gestural input,” when text is within the field of view (e.g., “printed material 33” is moved such that text is within the field of view). [*Sears*, 18:28-35]. When a user gesture is eventually detected in *Sears*, the user gesture identifies a portion of the text within “printed material 33” to be vocalized. Because *Sears* has already captured an image with the identified portion of text, and *Sears* has already performed OCR on the image, *Sears* can begin vocalization of the identified portion of text “almost immediately” (i.e., no need to wait for image capture or OCR to be executed). *Id.*



*Sears* also states that “[i]f the text to be read is not among that already interpreted, then image capture 51 of the indicated text using high pixel densities suitable for OCR 55 can begin.” *Id.* at 18:35-38. But as *Sears* indicates, image capture occurs automatically, before a gesture, when text is placed within the field of view of the image capture means. *See id.* at 18:28-35. Gestures control interpretation via OCR and vocalization, not image capture. Accordingly, *Sears* fails to teach or suggest claim element 13[b], and thus fails to render claim 13 unpatentable.

Appeal Br. 20-21.

## B.2. Claim 13, element [b]

### B.2.b. Claim 13, element [b] – Panel’s Analysis

We are not persuaded by Appellant’s argument. First, Appellant asserts *Sears* fails to teach or suggest a “processing unit[] adapted to: detect a gesture . . . and subsequently capture an image using the digital camera.” However, without mentioning the claimed functions of detecting and capturing, Appellant’s argument asserts

*Sears* does not teach a “camera control module.” Accordingly, *Sears* does not teach a “computer” or “microprocessor” (e.g., “main system 35”) that sends a signal to the non-existent “camera control module.”

Appeal Br. 19. To the extent Appellant is arguing the capture in *Sears* is not triggered by a processing unit, we agree with the Examiner (Final Act. 7) that this is disclosed by *Sears* at column 18:33-38 where the “system” operates to capture an image if it detects “the text to be read is not among that already interpreted.”

Second, Appellant asserts the primary embodiment in Sears does not wait for a gesture to start capturing images. We agree. Also, Appellant acknowledges (Appeal Br. 21, last paragraph) the Sears alternative where following a gesture command, “[i]f the text to be read is not among that already interpreted, **then image capture** 51 of the indicated text using high pixel densities suitable for OCR 55 **can begin.**” Sears 18:35-38. The Examiner determines this alternative describes the claimed “detect a gesture . . . and subsequently capture an image using the digital camera.” Appellant argues it cannot because Sears requires that image capture occurs automatically, before a gesture (i.e., Appellant argues that Sears always requires the image capture occurs automatically, before a gesture and does not permit a timing sequence of the gesture first followed by the capture). Essentially, Appellant argues that Sears places the operation sequence requirements of the Sears’ primary embodiment onto all embodiments. We disagree. Sears states “[i]t should be noted that the operation of the system with multiple cameras **could admit many different sequences** of optical character recognition (OCR) 55 and pointer tracking 57.” Sears 18:25-28 (emphasis added). We agree with Examiner that in Sears’ alternative embodiment the gestural command triggers the image capture for OCR, if text is not among that already interpreted. We also agree that this describes element [b] of claim 13.

#### C. Claim 15

Appellant raises the following arguments in contending that the Examiner erred in rejecting claim 15 under 35 U.S.C. § 103 as being unpatentable over Sears. See Appeal Br. 22-24.

Appellant argues:

Further, dependent claim 15 recites “wherein the detected gesture includes a pose,” whereas dependent claim 14 recites “wherein the detected gesture includes a hand motion.” Because the terms “pose” and “hand motion” are different, they have different meanings. . . . Based on the claim language alone, a “pose” is a gesture ***involving at least one body part other than a hand***. This interpretation is confirmed by the specification of the ’949 Patent.

Appeal Br. 22 (citation omitted; Panel emphasis added).

Patent Owner asserted “a ‘pose’ is a gesture involving at least one body part other than a hand.” Appeal Brief, p. 22. This means a “pose” is a gesture that may include a hand so long as the gesture also includes a body part other than a hand (e.g., lips, eyes). *See, e.g.*, ’949 Patent, 10:24-30 (“the invention can be used to photograph all ‘smiling’ poses for example. Or poses where the smile is within certain boundaries of lip curvature even . . . [or] when the subject’s eyes are open a certain amount”) (emphasis added). But ***a gesture consisting solely of a hand*** (and thus no other body part) is ***not a “pose.”***

Reply Br. 11.

We are not persuaded by Appellant’s argument. First, the Specification (5:36) states that a gesture is an example of a pose (“poses (e.g., gestures)”) and also states:

For example the invention disclosed above, allows one to automatically observe the expressions, ***gestures*** and [countenance] of a person, by

determining the shape of their smile, the direction of eye gaze, and the positions or ***motion of parts of the body such as the*** head, arms, ***hands***, etc.

'949 Patent, 11:16-20 (emphasis added). However, we do not find where the Specification defines a “pose” is required to be a gesture involving at least one body part other than a hand.

Second, we do not find where Appellant cites either a reference (e.g., dictionary) or case law that actually requires their restrictive reading of “pose.” Rather, the general definition of the term “pose” (a noun) is:<sup>6</sup>

1. “a bodily attitude or posture.”
2. “the act or period of posing, as for a picture.”
3. “a position or attitude assumed in posing, or exhibited by a figure in a picture, sculptural work, tableau, or the like.”

These definitions do not support Appellant’s argument.

#### D. Claim 18

In rejecting claim 18, the Examiner determines:

Sears indicates that in “previous embodiments” such as the one relied upon herein the cameras that capture images of text and the cameras capturing gestures are in a fixed location. Col. 22 lines 1-8. See also Abowd Dec. ¶ 88.

Final Act. 11.

Sears at column 22 (cited by the Examiner) states:

In the previous embodiments of the present invention, the camera or cameras capturing the images

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<sup>6</sup> Dictionary.com, <https://www.dictionary.com/browse/pose>. Definitions number 7, 9, and 10. (Accessed July 28, 2023). Based On The Random House Unabridged Dictionary, © Random House, Inc. 2023.

of text to be read are either at a fixed location or located relatively distantly from the text (e.g. ***mounted on the user's head*** or chest).

Sears, 22:1-5 (emphasis added).

Appellant raises the following arguments in contending that the Examiner erred in rejecting claim 18 under 35 U.S.C. § 103 as being unpatentable over Sears. *See* Appeal Br. 24-27.

Further, dependent claim 18 recites “wherein the sensor is fixed in relation to the digital camera.” As discussed above, the Examiner mapped *Sears*’ “camera 87” and “camera 89” to the claimed “sensor” and “digital camera,” respectively. *Sears* discloses “camera 87 may be fixed in its orientation, provided that the field of view is sufficiently large to capture images from the entire printed material of interest.” *Sears*, 16:19-22 (emphasis added). In contrast, *Sears* expressly states that the orientation of “camera 89” is not fixed:

[quotation omitted].

*Sears*, 17:29-39 (emphasis added). Accordingly, *Sears* teaches “camera 89” (i.e., Examiner identified “digital camera”) moves along at least two axes, while “camera 87” (i.e., Examiner identified “sensor”) is fixed. Thus, “camera 87” is not fixed in relation to “camera 89.”

Appeal Br. 24-25:

[Column 22, lines 1-8,] of *Sears* refers to the physical relationship between the “text to be read” and the cameras. In the platform-based embodiment depicted in Figure 3, the cameras are located on platform 85, which is a fixed distance from the “text to be read” as a result of the legs 83 supporting the platform 85: [Sears, Figure 3 omitted].

That is why the “text to be read” is at a “fixed location” (i.e., distance) relative to the cameras. *See id.* at 22:1-8, Fig. 3. It does not change the fact that “camera 87” is not fixed in relation to “camera 89.” *Id.* at 17:29-39.

Appeal Br. 25-26 (emphasis and formatting added).  
Appellant further argues:

According to the Examiner, *Sears*

says that camera 89 can be fixed: “Instead of moving the camera 89, it is also within the spirit of the present invention to rotate one or more mirrors, while the camera 89 remains fixed in location and orientation.”

Answer, p. 10 (quoting *Sears*, 17:40-43) (emphasis added). With this clarification, the Examiner now concedes that the Examiner is relying on *Sears*’ embodiment with the “rotat[ing] one or more mirrors” to meet claim 18. But *Sears* fails to teach or suggest the positioning of the “rotat[ing] one or mirrors” and “camera 89” (the Examiner-identified “digital camera”) with respect to the “common housing” (the Examiner-identified “device housing”).

Reply Br. 12 (formatting added).

We are not persuaded by Appellant’s arguments. First, we note that the relationship of “mounted on the user’s head” of *Sears*’ column 22, lines 1-5 (as pointed to by the Examiner’s rejection), is shown at *Sears*’ Figure 4 and further described at column 21.

An example of such a worn reading machine is shown in FIG. 4, a perspective diagram of an eyeglass reading machine 100. An eyeglass frame 100 provides the basic platform for the reading machine. A wide-field camera 103 on one eyeglass earpiece provides functionality similar to that of

the wide-field camera 87 of FIG. 3, and a narrower field camera 105 provides functionality similar to that of the pan-tilt camera 89.

Sears, 21:8-15. We determine that Sears' "mounted on the user's head" (Sears, 22:1-5) teaches an embodiment using cameras (corresponding to the claimed sensor and digital camera) in fixed relation to each other. We find this teaching sufficient to render obvious the cameras' fixed relationship of claim 18.

Second, Appellant challenges the Examiner's reliance, in the Answer, on the alternative embodiment (rotating mirror) of Sears to teach fixed location and orientation. However, such reliance by the Examiner is unnecessary as we conclude that cameras "mounted on the user's head" (Sears, 22:1-5) as shown in Sears at Figure 4 is sufficient to show the obviousness of claim 18.

#### E. No Jurisdiction

Appellant raises the following jurisdictional argument in contending that the Examiner erred in granting the reexamination request filed in November 2021 on a patent that expired in May 2020. Appeal Br. 34.

In *Oil States*, the Supreme Court explained that the "decision to *grant* a patent is a matter involving public rights-specifically, the grant of a public franchise." *Oil States Energy Servs., LLC v. Greene's Energy Grp., LLC*, 138 S. Ct. 1365, 1373 (2018) (emphasis in original). "Specifically, patents are public franchises that the Government grants to the inventors of new and useful improvements." *Id.* (internal quotation marks omitted). The Court explained that "Congress [has] significant latitude to assign [the] adjudication of public rights to entities other than Article III courts." *Id.* at 1368[, 1373]. In exercising its "significant latitude,"

Congress grants public franchises “subject to the qualification that the PTO has the authority to reexamine and perhaps cancel—a patent claim in an inter partes review.” *Id.* at 1368, 1374 (internal quotation marks omitted). Accordingly, so long as the public franchise exists, the PTO may have jurisdiction to amend and cancel the claims of the patent (e.g., via *ex parte* reexamination).

When a patent expires, however, ***the public franchise ceases to exist*** and the franchisee (e.g., the patent owner) no longer has the right to exclude others. At most, the franchisee may be entitled to collect damages from the public franchise that formerly existed through an infringement action in district court. But because the public franchise no longer exists, ***the USPTO has nothing in its authority to cancel or amend.*** Expiration removes the patent from the USPTO’s jurisdiction and returns it to the sole jurisdiction of the Article III courts, which have exclusive authority to govern claims for damages. If this were not so, the USPTO would purport to have authority to retroactively modify a public franchise that no longer exists, in a setting where the expired public franchise does not enjoy any presumption of validity and in which amendment of claims is no longer permitted.

Appeal Br. 33-34 (emphasis added).

We are not persuaded by Appellant’s argument. First, the statute authorizing reexamination does not limit the timing of a reexamination in the manner argued by Appellant. To the contrary, the statute states:

Any person ***at any time*** may file a request for reexamination by the Office of any claim of a



patent on the basis of any prior art cited under the provisions of section 301.

35 U.S.C. § 302 (emphasis added).

Second, we disagree that Appellant has no rights under the expired patent.

It is well-established that [the Federal Circuit's] decision (and the Board's decision on remand) would have a consequence on any infringement that occurred during the life of the . . . patent. *See Genetics Inst. v. Novartis Vaccines*, 655 F.3d 1291, 1299 (Fed. Cir. 2011) (“[A]n expired patent may form the basis of an action for past damages subject to the six-year limitation under 35 U.S.C. § 286.”); *see also Keranos, LLC v. Silicon Storage Tech., Inc.*, 797 F.3d 1025, 1033 (Fed. Cir. 2015) (Although “the patentee has fewer rights to transfer when the patent has expired,” the owner of an expired patent can license the rights or transfer title to an expired patent.); *Mars, Inc. v. Coin Acceptors, Inc.*, 527 F.3d 1359, 1372 (Fed. Cir. 2008) (“Title to . . . an expired patent . . . includes more than merely the right to recover damages for past infringement.”).

*Sony Corp. v. Iancu*, 924 F.3d 1235, 1243 n.1 (Fed. Cir. 2019).

Third, our reviewing court regularly reviews Board decisions where a patent under reexamination expired prior to the Board issuing its decision. In none of these cases has the Federal Circuit found a lack of jurisdiction before the United States Patent and Trademark Office (USPTO). *See, e.g., In re Rambus, Inc.*, 753 F.3d 1253 (Fed. Cir. 2014) (involving appeal of an *inter*

*partes* reexamination of expired U.S. patent 6,034,918)<sup>7</sup>; *see also CSBSys. Int'l*, 832 F.3d at 1338 (“[T]he ’953 patent expired during the reexamination.”).

We conclude the USPTO has jurisdiction for this reexamination so long as any right remains under the expired patent.

#### F. No Substantial New Question (SNQ)

Appellant raises the following SNQ argument in contending that the Examiner erred in granting this reexamination request.

##### F.1.

As discussed above in reference to claim element 13[a], *Sears* does not teach or suggest does not the forward facing portion of the device housing encompassing a sensor and a digital camera. In other words, *Sears* does not provide the technical teachings that were missing from the art during the original prosecution of the ’949 Patent. Thus, a reasonable examiner would not consider *Sears* to be important in deciding whether one or more claims of the ’949 Patent are patentable, and *Sears* alone does not raise a SNQ of patentability. The order for *ex parte* reexamination should be vacated.

Appeal Br. 36.

We are not persuaded by Appellant’s argument. For the reasons already set forth above in section B.1., we determine that *Sears* does provide the teachings that were missing from the art during the original

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<sup>7</sup> The Board noted in a related *ex parte* reexamination appeal that “[t]he ’918 patent term expired during the reexamination proceedings.” *Ex parte Rambus, Inc.*, Appeal 2010-011178, 2011 WL 121775, at \*6 (BPAI Jan. 12, 2011).

prosecution of the '949 Patent, and thus, does raise a SNQ of patentability.

### CONCLUSIONS

The Examiner has not erred in rejecting claims 8-18 as being unpatentable under 35 U.S.C. § 103.

We **affirm** the Examiner's rejections of claims 8-18 as being unpatentable under 35 U.S.C. § 103.

### DECISION SUMMARY

In summary:

Claim(s) Rejected	35 U.S.C. §	Refer- ence(s)/ Basis	Affirmed	Reversed
8-18	103	Sears	8-18	
<b>Overall Outcome</b>			8-18	

### REQUESTS FOR EXTENSIONS OF TIME

Requests for extensions of time in this ex parte reexamination proceeding are governed by 37 C.F.R. § 1.550(c). *See* 37 C.F.R. § 41.50(f).

**AFFIRMED**

UNITED STATES PATENT  
AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* GESTURE TECHNOLOGY PARTNERS, LLC,  
Patent Owner and Appellant

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Appeal 2023-001713  
Reexamination Control 90/014,900  
Patent 8,553,079 B2  
Technology Center 3900

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[August 8, 2023, Decided]

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Before ALLEN R. MacDONALD, MICHAEL J.  
ENGLE, and BRENT M. DOUGAL, *Administrative  
Patent Judges*.

MacDONALD, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. §§ 134(b) and 306, Gesture Technology Partners, LLC (Appellant)<sup>1</sup> appeals from the final rejection of claims 1-9, 11, 12, and 14-30. Appeal Br. 6-33. Patent claims 10 and 13 have been confirmed by the Examiner, and thus are not at issue. Final Act. 90. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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<sup>1</sup> Appellant identifies the real party in interest as Gesture Technology Partners, LLC. Appeal Br. 1.

## CLAIMED SUBJECT MATTER

Claims 1-3, 8, and 11 are illustrative of the claimed subject matter (emphasis, formatting, and bracketed material added):

1. A computer implemented method comprising:
  - [1.A.] providing a light source adapted to direct illumination through a work volume above the light source;
  - [1.B.] providing a camera oriented to observe a gesture performed in the work volume, the camera being fixed relative to the light source; and
  - [1.C.] determining, *using* the camera, the gesture performed in the work volume and illuminated by the light source.
2. The method according to claim 1 wherein the light source includes a light emitting diode.
3. The method according to claim 1 wherein the light source includes a plurality of light emitting diodes.
8. The method according to claim 1 further including determining the *three-dimensional position* of a point on a user.
11. A computer *apparatus* comprising:
  - [11.A.] a light source adapted to illuminate a human body part within a work volume generally above the light source;
  - [11.B.] a camera in fixed relation relative to the light source and oriented to observe a gesture performed by the human body part in the work volume; and
  - [11.C.] a processor adapted to determine the gesture performed in the work volume and illuminated by the light source *based on* the camera output.

REFERENCES<sup>2</sup>

The Examiner relies on the following references:

Name	Reference	Date
Sako	US 5,689,575	Nov. 18, 1997
Liebermann	US 5,982,853	Nov. 9, 1999
Sears	US 6,115,482	Sept. 5, 2000
Mack	US 6,198,485 B1	Mar. 6, 2001

REJECTIONS<sup>3</sup>A.<sup>4</sup>

The Examiner rejects claims 1, 4-9, 11, 12, and 17-20, under 35 U.S.C. § 102 as being anticipated by Liebermann. Final Act. 34-76.

Appellant presents arguments for claims 1, 8, and 11. Appeal Br. 6-20. Appellant does not present separate arguments for claims 4-7, 9, 12, and 17-20. We select claim 1 as the representative claim for the § 102 rejection of claims 4-7 and 9; and we select claim 11 as the representative claim for the § 102 rejection of claims 12 and 17-20. Except for our ultimate decision, we do not address the merits of this § 102 rejection of claims 4-7, 9, 12, and 17-20 further herein.

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<sup>2</sup> All citations herein are by the first named inventor.

<sup>3</sup> For simplicity herein, we refer to the Examiner's rejection under § 102(e) as a rejection under § 102; and we refer to the Examiner's rejections under § 103(a) as rejections under § 103.

<sup>4</sup> Although the heading for this rejection also lists claims 21, 24-28, and 30 (Final Act. 34), these claims are not discussed in the § 102 rejection that follows the heading. Instead, these claims are separately rejected under § 103 as discussed *infra*.

## B.

The Examiner rejects claims 2, 3, 14, and 15 under 35 U.S.C. § 103 as being unpatentable over the combination of Liebermann and Sears. Final Act. 76-78.

Appellant presents separate arguments for claims 2 and 3. Appeal Br. 20-28. Appeal Br. 6-20. Appellant does not present separate arguments for claims 14 and 15. We select claim 2 as the representative claim for the § 103 rejection of claim 14; and we select claim 3 as the representative claim for the § 103 rejection of claim 15. Except for our ultimate decision, we do not address the merits of this § 103 rejection of claims 14 and 15 further herein.

## C.

The Examiner rejects claim 16 under 35 U.S.C. § 103 as being unpatentable over the combination of Liebermann and Mack. Final Act. 78-81.

To the extent that Appellant discusses this rejection of claim 16, Appellant merely references (or repeats) the argument directed to claim 11. Appeal Br. 28. Such a referenced (or repeated) argument is not an argument for “separate patentability.” Thus, Appellant does not present separate arguments for this rejection of claim 16. Therefore, this rejection of claim 16 turns on our decision as to the rejection of claim 11. Except for our ultimate decision, we do not address the merits of this § 103 rejection of claim 16 further herein.

## D.

The Examiner rejects claims 21, 24-28, and 30 under 35 U.S.C. § 103 as being unpatentable over the combination of Liebermann and Sako. Final Act. 81-85.

To the extent that Appellant discusses this rejection of claims 21, 24-28, and 30, Appellant merely references (or repeats) the arguments directed to claims 1,

8, and/or 11. Appeal Br. 29-31. Such a referenced (or repeated) argument is not an argument for “separate patentability.” Thus, Appellant does not present separate arguments for this rejection of claims 21, 24-28, and 30. Therefore, this rejection of claims 21, 24-28, and 30 turns on our decision as to the rejection of claims 1, 8, and/or 11. Except for our ultimate decision, we do not address the merits of this § 103 rejection of claims 21, 24-28, and 30 further herein.

E.

The Examiner rejects claims 22 and 23 under 35 U.S.C. § 103 as being unpatentable over the combination of Liebermann, Sears, and Sako. Final Act. 85-87.

To the extent that Appellant discusses this rejection of claims 22 and 23, Appellant merely references (or repeats) the arguments directed to claims 2 and/or 3. Appeal Br. 32. Such a referenced (or repeated) argument is not an argument for “separate patentability.” Thus, Appellant does not present separate arguments for this rejection of claims 22 and 23. Therefore, this rejection of claims 22 and 23 turns on our decision as to the rejection of claims 2 and/or 3. Except for our ultimate decision, we do not address the merits of this § 103 rejection of claims 22 and 23 further herein.

F.

The Examiner rejects claim 29 under 35 U.S.C. § 103 as being unpatentable over the combination of Liebermann, Mack, and Sako. Final Act. 87-90.

To the extent that Appellant discusses this rejection of claim 29, Appellant merely references (or repeats) the argument directed to claim 21. Appeal Br. 33. Such a referenced (or repeated) argument is not an argument for “separate patentability.” Thus, Appellant does not present separate arguments for this



rejection of claim 29. Therefore, this rejection of claim 29 turns on our decision as to the rejection of claim 21. Except for our ultimate decision, we do not address the merits of this § 103 rejection of claim 29 further herein.

## PRINCIPLES OF LAW – CLAIM CONSTRUCTION

### A.<sup>5</sup>

During examination of a patent application, a claim is given its broadest reasonable construction consistent with the specification. *In re Prater*, 415 F.2d 1393, 1404-1405 (CCPA 1969). However, “[w]hen a patent expires during a reexamination proceeding, the PTO should thereafter apply the *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc)] standard for claim construction.” *In re CSB-Sys. Int’l, Inc.*, 832 F.3d 1335, 1341 (Fed. Cir. 2016).

“[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1313.

### B.

“Claims must be read in view of the specification, of which they are a part.” *Markman v. Westview Insts., Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc). However, “limitations are not to be read into the claims from the specification.” *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) (citing *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989)).

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<sup>5</sup> The subject patent of this appeal expired on November 3, 2019 before the filing of the November 11, 2021 Request for Reexamination. See Appeal Br. 34 (last two lines). The Examiner acknowledges “the [ ]079 Patent expired in November 2019.” Final Act. 5; Ans. 80.

## OPINION

We have reviewed the Examiner's rejections in light of Appellant's arguments (Appeal Brief) that the Examiner has erred. We disagree with Appellant's conclusions. Except as noted below, we adopt as our own (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken and (2) the reasons set forth by the Examiner in the Examiner's Answer in response to Appellant's Appeal Brief.

## A. Claim 11 – Section 102 – Liebermann

Appellant raises the following arguments in contending that the Examiner erred in rejecting claim 11 under 35 U.S.C. § 102 as being anticipated. See Appeal Br. 6-15.

## A.1. Claim 11 – First Argument

A.1.a. Claim 11 – First Argument –  
Appellant's Contentions

Appellant argues:

One need look no further than the plain language of claim 11 to determine that the claim ***does not cover a physically distributed system***. The preamble of claim 11 requires “a computer apparatus.” That is why the claimed computer apparatus must include the claim elements that follow the preamble.

The same holds true for the specification. In every disclosed embodiment of the '079 Patent that includes a “light source,” a “camera,” and a “processor” for determining a gesture, those components are located within the ***same computing device*** (e.g., laptop computer, handheld computer, etc.).

Appeal Br. 10 (emphasis added).

The Examiner even acknowledges that “an apparatus [claim] recites what a device is rather than what a device does.” Action, p. 58 (citing *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469 (Fed. Cir. 1990) (emphasis added)). Accordingly, independent claim 11 requires that the claimed “processor,” “camera,” and “light source” all be components of the same computing device.

Appeal Br. 11.

Claim element 11[c] requires “a processor adapted to determine the gesture performed in the work volume and illuminated by the light source based on the camera output” located in the same “computer apparatus” as the “camera” and “light source.” But those requirements of claim 11 are fundamentally different than the distributed architecture of *Liebermann*.

Appeal Br. 12.

In the present case, Patent Owner is not attempting to read limitations from the specification into the claims. Instead, Patent Owner is relying on the specification of the '079 Patent to interpret the term “computer apparatus,” which is expressly recited by independent claim 11.

Reply Br. 3.

A.1.b. Claim 11 – First Argument – Panel’s Analysis

We are not persuaded by Appellant’s argument. First, the term “apparatus” is not explicitly listed among the patent eligible subject matter in the statute. Rather, the term “machine” is listed.

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement

thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. § 101.

A machine is a “concrete thing, consisting of parts, or of certain devices and combination of devices.” *Digitech [Image Techs., LLC v. Electronics for Imaging, Inc.]*, 758 F.3d [1344,] 1348-49 [(Fed. Cir. 2014)] (quoting *Burr v. Duryee*, 68 U.S. 531, 570 . . . (1863)). This category “includes every mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result.” [*In re*] *Nuijten*, 500 F.3d [1346,] 1355[ (Fed. Cir. 2007)] (quoting *Corning v. Burden*, 56 U.S. 252, 267 . . . (1854)).

MPEP § 2106.03I. Thus, the case law construes the statutory term “machine” to include either a singular device or a combination of devices (e.g., a system). We see no distinction between a ‘machine’ (as in the statute) and an ‘apparatus’ (as claimed here). We therefore construe the claim term “apparatus” to include either a singular device or a combination of devices.

Second, we do not find where appellant cites either a reference (e.g., dictionary) or case law that actually requires Appellant’s restrictive reading of “apparatus.” Rather, the general definition<sup>6</sup> of the term “apparatus” (a noun) is:

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<sup>6</sup> Dictionary.com, <https://www.dictionary.com/browse/apparatus>. Definitions numbers 1 and 2. (Accessed July 28, 2023). Based on Collins English Dictionary – Complete & Unabridged 2012 Digital Edition (c) William Collins Sons & CO. LTD. 1979, 1986 (c) Harpercollins Publishers 1998, 2000, 2003, 2005, 2006, 2007, 2009, 2012.

1. a collection of instruments, machines, tools, parts, or other equipment used for a particular purpose[.]
2. a machine having a specific function: *breathing apparatus*.

These definitions of “apparatus” include both a singular machine as well as a collection of machines. The definitions do not support Appellant’s argument.

Third, our analysis of claim 11 finds nothing in the claim that precludes a distributed system. Although the particular same computer embodiment advocated by Appellant is well-supported in the Specification, and we do not read claim 11 to be so limited. Therefore, Appellant’s narrow claim construction is improperly predicated on reading in a limitation from the Specification.

“[L]imitations appearing in the specification will not be read into claims, and . . . interpreting what is meant by a word in a claim ‘is not to be confused with adding an extraneous limitation appearing in the specification, which is improper.’” *Intervet Am., Inc. v. Kee[-]Vet Labs., Inc.*, 887 F.2d 1050, 1053 (Fed.Cir.1989).

*In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1348 (Fed. Cir. 2002) (emphasis and parallel citation omitted).

## A.2. Claim 11 – Second Argument

### A.2.a. Claim 11 – Second Argument – Appellant’s Contentions

Also, Appellant argues:

*Liebermann* discloses that the Center does not process the output of the camera:

[T]he deaf person uses sign language in front of a device containing a video camera . . . a

captured image undergoes a process whereby ***the image is transformed into manageable identifiers***. It is the set of identifiers, in the form of tables of numbers, that travels the normal telephone lines to the central processing facility (i.e., the Center). These identifiers, and not the images themselves, are then correlated with a database of vocabulary and grammar by using artificial intelligence at the Center.

*Liebermann*, 4:60-5:5 (emphasis added). The output of *Liebermann's* "camera 44" is one or more "images." But *Liebermann's* "central processing facility" (i.e., the Examiner identified "processor") executes its functions based on "identifiers," not the "images" themselves. *Id.* That is because the "images" are not transmitted to the "central processing facility." *Id.* Only the "identifiers" generated at the public kiosk "travel[] the normal telephone lines to the central processing facility (i.e., the Center)." *Id.* Thus, *Liebermann's* "central processing facility" (i.e., the Examiner identified "processor") is ***not determining anything based on Liebermann's "images"*** (i.e., the Examiner identified "camera output"). Accordingly, *Liebermann* fails to disclose claim element 11[c].

Appeal Br. 14-15 (Appellant emphasis omitted; Panel emphasis added).

#### A.2.b. Claim 11 – Second Argument – Panel's Analysis

We are not persuaded by Appellant's argument. As Appellant acknowledges, *Liebermann's* captured image is transformed into manageable identifiers and *Liebermann's* system executes (i.e., determines) its functions based on these identifiers. Since these identifiers are themselves based on the captured image,

the executed functions are therefore also determined based on the captured image. Contrary to Appellant's argument, Liebermann column 4, line 60 to column 5, line 5 teaches determining "based on" the captured image.

#### B. Claim 1 – Section 102 – Liebermann

Appellant raises the following arguments in contending that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 102 as being anticipated.

##### B.1. Claim 1 – First Argument

Similar to independent claim 11, the fundamental disagreement between Patent Owner and the Examiner is whether *Liebermann's distributed system* anticipates the claimed process, which is executed in a computer, not a distributed system. . . . As discussed above in reference to independent claim 11, in the '079 Patent , all of the components necessary to illuminate, capture, and determine a gesture are disposed within the same computer apparatus. Accordingly, the same computer must perform each step of independent claim 1.

Appeal Br. 15-16.

We are not persuaded by Appellant's argument. Appellant repeats the same argument as in section A.1.a. above for claim 11, and we reach the same result as in section A.1.b. above for claim 11.

##### B.2. Claim 1 – Second Argument

Also, Appellant argues:

*Liebermann* discloses that the Center does not process the output of the camera:

[T]he deaf person uses sign language in front of a device containing a video camera . . . a captured image undergoes a process whereby ***the image is transformed into manageable***

**identifiers.** It is the set of identifiers, in the form of tables of numbers, that travels the normal telephone lines to the central processing facility (i.e., the Center). These identifiers, and not the images themselves, are then correlated with a database of vocabulary and grammar by using artificial intelligence at the Center.

*Liebermann*, 4:60-5:[5] (emphasis added). In other words, *Liebermann*'s "central processing facility" executes its functions based on "identifiers," not the "images" themselves. *Id.* That is because the "images" from *Liebermann*'s "camera 44" are not transmitted to the "central processing facility." *Id.* Only the "identifiers" generated at the public kiosk "travel[] the normal telephone lines to the central processing facility (i.e., the Center)." *Id.* Thus, *Liebermann*'s "central processing facility" is **not using** *Liebermann*'s "**camera 44**" (i.e., the Examiner identified "camera") **to determine the gesture**. This is contrary to the requirements of claim element 1[c]. Accordingly, *Liebermann* fails to disclose claim element 1[c].

Appeal Br. 18 (Appellant emphasis omitted; Panel emphasis added).

We are not persuaded by Appellant's argument. Appellant repeats the same argument as in section A.2.a. above for claim 11, and we reach the same result as in section A.2.b. above for claim 11. As above, contrary to Appellant's argument, *Liebermann* column 4, line 60 to column 5, line 5 teaches determining "using" the captured image.



## C. Claim 8 – Section 102 – Liebermann

Appellant raises the following arguments in contending that the Examiner erred in rejecting claim 8 under 35 U.S.C. § 102 as being anticipated.

The Examiner contends that Liebermann anticipates claim 8 because *Liebermann* “describes using three[-]dimensional video cameras to ‘facilitate recognition of signing motions by enhancing spatial differences.’” Action, p. 53 (citing *Liebermann*, 13:29-31). But “enhancing spatial differences” does not necessarily mean “determining the three-dimensional position of a point on a user,” as required by claim 8. The Examiner also contends that *Liebermann’s*

method requires “calculating centers of gravity for both hands,” which involves finding an “FFT [fast Fourier transform] of paths of the hands” as well as performing an “explicit path analysis” of the hands.

Action, p. 53 (citing *Liebermann*, 4:31-32, FIG. 9). Notably, *Liebermann* **does not characterize** its calculation as “calculating centers of gravity for both hands.” Putting that aside, *Liebermann* **is silent** regarding any of these analyses/calculations “determining the three-dimensional position of a point on a user,” as required by claim 8. Performing a “path analysis” of hands does not necessarily implicate three-dimensions. For example, hands moving left to right follow a one- or two-dimensional path. Thus, *Liebermann* does not anticipate claim 8.

Appeal Br. 19 (emphasis and formatting added).

[T]he Examiner now admits that the Examiner must “interpret” *Liebermann* or rely on what *Liebermann* “suggests” to find anticipation. But

anticipation requires express teachings, not “interpretation” or “suggestions.”

Reply Br. 4.

We are not persuaded by Appellant’s arguments. First, contrary to Appellant’s argument, Liebermann **does** characterize its calculation as “calculating centers of gravity for both hands” at Figure 9 on the left side at the fifth box down in the figure.

Second, although we agree with Appellant that the Examiner’s discussion of Liebermann, column 13, lines 22-23, by using the term “suggesting” (Final Act. 53; Ans. 67) does not support the anticipation rejection of claim 8, we find this Examiner error to be harmless in light of the Examiner’s remaining reasoning at pages 52-53 of the Final Action. We agree with the Examiner’s remaining reasoning and adopt it as our own. The remaining reasoning is by itself sufficient to support the anticipation rejection of claim 8. Particularly, as the Examiner finds:

“ASL is a visual-spatial language requiring simultaneous, multiple, dynamic articulations,” “[a]t any particular instant, one has to combine information about the handshape (Stokoe’s ‘dez’), the motion (Stokoe’s ‘sig’) and the **spatial location of the hands relative to the rest of the body** (Stokoe’s ‘tab’).” [Liebermann,] 10:59-64 (internal quotations added). . . . FIG. 9 discloses in other portions of the conversion process that a “**2 hand FFT and their location**” are determined by the static gesture manager[.] . . . [A] POSITA would understand that calculating the center of gravity of a hand, performing a fast Fourier transform, and conducting path analysis as discussed in Liebermann includes determining the position of a point on the user’s hand, which is a “point on a user.”

Final Act. 52-53.

Third, contrary to Appellant’s argument, we find no error in the Examiner’s use of the term “interpreted” at page 69 of the Answer because, in this context, it is a reasonable substitute for an alternative term such as “understood.”

D. Claims 2 and 3 – Section 103 –  
Liebermann and Sears

Claims 2 and 3 depend from claim 1 and further recite “the light source includes” either “a light emitting diode” (claim 2) or “a plurality of light emitting diodes” (claim 3). The Examiner concludes:

[I]t would have been obvious to an artisan to **substitute** one light source for the other to provide a light source such as “a light emitting diode”, and “a plurality of light emitting diodes” so as to direct illumination through a work volume, to [“]ensure adequate lighting of the user’s hands, face and body[”] ([Liebermann], 5:52-58), and “to provide constant illumination over the field of view” ([Sears], 5:13-35).

Final Act. 78 (Examiner’s emphasis omitted; Panel emphasis added).

Appellant raises the following arguments in contending that the Examiner erred in rejecting claims 2 and 3 under 35 U.S.C. § 103 over the combination of Liebermann and Sears. Appeal Br. 20-28.

D.1. Analogous Art

Appellant correctly states:

A reference qualifies as prior art for an obviousness determination **only when it is analogous to the claimed invention**. See *In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011). Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of

endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *Donner Technology, LLC v. Pro Stage Gear, LLC*, 979 F.3d 1353, 1359 (Fed. Cir. 2020).

Appeal Br. 20 (emphasis added).

#### D.1.a. Analogous Art – First Test

As to claims 2 and 3, Appellant argues:

Regarding the first test for analogous art, *Sears* describes itself as relating to

an electronic reading system for converting text to synthesized speech that may be used by low-vision and blind people . . . and more particularly relat[ing] to an electronic reading system that includes improved functionality for allowing the user to navigate within the text.

*Sears*, 1:23-29. In contrast, the '079 Patent is directed to computing devices (e.g., laptop computer, handheld computer, etc.) that “operat[e] by optically sensing object or human positions and/or orientations.” '079 Patent, 1:54-57, Fig. 1, Fig. 6. These “human positions and/or orientations” include “gestures comprising a sequence of finger movements,” and may “allow [for] typing as now, but without the physical keys.” *Id.*, 3:48-60, 10:23-25. Accordingly, *Sears* and the '079 Patent are not from the same field of endeavor, and *Sears* fails the first test for analogous art.

Appeal Br. 21 (formatting added).

It is clear . . . that “electronic reading machines” are absent from the Examiner-identified field of

endeavor for *Sears*. This is improper. *Sears*' Title, Abstract, Technical Field section, Background Art section, Summary of the Invention section, and independent claims all disclose or reference electronic reading machines. See *Sears* at Title, Abstract, 1:23-29, 3:12-15, 4:12-19, independent claims 1, 31, and 33. Accordingly, *Sears*' field of endeavor necessarily includes electronic reading machines.

Reply Br. 6.

We are not persuaded by Appellant's argument. Firstly, Appellant starts from the wrong perspective—the field of endeavor of *Sears*—and then looking to see if the '079 Patent is in that field. As Appellant notes in its citation of the law, the focus of the first test is whether *Sears* is “within the field of the inventor's endeavor,” not the other way around. Appeal Br. 20; *see also In re Klein*, 647 F.3d at 1348 (citing *In re Bigio*, 381 F.3d 1320, 1325 (Fed.Cir.2004); *In re Clay*, 966 F.2d 656, 658 (Fed.Cir.1992)). Thus, even if *Sears* is focused on a subset of the field of endeavor of the '079 Patent, it can still be within the same field of the '079 Patent.

The '079 Patent states:

1. Field of the Invention

***The invention relates to simple input devices for computers***, particularly, but not necessarily, intended for use with 3-D graphically intensive activities, ***and operating by optically sensing object or human positions and/or orientations***.

'079 Patent, 1:53-57 (emphasis added).

Appellant too narrowly interprets *Sears*' field of endeavor to limit it to be “an electronic reading

system.” Appeal Br. 21. Like the ’079 Patent , Sears points out that “[i]t is an object of the invention . . . **to specify control system parameters through manual gestures.**” Sears, 3:19-21. (emphasis added). Also, Sears’ title states his invention’s concern with “Gesture-Based Navigation.” Further, Sears’ states:

An optical-input print reading device with voice output for people with impaired or no vision in which the user provides input to the system from hand gestures. Images of the text to be read, on which the user performs finger- and hand-based gestural commands, are input to a computer, which decodes the text images into their symbolic meanings through optical character recognition, and further tracks the location and movement of the hand and fingers in order to interpret the gestural movements into their command meaning.

Sears, Abstract. Furthermore, Sears at column 4, lines 3-7, states, “[t]he method includes . . . determining a command signal from a sequence of user-generated spatial configurations of at least one pointer[.]” Also further, Sears claims:

capturing a temporal sequence of digital images of user-generated spatial configurations of at least one pointer;

determining a command signal from the temporal sequence of digital images;

Sears claim 1, 28:39-42.

Thus, consistent with the Examiner’s findings (Ans. 69-70), we conclude that Sears is within the field of endeavor of the claimed invention and thus analogous art.

## D.1.b. Analogous Art – Second Test

Turning to the second test for analogous art, Appellant also argues as follows:

When addressing whether a reference is analogous art with respect to a claimed invention under a reasonable-pertinence theory (i.e., the second test for analogous art), the **problems** to which both relate must be identified and compared. *Donner*, 979 F.3d at 1359. The problem being solved cannot be one that the patent or prior art identifies as being known: “As the ’023 patent readily discloses, guitar effects had already been mounted on a pedalboard[.] . . . Thus, that could not possibly be a **relevant purpose of the invention**.” *Donner*, 979 F.3d at 1360 (emphasis added).

....

Sears discloses

[t]hese illumination sources 45 may comprise rows of LEDs, thin fluorescent sources (such as T1 lamps often used as illumination for backlit displays on portable computers), or may be other sources including incandescent sources.

*Sears*, 5:16-20 (emphasis added). The ’079 Patent discloses

FIG. 2 illustrates another keyboard embodiment using special datums or light sources such as LEDs.

’079 Patent, 2:19-20 (emphasis added). These passages from *Sears* and the ’079 Patent imply light emitting diodes were known. Further, considering these passages both use the acronym “LEDs” without first spelling it out only reinforces that light emitting diodes were well-known. Accordingly, in

view of the *Donner* decision, the use of one or more LEDs for illumination ***cannot be the purpose*** of *Sears* or the '079 Patent ***with respect to the analogous-art analysis***.

Appeal Br. 21-22 (formatting and emphasis added).

We are not persuaded by Appellant's argument. Essentially, Appellant is arguing that "the use of one or more LEDs for illumination cannot be the purpose of *Sears* or the '079 Patent with respect to the analogous-art analysis" in this situation where claims 2 and 3 are directed to the purpose of using a "light source includ[ing] a light emitting diode(s)."

We determine that *Sears* is "reasonably pertinent to the particular problem with which the inventor is involved" because Appellant's claims define the particular problem of these dependent claims as selecting a light source. Even if we limit the inventor's particular problem to selecting a light source for a gesture-based environment, we still determine that *Sears* is "reasonably pertinent to the particular problem with which the inventor is involved."

Appellant's citation to *Donner* is inapposite. In that case, the Federal Circuit held that the Board defined the field of endeavor too "narrowly," not too broadly. *Donner*, 979 F.3d at 1360. The analysis of "[t]he problems to which the claimed invention and reference at issue relate" "must be carried out from the vantage point of a PHOSITA who is considering turning to the teachings of references outside her field of endeavor" and therefore must not "rule out all such art" that is "outside her field of endeavor." *Id.* Contrary to Appellant's argument, the Federal Circuit held that "if the two references have 'pertinent similarities' such that [the prior art reference] is reasonably pertinent to one or more of the problems to which the [patent-in-suit]



pertains, then [the prior art reference] is analogous art.” *Id.* at 1361. Such is the case here with Sears.

Therefore, we again conclude that Sears is analogous art.

#### D.2. Claim 2

As to claim 2, Appellant further argues “*Sears* does not cure the deficiencies of *Liebermann*.” Appeal Br. 23.

According to the Examiner, an LED “provides more intense light and is [a] more efficient light source [than *Liebermann*’s] lamps.” Action, p. 19 (emphasis added). This serves as the motivation for the Examiner’s ***substitution***. See Action, pp. 18-21. But the Examiner provides no evidence that *Sears*’ LEDs actually have these superior properties compared to *Liebermann*’s lamps. . . . Accordingly, the Examiner’s proposed motivation for the substitution is defective.

. . . .

In view of the above, the Examiner’s *prima facie* case of obviousness is improper because it lacks articulated reasoning and rational underpinnings. “[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR Int’l Co. v Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

Appeal Br. 24-25 (emphasis added).

*Numazaki* discloses “a LED for emitting lights with the wavelength in the infrared range can be used.” *Numazaki*, 54:35-36 (emphasis added). In other words, contrary to the Examiner’s contentions, the Examiner’s cited evidence discloses LEDs can

and do emit light in the non-visible spectrum (e.g., infrared). Accordingly, the Examiner's proposed motivation for the substitution is defective.

Reply Br. 9.

We are not persuaded by Appellant's arguments. First, Federal Circuit precedent "does not require that the motivation be the *best* option, only that it be a *suitable* option from which the prior art did not teach away." *PAR Pharma., Inc. v. TWi Pharma., Inc.*, 773 F.3d 1186, 1197-1198 (Fed. Cir. 2014).

Second, as discussed above, Sears teaches a known light source technique for a gesture-based environment.

And if there's a known technique to address a known problem using "prior art elements according to their established functions," then there is a motivation to combine.

*Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1380 (Fed. Cir. 2023).

[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

*KSR*, 550 U.S. at 417.

Third, although Numazaki is cited by the Examiner in the responses to Appellant's arguments, it is Sears that is relied upon in the rejection, and we find Sears sufficient for this rejection without any reliance on Numazaki.

We conclude the Examiner has set forth a proper articulated reasoning with a rational underpinning to support the legal conclusion of obviousness.

## D.3. Claim 3

As to claim 3, Appellant further argues “Sears does not cure the deficiencies of *Liebermann*.” Appeal Br. 26.

[T]he Examiner . . . fails to explain why a POSITA would replace the “bottom most lamp” of *Liebermann*’s “public kiosk 42” with multiple LEDs, as required by claims 3 and 15. . . . Substituting the “bottom most lamp” of *Liebermann*’s “public kiosk 42” with multiple LEDs, as proposed by the Examiner, is unnecessary and only increases the circuit complexity with little return. Accordingly, the Examiner’s *prima facie* case of obviousness is improper because it lacks articulated reasoning and rational underpinnings. *See KSR*[, 550 U.S. at 418].

Appeal Br. 27.

Patent Owner asserts replacing a row of lamps with a row of LEDs is not the same as replacing a single lamp (i.e., *Liebermann*’s bottom most lamp) with multiple LEDs.

Reply Br. 10.

We are not persuaded by Appellant’s argument. First, for the reasons already set forth above, we again conclude the Examiner has set forth a proper articulated reasoning with a rational underpinning to support the legal conclusion of obviousness.

Second, we conclude the premise of Appellant’s argument is contrary to our reviewing courts’ guidance. To the extent that Appellant argues an artisan would not use Sears’ LED teaching to “replac[e] a single lamp (i.e., *Liebermann*’s bottom most lamp) with multiple LEDs” (Reply Br. 10), Appellant is arguing that the artisan is an automaton capable of

only rote application of the teachings of the references and incapable of using plural LEDs as set forth in the proposed combination. To the contrary, “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR*, 550 U.S. at 421. The Examiner here proposes a “simple substitution of one light source for another,” i.e., “a row of lamps in Lieberman[n]” (such as seen in Figure 5C) with a “a row of LEDs in Sears.” Ans. 76. Appellant limits this to “substituting the ‘bottom most lamp’ of Liebermann’s ‘public kiosk 42’ with a single LED,” i.e., rote replacement of a single LED for each lamp in Liebermann. Appeal Br. 27 (emphasis omitted). That is not a fair substitution, nor does it accurately reflect the Examiner’s combination or the knowledge of a person of ordinary skill in the art, including how small the typical LED is. Regardless of whether each lamp in Liebermann is replaced by a single LED light bulb (i.e., *multiple* individual LEDs) or a row of LEDs with enough individual LEDs to achieve the same brightness as Liebermann’s lamp, the combination of Liebermann and Sears renders this claim obvious.

#### E. No Jurisdiction

Appellant raises the following jurisdictional argument in contending that the Examiner erred in granting the reexamination request filed in November 2021 on a patent that expired in November 2019. Appeal Br. 34.

In *Oil States*, the Supreme Court explained that the “decision to *grant* a patent is a matter involving public rights—specifically, the grant of a public franchise.” *Oil States Energy Servs., LLC v. Greene’s Energy Grp., LLC*, 138 S. Ct. 1365, 1373 (2018) (emphasis in original). “Specifically, patents are public franchises that the Government grants to the inventors of new and useful improvements.”

*Id.* (internal quotation marks omitted). The Court explained that “Congress [has] significant latitude to assign [the] adjudication of public rights to entities other than Article III courts.” *Id.* at 1368[, 1373]. In exercising its “significant latitude,” Congress grants public franchises “subject to the qualification that the PTO has the authority to reexamine and perhaps cancel—a patent claim in an inter partes review.” *Id.* at 1368, 1374 (internal quotation marks omitted). Accordingly, so long as the public franchise exists, the PTO may have jurisdiction to amend and cancel the claims of the patent (e.g., via *ex parte* reexamination).

When a patent expires, however, ***the public franchise ceases to exist*** and the franchisee (e.g., the patent owner) no longer has the right to exclude others. At most, the franchisee may be entitled to collect damages from the public franchise that formerly existed through an infringement action in district court. But because the “public franchise no longer exists, ***the USPTO has nothing in its authority to cancel or amend***. Expiration removes the patent from the USPTO’s jurisdiction and returns it to the sole jurisdiction of the Article III courts, which have exclusive authority to govern claims for damages. If this were not so, the USPTO would purport to have authority to retroactively modify a public franchise that no longer exists, in a setting where the expired public franchise does not enjoy any presumption of validity and in which amendment of claims is no longer permitted.

Appeal Br. 33-34 (emphasis added).

We are not persuaded by Appellant’s argument. First, the statute authorizing reexamination does

not limit the timing of a reexamination in the manner argued by Appellant. To the contrary, the statute states:

Any person ***at any time*** may file a request for reexamination by the Office of any claim of a patent on the basis of any prior art cited under the provisions of section 301.

35 U.S.C. § 302 (emphasis added).

Second, we disagree that Appellant has no rights under the expired patent.

It is well-established that [the Federal Circuit’s] decision (and the Board’s decision on remand) would have a consequence on any infringement that occurred during the life of the . . . patent. *See Genetics Inst. v. Novartis Vaccines*, 655 F.3d 1291, 1299 (Fed. Cir. 2011) (“[A]n expired patent may form the basis of an action for past damages subject to the six-year limitation under 35 U.S.C. § 286.”); *see also Keranos, LLC v. Silicon Storage Tech., Inc.*, 797 F.3d 1025, 1033 (Fed. Cir. 2015) (Although “the patentee has fewer rights to transfer when the patent has expired,” the owner of an expired patent can license the rights or transfer title to an expired patent.); *Mars, Inc. v. Coin Acceptors, Inc.*, 527 F.3d 1359, 1372 (Fed. Cir. 2008) (“Title to . . . an expired patent . . . includes more than merely the right to recover damages for past infringement.”).

*Sony Corp. v. Iancu*, 924 F.3d 1235, 1238 n.1 (Fed. Cir. 2019).

Third, our reviewing court regularly reviews Board decisions where a patent under reexamination expired prior to the Board issuing its decision. In none of these cases has the Federal Circuit found a lack of

jurisdiction before the United States Patent and Trademark Office (USPTO). *See, e.g., In re Rambus, Inc.*, 753 F.3d 1253 (Fed. Cir. 2014) (involving appeal of an *inter partes* reexamination of expired U.S. patent 6,034,918)<sup>7</sup>; *see also CSBSys. Int'l*, 832 F.3d at 1338 (“[T]he ’953 patent expired during the reexamination.”).

We conclude the USPTO has jurisdiction for this reexamination so long as any right remains under the expired patent.

#### F. No Substantial New Question (SNQ)

Appellant raises the following SNQ argument in contending that the Examiner erred in granting this reexamination request.

##### F.1.

As discussed above, *Liebermann* does not teach at least claim elements 1[c], 11[c], and 21[c]. In other words, *Liebermann* does not provide the teachings that were missing from the art during the original prosecution of the ’079 Patent. Thus, a reasonable examiner would not consider *Liebermann* to be important in deciding whether one or more claims of the ’079 Patent are patentable, and *Liebermann* does not raise a SNQ of patentability. The order for *ex parte* reexamination should be vacated.

Appeal Br. 36.

We are not persuaded by Appellant’s argument. For the reasons already set forth above in section A.1.,

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<sup>7</sup> The Board noted in a related *ex parte* reexamination appeal that “[t]he ’918 patent term expired during the reexamination proceedings.” *Ex parte Rambus, Inc.*, Appeal 2010-011178, 2011 WL 121775, at \*6 (BPAI Jan. 12, 2011).

we determine that Liebermann does provide the teachings that were missing from the art during the original prosecution of the '079 Patent, and thus, does raise a SNQ of patentability.

### CONCLUSIONS

The Examiner has not erred in rejecting claims 1, 4-9, 11, 12, and 17-20 as being anticipated under 35 U.S.C. § 102.

The Examiner has not erred in rejecting claims 2, 3, 14-16, and 21-30 as being unpatentable under 35 U.S.C. § 103.

We **affirm** the Examiner's rejection of claims 1, 4-9, 11, 12, and 17-20 as being anticipated under 35 U.S.C. § 102.

We **affirm** the Examiner's rejections of claims 2, 3, 14-16, and 21-30 as being unpatentable under 35 U.S.C. § 103.

### DECISION SUMMARY

In summary:

Claim(s) Rejected	35 U.S.C. §	Reference(s)/ Basis	Af- firmed	Re- versed
1, 4-9, 11, 12, 17-20	102(e)	Liebermann	1, 4-9, 11, 12, 17-20	
2, 3, 14, 15	103(a)	Liebermann, Sears	2, 3, 14, 15	
16	103(a)	Liebermann, Mack	16	
21, 24-28, 30	103(a)	Liebermann, Sako	21, 24- 28, 30	
22, 23	103(a)	Liebermann, Sears, Sako	22, 23	
29	103(a)	Liebermann, Mack, Sako	29	



<b>Overall Outcome</b>			1-9, 11, 12, 14- 30	
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### REQUESTS FOR EXTENSIONS OF TIME

Requests for extensions of time in this ex parte reexamination proceeding are governed by 37 C.F.R. § 1.550(c). *See* 37 C.F.R. § 41.50(f).

**AFFIRMED**

UNITED STATES PATENT  
AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC., LG ELECTRONICS, INC.,  
LG ELECTRONICS U.S.A., INC., AND GOOGLE LLC,  
Petitioner  
v.

GESTURE TECHNOLOGY PARTNERS, LLC,  
Patent Owner

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IPR2021-00921<sup>1</sup>  
Patent 8,878,949 B2

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[Entered: December 5, 2022]

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Before PATRICK R. SCANLON, BRENT M.  
DOUGAL, and SCOTT RAEVSKY, *Administrative  
Patent Judges.*

SCANLON, *Administrative Patent Judge.*

JUDGMENT

Final Written Decision

Determining Some Challenged Claims Unpatentable  
*35 U.S.C. § 318(a)*

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<sup>1</sup> IPR2022-00092 (LG Electronics, Inc. and LG Electronics U.S.A., Inc.) and IPR2022-00362 (Google LLC) have been joined with this proceeding.

## I. INTRODUCTION

Apple Inc., LG Electronics, Inc., LG Electronics U.S.A., Inc., and Google LLC (collectively “Petitioner”) challenge claims 1-18 of U.S. Patent No. 8,878,949 B2 (Ex. 1001, “the ’949 patent”). We have jurisdiction under 35 U.S.C. § 6, and this Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1-3, 5-10, and 12-17 of the ’949 patent are unpatentable but has not shown by a preponderance of the evidence that claims 4, 11, and 18 are unpatentable.

### A. *Procedural History*

Apple Inc. filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of the challenged claims. Gesture Technology Partners, LLC (“Patent Owner”) filed a Preliminary Response (Paper 6).

We instituted a trial as to all challenged claims. Paper 8 (“Decision on Institution” or “Dec. Inst.”).

After institution, LG Electronics, Inc. and LG Electronics U.S.A., Inc. filed a petition and a motion for joinder to this proceeding. IPR2022-00092, Papers 1, 3. We granted the motion for joinder, and IPR2022-00092 was joined with this proceeding and dismissed. Paper 12, 11-12. In addition, Google LLC filed a petition and a motion for joinder to this proceeding. IPR2022-00362, Papers 2, 3. We granted the additional motion for joinder, and IPR2022-00362 was joined with this proceeding and dismissed. Paper 16, 5-6. Consequently, Apple Inc., LG Electronics, Inc., LG Electronics U.S.A., Inc., and Google LLC are joined in this proceeding.

Patent Owner filed a Patent Owner Response (Paper 10, “PO Resp.”), Petitioner filed a Reply (Paper 13, “Reply”), and Patent Owner filed a Sur-reply (Paper 14, “Sur-reply”).

Petitioner relies on the Declaration of Dr. Benjamin B. Bederson (Ex. 1003) and the Supplemental Declaration of Dr. Benjamin B. Bederson (Ex. 1018) in support of its contentions. Patent Owner relies on the Declaration of Benedict Occhiogrosso (Ex. 2002) in support of its contentions.

An oral hearing was held on September 14, 2022. A transcript of the hearing is included in the record. Paper 23 (“Tr.”).

### *B. Real Parties in Interest*

Petitioner identifies Apple Inc., LG Electronics, Inc., LG Electronics U.S.A., Inc., and Google LLC as the real parties in interest. Pet. 65; IPR2022-00092, Paper 1, 62; IPR2022-00362, Paper 1, 61. Patent Owner identifies itself as the real party in interest. Paper 15, 1.

### *C. Related Matters*

The parties identify the following proceedings as related matters involving the ’949 patent: *Gesture Technology Partners, LLC v. Apple Inc.*, No. 6:21-cv-00121 (W.D. Tex.); *Gesture Technology Partners, LLC v. Lenovo Group Ltd.*, No. 6:21-cv-00122 (W.D. Tex.); *Gesture Technology Partners, LLC v. LG Electronics, Inc.*, No. 6:21-cv-00123 (W.D. Tex.); *Gesture Technology Partners, LLC v. Huawei Device Co., Ltd.*, No. 2:21-cv-00040 (E.D. Tex.); *Gesture Technology Partners, LLC v. Samsung Electronics Co., Ltd.*, No. 2:21-cv-00041 (E.D. Tex.), *Gesture Technology Partners, LLC v. Motorola Mobility LLC*, No. 1:22-cv-03535 (N.D. Ill.), and *Gesture Technology Partners, LLC v. Katherine K.*

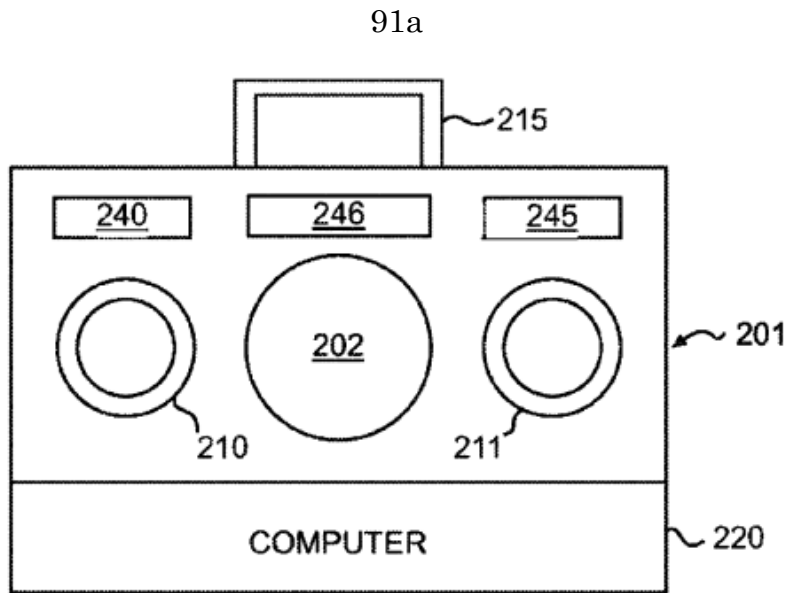
*Vidal*, No. 1:22-cv-622 (E.D. Va.). Pet. 65; Paper 15, 1-3.

In addition, Patent Owner identifies the following *inter partes* review proceedings as related matters: IPR2021-00917; IPR2021-00920; IPR2021-00922; and IPR2021-00923. Paper 15, 2-3. Patent Owner also identifies the following related *Ex Parte* Reexaminations: No. 90/014,900; No. 90/014,901; No. 90/014,902; and No. 90/014,903. *Id.* at 3-4.

#### *D. The '949 Patent*

The '949 patent, titled "Camera Based Interaction and Instruction," issued November 4, 2014, with claims 1-18. Ex. 1001, codes (45), (54), 15:21-16:50. The '949 patent relates to "enhanc[ing] the quality and usefulness of picture taking for pleasure, commercial, or other business purposes." *Id.* at 1:4-6. In one embodiment, "stereo photogrammetry is combined with digital image acquisition to acquire or store scenes and poses of interest, and/or to interact with the subject in order to provide data to or from a computer." *Id.* at 1:6-10.

Figure 2A of the '949 patent is reproduced below.



**FIG. 2A**

Figure 2A illustrates still camera system 201, which includes central camera 202 having high resolution and color accuracy for picture taking. *Id.* at 4:66-5:2. Camera system 201 also includes two cameras 210, 211 on either side of central camera 202. *Id.* at 5:2-3. Cameras 210, 211 “may be lower resolution (allowing lower cost, and higher frame rate, as they have less pixels to scan in a given frame time), with little or no accurate color capability, as they are used to simply see object positions or special datum positions on objects.” *Id.* at 5:3-7.

Camera system 201 further includes computer 220 that processes data from cameras 210, 211 “to get various position and/or orientation data concerning a person.” *Id.* at 5:24-26. “In general, one can use the system to automatically ‘shoot’ pictures” in response to a particular event, such as the subject undertaking a particular position or gesture—i.e., a silent command to take a picture. *Id.* at 5:30-49.

### *E. Challenged Claims*

As noted above, Petitioner challenges claims 1-18 of the '949 patent. Claims 1, 8, and 13 are independent. Claim 1 is illustrative of the claimed subject matter and is reproduced below:

1. A portable device comprising:
  - a device housing including a forward facing portion, the forward facing portion of the device housing encompassing an electro-optical sensor having a field of view and including a digital camera separate from the electro-optical sensor; and
  - a processing unit within the device housing and operatively coupled to an output of the electro-optical sensor, wherein the processing unit is adapted to:
    - determine a gesture has been performed in the electro-optical sensor field of view based on the electro-optical sensor output, and
    - control the digital camera in response to the gesture performed in the electro-optical sensor field of view, wherein the gesture corresponds to an image capture command, and wherein the image capture command causes the digital camera to store an image to memory.

Ex. 1001, 15:21-38.

### *F. Instituted Grounds of Unpatentability*

We instituted *inter partes* review of the challenged claims based on the following grounds of unpatentability asserted by Petitioner:<sup>2</sup>

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<sup>2</sup> The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) ("AIA"), amended 35 U.S.C. § 103. Because the '949 patent has an effective filing date before the March 16,

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1-18	103(a)	Numazaki, <sup>3</sup> Nonaka <sup>4</sup>
6, 12, 17	103(a)	Numazaki, Nonaka, Aviv <sup>5</sup>

Dec. Inst. 27; Pet. 6-7.

## II. ANALYSIS

### A. Legal Standards

To prevail in its challenge, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d) (2020). “In an IPR, 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) (2012) (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. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary

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2013, effective date of the applicable AIA amendments, we apply the pre-AIA version of 35 U.S.C. § 103.

<sup>3</sup> US 6,144,366, issued Nov. 7, 2000 (Ex. 1004).

<sup>4</sup> JP H4-73631, published Mar. 9, 1992 (Ex. 1005).

<sup>5</sup> US 5,666,157, issued Sept. 9, 1997 (Ex. 1006).



skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The 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 indicia of non-obviousness (also called secondary considerations), such as commercial success, long-felt but unsolved needs, and failure of others. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). We analyze grounds based on obviousness in accordance with the above-stated principles.

*B. Level of Ordinary Skill in the Art*

In determining whether an invention would have been obvious at the time it was made, 35 U.S.C. § 103 requires us to resolve the level of ordinary skill in the pertinent art at the time of the effective filing date of the claimed invention. *Graham*, 383 U.S. at 17. The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art. *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. *Id.* In a given case, one or more factors may predominate. *Id.*

Petitioner contends that a person having ordinary skill in the art “would have had at least a bachelor’s degree in electrical engineering or equivalent with at least one year of experience in the field of human computer interaction,” and “[a]dditional education or experience might substitute for the above require-

ments.” Pet. 5-6 (citing Ex. 1003 ¶¶ 29-31). Patent Owner does not dispute Petitioner’s definition for the purposes of its Response. PO Resp. 5.

Based on our review of the record before us, we determine that Petitioner’s stated level of ordinary skill in the art is reasonable because it is consistent with the evidence of record, including the asserted prior art. Accordingly, for the purposes of this Decision, we adopt Petitioner’s definition.

### *C. Claim Construction*

In *inter partes* reviews, the Board interprets claim language using the district-court-type standard, as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). See 37 C.F.R. § 42.100(b). Under that standard, we generally give claim terms their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. See *Phillips*, 415 F.3d at 1313-14. Although extrinsic evidence, when available, may also be useful when construing claim terms under this standard, extrinsic evidence should be considered in the context of the intrinsic evidence. See *id.* at 1317-19.

Petitioner proposes claim constructions for the phrases “the image capture command causes the digital camera to store an image to memory” in claim 1, “capturing an image to the digital camera in response to . . . the image capture command” in claim 8, and “correlate the gesture detected . . . with an image capture function and subsequently capture an image using the digital camera” in claim 13. Pet. 8. Specifically, Petitioner asserts that these phrases “should be construed broadly enough to encompass capturing/storing video or still images,” and provides reasons

supporting its assertion. *Id.* at 8-10. Patent Owner does not contest Petitioner’s proposed claim constructions. PO Resp. 5. We agree with Petitioner’s supporting reasoning and accordingly adopt Petitioner’s proposed claim constructions.

*D. Asserted Obviousness Based on  
Numazaki and Nonaka*

Petitioner asserts that claims 1-18 of the ’949 patent are unpatentable under 35 U.S.C. § 103(a) based on Numazaki and Nonaka. Pet. 10-49. Patent Owner provides arguments addressing this asserted ground of unpatentability. PO Resp. 6-29. We first summarize the references and then address the parties’ contentions.

*1. Numazaki*

Numazaki “relates to a method and an apparatus for generating information input in which input information is extracted by obtaining a reflected light image of a target object.” Ex. 1004, 1:8-11. An information input generation apparatus according to a first embodiment includes lighting unit 101, reflected light extraction unit 102, feature data generation unit 103, and timing signal generation unit 104. *Id.* at 10:23-28, Fig. 1. Light emitting unit 101 emits light that varies in intensity in time according to a timing signal from timing signal generation unit 104. *Id.* at 10:29-31. The light is directed onto a target object, and light reflected from the target object is extracted by reflected light extraction unit 102. *Id.* at 10:31-35. Feature data generation unit 103 extracts feature data from the reflected light image. *Id.* at 10:57-58. “When the target object is a hand, it becomes possible to obtain the information regarding a gesture or a pointing according to the feature data extracted from the reflected light image of the hand, for example, and

it becomes possible to operate a computer by using this obtained information.” *Id.* at 10:61-66.

Figure 2, reproduced below, depicts a detailed block diagram of the information input generation apparatus of the first embodiment. *Id.* at 5:11-12, 11:9-11.

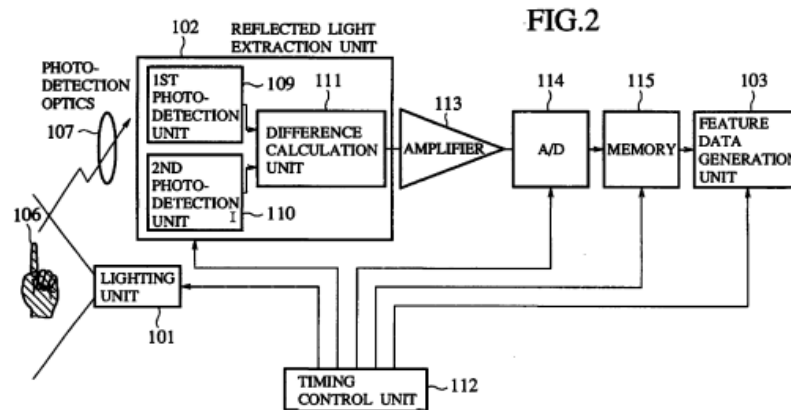


Figure 2 shows that light emitted from lighting unit 101 is reflected by target object 106, such that an image is formed on a photo-detection plane of reflected light extraction unit 102. *Id.* at 11:11-14. Reflected light extraction unit 102 includes first photo-detection unit 109, second photodetection unit 110, and difference calculation unit 111. *Id.* at 11:16-19. Timing control unit 112 causes lighting unit 101 to emit light when first photo-detection unit 109 is in a photo-detecting state and not to emit light when second photo-detection unit 110 is in a photo-detecting state. *Id.* at 11:26-32. Accordingly, first photo-detection unit 109 receives the light emitted from lighting unit 101 that is reflected by target object 106 and external light, such as illumination light or sunlight, but second photo-detection unit 110 receives the external light only. *Id.* at 11:33-39.

Difference calculation unit 111 calculates and outputs the difference between the image detected by first photo-detection unit 109 and the image detected by second photo-detection unit 110, which difference corresponds to the light emitted from lighting unit 101 that is reflected by target object 106. *Id.* at 11:43-55. The output from reflected light extraction unit 102 is amplified by amplifier 113, converted from analog signals into digital signals by analog-to-digital converter 114, and stored at memory 115. *Id.* at 11:61-64. At an appropriate time, the data stored in memory 115 is read out and processed by feature data generation unit 103. *Id.* at 11:64-66.

Numazaki also discloses a third embodiment that “is directed to another exemplary case of the feature data generation unit of the first embodiment, which realizes a gesture camera for recognizing the hand action easily and its application as a pointing device in the three-dimensional space.” *Id.* at 29:4-8. Figure 23, reproduced below, shows the feature data generation unit of the third embodiment. *Id.* at 6:4-6, 29:9-10.

FIG.23

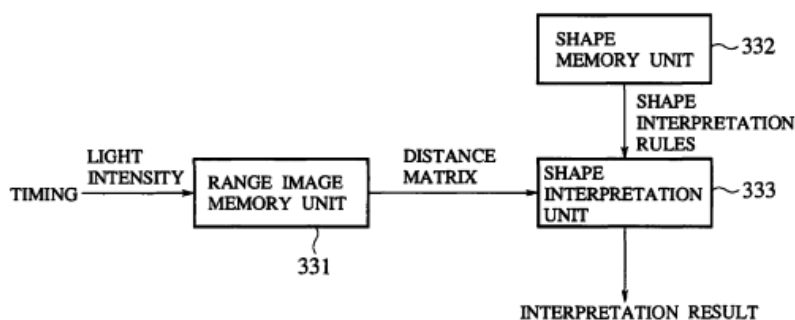


Figure 23 shows that the feature data generation unit includes range image memory unit 331 for storing a

distance matrix, shape memory unit 332 for storing shape interpretation rules, and shape interpretation unit 333 for interpreting a shape of the distance matrix according to the shape interpretation rules. *Id.* at 29:11-18. Shape interpretation unit 333 performs the processing for determining if a matching shape interpretation rule exists. *Id.* at 29:28-38, Fig. 25. When a matching shape is found, a command corresponding to that shape is outputted. *Id.* at 30:2-3. Thus, this embodiment uses hand gesture recognition as a trigger for inputting a command into a computer and can also be used to power on and off a device such as a TV or lighting equipment. *Id.* at 31:3-10.

In addition, Numazaki discloses a fifth embodiment that “is directed to another exemplary case of the feature data generation unit in the first embodiment” that uses a video compression technique that extracts only useful image information to lower communications costs. *Id.* at 39:6-20. Figure 46, reproduced below, shows the feature data generation unit according to the fifth embodiment. *Id.* at 7:4-6, 39:21-23.

FIG.46

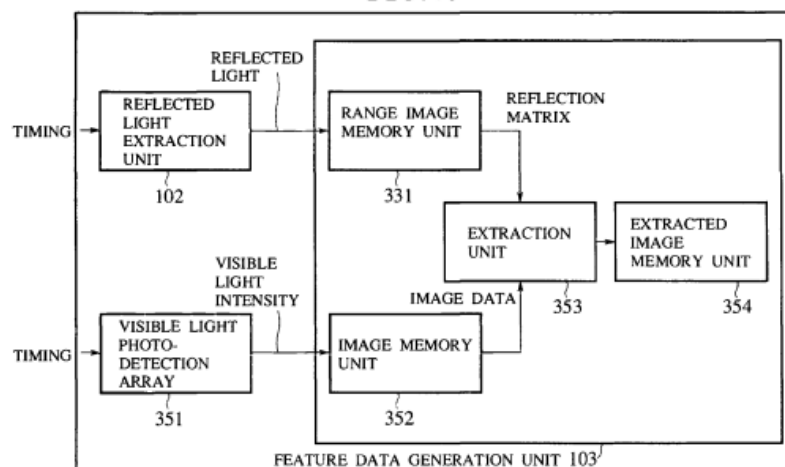


Figure 46 shows feature data generation unit 103 in conjunction with reflected light extraction unit 102 and visible light photo-detection array 351, which is generally a CCD camera for taking video images. *Id.* at 39:24-41. Images captured by visible light photo-detection array 351 are stored in image memory unit 352, and a mask (i.e., the image detected by reflected light extraction unit 102) is stored in range image memory unit 331. *Id.* at 39:51-57. Extraction unit 353 superposes the original image and the mask, leaving only the overlapping portion. *Id.* at 39:57-59.

Numazaki also discloses an eighth embodiment that “is directed to a system configuration incorporating the information input generation apparatus” described in the previous embodiments. *Id.* at 50:21-24. Figure 74, reproduced below, shows a computer equipped with the information input generation apparatus. *Id.* at 8:31-34, 50:25-26.

## FIG.74

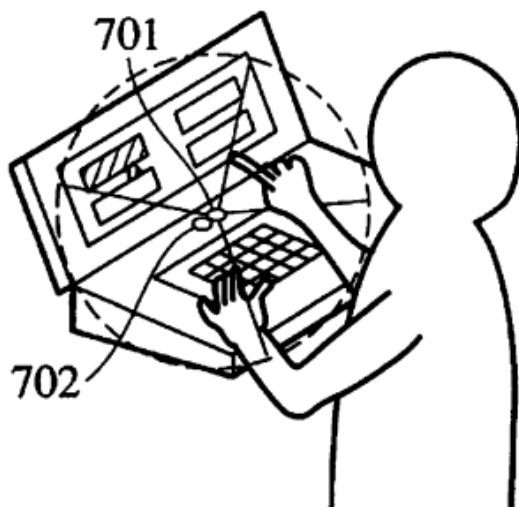


Figure 74 depicts a portable computer having a keyboard and a display integrated with the computer body. *Id.* at 50:26-29. Lighting unit 701 and photo-detection sensor unit 702 are positioned beyond the keyboard. *Id.* at 50:30-33.

## 2. *Nonaka*

Nonaka relates to a camera equipped with a remote release device. Ex. 1005, 2:1-3. In one embodiment, a “photographer gives a release instruction by means of a predetermined motion towards the camera in conjunction with the display timing of the aforementioned display patterns, the distance measurement device . . . detects this motion by the subject . . . , and [an] exposure is carried out.” *Id.* at 3:35-38. Nonaka describes that an objective of this invention is to provide “a remote release device-equipped camera which enables remote release operations without using a transmitter or receiver to give a release instruction, thereby achieving a higher degree of freedom, good portability, and cost benefits.” *Id.* at 2:26-29.

## 3. *Independent Claim 1*

Petitioner contends that the proposed combination of Numazaki and Nonaka discloses the limitations of challenged claim 1. Pet. 10-33. In particular, Petitioner relies on: (1) Numazaki’s first embodiment as teaching using the reflected light extraction unit to detect an object such as a user’s hand; (2) Numazaki’s third embodiment as teaching detecting when the user has performed a pre-registered gesture by comparing the output of the reflected light extraction unit to stored data reflecting pre-registered gestures or hand positions and instructing the device to implement a command corresponding to the gesture; (3) Numazaki’s fifth embodiment as teaching taking video images with visible light photo-detection array 351; and (4) Numazaki’s eighth embodiment as teaching



portable devices that implement the information input generation apparatus described in the other embodiments. *Id.* at 20 (citing Ex. 1004, 4:32-35, 29:19-30:5, 31:3-10, 39:21-60, 50:19-24). Regarding these embodiments, Petitioner argues that,

[a]lthough *Numazaki* does not expressly describe combining all these features into a single portable device such that a user could perform a gesture command (pursuant to its third embodiment) that causes video capture to initiate (pursuant to its fifth embodiment), a [person having ordinary skill in the art] would have been motivated to implement *Numazaki*'s portable device in this manner pursuant to *Nonaka*'s image capture command gesture teachings.

*Id.* at 20-21. For example, Petitioner argues that combining Numazaki's embodiments as proposed would have improved Numazaki's portable devices in the same way that Nonaka's gesture-based image capture functionality benefits its camera device. *Id.* at 21 (citing Ex. 1003 ¶¶ 48-49; *KSR*, 550 U.S. at 417). That is, Petitioner argues that Nonaka's "gesture-based image capture solution 'achiev[es] a higher degree of freedom, good portability, and cost benefits,'" and one of ordinary skill in the art "would have recognized that these same benefits would be realized in *Numazaki*'s laptop." *Id.* (citing Ex. 1006, 2:26-29) (alteration in original). Petitioner also identifies certain passages in Numazaki and explains the significance of each passage with respect to the corresponding claim limitation. *Id.* at 25-33. We address below in turn the subject matter of each element of claim 1.

*a) Preamble: "A portable device comprising"*

For the preamble, Petitioner relies on Numazaki's eighth embodiment as teaching "a computer imple-

mented method for controlling functions on a portable laptop device through gestures or pointing.” Pet. 25-26 (citing Ex. 1004 50:38-43, Fig. 74). Patent Owner does not present arguments for this claim language. To the extent the preamble to claim 1 is limiting, we find, based on the complete record, that Petitioner has demonstrated by a preponderance of the evidence that the combination of Numazaki and Nonaka discloses this claim language.

*b) Limitation [1(a)]: “a device housing including a forward facing portion, the forward facing portion of the device housing encompassing an electro-optical sensor having a field of view and including a digital camera separate from the electro-optical sensor”*

Petitioner argues that one of ordinary skill in the art would have been motivated to implement the videoconference functionality of Numazaki’s fifth embodiment into the laptop of the eighth embodiment. Pet. 26. To accomplish this implementation, Petitioner argues that Numazaki’s two-camera reflected light extraction unit 102 would have been used in conjunction with visible light photo-detection array 351. *Id.* at 26-27 (citing Ex. 1004, 39:21-49). According to Petitioner, because the output of reflected light extraction unit 102 is processed to define which portions of the video captured by visible photo-detection array 351 are retained, one of ordinary skill in the art would have understood that both reflected light extraction unit 102 and visible photo-detection array 351 are forward facing. *Id.* at 27-28 (citing Ex. 1004, 39:24-60, Fig. 48; Ex. 1003 ¶ 52). Petitioner also argues that reflected light extraction unit 102 corresponds to the claimed electro-optical sensor and visible light

photo-detection array 351 corresponds to the claimed digital camera.<sup>6</sup> *Id.* at 28.

Patent Owner argues that one of ordinary skill in the art would not have understood Numazaki's reflected light extraction unit 102 to be the claimed electro-optical sensor because it comprises two separate cameras (i.e., photo-detection units 109, 110) and difference calculation unit 111. PO Resp. 8 (citing Ex. 2002 ¶ 45); *see also* Sur-reply 1 (citing Ex. 2002 ¶¶ 44-45) (asserting one of ordinary skill in the art “would not have understood the claimed ‘electro-optical sensor’ as having a ‘difference calculation unit’”).

We do not find this argument persuasive. Numazaki's reflected light extraction unit 102 includes first photo-detection unit 109, second photodetection unit 110, and difference calculation unit 111. Ex. 1004, 11:16-19. Each of the first and second photo-detection units “detects the optical image formed on the photo-detection plane and converts it into image signals corresponding to the received light amounts.” *Id.* at 11:20-23. Difference calculation unit 111 calculates the difference between the images detected by the first and second photodetection units and outputs the obtained difference. *Id.* at 11:53-56. More specifically, “reflected light extraction unit 102 sequentially outputs the reflected light amount for each pixel of the reflected light image” as analog signals that are

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<sup>6</sup> During the oral hearing, counsel for Petitioner argued that the “primary theory” set forth in the Petition is that reflected light extraction unit 102, as a whole, satisfies the claimed electro-optical sensor, but photo-detection units 109, 110, individually, also satisfy the claimed electro-optical sensor. Tr. 30:21-31:8. We do not address whether Numazaki's photo-detection units individually satisfy the claimed electro-optical sensor because that position is not asserted in the Petition.

amplified by amplifier 113 and converted into digital signals by converter 114. *Id.* at 11:59-64. Numazaki's disclosure of reflected light extraction unit 102 thus describes a unit that senses light and converts the sensed light into electronic signals, which is consistent with the plain meaning of an "electro-optical sensor."<sup>7</sup> As such, we agree with Petitioner's assertion that reflected light extraction unit 102 satisfies the claimed electro-optical sensor.

Furthermore, in support of its position that reflected light extraction unit 102 is an electro-optical sensor as claimed, Petitioner contends that "although the '949 Patent does not define 'electro-optical sensor,' dependent claim 7 specifies that the sensor is either a 'CCD detector' or [a] 'CMOS detector.'" Pet. 28-29 (citing Ex. 1001, 15:50-52). Petitioner then asserts that Numazaki expressly discloses that reflected light extraction unit 102 has a photo-detection section comprising CMOS sensors or CCD image sensors. *Id.* at 29 (citing Ex. 1004, 12:56-57, 15:23-27). In addition, Patent Owner's expert, Mr. Occhiogrosso, acknowledges that photo-detection units 109, 110 are electro-optical sensors. Ex. 1019, 15:21-16:3. Accordingly, we determine based on the full record that Numazaki's reflected light extraction unit 102 provides an electro-optical sensing function.

As discussed above, difference calculation unit 111 merely processes the image signals produced by the first and second photodetection units and does not alter the electro-optical sensing function of reflected light extraction unit 102. *See* Ex. 1004, 11:53-56. Accordingly, we are not persuaded that the inclusion of difference calculation unit 111 would have suggested

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<sup>7</sup> The '949 patent does not define "electro-optical sensor," and neither party proffers a construction of the term.

to one of ordinary skill in the art that reflected light extraction unit 102 is not an electro-optical sensor.

Next, Patent Owner argues that the Petition wrongly contends that photo-detection sensor unit 702 in Figure 74 of Numazaki “is or includes” one or both of Numazaki’s reflected light extraction unit 102 and visible light photo-detection array 351. PO Resp. 8 (citing Pet. 16, 17, 25-29; Ex. 2002 ¶ 46). According to Patent Owner, “*Numazaki* is silent regarding the ‘photo-detection sensor unit’ in Fig. 74 as being or including one or more of the ‘reflected light extraction unit 102’ and the ‘visible light photodetection array 351.’” *Id.* at 9 (citing Ex. 2002 ¶ 47). Patent Owner further argues that:

The mere fact that *Numazaki*’s eighth embodiment may “incorporate the information input generation apparatus” of *Numazaki*’s fifth embodiment, Ex. 1004, 50:21-24, does not mean to a [person having ordinary skill in the art] that the “photodetection sensor unit” in Fig. 74 is or includes one or more of the “reflected light extraction unit 102” and the “visible light photo-detection array 351” from Fig. 46 (i.e., the claimed “electro-optical sensor” and “digital camera,” respectively).

PO Resp. 10-11 (citing Ex. 2002 ¶ 49).

Petitioner replies by arguing that Patent Owner’s argument mischaracterizes the proposed combination because “[t]he Petition did not suggest, nor does it depend on, Numazaki expressly teaching that the eighth embodiment’s laptop includes the fifth embodiment’s components.” Reply 4-5.

We agree with Petitioner on this issue. The Petition asserts that one of ordinary skill in the art would have been motivated to implement the videoconference functionality of Numazaki’s fifth embodiment into the

laptop of the eighth embodiment. Pet. 26. The Petition further asserts that this implementation would have been accomplished by using reflected light extraction unit 102 and visible photo-detection array 351 from Numazaki's fifth embodiment. *Id.* at 26-27 (citing Ex. 1004, 39:21-49, Fig. 46). Thus, rather than asserting that photo-detection sensor unit 702 of Numazaki's eighth embodiment "is or includes" one or both of reflected light extraction unit 102 and visible light photo-detection array 351, the Petition proposes modifying Numazaki's eighth embodiment by including the reflected light extraction unit and the visible light photo-detection array from Numazaki's fifth embodiment to provide videoconference functionality. *Id.* at 26-27; *see also id.* at 20-21 (arguing one of ordinary skill in the art would have been motivated to implement Numazaki's portable device "such that a user could perform a gesture command (pursuant to its third embodiment) that causes video capture to initiate (pursuant to its fifth embodiment)").

Accordingly, we do not find Patent Owner's argument persuasive. We also disagree with Patent Owner's argument that Petitioner's Reply argument seeks to change Petitioner's position with respect to Numazaki's fifth and eighth embodiments. *See* Sur-reply 2. Specifically, Patent Owner contests Petitioner's assertion regarding the Petition not suggesting that Numazaki expressly teaches that the eighth embodiment's laptop includes the fifth embodiment's components based on the statement in the Petition that Numazaki "expressly contemplates incorporating these early-described embodiments in the eighth embodiment portable devices." *Id.* at 3 (citing Reply 5; Pet. 23). This statement, however, discusses *incorporating* aspects of the first seven embodiments *into*

the eighth embodiment and does not indicate that the eighth embodiment includes any aspects of the early embodiments prior to any modification.

For the above reasons, we find on the complete record that Petitioner has demonstrated by a preponderance of the evidence that the combination of Numazaki and Nonaka discloses limitation [1(a)].

*c) Limitation [1(b)]: “a processing unit within the device housing and operatively coupled to an output of the electro-optical sensor, wherein the processing unit is adapted to: determine a gesture has been performed in the electro-optical sensor field of view based on the electro-optical sensor output”*

For limitation [1(b)], Petitioner argues that one of ordinary skill in the art would have been motivated to implement the gesture recognition of Numazaki’s third embodiment into the eighth embodiment’s laptop device. Pet. 29. Petitioner also argues that one of ordinary skill in the art “would have understood that *Numazaki’s* third embodiment gesture detection process would be implemented by ‘a processing unit’ within *Numazaki’s* laptop device and adapted (via software) to detect a user’s gesture (or sequence of gestures).” *Id.* at 30 (citing Ex. 1004 ¶¶ 53-54).

Patent Owner argues that Numazaki discloses an information input generation apparatus (which Patent Owner refers to as “IIGA”) that includes feature data generation unit 103. PO Resp. 12 (citing Ex. 1004, 5:10-12, Fig. 2). Patent Owner also argues that the IIGA in *Numazaki’s* third embodiment is configured as “a gesture camera” by implementing the feature input generation apparatus (and feature data generation unit) depicted in Figure 23. *Id.* at 12-13 (citing Ex. 1004, 6:4-7, 29:4-10, Fig. 23; Ex. 2002 ¶ 53). Patent Owner adds that the IIGA in Numazaki’s fifth

embodiment is configured as “a chromakey camera” by implementing the IIGA of Figure 2 with feature data generation unit 103 and visible light photo-detection array 351 depicted in Figure 46. *Id.* at 13-14 (citing Ex. 1004, 39:17-23, Fig. 46; Ex. 2002 ¶ 54). In Patent Owner’s view, therefore, the feature data generation units of Figures 23 and 46 have different implementations and different specialized units depending on whether the IIGA is configured as a gesture camera or a chromakey camera. *Id.* at 14 (citing Ex. 1004, 29:4-10, 39:17-23).

In view of these assertions, Patent Owner argues that “the Petition requires that *Numazaki*’s eighth embodiment laptop incorporate an IIGA configured as both a gesture camera and a chromakey camera” to meet both limitations [1(a)] and [1(b)], but “*Numazaki* does not disclose that the IIGA can be configured as both a ‘gesture camera’ and a ‘chromakey camera.’” *Id.* at 14-15 (citing Ex. 2002 ¶¶ 55-56); *see also id.* at 16-17 (arguing that Numazaki does not disclose “an embodiment that uses the feature data generation unit of the first embodiment that has the gesture camera for recognizing hand action of the third embodiment and the chromakey camera for extracting only a specific target of the fifth embodiment”).

We do not find this argument persuasive. Rather, we agree with Petitioner that Patent Owner again mischaracterizes the proposed combination. *See* Reply 9-10. Namely, the Petition does not assert that Numazaki discloses one embodiment of an information input generation apparatus that includes both a gesture camera and a chromakey camera. Instead, as discussed above, the Petition contends that it would have been obvious to one of ordinary skill in the art to modify the laptop of Numazaki’s eighth embodiment



to include the gesture recognition of the third embodiment to initiate the video capture functionality of the fifth embodiment as suggested by Nonaka's image capture command gesture teachings. Pet. 20-21. By focusing on Numazaki's purported failure to disclose this configuration in a single embodiment, Patent Owner's argument fails to address the combination proposed in the Petition.

Regarding the proposed combination, Patent Owner argues that "Petitioner does not explain how the 'reflected light image' from the 'reflected light extraction unit 102' would be accessed by both 'shape interpretation unit 333' from the third embodiment and 'extraction unit 353' from the fifth embodiment" or "how these specialized units would operate simultaneously or whether different units would operate at different times or what that timing functionality would require." PO Resp. 16 (citing Ex. 2002 ¶ 58).

In reply, Petitioner argues that Patent Owner's argument "ignores the entire premise of the combination, which proposes the third embodiment is used as a trigger mechanism to initiate the fifth embodiment, setting forth precisely the timing relationship that Patent Owner demands." Reply 8. Specifically, Petitioner points to the assertion in the Petition that a person having ordinary skill in the art "would have been motivated to implement this gesture recognition as a means of allowing the user to initiate (or turn on) the fifth embodiment's videoconferencing functionality." *Id.* (quoting Pet. 31). Petitioner adds that Dr. Bederson confirms that the proposed combination uses the gesture recognition and videoconferencing processing separately and sequentially. *Id.* at 9 (citing Ex. 1018 ¶¶ 3-9).

In its Sur-reply, Patent Owner argues that this reply argument is the first time Petitioner explains

the details of the proposed combination and should be disregarded as an improper attempt to correct a deficiency in the Petition. Sur-reply 4-5. Patent Owner also disputes Petitioner's assertion that the Petition precisely sets forth the timing relationship of the gesture recognition videoconferencing functionalities in the proposed combination. *Id.* at 5.

We find that Petitioner's Reply argument is not beyond the proper scope of a reply because it directly responds to Patent Owner's argument that Petitioner does not explain how elements from both the third and fifth embodiments would be accessed by the reflected light extraction unit and whether these elements would operate simultaneously or at different times. Moreover, Petitioner's Reply argument elaborates on the contentions in the Petition that the gesture recognition would be implemented as a means of allowing the user to initiate the fifth videoconferencing functionality. Pet. 31; see *Chamberlain Grp., Inc. v. One World Techs., Inc.*, 944 F. 3d, 919, 925 (Fed. Cir. 2019) ("Parties are not barred from elaborating on their arguments on issues previously raised."). Accordingly, we find that the Petition adequately explains how the reflected light extraction unit would be accessed by both the third embodiment's shape interpretation unit 333 and the fifth embodiment's extraction unit 353. We particularly credit Dr. Bederson's uncontroverted testimony that "it would be well within the capabilities of a [person having ordinary skill in the art] to utilize the same output by two separate processing blocks to implement the proposed combination," and one of ordinary skill in the art "would understand there are no technical barriers to arranging multiple distinct processing units that separately process the same output of a single unit." See Ex. 1018 ¶ 9.

Last, we disagree with Patent Owner’s argument that Petitioner “uses impermissible hindsight to combine and merge various disparate embodiments from *Numazaki* in a manner *Numazaki* never contemplated.” PO Resp. 17 (citing Ex. 2002 ¶ 59). According to Patent Owner, such a combination would not have been obvious to one of ordinary skill in the art because *Numazaki* did not recognize it as a viable embodiment. *Id.* (citing Ex. 2002 ¶ 59). However, a reason to modify a reference does not have to originate from the reference being modified. The rationale for combining references can be gleaned from a variety of sources. *See DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2006) (“The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.”).

Furthermore, we agree with Petitioner that Patent Owner’s argument is unpersuasive in view of the Federal Circuit’s finding that “two separate embodiments in a prior art reference rendered obvious the challenged claim where ‘one of ordinary skill in the art would have been motivated to combine’ them.” Reply 10 (citing *Boston Sci. Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 991 (Fed. Cir. 2009) (“*Boston Sci*”). Patent Owner attempts to distinguish *Boston Sci.*, arguing that

the two prior art embodiments in *Boston Sci.* were “pictured side by side in the [prior art] patent . . . Figure 3B [] is located directly below figure 4 in the patent.” *Boston Sci.* at 991 (emphasis added). The proximity of the two embodiments formed the basis for obviousness: “Combining two embodiments disclosed adjacent to each other in a prior

art patent does not require a leap of inventiveness.” *Id.* (emphasis added). In contrast, *Numazaki’s* third embodiment and fifth embodiment “feature data generation units” are separated by more than 22 figures. *Compare* Ex. 1004, Fig. 23 *with* Ex. 1004, Fig. 46.

Sur-reply 7. Patent Owner also argues that Petitioner’s reliance on *Boston Sci.* is misplaced because the proposed combination here is more complex than the modification at issue in *Boston Sci.* *Id.* at 7-8 (citing *Boston Sci.*, 554 F.3d at 991; Pet. 20-21; Reply 8-9; Ex. 2002 ¶¶ 58-59). These arguments are not persuasive because, although mentioning that the combined embodiments are shown in adjacent figures, the *Boston Sci.* decision does not require such proximity in order for one of ordinary skill in the art to have been motivated to combine embodiments. *Boston Sci.*, 554 F.3d at 991. Moreover, the *Boston Sci.* decision does not require that a proposed combination of separate embodiments be simple in order to be obvious. *Id.*

For the above reasons, we find on the complete record that Petitioner has demonstrated by a preponderance of the evidence that the combination of Numazaki and Nonaka discloses limitation [1(b)].

*d) Limitation [1(c)]: “control the digital camera in response to the gesture performed in the electro-optical sensor field of view, wherein the gesture corresponds to an image capture command, and wherein the image capture command causes the digital camera to store an image to memory”*

As discussed above, Petitioner asserts that one ordinary skill in the art “would have been motivated to implement [the third embodiment’s] gesture recognition as a means of allowing the user to initiate (or turn on) the fifth embodiment’s videoconferencing

functionality” because, “pursuant to *Nonaka’s* teachings, the user experience would be improved by allowing users to position themselves in place before the video camera and initiate video capture through a gesture, rather than a physical input or timer mechanism.” Pet. 31. Petitioner also argues that Numazaki’s fifth embodiment uses visible light photo-detection array 351 for taking video images and image memory unit 352 for storing the video images. *Id.* (citing Ex. 1004, 39:32-35). Petitioner adds that the fifth embodiment processes the output of reflected light extraction unit 102 to identify an outline of the subject of the image and subtracts everything outside the outline to produce an extracted image without background information that is stored in extracted image memory unit 354. *Id.* 31-32 (citing Ex. 1004, 39:24-60, 40:32-35).

In response, Patent Owner argues that because “*Numazaki’s* fifth embodiment discloses extracting faces of speaking persons for transmission via a ‘TV telephone,’” one of ordinary skill in the art “would recognize that to dial the telephone number, the user must physically interact with *Numazaki’s* laptop (e.g., keyboard), and thus the user would already be positioned ‘in place’ for the videoconference.” PO Resp. 18 (citing Ex. 1004, 39:5-16; Ex. 2002 ¶ 62). Thus, Patent Owner argues, there is no motivation to modify Numazaki based on Nonaka’s teachings because “[i]t would be redundant to require the user to then perform a gesture signaling that the user is ‘in place’ because such is already known to the laptop by virtue of the physical interactions,” and one of ordinary skill in the art “would recognize that a user would be in reach of *Numazaki’s* laptop before and during a videoconference enabled by *Numazaki’s* laptop.” *Id.* 18-19 (citing Ex. 2002 ¶¶ 62-63).

This argument is not persuasive for several reasons. First, Numazaki's fifth embodiment is not limited to a TV telephone as the disclosure refers to "the TV telephone, for example." Ex. 1004, 39:12-13. Thus, we are not persuaded that an ordinarily skilled artisan would necessarily understand Numazaki's disclosure as requiring the user to dial a telephone number. Rather, we agree with Petitioner's argument, supported by Dr. Bederson's testimony, that one of ordinary skill in the art would have understood that there are many scenarios in which a user would not be sitting in front of the laptop to initiate a videoconference, such as a lecturer standing for a lecture and a tutorial in which the speaker is demonstrating a product that requires a broader field of view than remaining seated before the camera. Reply 12-13 (citing Ex. 1018 ¶¶ 10-11).

Second, even if Numazaki does suggest that the user would need to be within reach to physically interact with the laptop, this does not mean that one of ordinary skill in the art would not have recognized the advantages of using remote gestures taught by Nonaka. An obviousness analysis "need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 550 U.S. at 418; *see also id.* at 421 ("A person of ordinary skill is also a person of ordinary creativity, not an automaton.").

Next, Patent Owner challenges Petitioner's argument that one of ordinary skill in the art would have combined Numazaki's embodiments in the manner proposed to achieve a higher degree of freedom, good portability, and cost benefits as taught by Nonaka. PO Resp. 20. Specifically, Patent Owner argues that

“*Nonaka* teaches that ‘a higher degree of freedom, good portability, and cost benefits’ are the results of *not* needing a remote-control unit to operate a camera,” and “*Numazaki* is completely silent regarding the existence of remote-control units and the use of remote-control units to operate a camera.” *Id.* (citing Ex. 1005, 2). Thus, in Patent Owner’s view, Petitioner’s reason for combining Numazaki’s embodiments is based on solving a problem that Numazaki never had. *Id.* (citing Ex. 2002 ¶ 64).

We agree that Nonaka discloses that its gesture-based image capture functionality provides a higher degree of freedom, good portability, and cost benefits relative to a remote release operation that uses a transmitter or receiver. *See* Ex. 1005, 2:26-29. We disagree, however, that this disclosure would have only suggested to one of ordinary skill in the art *replacing a remote control unit* with a gesture-based image capture functionality. Rather, it is reasonable to conclude that one of ordinary skill in the art would have recognized that Nonaka’s gesture-based image capture functionality was a desirable technique for triggering image capture in general.

Here, Petitioner takes that position, arguing that “*Nonaka* explains that *users desired the ability to remotely trigger image capture*, but that then-existing options were limited to self-timer mechanisms and expensive wireless remote controls—both of which were undesirable.” Pet. 21 (citing Ex. 1006, 2:6-25) (second emphasis added); *see also* Reply 14 (agreeing with the Board’s determination in the Decision on Institution) (citing Dec. Inst. 8). In other words, Petitioner relies on Nonaka as teaching the desirability of remotely triggering image capture *and* using gesture-based image capture functionality to do so. In

addition, the Petition is supported by Dr. Bederson's testimony that "*Numazaki* does not teach a specific process for initiating the video capture as part of its fifth embodiment, but a [person having ordinary skill in the art] would have understood that this video capture process could be started using any of a number of standard methods for initiating a video," and "*Numazaki*'s native functionality of associating hand gestures with commands would have been a natural fit as a means to initiate video capture." Ex. 1003 ¶ 49. We find this testimony persuasive on the full record. See *KSR*, 550 U.S. at 417 ("[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.").

In addition, Patent Owner argues that "the Petition . . . fails to explain why gesture-based image capture initiation provides 'a greater degree of freedom' than timers, especially when a timer can be set for any length of time, giving the user whatever time is needed to get into position and get prepared for the video capture." PO Resp. 20 (citing Pet. 21-22; Ex. 2002 ¶ 65).

This argument is not persuasive because Petitioner is not required to show that the gesture-based image capture initiation provides a greater degree of freedom than timers. "[T]he question is whether there is something in the prior art as a whole to suggest the *desirability*, and thus the obviousness, of making the combination,' not whether there is something in the prior art as a whole to suggest that the combination is the *most desirable* combination available." *In re*



*Fulton*, 391 F.3d 1195, 1200 (Fed. Cir. 2004) (quoting *In re Beattie*, 974 F.2d 1309, 1311 (Fed. Cir. 1992)).

Last, Patent Owner challenges Petitioner’s argument that one of ordinary skill in the art would have anticipated success in combining Numazaki’s embodiments in the manner proposed. PO Resp. 21-22. Specifically, Patent Owner argues that “[t]he Petition seems to argue that the only difference between *Numazaki*’s third embodiment (gesture detection) and *Numazaki*’s fifth embodiment (TV telephone) is the addition of a ‘video light photo-detection array’ and thus combining *Numazaki*’s third and fifth embodiments would be ‘straightforward,’” but because Numazaki’s third and fifth embodiments have different implementations with different specialized units, combining these embodiments would have entailed much more than merely adding a video camera. *Id.* (citing Ex. 2002 ¶ 66). Patent Owner also argues that Numazaki’s disclosure of using gestures to power appliances on and off does not guarantee success in combining Numazaki’s embodiments in the manner proposed because an ordinarily skilled artisan would recognize that merely powering on an appliance such as a camera is different than invoking functions such as image capture. *Id.* at 22 (citing Pet. 24; Ex. 1004, 31:7-10, 31:35-44; Ex. 2002 ¶ 67).

These arguments are not persuasive. Instead, we agree with Petitioner that Patent Owner mischaracterizes and over-simplifies Petitioner’s position in arguing that the only difference between the third and fifth embodiments “seems” to be the addition of the video light photo-detection array. *See* Reply 16-17. Indeed, although the Petition asserts that one of ordinary skill in the art “would have understood that adding a third image sensor to the portable laptop

in support of the fifth embodiment's video capture functionality would have been straightforward" (Pet. 24), this is not the only basis for asserting that there would have been a reasonable expectation of success in making the proposed combination. The Petition also asserts that one of ordinary skill in the art "would have anticipated success in implementing *Numazaki* in this manner given that *Numazaki* already includes the technical hardware and programming necessary to detect gestures, associate gestures with commands, and capture video, and expressly contemplates incorporating these early-described embodiments in the eighth embodiment portable devices." Pet. 23 (citing Ex. 1003 ¶ 51).

We also agree with Petitioner that Patent Owner improperly argues that there is little "guarantee of success" rather than a reasonable expectation of success. *See* Reply 18. "Obviousness does not require absolute predictability of success . . . all that is required is a reasonable expectation of success." *In re O'Farrell*, 853 F.2d 894, 903-04 (Fed. Cir. 1988) (citations omitted).

For the above reasons, we find on the complete record that Petitioner has demonstrated by a preponderance of the evidence that the combination of *Numazaki* and *Nonaka* discloses limitation [1(c)].

#### *e) Conclusion*

For the above reasons, we determine that Petitioner has shown by a preponderance of the evidence that the combination of *Numazaki* and *Nonaka* renders obvious claim 1.

#### *4. Independent Claims 8 and 13*

Independent claim 8 recites a computer implemented method having similar limitations as the device claim

of claim 1. *Compare* Ex. 1001, 15:21-38, *with id.* at 16:1-13. For its analysis of claim 8, Petitioner refers back to its analysis of claim 1. Pet. 43-44. Similarly, independent claim 13 recites an image capture device having similar limitations as claim 1. *Compare* Ex. 1001, 15:21-38, *with id.* at 16:24-40. Petitioner also refers back to its analysis of claim 1 for its analysis of claim 13. Pet. 47-48.

Regarding claims 8 and 13, Patent Owner relies on the same arguments as those advanced with respect to independent claim 1 (PO Resp. 24-25, 27-28), which arguments we have found unpersuasive for the reasons discussed above. Accordingly, based on the complete record, we determine that Petitioner has shown by a preponderance of the evidence that claims 8 and 13 are unpatentable over Numazaki and Nonaka.

#### 5. *Dependent Claims 4, 11, and 18*

Claim 4 depends from claim 1 and recites that “the electro-optical sensor is fixed in relation to the digital camera.” Ex. 1001, 15:43-44. Claims 11 and 18 depend from claims 8 and 13, respectively, and similarly recite that the electro-optical sensor is fixed relative to the digital camera. *Id.* at 16:17-19, 16:49-50. For this feature, Petitioner asserts that

*Numazaki’s* fifth embodiment positions an electro-optical sensor (i.e., [ ]reflected light extraction unit 102) and digital camera (i.e., visible light photo-detection array 351) side-by-side such that they have overlapping fields of view. Indeed, *Numazaki* expressly teaches that “visible light photo-detection array 351 and the reflected light extraction unit 102 are arranged in parallel.”

Pet. 38 (citing Ex. 1004, 39:4-44); *see also id.* at 47, 49 (asserting the same argument for claims 11 and 18).

The Petition does not direct us to any expert testimony supporting this assertion.

In the Decision on Institution, we did not agree “that being arranged in parallel necessarily means that reflected light extraction unit 102 and visible light photo-detection array 351 are fixed relative to each other.” Dec. Inst. 23. In its Response, Patent Owner argues that the portion of Numazaki cited by Petitioner for this feature does not contain any description of whether reflected light extraction unit 102 and visible light photo-detection array 351 are fixed with respect to each other. PO Resp. 23 (citing Ex. 1004, 39:4-44); *see also id.* at 26, 29 (making the same argument in connection with claims 11 and 18). Patent Owner also argues that one of ordinary skill in the art “would not interpret ‘arranged in parallel’ to necessarily mean that that ‘reflected light extraction unit 102’ and ‘visible light photo-detection array 351’ are fixed relative to each other.” *Id.* at 23 (citing Ex. 2002 ¶ 71).

Petitioner replies by arguing that the fact that unit 102 and camera 351 have and must retain overlapping fields of view is key to concluding that they are fixed relative to each other. Reply 19-20 (citing Pet. 27-28). Petitioner also argues that Mr. Occhiogrosso admits, and Dr. Bederson confirms, that (1) “unit 102 and camera 351 must retain overlapping fields of view in order to ‘satisfy the intended purpose’ of Numazaki’s fifth embodiment;” (2) “that fixing unit 102 and camera 351 in relation to one another ensure that they retain overlapping fields of view;” and (3) there is no “teaching in Numazaki that suggests unit 102 and camera 351 are not fixed in relation to on another.” *Id.* at 20 (citing Ex. 1019, 23:21-24:22, 25:7-14, 25:18-26:2; Ex. 1018 ¶¶ 13-15).

In the Sur-reply, Patent Owner argues that unit 102 and camera 351 having overlapping fields of view does not necessarily mean that they are fixed relative to each other. Sur-reply 11; *see also* Tr. 20:21-21:3 (using visual aids during the oral hearing to support contention that the fields of view can be overlapping despite relative motion of the structure). Patent Owner contends that Numazaki does not disclose unit 102 and camera 351 have or require identical fields of view. *Id.* (citing Ex. 1004, 39:20-60). Citing Mr. Occhiogrosso's testimony, Patent Owner also argues that only a partial overlap in the fields of view is needed to accomplish the goal of Numazaki's fifth embodiment and relative movement of unit 102 and camera 351 does not necessarily result in non-overlapping fields of view. *Id.* at 11-12 (citing Ex. 1019, 24:10-24).

We agree with Patent Owner that the Petition does not establish sufficiently that Numazaki's unit 102 and camera 351 are fixed relative to one another. Without more, the mere fact that unit 102 and camera 351 are arranged in parallel and have overlapping fields of view does not establish that the structures are fixed. At the oral hearing, counsel for Petitioner indicated that Petitioner's position was not an inherency argument but relied on Dr. Bederson's analysis and interpretation of Numazaki's fifth embodiment. Tr. 17:7-15. The Petition, however, does not reference any such analysis in connection with the subject matter of claims 4, 11, and 18. Pet. 38, 47, 49. The portions of the Petition cited in the Reply (i.e., pages 27-28 of the Petition, which pertain to limitation 1[(a)]) discuss the overlapping fields of view but not assert that overlapping fields of view require the structures to be fixed with respect to one another.

For the foregoing reasons, we determine that Petitioner has not shown by a preponderance of the evidence that the combination of Numazaki and Nonaka renders obvious claims 4, 11, or 18.

*6. Dependent Claims 2, 3, 5-7, 9, 10, 12, and 14-17*

Petitioner provides reasonable and detailed explanations, supported by the testimony of Dr. Bederson, indicating where in the references the limitations of claims 2, 3, 5-7, 9, 10, 12, and 14-17 are disclosed. Pet. 33-43, 44, 47, 49. Further, Patent Owner offers no arguments particularly directed to these dependent claims. PO Resp. 22, 25, 28.

We have considered the evidence and arguments of record and determine that Petitioner has demonstrated by a preponderance of the evidence that the combination of Numazaki and Nonaka renders obvious claims 2, 3, 5-7, 9, 10, 12, and 14-17 for the reasons discussed in the Petition and as supported by the testimony of Dr. Bederson.

*E. Asserted Obviousness Based on Numazaki, Nonaka, and Aviv*

Petitioner argues that the combination of Numazaki, Nonaka, and Aviv renders obvious dependent claims 6, 12, and 17. Pet. 50-55. Patent Owner argues only that Aviv does not remedy the alleged deficiencies of Numazaki and Nonaka argued in connection with the independent claims. PO Resp. 28.

Because of our determination that Petitioner establishes by a preponderance of the evidence that claims 6, 12, and 17 would have been unpatentable over the combination of Numazaki and Nonaka, we do not reach this alternate challenge to claims 6, 12, and 17. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359 (2018) (holding that a petitioner “is entitled to a final written decision addressing all of the claims it has

challenged”); *see also Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App’x 984, 990 (Fed. Cir. 2020) (nonprecedential) (stating that the “Board need not address issues that are not necessary to the resolution of the proceeding,” such as “alternative arguments with respect to claims [the Board] found unpatentable on other grounds”).

#### *F. Jurisdiction over Expired Patents*

Patent Owner argues that the USPTO does not have jurisdiction over expired patents. PO Resp. 1-2. Rather, Patent Owner argues, the USPTO only has jurisdiction over patents with claims that can be amended or cancelled. *Id.* Patent Owner states that, as explained by the Supreme Court, “Congress [has] significant latitude to assign [the] adjudication of public rights to entities other than Article III courts,” including for the USPTO to “reexamine—and perhaps cancel—a patent claim in an inter partes review.” *Id.* (quoting *Oil States Energy Servs., LLC v. Greene’s Energy Grp., LLC*, 138 S. Ct. 1365, 1368, 1374 (2018)) (alterations in original). However, Patent Owner argues that this authority does not extend to expired patents because the public franchise associated with an issued patent no longer exists after expiration. *Id.* at 2. Thus, it is argued, the USPTO no longer has jurisdiction, even though the patent owner “may be entitled to collect damages” for patent infringement, because “the patent owner[ ] no longer has the right to exclude others” and the USPTO has nothing to cancel or amend. *Id.*

Patent Owner reasons that:

Expiration removes the patent from the [US]PTO’s jurisdiction and returns it to the sole jurisdiction of the Article III courts, which have exclusive authority to govern claims for damages.

If this were not so, the [US]PTO would purport to have authority to retroactively modify a public franchise that no longer exists, in a setting where the expired public franchise does not enjoy any presumption of validity and in which amendment of claims is no longer permitted.

*Id.*

*Inter partes* review of patents, whether expired or not, fits within the USPTO’s mandate “for the granting and issuing of patents” (35 U.S.C. § 2(a)(1)), for as the Supreme Court has stated, “[i]nter partes review is ‘a second look at an earlier administrative grant of a patent’” (*Oil States Energy Servs.*, 138 S. Ct. at 1374 (quoting *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144 (2016))). Our rules have also made clear *inter partes* review covers expired patents. 37 C.F.R. § 42.100(b); *see also, e.g.*, 83 Fed. Reg. 51341 (Oct. 11, 2018) (Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board)<sup>8</sup> (“The claim construction standard adopted in this final rule also is consistent with the same standard that the Office has applied in interpreting claims of expired patents and soon-to-be expired patents. *See, e.g., Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1279 (Fed. Cir. 2017) (noting that ‘[t]he Board construes claims of an expired patent in accordance with *Phillips* . . . [and] [u]nder that standard, words of a claim are generally given their ordinary and customary meaning’).”).

Further, the statutes governing *inter partes* review do not limit them to non-expired patents. For example, 35 U.S.C. § 311(b), which sets forth the scope of *inter*

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<sup>8</sup> Available at <https://www.federalregister.gov/d/2018-22006/p-13>.



*partes* review merely refers to patents, with no mention of the expiration date. Further, 35 U.S.C. § 311(c) entitled “Filing Deadline” makes no mention of the expiration date of the patent. Elsewhere, 35 U.S.C. § 315 does limit the filing of IPRs based on civil actions and the serving of complaints, but again makes no mention of the expiration date of the patent. Patent Owner does not identify any statute or legal precedent that expressly limits *inter partes* review to non-expired patents.

Patent Owner fails to adequately explain why the Patent Office’s authority to take a second look at an earlier administrative grant of a patent ends when the patent term expires even though the rights granted by the patent are not yet exhausted.

For all of these reasons, we do not agree that the Board lacks jurisdiction over expired patents.

### III. CONCLUSION

In summary:

Claims	35 U.S.C. §	Refer- ence(s)/ Basis	Claims Shown Unpat- entable	Claims Not Shown Unpat- entable
1-18	103	Numazaki, Nonaka	1-3, 5-10, 12-17	4, 11, 18
6, 12, 17	103 <sup>9</sup>	Numazaki, Nonaka, Aviv		
<b>Overall Outcome</b>			1-3, 5-10, 12-17	4, 11, 18

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<sup>9</sup> As explained above, we do not reach this alternative ground.

#### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1-3, 5-10, and 12-17 of U.S. Patent No. 8,878,949 B2 are determined to be unpatentable;

FURTHER ORDERED that claims 4, 11, and 18 of U.S. Patent No. 8,878,949 B2 are not determined to be unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

UNITED STATES PATENT  
AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC., LG ELECTRONICS, INC.,  
LG ELECTRONICS U.S.A., INC., AND GOOGLE LLC,  
Petitioner  
v.

GESTURE TECHNOLOGY PARTNERS, LLC,  
Patent Owner

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IPR2021-00922<sup>1</sup>  
Patent 8,553,079 B2

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[Entered: November 28, 2022]

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Before KEVIN F. TURNER, JONI Y. CHANG, and  
BRENT M. DOUGAL, *Administrative Patent Judges*.  
DOUGAL, *Administrative Patent Judge*.

JUDGMENT

Final Written Decision

Determining Some Challenged Claims Unpatentable  
*35 U.S.C. § 318(a)*

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<sup>1</sup> IPR2022-00090 (LG Electronics, Inc. and LG Electronics U.S.A., Inc.) and IPR2022-00360 (Google LLC) have been joined with this proceeding.

## I. INTRODUCTION

### A. *Background*

Applying the standard set forth in 35 U.S.C. § 314(a), we instituted an *inter partes* review challenging the patentability of claims 1-30 (the “challenged claims”) of U.S. Patent No. 8,553,079 B2 (Ex. 1001, “the ’079 patent”). Paper 10 (“Dec.”). Apple, Inc.<sup>2</sup> filed the request for an *inter partes* review (Paper 1, “Petition” or “Pet.”), which Patent Owner, Gesture Technology Partners, LLC, opposed (Paper 8).

After institution, Patent Owner filed a Response (Paper 13, “PO Resp.”), Petitioner filed a Reply (Paper 17, “Reply”), and Patent Owner filed a Sur-reply (Paper 18, “Sur-reply”). An oral hearing was held on September 13, 2022, and a copy of the transcript was entered into the record. Paper 25 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Decision is a Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 as to the patentability of the claims on which we instituted trial. Having reviewed the arguments of the parties and the supporting evidence, we determine that Petitioner has shown by a preponderance of the evidence, that claims 1-6, 8-16, 18-26, and 28-30 are unpatentable. We also determine that Petitioner has not shown that claims 7, 17, and 27 are unpatentable.

### B. *Related Matters*

The parties identify these related matters: *Gesture Technology Partners, LLC v. Huawei DeviceCo., Ltd.*, No. 2:21-cv-00040 (E.D. Tex.); *Gesture Technology Partners, LLC v. Samsung Electronics Co.*, No. 2:21-cv-00041 (E.D. Tex.); *Gesture Technology Partners,*

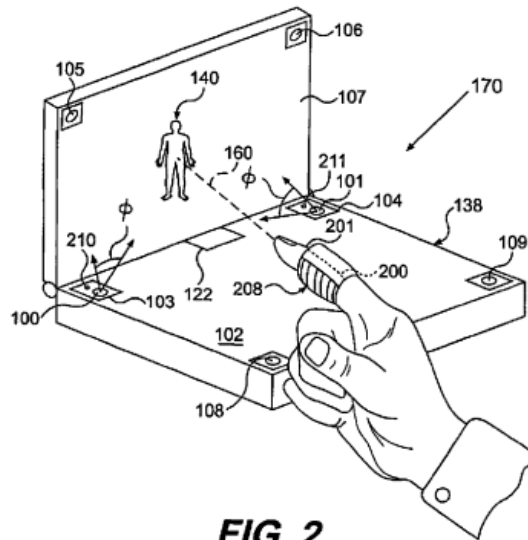
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<sup>2</sup> Apple, Inc., LG Electronics, Inc., LG Electronics U.S.A., Inc., and Google LLC are collectively referred to herein as “Petitioner.”

*LLC v. Apple Inc.*, No. 6:21-cv-00121 (W.D. Tex.); *Gesture Technology Partners, LLC v. Lenovo Group Ltd.*, No. 6:21-cv-00122 (W.D. Tex.); *Gesture TechnologyPartners, LLC v. LG Electronics, Inc.*, No. 6:21-cv-00123 (W.D. Tex.); *Gesture Technology Partners, LLC v. Motorola Mobility LLC*, No. 1:22-cv03535 (ND Ill.); and *Gesture Technology Partners, LLC v. Katherine K. Vidal*, No. 1:22-cv-622 (E.D. VA). Pet. 77; Paper 20, 2-3. Patent Owner also identifies the following related *Ex Parte* Reexaminations: No. 90/014,900; No. 90/014,901; No. 90/014,902; and No. 90/014,903. Paper 20, 3-4.

### C. The '079 Patent

The '079 patent relates to “[a] method for determining a gesture,” such as a hand or finger gesture, using a camera and a light source, where the gesture serves as an input for a computer. Ex. 1001, Abstract, 1:54-57, 1:64-2:2. Figure 2, reproduced below, depicts an embodiment in which a computer device (e.g., laptop) includes this method.



**FIG. 2**

As illustrated in Figure 2, a laptop (138) may include camera locations (100, 101, 105, 106, 108, 109), a keyboard surface (102), a screen housing (107), a light (122), light emitting diodes (LEDs) (210, 211), and a work volume area (170) within which a user's movements are detected. *Id.* at 2:39-53. The system can detect a user's finger alone or the user may employ external objects such as a ring (208) to help detect and recognize gestures performed in the work volume area (170). *Id.* at 2:54-3:8. The '079 patent describes detecting point, pinch, and grip gestures using this configuration. *Id.* at 2:54-61, 3:48-51.

#### *D. Illustrative Claim*

Petitioner challenges claims 1-30 of the '079 patent. Claims 1, 11, and 21 are independent. Claim 1 is illustrative:

1. A computer implemented method comprising:
  - providing a light source adapted to direct illumination through a work volume above the light source;
  - providing a camera oriented to observe a gesture performed in the work volume, the camera being fixed relative to the light source; and
  - determining, using the camera, the gesture performed in the work volume and illuminated by the light source.

Ex. 1001, 13:2-9.

## II. ANALYSIS

### *A. Summary of Issues*

In the below analysis, we first address the grounds of unpatentability. We then address Patent Owner's jurisdiction argument.

### *B. Instituted Grounds*

Petitioner asserts the following grounds of unpatentability (Pet. 5), supported by the declaration of Dr. Benjamin B. Bederson (Ex. 1010):

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 2, 4-14, 17, 19, 21, 22, 24-28, 30	103(a) <sup>3</sup>	Numazaki, <sup>4</sup> Knowledge of a PHOSITA <sup>5</sup>
3, 15, 23	103(a)	Numazaki, Numazaki '863 <sup>6</sup>
16, 29	103(a)	Numazaki, DeLuca <sup>7</sup>
18	103(a)	Numazaki, DeLeeuw <sup>8</sup>
30	103(a)	Numazaki, Maruno <sup>9</sup>

#### *1. Legal Standards for Unpatentability*

Petitioner bears the burden to demonstrate unpatentability. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

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<sup>3</sup> The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 285-88 (2011), revised 35 U.S.C. § 103 effective March 16, 2013. Because the challenged patent was filed before March 16, 2013, we refer to the pre-AIA versions.

<sup>4</sup> U.S. Patent 6,144,366, issued Nov. 7, 2000 (“Numazaki”) (Ex. 1004).

<sup>5</sup> A person of ordinary skill in the art (“PHOSITA”).

<sup>6</sup> U.S. Patent 5,900,863, issued May 4, 1999 (“Numazaki '863”) (Ex. 1005).

<sup>7</sup> U.S. Patent 6,064,354, issued May 16, 2000 (“DeLuca”) (Ex. 1006).

<sup>8</sup> U.S. Patent 6,088,018, issued July 11, 2000 (“DeLeeuw”) (Ex. 1007).

<sup>9</sup> U.S. Patent 6,191,773 B1, issued Feb. 20, 2001 (“Maruno”) (Ex. 1008).

A claim is unpatentable as obvious under 35 U.S.C. § 103 if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting 35 U.S.C. § 103(a)). We resolve the question of obviousness based on underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the prior art and the claims; (3) the level of skill in the art; and (4) when in evidence, objective indicia of nonobviousness.<sup>10</sup> See *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966).

We apply these principles to the Petition’s challenges.

## 2. *Level of Ordinary Skill in the Art*

Petitioner asserts that “[a] person having ordinary skill in the art (‘PHOSITA’) at the time of the ’079 Patent would have had at least a bachelor’s degree in electrical engineering or equivalent with at least one year of experience in the field of human computer interaction” and that “[a]dditional education or experience might substitute for the above requirements.” Pet. 4 (citing Ex. 1010 ¶¶ 29-31). Patent Owner does not dispute Petitioner’s level of ordinary skill in the art. PO Resp. 6.

We are persuaded that Petitioner’s declarant’s statement is consistent with the problems and solutions in the ’079 patent and prior art of record. We adopt this definition for the purposes of this Final Decision.

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<sup>10</sup> Neither party presents evidence or arguments regarding objective evidence of nonobviousness in the instant proceeding.



### 3. Claim Construction

In *inter partes* review, we construe claims using the same claim construction standard that would be used to construe the claims in a civil action under 35 U.S.C. § 282(b), including construing the claims in accordance with the ordinary and customary meaning of such claims 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) (2020).

Patent Owner proposes a construction for a term in claims 3, 15, and 23. PO Resp. 6-8. The parties do not propose any other any claim constructions. Pet. 5-6; PO Resp. 6. We address the term “a plurality of light emitting diodes” in claims 3, 15, and 23 below. To the extent any other term needs construction, we address the term in the later arguments below. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those 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))).

#### a) A Plurality of Light Emitting Diodes

Patent Owner proposes that “wherein the light source includes a plurality of light emitting diodes,” in claim 3, be construed to mean “the light source illuminates the gesture by having two or more (i.e., a plurality) LEDs of the light source emit light at the same time.” PO Resp. 6-8. Patent Owner argues that the similar limitations in claims 15 and 23 should also be construed in this way. *Id.* at 8.

Patent Owner argues that claim 1, from which claim 3 depends, “requires that the gesture performed in the work volume is illuminated by the light source, not a portion of the light source. As a result, the ‘plurality

of light emitting diodes' recited in claim 3 must illuminate the work volume, not a subset of the LEDs." *Id.* at 7.

Patent Owner's argument is inconsistent. As quoted above, Patent Owner says that a subset of LEDs cannot illuminate the work volume, but Patent Owner's argued-for-construction would only require two LEDs to emit light at the same time, even if the system had three or more. Thus, this argument does not support Patent Owner's argued-for-construction.

Claim construction starts with an analysis of the claim language itself. *Sjolund v. Musland*, 847 F.2d 1573, 1582 (Fed. Cir. 1988) ("[T]he claims define the invention."). Claim 1 includes "providing a light source adapted to direct illumination through a work volume above the light source," a "camera being fixed relative to the light source," and "determining . . . the gesture performed in the work volume and illuminated by the light source." Ex. 1001, 13:3-9. Claim 3 adds that "the light source includes a plurality of light emitting diodes." *Id.* at 13:12-13.

Reading claims 1 and 3 it can be seen that Patent Owner's construction is not apparent or implied from the claim language. Neither claim requires, for example, that the gesture be illuminated by 100% of the light source, or by at least two LEDs of the light source. Claim 1 merely states that the gesture be "illuminated by the light source." The amount of illumination is not specified.

Patent Owner also argues that the purpose for having multiple light emitting diodes from the Specification should be read into the claims. PO Resp. 7. "Claim 3, when read in light of the specification, means the light source illuminates the gesture by having two or more (i.e., a plurality) LEDs of the light

source emit light at the same time.” *Id.*; *see also id.* (“the specification, . . . describes the purpose of the light source as increasing the amount of light incident to the object (e.g., finger) performing the gesture. Ex. 1001, 3:1-3”).

The mere fact that the Specification provides an example as to how the light source is used is not a sufficient reason for us to read a limitation into the claims from the Specification. If the specification “reveal[s] a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess[,] . . . the inventor’s lexicography governs.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc) (citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)); *see also* Reply 19. However, this is not the case here. Patent Owner does not identify anywhere in the Specification where “light source” or “plurality of light emitting diodes” are defined as “the light source illuminates the gesture by having two or more (i.e., a plurality) LEDs of the light source emit light at the same time.”

For these reasons we decline to adopt Patent Owner’s claim construction. We determine that the added limitation in claims 3, 15, and 23 should be read according to its plain and ordinary meaning. In other words, “the light source includes a plurality of light emitting diodes,” simply means exactly what it says “the light source includes a plurality of light emitting diodes.”

#### 4. *Obviousness over Numazaki and Knowledge of a PHOSITA*

Petitioner argues that Numazaki in view of the knowledge of a PHOSITA would have rendered obvious claims 1, 2, 4-14, 17, 19, 21, 22, 24-28, and 30.

Pet. 6-35. Patent Owner specifically contends that Numazaki does not disclose all the limitations of claims 1, 7, 11, 17, 21, and 27. PO Resp. 8-20.

We first give an overview of the asserted prior art, Numazaki. This is followed by a discussion of Petitioner's positions and Patent Owner's arguments in response where we conclude that Petitioner has shown by a preponderance of the evidence that some of the challenged claims are unpatentable.

*a) Numazaki*

Numazaki "relates to a method and an apparatus for generating information input in which input information is extracted by obtaining a reflected light image of a target object." Ex. 1004, 1:8-11.

Figure 1, reproduced below, depicts a block diagram for an information input generation apparatus.

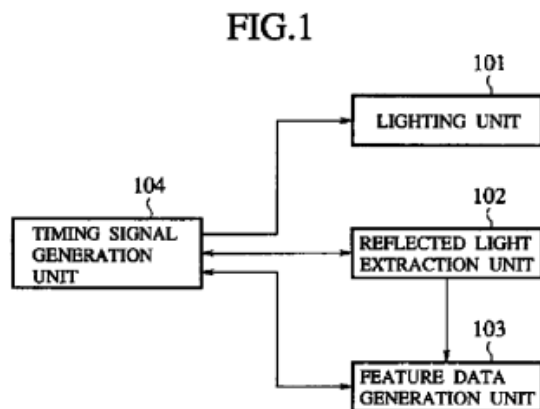
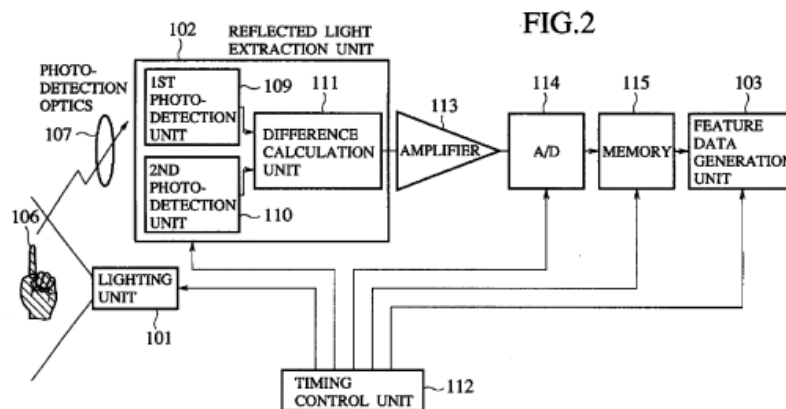


Figure 1 shows that an information input generation apparatus includes a lighting unit (101), a reflected light extraction unit (102), a feature data generation unit (103), and a timing signal generation unit (104). *Id.* at 10:23-28. Numazaki describes emitting light from the light emitting unit (101) and that the intensity of the light varies in time according to a timing

signal from the timing signal generation unit (104). *Id.* at 10:29-31. The light is directed onto a target object and light reflected from the target object is extracted by the reflected light extraction unit (102). *Id.* at 10:31-35. Numazaki teaches that the feature data generation unit (103) extracts feature data from the reflected light image. *Id.* at 10:57-61. Numazaki further teaches operating a computer based on information obtained from the feature data. *Id.* at 10:61-66.

Figure 2, reproduced below, shows a more detailed block diagram of an embodiment of information input generation apparatus.



In Figure 2, a timing control unit (112) is used to turn the lighting unit (101) on (i.e., illuminating the target object) when the first photo detection unit (109) is active and off when the second photo detection unit (110) is active. *Id.* at 11:20-32. The first photo detection unit captures an image of the target object illuminated by both natural light and the lighting unit and the second photo detection unit captures an image of the target object illuminated by only natural light. *Id.* at 11:33-39. The difference between the two images—obtained by a difference calculation unit

(111)—represents the “reflected light from the object resulting from the light emitted by the lighting unit 101.” *Id.* at 11:43-51. This information is then used by the feature data generation unit (103) to determine gestures, pointing, etc. of the target object that may be converted into commands executed by a computer. *Id.* at 10:57-66.

Figure 74, reproduced below, illustrates a system incorporating an information input generation apparatus.

FIG.74

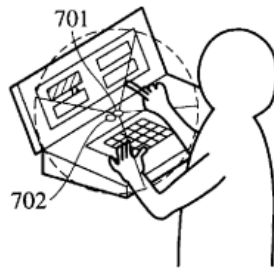


Figure 74 shows a portable computer with an information input generation device. *Id.* at 50:25-29. The device includes a lighting unit (701) and a photo-detection sensor unit (702). *Id.* at 50:29-35. Numazaki teaches that “the operator operating the keyboard can make the pointing or gesture input by slightly raising and moving the index finger.” *Id.* at 50:38-40.

*b) Claim 1*

Petitioner relies on Numazaki in view of the knowledge of a PHOSITA for teaching or suggesting all of the elements of claim 1. Pet. 10-14. For example, Petitioner relies on the portable computer with an information input generation device of Figure 74 with its lighting unit (701) and photo-detection sensor unit (702) for the providing a computer, light source, and camera, method steps of claim 1. *Id.* at 10-13.

Petitioner further argues that the determining step is taught by Numazaki, where the lighting and photo-detection sensor units are used to determine a hand gesture in the area above the laptop. *Id.* at 12-13 (citing Ex. 1004, 50:30-43).

Numazaki only provides some details about the photo-detection sensor unit. *See generally* Ex. 1004, 50:25-54:6. However, Petitioner relies on Numazaki's teaching that "light and camera arrangement" of Figure 2 "is incorporated into the eighth embodiment" for more details about the photo-detection sensor unit. Pet. 13-14; *see also id.* at 9 (quoting Ex. 1004, 50:21-24) ("*Numazaki* teaches that its eighth embodiment incorporates 'the information input generation apparatus of the present invention as described in the above embodiments.'"); Ex. 1010 ¶¶ 42-43 (discussing what a PHOSITA would have understood was incorporated into the eighth embodiment); Ex. 1004, 53:22-36 (Numazaki discussing "the photodetection section" and then pointing to the prior discussion "as already described in detail above"). Petitioner describes Numazaki as teaching a system where two images are obtained of the target object by two different cameras, one with the lighting unit on and one with it off. Pet. 14 (citing Ex. 1007, 11:20-39). The images are compared to obtain certain information. *Id.* (citing Ex. 1007, 11:43-51). Petitioner concludes that the obtained "information is then used by feature data generation unit 103 to determine gestures, pointing, etc. of the target object that may be converted into commands executed by a computer" and that this all reads on the determining step of claim 1. *Id.* (citing Ex. 1007, 10:57-66).

Patent Owner argues that Numazaki does not teach the steps of "providing a camera" or "determining a

gesture” in claim 1. PO Resp. 8-13. We address each argument in turn below.

*(1) Providing a Camera*

Claim 1 requires “providing a camera oriented to observe a gesture performed in the work volume, the camera being fixed relative to the light source.” Ex. 1001, 13:5-7. As noted above, Petitioner relies on Numazaki’s portable computer with an information input generation device of Figure 74 with its photo-detection sensor unit (702) for the providing a camera method step of claim 1. Pet. 12-13. The Petition further relies on Numazaki’s teaching that “light and camera arrangement” of Figure 2 “is incorporated into the eighth embodiment” for more details about the photo-detection sensor unit. *Id.* at 13-14; *see also id.* at 9 (quoting Ex. 1004, 50:21-24) (“Numazaki teaches that its eighth embodiment incorporates ‘the information input generation apparatus of the present invention as described in the above embodiments.’”); Ex. 1010 ¶¶ 42-43 (discussing what a PHOSITA would have understood was incorporated into the eighth embodiment); Ex. 1004, 53:22-36 (Numazaki discussing “the photodetection section” and then pointing to the prior discussion “as already described in detail above”). We determine that Petitioner has shown by a preponderance of the evidence that this limitation is taught by Numazaki.

Neither Patent Owner, nor Patent Owner’s declarant, contest Petitioner’s position, supported by its declarant, that Numazaki’s reflected light extraction unit, with its two photo detection units in Figure 2 teach a camera. *See* PO Resp. 10 (citing Pet. 6, 7, 12-14; Ex. 1010 ¶¶ 35-36) (acknowledging Petitioner’s position and declarant support); Ex. 2004 ¶ 50 (Patent



Owner's declarant acknowledging Petitioner's position and declarant support).

However, Patent Owner argues that “[n]one of embodiments 1-7 in Numazaki [(including Figure 2)] mention a ‘photo-detection sensor unit,’ and thus none of embodiments 1-7 teach or suggest the ‘photo-detection sensor unit’ in Fig. 74 as being a camera.” PO Resp. 9 (citing Ex. 2002 ¶ 48). Patent Owner admits that Numazaki Figure 2 teaches two “photo-detection units,” but essentially argues that because the term “photo-detection unit” is not identical to Figure 74’s “photo-detection sensor unit,” one of skill in the art would not understand what a “photo-detection sensor unit” is, or how it relates to the rest of the disclosure. *Id.* at 9, 11; *see also* Sur-reply 1-2.

In support, Patent Owner relies on its declarant who testifies: “I reviewed Numazaki in its entirety and it contains no disclosure stating that the ‘photo-detection sensor unit’ is a camera” and “it is my opinion that a POSITA would understand that none of embodiments 1-7 disclose the ‘photo-detection sensor unit’ in Fig. 74 as being or including a camera.” Ex. 2002 ¶ 48.

As will be understood from reviewing Numazaki, Numazaki discloses an eighth embodiment having a number of different portable form factors shown in Figures 74-79, but sharing “a system configuration incorporating the information input generation apparatus of the present invention as described in the above embodiments,” i.e., embodiments 1-7, including Figure 2. Ex. 1004, 50:19-20; *see also* Ex. 1010 ¶ 40. In addition to referring back to the prior disclosure, additional details of the information input generation apparatus including the photo-detection section are provided at 52:33-54:6. This section not only describes

an information input generation apparatus that is very similar to the disclosure of Figure 2, but it again refers back to the “the photo-detection section . . . , as already described in detail above.” *Id.* at 53:22-36; *see also* Dec. 9 (explaining that “details about the photo-detection sensor unit” could be found at Ex. 1004, 50:25-4:6).

Thus, the position of Patent Owner and Patent Owner’s declarant is inconsistent with the express disclosure of Numazaki that makes clear that the photo-detection section of the eighth embodiment, including the “photo-detection sensor unit” of Figure 74 incorporates the disclosure of the photo-detection section of the prior embodiments, including Figure 2. Thus, we determine that one of ordinary skill in the art would have understood Numazaki to teach that the “photo-detection sensor unit” in Figure 74 is or at least includes a camera, just as Numazaki’s reflected light extraction unit, with its two photo detection units in Figure 2 teach a camera.

For the above reasons, Patent Owner’s arguments do not identify any shortcomings in the showing by Petitioner that Numazaki teaches providing a camera.

## *(2) Determining the Gesture*

Claim 1 also requires “determining, using the camera, the gesture performed in the work volume and illuminated by the light source.” Ex. 1001, 13:8-9. As noted above, Petitioner relies on Numazaki to teach this step, where Numazaki’s lighting and photo-detection sensor units are used to determine a hand gesture in the area above the laptop. Pet. 12-13 (citing Ex. 1004, 50:30-43). Petitioner further relies on Numazaki’s teaching that “light and camera arrangement” of Figure 2 “is incorporated into the eighth embodiment” for more details about the photo-

detection sensor unit. *Id.* at 13-14; *see also id.* at 9 (citing Ex. 1010 ¶¶ 42-43). We determine that Petitioner has shown by a preponderance of the evidence that this limitation is taught by Numazaki.

Patent Owner argues that this limitation is not taught because “[a] POSITA would interpret [it] . . . as requiring the gesture be illuminated by the light source while the camera is capturing one or more images of the gesture.” PO Resp. 11 (citing Ex. 2002, ¶ 52; Ex. 1001, Abst., 3:1-8). Patent Owner then puts forth two positions based on whether “a camera” in the prior limitation means “only one camera” or “multiple cameras.” *Id.* at 12.

Patent Owner’s first argument is that if “providing a camera” means “providing only one camera,” Numazaki teaches two and thus does not teach only one. *Id.* at 12.

Unless a more limited construction is indicated by the specification or prosecution history, the indefinite article “a” or “an” is construed in a claim to mean “one or more.” *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000). Thus, “providing a camera” is not limited to one interpretation or the other, but can include one camera or multiple cameras.<sup>11</sup> As the claim is not limited to “only one camera,” Patent Owner’s argument does not identify any shortcomings in Petitioner’s showing.

Patent Owner then argues that if “a camera” means “multiple cameras,” Numazaki fails to teach the limitation because the claim

requires the gesture be illuminated by the light source when any of the cameras is capturing an

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<sup>11</sup> Patent Owner disavows this argument in the Sur-reply when it agrees that “‘a camera’ . . . should be construed as ‘one or more cameras.’” Sur-reply 3.

image of the gesture. But as discussed above, Numazaki requires two photo-detection units (i.e., two cameras) and Numazaki's lighting unit (i.e., light source) is not active when one of the photodetection units is capturing an image of the gesture.

PO Resp. 12.

However, claim 1 does not require or refer to capturing images. It is not clear why Patent Owner is arguing that a person of ordinary skill in the art would interpret the claim as requiring the capturing of images when that is not claimed. Patent Owner does not further explain this position.

The claim does require that the gesture be "illuminated by the light source," but Patent Owner admits that this is taught by Numazaki. *Id.* Patent Owner states that "Numazaki requires two photo-detection units (i.e., two cameras) and Numazaki's lighting unit (i.e., light source) is not active when one of the photo-detection units is capturing an image of the gesture." *Id.*

The claim does not require that the gesture remain permanently illuminated. Further, the fact that Numazaki also teaches a second photo-detection unit that captures the gesture while lighting unit 101 is not active is not excluded by the language of the claim. The fact that Numazaki compares both images in determining the gesture is also not excluded by the claim. The claim merely requires that the determining be made "using the camera," that "the gesture [be] performed in the work volume" and that the gesture be "illuminated by the light source" at some point in time. Claim 1 uses the term "comprising" to create an "open ended" claim. "'Comprising' is a term of art used in claim language which means that the named

elements are essential, but other elements may be added and still form a construct within the scope of the claim.” *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed. Cir. 1997). Thus, the additional steps taught by Numazaki highlighted by Patent Owner are not excluded from the claim.

For the above reasons, Patent Owner’s arguments do not undermine the showing by Petitioner that Numazaki teaches all of the aspects of the determining a gesture claim element.

### *(3) Conclusion*

After review of the arguments and evidence, and further in view of the above discussion, we determine that Petitioner has shown, by a preponderance of the evidence, that claim 1 is unpatentable over Numazaki and the knowledge of a PHOSITA.

#### *c) Claims 11 and 21*

Independent claim 11 is directed to a computer apparatus and is very similar to method claim 1. *Compare* Ex. 1001, 13:31-39, *with id.* at 13:1-9. Independent claim 21 is directed to a computer implemented method and is very similar to method claim 1. *Compare id.* 14:14-22, *with id.* at 13:1-9. As such, the Petition relies on essentially the same teachings of Numazaki discussed above with respect to claim 1 for the features of claims 11 and 21, which we agree with for the reasons explained above. *See* Pet. 28-30, 33.

Similarly, Patent Owner argues that the Petition fails to teach or suggest the claim elements of claims 11 and 21 “for the same reasons above with respect to claim [1].” PO Resp. 16-17, 18-19. Patent Owner then briefly reiterates some of the same arguments discussed above. *Id.* Patent Owner does not provide any additional argument other than what has already been addressed with respect to claim 1 above.

After review of the arguments and evidence, and further in view of the above discussion, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 11 and 21 are unpatentable over Numazaki and the knowledge of a PHOSITA.

*d) Claims 7, 17, and 27*

Claims 7, 17, and 27 depend from claims 1, 11, and 21, respectively and are very similar in scope:

7. . . . providing a target positioned on a user that is viewable in the work volume.

17. . . . including a target that is viewable by the camera when in the work volume.

27. . . . providing a target positioned on the user that is viewable by the camera.

Ex. 1001, 13:21-23, 14:5-7, 14:35-37.

Petitioner argues<sup>12</sup> that Numazaki teaches using a hand within the work volume. Pet. 22-23 (citing Ex. 1004, 10:57-66, 50:35-37, Figs. 74, 77). Petitioner also argues that Numazaki recognizes “that it was known to paint a fingertip or to wear a ring in a particular color to improve detection.” *Id.* at 23 (citing Ex. 1004, 3:4-11). Petitioner argues that in view of these teachings in Numazaki, “[a] PHOSITA would have understood . . . that the Fig. 74 arrangement described in the eighth embodiment [of Numazaki] is particularly well suited to a ring or other small target mounted on a user’s finger.” *Id.* (citing Ex. 1010 ¶¶ 48-49).

Petitioner acknowledges, however, that Numazaki “cautions that requiring users to wear or mount some external component may negatively impact the user’s convenience and may bring with it durability issues.”

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<sup>12</sup> Petitioner relies on the same positions laid out with respect to claim 7 for claims 17 and 27. Pet. 33, 34.

*Id.* (citing Ex. 1004, 3:32-38). Petitioner relies on the testimony of its declarant to support its position that “users would accept” the tradeoff “of improved accuracy in exchange for the minor inconvenience of wearing a small ring or other hand-based target when using gesture recognition while typing.” *Id.* (citing 1010 ¶¶ 48-49). Further, Petitioner argues that “the durability concerns are implicated by a ring target, and many adults wear rings routinely while typing with no ill effect, which suggests that such a tradeoff would be acceptable to many users.” *Id.* at 23-24 (citing 1010 ¶¶ 48-49).

Patent Owner argues<sup>13</sup> that the portions of Numazaki that Petitioner discusses, identifying the user’s inconvenience and durability issues (Ex. 1004, 3:32-38), teach away from using a ring as a target. PO Resp. 13-16.

A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference’s disclosure is unlikely to be productive of the result sought by the applicant.

*In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994).

Concerning the use of rings and other devices on the hand, Numazaki teaches that they are “not realistic

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<sup>13</sup> Patent Owner reiterates the main points made with respect to claim 7 to argue over claims 17 and 27. PO Resp. 17-18, 19-20.

so that they are utilized for experiments but not for practical use” and further:

the requirement for mounting some element at every occasion of its operation is a *great demerit* from a viewpoint of the *convenience* of the user, and can *limit* its application range *significantly*. Moreover, as can be seen in the example of the data glove, a device that requires to mount some element on the movable part such as hand tends to have a *problem of the durability*.

Ex. 1004, 3:10-11, 3:26-39 (emphasis added).

Patent Owner, supported by the testimony of its declarant, characterizes these teachings as follows:

Numazaki explicitly criticizes, discredits, and discourages the use of targets (i.e., Numazaki’s markers or elements). Accordingly, upon reading Numazaki, a POSITA would be led in a path (i.e., an anti-target path) that diverges from the path in claim 7. Thus, Numazaki teaches away from the subject-matter of claim 7 and does not render claim 7 obvious. *See* Ex. 2002, ¶ 60.

PO Resp. 14.

At oral argument, Petitioner also characterized the teachings of Numazaki as “disparagement” and “a slight at targets and the historical use of targets in the art.” Tr. 28-29. Petitioner further admitted that Numazaki “has strong words about the downsides of targets and those strong words were to set up its own improvement of the art” and that “Numazaki[’s] . . . teaching[s] . . . can obviate the need for these targets.” *Id.* at 28, 29.

However, even in view of that “disparagement,” Petitioner argues that its declarant identified reasons why one of ordinary skill in the art would have accepted certain trade-offs that he identified in using



targets which would have rendered adding targets obvious. Reply 15-18.

The testimony of Petitioner's declarant cannot overcome the strong "disparagement" that Petitioner admits Numazaki makes against the use of rings or other added targets. This is not a case where Numazaki merely expresses a general preference for an alternative invention, rather Numazaki clearly criticizes, discredits, and discourages the use of rings and other targets. In Petitioner's own words, "Numazaki[s] . . . teaching[s] . . . can obviate the need for these targets." Tr. 28. Neither Petitioner nor Petitioner's declarant address why one of ordinary skill in the art would have modified Numazaki to use a ring, in view of Petitioner's admission that "Numazaki[s] . . . teaching[s] . . . can obviate the need for these targets." *Id.*

Petitioner also fails to explain how the teachings of Numazaki related to specialized rings supports its conclusion related to a "small [generic] ring," similar to what people routinely wear. Pet. 23-24. Numazaki discusses rings in specialized colors, as well as "color markers," and "light emitting elements." Ex. 1004, 3:7-9, 26-31. Neither Petitioner nor Petitioner's declarant explain the logical steps between Numazaki's disclosure and a "small [generic] ring" similar to what people routinely wear, or why one of ordinary skill in the art would have considered them to be the same or similar.

For these reasons, we determine that Petitioner has not shown that claims 7, 17, and 27 are unpatentable.

*e) Claims 2, 4-6, 8-10, 12-14, 19, 22, 24-26, 28, 30*

Petitioner argues that Numazaki in view of the knowledge of a PHOSITA would have rendered obvious dependent claims 2, 4-6, 8-10, 12-14, 19, 22, 24-26, 28,

and 30. Pet. 14-21, 24-28, 30-35. Patent Owner does not separately contest Petitioner's assertions regarding these claims at this stage. PO Resp. 13, 17, 19.

After review of the arguments and evidence, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 2, 4-6, 8-10, 12-14, 19, 22, 24-26, 28, and 30 are unpatentable over Numazaki.

*5. Obviousness over Numazaki and Numazaki '863*

Petitioner argues that the combination of Numazaki and Numazaki '863 would have rendered obvious dependent claims 3, 15, and 23. Pet. 35-42. Patent Owner argues, based on its claim construction, that the combination fails to teach the added limitations in claims 3, 15, 23. PO Resp. 20-22.

As noted previously, claim 3 depends from claim 1 and adds "wherein the light source includes a plurality of light emitting diodes." Claims 15 and 23 add the same limitation to their respective independent claims. We determine previously herein that the added limitation in claims 3, 15, and 23 should be read according to its plain and ordinary meaning. In other words, "the light source includes a plurality of light emitting diodes," simply means exactly what it says "the light source includes a plurality of light emitting diodes."

Petitioner argues that Numazaki '863 teaches using a plurality of light emitting diodes to illuminate a hand gesture and to control a computer based on the gesture. Pet. 37. Petitioner also identifies a number of reasons to modify Numazaki's light source to use Numazaki's '863's plurality of light emitting diodes as the light sources are used for similar purposes. *Id.* at 38-39.

Patent Owner does not contest Petitioner's positions in the Petition, other than to argue that the combination does not teach the claim limitation under Patent Owner's construction. PO Resp. 20-22. Patent Owner further admits that Numazaki '863 teaches a plurality of light emitting diodes used to illuminate an object. *Id.* at 21 (citing Ex. 1005, 16:36-57, Fig. 4). As we previously rejected Patent Owner's attempt to read limitations from the Specification into the claims, Patent Owner's arguments here do not apply to the requirements of the claims.

We have reviewed Petitioner's assertions with respect to these claims and the supporting evidence, and determine that Petitioner has established by a preponderance of the evidence that claims 3, 15, and 23 are unpatentable.

*6. Obviousness over Numazaki and DeLuca, Numazaki and DeLeeuw, and Numazaki and Maruno*

Petitioner argues that the combination of Numazaki and DeLuca would have rendered obvious dependent claims 16 and 29. Pet. 42-49. Petitioner argues that the combination of Numazaki and DeLeeuw would have rendered obvious dependent claim 18. *Id.* at 49-55. Petitioner argues that the combination of Numazaki and Maruno would have rendered obvious dependent claim 20. *Id.* at 55-68. Patent Owner does not separately address these grounds. *See generally* PO Resp.

We have reviewed Petitioner's assertions with respect to these claims and the supporting evidence, and determine that Petitioner has established by a preponderance of the evidence that claims 16, 18, 20, and 29 are unpatentable.

*C. Jurisdiction over Expired Patents*

Patent Owner argues that the USPTO does not have jurisdiction over expired patents. PO Resp. 1-2. Rather, Patent Owner argues, the USPTO only has jurisdiction over patents with claims that can be amended or cancelled. *Id.* Patent Owner states that, as explained by the Supreme Court, “Congress [has] significant latitude to assign [the] adjudication of public rights to entities other than Article III courts,” including for the USPTO to “reexamine—and perhaps cancel—a patent claim in an inter partes review.” *Id.* (quoting *Oil States Energy Servs., LLC v. Greene’s Energy Grp., LLC*, 138 S. Ct. 1365, 1368, 1374 (2018)). However, Patent Owner argues that this authority does not extend to expired patents because the public franchise associated with an issued patent no longer exists after expiration. *Id.* at 2. Thus, it is argued, the USPTO no longer has jurisdiction, even though the patent owner “may be entitled to collect damages” for patent infringement, because “the patent owner[ ] no longer has the right to exclude others” and the USPTO has nothing to cancel or amend. *Id.*

Patent Owner reasons that:

Expiration removes the patent from the [US]PTO’s jurisdiction and returns it to the sole jurisdiction of the Article III courts, which have exclusive authority to govern claims for damages. If this were not so, the [US]PTO would purport to have authority to retroactively modify a public franchise that no longer exists, in a setting where the expired public franchise does not enjoy any presumption of validity and in which amendment of claims is no longer permitted.

*Id.*

*Inter partes* review of patents, whether expired or not, fits within the USPTO’s mandate “for the

granting and issuing of patents” (35 U.S.C. § 2(a)(1)), for as the Supreme Court has stated, “[i]nter partes review is ‘a second look at an earlier administrative grant of a patent’ ” (*Oil States Energy Servs.*, 138 S. Ct. at 1374 (quoting *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144 (2016))). Our rules have also made clear that *inter partes* review covers expired patents. 37 C.F.R. 42.100(b) (2012); *see also, e.g.*, 83 Fed. Reg. 51341 (Oct. 11, 2018) (Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board)<sup>14</sup> (“The claim construction standard adopted in this final rule also is consistent with the same standard that the Office has applied in interpreting claims of expired patents and soon-to-be expired patents. *See, e.g., Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1279 (Fed. Cir. 2017) (noting that ‘[t]he Board construes claims of an expired patent in accordance with *Phillips* . . . [and] [u]nder that standard, words of a claim are generally given their ordinary and customary meaning’).”).

Further, the statutes governing *inter partes* review do not limit them to non-expired patents. For example, 35 U.S.C. § 311(b), which sets forth the scope of *inter partes* review merely refers to patents, with no mention of the expiration date. Further, 35 U.S.C. § 311(c) entitled “Filing Deadline” makes no mention of the expiration date of the patent. Elsewhere, 35 U.S.C. § 315 does limit the filing of IPRs based on civil actions and the serving of complaints, but again makes no mention of the expiration date of the patent. Patent Owner does not identify any statute or legal precedent that expressly limits *inter partes* review to non-expired patents.

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<sup>14</sup> Available at <https://www.federalregister.gov/d/2018-22006/> p-13.

Patent Owner fails to adequately explain why the Patent Office's authority to take a second look at an earlier administrative grant of a patent ends when the patent term expires even though the rights granted by the patent are not yet exhausted.

For all of these reasons, we do not agree that the Board lacks jurisdiction over expired patents.

### III. CONCLUSION

For the reasons discussed above, we determine that Petitioner has proven, by a preponderance of the evidence, that some of the challenged claims are unpatentable, as summarized in the following table:

<b>Claims</b>	<b>35 U.S.C. §</b>	<b>Refer- ence(s)/ Basis</b>	<b>Claims Shown Unpat- entable</b>	<b>Claims Not Shown Unpat- entable</b>
1, 2, 4-14, 17, 19, 21, 22, 24- 28, 30	103(a)	Numazaki, Knowledge of a PHOS- ITA	1, 2, 4-6, 8-14, 19, 21, 22, 24-26, 28, 30	7, 17, 27
3, 15, 23	103(a)	Numazaki, Numazaki '863	3, 15, 23	
16, 29	103(a)	Numazaki, DeLuca	16, 29	
18	103(a)	Numazaki, DeLeeuw	18	
20	103(a)	Numazaki, Maruno	20	
<b>Overall Outcome</b>			1-6, 8-16, 18-26, 28-30	7, 17, 27

#### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, claims 1-6, 8-16, 18-26, and 28-30 of U.S. Patent 8,553,079 B2 have been shown to be unpatentable;

FURTHER ORDERED that, claims 7, 17, and 27 of U.S. Patent 8,553,079 B2 have not been shown to be unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

## CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

1. Article III, §§ 1-2, of the United States Constitution provide:

Sec. 1. The judicial Power of the United States, shall be vested in one supreme Court, and in such inferior Courts as the Congress may from time to time ordain and establish. The Judges, both of the supreme and inferior Courts, shall hold their Offices during good Behaviour, and shall, at stated Times, receive for their Services, a Compensation, which shall not be diminished during their Continuance in Office.

Sec. 2. The judicial Power shall extend to all Cases, in Law and Equity, arising under this Constitution, the Laws of the United States, and Treaties made, or which shall be made, under their Authority;—to all Cases affecting Ambassadors, other public Ministers and Consuls;—to all Cases of admiralty and maritime Jurisdiction;—to Controversies to which the United States shall be a Party;—to Controversies between two or more States;—between a State and Citizens of another State;—between Citizens of different States;—between Citizens of the same State claiming Lands under Grants of different States, and between a State, or the Citizens thereof, and foreign States, Citizens or Subjects.

In all Cases affecting Ambassadors, other public Ministers and Consuls, and those in which a State shall be Party, the supreme Court shall have original Jurisdiction. In all the other Cases before mentioned, the supreme Court shall have appellate Jurisdiction, both as to Law and Fact, with such Exceptions, and under such Regulations as the Congress shall make.



The Trial of all Crimes, except in Cases of Impeachment; shall be by Jury; and such Trial shall be held in the State where the said Crimes shall have been committed; but when not committed within any State, the Trial shall be at such Place or Places as the Congress may by Law have directed.

2. The Seventh Amendment to the United States Constitution provides:

In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury, shall be otherwise re-examined in any Court of the United States, than according to the rules of the common law.

3. Section 6(a) of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, 299-304 (2011) (codified as amended at 35 U.S.C. §§ 311-319), provides:  
35 U.S.C. § 311 provides:

**§ 311. Inter partes review**

(a) IN GENERAL.—Subject to the provisions of this chapter, a person who is not the owner of a patent may file with the Office a petition to institute an inter partes review of the patent. The Director shall establish, by regulation, fees to be paid by the person requesting the review, in such amounts as the Director determines to be reasonable, considering the aggregate costs of the review.

(b) SCOPE.—A petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be

raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications.

(c) FILING DEADLINE.—A petition for inter partes review shall be filed after the later of either—

(1) the date that is 9 months after the grant of a patent; or

(2) if a post-grant review is instituted under chapter 32, the date of the termination of such post-grant review.

35 U.S.C. § 312 provides:

**§ 312. Petitions**

(a) REQUIREMENTS OF PETITION.—A petition filed under section 311 may be considered only if—

(1) the petition is accompanied by payment of the fee established by the Director under section 311;

(2) the petition identifies all real parties in interest;

(3) the petition identifies, in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim, including—

(A) copies of patents and printed publications that the petitioner relies upon in support of the petition; and

(B) affidavits or declarations of supporting evidence and opinions, if the petitioner relies on expert opinions;

(4) the petition provides such other information as the Director may require by regulation; and

(5) the petitioner provides copies of any of the documents required under paragraphs (2), (3), and (4) to the patent owner or, if applicable, the designated representative of the patent owner.

(b) PUBLIC AVAILABILITY.—As soon as practicable after the receipt of a petition under section 311, the Director shall make the petition available to the public.

35 U.S.C. § 313 provides:

**§ 313. Preliminary response to petition**

If an inter partes review petition is filed under section 311, the patent owner shall have the right to file a preliminary response to the petition, within a time period set by the Director, that sets forth reasons why no inter partes review should be instituted based upon the failure of the petition to meet any requirement of this chapter.

35 U.S.C. § 314 provides:

**§ 314. Institution of inter partes review**

(a) Threshold.—The 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.

(b) **TIMING.**—The Director shall determine whether to institute an inter partes review under this chapter pursuant to a petition filed under section 311 within 3 months after—

(1) receiving a preliminary response to the petition under section 313; or

(2) if no such preliminary response is filed, the last date on which such response may be filed.

(c) **NOTICE.**—The Director shall notify the petitioner and patent owner, in writing, of the Director's determination under subsection (a), and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence.

(d) **NO APPEAL.**—The determination by the Director whether to institute an inter partes review under this section shall be final and nonappealable.

35 U.S.C. § 315 provides:

**§ 315. Relation to other proceedings or actions**

(a) **INFRINGEMENT'S CIVIL ACTION.**—

(1) **INTER PARTES REVIEW BARRED BY CIVIL ACTION.**  
—An inter partes review may not be instituted if, before the date on which the petition for such a review is filed, the petitioner or real party in interest filed a civil action challenging the validity of a claim of the patent.

(2) **STAY OF CIVIL ACTION.**—If the petitioner or real party in interest files a civil action challenging the validity of a claim of the patent on or after the date on which the petitioner files a petition for inter

partes review of the patent, that civil action shall be automatically stayed until either—

(A) the patent owner moves the court to lift the stay;

(B) the patent owner files a civil action or counterclaim alleging that the petitioner or real party in interest has infringed the patent; or

(C) the petitioner or real party in interest moves the court to dismiss the civil action.

(3) TREATMENT OF COUNTERCLAIM.—A counterclaim challenging the validity of a claim of a patent does not constitute a civil action challenging the validity of a claim of a patent for purposes of this subsection.

(b) PATENT OWNER'S ACTION.—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. The time limitation set forth in the preceding sentence shall not apply to a request for joinder under subsection (c).

(c) JOINDER.—If the Director institutes an inter partes review, the Director, in his or her discretion, may join as a party to that inter partes review any person who properly files a petition under section 311 that the Director, after receiving a preliminary response under section 313 or the expiration of the time for filing such a response, determines warrants the institution of an inter partes review under section 314.

(d) MULTIPLE PROCEEDINGS.—Notwithstanding sections 135(a), 251, and 252, and chapter 30, during

the pendency of an inter partes review, if another proceeding or matter involving the patent is before the Office, the Director may determine the manner in which the inter partes review or other proceeding or matter may proceed, including providing for stay, transfer, consolidation, or termination of any such matter or proceeding.

(e) ESTOPPEL.—

(1) PROCEEDINGS BEFORE THE OFFICE.—The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

(2) CIVIL ACTIONS AND OTHER PROCEEDINGS.—The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

35 U.S.C. § 316 provides:

**§ 316. Conduct of inter partes review**

(a) REGULATIONS.—The Director shall prescribe regulations—

(1) providing that the file of any proceeding under this chapter shall be made available to the public, except that any petition or document filed with the intent that it be sealed shall, if accompanied by a motion to seal, be treated as sealed pending the outcome of the ruling on the motion;

(2) setting forth the standards for the showing of sufficient grounds to institute a review under section 314(a);

(3) establishing procedures for the submission of supplemental information after the petition is filed;

(4) establishing and governing inter partes review under this chapter and the relationship of such review to other proceedings under this title;

(5) setting forth standards and procedures for discovery of relevant evidence, including that such discovery shall be limited to—

(A) the deposition of witnesses submitting affidavits or declarations; and

(B) what is otherwise necessary in the interest of justice;

(6) prescribing sanctions for abuse of discovery, abuse of process, or any other improper use of the proceeding, such as to harass or to cause unnecessary delay or an unnecessary increase in the cost of the proceeding;

(7) providing for protective orders governing the exchange and submission of confidential information;

(8) providing for the filing by the patent owner of a response to the petition under section 313 after an inter partes review has been instituted, and requiring that the patent owner file with such response, through affidavits or declarations, any additional factual evidence and expert opinions on which the patent owner relies in support of the response;

(9) setting forth standards and procedures for allowing the patent owner to move to amend the patent under subsection (d) to cancel a challenged claim or propose a reasonable number of substitute claims, and ensuring that any information submitted by the patent owner in support of any amendment entered under subsection (d) is made available to the public as part of the prosecution history of the patent;

(10) providing either party with the right to an oral hearing as part of the proceeding;

(11) requiring that the final determination in an inter partes review be issued not later than 1 year after the date on which the Director notices the institution of a review under this chapter, except that the Director may, for good cause shown, extend the 1-year period by not more than 6 months, and may adjust the time periods in this paragraph in the case of joinder under section 315(c);

(12) setting a time period for requesting joinder under section 315(c); and

(13) providing the petitioner with at least 1 opportunity to file written comments within a time period established by the Director.



(b) CONSIDERATIONS.—In prescribing regulations under this section, the Director shall consider the effect of any such regulation on the economy, the integrity of the patent system, the efficient administration of the Office, and the ability of the Office to timely complete proceedings instituted under this chapter.

(c) PATENT TRIAL AND APPEAL BOARD.—The Patent Trial and Appeal Board shall, in accordance with section 6, conduct each inter partes review instituted under this chapter.

(d) AMENDMENT OF THE PATENT.—

(1) IN GENERAL.—During an inter partes review instituted under this chapter, the patent owner may file 1 motion to amend the patent in 1 or more of the following ways:

(A) Cancel any challenged patent claim.

(B) For each challenged claim, propose a reasonable number of substitute claims.

(2) ADDITIONAL MOTIONS.—Additional motions to amend may be permitted upon the joint request of the petitioner and the patent owner to materially advance the settlement of a proceeding under section 317, or as permitted by regulations prescribed by the Director.

(3) SCOPE OF CLAIMS.—An amendment under this subsection may not enlarge the scope of the claims of the patent or introduce new matter.

(e) EVIDENTIARY STANDARDS.—In an inter partes review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.

35 U.S.C. § 317 provides:

**§ 317. Settlement**

(a) In General.—An inter partes review instituted under this chapter shall be terminated with respect to any petitioner upon the joint request of the petitioner and the patent owner, unless the Office has decided the merits of the proceeding before the request for termination is filed. If the inter partes review is terminated with respect to a petitioner under this section, no estoppel under section 315(e) shall attach to the petitioner, or to the real party in interest or privy of the petitioner, on the basis of that petitioner's institution of that inter partes review. If no petitioner remains in the inter partes review, the Office may terminate the review or proceed to a final written decision under section 318(a).

(b) AGREEMENTS IN WRITING.—Any agreement or understanding between the patent owner and a petitioner, including any collateral agreements referred to in such agreement or understanding, made in connection with, or in contemplation of, the termination of an inter partes review under this section shall be in writing and a true copy of such agreement or understanding shall be filed in the Office before the termination of the inter partes review as between the parties. At the request of a party to the proceeding, the agreement or understanding shall be treated as business confidential information, shall be kept separate from the file of the involved patents, and shall be made available only to Federal Government agencies on written request, or to any person on a showing of good cause.

35 U.S.C. § 318 provides:

**§ 318. Decision of the Board**

(a) FINAL WRITTEN DECISION.—If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d).

(b) CERTIFICATE.—If the Patent Trial and Appeal Board issues a final written decision under subsection (a) and the time for appeal has expired or any appeal has terminated, the Director shall issue and publish a certificate canceling any claim of the patent finally determined to be unpatentable, confirming any claim of the patent determined to be patentable, and incorporating in the patent by operation of the certificate any new or amended claim determined to be patentable.

(c) INTERVENING RIGHTS.—Any proposed amended or new claim determined to be patentable and incorporated into a patent following an inter partes review under this chapter shall have the same effect as that specified in section 252 for reissued patents on the right of any person who made, purchased, or used within the United States, or imported into the United States, anything patented by such proposed amended or new claim, or who made substantial preparation therefor, before the issuance of a certificate under subsection (b).

(d) DATA ON LENGTH OF REVIEW.—The Office shall make available to the public data describing the length of time between the institution of, and the issuance of a final written decision under subsection (a) for, each inter partes review.

35 U.S.C. § 319 provides:

**§ 319. Appeal**

A party dissatisfied with the final written decision of the Patent Trial and Appeal Board under section 318(a) may appeal the decision pursuant to sections 141 through 144. Any party to the inter partes review shall have the right to be a party to the appeal.