UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO. LTD.,
SAMSUNG ELECTRONICS AMERICA, INC.,
GOOGLE LLC, and MICROSOFT CORPORATION
Petitioners,

v.

EYESMATCH LTD.,
Patent Owner.

Case No. IPR2024-00810[1]
U.S. Patent No. 8,982,110

PATENT OWNER EYESMATCH LTD.'S SUR-REPLY RE: PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,982,110

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[1] IPR2025-00296 has been joined with this proceeding.

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I. INTRODUCTION

A reader of Petitioners' Reply might conclude that Petitioners had nothing to do with the claim construction of "mirror tracking mode" in limitation 1(f) which results in the failure of its Petition to establish unpatentability of any claim. Petitioners call it a "magistrate's construction" (Paper No. 32 ("Reply") at 1, 7, 8, 9, 11, 12, 14, 15, 16, 17, 18, 26) but that is wrong. It is ***Petitioners'*** construction, which it: a) vigorously advanced before the district court, and obtained; b) failed to timely disclose to the Board; and c) failed to contend in its Petition that, much less demonstrate how, the asserted Grounds would render the challenged claims obvious under that construction. That is why Petitioners should lose here: the intrinsic record, Petitioners' own arguments, the Board's prior decisions, and fundamental fairness require that Petitioners' construction should be adopted here, and the claims found not unpatentable. *See Cambridge Mobile Telematics, Inc. v. Sfara, Inc.*, No. IPR2024-00952, Paper 12 at 8-9 (P.T.A.B. Dec. 13, 2024) (designated informative) (particularly where Petitioners have emphasized in District Court that a construction would be case dispositive, Petitioners should at a minimum explain why inconsistent positions have been taken before the Board). *See also Hologic, Inc. v. Enzo Life Sciences, Inc.*, No. IPR2018-00019, Paper 17 at 9–10 (P.T.A.B. April 18, 2018) (denying institution "[b]ecause the Petition does not map the challenged claims, as Petitioner considers them to be correctly construed, to the asserted prior art.")

Petitioners attempt to remedy their failure to show unpatentability in their Reply by advancing new arguments and positions that are both improper because they were not raised in the Petition, and wrong on their merits. In their new arguments and old, Petitioners have failed to show that any Grounds, alone or in combination, show that any challenged claim is unpatentable.

II. CLAIM CONSTRUCTION

A. Petitioners' District Court Construction of "mirror tracking mode" should be adopted

Limitation 1(f) of the 110 Patent requires "wherein during ***mirror tracking mode*** the processor utilizes the angle of the images captured by the camera and applies parametric input for a mapping transformation that changes imaging perspective of the images captured by the camera."[2] In district court, Samsung argued for a construction of "mirror tracking mode" that would require "a mode of operation in which the user sees their reversed reflection appearing at approximately double the distance from the camera and the reflection maintains approximately the same size regardless of the user movement." Ex.2009 at 29-30. Samsung relied on its arguments for the 109 Patent term "appears to mimic a reflection of a mirror" to support its construction for limitation 1(f). Ex.2009 at 30; *see id.* at 14-18.

[2] Unless otherwise noted, all emphases have been added.

Petitioners' contention that the Board need not adopt Petitioners' own construction of "mirror tracking mode" seeks to have the Board determine validity of the challenged claims under a broad, plain meaning construction, while infringement is determined at the district court under a ***narrow*** construction that Samsung vigorously advanced and obtained. Petitioners offer no credible reason why its narrow construction should not be adopted here.

Nowhere do Petitioners contend that their district court construction is not the correct construction. Petitioners state that Patent Owner opposed it (Reply at 5 n.5), which is true but of no consequence: EyesMatch recognizes the construction has been adopted in the district court, and so should be adopted here under the governing claim construction standard and the Board's applicable rules and decisions. *See, e.g.*, *Google LLC v. Virentem Ventures, LLC*, No. IPR2019-01247, Paper 34 at 11 (P.T.A.B. Mar. 5, 2021) (rejecting patent owner's proposed construction in part because it would result in "construing the claims in a manner inconsistent with the District Court").

Petitioners never state their narrow construction is not the meaning a POSITA would give the term. How could they? Petitioner Samsung told the district court that EyesMatch's plain meaning construction of this term was too broad, and "far from what the inventors described as 'a convincing [] mirror experience' in the specification." Ex.2009 at 15. The specification requires no less here. *See also*

Ex.2011 at 29:10-20 (EyesMatch argument: "EyesMatch has proposed a plain meaning construction . . . while Samsung's construction. . . requires some very specific requirements in order to mimic a mirror. . . ."). Petitioners both agreed ***then,*** and agree ***now,*** that its district court construction is the correct one; they simply do not want it to be applied here. *See Hologic,* IPR2018-00019, Paper 17 at 6-7 (faulting Petition that "explains how the challenged claims would be unpatentable if they are given [a construction] that Petitioner considers to be erroneous."). That is why Petitioners provide only meritless argument suggesting that the Board "need not" adopt their construction.

First, Petitioners insist that the Board need not construe "mirror tracking mode" because "the grounds *expressly* disclose a 'mirror tracking mode' under any reasonable construction" (Reply at 4, emphasis in original). That is a *non sequitur.* Petitioners' tautological argument – there's no need to construe what "mirror mode" means because the prior art discloses mirror mode – falsely assumes the conclusion that Petitioners did not prove. The Board needs to choose between constructions to know whether the asserted Grounds disclose limitation 1(f) or not. Petitioners demonstrate the problem by pointing to generic statements in the asserted Grounds (Reply at 8: "Haan discloses—and is —a 'mirror device.'") and insisting that they somehow disclose the specific requirements of Petitioners' own construction. They do not. Accordingly, Petitioners' reliance on *Real Time Data, LLC v. Iancu*, 912

F.3d 1368, 1375 (Fed. Cir. 2019), which found the Board did not need to construe a term because the prior art expressly disclosed every element of a dependent claim which set out the required elements of the term, is entirely misplaced.

Second, Petitioners contend they are free to offer inconsistent claim construction arguments, due to "different circumstances, a different record, and for a proceeding ultimately decided by a jury of laypersons" Reply at 3. But there is no different record. The patent is the same, the claims are the same, and so are the specification disclosures relied upon by Petitioners to obtain a narrow construction. *See* Ex.2009 at 14-18. And the legal standard is the same here and in the district court: claim terms are to be given "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *See Phillips* v. *AWH Corp.,* 415 F.3d 1303, 1312-14 (Fed. Cir. 2005) (en banc). The construction that Petitioners argued for under that standard in district court should be applied here.

None of the Board decisions relied on by Petitioners state otherwise. In *Samsung Elecs. Co., Ltd. v. Cellect, LLC*, No. IPR2020-00476, Paper 14, 12-13 (P.T.A.B. July 31, 2020), the Board found that Petitioners did not violate 37 C.F.R. § 42.104(b)(3) by proposing narrow claim constructions in district court that it did not propose in its petition. To the extent this decision remains in force, it has no relevance here, where the question is whether the Board, in assessing the grounds in

an instituted Petition, should adopt the claim construction that Petitioners have argued is the proper construction of the term.

Third, Petitioners contend that their positions in district court are not "inconsistent" with their position in this proceeding that no construction is required, and the term should be given its plain meaning. Reply at 6. Of course they are inconsistent. The construction Petitioner Samsung fought for in district court is not a "plain meaning" construction of "mirror tracking mode" The plain meaning, as EyesMatch explained in district court, would be just what it says: that the displayed image looks like one that would have reflected from a mirror. Ex.2011 at 29:10-20. In contrast, Petitioner's construction in the district court imports from the specification two very specific requirements: the image must appear to be roughly double the distance to the user, and stay roughly the same size, regardless of the user's movement. As EyesMatch has explained, those specific requirements are nowhere disclosed in the asserted Grounds.

Fourth, Petitioners falsely contend that "EyesMatch does not articulate what it considers to be the proper construction for the mirror mode limitation." Reply at 5. In fact, EyesMatch explained in detail the bases for adopting the "mirror mode" construction adopted by the district court, including relying on Petitioner's own briefing and arguments before the district court identifying the specification passages that support this construction. Paper No. 27 ("POR") at 9-14.

Fifth, Petitioners contend that "the Board is not bound by a district court's construction, much less a non-final one." Reply at 5. That is true, but here, Petitioners have provided no credible basis to adopt any construction other than the one Petitioners obtained in district court, and still believe to be correct. For its part, EyesMatch has explained the bases for the construction, as advanced by Petitioners in district court and adopted by the magistrate judge, and has stated it should be applied here.

Finally, Petitioners observe that judicial estoppel does not apply here, so there is nothing unfair about it advancing inconsistent claim constructions in two forums. Reply at 6-7. Judicial estoppel is not why Petitioners' district court construction should be adopted. Here, Petitioners urge the Board not to adopt any construction – a position that ***Petitioners themselves do not agree with*** **–** to assess validity, while infringement is tested under Petitioners' narrow construction. To paraphrase the Federal Circuit, this case falls squarely within the principle that a patent may not, like a nose of wax, be twisted one way to find invalidity and another to avoid infringement. *See CommScope Technologies LLC v. Dali Wireless Inc.*, 10 F.4th 1289, 1299 (Fed. Cir. 2021) ("a 'patent may not, like a nose of wax, be twisted one way to avoid anticipation and another to find infringement.'"). The Board's rules and decisions reflect this concern, for example in the Board's informative decision in *Cambridge Mobile Telematics, Inc. v. Sfara, Inc.*, No. IPR2024-00952, Paper 12

(P.T.A.B. Dec, 13, 2024), in which institution was denied where the Petition presented an analysis based on the plain and ordinary meaning of a key term, while Petitioner took the position in district court that the same limitation should be construed as a means-plus-function term. There, Petitioners' failure to provide a non-plain meaning for these "most significant" and "case…dispositive" terms, or at least to provide an alternate construction, meant that the Petition was deficient. The same considerations apply here. There is no meaningful dispute that Petitioner Samsung will stake its non-infringement positions in district court on its narrow construction of "mirror mode"; the construction Samsung advocated for should be applied here to assess validity.

B. "adaptive transformation mapping" / "transformation mapping"

Once again, Petitioners urge the Board not to adopt the claim construction Petitioner Samsung advanced in the district court. Reply at 7. It should be adopted, for the same reasons that "mirror tracking mode" should.

III. PETITIONERS HAVE FAILED TO SHOW THAT ANY GROUNDS RENDER THE CHALLENGED CLAIMS UNPATENTABLE

A. Ground 1: Petitioners' Wholly New Arguments Fail to Show Unpatentability In View of Haan and Francois

1. Neither Haan Nor Francois, Alone or in Combination, Disclose Limitation 1(f)

Petitioners' Reply, for the first time, attempts to show that the asserted Grounds render obvious limitation 1(f) under Petitioners' narrow district court

construction, including relying on a wholly new expert declaration and new purported background art. Petitioners failed to provide any such contention or evidence in the Petition, which should end the discussion. EyesMatch sought and received authorization from the Board to file a motion to strike these new arguments and evidence, and will do so according to the schedule ordered by the Board. Paper No. 36. But Petitioner's new arguments still fail to demonstrate unpatentability of the claims. Neither Haan nor Francois, alone or in combination, disclose limitation 1(f) under Petitioners' construction.

First, neither Haan nor Francois, alone or in combination, explicitly discloses that the images they generate appear to be double the distance to the user, and the same size regardless of movement. Petitioners could not possibly contend otherwise; there is no such disclosure. Instead, Petitioners now contend that a POSITA would understand the references in Haan to a "mirror device" to disclose these specific requirements.[3] Reply at 7-9. There is no support for this, other than the new *ipse dixit* of Petitioners' expert. A POSITA would not understand Haan's disclosure of a digital "mirror device" to disclose the specific requirements of Petitioners' district court construction. Ex.2013, ¶¶75-78. While Haan teaches magnification of the

[3] The reply points to nothing at all in Francois to support this contention.

user's image, as Dr. Forsyth has explained, that magnification behavior expressly differs from the requirement that the user's image appears to be roughly the same size regardless of the user movement. Ex.2013, ¶¶75-78. For example, Haan states: "For smaller distances, as the viewer moves his head or torso closer to the display screen, an ***enlarged image*** is displayed, i.e., with a magnification larger than 1." Ex.1005, ¶[0076]. *See* POR at 20-22; Ex.2013, ¶¶74-79 That is markedly different than the mirror properties Petitioners' construction requires.

Petitioners rely on a POSITA's background knowledge to contend that, because the reflective mirror properties of a viewer's image appearing at approximately double the viewer's distance to the mirror and approximately the same size regardless of movement was known in the art, then a POSITA would have understood that Haan/Francois were disclosing these properties by discussing a "digital mirror," Reply at 10, or that a POSITA would have found it obvious to modify the references to provide it. *Id.* at 11-13. There is no proof of either proposition. First, as discussed above, a POSITA would not understand Haan/Francois, alone or in combination, to disclose generating an image appearing at roughly double the distance, and maintaining the same size. It never does so; Haan's generated images teach away from doing so, and it is undisputed that Francois discloses only simple inversion of the user's image. Ex.1009, Fig. 13.

To the extent that Petitioners now contend that a POSITA would know they ***could*** implement in Haan/Francois a system that produced images with these specific qualities, based on the background knowledge of a POSITA, that is both improper new argument and wrong in any event. First, as demonstrated in the POR, Petitioners and their expert never contended in the Petition that the background knowledge of a POSITA would supply the knowledge necessary to modify the image transformations of Haan/Francois to meet the requirements of limitation 1(f). POR at 23. Instead, Petitioners argued, without more, that "Haan-Francois renders obvious" the limitation. Paper No. 1 ("Pet.") at 44. This new argument is improper and should be disregarded. 37 C.F.R. § 42.22(a)(2); 37 C.F.R. § 42.23(b). Petitioners' reliance on *Axonics, Inc. v. Medtronic, Inc.*, 75 F.4th 1374, 1381 (Fed. Cir. 2023) to make this argument is misplaced. *Axonics* specifically limits its holding, and does not authorize a petitioner to rely on new prior art, such as art supplying the missing purported "background knowledge" of a POSITA, to teach a claim limitation: "We have held that a petitioner may not in reply rely on new prior art to teach a claim limitation." *Id.* at 1383.

Petitioners are wrong in any event. As Dr. Forsyth explained in deposition, it would not have been obvious to a POSITA that the known mirror properties were *important enough* to a digital mirror experience to implement.

Q: Is it your opinion that providing double the distance in same

> size properties of a conventional mirror more difficult and more complex than flipping the image?
>
> A: Yes.
>
> Q: In your view, a POSITA would not know how to implement these known conventional mirror properties with known transformation techniques?
>
> A: I think my view is stated that a POSITA would not have realized it was important. And the support for that view in the fact that Rosenberg doesn't do it, nor do a number of other people.
>
> Q: So in your opinion, a POSITA would not have realized those features are important?
>
> A: In my opinion, a POSITA -- a POSITA would not have realized those features were important. And a number of documents I've looked at here describe mirror emulation without having those features, suggesting that authors at the time did not realize that it was important either.

Ex.1034 at 144:15-145:12.

Nor would achieving the properties of roughly double the distance and roughly the same size be "a simple transformation equation" for a POSITA, as Petitioners assert. Reply at 10. Implementing these properties would be difficult and more complex than Francois' simple image inversion, or Haan's exaggerated magnifications, such that silence with regard to implementation of these properties,

in combination with teaching away from standard optical properties of a mirror, as Haan does, would not suggest to a POSITA to implement these properties. Ex.2013, ¶84-86. Similarly, Francois only discloses simple inversion of the user's image. Ex.2013, ¶¶ 74-82.

Finally, Petitioners' argument that Haan and Francois cannot be distinguished based on the "occlusion effect" (Reply at 14) misses the point of Dr. Forsyth's testimony, and misleadingly ellipses what Dr. Forsyth actually stated. The POR described Haan's gross error in describing camera properties, as described by Dr. Forsyth, and Petitioners do not dispute the error. Ex.2013, ¶79. In light of this error, in combination with Haan's teaching away from having a user's image appear at roughly the same size regardless of the user's distance to the camera, a POSITA would not be motivated to combine Haan with Francois to meet limitation 1(f). Ex.2013, ¶¶ 76-82.

2. Petitioners Fail to Show Motivation to Combine Haan and Francois for Limitation 1(f)

Petitioners assert that Haan does not teach away from a user's image appearing at roughly the same size because the "exaggeration" of a user's movement is an "optional" feature of a "dual mode" of operation. Reply at 15. Petitioners misrepresent Haan's disclosure. In the disclosed dual mode, the "reflective" mode is ***not manipulating or displaying any image at all,*** as required by limitation 1(f). It is literally serving as a physical mirror, employing only the physically reflective

properties of the device. Ex.1005, [0076] ("This can be done for instance by using the device as a simple mirror, i.e. ***not displaying an image on the display device, but using the device in the reflective mode***."); [0092] ("a simple reflective mode, to act as a mirror"); [0029] ("for a first range of positions, ***no image is displayed***, whereby the reflective layer acts as a mirror, and for a second range of positions, the recorded image is displayed."). In Haan's modes of operation that actually manipulate and display captured images, there is no disclosure of generating images that appear at double the distance and maintain the same size regardless of movement. Haan teaches different forms of magnification, as EyesMatch has explained, which teach away from Petitioners' construction. *See* POR at 20-22; Ex.2013, ¶¶74-79.

B. Ground 2: Petitioners Fail to Show Unpatentability of Claims 1-6 and 10-12 in View of Rosenberg and Park

1. Neither Rosenberg Nor Park, Alone or In Combination, Disclose Limitation 1(f)

Petitioners' Reply again improperly relies on new arguments and evidence to contend that Rosenberg/Park render obvious limitation 1(f) under Petitioners' district court construction. But Petitioner's new arguments still fail.

Petitioners point to nothing at all in Park from which a POSITA would purportedly find the requirements of their narrow construction. Instead, Petitioners rely on a single paragraph of Rosenberg to argue that a POSITA would understand it to disclose these requirements. Reply at 17-18 (*Rosenberg* ¶[0077]). Petitioners

have failed to show that this paragraph, or anything else in Rosenberg, would be understood by a POSITA to disclose the double distance, same size requirements of Petitioners' preferred construction. As EyesMatch has explained, Rosenberg describes something simpler and cruder, but which it regards as sufficient to mimic a mirror. POR at 32-37; Ex.2013, ¶¶103-106.

Rosenberg ¶[0077] states that "Thus the user 501 standing before the digital display is given the visual impression that he or she is standing before a traditional wall mirror, ***viewing a traditional mirror image of himself or herself***." Ex.1006 ¶[0077]. On its face, that indisputably fails to disclose the double distance, same size requirements of limitation 1(f). Petitioners' new argument that a POSITA nonetheless "would have understood Rosenberg to display user images at a doubled distance and same size" (Reply at 17) similarly fails. Petitioners entirely ignore the preceding sentence, in which Rosenberg again restates that its implementation of a traditional mirror is simple left-right inversion: "In a ***traditional mirror emulation mode***, the real-time video image is ***left-right inverted prior to display upon the screen."*** Ex.1006 ¶[0077]; ¶[0027] ("In a basic mode of operation, referred to herein a ***traditional mirror emulation mode***. . . . ***This is achieved by streaming a left-right inverted representation***. . . .").

While this paragraph also states that the image has a "displayed size and scaling such that it appears like a traditional life-size mirror image," *id.* ¶[0077], this

again fails to disclose to a POSITA the specific scaling and sizing required for "mirror tracking mode." The fact that ***some*** non-specific scaling has been performed would not teach a POSITA that Rosenberg has implemented a scaling approach that ensures both that the image appears at double the distance, and at the same size, as Dr. Forsyth has explained. Ex.2013, ¶106. Particularly in view of Rosenberg's teaching that it is undesirable to have the user's image appear at approximately double the distance to the camera – *see* Ex.1006 ¶[0039] (describing feature to "freeze" an image "for a user who wishes to change his or her distance and/or location with respect to the mirror to get a better view of his or her image, ***but NOT have the image change as the user moves***.") – a POSITA would not have understood Rosenberg to address the difficult and more complex technical issue of having the inverted image appear at roughly double the distance of the user to the camera and at the same size. Instead, a POSITA would regard Rosenberg's invention as affirmatively not including these detailed optical properties of a conventional mirror. Ex.2013, ¶¶99, 103-106, 111-112.

To the extent that Petitioners now contend that the "background art" shows that a POSITA would know they ***could*** implement in Rosenberg, Park, or their combination, a system that produced images with these specific qualities, that is both improper new argument, and wrong in any event, for the reasons discussed above in connection with Haan/Francois. As Dr. Forsyth explained in deposition, even though

these mirror properties were known, it would not have been obvious to a POSITA that these properties (beyond simple image reversal) were *important enough* to a digital mirror experience to implement. Ex.1034 at 144:15-145:12.

As discussed above, Petitioners' arguments concerning the "occlusion effect" are meritless. *See supra* § III.A.1.

Petitioners next contend that EyesMatch has misrepresented Rosenberg's teachings (Reply at 18-19), but that is not so. Instead, ***Petitioners*** impermissibly read additional disclosures into Rosenberg that are not only not disclosed but are also contradictory to Rosenberg's disclosure. As discussed above, Rosenberg explicitly discloses multiple times that it regards emulating a traditional mirror as simple left-right inversion – nothing more. *See* Ex.1006 ¶¶[0027], [0077].

Petitioners insist that Rosenberg's express statements disfavoring implementation of images appearing at roughly double the distance and roughly the same size regardless of distance in "mirror image-freeze" mode does not detract from "traditional mirror emulation mode." Reply at 19. Not so. As Dr. Forsyth has explained, Rosenberg's disfavoring these properties would be regarded by a POSITA as teaching away from implementing them and would especially be regarded as doing so given that its "traditional mirror emulation mode" only discloses image inversion. *See e.g.*, Ex.2013, ¶¶111-112.

2. Petitioners Fail to Show Motivation to Combine Rosenberg and Park as to Limitation 1(f)

Petitioners incorrectly assert that EyesMatch "offers no argument regarding why a POSITA would deviate from Rosenberg's express disclosure of replicating a conventional mirror." Reply at 19. As Dr. Forsyth has explained, the disclosure of a digital mirror device does not mean that the disclosure includes all the optical properties of a conventional mirror. And even though the optical properties of a mirror were well known, it would not have been obvious to a POSITA that these properties (beyond simple image reversal) were *important enough* to a digital mirror experience to implement. *See, e.g.*, Ex.1034 at 144:15-145:12. As EyesMatch has explained, Petitioners' theory that motivation would arise from the desire to correct distortion in Rosenberg's image captured by an above-screen camera (Reply at 17) lacks merit for several reasons. First, Rosenberg discloses that this projection distortion may be preferred. "This raised vantage point is sometimes advantageous, giving users an increased view of the top of their head, an area that is often the focus of hair brushing." Ex.1006, ¶[0027]. As Rosenberg teaches, where such a vantage point is not desired, any distortion issues are solved by placing the camera behind the mirror – thus teaching away from image manipulation. Ex.1006, ¶¶[0028]-[0029], Ex.2013, ¶¶ 111-112, 122-127. Next regardless of what a POSITA understood about the optical properties of conventional mirrors, Rosenberg is explicit that it regards emulating a "traditional mirror" as simple inversion. And because nothing in Park

relates to implementation of additional optical properties of a conventional mirror, *i.e.,* roughly double the distance and roughly the same size, there would be no motivation to combine these references to achieve "mirror tracking mode" under Petitioners' district court construction.

3. Rosenberg Does Not Disclose Limitations 1(c) and 1(e)

Petitioners argue that Rosenberg's disclosure of resizing or zooming meets limitations 1(c) and 1(e) because resizing and zooming are transformations. Reply at 20. But this argument ignores the further requirement of limitation 1(c) that the transformation modify the image such that it "appear to be captured from a different point of view of the camera's actual point of view". And Petitioners' argument ignores the further requirement of limitation 1(e) that "the different point of view corresponds to an image taken from a different angle and a different distance than the actual images captured by the camera". Resizing and zooming alone do neither. Ex.2013, ¶¶116-119. And contrary to Dr. Karam's newly offered opinions during her deposition that a POSITA would understand Rosenberg to disclose other transformations such a tilt (Reply at 20), Rosenberg's only disclosure of tilt is with respect to the user physically tilting and angling their body. Ex.1006, ¶¶[0043], [0088]. This is not a transformation of the user's image but a repositioning of the user and does not meet limitations 1(c) and 1(e).

4. Petitioners Fail to Show Motivation to Combine Rosenberg and Park as to Limitations 1(c) and 1(e)

Petitioners' arguments regarding why a POSITA would be motivated to combine Rosenberg and Park ignore the crux of limitations 1(c) and 1(e) which is a transformation to change the apparent point of view and apparent angle and distance, respectively. While Rosenberg does disclose computer processing solutions for some aspects of the disclosed system, it only discloses ***physical*** solutions to change the angle or perspective. for i.e., physically moving the camera or having the user physically move around, *See, e.g.*, Ex.1006, ¶¶[0042]-[0043], [0046], [0061]. Rosenberg's ***solution is physical arrangement*** to achieve these specific transformations and as such, a POSITA would not be motivated to look to digital solutions. Ex.2013, ¶¶122-128.

Petitioners assert that "Rosenberg recognizes the drawbacks of a physical solution." Reply at 21. But the alternatives Rosenberg provides in response to those putative drawbacks are all ***physical*** despite implementing computer processing in other aspects of the invention. With respect to the "basic embodiment" where "the camera is mounted directly above the screen area of the display", Rosenberg points out that such a "raised vantage point is sometimes advantageous" – not a drawback. Ex.1006, ¶[0027]. Rosenberg then presents the preferred embodiment which places the camera within or behind the display screen – a physical solution – to yield a direct vantage point. *See, e.g.*, Ex.1006, ¶¶[0028]-[0029], [0075]. To see other

angles in both the basic and preferred embodiments, Rosenberg discloses image buffering or image freeze options which requires the user to move while the images are captured. Ex.1006, ¶¶[0042]-[0043], [0046], [0061]. Rosenberg makes no suggestion that computer-processing based adjustment of the camera angle or apparent perspective is needed or even desirable and as such, a POSITA would not be motivated to combine Rosenberg with Park. Ex.2013, ¶¶120-128.

C. Ground 3: Petitioners Fail to Show Unpatentability In View of Geisner and Lizee

1. Neither Geisner Nor Lizee, Alone or in Combination, Disclose Limitation 1(f)

Petitioners again improperly rely on new argument and evidence to attempt to show that Geisner/Lizee render obvious limitation 1(f) under Petitioners' narrow district court construction. But Petitioner's new arguments still fail. Petitioners wrongly assert, again relying on misleading ellipses, that Dr. Forsyth "falsely relied on the presumption that claim 1 excludes avatars with no basis" to dismiss Geisner. Reply at 22. In his deposition, Dr. Forsyth explained an avatar would not meet limitation 1(f) because an avatar is not a captured image as the claims require. Ex.1034 at 131:14-132:13 ("I think they are excluded, because in **1(c) you must apply the transmission mapping to the stream of images captured by the camera.")** And Petitioners' arguments that Geisner renders an on-screen representation of a user, and a 3D model of a user confirms that Petitioners are

relying on disclosures of computer-generated renderings of a representation or model rather than captured images. Reply at 22-23.

Petitioners next assert that the "silhouette" of Lizee "is nothing more than a user reflection with reduced details". Reply at 23. Dr. Forsyth agrees (Ex.1034 at 135:13-20) and that is precisely why Lizee does not meet limitation 1(f) under the claim construction that Petitioner Samsung advocated for. Ex.2008 at 41; Ex.2009 at 27-28. A silhouette is not the reversed reflection of a user as contemplated by Claim 1 of the 110 Patent. Moreover, as Dr. Forsyth explained, Lizee teaches away from using an actual image of a user at all (Ex.1008, ¶[0073]); Lizee's embodiments would not meet limitation 1(f) which requires modifying captured images of the user. And, Lizee discloses placement of the virtual camera ***behind*** the user. Even though the physical, real-world camera capturing the user is in front of the user, the user sees their representation via the virtual camera, from behind. Ex.1008, ¶¶[0009], [0039], [0071], [0072], [0083], Fig. 5, Fig. 6. The fact that the reversed image appears in substantially the same orientation does not change the fact that the user is only capable of viewing himself or herself from behind, which is unlike a conventional mirror. In total, Lizee's disclosures do not comport with the construction of "mirror tracking mode" from the District Court Litigation for limitation 1(f). Ex.2013, ¶¶135-144.

Petitioners assert, for the first time in their Reply, that "Lizee discloses maintaining the user image at the same size" (Reply at 24) because Lizee discloses that "the virtual camera 28 maintains a constant framing 34" as the user moves. But constant framing is not the same as having the user's image appear roughly the same size regardless of user movement. In fact, both Geisner and Lizee are silent as to implementation of the optical property of a physical mirror "in which the user sees their reversed reflection appearing at roughly double the distance from the camera" (Ex.2008 at 41) and a POSITA would not have understood them to disclose implementation of this property. Ex.2013, ¶145.

2. Petitioners Fail to Show Motivation to Combine Geisner and Lizee for Limitation 1(f)

Petitioners fail to address to address why a POSITA would be motivated to combine two references directed to creating a virtual representation of a user and placing that representation in a virtual environment (*see, e.g.*, Ex.1007, ¶¶[0024], [0030]-[0033], [0037], [0045]; Ex.1008, Abstract, ¶¶[0012], [0014], [0039], [0060]) to attempt to replicate an image that a user would see in a conventional mirror. A POSITA would especially not be motivated to combine such references to meet limitation 1(f) because a POSITA would know that the skills and techniques used to create the virtual avatars in Geisner and Lizee would be substantially different from those needed to render a user's image as it would be reflected in a conventional mirror as in the 110 Patent. Ex.2013, ¶150. Petitioners point to the disclosure of

avatar generation in the 110 Patent, but that is irrelevant: there, "the avatar faithfully represents the user captured in the images" (Ex.1001, 21:43-46) in a separately defined mirror tracking mode which is entirely distinct (and missing) from the Geisner/Lizee virtual worlds.

D. Grounds 4 and 5

Petitioners have failed to show unpatentability of Claim 1 under any Ground. And none of Grounds 4-5 (which rely on Grounds 1-3 for Claim 1) can establish the unpatentability of any dependent claim.

IV. PETITIONERS' ATTACKS ON DR. FORSYTH'S OPINIONS SHOULD BE DISREGARDED

None of Petitioners' fly-by attacks on Dr. Forsyth have merit. First, there is no issue with Dr. Forsyth's application of Petitioners' own claim construction to his analysis. Dr. Forsyth applied the District Court's constructions for the relevant terms of the 110 Patent. Ex.1034 at 74:7-75:6, 78:22-80:1, 85:6-18, 86:22-88:4, 88:16-90:3; Ex.2013, ¶¶25-27, 74-75, 77, 80, 99, 107, 129-130, 133-135, 138, 140, 144, 146, 152, 155. And the fact that Dr. Forsyth applied the District Court's constructions for these terms does not negate his application of the agreed-upon POSITA skill level with respect to his opinions regarding the entirety of the references and Petitioners' proposed combinations. Ex.2013, ¶¶17-27, 34-54; Ex.1034 at 68:1-69:16.

V. CONCLUSION

All of Petitioners' Grounds fail to establish unpatentability of the challenged claims of the 110 Patent.

Dated: July 10, 2025

Respectfully submitted.

/John C. Pierce/

John C. Pierce
Tensegrity Law Group LLP
USPTO Reg. No. 79,938
1676 International Drive
Suite 910
McLean, VA 22102
Telephone: 865-388-5914
Facsimile: 650-802-6001
Email: john.pierce@tensegritylawgroup.com

Matthew D. Powers, *admitted pro hac vice*
William P. Nelson, *admitted pro hac vice*
Natasha M. Saputo, *admitted pro hac vice*
Tensegrity Law Group LLP
555 Twin Dolphin Drive, Suite 650
Redwood Shores, CA 94065
Telephone: 650-802-6000
Facsimile: 650-802-6001
Email:
matthew.powers@tensegritylawgroup.com
william.nelson@tensegritylawgroup.com
natasha.saputo@tensegritylawgroup.com
eyesmatch_team@tensegritylawgroup.com

CERTIFICATION OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(c)(4) and (d), the undersigned hereby certifies that the Patent Owner's Sur-Reply complies with the type-volume limitation 37 C.F.R. § 42.24(c)(4) permitting a sur-reply of up to 5,600 words because, exclusive of the exempted portions, the sur-reply contains 5,597 words, as identified by Microsoft Word's word-counting feature.

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Respectfully submitted.

/John C. Pierce/

John C. Pierce
USPTO Reg. No. 79,938
Tensegrity Law Group LLP
1676 International Drive
Suite 910
McLean, VA 22102
Telephone: 865-388-5914
Facsimile: 650-802-6001
Email: john.pierce@tensegritylawgroup.com
eyesmatch_team@tensegritylawgroup.com

Attorneys for Patent Owner
EyesMatch Ltd.

CERTIFICATION OF SERVICE (37 C.F.R. §§ 42.6(e), 42.105(a))

The undersigned hereby certifies that on July 10, 2025, copies of the foregoing were served via Electronic Mail to the following:

Eliot D. Williams (Reg. No. 50,822) **Baker Botts L.L.P.** 700 K Street, N.W. Washington, DC 20001 (202) 639-1334 DLBBSamsungEyesmatch @BakerBotts.com Neil Sirota, (Reg. No. 38, 306) Margaret M. Welsh (Reg. No. 70,745) Chun Xu (Reg. No. 800,021) Pallavi Mathur (Reg. No. 80,102) **Baker Botts L.L.P.** 30 Rockefeller Plaza New York, NY 10112 (212) 408-2500 DLBBSamsungEyesmatch @BakerBotts.com Jose Villarreal (Reg. No. 43,969) **Baker Botts L.L.P.** 401 South 1st Street Austin, TX 78704 (512) 322-2500 DLBBSamsungEyesmatch @BakerBotts.com Erika H. Arner (Reg. No. 57,540) **Finnegan, Henderson, Farabow, Garrett & Dunner, LLP** 1875 Explorer Street, Suite 800 Reston, VA 20190-5676 Tel: (571) 203-2754 Fax: (202) 408-4400	Alexander B. Stein (Reg. No. 71,397) **MORGAN, LEWIS & BOCKIUS LLP** 1301 Second Ave., Suite 3000 Seattle, WA 98101 Tel: (206) 274-6400 Fax: (206) 274-6401 alexander.stein@morganlewis.com Timmy Chi-Hin Lee (Reg. No. 79,856) **MORGAN, LEWIS & BOCKIUS LLP** 1400 Page Mill Road Palo Alto, CA 94304 Tel: (650) 843-4000 Fax: (650) 843-4001 timmy.lee@morganlewis.com ***Counsel for Microsoft Corporation***

erika.arner@finnegan.com Sydney R. Kestle (Reg. No. 78,725) **Finnegan, Henderson, Farabow, Garrett & Dunner, LLP** 901 New York Avenue, NW Washington, DC 20001-4413 (202) 408-4000 sydney.kestle@finnegan.com Xirui Zhang (Reg. No. 78,809) **Finnegan, Henderson, Farabow, Garrett & Dunner, LLP** Two Seaport Lane Boston, MA 02210-2001 (617) 646-1600 xirui.zhang@finnegan.com Kara A. Specht (Reg. No. 69,560) **Finnegan, Henderson, Farabow, Garrett & Dunner, LLP** 271 17th Street, NW, Suite 1400 Atlanta, GA 30363-6209 Tel: (404) 653-6400 Fax: (404) 653-6444 kara.specht@finnegan.com ***Counsel for Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., and Google LLC***	

/John C. Pierce/
John C. Pierce
USPTO Reg. No. 79,938
Tensegrity Law Group LLP
1676 International Drive
Suite 910
McLean, VA 22102
Telephone: 865-388-5914
Facsimile: 650-802-6001
Email: john.pierce@tensegritylawgroup.com