UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

JUMIO CORP.,
Petitioner

v.

FACETEC, INC.,
Patent Owner

Case IPR2025-00106
U.S. Patent No. 10,776,471

PATENT OWNER'S SUR-REPLY

[redacted]

[redacted]

TABLE OF CONTENTS

I. FaceTec's Overwhelming Objective Evidence of Nonobviousness Confirms the Patentability of the Claims 1

A. Nexus Should Be Presumed 2

1. FaceTec's Software Is Coextensive with the Claims in All Material Respects 2

2. The Features Petitioner Claims Are "Critical" Are Secondary 5

B. Direct Nexus Exists Even Without the Presumption 11

1. Industry Praise 11

2. Copying 13

3. Long-Felt Need, Failures of Others, and Licensing 14

4. Industry Skepticism 14

5. Commercial Success 15

II. Derakhshani 16

A. The Claims Require Using the User's Face 16

B. Derakhshani Does Not Capture Face Images 17

C. Jumio Newly Argues About Multiple-Landmark Images 18

D. An Image of an Eye Is Not an Image of a Head/Face 19

E. Jumio Redefines Derakhshani's Images 19

F. Jumio Rewrites Multiple Dependent Claims 20

1. Derakhshani Does Not Verify Anything About Ears 20

2. Jumio Confuses Landmarks and Features 20

3. Landmarks Are Not Biometric Data 22

[redacted]

4. Image Landmarks Are Not Mappings 22

III. Zhang 22

A. Zhang's "Image Difference" Doesn't Relate to Movement.....22

B. Jumio Misunderstands "Locations" 23

C. Zhang Doesn't Verify Anything About Ears 24

D. Zhang's "Feature Points" Aren't Biometric Data 24

IV. Tanii 24

A. Tanii Does Not Detect Faces.....24

B. Jumio's Motivations 25

1. Derakhshani 25

2. Zhang.....26

C. Tanii Is Not Analogous 26

V. Hoyos 27

VI. POSITA 27

A. FaceTec's Level of Skill Is Right.....27

B. Dr. Daft Is Unqualified Under Both Definitions.....28

VII. Without Expert Testimony, Jumio's Case Fails 28

VIII. The Petition Is Time-Barred Under 35 U.S.C. § 315(b) 28

IX. Conclusion 34

[redacted]

TABLE OF AUTHORITIES

Page(s)

Cases

Aspex Eyewear, Inc. v. Concepts In Optics, Inc.,
111 F. App'x 582 (Fed. Cir. 2004) 28

In re Clay,
966 F.2d 656 (Fed. Cir. 1992) 26

Daiichi Sankyo Co. v. Apotex, Inc.,
501 F.3d 1254 (Fed. Cir. 2007) 27

Ecolochem, Inc. v. S. Cal. Edison Co.,
227 F.3d 1361 (Fed. Cir. 2000) 5

Fox Factory, Inc. v. SRAM, LLC,
944 F.3d 1366 (Fed. Cir. 2019) 2, 3, 9, 10

Nearmap US, Inc. v. Eagle View Techs., Inc.,
IPR2022-00734, Paper 41 (P.T.A.B. Dec. 4, 2023) 5

NexStep, Inc. v. Comcast Cable Commc'ns, LLC,
119 F.4th 1355 (Fed. Cir. 2024) 29, 31

Polaris Indus., Inc. v. Arctic Cat, Inc.,
882 F.3d 1056 (Fed. Cir. 2018) 3

PPC Broadband, Inc. v. Corning Optical Commc'ns RF, LLC,
815 F.3d 734 (Fed. Cir. 2016) 5

Quanergy Sys., Inc. v. Velodyne Lidar USA, Inc.,
24 F.4th 1406 (Fed. Cir. 2022) 6

Sport Dimension, Inc. v. Coleman Co.,
820 F.3d 1316 (Fed. Cir. 2016) 10

Teva Pharms. Int'l GmbH v. Eli Lilly & Co.,
8 F.4th 1349 (Fed. Cir. 2021) 3, 4

Volvo Penta of the Ams., LLC v. Brunswick Corp.,
81 F.4th 1202 (Fed. Cir. 2023) 11

[redacted]

WBIP, LLC v. Kohler Co.,
829 F.3d 1317 (Fed. Cir. 2016) 5

Worlds Inc. v. Bungie, Inc.,
903 F.3d 1237 (Fed. Cir. 2018) 28

Statutes

35 U.S.C. § 315(b) 28

[redacted]

I. FaceTec's Overwhelming Objective Evidence of Nonobviousness Confirms the Patentability of the Claims

Petitioner does not meaningfully dispute FaceTec's evidentiary showing, only whether it has a nexus to the claims. It does have a nexus, both presumed and direct.

First, it is undisputed that FaceTec's software embodies the claims; Petitioner only contends that FaceTec's software is not coextensive with the claims due to other features Petitioner asserts are "critical." But as Mr. Rose testified repeatedly on cross examination, the core foundational feature of FaceTec's software is performing 3D liveness checks using 3D perspective distortion from images captured at two different distances. *E.g.*, EX1082, 78:12-16. The other features Petitioner asserts are "critical" are secondary. They *support* performing 3D liveness checks and provide only "incremental improvement" on top of the core foundational feature. *E.g.*, *id.*, 117:8-17. As such, FaceTec's software is essentially the claimed invention, and nexus should be presumed.

Second, even without the presumption, this case presents a textbook example of direct nexus. For instance, Petitioner—who now brazenly contends that FaceTec's claimed invention would have been obvious—previously praised it as a "***genius solution***" and [redacted] to license it. EX2057, 11:10. And FaceTec's entire success [redacted] came from 3D liveness checks, which was the

[redacted]

only feature customers paid for during that time. As explained below, direct nexus exists.

A. Nexus Should Be Presumed

1. FaceTec's Software Is Coextensive with the Claims in All Material Respects

"[T]he degree of correspondence between a product and a patent claim falls along a spectrum." *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1374 (Fed. Cir. 2019). "At one end of the spectrum lies perfect or near perfect correspondence," and "[a]t the other end lies no or very little correspondence, such as where the patented invention is only a component of a commercially successful machine or process." *Id.* (internal citations and quotations omitted). Coextensiveness does not require perfect correspondence, only that the product is essentially the claimed invention. *Id.* While "critical" unclaimed features that materially impact the product's functionality and are claimed in different patents counsel against coextensiveness, "if the unclaimed features amount to nothing more than additional insignificant features, presuming nexus may nevertheless be appropriate." *Id.*, 1374-75.

Here, FaceTec's software "is essentially the claimed invention" and thus meets the standard set forth in *Fox Factory*. Independent claim 1, for example, is directed to verifying three-dimensionality of a user's face using images of the user's face and includes capturing the images at two different distances, comparing

[redacted]

data obtained from the images for expected differences, such as perspective distortion, and determining whether the user's face is three-dimensional based on this comparison. EX1001, claim 1; *see also id.*, claim 10.

As Mr. Rose explained, this claimed method is "the corest of core things that our product does and what our customers pay for." EX1082, 49:2-6; *see also id.*, 20:1-5 ("3D Liveness Detection … is our core foundational part of the product"), 25:17-25 ("[T]he essential component to [ZoOm] is the two-distance capture of faces of users to identify, process, analyze, and extract the signal that occurs in the difference between the far-distance capture and the close-distance capture."); *see also id.*, 27:11-16, 29:20-24, 36:25-37:7, 46:25-47:6, 52:18-23, 63:21-64:6, 109:14-24; *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1073 (Fed. Cir. 2018) (presuming nexus where the claims broadly covered the entire vehicle, rather than only a component of a commercially successful machine).

Petitioner's cited cases are therefore distinguishable. In *Fox Factory*, the product included an unclaimed feature that the patent owner itself described as "critical." 944 F.3d at 1374-75. It was undisputed that this "critical" feature went to the "heart" of another patent, and in an IPR against that patent, the patent owner itself described the feature as "critical" to the product's functionality. *Id.*

In *Teva Pharms. Int'l GmbH v. Eli Lilly & Co.*, 8 F.4th 1349, 1353 (Fed. Cir. 2021), the challenged claims were broadly directed to a genus of antibodies

[redacted]

defined not by their structure (i.e., antibody sequence), but by their function (i.e., ability to bind a particular ligand). The patent owner failed to show a nexus between the challenged genus claims and two specific commercial antibody products, reasoning that the commercial products included critical unclaimed features, such as the sequences of the antibodies, which critically affect how the antibodies bind the ligand. *Id.* at 1362-63.

Here, in contrast, FaceTec was built on the claimed method of verifying three-dimensionality. Mr. Rose explained that "for the vast majority of the history of our company, we've been focusing on extracting the signal the occurs when doing this two-distance capture," EX1082, 27:4-9, and that "[o]ur entire business is rooted in the belief that [the two-distance capture and analysis for perspective distortion to make the 3D liveness determination] is one of the most important things," *id.*, 69:7-25. "It's what sets us apart from all other solutions." *Id.*, 40:19-41:5. Petitioner offers no compelling evidence refuting Mr. Rose's emphatic testimony on this point.

FaceTec's business model also corroborates Mr. Rose's testimony. [redacted], the only feature of FaceTec's software that customers and partners paid for was the performance of 3D liveness checks. EX2059, ¶48. All other features of the software, including those Petitioner erroneously asserts are "critical," were free to FaceTec's customers and partners. *Id.*

[redacted]

Accordingly, FaceTec's software is essentially the claimed invention and entitled to a presumption of nexus.

2. The Features Petitioner Claims Are "Critical" Are Secondary

Petitioner's alleged "critical unclaimed features" do not undermine FaceTec's presumption of nexus. Indeed, the presumption can apply "even when the product has additional, unclaimed features." *PPC Broadband, Inc. v. Corning Optical Commc'ns RF, LLC*, 815 F.3d 734, 747 (Fed. Cir. 2016); *Ecolochem, Inc. v. S. Cal. Edison Co.*, 227 F.3d 1361, 1378 (Fed. Cir. 2000) (applying presumption even though commercial embodiment had an unclaimed mobility feature). Further, "a patent challenger cannot successfully rebut the presumption with argument alone—it must present evidence." *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1329 (Fed. Cir. 2016) (citations omitted). Here, none of the allegedly critical features are in fact critical, and Petitioner's attorney argument to the contrary is not evidence. *Nearmap US, Inc. v. Eagle View Techs., Inc.*, IPR2022-00734, Paper 41, 11-12 (P.T.A.B. Dec. 4, 2023) (presuming nexus where the unclaimed features were relatively minor features).

Liveness Checks: FaceTec's 3D liveness checks depend on capturing images at two different distances to assess three-dimensionality, and nothing Petitioner cites discusses liveness divorced from three-dimensionality in the context of

[redacted]

FaceTec's software. Reply, 28-29. While Petitioner asserts that FaceTec's "liveness checks" look at "uniquely human traits" and "involuntary cues," such as pupil dilation (*id.*, 29), Petitioner ignores that FaceTec's analysis of those traits and cues utilizes data obtained from the images captured at two different distances as part of the three-dimensionality assessment. EX1082, 119:24-121:4.

[redacted]

As such, these "liveness checks" are not just encompassed by but are the direct result of the claimed inventions. *Quanergy Sys., Inc. v. Velodyne Lidar USA, Inc.*, 24 F.4th 1406, 1419 (Fed. Cir. 2022) (affirming presumption of nexus and crediting "the Board's explanation of how each alleged unclaimed feature results

[redacted]

directly from claim limitations—such that Velodyne's products are essentially the claimed invention—both adequate and reasonable").

Encryption and Camera Control: Encryption and camera control are not critical to the functionality of FaceTec's software. Instead, they support FaceTec's core foundational technology—capturing images at two different distances and analyzing data from those images for expected differences to make the 3D liveness determination. Encryption ensures that the data used to make the 3D liveness determination has not been tampered with. EX1082, 35:21-37:7 (characterizing encryption as a "default behavior"). "Camera control," a term Petitioner appears to use to refer to [redacted]. *Id.*, 40:3-42:9.

Mr. Rose described encryption and camera control as providing an "incremental improvement" on top of FaceTec's core foundational technology. *Id.*, 40:3-42:9, 117:8-17. He explained that [redacted]. *Id.*, 151:5-152:2. In fact, [redacted]

[redacted]

Petitioner's reliance on Spoof Bounty Levels 4 and 5 and FaceTec's patent applications involving encryption and camera control is misplaced. Reply, 24-25, 28. That FaceTec continues to improve its technology to address a small subset of additional threats does not make those improvements critical. Contrary to Petitioner's assertions, FaceTec did not characterize encryption and camera control as critical.[1] EX1082, 117:8-17; Reply, 24-25 (asserting that "FaceTec believes controlling the camera to be critical" without support in any of the cited exhibits).

Similarly, that FaceTec has applied for patents involving encryption and camera control does not make those features more critical. In fact, the application Petitioner cites regarding encryption does not claim encryption and repeatedly refers to encryption as "optional." *E.g.*, EX1078, ¶308; *see also id.*, ¶¶351, 353. Likewise, the application Petitioner cites regarding camera control does not refer to it as critical. EX1074. Criticality is not a requirement for patentability, and contrary to Petitioner's suggestion that all separately patented features are critical,

[1] Petitioner misunderstands the threats addressed by Levels 4 and 5, which reward those who decrypt and edit a 3D FaceScan or take over the camera feed and inject previously captured frames *and spoof FaceTec's software*. EX2046, 1. The claimed three-dimensionality verification prevents Level 4 and 5 attacks when a single 2D image is used to edit the 3D FaceScan or injected into the camera feed.

Fox Factory relied on the patent owner's *admission* that the separately patented technology was "critical." *Fox Factory*, 944 F.3d at 1375.

Deleting the 3D FaceScan: Deleting a user's 3D FaceScan is not critical to the functionality of FaceTec's software but instead "derisks the storage of that type of data." EX1082, 58:18-59:1. As Mr. Rose explained, the 3D FaceScan can be deleted after the 3D liveness determination is made. *See id.*, 55:24-58:9. As such, Petitioner takes Mr. Meier's statement that the deletion of the 3D FaceScan is a "critical selling feature" out of context. EX1073, 9:20-11:1. Mr. Meier was explaining that it is illegal in certain countries to save biometric data (*id.*, 9:1-6), so FaceScan deletion enables compliance in those countries (*id.*, 9:15-10:8). Deleting the 3D FaceScan does not impact the ability of the software to determine 3D liveness, as it occurs after the user's liveness has been determined. Further, that FaceTec has applied for patents mentioning deleting the 3D FaceScan does not make it critical, as evidenced by the application itself, which does not claim deleting the 3D FaceScan and refers to it as optional. *E.g.*, EX1080, ¶135.

UI/Ovals: FaceTec's UI with ovals to guide the user during the image capture is not critical to the functionality of FaceTec's software.[2] Indeed, the '471

[2] Petitioner asserts that Dr. Turk called this feature "important" and that Mr. Rose viewed it as a "security feature." Reply, 26. Dr. Turk actually testified that he was

[redacted]

patent expressly recognizes that "shapes or guides other than ovals … may be used to guide the user …." EX1001 at 29:43-46. The non-criticality of these features is consistent with them appearing only in dependent claims. EX1001, claims 4, 13, 14. Petitioner's reliance on *Fox Factory* is therefore inapposite.

Petitioner's reliance on FaceTec's patents involving FaceTec's UI with ovals is misplaced for the same reasons discussed above. Reply, 25-27 (citing EXS1075-1077). In fact, FaceTec's design patents demonstrate that FaceTec's UI with ovals does ***not*** materially impact the software's functionality because design patents cannot claim purely functional designs. *Sport Dimension, Inc. v. Coleman Co.*, 820 F.3d 1316, 1320 (Fed. Cir. 2016).

Accordingly, the features Petitioner asserts are "critical" are secondary, providing only "incremental improvement" to, and merely supporting the performance of, 3D liveness checks. Nexus should be presumed.

"not sure how qualified [he is] to determine important aspects or the degree of importance of aspects" (EX1059, 112:11-13), and Mr. Rose actually viewed the claimed method for verifying three-dimensionality via the two-distance capture as a security feature, not specifically FaceTec's UI with ovals (EX2059, ¶46).

B. Direct Nexus Exists Even Without the Presumption

Even without the presumption, FaceTec's evidence of industry praise, copying, long-felt need, failures of others, licensing, industry skepticism, and commercial success is the direct result of the claimed invention. *Volvo Penta of the Ams., LLC v. Brunswick Corp.*, 81 F.4th 1202, 1212 (Fed. Cir. 2023) (patent owner demonstrated nexus, crediting the unique characteristics of the claimed technology that make it valuable in wake-surfing). In attempting to show otherwise, Petitioner narrowly recasts the claimed invention as "determining three-dimensionality" and improperly ignores the many features that are the direct result of the claimed invention.

1. Industry Praise

Petitioner does not dispute that it praised FaceTec's software as a "genius solution." EX2057, 11:10. Instead, Petitioner argues (1) that it was not a competitor when it praised FaceTec's software, and (2) that its praise was for FaceTec's software as a whole and not simply "the check for three-dimensionality." Reply, 30-31. But Petitioner remained a competitor even when it was a licensee, and even if it wasn't, this fact is irrelevant and Petitioner cites no case law to the contrary. Additionally, Petitioner touted that FaceTec's anti-spoofing 3D liveness features, stating FaceTec's software "is extremely strong and spoof proof." EX2057, 11:10. Contrary to its recently developed arguments,

Petitioner did not tout FaceTec's software's face-matching capabilities, [redacted]. [redacted] *See* EX2085, 14:10.

Petitioner also does not dispute that FaceTec was the first company to earn both Level 1 and Level 2 certifications or that it touted FaceTec's certifications in Petitioner's press releases. EX2042, 3. Petitioner now attempts to trivialize the certifications as "outdated" (Reply, 30), but they were groundbreaking when FaceTec earned them. By earning these certifications, FaceTec set the bar for the industry and effectively forced its competitors to pass these certifications or be left behind.[3] [redacted]

[3] Even today, Petitioner's website touts Petitioner's Level 2 certification. https://www.jumio.com/products/liveness-detection/.

[redacted]

2. Copying

Petitioner does not dispute that iProov and Petitioner had access to FaceTec's patented software,[4] or that following that access, iProov and Petitioner released liveness software with a very similar user interface that requires the user to capture images at two different distances. Reply, 31-33. Instead, Petitioner faults Dr. Turk for being unable to definitively state that iProov's and Petitioner's software compares data from the images for expected differences. But Dr. Turk does not have access to iProov's or Petitioner's source code. Petitioner, however, does have access to its source code, and rather than state that it did not copy or that its software does not compare data from the images for expected differences, Petitioner is conspicuously silent. Indeed, it is logical to infer that iProov's and Petitioner's software compares 3D data in the images for expected differences. It is an imposition on the user to require capturing images at two different distances, and iProov and Petitioner would not require this if they were not using the two-distance image data to make the liveness determination.

[4] Petitioner states that it "does not concede that FaceTec has established access." Reply, 31 n.3.

3. Long-Felt Need, Failures of Others, and Licensing

Petitioner does not dispute that there was an industry need for a secure, software-based liveness solution or that FaceTec met that need. Reply, 33-34. Instead, Petitioner narrowly circumscribes the need as one for liveness *based on three-dimensionality*, arguing that "FaceTec offered no proof that anyone attempted to solve a problem related to evaluating liveness based on three-dimensionality." *Id.* But Petitioner improperly conflates the industry need (liveness detection) with FaceTec's innovative solution (liveness based on three-dimensionality). Nevertheless, three-dimensionality is a primary component of liveness—a user must be three-dimensional to be alive. [redacted]

Petitioner attempts to minimize and deflect its prior failures as attempting to determine liveness, not three-dimensionality, and as upgraded systems, not failures. Again, however, Petitioner chooses its words carefully, making no affirmative statement that the systems it employed before licensing FaceTec's software were successful.

4. Industry Skepticism

Petitioner characterizes FaceTec's evidence of industry skepticism as a mere "lack of enthusiasm." Reply, 34. In doing so, however, Petitioner misleadingly

[redacted]

crops quotes. While Mr. Savvides stated that "FaceTec's method makes sense," he went on to question whether "it could prevent someone with a 3-D mask from accessing the handset." EX2050, 2. Similarly, while Mr. Mogull stated that "FaceTec can surely get its technology to work," he then clarified that he would "be shocked if it was as usable or secure as alternative methods we now see being adopted." *Id.*, 3. This is more than a "lack of enthusiasm."

5. Commercial Success

Petitioner does not dispute that FaceTec's software and iProov's copied and infringing software are commercially successful. Reply, 34-35. Petitioner also does not dispute that FaceTec's success is not due to other customer-facing features. *Id.* Petitioner's only response is that FaceTec's software includes "many non-customer facing features." *Id.* But Petitioner fails to acknowledge that none of those "non-customer facing features" are explicitly paid for. Indeed, [redacted], the only feature customers paid for was performing 3D liveness checks. As Mr. Rose explained, "It's pretty much the only thing we get paid for. Customers come to us for this 3D Liveness Detection." EX1082, 40:21-23; *see also id.*, 69:7-17.

Petitioner does not dispute that FaceTec's software was first of its kind, created the market for secure software-based 3D liveness detection, and is a disruptive technology. Instead, Petitioner contends that this is inconsistent with FaceTec's assertion that it was not the market incumbent. Reply, 35. Petitioner

[redacted]

misses the point. FaceTec's commercial success clearly cannot be attributed to other factors, like market incumbency, that typically undermine nexus.

Accordingly, and for the reasons explained in the Patent Owner's Response, nexus exists even absent the presumption.

II. Derakhshani

A. The Claims Require Using the User's Face

Jumio asserts the independent claims do not require images of a user's face nor authenticating three-dimensionality using them. Reply, 1. But the claimed "image[s] of the user" *are* images of the user's face.

The patent's "ultimate goal" is to match a *face*, by cropping an image of the user to only the "*face*." *Id.*, 7:39-51. Jumio admitted the patent relates to "*facial*-authentication" systems. Pet., 4.

A user is guided to capture images at two distances by placing their "face or head" entirely inside ovals designed to require the user to adjust the distance. EX1001, 27:48-28:1-10; Turk, ¶33; POR, 4-5 (capture). Because the ovals guide the user to capture at least their entire face/head, the claims require capturing images of and authenticating three-dimensionality of the user's face/head. Turk, ¶¶33, 35, 89, 95.

Jumio premises its arguments for all claims on a partial face being sufficient. But dependent claims 9 and 14 require that the images be "*of the face*" and that the

"*face* of the user" be placed in ovals, respectively. These claims further confirm to a POSITA that the independent claims require at least an image of the face. They also expressly doom Jumio's arguments for claims 9 and 14 because Jumio makes no other arguments about non-partial faces for them.

B. Derakhshani Does Not Capture Face Images

Jumio repeatedly argues that Derakhshani captures images of a head/face. *See, e.g.*, Reply, 1, 2, 6, 10. Jumio is wrong on this dispositive issue.

Contrary to its arguments (Reply, 3-4), the primary purpose of Derakhshani (EX1005) is capturing the vasculature of the eyes for authentication and spatial metric:

- Abstract ("This specification describes technologies relating to biometric authentication **based on images of the eye**")
- 4:19-21 ("features of an individual's **visible vasculature in the whites of the eyes** may be used to identify or authenticate the individual.")
- 9:59-61 ("**authenticating** an individual based on one or more **image of the white of an eye**")
- 5:42-45 ("FIG. 3 is a diagram of an **example image 300**, including portions showing **vasculature of the whites of two eyes, that is segmented for analysis**. A **captured image 310** may be obtained in a variety of ways.")

[redacted]

- "Captured image 310" in Fig. 3 (annotated below) is of the **eyes—not face**—and vasculature 320/322 from their "**whites**." *See* 5:42-64.

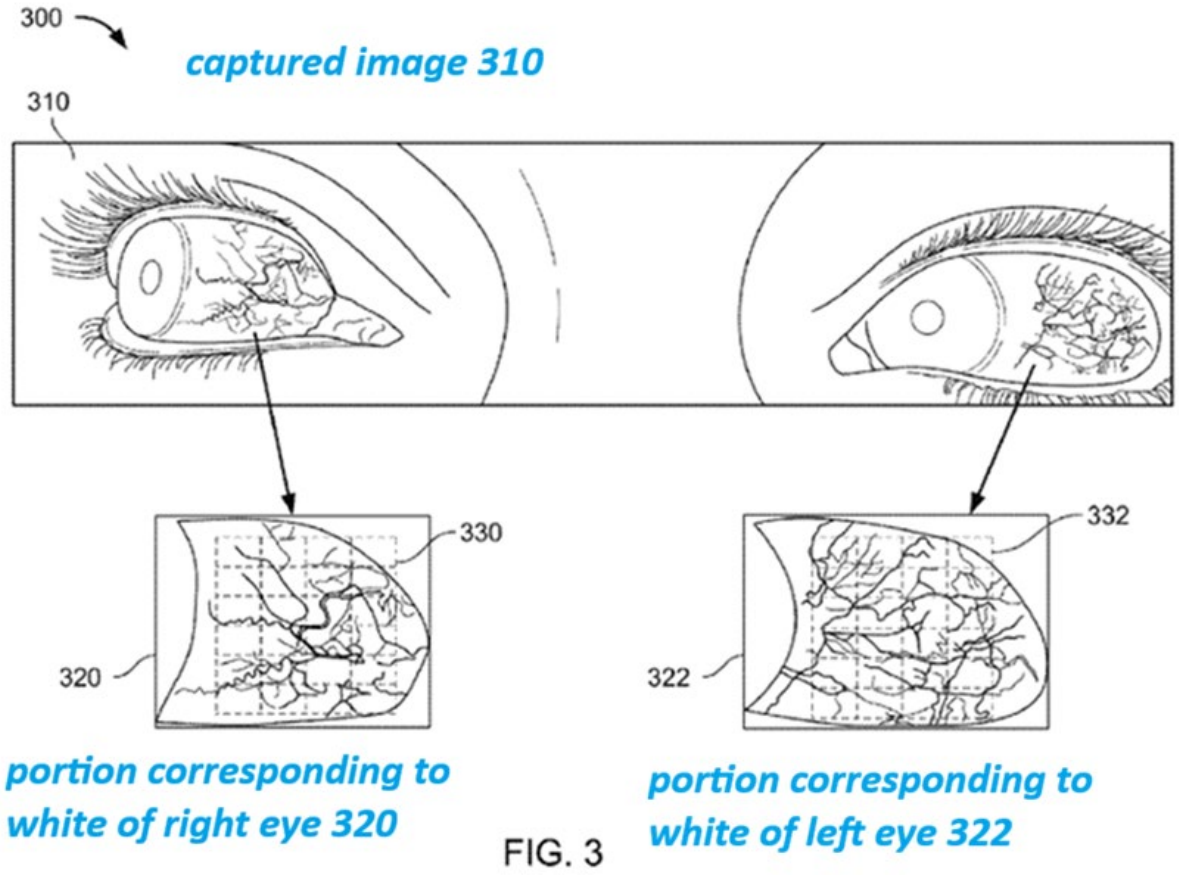


FIG. 3

C. Jumio Newly Argues About Multiple-Landmark Images

Jumio generates a new position by misconstruing Dr. Turk's testimony and misreading Derakhshani.

Jumio now argues it would have been "obvious" that an "image having multiple 'landmarks (e.g., an eye, nose, mouth ***and*** ear)'" is of the head/face, implying that Dr. Turk agrees. Reply, 1 (quoting EX1005, 17:16-19) (emphasis in

[redacted]

original), 2-3. Wrong. This passage discusses "*spoofing*" photographs, enumerating kinds of landmarks that could individually be in it.

Dr. Turk said Derakhshani's images "don't cover larger parts of the face that would include" "an ear, nose, mouth, and eye." EX1059, 137:4-17. And an "eye, nose, mouth, and ear" does not "obvious[ly]" constitute a face in the meaning of the patent anyway.

D. An Image of an Eye Is Not an Image of a Head/Face

Jumio argues capturing a user and a background painting means "the sensor ***must be*** far enough away such that it captures the head/face." Reply, 1-2 (emphasis added). Jumio equates an image having an "*eye*" with one having a "*user*." *Id.* An image of an eye is not an image of a user. *Supra* §II.A-B, *infra* §II.E.

Dr. Daft explains this argument with only a tautology: a sensor being "*far enough away*" must be "*back far enough*." EX1060, ¶21 (emphases added).

E. Jumio Redefines Derakhshani's Images

Jumio refers to a close-up image having "enough precision" to capture eye vasculature, and a "further-away image" without that "precision." Reply, 2, 4. Jumio contends the latter must include the face. *Id.* This "close-up image" with vasculature is inconsistent with its argument that an "image comprising an eye and a background object" must capture the face. Reply, 1-2.

[redacted]

Any useful image in Derakhshani must "include a view of a *portion of a vasculature of the eye*." *Id.*, 10:25-27 (emphasis added). The "further-away image" that *isn't* precise enough to include vasculature is not a useful "image" in Derakhshani.

Jumio implies that authentication being "based in part on" the white of the eye means authentication requires a face/head. Reply, 2 (quoting 5:65-67). Features following that quote—like eye position determination (6:17-25)—do not require a face/head.

F. Jumio Rewrites Multiple Dependent Claims

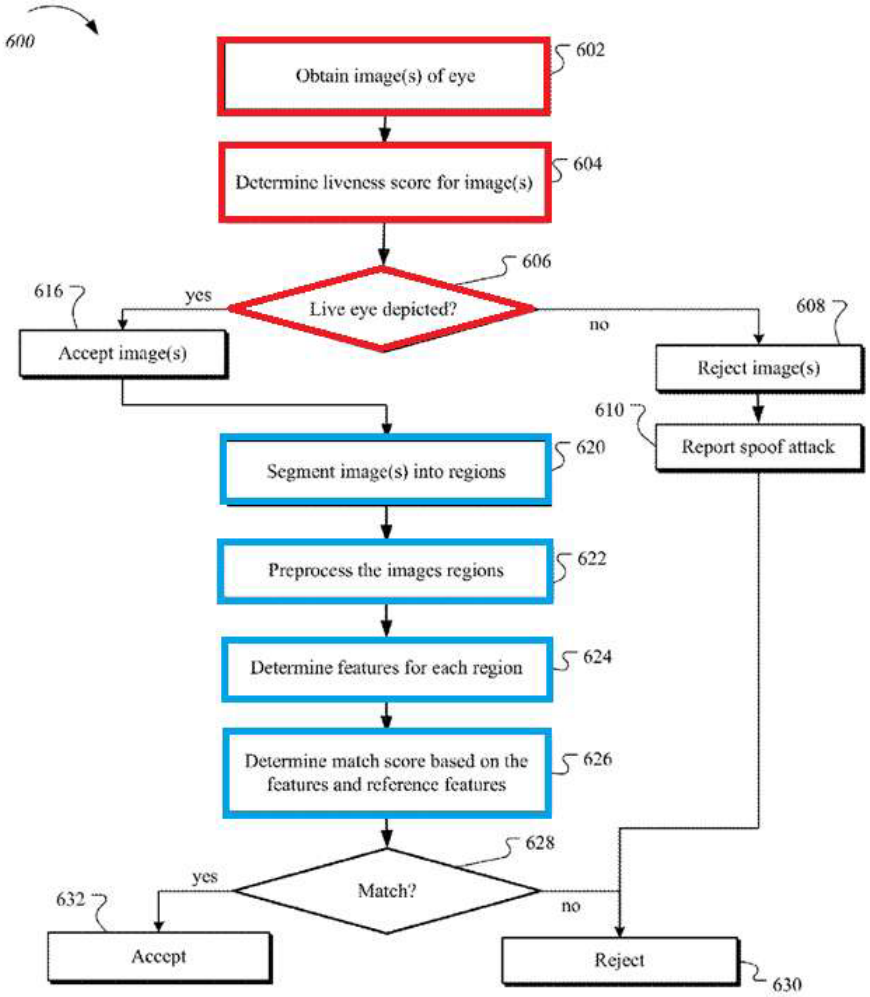
1. Derakhshani Does Not Verify Anything About Ears

Jumio's argument for claims 3/12 reads out "verifying." Reply, 7-8. Contrary to Jumio's arguments, Dr. Turk only agreed that landmarks *can* be blurry—not that Derakhshani teaches "*verifying*" reduced visibility. EX1059, 144:11-16. A condition existing and *verifying* a condition aren't identical. POR, 44-45.

2. Jumio Confuses Landmarks and Features

Derakhshani differentiates image landmarks from vascular features. POR, 31-34, 46-48; EX2061 ("Turk"), ¶¶107-116; EX1005, Fig. 6 (annotated):

[redacted]



Jumio argues the two are synonymous because "landmarks" are used to generate a three-dimensional model in a reference record and "features" are compared to the reference record. Reply, 8-9. Incorrect. Derakhshani's reference record also includes, e.g., features extracted from "reference images." EX1005, 7:20-37. The more reasonable inference is that features of a vasculature are compared to "features" or data related to "features"—not data based on landmarks (e.g., nose/mouth).

[redacted]

Jumio argues that because the eye is a landmark, its vasculature is too. Reply, 9. This remains wrong. POR, 31-34, 46-48.

3. Landmarks Are Not Biometric Data

Landmarks aren't "biometric data:" they aren't "useful for authentication." Turk, ¶¶117-118; EX1059, 48:21-49:8. Nor are landmarks in "two-dimensional" photographs. Reply, 10 (quoting 17:16-19); *supra* §II.C.

4. Image Landmarks Are Not Mappings

Jumio asserts Dr. Turk admitted Derakhshani's landmarks are "features of a face." Reply, 10. But the questions were not about Derakhshani. EX1059, 42:12-43:5. And image landmarks do not comprise a mapping of "facial features." Turk, ¶397; *supra* §II.F.3.

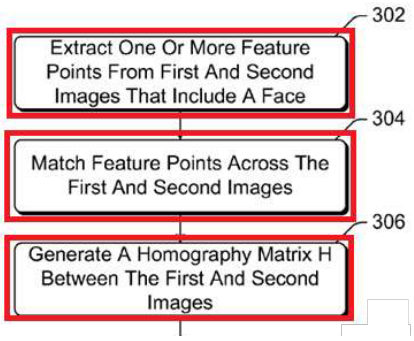
III. Zhang

A. Zhang's "Image Difference" Doesn't Relate to Movement

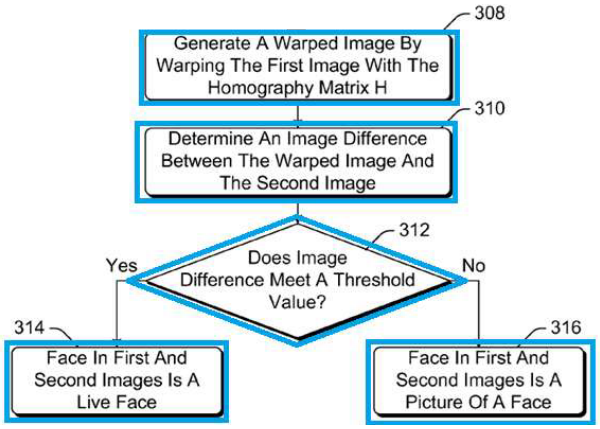
Zhang's "threshold value" is compared to an "image difference"—a comparison of color/intensity values of pixels at the same [u,v] locations in a warped image and in a second image. EX1006, ¶¶[0031], [0033]. In contrast, the independent claims require that expected differences have "expected distortion resulting from *movement*" of the camera or the user. EX1001, 38:35-45, 39:40-48. Zhang's comparison of color/intensity does not account for the required "movement." POR, 49-50; EX1059, 27:12-19; Reply, 11-12.

B. Jumio Misunderstands "Locations"

Jumio confused "feature points" and "selected locations." Reply, 12-14. Zhang extracts "feature points" from first and second images to generate matrix ***H***. EX1006, ¶¶[0027]-[0029], Fig. 3; POR 35-37, 51-53; EX1059, 23:3-20.



The first image is warped using ***H*** and compared to the second image at "different locations" to calculate an "image difference" for comparison to a threshold. EX1006, ¶¶[0030]-[0031], Fig. 3; POR, 36; EX1059, 25:17-22.



Jumio wrongly argues that Zhang uses the "same extracted feature points" for generating a homography matrix and for determining the image difference.

Reply, 12-13. Dr. Turk explained: selected locations are "*not at the same locations*" and are "*independent and separate*" from feature points. EX1059, 25:1-22; 26:11-27:5 (every pixel has "location"); 23:3-24:3.

Jumio's hypothetical about eye/mouth corners in one [u,v] location (Reply, 13) is misplaced: Zhang's "image difference" is computed using multiple locations. EX1059, 27:15-19, 28:6-11; Zhang, ¶[0031].

C. Zhang Doesn't Verify Anything About Ears

Zhang/Tanii doesn't teach verifying anything about ears for reasons similar to Derakhshani/Tanii. Reply, 15; POR, 55; *supra* §II.F.1.

D. Zhang's "Feature Points" Aren't Biometric Data

Zhang's feature points (e.g., "corner of an eye," "top of a nose") are not "useful for authentication;" Turk never agreed otherwise. EX1059, 48:21-49:8; Reply, 15-16; *supra* §II.F.3.

IV. Tanii

A. Tanii Does Not Detect Faces

Tanii doesn't detect what is in an image. Turk, ¶71. Determining *an object exists* in an image is not equivalent to determining an object *is a face*. *Id.*, ¶¶70-71. Jumio argues Dr. Turk agreed that detecting face *size* means detecting a face. Reply, 4. But Dr. Turk said Tanii does *not* teach detecting faces. EX1059, 174:23-175:14.

[redacted]

Tanii doesn't detect three-dimensionality or expected distortion either. Reply, 5. Unrebutted testimony confirms Tanii cosmetically changes images, regardless of contents or need. Turk, ¶¶69-73, 173-74. Jumio's attempts to relate detected distance to the claimed "expected distortion" or "expected differences" (Reply, 5) do not demonstrate detection of *three-dimensionality* or *expected distortion*. Dr. Turk explained: Tanii's distortion "is not a function of the distance to the object." EX1059, 176:16-25.

Dr. Daft's explanation only repeats Tanii and the Reply. EX1060, ¶¶31-33.

B. Jumio's Motivations

1. Derakhshani

Jumio complains FaceTec didn't respond to Jumio's combination, but it did. Reply, 5-7. Jumio relied on Tanii as teaching an "alternative to evaluating the depth of a face" and "evaluation of distance-induced distortions." Pet., 12; Paper 17, 32-33. Tanii doesn't. *Supra* §§IV.A; Turk, ¶¶69-73, 173-74; POR, 37.

FaceTec argued Tanii's purported distortion evaluation doesn't teach/suggest liveness or three-dimensionality (nor does Derakhshani), and the idea that images taken at different distances have different distortion isn't a motivation to combine. POR, 44-45; Turk, ¶¶96-99.

Jumio reimagines FaceTec's incompatibility argument as one of lens differences. Reply, 6. FaceTec argued using a further-away image (as Jumio reads

Tanii) would destroy the premise of Derakhshani by preventing capture of the vasculature. Hindsight is Jumio's only motivation here. POR, 60-62; Turk, ¶¶168-170.

2. Zhang

Jumio's alleged first theory, "*modifying* Zhang to capture images at different distances," isn't in the Petition, which discussed a POSITA appreciating Tanii's teachings "without modification" of Zhang's images. *Compare* Pet., 50-51 *with* Reply, 14. FaceTec did challenge this theory. POR, 54, 61, 63; Turk, ¶167-69, 173, 178.

Jumio repeats its other theories without further explanation. Reply, 14-15. Distortion correction cannot create ears, and comparing warped and unwarped images without "mathematical steps" wouldn't work. POR, 60-64.

C. Tanii Is Not Analogous

Jumio misreads Tanii. Reply, 16-17. Tanii doesn't teach "identifying and accounting for" distortions; it is not in the same field of endeavor. *Supra* §IV.A.

Tanii also isn't pertinent to any problem faced by the inventor. Reply, 17. Jumio's identified "problem" in Tanii (distortions) is "not reasonably pertinent" to the problem Jumio identified (preventing spoofing). Pet., 4-5; POR, 58. A POSITA "would not reasonably have expected to solve" spoofing with Tanii. *In re Clay*, 966 F.2d 656, 659-60 (Fed. Cir. 1992).

V. Hoyos

Hoyos doesn't teach detecting reflections off a face. Reply, 10-11, 16. Dr. Turk agreed reflections could come from something besides the *cornea*—not that it was a face. EX1059, 123:18-124:2. And it isn't. Turk, ¶122.

VI. POSITA

A. FaceTec's Level of Skill Is Right

Jumio complains that the proper level of skill is too high. Reply, 21. Dr. Turk explained his rationale. Turk, ¶¶37-48.

Jumio complains that because the patent doesn't "mention[] 'three-dimensional computer vision,'" the level of skill cannot include it. Reply, 21. Jumio's specification fixation is unsupported. The level of skill does not require considering whether the patent "mentions" a phrase. *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007).

Moreover, "three-dimensional computer vision" includes reconstructing/reasoning about spatial structure based on depth estimation and perspective distortion (Turk, ¶41), concepts throughout the patent. *See*, *e.g.*, EX1001, 3:44-59, 14:51-64, 28:34-29:19. Two-dimensional computer vision cannot substitute. Turk, ¶¶41, 45, 49.

B. Dr. Daft Is Unqualified Under Both Definitions

Jumio asserts "[t]here is no dispute that Dr. Daft meets Petitioner's level of skill." Reply, 21-22. Wrong. POR, 29 ("Dr. Daft Does Not Qualify Under Either Definition").

Accepting Dr. Daft as a POSITA requires summing irrelevant experience in ultrasonic imaging (his "computer vision") and fingerprinting (his "biometrics and biometric security"). POR, 29-30; Turk, ¶¶46, 49-53.

VII. Without Expert Testimony, Jumio's Case Fails

Expert testimony may not be required in the "rare cases where the invention is so simple." *Aspex Eyewear, Inc. v. Concepts In Optics, Inc.*, 111 F. App'x 582 (Fed. Cir. 2004). This technology is not "simple." Even under Jumio's low level of skill, a POSITA must have at least six years of field-specific post-secondary education/experience, and "significant" experience with software development and optics. Pet., 5. Once Dr. Daft's testimony is excluded per FaceTec's concurrently-filed motion, Jumio's case fails.

VIII. The Petition Is Time-Barred Under 35 U.S.C. § 315(b)

Jumio "bears the ultimate burden of persuasion to show that its petitions are not time-barred under § 315(b)." *Worlds Inc. v. Bungie, Inc.*, 903 F.3d 1237, 1242 (Fed. Cir. 2018). If Jumio cannot prove that iProov is *not* an RPI/privy, the Board must find this Petition time-barred.

[redacted]

Despite bearing this burden, Jumio provided no new evidence in response to FaceTec's arguments explaining how the close legal and factual relationships between iProov and Jumio render iProov an RPI and privy. *See* POR, 64-78. Instead, it again relies on Ms. Kaiser's pre-institution declaration, which was discredited during her deposition (*see* POR, 73-77), and attorney argument, which is not evidence and should be accorded no weight. *NexStep, Inc. v. Comcast Cable Commc'ns, LLC*, 119 F.4th 1355, 1376 n.6 (Fed. Cir. 2024) ("[s]tatements of counsel … are not evidence") (internal quotations omitted).

Jumio attempts to make it seem that FaceTec's arguments in the Patent Owner's Response are identical to its pre-institution arguments. It contends that FaceTec is "using the same arguments from the POPR the Board and Director already rejected." Reply, 17. But Jumio ignores that the Board and Director did not have the Jumio/iProov indemnification agreement. A key reason for the Board's preliminary ruling at institution was that it was not willing to speculate about the terms of iProov's indemnification obligation to Jumio. Paper 17, 21. Now that the Board has the agreement (*see* EX2083, 15-16)—and it supports RPI/privity—it should reevaluate its prior preliminary ruling.

The Board and Director also did not have Ms. Kaiser's deposition testimony when they preliminarily decided this issue. Indeed, a primary basis for the Board's time-bar ruling at institution was based on Ms. Kaiser's declaration, which did not

[redacted]

withstand cross-examination. Paper 17 at 18, 21, 24 (all citing EX1049); *see* POR, 73-77. The new arguments/evidence in FaceTec's Patent Owner's Response directly address issues the Board highlighted in its Institution Decision.

Regarding indemnification, Jumio never disputes the district court's finding that iProov has an indemnification obligation to Jumio and "*has indemnified Jumio*." EX2010, 4. Jumio never mentions this finding despite FaceTec discussing it three times in its Patent Owner's Response. POR, 66, 67, 71. Instead, Jumio focuses on iProov's statement that "[t]he iProov-Jumio Agreement includes an indemnification obligation." EX2006, 23 (¶7). Jumio argues that this merely "refers to the *existence* of an indemnification clause in the agreement … it does not mean iProov is indemnifying Jumio." Reply, 19. Jumio's argument cannot be squared with iProov's other statements and the district court's findings.

iProov told the district court that it needed to intervene because iProov "has an economic interest in defending its customers," that "iProov does in fact have an indemnification agreement with Jumio," and that iProov "must not be hamstrung in its efforts to defend its customer from FaceTec's claims of infringement." EX2006, 7, 10. These arguments and others go well beyond touting the mere existence of an indemnification clause. *See* EXS2006 and 2009 (iProov's briefing on its motion to intervene). Instead, they demonstrate that [redacted]

[redacted]

[redacted] EX2010, 4.

Jumio now paints a different picture, arguing that iProov is not indemnifying Jumio and that [redacted]. If this is true, Jumio had an obligation to correct iProov's misstatements to the district court. It could not ethically sit on the sidelines and watch iProov argue for the need to intervene based on indemnification if it believed, as it now contends, [redacted]. The reality is that iProov has been taking the steps [redacted] to benefit Jumio, including intervening so it could defend Jumio. Jumio seeks to benefit from iProov's defense and cooperation while simultaneously avoiding the time-bar that goes along with it.

Importantly, Jumio has provided *no evidence* to support its claim that Jumio [redacted], nor has it provided evidence that iProov has made no payments under the indemnification agreement. Jumio cites Exhibit 1055, but it contains only statements from Jumio's outside counsel. Reply, 19. But "[s]tatements of counsel … are not evidence." *NexStep, Inc.*, 119 F.4th at 1376 n.6. Moreover, Jumio refused to answer FaceTec's questions, stating that "[w]e will not

[redacted]

continue this deposition via email." EX1055, 3. FaceTec was unable to probe the veracity of Jumio's counsel's statements, which cannot be given weight.

Jumio could have provided a declaration from a fact witness with knowledge of whether iProov has paid Jumio. Far from being "illogical," as Jumio contends (Reply, 19), a fact declaration under oath would have provided additional assurance that the statements were accurate and would have permitted cross-examination. Given Jumio's counsel's refusal to answer questions about its assertions (as discussed above), it is reasonable to assume that a fact declaration would not have withstood cross-examination. Regardless, the fact remains that Jumio has provided *zero evidence* to support its attorney argument that iProov has not paid Jumio under the indemnification agreement.

Jumio also takes issue with "FaceTec's grab-bag of attacks on Jessica Kaiser." Reply, 19. "Grab-bag" appears to be a euphemism for the long list of significant problems FaceTec identified regarding Ms. Kaiser's testimony. *See* POR, 73-77. The flaws FaceTec exposed in her declaration testimony require the testimony to be given no weight. Jumio attempts to explain away these issues, but none of Jumio's arguments withstand scrutiny.

Jumio first claims that Ms. Kaiser had personal knowledge of the facts in her declaration, and that she conducted her investigation merely "to *confirm* the accuracy of her declaration statements." Reply, 19. Jumio also contends that her

testimony about "lacking personal knowledge concerns coordination of the *invalidity contentions*." Reply, 20. Jumio ignores that Ms. Kaiser admitted to lacking personal knowledge on other critical questions, including whether Jumio coordinated directly with iProov regarding the Petition in this proceeding. *See* POR, 74-75. She did testify that she was "not aware of … any conversations between [i]Proov and Jumio" (EX2086, 44:17-45:8, 74:8-11), as Jumio points out in its Reply, but this was because *she never asked Jumio* about whether those conversations occurred. EX2086, 13:13-19. Her lack of knowledge bears directly on the reliability of her declaration statement that "iProov did not direct, control, or fund the Petitions." EX1049, ¶4.

Jumio has no response regarding most of these issues, never mentioning them despite FaceTec raising all of them in its Patent Owner's Response. *See* POR, 73-77. Jumio also provides no evidence to fill the gaps in Ms. Kaiser's testimony. It could have provided declarations from Jumio fact witnesses regarding any communications Jumio personnel may have had with iProov regarding the IPRs. Jumio elected not to, perhaps due to fear of cross-examination, so this gap remains.

Jumio also takes issue with FaceTec's request that adverse inferences be drawn against Jumio based on Ms. Kaiser's inability and unwillingness to testify regarding key subjects. Reply, 20. Despite FaceTec detailing these issues (*see* POR 75-77), Jumio never attempts to justify its excessive privilege and work product

objections. *See* Reply, 20. Instead, it simply states that FaceTec's arguments are "unfounded," that FaceTec "has not shown why Kaiser's statement … is incorrect," and that "iProov is not an RPI/privy." Reply, 20. None of these conclusory statements responds to the issues FaceTec identified, so they stand unrebutted.

Finally, Jumio repeats several arguments it made in its pre-institution reply. Reply, 18 (citing Paper 10). For example, Jumio contends that "iProov could have filed an IPR but did not, thereby showing it did not desire review (*ATI* [sic] Factor 1)." *Id.* But there is no dispute that iProov is time-barred. It could not have properly filed its own IPR. Several of the remaining points cite only Ms. Kaiser's unreliable testimony, attorney argument, or nothing at all, so they also cannot be credited. *Id.* Jumio also overlooks that Jumio's and iProov's interests are perfectly aligned regarding Jumio's accused products that incorporate iProov's technology.

In sum, the evidence demonstrates that iProov is an RPI and privy, and despite bearing the burden of proving otherwise, Jumio has provided no evidence to refute FaceTec's showing. The Petition is time-barred.

IX. Conclusion

FaceTec respectfully requests that the Board issue a Final Written Decision confirming the patentability of the Challenged Claims.

Date: February 24, 2026

Respectfully submitted,

/Jason Stach/
Jason Stach
Reg. No. 54,464

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(c)(4) and the Board's authorization for 1,000 additional words, the undersigned hereby certifies that the foregoing PATENT OWNER'S SUR-REPLY contains 6,584 words, excluding the parts exempted under 37 C.F.R. § 42.24(c), as measured by the word-processing system used to prepare this paper.

Date: February 24, 2026

Respectfully submitted,

/Jason Stach/
Jason Stach
Reg. No. 54,464

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned certifies that the foregoing **PATENT OWNER'S SUR-REPLY** was served on February 24, 2026, via email directed to counsel of record for Petitioner at the following:

Alex S. Yap
AYap@mofo.com

Mehran Arjomand
MArjomand@mofo.com

Jean Nguyen
JNguyen@mofo.com

Jumio-Facetec-IPRs@mofo.com

Dated: February 24, 2026

By: /Lisa C. Hines/
Lisa C. Hines
Case Manager
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP