

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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JUMIO CORP.,  
Petitioner,

v.

FACETEC, INC.  
Patent Owner.

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Case IPR2025-00107  
Patent No. 11,157,606

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**PATENT OWNER'S OBJECTIONS TO  
PETITIONER'S DEMONSTRATIVES**

[REDACTED]

[REDACTED]

Pursuant to the Order Setting Oral Argument (Paper 57), Petitioner objects to Patent Owner's demonstratives for the reasons provided below.

**Slides 35, 36, 60, and 64**

Slides 35, 36, 60, and 64 contain references to column 17, lines 16-19, of Derakhshani (EX1005), which relate to a new argument Petitioner made for the first time in its Petitioner Replies and which is discussed in Patent Owner's Motion to Strike (Paper No. 62).

**Derakhshani Teaches Capturing An Image Of A Face**

In some implementations, the spatial metric is a measure of the deviation of the subject from a two-dimensional plane. One possible spoofing strategy is to present a two dimensional image (e.g., a photograph) of a registered user's eye to the sensor. However the locations of landmarks (e.g., an eye, nose, mouth, and ear) in the two dimensional image will occur in a two dimensional plane, unlike landmarks in and around a real live eye. For example, the locations of multiple landmarks may be fit to the closest two dimensional plane and the average distance of the landmarks from this fit plane can be determined as the spatial metric. A high value for this spatial metric may indicate a three-dimensional subject and a higher likelihood that the subject is a live eye, while a low value may indicate a higher likelihood that the subject is a two-dimensional spoof attack.

Derakhshani  
(EX1005),  
17:12-26

'471 Petition (Paper 1), 10, 28, 32;  
'606 Petition (Paper 1), 7, 16; '471 Reply (Paper 52), 1-3, 9;  
Daft Reply Decl. (EX1060), ¶¶28, 38, 40, 43, 46, 48, 50;

DEMONSTRATIVE EXHIBIT - NOT EVIDENCE

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## Derakhshani Teaches Capturing An Image Of A Face

### Dr. Daft

a portion of a face depicted in the images.” (EX1005, 3:13-15.) Derakhshani also states that an image may comprise multiple “landmarks (e.g., an eye, nose, mouth, and ear.” (EX1005, 17:16-19; see also 3:5-7 (“two or more landmarks that appear in a plurality of the images”), 17:2-6 (“multiple landmarks”).) Dr. Turk also agreed that Derakhshani captures an image having multiple landmarks. (EX1059, 136:25-137:3.) It would have been obvious for an image comprising an eye, nose, mouth, and ear, as Derakhshani discloses, to be an image of a face because these are facial features that when they are all included in an image, it would be an image of a user’s face. (EX1005, 17:16-20.)

Daft Reply Decl. (EX1060), ¶20

### Dr. Turk

Q Okay. So if Derakhshani is capturing an image that has an ear, nose, mouth and eye, what type of image is it capturing?

A Well, I don't think Derakhshani ever says that it will capture images that include all of those.

Q Uh-huh.

A So they may well just be individual examples that would never be in the same image.

If Derakhshani were to capture something with all of those, it would be an image that is generally different than the images that are shown in Derakhshani, because those images generally don't cover larger parts of the face that would include such features.

Turk Depo Tr. (EX1059), 137:4-17

'471 Reply (Paper 52), 1-3

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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## Derakhshani’s Teaches “biometric data”

In some implementations, the spatial metric is a measure of the deviation of the subject from a two-dimensional plane. One possible spoofing strategy is to present a two dimensional image (e.g., a photograph) of a registered user’s eye to the sensor. However the locations of landmarks (e.g., an eye, nose, mouth, and ear) in the two dimensional image will occur in a two dimensional plane, unlike landmarks in and around a real live eye. For example, the locations of multiple landmarks may be fit to the closest two dimensional plane and the average distance of the landmarks from this fit plane can be determined as the spatial metric. A high value for this spatial metric may indicate a three-dimensional subject and a higher likelihood that the subject is a live eye, while a low value may indicate a higher likelihood that the subject is a two-dimensional spoof attack.

Derakhshani  
(EX1005),  
17:12-26

'471 Petition (Paper 1), 10, 28; '471 Reply (Paper 52), 10;  
Daft Reply Decl. (EX1060), ¶¶ 48, 50;

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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### Derakhshani's Teaches "facial features"

the sensor. However the locations of landmarks (e.g., an eye, nose, mouth, and ear) in the two dimensional image will occur in a two dimensional plane, unlike landmarks in and around a real live eye. For example, the locations of multiple landmarks may be fit to the closest two dimensional plane and the average distance of the landmarks from this fit plane can be determined as the spatial metric. A high value for this spatial

*Derakhshani (EX1005), 17:16-19*

'471 Petition (Paper 1), 10, 32; '471 Reply (Paper 52), 10;  
Daft Reply Decl. (EX1060), ¶¶20, 47, 50

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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### Slide 24

Slide 24 contains references to column 11, lines 46-48, and column 13, lines 9-11 of Derakhshani (EX1005), never referenced in Petitioner's previous papers, including on Petitioner's cited page 27 of its Petition, and about which Petitioner made no arguments.

### Derakhshani's Match Score

If the liveness score indicates a high likelihood that live eye is depicted in the images, the one or more images are accepted 616 and subjected to further analysis to complete the authentication process.

*Derakhshani  
(EX1005),  
11:43-45*

The one or more images may be segmented 620 to identify regions of interest that include the best views of vasculature in the white of an eye. In some implementations, anatomical

*Derakhshani  
(EX1005),  
11:46-48*

Features are determined 624 for each image region that reflect structure or properties of the vasculature visible in that region of the user's eye. In some implementations, minutia

*Derakhshani  
(EX1005),  
13:9-11*

'471 Petition (Paper 1), 27; '471 POR (Paper 43), 33;  
Daft Decl. (EX1003), ¶ 185; Daft Reply Decl. (EX1060), ¶16

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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**Slide 61**

Slide 61 contains a reference to page 44, lines 4-13, of the Turk deposition transcript (EX1059) never referenced in Petitioner's previous papers and about which Petitioner made no arguments, including on Petitioner's cited pages 10 and 28 of its Petition and page 10 of its Reply.

**Derakhshani's Teaches "biometric data"**

**Dr. Turk**

Q Okay. And what is the meaning of the term "biometric data" in your opinion?

A Again, I don't have a precise definition at the top of my -- tip of my tongue right now, but in general, it means -- very broadly, it means data about a human, human biology or body or something.

In the context of biometrics, and especially biometric security, it means data about a human or derived from a human that can be used for identity -- to determine identity.

'471 Petition (Paper 1), 10, 28; '471 Reply (Paper 52), 10; Daft Reply Decl. (EX1060), ¶47 Turk Depo Tr. (EX1059), 44:4-13

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE 61

**Slides 87 and 91**

Slides 87 and 91 cite paragraphs from EX1060 (¶¶70 and 75, respectively), addressing portions from those paragraphs that were not discussed in Petitioner's previous papers, including on Petitioner's cited pages 12-13 of its Reply, violating the prohibition on incorporating arguments by reference in 37 CFR § 42.6(a)(3).

## Zhang's Feature Points And "selected locations"

**Dr. Daft** feature points. Using Zhang's example of the corner of the eye as the "location," it would make sense for the comparison between the two images to be a comparison of the same feature point, such as the same corner of the same eye because otherwise a difference in color/intensity value may be due to different features points having different colors or intensity values due to, e.g., the user moving. For example, the color of the corner of an eye is likely to be different than the color of the corner of a mouth, thereby a comparison of the same pixel position having two different feature points (as Dr. Turk suggests) would not be indicative of whether the face is a 3D structure or a flat surface. Thus, Zhang's feature points are used for both generating the homography matrix H and the comparison of the images (part of authenticating the user).

Daft Reply Decl.  
(EX1060),  
¶70

'471 Reply (Paper 52), 12-13; Daft Reply Decl. (EX1060), ¶70 DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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## Tanii

### Dr. Daft

shows that he misunderstands Tanii. A POSITA would have understood that Tanii's figures are simplified line drawings that portray abstract representations of the distance-induced distortions caused by the optical effects. (EX1007, [0048], [0049], [0056].) An actual captured image, on the other hand, includes far more information. Thus, Tanii's figures do not depict the level of detail of a captured image. Tanii does not cause ears to "miraculously appear," as Dr. Turk asserts. Instead, barrel (aka perspective) distortion is portrayed: the magnification is changing based on the distance from the image center due to how the camera lens works. (EX1003, ¶¶46-51.) Given that Tanii's figures are simplified and abstract

depictions, a POSITA would have understood that the ears are present in the actual captured image corresponding to Figure 4B, but because of the magnification, the ears are difficult to see. For example, the rightmost image (below) has ears that are present, but is difficult to see with the human eye due the distance-induced distortion. In those photographs, the user's ears appear increasingly distorted (reduced in lateral size compared with other facial features) as the distance between the sensor and the user is reduced. Also consistent with Tanii's figures, the user's nose exhibits distortion where it is relatively enlarged as this distance is reduced.

Daft Reply Decl. (EX1060), ¶75

'471 Reply (Paper 52), 14-15; Daft Reply Decl. (EX1060), ¶75 DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

'471 Petition (Paper 1), 52

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## Slide 102

Slide 102 contains a reference to column 30, lines 1-5, of the '471 patent (EX1001, IPR2025-00106) never referenced in Petitioner's previous papers and about which Petitioner made no arguments, including on Petitioner's cited pages 10, 14, and 37 of its Petition.

## Same Field Of Endeavor

| '471 Patent                                                                                                                                                                                                                                                                                                                                                  | Tanii                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>based on known and trusted enrollment data. In addition or as an alternative, the known specifications of a mobile phone camera for a given model may be utilized to predict the expected distortion of the person's facial features at different distances from the lens. Thus, the authentication may be</p> <p><i>'471 Patent (EX1001), 30:1-5</i></p> | <p>[0007] In particular, cellular phones in which a digital camera is mounted are already on the market, and it is foreseen that in the future cellular phones will be used as TV phones by which to capture the image of the user's face while he is talking through the phone. With a cellular phone containing a camera, the lens is adjusted to have a wide-angle focal length such that the face of the user captured in the image is appropriately sized. When the user's face is close to the camera when such an optical system is used, the exaggeration warp becomes more noticeable.</p> <p><i>Tanii (EX1007), [0007]</i></p> |

*'471 Petition (Paper 1), 10, 14, 37; '471 POPR (Paper 6), 2; '471 POR (Paper 43), 58*

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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## Slides 117 and 118

Slides 117 and 118 quote paragraphs from the Board's Institution Decision (Paper No. 17), addressing portions from those decisions that were not discussed in Petitioner's previous papers.

## RPI / Privity

| Decision on Institution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Patent Owner argues that iProov is a real party in interest because it challenged the validity of the '471 patent in both the Nevada and California litigations based primarily on the same references asserted in this Petition.</p> <p style="text-align: center;">* * *</p> <p>We disagree. The overlap in the prior art asserted in this proceeding and in the Nevada litigation is insufficient to demonstrate that iProov was directing Petitioner to file this Petition. Petitioner argues that it did not</p> <p><i>IPR2025-00106 DI (Paper 17), 19</i></p> |

*'471 Patent DI (Paper 17), 19*

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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## RPI / Privity

### Decision on Institution

Finally, Patent Owner argues that iProov would stand to benefit from this Petition, perhaps even more than Petitioner, because it has customers beyond just Petitioner. Prelim. Resp. 17, 18. While it may be true that iProov would benefit if the challenged claims were held to be unpatentable, this fact alone does not demonstrate that Petitioner filed this Petition at the behest of iProov. *WesternGeco*, 889 F.3d at 1321 (“[A] common desire among multiple parties to see a patent invalidated, without more, does not establish privity.”).

IPR2025-00106 DI (Paper 17), 21

'471 Patent DI (Paper 17), 21

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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### Slide 120

Slide 120 quotes from EX2010, which was not discussed in Petitioner’s previous papers, including on Petitioner’s cited page 19 of its Reply.

## District Court

### Order Granting Motion to Intervene

iProov’s interest is also “significantly protectable.” This is a threshold inquiry, and “[n]o specific legal or equitable interest need be established. It is generally enough that the interest [asserted] is protectable under some law, and that there is a relationship between the legally protected interest and the claims at issue.” *Sw. C’tr. for Biological Diversity*, 268 F.3d at 818. As FaceTec has recognized, Jumio “uses iProov liveness detection technology—not any new liveness detection technology proprietary to Jumio.” (Dkt. No. 45 at 2.) iProov clearly has an interest in defending its proprietary technology against claims that it infringes Jumio’s patents, and any finding of infringement by the accused iProov technology would necessarily affect iProov’s interest. Moreover, iProov has an economic interest in the litigation because it has indemnified Jumio. (Dkt. No. 47-1, ¶ 7.)

EX2010,  
4

### iProov’s Reply to FaceTec’s Opposition

7. iProov and Jumio have entered into an agreement dated November 23, 2020, (the “iProov-Jumio Agreement”). The iProov-Jumio Agreement includes an indemnification obligation and was previously produced to FaceTec in the Nevada Action at Bates No. IP0255884-0255959.

EX2006  
(Dkt. No. 47-1),  
¶7

'471 Reply (Paper 52), 19; '471 POR (Paper 6), 12;  
'471 POR (Paper 43), 66; '471 Sur-reply (Paper 59), 30-31

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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## Slide 138

Slide 138 quotes from page 2 of EX1067, which was not discussed in Petitioner's previous papers, including on Petitioner's cited page 24 of its Reply.

## Camera Integrity

● **FaceTec's technology works, first by ensuring camera feed integrity, and second, by acquiring the highest quality video data possible from the device at the maximum camera resolution and frame-rate. The video frames are then processed on the device itself, producing a small file containing 3D FaceScan data. This 3D FaceScan file (~350kb) is then encrypted and sent to the server for analysis. Once liveness is confirmed on the server, the one-time use liveness data is deleted, leaving only 3D matching data, called a 3D FaceMap, which cannot be resubmitted or reused, eliminating "Honeypot" risk. All remaining video data is deleted from the device itself, making the process secure as well as inclusive for clients on low bandwidth/data plans.**

## Slide 139

Slide 139 quotes from page 11, lines 1-4 of EX1073, which was not discussed in Petitioner's previous papers, including on Petitioner's cited pages 24-25 of its Reply.

## Camera Integrity: Preventing Deepfake Injection Attacks

Mr. Meier

okay. So remember that our system, first thing it does - the SDK - is take control of the sensor, the camera and the data feed from it, right? That's so we can mitigate against deepfake injection attacks, right? It's - it's pretty

EX1073, 11:1-4

'471 Reply (Paper 52), 24-25; Daft Reply Decl. (EX1060), ¶268 DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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### Slide 146

Slide 146 quotes from page 6, lines 17-21 of EX1073, which was not discussed in Petitioner's previous papers, including on Petitioner's cited page 26 of its Reply.

## User Interface

Mr. Meier

does, and it does it in a very, very unique way. So we have a lot of intellectual property around the user interface, two ovals, right? Because that is the only way we can figure out to capture 100 different video frames in a very controlled environment. Make sense?

EX1073, 6:17-21

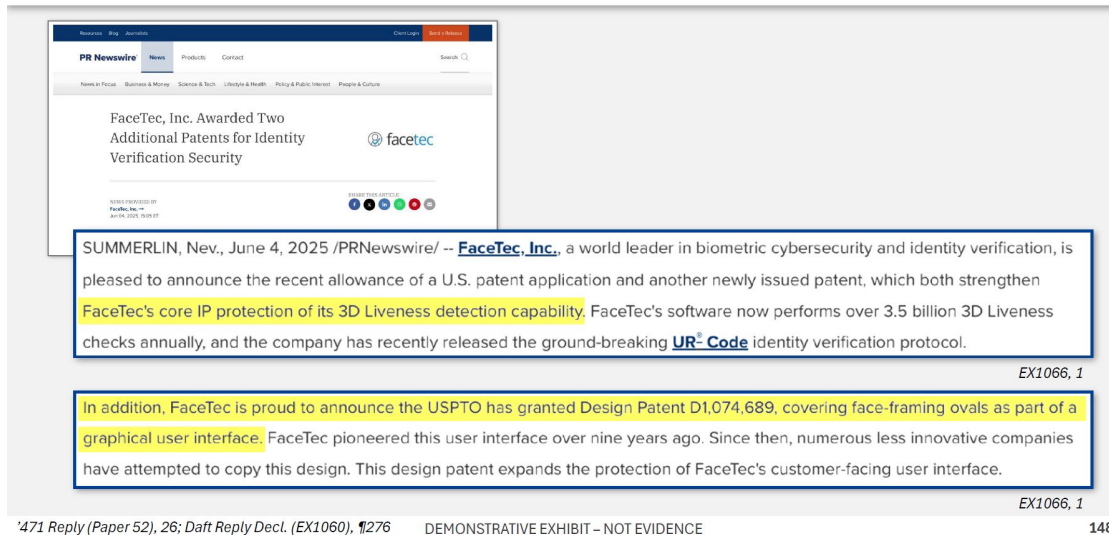
'471 Reply (Paper 52), 26; Daft Reply Decl. (EX1060), ¶275 DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

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### Slide 148

Slide 148 quotes EX1066, which was not discussed in Petitioner's previous papers, including on Petitioner's cited page 26 of its Reply.

#### FaceTec's 2025 Press Release

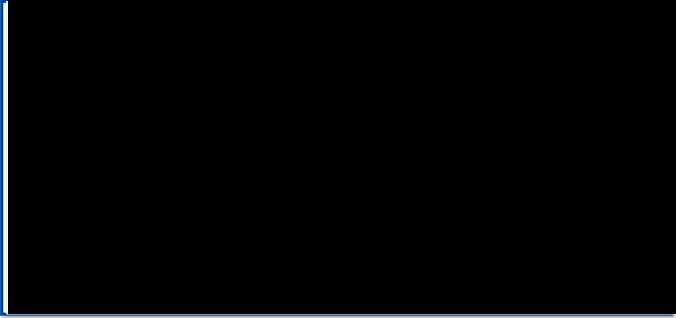


### Slide 155

Slide 155 quotes page 100, line 24 through page 101, line 6 of EX1059, which was not discussed in Petitioner's previous papers, including on Petitioner's cited page 29 of its Reply.

## Liveness Checks

**Dr. Turk**



*Turk Depo Tr. (EX1059), 100:24-101:6*

'471 Reply (Paper 52), 29; Daft Reply Decl. (EX1060), ¶286      DEMONSTRATIVE EXHIBIT – NOT EVIDENCE      PROTECTIVE ORDER MATERIAL – ATTORNEYS' EYES ONLY      155

### Slide 164

Slide 164 quotes page 171, line 23 through page 172, line 4 of EX1059, which was not discussed in Petitioner's previous papers, including on Petitioner's cited pages 30-31 of its Reply.

## Certifications

**Dr. Turk**

Q    And in citing all of these exhibits that we've been discussing with regard to FaceTec software, specifically Exhibit 2037, 2038, 2039, 2040 and 2078, did you ever go back and look to these companies' testing protocols?

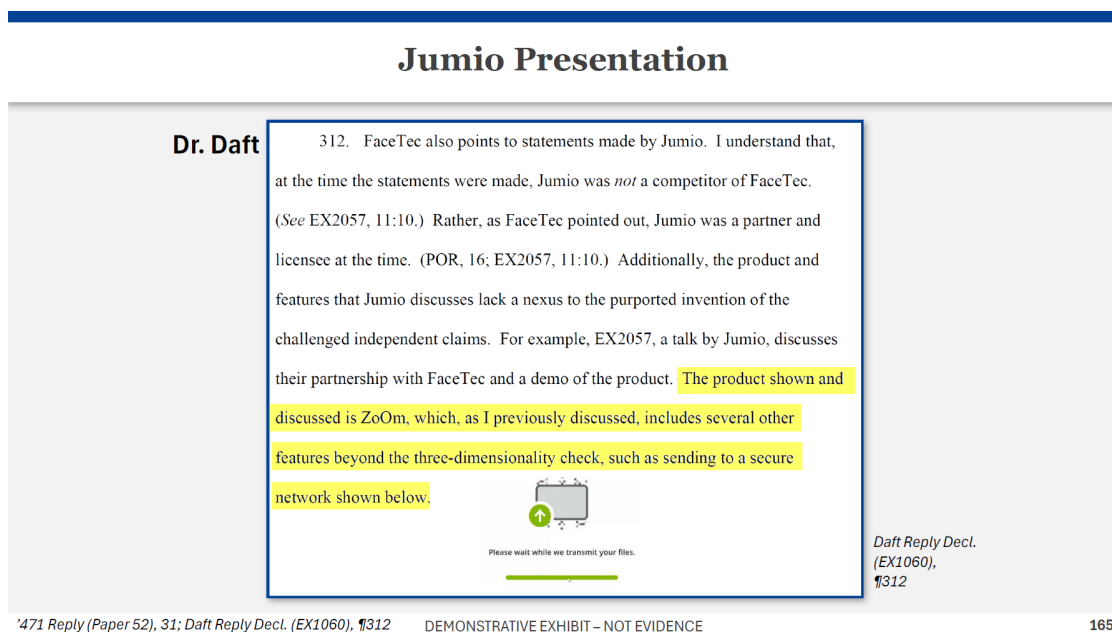
A    I don't believe I looked at their testing protocols.

*Turk Depo Tr. (EX1059), 171:23-172:4*

'471 Reply (Paper 52), 30-31; Daft Reply Decl. (EX1060), ¶305      DEMONSTRATIVE EXHIBIT – NOT EVIDENCE      164

**Slide 165**

Slide 165 quotes paragraph 312 of EX1060, specifically that “[t]he product shown and discussed is ZoOm, which, as I previously discussed, includes several other features beyond the three-dimensionality check, such as sending to a secure network shown below,” which was not discussed in Petitioner’s previous papers, including on Petitioner’s cited page 31 of its Reply.

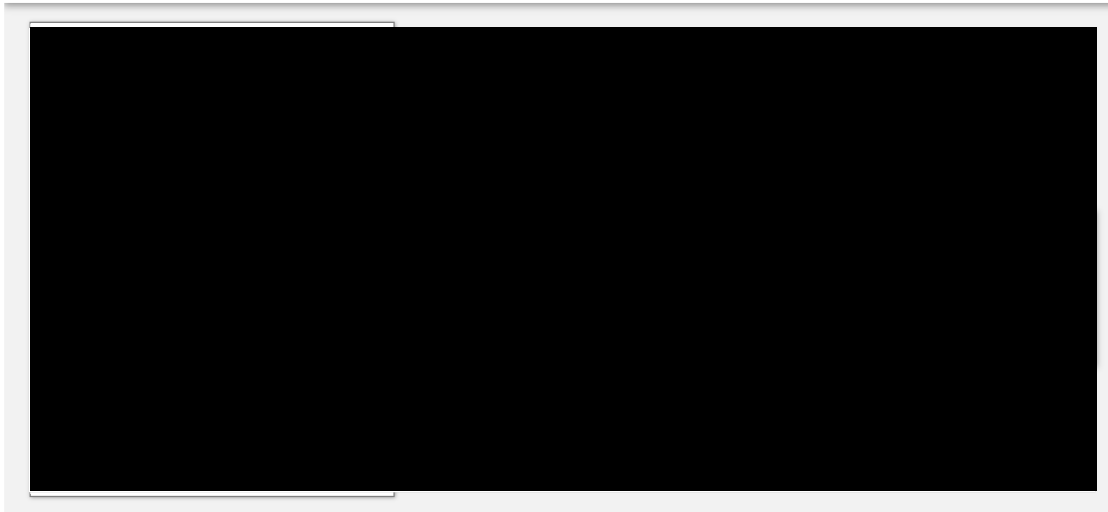


**Slide 182**

Slide 182 quotes page 1 of EX2083, which was not discussed in Petitioner’s previous papers, including on Petitioner’s cited page 35 of its Reply.

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**iProov Agreement**



'471 Reply (Paper 52), 35; Daft Reply Decl. (EX1060), ¶345

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

PROTECTIVE ORDER MATERIAL – ATTORNEYS' EYES ONLY 182

Respectfully Submitted,

Date: March 16, 2026

By: /Joshua L. Goldberg/  
Joshua L. Goldberg  
Reg. No. 59,369

**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that a copy of the foregoing **PATENT OWNER'S OBJECTIONS TO PETITIONER'S DEMONSTRATIVES** was served on March 16, 2026, via email directed to counsel of record for Petitioner at the following:

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Dated: March 16, 2026

By: /Lisa C. Hines/  
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