

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC. and GOOGLE LLC
Petitioners

v.

SPACETIME3D, INC.
Patent Owner

Case IPR2023-00344¹
Patent No. 9,696,868

PATENT OWNER'S SUR-REPLY

¹ Google LLC, which filed a petition in IPR2023-00578, has been joined as a petitioner in this proceeding.

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I. INTRODUCTION

In response to Patent Owner's ("PO") detailed explanation showing that the cited prior art fails to disclose, or render obvious, every claimed feature in the Challenged Claims, Petitioner resorts to improper and unsupported claim interpretations and a strained reading of the prior art.

As discussed in PO's Response, Paper 19 ("POR"), the Challenged Claims are directed to a 3D GUI that "can function as a visual chronological history of the user's computing session." It does so by displaying images in 3D space (1) in an order based on "*a last time*" that the user opened an application *or* interacted with its window in 2D space and (2) to illustrate "where the user last left off" by generating images, where each image is an image of *both* the object (application window) and its application-specific data (or content).

These features, among others, are not disclosed in Petitioner's proposed combination, HAC²—the only combination that addresses the independent claims.

² While the sur-reply references the Hanggie-Anthony combination ("HAC"), these arguments are applicable to both Anthony in view of Hanggie and Hanggie in view of Anthony, as "although separate combinations ... the mapping of the prior art

Petitioner does not even argue that the claimed order of images in 3D space (as properly construed) is disclosed in HAC. Instead, Petitioner takes issue with the claim language itself, arguing, among other things, that the claimed phrases “a last time” and “one of” should be disregarded and that “an image of an object” should be construed to be the same as “the object” itself. Not only is this construction contrary to the specification and the file histories, but it is inconsistent with the claim language.

Claim 1 provides that an object can be interacted with in 2D space, where “said user is allowed to modify at least a portion of the application-specific data by interacting with the object.” In 3D space, however, interacting with *the image* results in “replacing said plurality of images” with the selected *object* in 2D space, where the *object* can then be modified. To construe *an image of an object* as *the object itself* completely eviscerates the recited claim language requiring that objects can only be interacted with in 2D space.

references to the Challenged Claims ... is the same under both combinations.”

Petition, 33-34; Institution Decision (“Decision”), 24.

Even under Petitioner's erroneous claim constructions, these claimed features are missing from the proposed HAC combination. Accordingly, the Board should find that the Challenged Claims are not obvious over the cited prior art.

II. THE BOARD SHOULD FIND THAT THE CHALLENGED CLAIMS ARE PATENTABLE

A. The Proposed Combination Does Not Display Images In 3D Space Based On “*A Last Time That Said User One Of Opened [An] Application And Interacted With [A Corresponding] Object*”

1. Claim Construction

a. Claim Language

The Challenged Claims recite a specific order in which images associated with a plurality of applications are presented in 3D space. For example, Claim 1 provides “said plurality of images being displayed in said 3D immersive space in an order based on a last time that said user one of (i) opened said first application and interacted with said first object, (ii) opened said second application and interacted with said second object, and (iii) opened said third application and interacted with said third object.” EX1001, 39:3-19; 2016, [45].

b. Specification's Disclosure

The '868 Patent describes a 3D GUI that “functions as a visual chronological history of the user's computing session.” EX1001, 5:22-27; POR, 9-13; EX2016, [39]-[48]. It does so by plotting images of applications in 3D space, where the

application that was *last* opened or interacted with is displayed in the foreground, the application that was *previously* opened or interacted with is displayed in a background, and so forth. EX2016, [40].

This can be seen in Figures 16B and 20 of the '868 Patent (below), where a user opens three applications, “Yahoo! Search” (560), “Yahoo! Image Search” (570), and “web-browser” (570), in that order, where *images of the applications are displayed in an order based on when each application was last opened*. EX1001, 13:4-44; EX2016, [41]-[42].

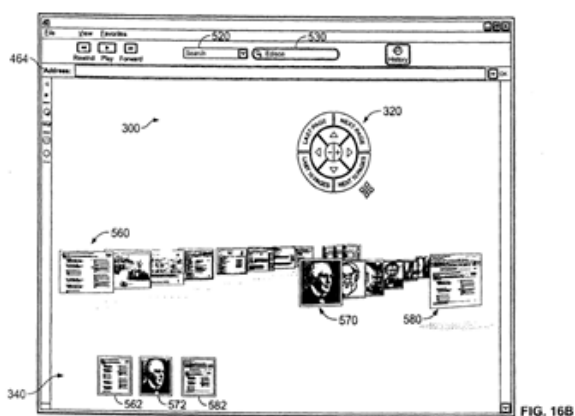


Figure 16B



Figure 20

However, the order of the images in 3D space may subsequently change (or be “re-ordered”) based on certain user inputs “through the script or program of a helper application (FIGS. 1A-1C—box 32).” EX1001, 31:40-47. As shown in Figure 1A, this “script” for “Alter[ing] Application Logic of 3D Cartesian Space”

(32) includes a “Scan Event Handler for End User Input” (30) where a “User Input” (22) results in “Recalculating Geometry in Scene” (24) and “Redraw[ing] Scene” (26). An example of this “re-ordering” can be seen in Figures 13A and 13B, where the Yahoo! Search application (492) is moved from the background (Figure 13A) to the foreground (Figure 13B) in response to a user input. POR, 12-13; EX2016, [43]-[44]. As Dr. Schaefer explains,³ this ordering is important to “create a visual history of the user’s computing session, whereby a user can visit past visual computing events (or a snapshot in time) by simply navigating [along the z-axis] to previously recorded states. *Id.*, [46], citing EX1001, 25:52-56.

³ Petitioner’s footnote that Dr. Schaefer was not a POSITA as of the Critical Date because he lacked “work experience” is without merit. Before the Critical Date, Dr. Schaefer received his B.S. in Computer Science and Mathematics (2000), his M.S. in Computer Science (2003), and worked in the field of 2D/3D GUIs with companies including SensAble Technologies, Microsoft, and Mok3 where he “wrote the code that computed correspondences between images and ... align[ed] the images in 3D so that virtual model of the object could be reconstructed.” EX2016, [5]-[11]; EX1031, 14:22-17:17. Clearly, Dr. Schaefer satisfies the Board’s definition of a POSITA. Decision, 19-21.

c. Claim Interpretation

Petitioner incorrectly argues that “the claims do not recite an ‘opening *or* last interaction with a specific application’ and “would have been understood as encompassing the opening of an application *and* interacting with an object (for one of the first, second, third applications).” Reply at 11.⁴ Petitioner’s interpretation is contrary to the interpretation of a POSITA.

First, Petitioner’s flawed construction reads out the language “one of” that proceeds “opening and interacting.” Construing “one of opening and interacting” as “opening *or* interacting” is consistent with the claim language and specification, which shows that opening applications results in a particular order and interacting with an open application results in a different order. *Supra*, Section II(A)(1)(b). Indeed, it is well settled that the phrase “one of” followed by two options (opening, interacting), as opposed to a list of more than two terms, is disjunctive, *i.e.*, one of option A or option B. *See, e.g., NFC Tech., LLC v. Samsung Elecs., Co.*, 2016 WL 1704770, at *15-16 (E.D. Tex. 2016) (construing “one of a bit and a flag” to mean “a bit or a flag” and noting that “the phrase ‘a bit and a flag’ simply defines the set from which ‘one of’ must be selected.”); *3rd Eye Surveillance, LLC v. United States*,

⁴ Herein, emphasis in quotations has been added unless otherwise stated.

2018 WL 4579926, at *69 (Fed. Cl. 2018) (construing “one of the additional information and imagery data” as disjunctive because “the content here is not a list, but rather an option of two” and “[t]he duality of the term makes it a binary choice between two options.”).

Second, Petitioner's construction also reads out the language “a last time” from the claimed ordering. For example, when Petitioner's expert, Dr. Fuchs, was asked about the phrase “one of,” he testified that this phrase modifies the lower-case roman numerals recited in Claim 1, resulting in “(i), (ii), *or* (iii).” EX2020, 47:18-49:9. However, this construction - “*a last time* that said user” opened and interacted with either (i) the first application, (ii) the second application, *or* (iii) the third application leads to the nonsensical result of displaying only a single (last) image—not the claimed “first one in said order,” “second one in said order,” and “third one in said order.” EX1001, 39:12-19.

As such, the only construction that is consistent with the language of the claims, the specification's disclosure, and gives meaning to the phrase “a last time that said user one of” is “a last time that said user (i) opened said first application *or* interacted with said first object, (ii) opened said second application *or* interacted with said second object, *and* (iii) opened said third application *or* interacted with said third object.” EX2016, [45]-[47].

2. HAC Does Not Disclose or Suggest the Claimed Chronological Ordering

Petitioner's arguments of obviousness are based on its flawed construction of the claimed order. As such, *under the proper construction, the Board should find that the Challenged Claims are not obvious over the cited prior art.*

Hanggie does not disclose or suggest any order, let alone the claimed order, and Petitioner does not argue that it does. Petition, 47-48. There is also no dispute that the items arranged chronologically in Anthony are visual representations of “a file, folder, virtual folder, or any other *data* object,” not the *applications* themselves. Reply, 14-15; POR, 37-38. This is further evidenced by the fact that the “ordering attributes” disclosed in Anthony are data file specific, such as file size, date of creation, modification date, author, read-only, archived, and file type. EX1007, [0042], [0049]. The foregoing is also supported by Anthony's stated purpose of locating “hundreds or even thousands” of items (*id.*, [0005]) and that the taskbar is sufficient to locate open applications (*id.*, Fig. 4; *see also* POR, 39-40).

In Petitioner's combination, the claimed “object” generated by the application is the “application window” and the claimed application-specific data is the “content” of the window. Petition, 40-42. Petitioner provides examples where the application window is “Microsoft Excel” or “Microsoft Word” and the content is an

“Microsoft Excel spreadsheet” or “Microsoft Word document,” respectively, “where the user can interact with the application and edit text and images in the application window using the computer’s keyboard, mouse, and/or other input device.” *Id.*, 25 and 42-43. This is also consistent with the ‘868 Patent, which describes a 2D desktop as having windows with application-specific data for each open application. *See, e.g.*, EX1001, 2:7-9, 2:29-33, 17:28-38, 23:36-49, 25:18-24, 26:1-9, 38:34-38.

Petitioner argues that, in the proposed combination, images of such windows (objects) and content (application-specific data) can be presented in chronological order. Petition, 25 (“For example, a window caption for a window corresponding to one or more Microsoft Excel spreadsheets could be ‘Microsoft Excel.’”). In its Response, PO pointed out that Petitioner’s proposed combination fails to take into account the claim language specifying when the application itself was first opened. POR, 38-39.

In its Reply, Petitioner argues that “PO fails to explain how a user’s interaction with an application file or window (e.g., Excel or Word window) ... is not an interaction with the application itself.” Reply at 12. Again, this fails to appreciate that the claimed order is not based solely on interactions, but “on *a last time* that said user” ***opened or interacted*** with a specific application. Thus, the claims contemplate

that *a determination must be made as to when an application was opened and whether it was subsequently interacted with.*

Petitioner argues that “Dr. Schaefer provided testimony corroborating the notion that interacting with an application window (file) is also interacting with the application.” Reply, 12-13. Petitioner is mischaracterizing Dr. Schaefer’s testimony, who testified that an application can be opened without opening or interacting with a particular file:

Q. [I]f a computer were to open an Excel Microsoft application, does the computer have to open an Excel file?

A. No, it doesn’t have to open an Excel file.

Q. So how would it open the Excel application then?

A. Well, the standard way you might do that is by selecting the icon for Excel from maybe the start menu, or double clicking on a shortcut, or something to that effect.

EX1031, 63:10-23.

This is consistent with the claims, which clearly differentiate between opening an application and interacting with an object. For example, Claim 1 requires the step of “*opening* said plurality of applications.” EX1001, 38:48-56. As such, there would be a time associated with the opening of each application. Claim 1 goes on

to provide that “for each one of said plurality of application (i) an object is generated having application-specific ... and (iii) said user is *allowed* to modify at least a portion of said application-specific data by interacting with said object.” *Id.* Thus, while the user is *allowed* to interact with the object to modify its application-specific data, a determination must be made as to whether this interaction *actually* took place, and if so, at what time. ***These two times (opening, interacting) are then taken into account in determining the claimed order in which the images are displayed in 3D space.***

Petitioner's proposed combination does not make such a determination. This is supported by the solution provided in Anthony, which is to locate *a particular data file—not a particular application*. This can be seen in Petitioner's proposed combination where open applications are displayed on the taskbar. EX2015, [98]. In attempting to downplay the fact that ***their very own illustration*** of HAC distinguishes between open applications (on the taskbar) and data files (on the timeline), they illustrate a critical distinction between Anthony and the '868 Patent—in the latter “icons of [the] open helper applications [are not] found on the taskbar.” Reply, 17. This is because the claimed invention, unlike Anthony, displays images of open application in 3D space based (in part) on when each

application was opened. As this feature is not present in Petitioner's proposed combination, the Challenged Claims should be found not obvious over the prior art.

B. The Proposed Combination Does Not *Replace Said Plurality Of Images In 3D Space With An Object In 2D Space* “*In Response To Said First Interaction [With One Of Said Plurality Of Images]*”

1. Claim Construction

a. Claim Language

Claim 1 provides the step of “generating at least a plurality of images,” wherein “said first image is *an image of* at least a portion of *a first object ... having first application-specific data*, said second image is *an image of* at least a portion of *a second object ... having second application-specific data*, and said third image is *an image of* at least a portion of *a third object ... having third application-specific data*.” EX1001, 38:59-39:2.

Claim 1 further provides that interacting with an object in 2D space results in modifying its application-specific data whereas interacting with an image in 3D space results in “replacing said plurality of images within said 3D immersive space with one of said first, second, and third objects corresponding to said one of said plurality of applications within said 2D space.” *Id.*, 39:34-51. Thus, the interaction on the image is not an interaction with the object, but “replac[es] said plurality of

images” with the selected object in 2D space, where the object can then be interacted with to modify its application-specific data. *Id.*

b. Specification's Disclosure

As noted, the 3D GUI disclosed in the '868 Patent provides “a visual history of the user's computing session” (EX1001, 5:22-27) by *capturing images of the windows and application-specific data in 2D space*. See, e.g., *id.*, Fig. 3 (146). As such, the images, which are displayed in 3D space, “provide a visual history of where the user last left off.” *Id.*, 5:27-32.

As illustrated in the claims, this is accomplished by generating images, where each image is an image of both the application object (identifying the application) and the application-specific data (illustrating where the user last left off). When the user interacts with an image in 3D space, the images are replaced by the corresponding object (application window) in 2D space, e.g., “by revealing the 2D version of the webpage that was initially hidden or drawn off screen.” *Id.*, 22:16-20. This allows the user to interact with a particular object (window) in 2D space “where the user last left off.” EX1001, 21:5-11; EX2016, [36]-[38].

c. Claim Interpretation

The parties dispute the proper construction for the claimed “image.” PO's construction is the plain and ordinary meaning of an image in the context of

computers, *e.g.*, bitmap, JPEG, screenshot, thumbnail, etc.—in essence “an optical counterpart of an object produced by ... an electronic device.” EX1029.

Petitioner's erroneous construction of image to mean that “*the images in 3D* are fully interactive and function *the same or similar manner as the corresponding objects in 2D space*” (Reply, 4) is not only contrary to the claim language but, by conflating “images” with “objects,” violates the presumption that “[d]ifferent claim terms ... have different meanings.” *Bd. of Regents of the Univ. of Tex. Sys. v. BENQ Am. Corp.*, 533 F.3d 1362, 1371 (Fed. Cir. 2016).

Petitioner's construction is also contrary to the specification. In support of its “images-are-objects” argument, Petitioner repeatedly quotes from the specification that “the present invention displays graphics from the user's 2D finite desktop in 3D infinite space *while retaining the functionality of the 2D programs and documents.*” Reply, 3 (emphasis in original). What Petitioner omits is *how* functionality is retained. The specification describes two ways of retaining functionality—*both involving an imaged object that cannot be interacted with in 3D space, i.e., inactive images.*⁵

⁵ PO is not reading “active” and “inactive” into the claims (Reply at 2-4) but merely using these adjectives to distinguish and describe that the user can only *interact with*

The first way of retaining functionality was claimed in the '018 Patent (the grandparent to the '868 Patent) where interactions on images are “mapped” to the 2D computing output hidden off screen. As stated during prosecution:

Thus, for example, if the user is presented with an image of a first page (or home page) of a website on the first window, and the user interacted with the image in an effort to interact with (or click) a link to a second page of the website, the processor module will map the interaction to the location on the rendered website to identify the corresponding link. The processor module will then use that link to request the second page of the website. The processor module will then render the second page (*e.g.*, using a web browser, etc.), capture an image (*e.g.*, bitmap, etc.) of the rendered second page, and texture the image of the second page on the first window, thereby replacing the image of the first page.

an object (a window) in 2D space to modify its application-specific data (the window's content). In 3D space, however, an interaction with an image does not modify the object itself, but merely results in “replacing” the images in 3D space with a corresponding object in 2D space.

EX2003, 76.⁶

The reason the interaction is “mapped” is because the digital images (or more particularly the webpages depicted therein) are static. To this end, the specification provides “[w]ebpages, unlike pictures that the end user simply view, require interactivity to function properly in a virtual space,” and therefore “a special system must be created to insure that the end user can interact with the mapped object in a 3D virtual space with the same responsiveness of input and output that one would find in a 2D desktop.” EX1001, 23:50-24:11.

This “mapping” is reflected in Figure 3 (reproduced below), where the system “periodically capture[s] the on screen output of [a] window ... as a bit map image.” *Id.*, Fig. 3, 146. The “bit map” is then stored (148) and mapped “onto arbitrary 3D geometry (142).” *Id.*, 148, 142. If the image is interacted with, the system “pass[es] mouse clicks, cursor position, keyboard input and movements from control map on 3D geometry to the mirror control running in 2D environment.” *Id.*, 152.

⁶ Notably, Dr. Fuchs testified that he did not consider the prosecution history of the ‘018 Patent in rendering his opinion. EX2020, 35:23-37:21; EX1033, [4].

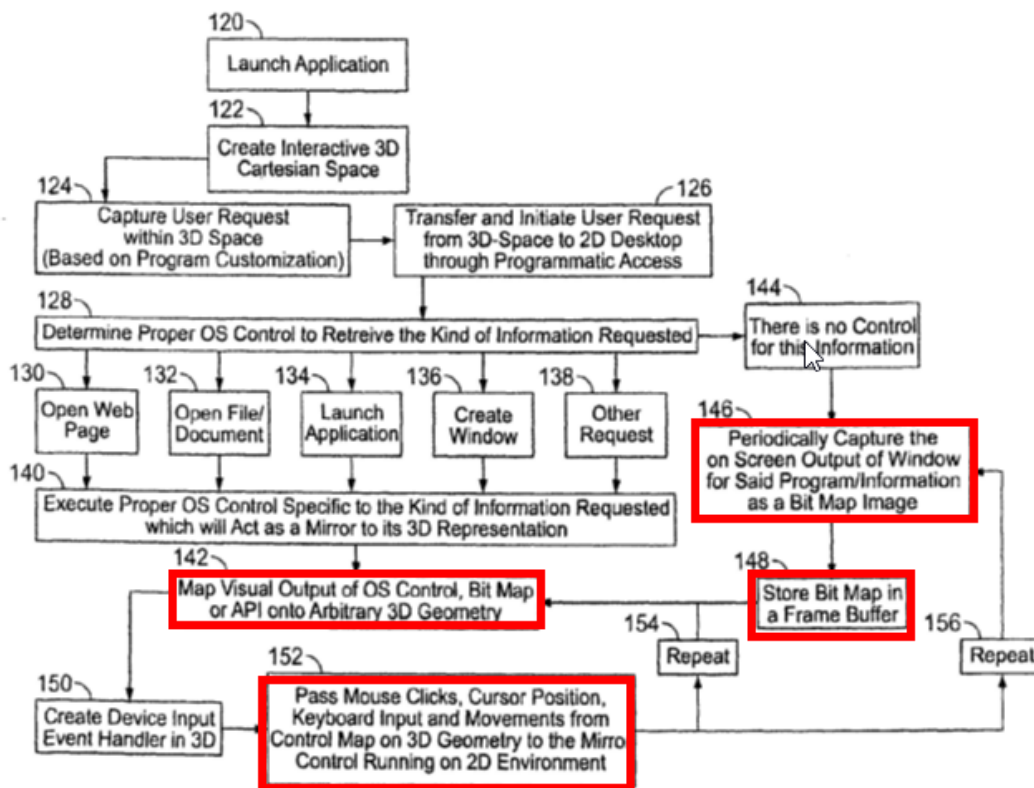


FIG. 3

As such, the captured image is just that—*an image*—where “the “user requests [interactions] are transferred by simulating/emulating or reproducing the request or device input from event handler off-screen onto the hidden 2D mirror component and capturing the response or change in the output from the 2D mirror again in synchronous fashion and mapping it back to arbitrary 3D geometry.” *Id.*, 25:4-11.

The second way of retaining functionality (as claimed in the ‘868 Patent) is to “reveal the 2D version of the webpage that was initially hidden or drawn off screen and positioning it in a layer that is in front of the 3D virtual space such that the end

user can interact with this layer in 2D.” *Id.*, 22:14-20; *see also id.*, 31:22-25. Thus, in either embodiment, the captured images of objects and the application-specific data are not the objects and data themselves.

Petitioner's new evidence also supports PO's interpretation. As noted, Petition's dictionary discloses that the plain and ordinary meaning of an image in the context of computers is “an optical counterpart of an object produced by ... an electronic device.” EX1029.

With respect to the Xu reference (EX1030), Petitioner's expert, Dr. Fuch, testified that *the cited figures in Xu* (Figs. 4A-4F) *are not images* but merely “window designs with control buttons.” EX2020, 50:21-52:22. Xu does discuss the concept of “screenshots” (EX1030, 9:26-34), which can be “saved as an image data structure,” such as “a bitmap image [or] JPEG image” (*id.*, 53-57). However, when asked about this, Dr. Fuchs testified that “JPEG ... is a very different context than the ‘868 or ‘654 use of the term image.” EX2020, 54:6-16. Perhaps most telling is Dr. Fuchs' testimony that “a bit mapped image of the term image is [also] very different than the term image used in the ‘868 and ‘654 patents” *Id.*, 55:8-21, despite the fact that a “bit map image” is the very example provided in the ‘868 Patent. EX1001, Fig. 3 (142, 146, 148).

In light of the foregoing, Petitioner's proposed construction of “image,” which

is contrary to the claims, specification, and prosecution history, should be rejected.

2. HAC Does Not Disclose or Suggest “Replacing Said Plurality of Images” In 3D Space “In Response To Said First Interaction [With One Of Said Plurality Of Images]”

Petitioner's obviousness argument stands and falls with its proposed construction of the term “image.” When properly construed, Petitioner fails to identify any disclosure in HAC for “replacing said plurality of images within said three-dimensional space with [a corresponding application] within a two-dimensional space in response to said first interaction.” As Dr. Schaefer stated, “a POSITA would have understood that the control buttons are part of the window” and “if the window is *inactive* (as it is merely an image), then so too are the buttons, thereby preventing ‘selection of a maximize button.’” EX2016, [132] (emphasis in original).

As aptly stated in the Response, “Petitioner cannot have it both ways.” POR, 46, 54. In other words, if the image includes both the window (object) and its contents (application-specific data) as claimed, then the user cannot interact with the window's maximize button as only an *image of the button* is displayed in 3D space. However, if the maximize button is not an image, then the “replacing” step would not be “in response to said first interaction [with one of said plurality of images].”

In response, Petitioner argues that “Hanggie discloses that an application can

generate an application window and attach any number of content objects to the application window.” Reply, 18-19. However, the “application window” in Hanggie is not an image. *See, e.g.*, Decision, 57; EX2020, 46:2-5. As such, the Petition relies exclusively on Anthony for its disclosure of displaying images in 3D space. However, the images disclosed in Anthony are traditional images, such as JPEGs (EX1007, Fig. 2), icons, and thumbnails (*id.*, [0042]), where an interaction results in “the system attempt[ing] to open the file [in 3D space] (*id.*, [0047]). As such, Anthony does not support Petitioner’s “images-are-objects” argument.

By arguing that “images” are merely “application windows that can be interacted with” (Reply, 17), Petitioner is basically *reversing course*, and now arguing that the application window shown in Figure 3 of Hanggie is an image. Not only does such a construction violate the canons of claim construction (as discussed above), but it is contrary to the theory advanced in the Petition (Decision, 57 (“Petitioner, however, relies on Hanggie’s application window as teaching the recited ‘object,’ not the recited ‘plurality of images.’”)) (emphasis in original)), and not supported by Petitioner’s own expert, Dr. Fuchs. (EX2020, 46:2-5 (“I did not need to determine if this Figure 3 [in Hanggie] was an image according to ‘868.”)).

Even if an active application window constitutes an image as Petitioner suggests (it does not), it would not read on the claimed first image, which must be

“an image of ... a first object generated by said first application having first application-specific data.” EX1001, 38:59-39:2. According to Petitioner, their “mapping relies on images (windows) in the 3D immersive space that *correspond to but are different from* objects (windows) in the 2D space.” Reply, 19. As such, they are not “reproduction[s]” or an “*exact likeness*” (EX1029) and would not match “the hidden 2D *mirror* component” as described in the ‘868 Patent (EX1001, 25:4-11). Even if it did, as discussed in greater detail below, it would not result in the claimed “replacing” with a corresponding object “*within two-dimensional space*.” See Section II(D).

The foregoing is but another reason the Board should find that Challenged Claims are not obvious over Petitioner's cited prior art.

C. There is No Motivation to Combine Hanggie and Anthony as Proposed

Petitioner's support for operating in 2D space is a single paragraph in Hanggie that describes a “legacy” mode for circumstances when “the processor intensive calculations required for desktop compositing” are inappropriate and can be disabled. This paragraph is *inapplicable to the proposed combination*, where only images are presented in 3D space. EX2016, [118]-[120].

In their Reply, Petitioner argues that “the purported advantage of manipulating images in 3D does not negate the advantages of more efficient system resource utilization by transitioning from images in 3D space to an object in 2D space, as expressly disclosed by Hanggie.” Reply, 19-20.

First, Hanggie does not teach that it is more efficient to operate objects in 2D space than ***images in 3D space***, as Hanggie does not disclose displaying ***images in 3D space***, but ***active windows***. *Supra* Section II(B)(2).

Second, the issue is not one of negation but inapplicability. Hanggie utilizes a Composite Desktop Windows Manager (CDWM) to display active windows in 3D space, which requires “processor intensive calculations.” EX1006, [0092]; *see also id.*, [0007], [0009]; EX2016, [75]. However, these “extremely difficult and very resource intensive” features and operations are only applicable when displaying legacy application as active (CDWM) windows in 3D space—not images, as claimed. As such, Hanggie does not provide the proposed motivation to modify Anthony as Petitioners suggest. *See, e.g.*, EX2016, [118]-[120]. *See Polaris Industries, Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1068 (Fed. Cir. 2018) (distinguishing between “what a skilled artisan would have been able to do, rather than what a skilled artisan would have been *motivated* to do at the time of the invention.”) (emphasis in original).

Finally, the claims do not start in 3D space, but 2D space, where applications are opened, and corresponding objects are displayed. The user can then view images of objects in 3D space to switch application, where corresponding object can (again) be interacted with in 2D space. EX2016, [35]-[36]. Petitioner argues that ***conserving battery power*** is a motivation to operate in 2D space, as Hanggie provides that “when a portable device is disconnected from an AC power source and switches to battery power, the operating system may enforce legacy drawing mode.” EX1006, [0092]. Petitioner is essentially arguing that a POSITA would be motivated to operate in 2D space when disconnected from an AC power source and operate in 3D space when connected to an AC power source.

However, in order to satisfy the claimed “replacing” feature, Petitioner also argues that this same motivation (“conserving battery power”) would lead to “switching from a 3D to a 2D state upon user selection of a maximized control button.” Petition, 26-27. However, if the device is only operating in 3D space when connected to an AC power source, then “conservation of battery power” cannot be motivation to switch from 3D to 2D “upon user selection of the maximize control button” as Petitioner contends.

In light of the foregoing, the Board should rejected Petitioner's images-are-objects argument and motivation based on tenuous hypotheticals regarding when

and why a user would practice the proposed combination and find the claims patentable over the cited prior art.

D. The Proposed Combination Does Not “Receive A Request From Said User To Switch From Said 2D Space To Said 3D Space” Or Perform The “Replacing” Step In Response Thereto (Claim 13)

In its Institution Decision, the Board found that “Petitioner has not shown sufficiently that the combination of Anthony and Hanggie teaches or suggest this limitation in Claim 13.” Decision, 65-66. In response, Petitioner cites (again) to Hanggie and argues that the motivation to switch from 2D to 3D is “to enjoy 3D viewing [when] a power source is available.” Reply, 26-27.

First, Petitioner’s arguments are unavailing as they merely regurgitate the same, deficient arguments from the Petition—arguments that the Board found “does not explain how the combination of Anthony and Hanggie teaches or suggest [the claimed ‘switching’ feature].” Decision, 62.

Second, Petitioner fails to point out how Hanggie “switch[es] from said 2D space to said 3D space,” and merely argues a motivation for the claimed “replacing” feature. In other words, Petitioner fails to give any meaning to the claimed “switching” feature, essentially reading it out of Claim 13, which according to Petitioner’s expert is appropriate, as “the definition of ‘switch’ is irrelevant” and “not required” as “[Claim 13] doesn’t say that the switching actually has to take

place.” EX2020, 58:4-14, 61:16-62:16. As such, Petitioner completely ignores the fact that the “replacing” feature recited in Claim 10 is accomplished by “switch[ing] from said 2D space to said 3D space.”

To this end, the specification provides that “the 3D GUI can run ... within a browser window on the desktop of a computer” (EX1001, 5:33-36) and that applications can be opened “within the virtual space or outside of the virtual space on the 2D desktop” (*id.*, 31:13-17). The ‘868 Patent further provides that when it is difficult to interact with an item displayed in 3D space, the 2D version can be revealed (*e.g.*, on the 2D desktop), which is “analogous to the minimizing button in the windows operating system environment.” *Id.*, 22:10-20. In other words, revealing the object on the 2D desktop is “analogous” to minimizing 3D GUI (or the application associated therewith), thereby allowing “an end user [to] **toggle or switch between 2D and 3D** for any selectively captured computing output.” *Id.*, 22:25-30.

Switching spaces is not disclosed in Hanggie as Petitioner argues. Hanggie discloses that it can receive both “compositing-aware applications” and “legacy applications” (EX1006, Fig. 2 (201, 207)), where “[s]tep 207 can be more generally described as placing the legacy window and graphics subsystem in ‘composite mode.’” *Id.*, [0051]. While this composite mode for legacy applications can be disabled (*e.g.*, to conserve battery power), it does not mean that Hanggie is operating

in 2D space. It simply means that legacy applications are not being transformed into 3D application windows.

As Petitioner points out, CDWM alters the “object,” not the space in which the object resides. Reply, 24. The passage cited by Petitioner for the proposed motivation addresses “legacy support” (EX1006, [0092]), where “[l]egacy support is provided so that the operating system can draw and render windows generated by legacy applications to look consistent with non-legacy application windows.” *Id.*, Abstract. Thus, while a user can “select whether the compositing or legacy drawing mode should be used [for legacy support]” (*id.*, [0092]), that does result in a 2D space, but merely 2D objects, which are displayed in the same space as “non-legacy” or “composite-aware” 3D objects. As such, mode selecting for legacy support does not result in switching from 2D to 3D space (or vice versa) as Petitioner contends.

For at least these reasons, Claim 13 is not obvious over the prior art.

E. Secondary Considerations

PO's licensing of the '868 Patent is further evidence that the challenged claims are nonobvious. Petitioner's argument that “[m]erely ‘alleging the existence of a number of licenses’ does not prove nexus” fails to address Patent Owner's evidence. Reply, 28. The licenses themselves have been submitted along with a declaration that provides further evidence establishing the required nexus of the licenses to the

claimed inventions, including that (i) the licenses are limited to the '868 patent and patents related thereto (*e.g.*, patents at issue in IPR2023-00242 and 343), (ii) licensees (Samsung and LG) are two of the three largest smartphone manufactures in the United States, and (iii) and the amounts paid for the licenses. EX2018. Such evidence has been found to support nonobviousness. *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340, 1353 (Fed. Cir. 2012). PO therefore has shown a “nexus” and evidence supporting nonobviousness of the Challenged Claims.

III. CONCLUSION

For the foregoing reasons, Patent Owner respectfully submits that Petitioner has not proven that the Challenged Claims are obvious and the Challenged Claims therefore should be found to be patentable.

Respectfully submitted,

Date: March 1, 2024

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Patent Owner's Sur-Reply
IPR2023-00344 (U.S. Patent No. 9,696,868)

CERTIFICATE OF WORD COUNT

The undersigned certifies pursuant to 37 C.F.R. §42.24(c)(4) that the foregoing Patent Owner's Sur-Reply to Petition for *Inter Partes* Review of U.S. Patent No. 9,696,868, excluding any table of contents, table of authorities, certificates of service, word count, or appendix of exhibits, contains 5,590 words according to the word-processing program used to prepare this paper (Microsoft Word).

Respectfully submitted,

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CERTIFICATE OF SERVICE

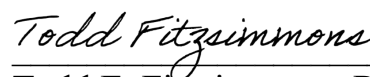
The undersigned certifies that on March 1, 2024, a true and correct copy of this Sur-Reply to Petition for *Inter Partes* Review of U.S. Patent No. 9,696,868 and all supporting exhibits were provided by email to Petitioner by serving the email correspondence address of record as follows:

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