

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

SPACETIME3D, INC.,
Patent Owner

IPR2023-00343
Patent 9,304,654

**PETITIONER'S REPLY
TO PATENT OWNER'S RESPONSE**

LIST OF EXHIBITS

APPLE1001	U.S. Patent No. 9,304,654 to Ezra E. Bakhsh (“the ’654 Patent”)
APPLE1002	U.S. Patent No. 9,304,654 Prosecution History (“the Prosecution History”)
APPLE1003	Declaration of Dr. Henry Fuchs
APPLE1004	Complaint, <i>SpaceTime3D, Inc. v Apple Inc.</i> , 6-22-cv-00149, (W.D. Tex.), Feb. 10, 2022
APPLE1005	Apple Opening Claim Construction Brief, <i>SpaceTime3D, Inc. v Apple Inc.</i> , 6-22-cv-00149, (W.D. Tex.), Sept. 1, 2022
APPLE1006	US Patent Pub. No. 2005/0088447 (“Hanggie”)
APPLE1007	US Patent Pub. No. 2005/0091596 (“Anthony”)
APPLE1008	US Patent Pub. No. 2006/0107229 (“Matthews”)
APPLE1009	RESERVED
APPLE1010	Dictionary of Electrical & Computer Engineering, McGraw-Hill, 2004
APPLE1011	US Patent Pub. No. 2012/0053926 (“Satpute”)
APPLE1012	US Patent No. 5,664,896 (“Blumberg”)
APPLE1013	US Patent No. 7,536,676 (“Baker”)
APPLE1014-APPLE1019	RESERVED

APPLE1020	U.S. District Courts–Combined Civil and Criminal Federal Court Management Statistics (June 30, 2022) United States Courts (uscourts.gov), https://www.uscourts.gov/sites/default/files/fcms_na_distprofile0630.2022_0.pdf (last visited December 9, 2022)
APPLE1021	Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (USPTO June 21, 2022) (“Interim Procedure”)
APPLE1022	Order Cancelling Markman Hearing, <i>SpaceTime3D, Inc. v. Apple Inc.</i> , 6-22-cv-00149, (W.D. Tex.)
APPLE1023	Apple’s Opposed Motion to Stay Pending Transfer, <i>SpaceTime3D, Inc. v. Apple Inc.</i> , Case No.:6:22-cv-00149 (WDTX)
APPLE1024	Scheduling Order, <i>SpaceTime3D, Inc. v. Apple Inc.</i> , Case No.:6:22-cv-00149 (WDTX)
APPLE1025	Order Resetting <i>Markman</i> Hearing, <i>SpaceTime3D, Inc. v. Apple Inc.</i> , Case No.:6:22-cv-00149 (WDTX)
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APPLE1027	Transcript of Conference Call of May 23, 2023
APPLE1028	Stipulation by Apple dated May 24, 2023, <i>SpaceTime3D, Inc. v. Apple Inc.</i> , Case No.:6:22-cv-00149 (WDTX)
APPLE1029	Merriam-Webster’s Collegiate Dictionary, Tenth Edition, Merriam-Webster, Inc., 1999
APPLE1030	US Patent No. 10,936,270 (“Xu”)

APPLE1031	Transcript of the Deposition of Dr. Schaefer taken on January 9, 2024
APPLE1032	SpaceTime's Opposition to LG's Motion to Dismiss, <i>SpaceTime3D, Inc. v. LG Electronics Inc., et al.</i> , Case No.: 2:22-cv-00049 (EDTX)
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I. INTRODUCTION

The Patent Owner Response (“POR” or Paper 19) attempts to distinguish the applied prior art from the Challenged Claims based on terms and features that are not recited in the Challenged Claims. This is despite the Board previously warning Patent Owner (“SpaceTime3D” or “PO”) that PO’s earlier arguments were not based on the claimed features. Institution Decision, 49 (“Patent Owner does not explain adequately why the ‘replacing’ limitation’s ‘relationship to other claim limitations’ requires ‘switching from 3D space to 2D space,’ which is not recited in the claim or described in the Specification. ... claim 1 does not require ‘switching from 3D space to 2D space’”).

As explained below, PO continues in the POR to rely on terms that are not recited in the claims, to improperly attack prior art references individually rather than addressing what a POSITA would have understood and found obvious in view of the prior art, and to mischaracterize the prior art combinations advanced in Petitioner’s obviousness grounds.

For at least these reasons, PO’s arguments are unavailing, and the Challenged Claims should be found invalid. *See KSR Intern. Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007) (“As our precedents make clear... a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ”); *Fleming v. Cirrus Design Corp.*, 28 F.4th 1214, 1222 (Fed. Cir. 2022)

(“That the proposed *combination* ... —rather than one of the individual references—discloses the disputed claim limitations does not defeat the Board’s conclusion of obviousness”) (emphasis original); *Masimo Corp. v. Apple Inc.*, No. 22-1894 Doc. 47 at 6 (Fed. Cir. Jan. 10, 2024) (“The question is not whether the prior art disclosed the very thing claimed; it is whether, in light of the prior art, the claimed invention would have nonetheless been obvious to a person of ordinary skill”).

II. PO’S ARGUMENTS RELY ON TERMS AND FEATURES THAT ARE NOT RECITED IN THE CLAIMS

A pervasive theme in PO’s arguments is that “the claimed invention allows the user to interact with *active applications in 2D space*¹ while displaying *images* of open applications in 3D space.” POR, 7, 8, 4, 49 (“the claimed invention *switches from (inactive) images* of applications in 3D space *to an (active) application in 2D space*”). The bolded phrases are at the core of PO’s arguments, even though they are nowhere to be found in the claims. APPLE1033, ¶[8].

A. The ’654 Patent Does not Recite “Active” or “Inactive”

As a preliminary matter, the terms “active” and “inactive” are not recited in the claims. APPLE1033, ¶[9]. The term “active application” cannot even be found in the specification, let alone limit the claimed objects in 2D space, as alleged by the

¹ Bolded and italicized effect added on text for emphasis in this paper.

PO. POR, 7, 8, 4, 49. In the '654 patent, the word “active” is most frequently recited as part of the word “interactive,” which is used to describe the **3D** interface. APPLE1001, 1:29-37, 7:24-8:5, 13:53-67. For instance, in the Field of Invention, the '654 patent states that the alleged invention is directed “to a three-dimensional (“3D”) **interactive** computing interface.” APPLE1001, 1:29-37. Moreover, the '654 patent states that:

Through programmatic access or helper *applications* (e.g., *represented by interactive icons within the 3D space*), the 3D GUI allows the user to locate data, applications, files created by applications, desktop windows, HTML pages, and **3D applications**, and it facilitates or invites the *graphical output of these files and programs in their interactive 3D spaces*. In general, 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*.

APPLE1001, 5:37-47.

Any characterization of the functionality of images corresponding to applications in the 3D space necessarily being different from objects in the 2D space is not supported by the '654 specification (see above “*while retaining the functionality of the 2D programs and documents*”). Thus, PO's argument that the present invention allows a user to interact with active applications in a 2D space,

while displaying inactive images of those same applications in a 3D space, is inconsistent with both the claim language and the specification. APPLE1033, ¶[10].

The description of FIG. 13A (reproduced below) in the '654 patent further exposes the error in PO's characterization of images in 3D immersive space as necessarily being "inactive." In particular, the '654 patent explains that "the **3D GUI** runs as *an Active X control* within the Internet Explorer web browser." APPLE1001, 20:39-55, 5:22-33. A "saved Microsoft Word document 500 is running in a window 490 within a 3D virtual space 300 alongside items 492, 494, 496, 498. All of the outputs of these items were captured through the input of the end user through helper applications." APPLE1001, 20:39-55. "[O]nce [a] file, document, application or desktop is added to the virtual space 300, *it is fully interactive and functional and appears no different from, or close to, the original way the program functions when it was not in the 3-D Cartesian space 300.*" APPLE1001, 20:66-21:3. This description makes clear that the images in 3D are fully interactive and function in the same or similar manner as the corresponding objects in 2D. APPLE1033, ¶¶[11]-[12].

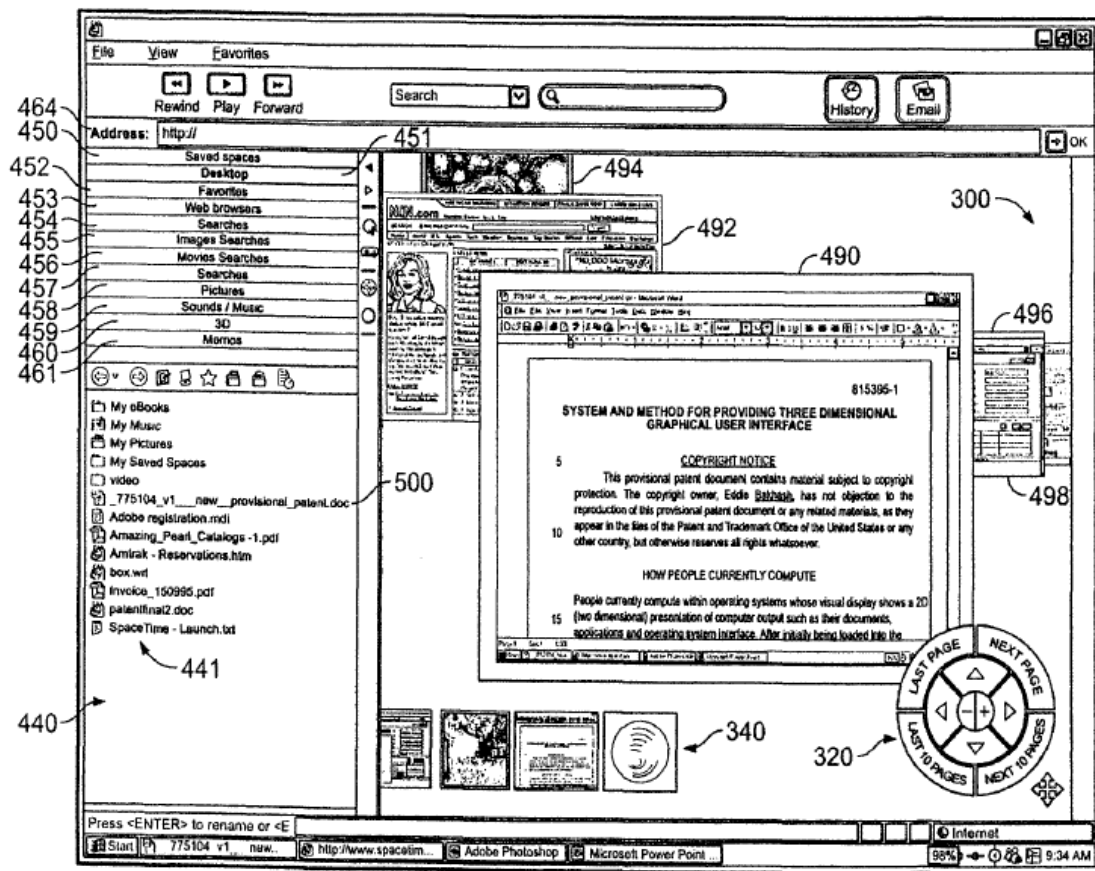


FIG. 13A

APPLE1001, FIG. 13A.

B. PO has no Support for its Fabricated Distinction Between Images and Windows

PO argues that HAC² does not render the independent claims obvious because HAC allegedly does not disclose generating and displaying *images* in the 3D immersive space. POR, 2-6. At the heart of PO's arguments is the incorrect and

² "HAC" refers to the combination of Anthony and Hanggie, and the combination of Hanggie and Anthony. Petition (Pet.), 34-35.

unsupported notion that an image must be inactive/static and cannot be active/dynamic. APPLE1033, ¶[13]. For instance, in describing Hanggie, PO contends that “the *windows are always active*. As such, *they are not images* as claimed.” POR, 32. PO also argues that “[b]y definition, because the user can interact with the control buttons on the window, the window (object) is not an image as required by the claims of the ‘654 Patent.” POR, 50. Relatedly, PO contends that “if the window and its title bar (with maximize button) is active, then it is not an image. Alternatively, if the window and its title bar (with maximize button) is an image, then it cannot be interacted with by the user to maximize the window.” POR, 58.

Nowhere in the ‘654 patent specification is there any disavowal or a description suggesting that an image cannot be active or is incapable of receiving interactions. APPLE1033, ¶[14]. On the contrary, in the example of FIG. 13A noted above and as described further below, images in the 3D immersive space can be interacted with. APPLE1001, 20:39-55. And while PO alleges that an interaction with an object means that the object is not an image “by definition,” PO does not provide any definition of an “image” in support of its argument. PO also fails to point to any support from the specification or secondary sources, such as dictionaries. Instead, PO only cites to its expert (Dr. Schaefer) declaration, which parrots the same language. *See, e.g.*, POR, 49-50, 54-55.

But the Board has previously found that expert testimony that “merely repeats, verbatim, the conclusory assertion for which it is offered to support” is entitled to little weight. *Xerox et al., v Bytemark*, IPR2022-00624, Paper 12, 1, 4, (PTAB Feb. 2023); *see also* 37 C.F.R. § 42.65(a) (Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight”). Thus, Dr. Schaefer’s³ uncorroborated and conclusory testimony should not be accorded evidentiary weight in support of PO’s narrow interpretation of “image” and “window.”

For at least these reasons, PO’s attempt to distinguish the applied prior art based on language not found in the claims fails. *See Retractable Techs. v. Becton*,

³ During his deposition, Dr. Schaefer explained that as of the Critical Date in these proceedings, he had three working engagements of a few months each. APPLE-1031, 14:22-19:6. His work experience did not amount to two years. *Id.* Thus, as of the Critical Date, Dr. Schaefer did not satisfy the required experience of a POSITA, as defined by the parties and the Board (bachelors plus 2 years work experience, or equivalent). Institution Decision, 18-20; POR 21. Accordingly, Dr. Schaefer is not qualified to opine on what a POSITA would have known or understood. To the extent PO maintains that Dr. Schaefer is a POSITA, his *ipse dixit* statements repeating the POR statements provide little evidentiary value.

Dickinson & Co., 659 F.3d 1369, 1372-73 (Fed. Cir. 2011) (“Absent clear lexicography or disclaimer in the specification, [courts] cannot import [a] limitation into the claims”). APPLE1033, ¶¶[14]-[15].

More, a POSITA would not have understood an “image” to be limited in the manner that PO wishes it to be. APPLE1033, ¶[16]. Merriam Webster’s Dictionary defines an image as “a reproduction or imitation of the form of a person or thing;” “a tangible or visible representation;” “a vivid or graphical representation or description.” APPLE1029, 578. Petitioner’s mapping of HAC’s application windows in 3D space to “an image of at least a portion of a [first/second/third] object generated by said [first/second/third] application” is consistent with the understanding a POSITA would have had because the application window is a visible or graphical representation of an application window in 2D (“an image of at least a portion of a first object generated by said first application”) in a 3D immersive space. *See, e.g.*, Pet., 45-50; APPLE1033, ¶[16]. Neither the ’654 patent specification nor a POSITA’s understanding in the art would have limited an “image” to being a static image or an entity incapable of being interacted with. *Id.* Moreover, nothing prevents HAC’s application windows in 3D space to be an image with control buttons. *Id.* Indeed, such window design is a common feature in several computer user interfaces. APPLE1030, FIGS. 4A-4F, 9:26-34, 10:8-16; APPLE1005, FIG. 6, ¶[0064].

If anything, the '654 patent specification includes descriptions of an image in 3D space that indicate it is not static and is configured for user interaction. APPLE1033, ¶[17]. For instance, in addition to the description of FIG. 13A above, the '654 patent explains that images taken from 2D computer screens are interactive. APPLE1001, 26:12-15 (“The redrawing of 2D computer screens onto *interactive* 3D objects”). When the images are webpages, the '654 patent explains that such images are “active page[s]” that upon selection can generate a new cluster of webpages that the active page links to. APPLE1001, 34:46-62. And because the '654 patent expressly notes that “displays graphics from the user’s 2D finite desktop in 3D infinite space ... *retain[] the functionality of the 2D programs and documents,*” the '654 patent does not support PO’s alleged distinction of 2D active windows and 3D inactive images. APPLE1001, 5:34-47.

PO also argues that an interaction with an image in 3D space “does not result in the corresponding application being opened but displaying the *previously* opened version of the application including the application-specific data, so that the user can resume where they last left off.” POR, 39. But no such limitation is recited in the claim. Thus, PO’s attempt to distinguish the claimed images in 3D space from the prior art is not rooted in language recited in the claims. APPLE1033, ¶[18].

For at least the foregoing reasons, PO’s arguments that an image cannot be active are without merit and should be rejected. APPLE1033, ¶[19].

III. THE CHALLENGED CLAIMS ARE ALL UNPATENTABLE

A. Grounds 1A/2A: PO Fails to Undercut HAC

1. HAC renders obvious claims 1-5, 9-14, and 18-20

PO argues that HAC does not render obvious the Challenged Claims and, in support, argues that, in HAC, “[t]here is no switching from one space to another” and that “everything occurs on a single 3D GUI.” POR, 38; APPLE1033, ¶[20].

As a preliminary matter, this argument is irrelevant and has already been dismissed by the Board, which recognized that the claims do not recite switching from one space (e.g., 3D) to another (e.g., 2D). Institution Decision, 49, 48 (“Again, Patent Owner does not explain adequately why the ‘replacing’ limitation’s ‘relationship to other claim limitations’ requires ‘switching from 3D space to 2D space,’ which is not recited in the claim or described in the Specification”). APPLE1033, ¶[21].

PO’s assertion that in Anthony and Hanggie “everything occurs on a single 3D GUI” is also incorrect. As explained in the petition, Hanggie discloses a compositing Desktop Window Manager (CDWM) that provides 3D graphics and a Legacy Graphical User Interface Subsystem 192 that provides 2D graphics services. APPLE1006, ¶¶[0039]-[0042]; APPLE1003, ¶¶[51]-[59]; Pet., 16-23. Hanggie’s “operating system in which the CDWM and legacy DWM are integrated inherently

has the capability to render the desktop using the invalidation DWM (legacy DWM. 192a) or the compositing DWM (CDWM. 190).” APPLE1006, ¶[0092]. Selection of the compositing or legacy drawing mode can be made by the user. APPLE1006, ¶[0092]. When HAC’s system operates in the legacy DWM mode, a 2D GUI, not a 3D GUI, is used. Thus, PO’s understanding that, in HAC, “everything occurs on a single 3D GUI” is a significant error and misunderstanding of the prior art. APPLE1033, ¶[22].

Ironically, PO accuses Petitioner of misleading the Board (*see, e.g.*, POR, 56), while PO fails to rebut the Board’s straightforward analysis in recognizing that the claims do not recite switching from one space (*e.g.*, 3D) to another (*e.g.*, 2D). Institution Decision, 49. The *Markman* order also cannot save Patent Owner because the district court’s analysis followed the specification, and the specification and claims do not support Patent Owner’s “switching” argument which has no foundation in the ’654 patent. *See* EX2012 (*Markman*), at 13-16. Moreover, the Petition explicitly noted the district court’s constructions of 2D space and 3D space (*see* Pet., 9) and explains why HAC renders obvious objects in 2D space and images in 3D space, as recited in the claims. In the Institution Decision, the Board agreed, and PO has now responded by relying on arguments that are not rooted in the claim language. APPLE1033, ¶[23].

2. HAC displays images in the 3D immersive space according to the claimed order

PO argues that Petitioner's mapping of feature [1c-2] fails because "the ordering is not based on the creation or editing of application-specific data (*e.g.*, a file or document), but *the opening or last interaction with a specific application*. Thus, *the claimed invention orders images in 3D space based on the most recently used applications—not the most recently used documents or files*." POR, 14, 4-5; APPLE1033, ¶[24].

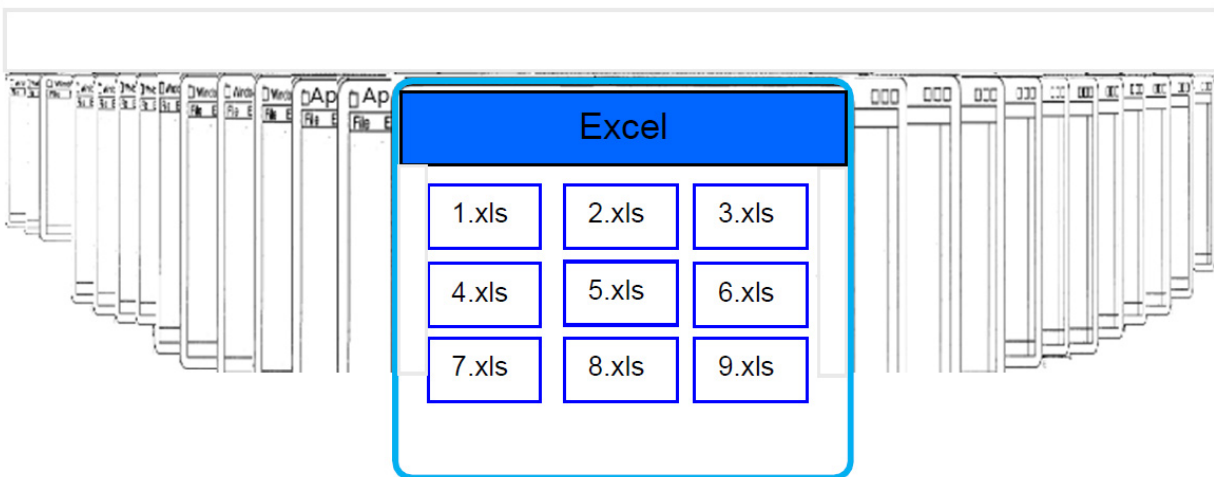
Yet again, PO misquotes the claimed features. First, the claims do not recite an "opening *or* last interaction *with a specific application*." POR, 14. Rather, feature [1c-2] recites, among other features, "displaying said plurality of images in a three-dimensional space on said display device and in 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," and therefore would have been understood as encompassing the opening of *an application* and interacting with *an object* (for one of the first, second, third applications). APPLE1001, 39:56-67. Because PO's argument is premised on language that cannot be found in the claims, PO's argument is without merit. APPLE1033, ¶[25].

Yet even if PO's argument were to be considered, PO does not appear to dispute that HAC discloses a chronological ordering attribute based, e.g., on the date of edit or creation. POR, 36. Rather, PO focuses its arguments on (1) the claims allegedly requiring image ordering to be based on an "opening or last interaction with a specific application" (which as noted above is not required by the claims), and (2) the claimed ordering being for data objects, such as images, and not for applications. POR, 14, 40-44; APPLE1033, ¶[26].

With respect to the first argument (even if considered), PO fails to explain how a user's interaction with an application file or window (e.g., Excel or Word window) generated by an application (e.g., Microsoft® Excel or Microsoft® Word) is not an interaction with the application itself. Indeed, a POSITA would have understood that an application executable file is executed in order to display an application window and that if one were to enter a character in an application window, such an interaction would be with both the application and application window because the software (executable file) running the application receives and provides instructions to display (and store) the character in the application window. APPLE1033, ¶[27]. Indeed, during his deposition, PO's expert, Dr. Schaefer explained that when running an application, e.g., Microsoft® Excel, an executable file is executed and a Microsoft® Excel application window captures user keyboard input. APPLE1031, 63:17-68:5. Thus, not only does PO's argument fly in the face

of a well-known understanding in the art, but even PO's expert, Dr. Schaefer, provided testimony corroborating the notion that interacting with an application window (file) is also interacting with the application.

With respect to PO's second argument, PO contends that because "Anthony is for 'displaying files and folders,'" and Anthony "provide[s] that 'file type' can be an ordering attribute," "a more accurate annotation of Figure 4 would be as" shown below. POR, 41-42; APPLE1033, ¶[28].



POR, 38.

At the risk of stating the obvious, the figure above is not the combination presented in the Petition. APPLE1033, ¶[29]. As noted above and in the Petition, Hanggie's application windows replace Anthony's focal group windows. Pet., 23-35. Anthony explicitly discloses that:

all items stored in an operating system have certain properties (e.g.

a time attribute) ascribed to them. ***The term “item” is herein defined as a visual representation of a file, folder, virtual folder, or any other data object*** that may be stored in an operating system and/or file system, for example, icons, thumbnails, and the like.

APPLE1007, ¶[0042]. A focal group, as shown in Anthony’s FIG. 4, would thus also be understood to be an “item,” which Anthony explains has an ordering attribute that is used to arrange “items chronologically, e.g., by using a date of creation or date of edit attribute as the ordering attribute.” APPLE1007, ¶[0042]. And thus, when Hanggie’s application windows replace Anthony’s focal groups, it would have been obvious that the application windows would also have been arranged in a chronological order, e.g., based on the date of edit or modification. APPLE1033, ¶[30].

Notably, this interpretation is consistent with PO’s characterization of the Anthony’s focal group being a folder. POR, 21, 23. Specifically, because Anthony discloses an ordering attribute for an item and makes clear that an item could include a visual representation of a folder (which PO concedes a focal group is), it follows that Anthony’s focal groups would also be ordered according to the ordering attribute for items. APPLE1033, ¶[31].

Finally, PO points to the taskbar in Anthony’s FIG. 4 as evidence of an “open application,” and argues that the inclusion of an application icon in the taskbar is

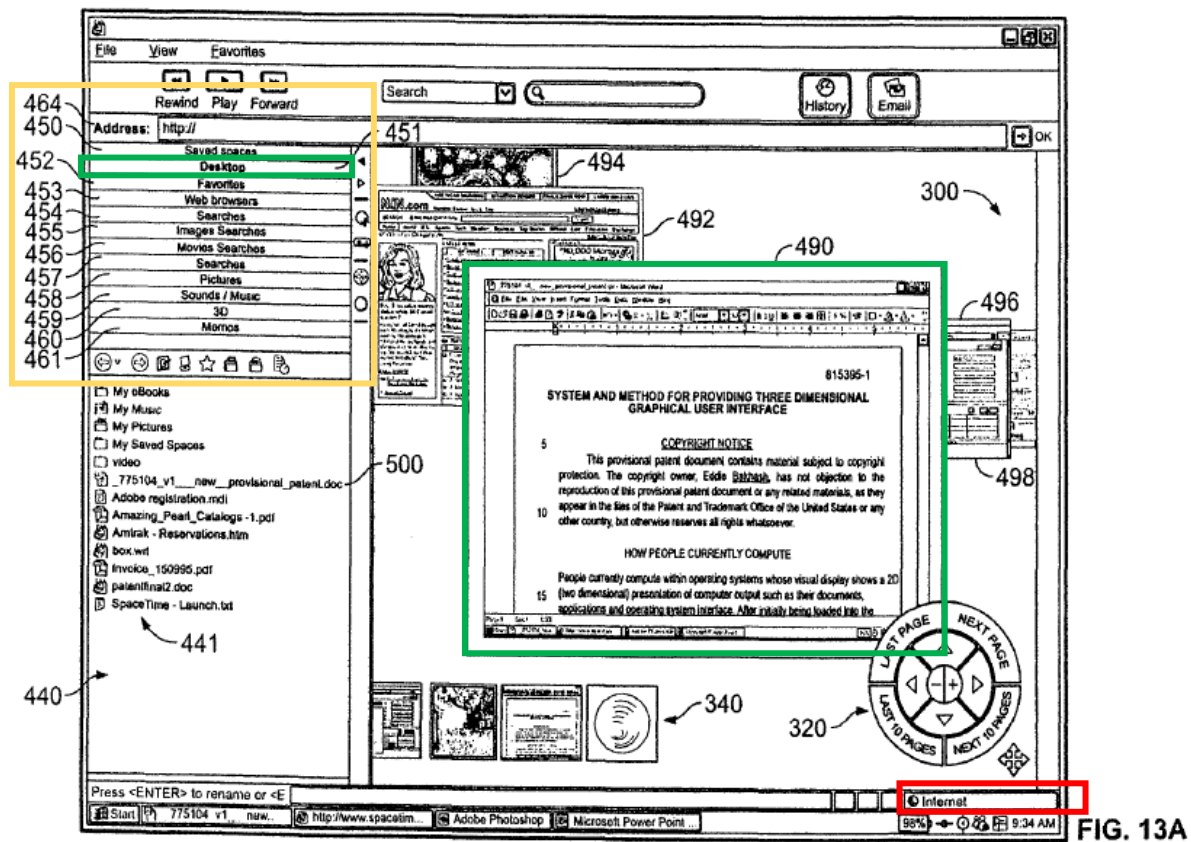
evidence that files, not applications, would be arranged in a chronological order in HAC and that arrangement of applications in the order they were last used would not have been obvious in HAC. POR, 43-44; APPLE1033, ¶[32].

There are several problems with PO's arguments. First, the argument fails to appreciate that an interaction with an application file or window is also an interaction with the application, as explained above. APPLE1033, ¶[33].

Second, PO's arguments are not rooted in the claim language. The claims do not recite arranging applications in an order. The claims recite displaying images, and not the applications themselves, in an order based on a last time the user opened an application and interacted with the object (associated with the application). As explained above and in the Petition, this feature is satisfied by HAC's images that are an application window. APPLE1033, ¶[34].

Third, PO's focus on Anthony's displayed image files in FIG. 4 is nothing more than the PO attacking the references (here Anthony) individually while failing to consider the asserted combination that does not rely on Anthony's image files. APPLE1033, ¶[35]. A finding of obviousness cannot be overcome "by attacking references individually where the rejection is based upon the teachings of a combination of references." *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1050 (Fed. Cir. 2019) (quoting *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986); *see also* Institution Decision, 56.

To the extent PO's argument relies on an inherent assumption that an open application can only be presented on a taskbar (and therefore files, not applications are presented in a timeline), the '654 patent contradicts such an assumption. POR, 43 ("it would make no sense, nor would it be obvious, to use the 3D timeline to present open applications in an order in which they were last used"). For instance, FIG. 13A of the '654 patent depicts an Internet Explorer web browser. APPLE1001, 20:39-55; APPLE1033, ¶[36].



APPLE1001, FIG. 13A.

Within the Internet Explorer application window, icons related to numerous

other helper applications 450-461 (highlighted in yellow) and even some windows corresponding to the helper applications (e.g., window 490 corresponding to the Desktop application—highlighted in green) are displayed. APPLE1001, 20:39-55. But icons of these open helper applications cannot be found on the taskbar. Thus, to the extent PO argues that open applications can only be displayed in a taskbar and an absence from the taskbar would indicate that no application (window) is displayed, such an argument is flatly contradicted by the disclosure in the '654 patent. APPLE1033, ¶[37].

3. HAC renders obvious feature [1d-2]

PO argues that HAC does not render obvious replacing images in 3D that include both object and application specific data. POR, 44-51. PO's arguments largely rely on the differentiating an "image" from an "active window." *Id.* (see, e.g., POR, 47 ("Hanggie does not disclose presenting a plurality of images in 3D space, but a plurality of active windows")). However, as explained above, the claims do not recite the word "active," and nothing in the '654 patent prohibits the claimed "images" from being application windows that a user can interact with. Thus, PO's argument fails at least because PO's attempted differentiation has no relevance to the claims. APPLE1033, ¶[38].

PO also argues that "switch[ing] from a 3D mode to a 2D mode" would not "reduce graphics processing and thereby conserve battery power" because,

according to Dr. Schaefer, PO's expert, "images are much easier to manipulate in 3D space than active applications." POR, 47. But Dr. Schaefer's uncorroborated and conclusory statements directly contradict the disclosure in Hanggie (and statements made by Dr. Fuchs, Petitioner's expert). For instance, Hanggie explains that selection of the legacy drawing mode (2D mode) can be based on power-conservation conditions, e.g., "when a portable device is disconnected from an AC power source and switches to battery power" because "the video graphics processing unit (GPU) is less active and thus consumes less power." APPLE1005, ¶[0092]. Thus, the motivation to switch from displaying images in 3D to an object in 2D is expressly provided in Hanggie. Notably, the POR provides no evidence to indicate Hanggie's disclosure is incorrect other than uncorroborated testimony from its expert that merely repeats what is stated in the POR. As noted above, such expert testimony is not given any weight. APPLE1033, ¶[39].

Finally, PO argues that Petitioner allegedly is trying to "have it both ways" by mapping the *same* window to an image and to an object in the claims. POR, 50. This is incorrect and mischaracterizes Petitioner's prior art mapping. APPLE1033, ¶[40].

As explained in the Petition (*see* Pet., 45-54), HAC's computer generates a plurality of images in the form of *windows in 3D space that respectively correspond to the three windows in 2D space*. APPLE1003, ¶[99]; APPLE1006, ¶¶[0026],

[0057] (“to draw the window in 3D, the CDWM may define the window anatomy using various components), [0058], [0059] (“[t]he CDWM may support multiple application created and rendered content areas, associated with a single window”); FIG. 3. Specifically, Hanggie discloses that an application can generate an application window and attach any number of content objects to the application window. APPLE1006, ¶¶[0049]-[0050], [0087]-[0092], FIGS. 2, 4. In generating a composited window in 3D space, the computer modifies various features of the (previous) window in 2D space such as the “content size, window position or scale, or a change to the pixels of the contents diffuse texture.” APPLE1006, ¶[0050]. Accordingly, Petitioner’s mapping relies on images (windows) in the 3D immersive space that correspond to but are different from objects (windows) in the 2D space. APPLE1033, ¶[41].

4. A POSITA Would have Combined Anthony and Hanggie

PO argues that “[i]f HAC (as proposed) did result in the presentation of images in 3D space, then there would be no motivation to switch from 3D to 2D as Petitioners contend.” POR, 52. In support, PO again relies on Dr. Schaefer’s uncorroborated and conclusory statements that switching from 3D to 2D would not result in more efficient system resource utilization, such as reduced graphics processing and conserving battery power. POR, 51-52, 47; APPLE1033, ¶[42].

As explained above, Dr. Scheffer’s conclusory statements contradict the

teachings of Hanggie and thus should not be given any weight. And, to the extent any alleged benefits (which Petitioner does not concede) may be available to keep a system operating in 3D (e.g., because active applications are difficult to manipulate in 3D space), 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. APPLE1006, ¶[0092]; APPLE1033, ¶[43]. The Federal Circuit has held that “a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine.” *Allied Erecting & Dismantling Co. v. Genesis Attachments, LLC*, 825 F.3d 1373, 1381 (Fed. Cir. 2016). Indeed, “obviousness ‘does not require that the motivation be the best option, only that it be a suitable option from which the prior art did not teach away.’” *Bayer Pharma AG v. Watson Labs., Inc.*, 874 F.3d 1316, 1328 (Fed. Cir. 2017).

PO also argues that each of the references also teaches away from the claimed invention. APPLE1033, ¶[44]. With respect to Hanggie, PO argues that “Hanggie actually teaches away from the claimed invention in that the ‘654 Patent provides for a different solution to reduce power, *i.e.*, display images of open applications in 3D space.” POR, 53.

Yet again, PO’s arguments find no support or basis in the ’654 patent disclosure. As a preliminary matter, the ’654 claims do not recite that the system

has reduced power when images are displayed in 3D. Thus, any attempt to distinguish the '654 patent claims from HAC based on power cannot be sustained. APPLE1033, ¶[45]. In fact, the word “power” is not recited a single time in the '654 patent. Consequently, the '654 patent does not describe the purported solution PO alleges the claims provide.

To the extent the actually claimed features are considered (e.g., “said plurality of images being displayed in said 3D immersive space” and “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 in response to said selection”), a POSITA would have combined Anthony and Hanggie or Hanggie and Anthony for the reasons already explained in the Petition. APPLE1033, ¶[46]; *see* Pet., 45-54, 23-35.

With respect to Anthony, PO contends that Anthony teaches away from the claimed invention because (1) Anthony allegedly explains that, in circumstances in which thumbnails provide a visual indication of a file, it can still be difficult to locate a desired file in a 2D folder, and (2) “Anthony’s ‘thumbnail’ approach does not suffer from the intensive processing and memory requirements as Hanggie.” POR, 54. These reasons suffer from the same deficiencies as Hanggie, and also have no relevance to the reasons a POSITA would have combined Anthony and Hanggie (vice-versa), as noted in the Petition. APPLE1033, ¶[47].

For example, even if the use of thumbnails makes it difficult to locate files in a 2D folder if the folder has too many files, a POSITA would have understood that such a specific experience would not deter a user from replacing images in 3D space with an object in 2D space to save system resources, e.g., if battery power needs to be conserved. APPLE1033, ¶[48]. As noted above, “a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine.” *See Allied Erecting*.

The difficulty to locate files, when files are presented as thumbnails, is also irrelevant to the combinations advanced in the Petition. APPLE1033, ¶[49]. As shown below in Anthony’s FIG. 2, the “thumbnail” disclosure is part of Anthony’s discussion of prior art, which is entirely different from Anthony’s timeline (shown in Anthony’s FIG. 4) that is part of HAC.

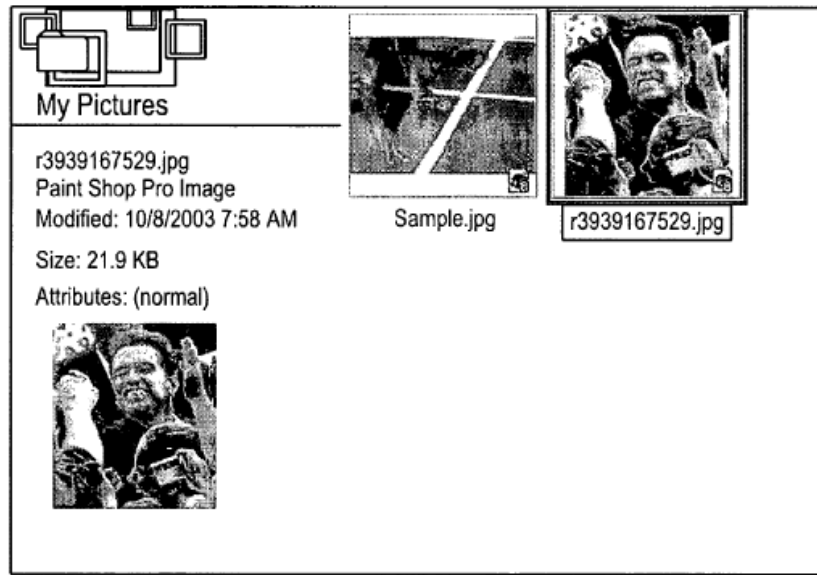


FIG. 2
PRIOR ART

APPLE1007, FIG. 2.

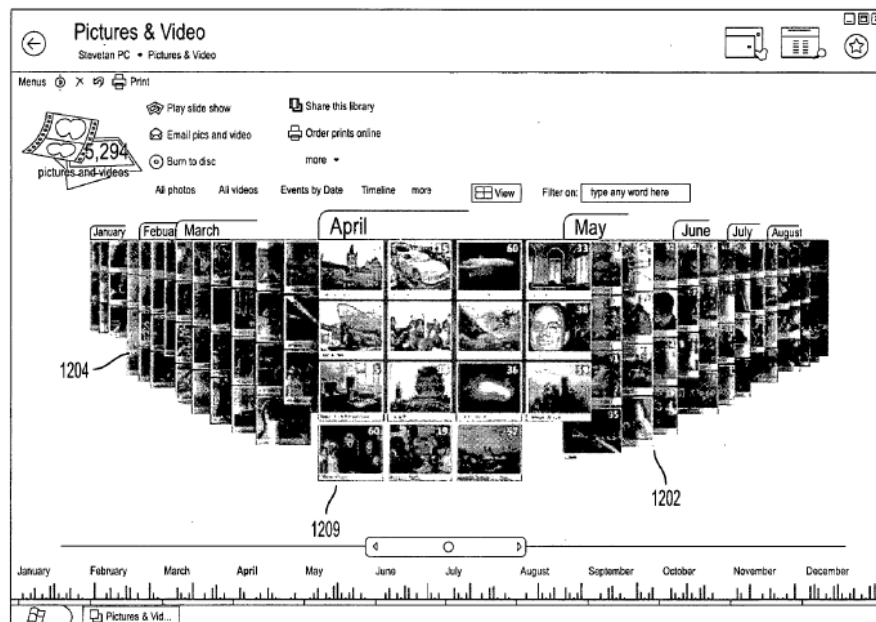


FIG. 4

APPLE1007, FIG. 4.

Other remarks addressing Anthony's disclosure on pages 54-55 of the POR rely on: (1) features that are not recited in the claims (e.g., "if you interact with any image in 3D space (foreground or background), the images are replaced with a corresponding active application"); or (2) attacking Anthony individually, without addressing the asserted HAC combination. APPLE1033, ¶[50]. But a finding of obviousness cannot be overcome "by attacking references individually where the rejection is based upon the teachings of a combination of references." *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1050 (Fed. Cir. 2019) (quoting *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986)); *see also* Institution Decision, 56. For these reasons, PO's arguments regarding Anthony are irrelevant and/or fail to demonstrate that Anthony teaches away from the claimed features.

5. Claims 8 and 17 are obvious

The POR argues that claims 8 and 17 are not obvious. POR, 60. But PO's arguments here rely on the same faulty distinction between windows and images in 3D, which has already been addressed above. *Id.* Thus, for the reasons noted above and in the Petition, claims 8 and 17 are obvious in view of HAC. Pet., 65, 66, 73; *see supra* Section II. APPLE1033, ¶[51].

B. Grounds 1B/2B: Claims 6, 9, 14, and 18 are obvious

PO does not substantively argue against the grounds involving Matthews that challenged claims 6, 9, 14, and 18 (other than 1-2 conclusory statements). POR, 61.

Because PO has done nothing to address the challenge against claims 6, 9, 14, and 18 and Board's statements regarding the same, claims 6, 9, 14, and 18 should continue to be found invalid. APPLE1033, ¶[52].

IV. PO'S SECONDARY CONSIDERATIONS EVIDENCE LACKS NEXUS

PO substantially reproduces the same secondary considerations arguments it included in the POPR, in the POR. *Compare* POPR, 53-55 with POR 61-64. The Board rejected PO's arguments and found them "insufficient." Institution Decision, 58-61. PO again failed to provide any additional arguments or evidence, and thus has failed to establish a sufficient indicia of non-obviousness.

Briefly, PO references two potential sources of objective indicia: [1] a product Patent Owner released in 2007 that "incorporated features of the claimed invention"; and [2] licenses to LG and Samsung for the '654 patent taken by parties that PO previously sued. POR, 62-63; APPLE1032. In both instances, however, PO fails to allege a nexus between the evidence and the Challenged Claims.

The Board informed PO that its evidence regarding the 2007 product was deficient in this regard, and yet, PO's Response does nothing to bolster its case. Institution Decision, 58-61. Worse, PO raised and re-raised its "industry praise" argument despite having stated outright before a district court "that it *has not made*

or sold ‘patented articles’ for the asserted patents,” which included the ’654 patent. APPLE1032, 17, 10. PO knows very well that it has no credible case for nexus. *See* 37 C.F.R. §42.11(a) (“duty of candor”), §42.51(b)(1)(iii) (duty to disclose “inconsistent” information).

The licenses are no more credible or persuasive. Merely “alleging the existence of a number of licenses” does not prove nexus. *In re Antor Media Corp.*, 689 F.3d 1282, 1293-94 (Fed. Cir. 2012). And PO’s cursory reference to “the nature of these licenses,” (POR, 63), falls flat given the utter lack of any supporting explanation or analysis. Because PO has not even tried to prove nexus, “the existence of licenses is of little significance.” *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1324 (Fed. Cir. 2004).

V. ART CONSIDERED DURING PROSECUTION IS NOT AN INDEPENDENT BASIS FOR PATENTABILITY

According to Patent Owner, “[f]urther evidence of non-obviousness can be found in the prosecution histories of the ’018, ’048, ’654, and ’048 Patents” because the Examiner “considered and allowed the ’654 Patent over references that are virtually identical to” Anthony and Hanggie. POR, 64. Setting aside its flawed factual premise, PO’s argument necessarily fails because the Board owes no deference to the Examiner. Such deference would thwart the very purpose of an

instituted “review.” *See Cuozzo Speed Techn. LLC v. Lee*, 579 U.S. 261, 279 (2016) (“offers a second look”); Institution Decision, 11-18.

Respectfully submitted,

Date: January 18, 2024

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CERTIFICATION UNDER 37 CFR § 42.24

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petitioner Reply to Patent Owner Response totals 5,548 words, which is less than the 5,600 allowed under 37 CFR § 42.24(c)(1).

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e)(4), the undersigned certifies that on January 18, 2024, a complete and entire copy of this Petitioner's Reply to Patent Owner's Response was provided by email to Patent Owner by serving the email correspondence addresses of record as follows:

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