

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

SPACETIME3D, INC.,

Plaintiff,

v.

APPLE INC.,

Defendant.

Civil Action No. 6:22-cv-00149-ADA

JURY TRIAL DEMANDED

DEFENDANT APPLE INC.'S OPENING CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTION

The parties dispute the construction of two claim terms in two of the three asserted patents directed to 3D user interfaces. For both terms, the parties have undertaken notably different approaches to claim construction. For its proposals, Apple Inc. (“Apple”) has applied well-settled principles of patent law. That is, where the asserted claims use terms in accordance with their customary usage, Apple has proposed definitions that reflect that usage. And, where the patentee defined the scope of their claimed invention in the preamble to the claims, Apple has proposed that the Court accept the inventor’s own limitation. By contrast, SpaceTime3D, Inc. (“SpaceTime3D”) seeks overbroad constructions, unsupported by the patents.

In fact, Judge Payne (E.D. Tex.), in a prior litigation involving the same patents, rejected the very same arguments set forth by SpaceTime3D and adopted Apple’s proposed constructions, verbatim. *SpaceTime3D, Inc. v. Samsung Elecs. Co.*, No. 2:19-cv-372-JRG (E.D. Tex. Dec. 7, 2020), Dkt. 104 (“*Samsung Claim Construction Order*”). The Court should do the same here.

II. ASSERTED PATENTS

The Asserted Patents—U.S. Patent Nos. 8,881,048 (“’048 patent”), 9,304,654 (“’654 patent”), and 9,696,868 (“’868 patent”)—share substantively the same specification and relate generally to a three-dimensional (“3D”) graphical user interface (“GUI”).¹ More specifically, the patents purport to describe an “improved” GUI wherein objects are presented in a virtual, 3D Cartesian space. *See* ’048 patent, Abstract, 2:47-55. According to the patents, “the 3D GUI creates the illusion of infinite space in 3D.” *Id.*, 5:6-7.

¹ Apple cites to the specification of the ’048 patent herein, but the same language appears in the specification of the other Asserted Patents.

The Asserted Patents contend that, as of the patents' alleged priority date—September 13, 2005, when SpaceTime3D's provisional application was filed²—prior art computer systems included GUIs through which users could interact with windows and applications. '048 patent, 1:56-67. These prior art GUIs included those incorporated into the widely distributed Mac OS X and Windows XP computer operating systems, which predated the Asserted Patents' alleged priority date by at least two years and, as shown in the figures below, allowed users to open and interact with multiple windows and applications:



Figure 2-16

² Apple reserves the right to dispute the proper priority date for the Asserted Claims at the appropriate time during discovery.

See Ex. A at 67 (The Robin Williams Mac OS X Book, Jaguar Edition, 2003); Ex. B Windows XP, Student Edition Complete, 2002); Ex. C (Apple Press Release, dated January 5, 2000, *available at* <https://www.apple.com/newsroom/2000/01/05Apple-Unveils-Mac-OS-X/>); Ex. D (Microsoft Press Release, dated October 25, 2001, *available at* <https://news.microsoft.com/2001/10/25/windows-xp-is-here/>).

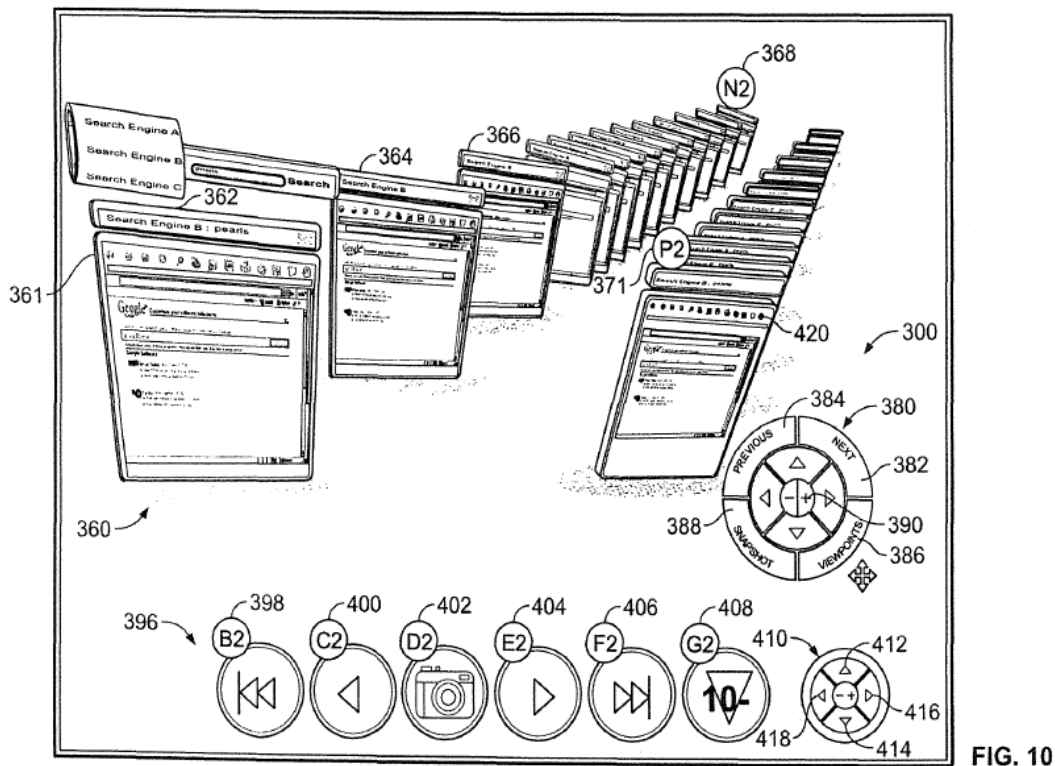
The Asserted Patents explain that prior art GUIs—such as those depicted above from Mac OS X and Windows XP—were not three-dimensional, but rather utilized only two dimensions (“2D”). As the patents contend, the prior art virtual displays provided only “height and width.” ’048 patent, 1:67-2:3.

The Asserted Patents contend that there were significant limitations to these prior art 2D GUIs. For example, the patents assert that the prior art 2D GUIs had a “finite-sized desktop,” meaning the number of windows that could fit on the screen was limited. Due to the finite nature of the 2D GUI, windows would have to be rendered on top of each other and the user could only view the windows in the front and the windows in the back would get lost. *Id.*, 2:4-13 (“When the computer’s output exceeds this finite working graphical area, elements of the GUI (the windows) are typically drawn on top of each other such that the GUI components overlap one another other [sic].”). The Asserted Patents make clear that GUIs of this sort were 2D, not 3D. *See id.*

To address these alleged shortcomings of two-dimensional GUIs and their finite display areas, the Asserted Patents purport to describe a GUI that operates in three dimensions rather than two. More specifically, the alleged invention “uses the two-dimensional [] display of a user’s computer to display three-dimensional [] objects in a simulated real-time 3D immersive Cartesian space.” ’048 patent, 2:52-55. In the claimed 3D GUI, as in the real world, “objects not only have a horizontal position (x) and vertical position (y) but *also have depth (z)* that is also known as time,

according to the three-dimensional coordinate system of mathematics.” *Id.*, 2:15-18 (emphasis added); *see also id.*, 20:18-24 (“Since 3D virtual spaces have a (i) horizontal position known as (x), (ii) vertical position known as (y) and (iii) a position of depth (z) which is also known as time, one can see how it is possible to create a visual history of the end user’s computing session by plotting new output in a new position further along the (z) axis and date and, time stamp it (e.g., entry **670** which reads Aug. 8, 2006—6:00 p.m.)[.]”).

The 3D space of the alleged invention is shown, for example, in Figure 10 of the patents, reproduced below. As can be seen in the figure, the 3D space contains several window objects that are arranged not only horizontally and vertically (as they could be in a 2D GUI), but also at depths that reach toward the “back” of the display (*i.e.*, along the z-axis):



Certain of these windows, such as item **362**, are located in the foreground of the 3D space, while other windows, such as item **368**, are located in the background. *See id.*, 18:16-36; *see also*,

e.g., id. at cl. 1 (reciting objects being displayed in the foreground or background of the 3D space). The patents further describe arranging these windows in a certain order and allowing the user to navigate between different windows. *See id.*

The alleged invention purportedly solves the shortcomings of prior art 2D GUIs because the claimed 3D interface adds a third dimension in which to locate windows or other objects. According to the Asserted Patents, whereas windows in 2D GUIs could become too easily hidden, overlapped, or substituted as a result of the limited display area, more windows may be arranged in the claimed 3D space and still be visible to the user. *Id.*, 2:20-24 (“By plotting new output of the computer (instead of replacing) in a virtual space that does not overlap or substitute what exists on the finite desktop, a new virtual space through depth and time is created.”), 25:59-62 (“This can be accomplished because new information expressed graphically in a virtual space does not replace old information by replacing it or overlapping it. Instead, it is drawn in new virtual space.”).

The Asserted Patents also describe functionality whereby the display may switch back and forth between certain 3D and 2D views depending on the choice of the user. *Id.*, 22:53-58 (“As such, an end user can toggle or switch between 2D and 3D for any selectively captured computing output and information (webpages, applications, documents, desktops or anything that can be visualized on a computer) that was drawn within a 3D virtual space at will by using this technique.”). The patents describe that multiple open applications or windows may be shown simultaneously in the 3D space. *Id.*, 18:16-36. The user may select one of those windows or applications in the 3D space for interaction with that selected window or application. *Id.*, 18:16-36. According to the patents, the display may change from the 3D space to a 2D interface focused

on the selected window or application, and the user would be allowed to interact with the selected window or application. *Id.*, 22:53-58, 18:16-36.

To display objects in 3D spaces, the patents also describe a process referred to as “texture mapping.” Texture mapping relates to drawing or mapping a 2D image onto a 3D object in a 3D space. *See* ’048 patent, 23:17-25 (texture mapping to the “3-D interactive Cartesian space”), 22:34-40 (“texture mapping . . . into . . . 3D Cartesian space”). This is further explained in connection with the disputed “texturing” claim term below.

III. AGREED CONSTRUCTIONS

The parties agree on the definition of two terms—those relating to 3D space and 2D space. These agreed-to constructions are identical to the constructions adopted by Judge Payne. *See Samsung Claim Construction Order*, slip op. at 19. These agreed constructions are set forth in the table below:

Terms	Agreed Construction
“3D space” ’048 patent, claims 1, 8, 14 “three-dimensional space” ’654 patent, claims 1, 10, 19 “3D [immersive] space” ’868 patent, claims 1, 10, 19	“a virtual space defined by a three-dimensional coordinate system”
“two-dimensional (2D) space” ’048 patent, claims 1, 8, 14 ’868 patent, claims 1, 10, 19 “two-dimensional space” ’654 patent, claims 1, 10, 19	“a finite graphical area defined by a two-dimensional coordinate system”

For the other two claim terms, however, SpaceTime3D’s proposals are inconsistent with both the intrinsic and extrinsic evidence. Indeed, Judge Payne already rejected SpaceTime3D’s proposals in the prior litigation. These disputed terms are discussed below.

IV. ARGUMENT

Two claim construction issues remain in dispute: (1) the construction of the claim term “texturing” and (2) whether the preambles of the independent claims of the ’868 patent are limiting. For both issues, only Apple’s proposed constructions are consistent with the intrinsic and extrinsic records, and identical to what Judge Payne already found in the prior *Samsung* litigation.

A. “texturing”

Term	Apple’s Proposal	SpaceTime3D’s Proposal
“texturing” ’048 patent, claims 1, 8	“drawing or mapping an image onto a 3D object”	No construction necessary; plain and ordinary meaning applies. Alternatively: drawing or mapping [the first image on the first object and the second image on the second object].

The term “texturing” appears in claims 1 and 8 of the ’048 patent, which describes “*texturing* the first image on the first object and the second image on the second object, the first object being displayed in a foreground of the 3D space and the second object being displayed in a background of the 3D space.” *E.g.*, ’048 patent, cl. 1 (emphasis added). The parties agree that the technical term “texturing” refers to “drawing or mapping” images onto certain objects, but disagree over what those objects should be. More specifically, the parties dispute whether the object onto which the image is drawn or mapped *must be three-dimensional*. Because Apple’s proposed construction is consistent with the intrinsic evidence and customary usage, it should be adopted.

Specifically, Apple’s proposed construction appropriately reflects that the object being “textured” onto must be 3D. Apple’s proposed construction is fully supported by the claim language, the specification, and extrinsic evidence, and is identical to the construction previously adopted by Judge Payne in the aforementioned prior litigation involving the Asserted Patents. SpaceTime3D’s proposed construction, by contrast, is overly broad because it does not limit the

claimed “texturing” to 3D objects. SpaceTime3D’s proposal is contrary to the evidence and was already rejected by Judge Payne in the prior litigation.

The intrinsic record confirms that “texturing” refers to drawing or mapping an image onto a 3D object for two reasons: (1) “texturing” in the claims is synonymous with “texture mapping” in the specification, and the patents describe “texture mapping” only as being performed onto 3D objects and (2) the parties agree that “texturing” means certain “drawing or mapping,” and the patents describe drawing or mapping of 2D images to be onto 3D objects.

First, in the patents, “texturing” in the claims is synonymous with “texture mapping” in the specification. Notably, the specification does not use the word “texturing,” but it does refer repeatedly to forms of the phrase “texture mapping.” *E.g.*, ’048 patent at 6:8-11 (“texture mapping”), 18:46-56 (“texture map”), 22:34-40 (“texture mapping”), 23:17-25 (“texture mapping”), 23:44-48 (“texture mapped”), 23:52-56 (“texture-mapped”), 23:57-61 (“texture mapping”), Fig. 7 (block 260) (“Texture Map”). It should therefore be understood that “texturing” in the claims is synonymous with “texture mapping” in the specification. *See Wi-LAN USA, Inc. v. Apple Inc.*, 830 F.3d 1374, 1382 (Fed. Cir. 2016) (“Consistent use of a term in a particular way in the specification can inform the proper construction of that term.”). Apple’s expert confirms that a person of ordinary skill in the art would have understood this equivalence between “texturing” in the claims and “texture mapping” in the specification. *See Ex. E (Wolfe Decl.)*, ¶¶ 25, 33-35, 37.

With respect to the phrase “texture mapping,” the specification repeatedly and exclusively refers to it as an operation performed onto a 3D object. For example, the specification explains that an image may be “texture mapped onto 3D geometry (e.g., a cube, pyramid, etc.).” *Id.*, 23:44-48. Likewise, the specification recites that images are “texture-mapped onto the 3D Geometry.”

Id., 23:52-56. Similarly, the specification states that “the two-dimensional graphics are drawn or mapped onto three-dimensional objects.” *Id.*, 23:17-34; *see also id.*, 6:8-11 (Figure 3 is a flowchart for texture mapping), 23:57-61 (Figure 3 shows the process of “texture mapping”), Fig. 3 (“Map Visual Output . . . onto Arbitrary 3D Geometry”), 18:46-56 (“close button 420 on [a] texture map” in Figure 10), Fig. 10 (showing close button 420 on a 3D object), 23:17-25 (texture mapping to the “3-D interactive Cartesian space”), 22:34-40 (“texture mapping . . . into . . . 3D Cartesian space”). By contrast, nowhere do the patents refer to texture mapping being performed onto 2D objects, as SpaceTime3D’s construction would allow. *See Wi-LAN USA*, 830 F.3d at 1382.

Second, as SpaceTime3D agrees, “texturing” refers to certain “drawing or mapping.” Furthermore, the specification consistently describes the drawing or mapping (of 2D images or graphics) as being performed onto *3D objects*. *See Wi-LAN USA*, 830 F.3d at 1382. For example, the specification states that “the 3D GUI provides full functionality and interactivity of the 2D display of a user’s computer . . . redrawn into a novel simulated real-time 3D immersive Cartesian space, whereby *the 2D graphics are drawn or mapped onto 3D objects*.” ’048 patent, 22:17-24 (emphasis added). The specification further discloses that “the 3D GUI is adapted to create a visual computing history, whereby normal changes to a 2D computer display output are *drawn or mapped onto new 3D objects*, rather than replace the current output or 2D display once a change is made.” *Id.*, 26:20-24 (emphasis added). Thus, the specification consistently refers to “texture mapping” (which, as explained above, is synonymous with “texturing”) as the drawing or mapping onto 3D objects.

As such, the intrinsic record confirms that Apple’s proposed construction of “texturing” should be adopted, and SpaceTime3D’s proposed construction should be rejected.

Notably, Judge Payne reached this same conclusion in the *Samsung* case. *Samsung Claim Construction Order*, 23. Judge Payne found, for example, that the specification associates the term “texture” with “drawing and mapping.” *Id.* at 22 (citing ’048 patent, 22:17-24). Judge Payne further explained that the specification recites, in multiple places, that “2D graphics are *drawn or mapped onto 3D objects*.” *Id.* at 23 (quoting ’048 patent, 22:17-24) (emphasis added by Judge Payne); *see also id.* at 22 (quoting ’048 patent, 26:20-24). Accordingly, Judge Payne adopted the claim construction proposed by Apple here, and rejected the construction being proposed again by SpaceTime3D. *Id.* at 23.

Apple’s proposed construction is also consistent with the customary usage for the term as set forth in not only the intrinsic record as set forth above, but also the contemporaneous written references. For example, consistent with the intrinsic record as explained above, the Microsoft Computer Dictionary (5th ed. 2002) defines “texture mapping” as a process in “3-D graphics” whereby a picture or pattern is “‘wrapped’ around the object.” Ex. F, *SpaceTime3D v. Samsung*, Dkt. 64-1 at 5. For the picture or pattern to be “wrapped” around an object, that object must be three-dimensional; it would not make sense to “wrap” a picture or pattern around a 2D surface. Indeed, the example given by that reference is that “a texture map of stones might be wrapped around a pyramid shape.” *Id.* A pyramid shape is, of course, three-dimensional. Thus, according to the Microsoft Computer Dictionary, texture mapping in 3D graphics involves an image (e.g., picture or pattern) being wrapped (drawn or mapped) around a 3D object (e.g., pyramid). Apple’s expert, Dr. Wolfe, confirms that the Microsoft Computer Dictionary defines “texture mapping” as necessarily occurring onto 3D objects. Ex. E (Wolfe Decl.), ¶ 39.

As Dr. Wolfe further explains, “texturing” is a term of art in the computer graphics field, and that term of art is consistent only with Apple’s proposed construction. Ex. E (Wolfe Decl.),

¶¶ 37, 39, 44. According to Dr. Wolfe, there is a limitation to 3D models in computer graphics in that they are essentially limited to a single color per surface, while objects in the real world have more detailed and varied appearances. *Id.*, ¶¶ 25-26. Texturing refers to a technique in the art whereby images may be placed onto the surfaces of 3D objects in order to give those 3D surfaces the appearance of a texture. *Id.*, ¶ 25. Dr. Wolfe notes that he has never heard of “texturing” as referring to drawing or mapping an image onto a 2D figure. *Id.*, ¶ 27. To a person of skill in the art, therefore, “texturing” as used in the claims of the ’048 patent refers to drawing or mapping an image onto a 3D object as Apple proposes, not onto a 2D object as SpaceTime3D’s construction would allow. *Id.*, ¶¶ 34-35. Dr. Wolfe also explains that the extrinsic references identified by SpaceTime3D do not counsel for any different a conclusion. *Id.*, ¶¶ 40-43. For example, Dr. Wolfe explains that none of SpaceTime3D’s references suggest a different meaning for texturing other than the common usage in the field of “drawing or mapping an image onto a 3D object.” *Id.*, ¶¶ 40-43.

In sum, Apple’s proposed construction for “texturing” is supported by the intrinsic record and the extrinsic evidence, and is identical to the construction ordered by Judge Payne in the *Samsung* case. SpaceTime3D’s proposed construction, by contrast, is inconsistent with the intrinsic and extrinsic evidence, and was already rejected by Judge Payne in the prior lawsuit. Yet, SpaceTime3D recycles its same failed construction here in an effort to get a broader construction from this Court. Apple’s construction, which would require the object being drawn or mapped onto a 3D object, should be adopted.

B. Preambles to claims 1, 10, and 19 of the '868 patent

Terms	Apple's Proposal	SpaceTime3D's Proposal
Preambles to the independent claims of the '868 patent '868 patent, claims 1, 10, 19 E.g.: 1. A method for using a two-dimensional (2D) space to selectively interact with a plurality of applications open on a device and a three-dimensional (3D) immersive space to switch between said plurality of application, said device having a fixed resolution display, comprising	The preambles are limiting.	No construction necessary; plain and ordinary meaning applies. Alternatively: Preamble is not limiting.

The parties' other dispute concerns whether or not the preambles to the independent claims in the '868 patent are limiting. Judge Payne already held in the prior suit that the preambles *are* limiting, and Apple seeks the same construction here.

More specifically, the independent claims of the '868 patent contain lengthy preambles that provide the antecedent basis for multiple terms in the body of the claim as illustrated below, using claim 1 as an example.

1. A method for using **a two-dimensional (2D) space** to selectively interact with **a plurality of applications open on a device** and **a three-dimensional (3D) immersive space** to switch between said plurality of application, said device having **a fixed resolution display**, comprising:

receiving a plurality of inputs from a user, said plurality of inputs comprising at least first, second, and third inputs;

opening **said plurality of applications** in response to said plurality of inputs, said plurality of applications comprising at least first, second, and third applications, wherein for each one of said plurality of applications (i) an object is generated having application-specific data, (ii) said object is displayed in **said 2D space** on **said fixed resolution display**, and (iii) said user is allowed to modify at least a portion of said application-specific data by interacting with said object;

allowing a user to switch between said plurality of application, comprising;

generating at least a plurality of images, said plurality of images comprising at least first, second, and third images, wherein said first image is an image of at least a portion of a first object generated by said first application and having first application-specific data, said second image is an image of at least a portion of a second object generated by said second application and having second application-specific data, and said third image is an image of at least a portion of a third object generated by said third application and having third application-specific data;

replacing all objects corresponding to said plurality of applications that are visible in said 2D space with said plurality of images, said plurality of images being displayed in *said 3D immersive space* 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, wherein a first one in said order is displayed in a foreground of said 3D immersive space, a second one in said order is displayed in a background of said 3D immersive space behind at least said first one in said order, and a third one in said order is displayed in said background of said 3D immersive space behind at least said second one in said order;

allowing said user to move said plurality of images, wherein (i) movement of one of said plurality of images results in movement of all of said plurality of images, and (ii) continued movement in one direction of one of said plurality of images results in a perception to said user that said one of said plurality of images is moved off of said fixed resolution display; and

allowing said user to delete at least one of said plurality of images from said 3D immersive space, wherein deletion of said second one in said order results in said third one in said order being moved to a location in said 3D immersive space where said second one in said order was located prior to said deletion; and

allowing said user to interact with one of said first, second, and third applications, comprising:

receiving a selection from said user of one of said plurality of images corresponding to one of said plurality of applications;

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;

receiving at least one interaction by said user with said one of said first, second, and third objects within said 2D space; and

modifying said one of said first, second, and third application-specific data in response to said at least one interaction.

Where, as here, the preambles provide multiple antecedent bases for limitations in the bodies of the claims, they are limiting. *See Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (“[D]ependence on a particular disputed preamble phrase for antecedent basis . . . indicates a reliance on both the preamble and claim body to define the claimed invention.”); *see also Pacing Techs., LLC v. Garmin Int'l, Inc.*, 778 F.3d 1021, 1023-24 (Fed. Cir. 2015) (finding a preamble limiting because it provides the antecedent basis for two terms in the claims’ bodies); *C.W. Zumbiel Co. v. Kappos*, 702 F.3d 1371, 1385 (Fed. Cir. 2012) (finding preambles limiting because they contain an antecedent basis).

For example, the preamble of claim 1 provides the antecedent basis for four different terms that also appear in the body of the claim:

Claim 1 Preamble ('868 patent at 38:40-44)	Body
“a two-dimensional (2D) space”	“said 2D space” ('868 patent, 38:53-54)
“a plurality of applications”	“said plurality of applications” ('868 patent, 38:48)
“a three-dimensional (3D) immersive space”	“said 3D immersive space” ('868 patent, 39:6)
“a fixed resolution display”	“said fixed resolution display” ('868 patent, 38:53-54)

Claim 10 Preamble ('868 patent at 40:40-44)	Body
“a two-dimensional (2D) space”	“said 2D space” ('868 patent, 40:59)
“a plurality of applications”	“said plurality of applications” ('868 patent, 40:53)
“a three-dimensional (3D) immersive space”	“said 3D immersive space” ('868 patent, 41:14)

Claim 19 Preamble ('868 patent at 42:52-55)	Body
“a two-dimensional (2D) space”	“said 2D space” ('868 patent, 42:64)
“a plurality of applications”	“said plurality of applications” ('868 patent, 42:59)
“a three-dimensional (3D) immersive space”	“said 3D immersive space” ('868 patent, 43:19)

Because the preambles provide the antecedent basis for multiple terms and are therefore necessary to give life and meaning to the claims, the preambles should be construed as limiting. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999).

Judge Payne reached the same conclusion in the *Samsung* case. There, Judge Payne held that the preambles of the '868 patent are limiting at least because the bodies of the claims rely upon the preambles to provide antecedent basis. *Samsung Claim Construction Order*, 32-33. The preambles are limiting on this basis alone.

Additionally, the preambles are necessary to give “life, meaning, and vitality to the claims.” *Pitney Bowes*, 182 F.3d at 1305. As explained, the specification describes presenting a 3D space having multiple windows or applications, and allowing the user to select one of those windows or applications in the 3D space in order to allow the user to interact with the selected window or application in a 2D view. '868 patent, 18:16-36, 22:53-58. The preambles set forth this very concept. *E.g., id.*, cl. 1. Judge Payne likewise found that the preambles are necessary to give life, meaning, and vitality to the claims. *Samsung Claim Construction Order*, 32 (citing *Pitney Bowes*, 182 F.3d at 1298). Judge Payne reasoned that the specification emphasizes the importance of “using a two-dimensional (2D) space to selectively interact with a plurality of applications open on a device and a three-dimensional (3D) immersive space . . . said device having a fixed resolution display.” *Id.* at 32. As Judge Payne found, this critical aspect of the alleged invention is found in the preamble of claim 1. *Id.* Likewise, the specification emphasizes the importance of “using a two-dimensional (2D) space to selectively interact with at least one of a plurality of applications open on a computing device and a three-dimensional (3D) space,” which is found in the preamble of claim 10. And the specification emphasizes the importance of “using a two-

dimensional (2D) space to selectively interact with at least one of a plurality of applications open on a device and a three-dimensional (3D) space,” which is in the preamble of claim 19.

SpaceTime3D may argue that the preamble simply provides intended use or that the bodies of the claims provide structurally complete inventions. But that argument is contradicted by the fact that the preambles provide the antecedent bases for multiple limitations in the claims’ body—*i.e.*, the body is not complete without the preamble to provide the antecedent basis. SpaceTime3D has no way to get around this fact. *See Catalina Mktg.*, 289 F.3d at 808.

As such, the preambles of the independent claims of the ’868 patent should be found to be limiting, as Apple proposes.

V. CONCLUSION

For the foregoing reasons, Apple respectfully requests that the Court adopt its proposed constructions.

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CERTIFICATE OF SERVICE

I hereby certify that all counsel of record are being served with a copy of the foregoing document via the Court's CM/ECF system on September 1, 2022.

/s/ J. Stephen Ravel

J. Stephen Ravel