

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MATTERPORT, INC.,
Petitioner,

v.

APPLIANCE COMPUTING III, INC.,
Patent Owner.

IPR2021-00936
Patent 9,836,885 B1

Before JAMESON LEE, MEREDITH C. PETRAVICK, and
BARBARA A. PARVIS, *Administrative Patent Judges*.

PARVIS, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Matterport, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–18 of U.S. Patent No. 9,836,885 B1 (Ex. 1001, “the ’885 patent”) pursuant to 35 U.S.C. §§ 311–319, along with the supporting Declaration of Yasutaka Furukawa, Ph.D. (Ex. 1004). Appliance Computing III, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 9 (“Prelim. Resp.”). With our authorization, Petitioner filed a Reply to Patent Owner’s Preliminary Response (Paper 13, “Reply”) and Patent Owner filed a Sur-Reply (Paper 14, “Sur-reply”).

We have authority to determine whether to institute review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4. The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless the Director determines . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

Upon consideration of the parties’ contentions and the evidence of record, we conclude Petitioner has not established a reasonable likelihood of prevailing in demonstrating the unpatentability of any challenged claim of the ’885 patent. Accordingly, we do not institute an *inter partes* review.

II. BACKGROUND

A. *Real Parties-in-Interest*

Petitioner identifies itself and Redfin Corporation as the real parties-in-interest. Pet. 2. Patent Owner names itself as the real party-in-interest. Paper 4, 2.

B. *Related Matters*

Each party identifies a judicial matter that would affect, or be affected by, a decision in this proceeding. In particular, the parties inform us that the

'885 patent is asserted in the following district court case: *Appliance Computing III, Inc. d/b/a Surefield v. Redfin Corporation*, No. 6:20-cv-00376 (W.D. Tex.) (“parallel district court proceeding”). Pet. 3; Paper 4, 2.

Petitioner also has filed (1) a petition for *inter partes* review of U.S. Patent No. 10,510,111 B2 (IPR2021-00937); (2) a petition for *inter partes* review of U.S. Patent No. 10,592,973 B1 (IPR2021-00938); and (3) a petition for *inter partes* review of U.S. Patent No. 10,102,673 B2 (IPR2021-00939).

C. The '885 Patent

The '885 patent relates to three dimensional (3D) image-based rendering (IBR) for real estate. Ex. 1001, code (57). Figure 5, reproduced below, illustrates a flowchart for computer-implemented, image-based rendering. *Id.* at 8:35–37.

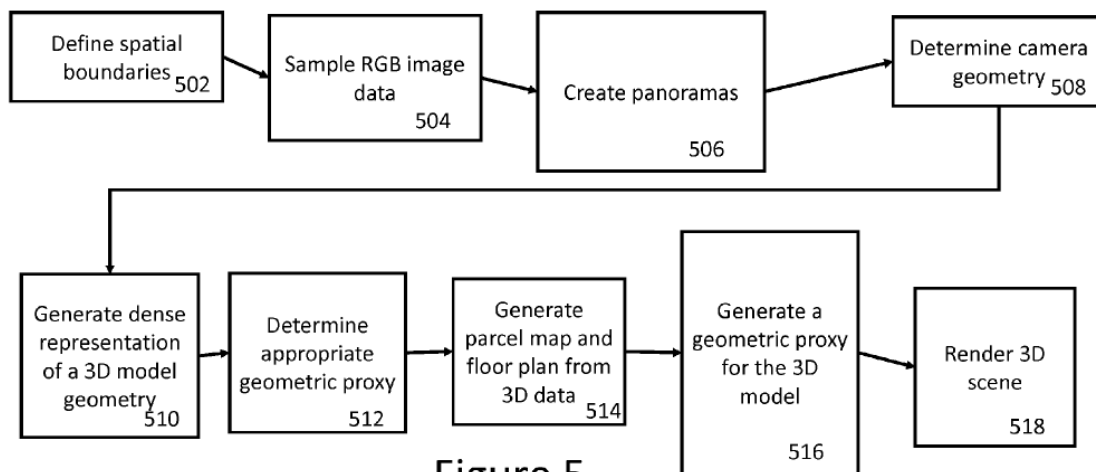


Figure 5

Figure 5, above, illustrates flowchart for computer-implemented, image-based rendering 100 for providing a 3D virtual model of real property. *Id.*

The flowchart shown in Figure 5 begins with step 502 in which the system generates the spatial boundaries in a model of the property that define any one or more of the following: (1) the land, such as a parcel

outline; (2) structure, such as a house, apartment, or office; (3) structure internals, such as rooms within the structure; and (4) air-space above the land. *Id.* at 8:39–44. In step 504, red green blue (RGB) image data is captured from each of the spatial boundaries. *Id.* at 8:45–46. In step 506, panorama images are created from the RGB image data. *Id.* at 8:59–60.

Processing continues with step 508, in which the camera geometry is determined by use of first pass feature detection within the panoramas in order to spatially calibrate the panoramas. *Id.* at 8:65–67. In step 510, a second pass feature detection algorithm is applied. *Id.* at 9:9–10. Conversion is performed in step 512. *Id.* at 9:20.

Processing proceeds to step 514, in which the 3D data is used to generate a parcel map, such as the exterior and aerial views of the real estate, and a floor plan. *Id.* at 9:49–51. In step 516, the 3D data is used to generate a geometric proxy for the 3D model of the real property. *Id.* at 9:55–56. In step 518, the results are combined and a 3D scene that has photorealistic views from within a panorama capture location, as well as semi-photorealistic views from other locations using a geometric proxy and real image data are rendered to a viewer. *Id.* at 9:58–61. In addition to the 3D views, 2D floor plans are shown to the viewer user as well as descriptive spatial boundary labels. *Id.* at 9:61–63.

D. Illustrative Claim

Petitioner challenges claims 1–18 of the '885 patent. Pet. 1. Claims 1 and 10 are the independent claims. Claims 2–9 depend directly from claim 1. Claims 11–18 depend directly from claim 10. Independent claim 1, reproduced below, is illustrative of the claimed subject matter.

1. [1.1]¹] A computer system for providing image-based rendering of real property, the computer system comprising:
 - [1.2] a processor implementing program commands and processing data;
 - [1.3] a memory storing the program commands and the processing data, the memory being operatively coupled to the processor;
 - [1.4] a user interface visually presenting an image-based rendering of a real property, the user interface being operatively coupled with the memory and processor;
 - [1.5] wherein the program commands cause the processor to:
 - obtain two or more photorealistic viewpoints from capture locations in a plurality of spaces of the real property using ground truth image data, the ground truth image data including images of the real property captured from the capture locations;
 - [1.6] combine and process two or more instances of ground truth image data to create a plurality of synthesized viewpoints;
 - [1.7] generate a virtual model of a current space from the plurality of spaces in the real property from the perspective of a current viewpoint, the current viewpoint being one of the plurality of photorealistic viewpoints or one of the plurality of synthesized viewpoints associated with the current space;
 - [1.8] identify the current space in the real property where the current viewpoint is located using metadata associated with the ground truth data;
 - [1.9] visually present the virtual model on a first portion of the user interface, a map overlay on a second portion of the user interface, and a text overlay on a third portion of the user interface, the map overlay indicating a

¹ Petitioner's designations to reference the elements of claim 1 are set forth in brackets. Pet. 22–47. Herein we refer to the elements of claim 1 using Petitioner's designations.

position of the current viewpoint in the current space, the text overlay including a first label identifying the current space in the real property where the current viewpoint is located;

[1.10] generate a plurality of spatial boundaries of the plurality of spaces of the real property, each of the plurality of spatial boundaries defining a parcel outline of a corresponding space among the plurality of spaces; and

[1.11] generate the ground truth image data by annotating the images of the real property with second labels indicating the capture locations using the plurality of spatial boundaries,

[1.12] wherein the virtual model, the map overlay, and the text overlay are functionally linked based on the position of the current viewpoint in the real property, and

[1.13] wherein identifying the current space in the real property where the current viewpoint is located using the metadata associated with the ground truth data includes identifying the first label of the current space using the second labels indicating the capture locations.

Ex. 1001, 16:4–56.

E. Evidence

Petitioner relies on the patent document references summarized in the table below.

Name	Patent Document	Exhibit
Cowtan	US 2009/0031246 A1	1008
Bell	US 2014/0043436 A1	1009

F. Asserted Grounds

Petitioner asserts that the challenged claims of the '885 patent are unpatentable based on the following ground summarized in the table below:

Claims Challenged	35 U.S.C. §	Reference(s)/Basis
1–18	103 ²	Cowtan, Bell

III. DISCRETIONARY DENIAL OF THE PETITION

Patent Owner contends we should exercise our discretion under 35 U.S.C. § 314(a) to deny institution of *inter partes* review. Prelim. Resp. 8–16 (citing, e.g., *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”). Because we determine that Petitioner fails to demonstrate that there is a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in the Petition, we need not address Patent Owner’s contentions concerning discretionary denial.

IV. ANALYSIS

A. Legal Standards

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) as “requiring [*inter partes* review] petitions to identify ‘with particularity . . . the evidence that supports the grounds for the challenge to each claim’”). That burden never shifts to the patentee. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). Furthermore, Petitioner cannot satisfy its burden of

² The Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. §§ 102 and 103. Because the challenged claims of the ’885 patent have an apparent effective filing date on or after March 16, 2013, we apply the AIA versions of these statutes. Our application of the AIA law is not an affirmative ruling on the actual effective filing date of this patent.

proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person of ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness.³ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art the time of the invention would have had “a Bachelor of Science in Electrical Engineering, Computer Science, or similar education, an understanding of the various techniques for image-based rendering, and at least 2 years of experience in their field of study, or equivalent practical experience in the relevant field.” Pet. 6–7 (citing Ex. 1004 ¶ 54). Patent Owner does not dispute Petitioner’s proposal. Prelim. Resp. 6.

We find that the phrase “at least” in Petitioner’s proposed definition creates a vague, open-ended upper bound for the level of ordinary skill, and we therefore do not adopt that aspect of the proposal. With that exception,

³ Patent Owner does not present objective evidence of nonobviousness at this stage of the proceeding.

considering the subject matter of the '885 patent, the background technical field, and the asserted prior art, we otherwise agree with Petitioner's proposed qualifications for an ordinary level of skill. Petitioner's proposed definition is consistent with the level of skill reflected in the specification of the '885 patent and the asserted prior art references. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

Accordingly, for purposes of this decision, and based on the current record, we adopt Petitioner's assessment of the level of skill for one of ordinary skill in the art, except without the "at least" phrase.

C. Claim Construction

The parties provide contentions regarding construction of certain claim terms. To resolve the disputes between the parties, we need to address only the parties' claim construction contentions for the terms "parcel outline" and "space." *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (explaining "we need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy.'").

1. Legal Standards

We construe the challenged claims by applying the standard used in federal courts, in other words, "the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b)," which is articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b) (2020). Under this standard, the words of a claim generally are given their "ordinary and customary meaning," which is the meaning the term would have to a person of ordinary

skill at the time of the invention, in the context of the entire patent including the specification. *Phillips*, 415 F.3d at 1312–13.

2. “*parcel outline*”

In the parallel district court proceeding, the parties agreed that the term “parcel outline” means “a representation of the legal boundary of the land (i.e., the property lines).” Ex. 1005, 1. We consider whether we should use that agreed-to construction in the instant proceeding.

The intrinsic record supports that the agreed-to construction is the ordinary and customary meaning of “parcel outline.” The claim language supports that the spatial boundaries both have a relationship to the real property and also define a parcel outline. Ex. 1001, 16:40–43, 18:3–6 (reciting generate (claim 1) or generating (claim 10) “a plurality of spatial boundaries of the plurality of spaces of *the real property, each of the spatial boundaries defining a parcel outline* of a corresponding space among the plurality of spaces”) (emphases added)).

Consistently, the ’885 patent Specification describes that the spatial boundaries define the land, which perhaps is a parcel outline, as one of a few different alternatives. The relevant portion of the ’885 patent Specification is below.

In step 502, the system creates or generates the spatial boundaries in a model of the property that define *the land (perhaps a parcel outline)*, structure (e.g., house, apartment, office, etc.), structure internals (e.g., bedrooms, kitchens, hallways, etc.) and/or air-space above the land (e.g., via quadcopter or pole-based data capture of aerial views).
Id. at 8:39–44 (emphasis added).

As set forth above, spatial boundaries that define a parcel outline are distinguishable from spatial boundaries that define other aspects of real

property, such as structure, structure internals, or air-space above the land. *Id.* The '885 patent Specification supports that the construction agreed to by the parties in the parallel district court proceeding is the ordinary and customary meaning of “parcel outline.”

Other evidence of record also supports adopting the parties’ agreed-to construction. In particular, Dr. Furukawa testifies that he understands “that ‘parcel outline’ means ‘a representation of the legal boundary of the land (i.e., the property lines).’” Ex. 1004 ¶ 143 (citing Ex. 1005, 1).

Accordingly, for purposes of this decision, we adopt the construction that the parties agreed to in the parallel district court proceeding, i.e., that “parcel outline” means “a representation of the legal boundary of the land (i.e., the property lines).”

3. “space”

In the parallel district court proceeding, the district court determined that “space” means “a virtual or real 3D volume.” Ex. 1005, 3. We consider whether we should use the district court’s claim construction in the instant proceeding.

Although Petitioner argued for a different claim construction in the parallel district court proceeding (Ex. 1005, 3), Petitioner does not present those arguments here and, further, Petitioner states that it has applied the district court’s claim constructions in the instant proceeding. Pet. 7. Like the construction adopted, Petitioner’s proposed construction in the parallel district court proceeding is that “space” is a “3D volume.” Ex. 1005, 3. Petitioner’s proposed construction in the district court proceeding includes additional limitations that we need not consider here. *Id.*

The intrinsic record supports that the district court’s claim construction is the ordinary and customary meaning of “space.” The claim

language supports that the “space” has a relationship to real property. Ex. 1001, 16:16–17, 17:31–32 (reciting “a plurality of spaces of the real property”). The claims also recite generating “a virtual model of a current space.” *Id.* at 16:23–24, 17:39.

Consistently, the ’885 patent Specification describes that the capture process includes defining spatial boundaries and the processing pipeline that operates on the data output from the capture process involves 3D reconstruction. Ex. 1001, 7:38–46. Furthermore, the ’885 patent provides a description of computer-implemented image-based rendering 100 that includes as step 502 creating or generating the spatial boundaries in a model of the property. *Id.* at 8:35–40. The ’885 patent describes that computer-implemented image-based rendering 100 provides “a three-dimensional (3D) virtual model of a real property.” *Id.*

Patent Owner asserts that “the provisional application upon which the ’885 Patent claims benefit states that the “[s]ystem enables the definition of one or more, three dimensional spatial boundaries to be defined within a given real estate environment.”” Prelim. Resp. 27 (citing Ex. 1003, 4). Patent Owner’s assertion is supported by the disclosure in the provisional application that the system “enables the definition of one or more, three dimensional spatial boundaries to be defined within a given real estate environment.” Ex. 1003, 4.

Accordingly, for purposes of this decision, we adopt the district court’s construction, i.e., that “space” means “a virtual or real 3D volume.”

D. Obviousness of Claims 1–18 over Cowtan and Bell

Petitioner asserts that claims 1–18 are unpatentable under 35 U.S.C. § 103 as obvious over Cowtan and Bell. Pet. 4. Patent Owner counters that the asserted prior art does not disclose element 1.10, i.e., “generate a

plurality of spatial boundaries of the plurality of spaces of the real property, each of the plurality of spatial boundaries defining a parcel outline of a corresponding space among the plurality of spaces.” Prelim. Resp. 16–29.

We begin with an overview of Cowtan and Bell. We then turn to the parties’ contentions.

1. Cowtan

Cowtan describes providing “multi-media virtual tours in the real estate industry.” Ex. 1008 ¶ 2. Figure 1 of Cowtan, reproduced below, illustrates a graphical user interface (GUI) for an Internet-based multi-media virtual tour presentation system. *Id.* ¶ 16.

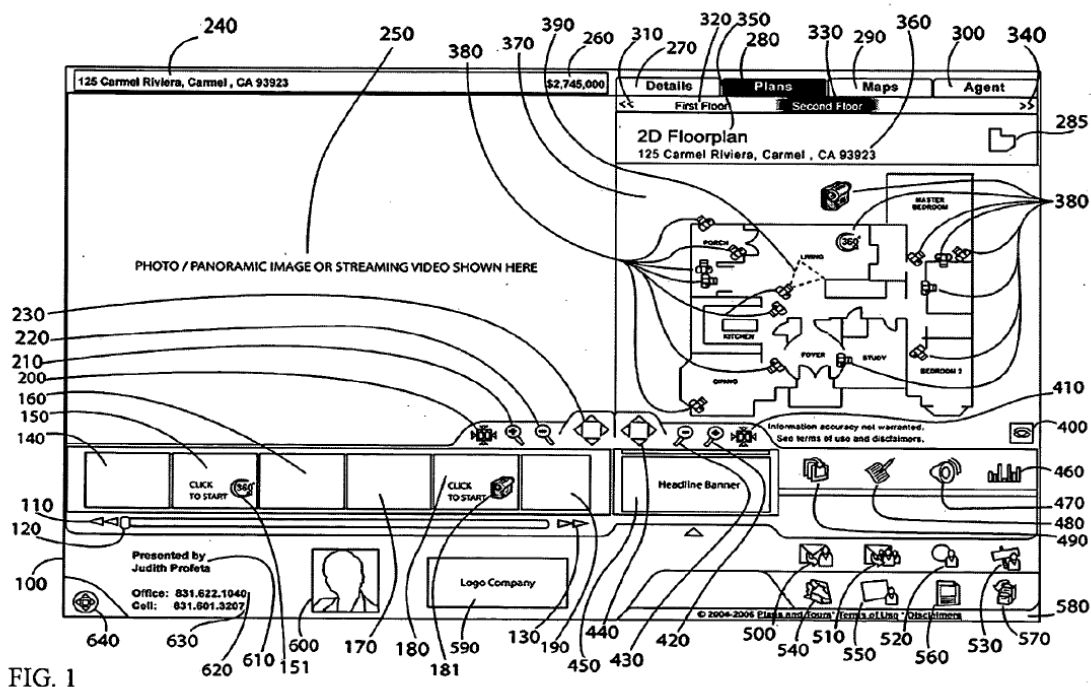


Figure 1, above, illustrates GUI 100 for an Internet-based multi-media virtual tour presentation system having (1) image navigation section 110–190, (2) image display section 200–260, and (3) hierarchical information organization and navigation section 270–440. *Id.* ¶¶ 110–113.

Image navigation section 110-190 comprises one or more of the following: left select button 110, slide bar 120, right select button 130, first

thumbnail 140, second thumbnail 150, third thumbnail 160, fourth thumbnail 170, fifth thumbnail 180, and sixth thumbnail 190. *Id.* ¶ 111. Image display section 200–260 comprises, among other things, photographic or panoramic image or streaming video display section 250. *Id.* ¶ 112. In image navigation section 110–190, a user may select one of the thumbnails to display a corresponding full size image in photographic or panoramic image or streaming video display section 250. *Id.* ¶ 117.

Hierarchical information organization and navigation section 270–440 includes, among other things, plan-based navigation system 370 comprising a plurality of photograph, panorama, or video point of origin and orientation icons 380. *Id.* ¶ 113. Plan-based navigation system 370 displays an image corresponding with a floor plan for the subject property. *Id.* ¶ 123. Each photograph, panorama, or video point of origin and orientation icons 380 corresponds with one of the photographs or videos from the thumbnails in image navigation section 110–190. *Id.*

2. *Bell*

Bell describes capturing and aligning multiple 3D scenes with one another. Ex. 1009 ¶ 3. Figure 2, reproduced below, illustrates a graphical user interface with windows with view of the capture process. *Id.* ¶ 56.

Figure 2

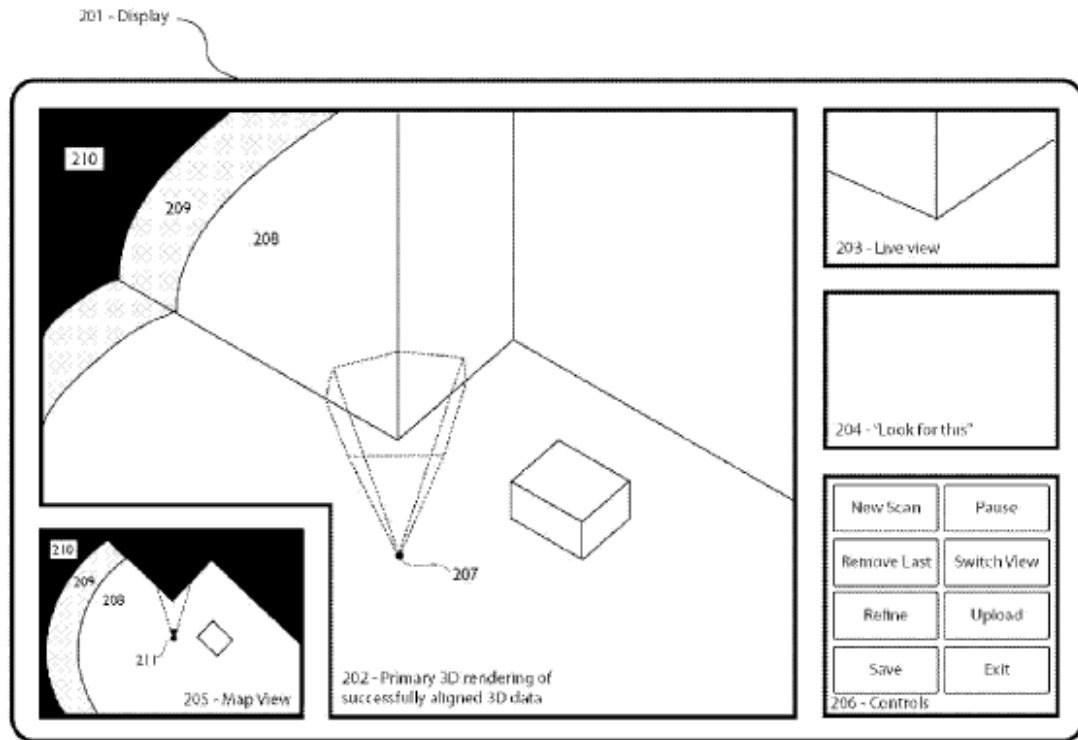


Figure 2, above, illustrates primary 3D rendering 202 of successfully aligned captured 3D data 208 shown on display 201. *Id.* ¶ 61.

As shown in Figure 2, primary 3D rendering 202 allows the user to see what areas have been captured. *Id.* Data 208 shown in primary 3D rendering 202 includes sets of points captured at various times by a 3D capture device with the different sets aligned into a common coordinate system for display. *Id.* ¶ 63. A user selects a location, area, or previous capture position on primary 3D rendering 202 or map view 205. *Id.* ¶ 75. Map view 205 is displayed in two dimensions and gives users a larger context for their position. *Id.* ¶ 81. The graphical user interface illustrated in Figure 2 includes set of controls 206 for the scan process. *Id.* ¶ 82.

3. *Independent Claim 1*

a) *Does the Petition explain sufficiently how the teachings of Cowtan and Bell would have been combined?*

Petitioner asserts that claims 1–18 are unpatentable under 35 U.S.C. § 103 as obvious over Cowtan and Bell. Pet. 4. Petitioner relies on the combined teachings of Cowtan and Bell for element 1.10, i.e., “generate a plurality of spatial boundaries of the plurality of spaces of the real property, each of the plurality of spatial boundaries defining a parcel outline of a corresponding space among the plurality of spaces.” We consider whether Petitioner has provided sufficient explanation showing how a person of ordinary skill in the art would have combined the teachings of Cowtan and Bell so as to meet the subject matter recited in element 1.10.

For the reasons given above with respect to claim construction (*see* §§ IV.C.2, IV.C.3), for purposes of this decision, we adopt the constructions that are being used in the parallel district court proceeding. In particular, we use the parties’ agreed-to construction that “parcel outline” means “a representation of the legal boundary of the land (i.e., the property lines).” Ex. 1005, 1. Also, we use the district court’s determination that “space” means “a virtual or real 3D volume.” *Id.* at 3.

We start with a portion of the Petition having the title “Motivation to combine Cowtan and Bell⁴³⁶.” Pet. 20. Petitioner asserts that a person of ordinary skill in the art would have looked to Bell’s 3D modeling technology and techniques for rendering 3D scenes to use with Cowtan’s virtual tours of real estate. *Id.* at 20–21 (citing Ex. 1004 ¶ 107) (“A person of ordinary skill in the art reading Cowtan naturally would look to existing techniques for generating 3D models and rendering 3D scenes, such as that described in Bell⁴³⁶.”), 22 (citing Ex. 1004 ¶ 108) (concluding “it would

have been obvious to a POSITA^[4] to use the 3D modeling technology disclosed in Bell436 for the 3D walkthroughs, floorplans, visualizations or renderings disclosed in Cowtan for providing Internet-based virtual tours of real estate.”)

The aforementioned contention is too conclusory and vague with respect to how a person having ordinary skill in the art would have combined the teachings of the asserted art to meet element 1.10, i.e., “generate a plurality of spatial boundaries of the plurality of spaces of the real property, each of the plurality of spatial boundaries defining a parcel outline of a corresponding space among the plurality of spaces.” For instance, Petitioner does not identify differences between either Cowtan and Bell and element 1.10 or how Petitioner proposes to combine or modify the asserted prior art to meet element 1.10. Also, Petitioner’s contention does not address the ordinary and customary meaning of the terms “parcel outline” and “space” with sufficient specificity.

Furthermore, Petitioner’s contention does not take into account that Cowtan also teaches 3D modeling technology and 3D rendering techniques. Indeed, Petitioner relies on Cowtan’s teachings of 3D modeling technology and 3D rendering techniques in its element-by-element assertion for claim 1. *See, e.g., id.* at 20 (asserting that Cowtan discloses “3D rendering[s]”), 21 (asserting that both Cowtan and Bell “describe the use of similar known techniques, such as 3D models”), 23 (asserting that Cowtan teaches “3D visualizations” and “3D rendering”), 28 (asserting that Cowtan “discloses, and shows in Figures 1 and 12, a ‘multimedia dual-paned virtual tour presentation system having orientational capabilities’ which provides ‘3D

⁴ POSITA is person of ordinary skill in the art.

visualizations,’ such as ‘3D plans for multi-floors and from different points of origin, 3D walkthroughs, 3D Flyaround and the like’ as ‘a digital representation of a 3D space’ of a given real estate property”), 29 (asserting that “Cowtan presents a virtual model of a selected space”), 33 (describing Cowtan as visually presenting a virtual model), 44 (asserting that Cowtan’s “3D visualizations ” correspond to a virtual model). Petitioner’s contention that Bell’s 3D modeling technology and techniques for rendering 3D scenes would have been used with Cowtan’s teachings does not explain sufficiently whether Petitioner contends that a person of ordinary skill in the art would have substituted Bell’s technology and techniques for those of Cowtan, or whether Petitioner proposes combining the 3D modeling technologies and 3D rendering techniques of the two references in some manner.

Petitioner does not remedy the deficiency in its element-by-element analysis. In particular, Petitioner relies on Bell for the first portion of element 1.10, i.e., generate a plurality of spatial boundaries of the plurality of spaces of the real property.” Pet. 36 (“Bell discloses the generation of spatial boundaries.”), 37–38 (asserting that Bell’s techniques teach “spatial boundaries of the plurality of spaces”). In the portions of Bell relied on by Petitioner, Bell teaches techniques for 3D modeling and rendering 3D scenes that involve using assumptions about planes and defining plane objects. For instance, Bell describes that “assumptions about planes being flat and potentially perpendicular may be used to reduce the potential for drift.” Ex. 1009 ¶ 133. Bell also teaches identifying planes and using their position and orientation “to define plane objects,” such as “boundaries, edges, corners, adjacent planes, location,” and visual appearance information. *Id.* ¶ 134.

For the remainder of element 1.10, Petitioner asserts that Bell “can be combined with techniques, such as those disclosed in Cowtan, for defining

rooms, floors, and floorplans in a real property.” Pet. 38 (citing Ex. 1008 ¶ 189, Figs. 7–10, 13). Petitioner also asserts that “Cowtan and Bell436 show how the spatial boundaries of the plurality of spaces, along with the plotplan and/or landscape, define, at least in part, the parcel boundary for a real property.” *Id.* at 40 (citing Ex. 1008, Fig. 7). Figure 7 of Cowtan relied on by Petitioner in both assertions is reproduced below.

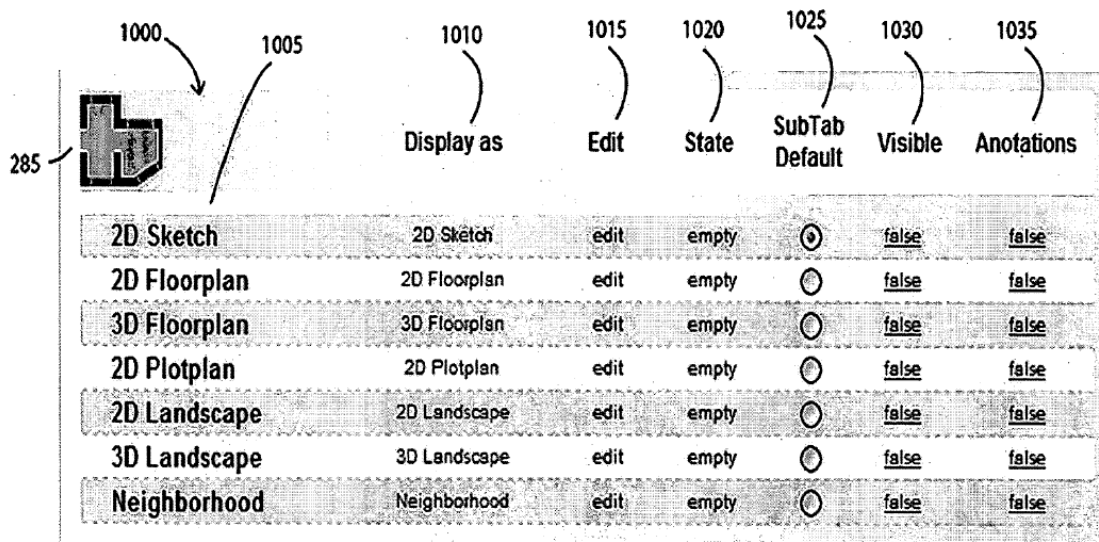


FIG. 7

Figure 7 of Cowtan, above, shows an example where seven sub tabs are provided for loading a floor plan before content is loaded into the system. Ex. 1008 ¶ 23.

Cowtan describes Figure 7 as “an example where seven sub tabs are provided for loading a floor plan” into the system. Ex. 1008 ¶¶ 23, 136. Cowtan describes that the screen may comprise certain tabs, icons, and indicators. *Id.* ¶ 136. The terms “Plotplan” and “Landscape” are found in a column identified by “1005,” which Cowtan describes as “floor plan sub tab names 1005.” *Id.* ¶ 136, Fig. 7.

Petitioner does not explain sufficiently how Bell’s identification of planes and definition of plane objects would have been combined with Cowtan’s sub tab names “Plotplan” and “Landscape” to teach element 1.10 using the district court claim constructions that “space” means “a virtual or real 3D volume” and that “parcel outline” means “a representation of the legal boundary of the land (i.e., the property lines),” which we adopt. *See* §§ IV.C.2, IV.C.3. Even assuming Bell’s techniques pertain to identification of planes and definition of plane objects relating to 3D spaces as required by the ordinary and customary meaning of the term “space” (*see* § IV.C.3), Bell’s disclosures pertain to 3D spaces of man-made structures. *See, e.g.,* Ex. 1009 ¶ 133 (describing that Bell’s technique “can be useful in situations for which the environment being scanned is a *man-made structure* that is supposed to have *flat floors, walls, or other surfaces*” (emphases added).) Petitioner does not explain sufficiently how Bell’s techniques relating to flat surfaces of man-made structures would have been combined with Cowtan’s teachings to define a parcel outline, i.e., “a representation of the *legal boundary of the land (i.e., the property lines)*” as required by the ordinary and customary meaning of “parcel outline.” *See* § IV.C.2 (emphasis added).

Cowtan’s Figures 8–10 indicate that they pertain to 2D floorplans. Ex. 1008, Figs. 8–10. The ordinary and customary meaning of the term “space” is “a virtual or real 3D volume.” Ex. 1005, 3. Cowtan’s Figure 13 is described as “similar to FIG. 7” (Ex. 1008 ¶ 29) and appears similar to Figure 7. *Compare id.* at Fig. 13, *with id.* at Fig. 7. Petitioner’s assertions relating to Figures 8–10 and 13 of Cowtan, therefore, do not remedy the aforementioned deficiency.

Paragraph 189 of Cowtan is described as an “[e]xample XML file” and appears to be a computer software file. *Id.* ¶ 189. Paragraph 189 spans

from page 12 to page 21 of Cowtan. *See generally id.* Petitioner does not specify sufficiently what portions of paragraph 189 it relies on or how this computer software file supports Petitioner's position.

In its Reply to Patent Owner's Preliminary Response, Petitioner provides arguments responding to Patent Owner's Preliminary Response. Reply 5–7. Petitioner's arguments should have been presented in the Petition. As an additional, independent reason for our denial, even considering Petitioner's arguments in its Reply does not remedy the aforementioned deficiency. For instance, Petitioner asserts that the Petition refers to Bell's disclosure of generation of floorplans "combined with" Cowtan's teaching of "**the plotplan and/or landscape**" without providing sufficient explanation as to how the disclosures and teachings of the prior art references would have been combined. Reply 6.

Petitioner also asserts that Patent Owner's infringement contentions in the parallel district court proceeding support Petitioner's position. *Id.* Petitioner's argument appears to imply that we should adopt a broader construction such that Bell's floorplan would suffice as the parcel outline. *Id.* Petitioner should have proposed and supported such construction in the Petition. *See* 37 C.F.R. § 42.104(b)(3). Instead, Petitioner asserts that it has applied the district court's claim constructions. Pet. 7. Additionally, the record indicates that Petitioner agreed to the construction of "parcel outline" in the parallel district court proceeding. Ex. 1005, 1. Petitioner has not set forth any contrary claim construction argument with sufficient clarity for us to consider it.

In summary, Petitioner does not explain with sufficient specificity in what manner a person of ordinary skill in the art would have combined Bell's modeling technology or rendering techniques with Cowtan's

teachings to meet all elements of claim 1. Petitioner has not set forth with sufficient clarity the differences between the claimed subject matter and the prior art (*see Graham*, 383 U.S. at 17–18), and the Petition lacks sufficient explanation as to the manner in which the prior art is combined to account for those differences.

b) Does the Petition provide sufficient articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have combined the teachings of Cowtan and Bell?

We turn to whether Petitioner provided sufficient articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have combined the teachings of Cowtan and Bell in the manner recited in claim 1. We again consider Petitioner’s contentions provided under the title “Motivation to combine Cowtan and Bell⁴³⁶,” as well as contentions provided in Petitioner’s element-by-element analysis. Pet. 20–22, 30, 33, 38, 43.

In its contentions, Petitioner points to similarities in Cowtan and Bell. *Id.* For instance, Petitioner asserts “Cowtan and Bell⁴³⁶ *both* disclose the use of images (e.g., panoramas) to generate 3D scenes for various types of spaces, including rooms and other spaces on properties.” *Id.* at 20 (citing Ex. 1004 ¶¶ 105–106) (emphasis added). Petitioner also asserts “[s]imilarly, both references [Cowtan and Bell] describe the use of similar known techniques, such as 3D models, to yield the same predictable results.” *Id.* at 21.

Petitioner’s contentions pointing to similarities in Cowtan and Bell do not suffice as an articulated reason with rational underpinning to combine their respective teachings—more is required to support the legal conclusion of obviousness. *See KSR*, 550 U.S. at 418. The Federal Circuit has

concluded that merely asserting that two references were drawn from the same field of art is “simply too conclusory” to show that the skilled artisan would have combined these references in the way of the claimed invention. *Securus Techs., Inc. v. Glob. Tel*Link Corp.*, 701 F. App’x 971, 976 (Fed. Cir. 2017); *see Microsoft Corp. v. Enfish, LLC*, 662 F. App’x 981, 990 (Fed. Cir. 2016) (determining that “the Board correctly concluded” that a petitioner “did not articulate a sufficient motivation to combine” where the only reason given was “that references were directed to the same art or same techniques”). In the same way, Petitioner’s contentions here that the references are similar, even if true, are insufficient to show why the skilled artisan would have combined Cowtan and Bell to arrive at the subject matter recited in the claims.

Petitioner also contends that a person of ordinary skill in the art reading Cowtan “naturally would look to” Bell’s techniques. Pet. 20–21. Petitioner asserts that Cowtan and Bell both disclose the use of images to generate 3D scenes for rooms in floorplans. *Id.* at 20. As discussed above (*see* § IV.D.3.a), the Petition does not explain with sufficient specificity in what manner a person of ordinary skill in the art would have combined Bell’s modeling technology or rendering techniques with Cowtan’s teachings to meet all elements of claim 1. Under the circumstances here, Petitioner’s contention that a person of ordinary skill in the art reading Cowtan “naturally would look to” Bell’s techniques (Pet. 20–21) is conclusory and does not suffice as an articulated reason with a rational underpinning to combine the respective teachings of the references. *See KSR*, 550 U.S. at 418.

Petitioner also provides contentions as to why a person of ordinary skill in the art could have combined the references. Pet. 21 (asserting that

Petitioner’s technology “*could* be used in real estate environments”) (emphasis added), 30 (asserting that a person of ordinary skill in the art would know that Bell’s disclosures “*could* be used in real estate virtual tour 3D visualizations as taught by Cowtan”) (emphasis added), 33 (asserting Bell’s digital representations “*could* be displayed” using Cowtan’s labels) (emphasis added), 38 (asserting Bell’s generation of floorplans and views “*can* be combined with techniques, such as those disclosed in Cowtan”) (emphasis added), 43 (asserting that a person of ordinary skill in the art would understand that Cowtan’s annotating “*could* be used” as the labels or other sensor data of Bell) (emphasis added). Those contentions, however, do not explain sufficiently why one of ordinary skill in the art reading Cowtan would have applied specifically Bell’s particular teachings. Petitioner also does not identify a persuasive reason why a skilled artisan, viewing the teachings of Bell, would have been motivated to modify Cowtan. That a person of ordinary skill in the art could have done so is not enough. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (“[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.”); *In re Giannelli*, 739 F.3d 1375, 1380 (Fed. Cir. 2014) (“[T]he mere *capability* of pulling the handles is not the inquiry that the Board should have made; it should have determined whether it would have been obvious to modify the prior art apparatus to arrive at the claimed rowing machine.”).

Accordingly, we determine that Petitioner has not provided sufficient articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have combined the teachings of Cowtan and Bell in the manner recited in claim 1.

c) Conclusion

After consideration of the contentions and the evidence, we determine that Petitioner has not provided sufficient explanation to show how a person of ordinary skill in the art would have combined the teachings of Cowtan and Bell so as to meet the claimed subject matter. Also, Petitioner has not provided sufficient articulated reasoning with a rational underpinning as to why one of ordinary skill in the art would have combined the teachings of Cowtan and Bell in the manner recited in claim 1. Accordingly, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that claim 1 is unpatentable under 35 U.S.C. § 103 as obvious over Cowtan and Bell.

4. Independent Claim 10

Independent claim 10 is similar to independent claim 1. Petitioner relies on its assertion for claim 1 and does not provide contentions for claim 10 that remedy the deficiency discussed with respect to claim 1. Pet. 58. Accordingly, for the reasons discussed with respect to claim 1, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that claim 10 is unpatentable under 35 U.S.C. § 103 as obvious over Cowtan and Bell.

5. Dependent Claims 2–9 and 11–18

We have considered Petitioner's arguments and evidence for dependent claims 2–9 and 11–18. Petitioner does not provide contentions for claims 2–9 and 11–18 that remedy the deficiency discussed with respect to claim 1. Accordingly, for the reasons discussed with respect to claim 1, we conclude that Petitioner has not demonstrated a reasonable likelihood that it

would prevail in showing that claims 2–9 and 11–18 are unpatentable under 35 U.S.C. § 103 as obvious over Cowtan and Bell.

V. CONCLUSION

For the foregoing reasons, we conclude that the information presented in the Petition does not establish a reasonable likelihood that Petitioner would prevail in showing that any of claims 1–18 of the '885 patent is unpatentable.

VI. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is denied, and we do not institute *inter partes* review of any claim of the '885 patent based on the ground asserted in this Petition.

IPR2021-00936
Patent 9,836,885 B1

FOR PETITIONER:

Hector Ribera
Chien Ju Chuang
MARTON RIBERA SCHUMANN & CHANG LLP
hector@martonribera.com
cjalice@martonribera.com

FOR PATENT OWNER:

Gregory S. Donahue
Andrew DiNovo
DiNOVO PRICE LLP
gdonahue@dinovoprice.com
adinovo@dinovoprice.com