UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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GOOGLE INC.
Petitioner

v.

VISUAL REAL ESTATE, INC.
Patent Owner

_____

CASE IPR2014-01340
Patent 7,929,800

_____

PATENT OWNER'S PRELIMINARY RESPONSE TO PETITION

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EXHIBIT LIST

EXHIBIT NO.	DESCRIPTION
2001	Tony Quesada, "New cameras capturing appraisal market," Jacksonville Business Journal, June 2, 2008 (http://www.bizjournals.com/jacksonville/stories/2008/06/02/story4.html?page=all)
2002	Declaration of Dr. John R. Grindon in Support of Google's Opening Claim Construction Brief (submitted by Petitioner in *Vederi, LLC v. Google, Inc.*, No. 2:10-cv-07747 (C.D. Cal.), D.I. 50-1)

Pursuant to 37 C.F.R. § 42.107, Patent Owner Visual Real Estate, Inc. ("Patent Owner" or "VRE") submits the following preliminary response to the Petition for *Inter Partes* Review[1] filed by Google Inc. ("Petitioner"). The Board should deny institution of *inter partes* review because Petitioner has failed to show that there is a reasonable likelihood of prevailing with respect to any of the challenged claims, as explained below. 35 U.S.C. § 314.

I.   INTRODUCTION

The Petition asserts multiple cumulative challenges to Claims 1-4, 10, 11, 13-15, and 18 of U.S. Patent No. 7,929,800 ("'the 800 Patent," Ex. 1002). Because each challenge is without merit, the Petition should be denied.

The '800 Patent discloses and claims an apparatus developed by the inventors William D. Meadow and Randall A. Gordie, Jr. that improves upon the inventors' commercial product by capturing and generating composite images taken from residential and commercial streets. This invention enabled real estate appraisers to locate and view *particular* and *precise* subjects (geographic areas). *See, e.g.,* Ex. 2001. Critically, as claimed in the '800 Patent, the processing of the street-level images creates composite images of a subject (parcel). Positional data identifying the ***position of the subject*** is

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[1] In this Preliminary Response, all citations to the "Petition" refer to the Corrected Petition filed on September 5, 2014 (Paper No. 4).

used to link a particular subject or parcel (or portions thereof) to the composite images depicting it.

The composite images of the present invention are created by aligning two or more captured images of a common subject (e.g., a parcel of property along a road) captured along a continuum (such as a path along the road). Ex. 1002, '800 Patent, 3:26-29. Importantly, the resulting composite image is associated with a particular *portion* of the subject based upon *positional data* (e.g., geospatial data expressed in Cartesian coordinates) indicative of a location of the subject matter in the captured images. *Id.*, 2:23-25, 5:27-33, 5:50-52. The invention thus creates precise and accurate street level images of a subject property for which the location of each resulting image is known. This information can be used to retrieve with precision and accuracy the images associated with the particular subject.

The Petition requests *inter partes* review based on seven overlapping and cumulative grounds that all rely upon either U.S. Patent Application Pub. No. 2002/0047895 A1 to Bernardo et al. ("Di Bernardo," Ex. 1004), or Augusto Roman et al., *Interactive Design of Multi-Perspective Images for Visualizing Urban Landscapes*, Computer Graphics Library (Oct. 2004) ("Roman," Ex. 1008) as the primary reference.

In Grounds 1 and 2, Petitioner alleges that Claims 1-4, 10, 11, 13-15, and 18 are either anticipated (Ground 1) or rendered obvious (Ground 2) by Di Bernardo alone. However, Grounds 1 and 2 fail because Di Bernardo does not teach or suggest at least one

of the required steps of independent Claim 1, namely, recording *positional data* descriptive of a location of each captured. As the Petition recognizes, Di Bernardo captures positional data of the *camera* taking the picture, *not* the location of the subject of the image. Indeed, in Ground 3, Petitioner *de facto* recognizes that Di Bernardo fails to teach or suggest this limitation by asserting it would be obvious to combine Di Bernardo with another reference purportedly to cure this deficiency.

Di Bernardo is directed to implementing a low computational overhead system (Ex. 1004, Di Bernardo, ¶¶ 0007, 0009) and simply does not capture and store *precise* and *accurate* positional information for each captured image. This short-coming cannot be rectified with the conclusory and incomplete obviousness argument advanced in Ground 2, which does not even address the Supreme Court's *Graham* factors, ignoring the scope and content of the prior art, differences between the prior art and the claims at issue, the level of ordinary skill in the pertinent art, and secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). This failure is sufficient ground to deny the petition. *See AOL Inc. v. Coho Licensing LLC*, IPR2014-00966, Paper 6 at 13 (PTAB Nov. 20, 2014).

Moreover, Grounds 3 and 4, which seek to combine Di Bernardo with U.S. Patent No. 6,597,818 ("Kumar," Ex. 1005) likewise fail. Kumar requires high computational demands, whereas Di Bernardo teaches systems requiring low computational demands. Ex. 1004, Di Bernardo, ¶ 0009. As such, Kumar teaches away from Di Bernardo. Indeed, as Petitioner's other expert on the Di Bernardo specification explained, Di Bernardo, "in

seeking to improve upon the so-called '*computationally intensive*' and '*cumbersome*'

methods of forming composite images in the prior art, teach a single way to form composite

images that seeks to *minimize this computational burden.*" Ex. 2002, ¶ 39 (emphasis

added). Accordingly, the Petition falls short of showing a reasonable likelihood of prevailing

with respect to the claims challenged in Grounds 1-4.

Grounds 5-7, which rely upon Roman as the primary reference, also fail. In Ground

5, the Petition alleges that Claims 1-4 and 13-15 are obvious under 35 U.S.C. § 103 over

Roman in view of Kumar. However, even the Petition recognizes that Roman does not

teach at least the same Claim 1 limitation that is also missing from Di Bernardo, namely,

recording positional data for each captured image. The Petition again relies upon Kumar to

try to cure this and other deficiencies, but Petition's proffered rationales for combining

Roman with Kumar are nothing more than unsupported hindsight analysis. Grounds 6 and

7, which seek to further combine with Di Bernardo, also fail because, as discussed above,

Kumar teaches away from Di Bernardo.

As shown herein, Petitioner has failed to meet its burden regarding at least

independent Claim 1. Therefore, Petitioner's challenges against the other claims of the '800

Patent, which all depend directly or indirectly on Claim 1, also fail.

In sum, the present Petition fails to demonstrate a reasonable likelihood that at least

one of the claims challenged in the Petition is unpatentable. Accordingly, the Board should

not institute *inter partes* review based on any of the Grounds set forth in the Petition. 37 C.F.R. § 42.108(c).

II.   OVERVIEW OF U.S. PATENT NO. 7,929,800

The '800 Patent relates to methods and apparatus for generating and processing a continuum of image data, such as street level views of geographic areas. Ex. 1002, '800 Patent, abstract. The invention described in the '800 Patent was developed as an improvement to a commercial system created and operated by the inventors William D. Meadows and Randall A. Gordie to capture street level images of real estate parcels and process the captured images into composite images of particular parcels. *See, e.g.*, Ex. 2001.

Specifically, the present invention discloses and claims a novel apparatus for aligning captured images along a dimension consistent with the continuum along which they were captured. The apparatus generates a composite image of the subject of the aligned images. Additionally, ***positional data*** describing the ***location of the subject*** is recorded. For example, positional data can identify a "geospatial designation," such as latitude and longitude coordinates for a parcel of land in the captured images. Such positional data may be determined from data collected by a GPS device, an inertial navigation system, and/or accelerometers, as well as data describing the direction of image capture (e.g., from an electronic compass) and the depth of field of the camera. *See*, Ex. 1002, '800 Patent, 5:34-36, 5:57-59, 6:40-45, 6:62-65.

The claimed apparatus uses the positional data to associate the composite image with a *particular portion* of the subject of the captured images. *Id.* at Claim 1. The composite image can thus comprise a ribbon of composite images taken along a continuum (e.g., along a road) with identified subjects (such as parcels of land) in the composite images. *See, Id.*, at 3:57-64, 7:26-32.

III. CLAIM CONSTRUCTION

When considering whether to institute a patent trial, the Board has indicated that it will interpret the claims of a challenged patent using a "broadest reasonable construction" approach. Office Patent Trial Practice Guide, 77 Fed. Reg. 48756, 48766 (Aug. 14, 2012). In applying such a standard, it is important to recognize that the broadest reasonable construction of claim language is not one that permits any reading thereof. Instead, it is one that must be made "in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Of course, patent claims must "conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description." 37 C.F.R. § 1.75(d)(1). That is, "[c]laim terms are also given their ordinary and customary enjoyed meaning as would be understood by one of ordinary skill in the art in the context of the entire disclosure." *Garmin Int'l, Inc. v.*

Cuozzo Speed Techs. LLC, IPR2012-00001, Paper 59 at 8 (PTAB Nov. 13, 2013) (citing *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007)).

Here, the claims should be construed from the perspective of a person having a bachelor of science in computer science or 4 years of technical experience and professional experience in image processing relating to real property maps.

For the purpose of this proceeding, Patent Owner does not dispute the constructions proposed in the Petition. However, Patent Owner proposes a construction of one additional term. Taking into account the teachings of the '800 Patent and the entire disclosure, Patent Owner herein sets forth the following preliminary claim term construction proposal for the term "record positional data descriptive of a respective location of each of the two or more images."

A. "Record positional data descriptive of a respective location of each of the two or more images" (Claim 1, element 1.6)

Petitioner offers no construction of the phrase "record *positional data* descriptive of a respective location of each of the two or more images" as used in Claim 1 of the '800 Patent. Patent Owner proposes the following construction: "record data indicative of where <u>the subject matter</u> of the images is located." This construction comes straight from the definition provided by the specification of the '800 Patent, which states, "Positional data can include any data *indicative of where the subject matter of an image is located*." Ex.1002, '800 Patent, 5:29-30 (emphasis added). The '800 Patent also explains, "The

position of a camera can be combined with a direction of image capture and the depth of field of the camera, to determine *a location of image data* captured by the camera at a particular instance in time." *Id.* at 6:62-65 (emphasis added). The recitation of a "direction of image capture" and the "depth of field" clarify that "a location of image data" refers to *a location of the actual subject of the image as opposed to a location of the camera itself.* Otherwise, such structure for determining distance from the camera would be meaningless.

Dependent claims reinforce this construction. For example, Claim 3 provides that "the software is additionally operative to *generate* the *positional data based upon* latitude and longitude coordinates of *a camera* capturing the two or more images and data descriptive of *the camera* orientation while the camera captured the two or more images." Thus, Claim 3 confirms that "the positional data" is "generate[d]" using camera position (and/or orientation) information rather than merely comprised of such data. This language makes sense only if the "positional data" is indicative of a location of the "subject" as described in the specification at 5:29-30, since the camera location, direction, altitude, etc. are used to calculate the location of the subject in the images.

Since the Petition failed to present any construction of this limitation and since Patent Owner's construction is based on the broadest reasonable interpretation consistent with the specification of the '800 Patent, the Board should adopt Patent Owner's undisputed construction.

Thus, Patent Owner respectfully submits that the phrase "record positional data descriptive of a respective location of each of the two or more images" should be construed to mean "record data indicative of where the subject matter of the images is located."

IV.   ARGUMENT

A.   Summary of Petitioned Grounds

The Petition requests *inter partes* review based on seven overlapping and cumulative grounds relying on Di Bernardo (Ex. 1004) and Roman (Ex. 1008)[2] as the primary references.

Grounds 1-4 rely upon Di Bernardo as the primary reference. In Grounds 1 and 2, Petitioner alleges that Claims 1-4, 10, 11, 13-15, and 18 are either anticipated (Ground 1) or rendered obvious (Ground 2) by Di Bernardo. However, Grounds 1 and 2 fail because Di Bernardo does not teach or suggest at least the required element of Claim 1, namely, recording ***positional data*** descriptive of a location of each captured. The Petition instead

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[2] Petitioner alleges that Roman is prior art under 35 U.S.C. § 102(b), arguing that the priority date of the '800 Patent is its own filing date of February 6, 2007, instead of the August 31, 2005, filing date of the parent application to which it is a continuation-in-part. Without agreeing to Petitioner's allegation, Patent Owner addresses this alleged prior art solely for purposes of this Preliminary Response. In doing so, Patent Owner does not waive its right to dispute and rebut Petitioner's allegation regarding the priority date of the '800 Patent in this or any other proceeding.

relies upon the recording of "positional data" of the camera taking the picture, instead of the subject matter of the image. As such, it fails to anticipate the claim. Indeed, in Ground 3, Petitioner *de facto* recognizes that Di Bernardo fails to teach or suggest this element of Claim 1, by asserting it would be obvious to combine Di Bernardo with another reference purportedly to fill the gap. However, as Petitioner's own expert of the Di Bernardo reference explained, Di Bernardo teaches against adding computational overhead to its system. As such, the proposed combinations in Grounds 3 and 4 make no sense.

Grounds 5-7 rely upon Roman as the primary reference. However, even Petitioner recognizes that Roman does not teach at least the same limitation of Claim 1 that is also missing from Di Bernardo, namely, recording positional data for each captured image. Petitioner relies upon Kumar allegedly to cure these deficiencies but fails to provide a suitable motivation to combine the references.

B. The Declaration of Dr. Fuchs Should Be Given Little, If Any, Weight

As an initial matter, the declaration of Petitioner's expert, Dr. Henry Fuchs, (Ex. 1001) should be given little, if any, weight by the Board in evaluating the Petition. With respect to the analysis of the cited references, Dr. Fuchs' declaration does nothing more than parrot the arguments set forth in the Petition, without providing any additional underlying facts or data, any detailed technical analysis, or additional support. *See, e.g.,* Ex. 1001, ¶ 55; *compare* Pet. at 25, *with* Ex. 1001, ¶ 85 (repeating identical language from the Petition). Petitioner cannot convert its attorney arguments into "evidence" by having its

expert parrot the language without any independent and meaningful analysis. *See, e.g.,*

Corning Inc. v. DSM IP Assets B.V., IPR2013-00050, Paper 77 at 25 (PTAB May 1, 2014)

("[The expert's] statement is a word-for-word reproduction of DSM's argument in the

Response . . . Dr. Bowman does not disclose underlying facts or data on which his opinion

is based; we give it, therefore, little weight."). For at least this reason, Dr. Fuchs' declaration

should be disregarded.

Further, as discussed below, with respect to the disclosure of Di Bernardo, Dr.

Fuchs' declaration contradicts the sworn declaration of Petitioner's other expert, Dr.

Grindon, that was submitted in district court litigation over patents with the same

specification as Di Bernardo. Ex. 2002.[3] Because Dr. Fuchs' declaration is inconsistent with

the prior testimony and admission of Petitioner's other expert, Dr. Fuchs' opinions are not

entitled to any weight and should be disregarded.

C.   [RE: GROUND 1] Claims 1-4, 10, 11, 13-15, and 18 Are <u>Not</u> Anticipated by
        Di Bernardo

 (i)   Analysis of Di Bernardo

Di Bernardo discloses a "system and method [of] synthesizing images of a locale to

generate a composite image that provides a panoramic view of the locale." Ex. 1004,

Abstract.

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[3] Petitioner previously engaged Dr. Grindon to submit an expert declaration in district court

litigation regarding patents with the same specification as Di Bernardo. Ex. 2002.

Images are captured by a camera moving along a trajectory, and the position of the camera while capturing the images is determined. *See, e.g., id.* ¶ 42 ("The latitude and longitude coordinates indicate the *position of the camera* 10 during the recording of a particular image frame.") (emphasis added).

Significantly, Di Bernardo teaches away from using any "computationally intensive," "cumbersome," or "inefficient" processes for generating the composite images (Ex. 1004, ¶ 7) and offers its simplified system to "alleviate[]" problems with such intensive techniques . *Id.*, ¶ 9. This point was made by Dr. Grindon, another expert of Petitioner who was offered in a California District Court action regarding patents involving the same Di Bernardo specification. He admitted that Di Bernardo, "in seeking to improve upon the so-called 'computationally intensive' and 'cumbersome' methods of forming composite images in the prior art, teach a single way to form composite images that seeks to *minimize this computational burden*." Ex. 2002, ¶ 39 (emphasis added); *see also* Ex. 1004, Di Bernardo, ¶¶ 7, 9.

Thus, as the cited portions of the Petition reflect, Di Bernardo teaches recording "positional data" of the camera recording the images, rather than the higher computational process of recording "positional data" of the subject matter of the images taken. *See* Pet., 32-33, citing Ex. 1004, Di Bernardo, ¶¶ 10, 42, 47.

(ii)   Independent Claim 1 is <u>not</u> anticipated by Di Bernardo

Independent Claim 1 of the '800 Patent is directed to an apparatus for processing a continuum of image data to generate composite images associated with a portion of a subject (such as a parcel of real estate). The claim recites the following elements:

[1.P]   1. Apparatus for processing a continuum of image data, the apparatus
        comprising:

[1.1]   a computer server comprising a processor and a storage device; and

[1.2]   executable software stored on the storage device and executable on demand,
        the software operative with the processor to cause the server to:

[1.3]   capture two or more images of a subject, wherein the two or more images are
        captured from disparate points on a continuum;

[1.4]   align portions of the two or more images in a dimension consistent with the
        continuum; and

[1.5]   generate a composite image of the subject comprising the aligned portions of
        the two or more images,

[1.6]   wherein the software is additionally operative to: record positional data
        descriptive of a respective location of each of the two or more images; and

[1.7]   associate the composite image with a particular portion of the subject based
        upon the positional data.

Critically, Petitioner has failed to demonstrate a reasonable likelihood that Claim 1 is anticipated by Di Bernardo, as Di Bernardo does not teach at least limitation [1.6] of Claim 1.

(iii) Di Bernardo does not, *inter alia*, [1.6] "record positional data descriptive of a respective location of each of the two or more images" (Claim 1, element 1.6)

Claim 1 requires that the apparatus "record positional data descriptive of a respective *location of each of the two or more images*." Ex. 1002, '800 Patent, Claim 1 (emphasis added). The '800 Patent describes positional data indicative of a location of the *subject* of an image. Ex. 1002, 5:29-30 ("Positional data can include any data indicative of *where the subject matter of an image is located*.") (emphasis added). Hence, as discussed above in Section III.A, this limitation of Claim 1 means "record data indicative of where the *subject matter of the images* is located," *not* merely a location of the camera recording the images.

However, the Petition rests its analysis of this limitation on portions of Di Bernardo that disclose recording position information of a *recording device* or *camera* taking the image, in contrast to recording the position of the *subject matter of the image itself* (Pet., 32-33):

- "A GPS receiver and/or inertial navigation system provides *position information of the image recording device as the images are being acquired*." Pet., 32, quoting Ex. 1004, Di Bernardo, ¶ 10 (emphasis in original);

- "The latitude and longitude coordinates indicate the *position of the camera* 10 during the recording of a particular image frame." Pet., 33, quoting Ex. 1004, Di Bernardo, ¶ 42 (emphasis added);

- "[T]he GPS receiver 16 and/or inertial navigation system 20 acquires the *position of the camera* 10, while the images are being acquired." Pet., 33, quoting Ex. 1004, Di Bernardo, ¶ 47.

These excerpts from Di Bernardo relied upon by the Petition fail to teach the claim element [1.6], and thus do not anticipate Claim 1.

Dr. Fuchs, Petitioner's expert for this Petition, also relies on "positional data" of the camera recording the images, rather than the "positional data" of the subject matter of the images taken:

- "The GPS receiver computes latitude and longitude coordinates indicating the *position of the recording device* during the recording of a particular image frame. ([Ex. 1004, Di Bernardo,] ¶ 42.))." Ex. 1001, ¶ 20 (emphasis added); *see also id.*, ¶ 30.

Here again, this analysis fails to teach the claim element [1.6].

Accordingly, the Petition has failed to establish that Di Bernardo discloses the claimed limitation of recording "positional data descriptive of a respective location of each of the two or more *images*," meaning the location of *the subject* of the images, not merely the location of the camera at a time when the images were captured. Thus, the Petition has

failed to meet its burden with respect to at least Claim 1, element 1.6, and therefore should

be denied by the Board.

For at least the foregoing reasons, it is respectfully submitted that the Petition fails to

demonstrate a reasonable likelihood that independent Claim 1 is unpatentable as

anticipated by Di Bernardo under the Petition's Ground 1.

(iv)   Dependent Claims 2-4, 10, 11, 13-15, and 18 are <u>not</u> anticipated by Di Bernardo

The remaining challenged claims of the '800 Patent all depend directly or indirectly

on independent Claim 1. As the Petition has failed to show a reasonable likelihood that

Claim 1 is anticipated by Di Bernardo, it has necessarily failed to show that the dependent

claims are anticipated.

D.   [RE: GROUND 2] Claims 1-4, 10, 11, 13-15, and 18 Are <u>Not</u> Obvious Under 35 U.S.C. § 103 Over Di Bernardo

Petitioner implicitly acknowledges that Di Bernardo does not anticipate by requesting

inter partes review of the exact same claims, i.e., Claims 1-4, 10, 11, 13-15, and 18, as

being obvious over Di Bernardo *alone* (Ground 2). However, rather than providing a

complete obviousness analysis, Petitioner provides, in merely a half of a page of the

Petition, nothing more than a broad conclusory assertion that "to the extent that any

limitations are considered not to be anticipated by Di Bernardo alone, such limitations are

also rendered obvious by Di Bernardo, as a [person of ordinary skill in the art] POSITA

would have found such limitations obvious in Di Bernardo's disclosure in light of the ordinary knowledge of skilled artisan and the state of the art known at the time." Pet. 16.

Petitioner's obviousness ground fails as a matter of law since the Petition failed to address none of the Supreme Court's *Graham* factors, ignoring the scope and content of the prior art, differences between the prior art and the claims at issue, the level of ordinary skill in the pertinent art, and secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966) ; *see also AOL Inc. v. Coho Licensing LLC*, IPR2014-00966, Paper 6 at 13 (PTAB Nov. 20, 2014) (citing *Liberty Mutual Ins. Co. v. Progressive Casualty Ins. Co.*, CBM2012-00003, 2012 WL 9494791, at *2 (PTAB Oct. 25, 2012)) ("A petitioner who does not state the differences between a challenged claim and the prior art, and relies instead on the Patent Owner and the Board to determine those differences risks having the corresponding ground of obviousness not included for trial for failing to adequately state a claim for relief."). The Board recently explained:

> A petition for *inter partes* review **must include "[a] full statement of the reasons for the relief requested, including a detailed explanation of the significance of the evidence" relied on**. *See* 37 C.F.R. § 42.22(a)(2). The Patent Trial and Appeal Board "may exclude or give no weight to the evidence where a party has failed to state its relevance or to identify specific portions of the evidence that support the challenge." 37 C.F.R. § 42.104(b)(5). Here, Petitioner has **hinged its case on a single conclusory sentence from a declaration** that, in turn, cites to a 95 page range in a reference **with no effort to identify specific portions within that range that support the**

challenge. *This is an insufficient showing to warrant institution of a trial for inter partes review.*

Universal Remote Control, Inc. v. Universal Electronics, Inc., IPR2014-01112, Paper 9 at 13 (PTAB Nov. 24, 2014) (emphasis added).

Indeed, neither the Petition (Pet. 16) nor Petitioner's expert declaration (Ex. 1001, ¶ 41) provided any obviousness analysis with respect to Ground 2, let alone "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

Petitioner further fails to explain how the deficiencies of Di Bernardo discussed above in connection with the anticipation ground could be cured under the obviousness ground. For example, as discussed above, Di Bernardo does not disclose the limitation of recording "positional data descriptive of a respective location of each of the two or more images." The Petition does not explain how this deficiency of Di Bernardo could be cured under the obviousness ground.

The Board has previously dismissed similar obviousness grounds that were offered as an alternative to anticipation grounds but without any meaningful analysis. *See, e.g., Synopsys, Inc. v. Mentor Graphics Corp.*, IPR2012-00041, Paper 16 at 16, 18 (PTAB Feb. 22, 2013). Petitioner's Ground 2 should likewise be dismissed.

For at least the foregoing reasons, it is respectfully submitted that the Petition fails to demonstrate a reasonable likelihood that Claims 1-4, 10, 11, 13-15, and 18 are

unpatentable as obvious over Di Bernardo under Petitioner's Ground 2.

E. [RE: GROUND 3] Claims 1-4, 10, 11, 13-15 and 18 Are <u>Not</u> Obvious Under 35 U.S.C. §103 over Di Bernardo in View of Kumar

(i) Petitioner's other expert on Di Bernardo confirmed that Di Bernardo teaches away from using computationally intensive techniques

The Petition attempts to combine Di Bernardo with Kumar to fill the gaps in Di Bernardo. However, the attempted combination is contrary to the teachings of Di Bernardo that explicitly teach away from including any additional computational processing.

In particular, Di Bernardo teaches against prior art techniques that are "computationally intensive and hence cumbersome and inefficient in terms of time and cost." Ex. 1004, Di Bernardo, ¶ 7.

As Petitioner's other expert, Dr. Grindon, explained in litigation involving patents with the same disclosure as Di Bernardo, Di Bernardo, "in seeking to improve upon the so-called 'computationally intensive' and 'cumbersome' methods of forming composite images in the prior art, teach a single way to form composite images that seeks to *minimize this computational burden*." Ex. 2002, ¶ 39 (emphasis added). Thus, a person of ordinary skill in the art ("POSITA") would have been taught away from combining Di Bernardo with Kumar whose additional processing to geo-register images (Ex. 1005, 4:64-5:9) would add to computational overhead for Di Bernardo. *See In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994) ("[A] reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant.").

Moreover, Di Bernardo itself further teaches away from the use of 3D scene geometry data. Ex. 1004, Di Bernardo, ¶ 8 ("Such a system should not require the reconstruction of 3D scene geometry nor the dense sampling of the locale in multiple dimensions."). Thus, Di Bernardo teaches away from determining a location of the actual subject of the images as required by the claims of the '800 Patent.

For at least the foregoing reasons, it is respectfully submitted that the Petition fails to demonstrate a reasonable likelihood that independent Claim 1 and its dependent claims are unpatentable as obvious over Di Bernardo in view of Kumar under Petitioner's Ground 3.

F.   [RE: GROUND 4] Claim 18 Is Not Obvious Under 35 U.S.C. §103 over Di Bernardo in View of Kumar and Burgess

All of the reasons stated above with respect to Ground 3 apply equally to Ground 4, which seeks to challenge dependent Claim 18 as obvious over Di Bernardo in view of Kumar and Burgess. As the Petition has failed to show a reasonable likelihood of obviousness of independent Claim 1, from which Claim 18 depends, the Petition necessarily fails to carry its burden with respect to Claim 18. *In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988) (holding that dependent claims are nonobvious if the independent claim from which they depend are nonobvious); *CallCopy, Inc. v. Verint Americas, Inc.*, IPR2013-00492, Paper 14 at 7 (PTAB Feb. 5, 2014) (holding that "[b]ecause the grounds asserted against the dependent claims suffer from the defects of the grounds asserted against the independent claims, [the Board] need[ed] to address only the grounds asserted against independent claims . . . ."); *see also* MPEP § 2143.03.

For at least the foregoing reasons, it is respectfully submitted that the Petition fails to demonstrate a reasonable likelihood that Claim 18 is unpatentable as obvious over Di Bernardo in view of Kumar and Burgess under Petitioner's Ground 4.

G.   [RE: GROUND 5] Claims 1-4 and 13-15 Are <u>Not</u> Obvious Under 35 U.S.C. §103 over Roman in View of Kumar

The remaining Grounds rely upon Roman as the primary reference. However, the Petition recognizes that Roman does not anticipate even Claim 1. In particular, the Petition concedes that Roman does not disclose elements [1.6] and [1.7] of Claim 1. Pet. at 24, 49.

The Petition attempts to fill these gaps by combining Roman with Kumar. However, the alleged motivations to combine Roman with Kumar advanced in the Petition and parroted by Petitioner's expert have no basis in law or fact. They are an exercise in hindsight bias, excerpting portions of the references that seem to fit the claims. *See, e.g.*, Ex. 1001, ¶ 84 ("The teachings of Kumar would have been obvious and predictable to implement in Roman's system *so as to arrive at the apparatus of claim 1* . . . ." (emphasis added)). In an obviousness analysis, the claimed invention should not be used as a roadmap to combine references "so as to arrive at" the claimed invention. *See Cheese Sys. v. Tetra Pak Cheese & Powder Sys.*, 725 F.3d 1341, 1352 (Fed. Cir. 2013) ("Obviousness 'cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention.'" (quoting *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998))).

Furthermore, the proffered motivations to combine Roman with Kumar—the same exact motivations posited for the combination of Di Bernardo and Kumar—are not in fact suggested by the references, despite the Petition's assertion to the contrary.

First, the Petition and Dr. Fuchs' declaration both assert that the combination "would [achieve/allow] improved accuracy for identification of locations within a scene (as suggested by Kumar)." Pet. at 25; Ex. 1001, ¶ 84. However, the Petition fails to provide any rationale as to why a POSITA would think that Roman's system would need to adopt this feature. The Petition points out that Roman estimates a "position and orientation *of the camera*," which information is used to assemble composite images. Yet, this teaching provides no reason why accurate identification of locations *within the scene* would be desired. Pet. at 49 (emphasis added). To the contrary, it would add computational overhead to provide a feature that has no utility in the context of Roman.

Next, the Petition and Dr. Fuchs' declaration both assert that the combination would "add context/meaning for a viewer of the composite image (as suggested by Kumar)." Pet. at 25; Ex. 1001, ¶ 85. This motivation is provided with respect to dependent Claims 13-15 of the '800 Patent, and is not being offered by Dr. Fuchs with respect to independent Claim 1. Dependent Claims 13-15 are directed to overlaying links and metadata on the composite images. The Petition fails to show that "context/meaning" are desired in Roman, which is focused on the technical aspects of creating a composite multi-perspective image without distortion. In fact, Roman discusses the planned future work of its creators (e.g., using

different sampling of the images, simulating a synthetic aperture to create an effectively

shallow depth of field image, and automatic placement of the virtual cross-slits cameras),

none of which contemplates adding context/meaning to the composite image. Ex. 1008,

Roman, 8.

Finally, the Petition and Dr. Fuchs' declaration assert *without any factual support*

that the combination "would be merely the use of known techniques . . . to improve similar

devices." Pet. at 25; Ex. 1001, ¶ 86. However, the Board has repeatedly recognized that

such arguments lacking any factual basis are insufficient to meet Petitioner's burden. *See,*

e.g., *Kinetic Technologies, Inc. v. Skyworks Solutions, Inc.*, IPR2014-00529, Paper 8 at 15

(PTAB Sept. 23, 2014) ("Petitioner's and Dr. Mohapatra's statements of general principles

from the case law that a proposed combination 'involves no more than a combination of

known elements,' or that a proposed combination is 'the predictable use of such elements

according to their established functions,' or that a proposed combination yields 'predictable

results' (see Ex. 1008 P 27) are conclusions; they are not a substitute for a fact-based

analysis of the proposed combination of references necessary to support those

conclusions.").

Accordingly, the Petition does not come close to meeting its burden to establish

obviousness with respect to Ground 5. *See Mitsubishi Plastics, Inc. v. Celgard, LLC*,

IPR2014-00524, Paper 27 at 8 (PTAB Nov. 21, 2014) ("Petitioners have the responsibility to

present, through argument and evidence, a reasonable likelihood of unpatentability of the

challenged claims."); *see also AOL Inc. and Cloudera, Inc. v. Coho Licensing LLC*, IPR2014-00966, Paper 6 at 13-14 (PTAB Nov. 20, 2014). For at least the foregoing reasons, it is respectfully submitted that the Petition fails to demonstrate a reasonable likelihood that independent Claim 1 and dependent Claims 2-4 and 13-15 are unpatentable as obvious over Roman in view of Kumar under Petitioner's Ground 5.

H.   [RE: GROUNDS 6 and 7] Claims 10, 11, and 18 Are <u>Not</u> Obvious Under 35 U.S.C. §103 over Roman in View of Any Combination of Kumar, Di Bernardo, and Burgess

All of the reasons stated above with respect to Ground 5 apply equally to Ground 6, which seeks to challenge dependent Claims 10, 11, and 18 as obvious over Roman in view of Kumar and Di Bernardo, and to Ground 7, which seeks to challenge dependent Claim 18 as obvious over Roman in view of Kumar, Di Bernardo, and Burgess. As the Petition has failed to show a reasonable likelihood of obviousness of Claim 1, from which Claims 10, 11, and 18 depend, the Petition necessarily fails to carry its burden with respect to Claims 10, 11, and 18. *In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988) (holding that dependent claims are nonobvious if the independent claim from which they depend are nonobvious); *CallCopy, Inc. v. Verint Americas, Inc.*, IPR2013-00492, Paper 14 at 7 (PTAB Feb. 5, 2014) (holding that "[b]ecause the grounds asserted against the dependent claims suffer from the defects of the grounds asserted against the independent claims, [the Board] need[ed] to address only the grounds asserted against independent claims . . . ."); *see also* MPEP § 2143.03.

V.   CONCLUSION

For at least the foregoing reasons, Petitioner has failed to demonstrate a reasonable

likelihood that it would prevail in showing that any of the challenged claims of the '800

Patent is unpatentable based on any of the asserted grounds. Accordingly, the Board

should deny the Petition and grant any and all other relief to Patent Owner the Board deems

just.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned hereby certifies that on this 2nd

day of December, 2014, a copy of the foregoing PATENT OWNER'S PRELIMINARY

RESPONSE TO PETITION, together with Patent Owner's Exhibit List and Exhibit Nos.

2001-2002, was served via EXPRESS MAIL® on counsel for Petitioner at the following

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