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 IPR2014-01338
Patent 7,389,181

_____

PATENT OWNER'S PRELIMINARY RESPONSE TO PETITION

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REGULATIONS

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)
2003	World Intellectual Property Organization, Open Source, *available at* http://www.wipo.int/patent-law/en/developments/open_source.html (last visited November 24, 2014)

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 filed by Google Inc. ("Petitioner").[1] The Board should deny the Petition and no trial should be instituted because Petitioner has failed to show a reasonable likelihood of success with respect to any of the challenged claims, as explained below. 35 U.S.C. § 314.

1. INTRODUCTION

Petitioner makes multiple redundant challenges to Claims 1 and 3-11 of U.S. Patent No. 7,389,181 ("the '181 Patent," Ex. 1002) across two cumulative petitions for *inter partes* review. Indeed, Petitioner even relies on the same Di Bernardo reference--U.S. Patent Application Pub. No. 2002/0047895 to Di Bernardo et al. (Ex. 1005, "Di Bernardo")--as well as the same Fuchs declaration (Ex. 1001) in both of the petitions.[2]

Previously, individuals looking for real estate accessed online databases via the Internet to view photographs of properties of interest. However, prior online systems did not provide precise and accurate views of the properties. As a result, the user could not get a sense of the neighborhood in which the property is located and often was provided with images of the wrong property. Hence, to find out whether the area surrounding the property

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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).

[2] The other petition was filed in IPR2014-01339, to which Patent Owner has already responded.

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of interest was desirable, the user often had to physically drive to the property to view the state of the neighborhood and the location. (Ex. 1001, 1:24-43).

The '181 Patent provides the solution to this problem. In this regard, the claimed invention (like its commercial embodiment) provides precise and accurate street level images of the subject property (e.g., a parcel) at a specific location in response to a query from a user. This was a significant technological breakthrough that offered valuable tools to, for example, realtors, real estate appraisers, developers, and government. *See, e.g.*, Ex. 2001. In this regard, these individuals could, unlike prior systems, search for and retrieve images of specific properties that were highly precise and accurate.

To accomplish this result, the claimed invention of the '181 Patent identifies "video drive-by-data" (street level images with associated GPS coordinates) of a "geographic location of interest" (a specific residential or business address). Through "post-processing" by an "image processing server," the video drive-by-data is converted to a "desired image format" (e.g., MPEG2 format). Ex. 1002, '181 Patent, 6:52-56, 9:9-50, 14:20-50. The post-processed video data is also correlated with precise location information (e.g., GPS coordinates) from other sources (property county parcel lines and data) for the geographic location of interest. *Id.*, 15:14-19; 2:46-47; 1:23; 4:28-37; 3:58-64; 2:16-18; 2:53-55; 9:12-14, 19-22, 28-36; 12:8-19. The claimed system comprises a "video and data server farm" (e.g., a set of multiple servers), since it requires extensive processing and computational powers. As a result, the claimed invention of the '181 Patent provides precise and accurate

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street level images corresponding to a specific geographic location of interest in a desired image format.

Petitioner requested *inter partes* review based on four grounds, which all rely upon U.S. Patent Application Pub. No. 2003/0210806 A1 to Yoichi et al. ("Yoichi," Ex. 1004) as the primary reference. In Ground 1, Petitioner asserts that Claims 1, 3-5, 7 and 9 of the '181 Patent are anticipated by Yoichi (Ground 1). However, Petitioner implicitly acknowledges that Yoichi does not anticipate these claims. Indeed, in Ground 2, Petitioner asserts that the exact same claims are rendered obvious by Yoichi. Clearly, Yoichi does not disclose all of the claim elements, including the "image processing server" that "converts the video drive-by data to post processed video data corresponding to a desired image format," as discussed below.

Moreover, Petitioner's obviousness ground fails as a matter of law since Petition fails to 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, p. 13 (PTAB Nov. 20, 2014).

In all events, Yoichi discloses a simple system for providing visual representations of requested information relating to weather and traffic conditions. Ex. 1004, ¶¶ 26-28. Clearly, this is entirely different from the claimed system of the '181 Patent, which is

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directed to providing precise and accurate street level images corresponding to a specific geographic location of interest in a desired image format.

All of the challenged claims of the '181 Patent require an "image processing server" that "*converts* the video drive-by data to post-processed video data corresponding to a *desired image format*" as recited in independent Claim 1. Petitioner contends that this limitation is disclosed in Yoichi's teaching of "each image frame [being] *watermarked to secure* the image and *provide legal proof* that the image was not tampered with after capture." (Pet. 20 and 36 (emphasis added) (citing Ex. 1004, par. [0085])). By definition, the watermarking discussed in Yoichi is not "image processing" because the format of the image does not change. Yoichi's system captures "image" data and applies watermark to each image frame as a security feature. However, the image output with watermark still remains in the same "image format." Yoichi's watermarking simply is not converting the image data in one image format into a "desired image format." Thus, Yoichi does not anticipate this claim element. The Petition does not rely on any other reference to cure this deficiency of Yoichi. For this reason alone, the present Petition should be denied.

Moreover, all of the challenged claims of the '181 Patent also require a "database server" that "identifies video image files . . . correspond[ing] to the *geographic location of interest*" as recited in independent Claim 1. As discussed below, under the broadest reasonable interpretation consistent with the specification of the '181 Patent, "a geographic location of interest" means a geographic location that relates to a subject on a parcel or at

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an address. While Petitioner contends that this limitation is taught by Yoichi (Pet. 19 and 35), Petitioner fails to provide a construction of this material claim term. Nowhere in Yoichi is there any teaching or even suggestion of identification of video image files corresponding to a particular location of interest as it relates to a parcel. At best, Yoichi teaches a peer-to-peer transfer of images relating to a driving route "from close to the location."   (Ex. 1004, ¶¶35-37). This lack of precision and accuracy is yet another reason why Yoichi does not anticipate any of the challenged claims.

For at least the foregoing reasons (as well as other reasons discussed below), Petitioner fails to show that Yoichi contains each and every limitation of the challenged claims. Accordingly, there is no reasonable likelihood that Petitioner would prevail at trial with respect to Ground 1 set forth in the Petition.

Likewise, there is no reasonable likelihood that Petitioner would prevail at trial with respect to any of its obviousness grounds (Grounds 2-4) because the Petition failed to provide the proper obviousness analysis required under *Graham v. John Deere Co.*, 383 U.S. 1 (1966), and because there would have been no rational basis for a person of ordinary skill in the art ("POSITA") to combine Yoichi with either Di Bernardo or U.S. Patent No. 5,633,946 to Lachinski et al. (Ex. 1006, "Lachinski") to come up with the claimed invention, as discussed below.

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

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

2.   OVERVIEW OF U.S. PATENT NO. 7,389,181

The '181 Patent relates to systems and methods to enable accurate street level views of a geographic location of interest and its surrounding neighborhood. The '181 Patent describes the commercial system developed and implemented by the inventors William D. Meadow and Randall A. Gordie through 2009 to enable street level views of a neighborhood surrounding a specific geographic location of interest (a parcel, property lines). *See, e.g.,* Ex. 2001.

The invention is directed to improved systems that allow the processing of a specific address data query received from a user over the internet to provide a precise street level image of **a selected geographic location of interest** in a **desired image format** generated in a post processing step using video drive-by data stored in at least one video storage server for the specific address query. *See, e.g.,* Ex. 2001, Claim 1.

In contrast to the then-existing limitations of the Petition's prior art at the time of filing, the '181 Patent teaches a system that enables the storing and processing of large amounts of video drive-by data (street level video imagery and positioning data) to generate street level **perspective images** of **a geographic location of interest**. Ex. 1002, 6:35-36, 7:20-56. The street level perspective images are enabled via post processing of video drive-by data of the location of interest using a camera array that includes a plurality of

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camera units arranged to provide a 360° view of the neighborhood. Ex. 1002, 3:27-29.   The

post-processing includes correlating the generated images with map data having **property

parcel boundary information** that corresponds to the address query. Ex. 1002, Fig. 5;

8:61-9:8.

The disclosed and claimed solution was the result of the inventors' recognition of the

significant problem faced by the real estate industry and others. In particular, the inventors

developed a system which could capture and precisely and accurately provide views of a

subject property, as it relates to its parcel or property lines, in a desired format so that users,

such as real estate agents, appraisers, potential home purchasers etc., could precisely and

accurately identify and evaluate a particular location of interest. Ex. 1002, 1:24-2:39.

Further, the system of the '181 Patent requires extensive computational overhead

because it needs to store and process a large volume of image and positional data to

enable precise and accurate portrayal of a particular location of interest. To accommodate

the heavy computational overhead, the system is placed in a "video and data server farm"

environment comprising multiple networked servers. Ex. 1002, 2:63-3:18, 6:21-39, FIG. 1.

**A. The '181 Patent teaches post-processing of video drive-by data by an image
processing server to convert it to a *desired image format***

The '181 Patent teaches a system and method for providing, in response to a query

from a user, precise and accurate street level images corresponding to a specific

geographic location of interest in the **desired image format**.

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More specifically, the '181 Patent teaches that a database server (e.g., database server 0120 in FIG. 1) identifies and retrieves the appropriate video image files corresponding to the geographic location of interest and transfers them to image processing servers (e.g., image processing servers 0115 in FIG. 1). Ex. 1002, 6:40-52 and FIG. 1. The image processing servers "convert the original video drive-by data to **one of many potential new image formats (depending on the particular application)** which constitute Post Processed Video Data (PPVD)." *Id.*, 6:52-56 (emphasis added). Examples of the particular application include real-estate marketing, real-estate appraisal, tax assessor, insurance, etc. Hence, through post-processing by an image processing server, the video drive-by-data is converted to a desired image format (e.g., MPEG2 format). *Id.*, 9:9-50, 14:20-50.

B. **The '181 Patent teaches how to precisely and accurately link street level perspective views to** *a location of interest* **by tying them in with parcel map data**

The '181 patent recognizes in its background section that existing on-line systems that allowed users to view properties of interest in limited areas provided limited views of the relevant properties along a street. To visually verify those properties of interest, the users had to physically go there. Ex. 1002, 1: 24-44. The '181 Patent taught "it would be desirable to provide a system that would enable a user to view the surrounding neighborhood as well as the property itself." Ex. 1002, 1:45-47.

In contrast, "[t]he present invention may be applied to many applications in which the remote ability to view a specific location and its surrounding neighborhood is advantageous." Ex. 1002, 15:14-16. The various applications disclosed require the system to identify with precision and accuracy the "geographic location of interest," which as used in the '181 Patent refers to the subject property as it relates to a parcel/property vector lines. For example, the subject property and its property boundaries corresponding to a specific street address.

In order to obtain with precision and accuracy location information, the '181 Patent teaches the use of parcel data to enable a system which can capture "video drive-by data" that "corresponds to a location of interest." "Preferably, the video data would be encoded with GPS coordinates as well as conventional street addresses and map coordinates to provide instant street level videos of any location upon request." Ex. 1002, 1:51-54. The '181 Patent teaches that "the video drive-by data" includes both "video image data" as well as "positioning data" that corresponds to the location of the camera. Ex. 1002, 3:19-25, FIGS. 11 and 15. In order to translate the "position data" into a location of interest, the '181 Patent teaches combining the captured data with data from "other data sources related to the geographic location" (Ex. 1002, 2:46-47; *see also* Ex. 1002, 1:23) including "county GIS mapping" (Ex. 1002, 4:20-27) and "property county parcel data" (Ex. 1002, 3:58-64; *see also* Ex. 1002, 2:17).

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In order to achieve this stated objective, the '181 Patent teaches to tie the street

level images directly to the parcel map data in order to identify a location of interest.   For

example, it teaches that being "[t]ied in directly to GIS mapping, the present invention can

offer street level video into the neighborhood and directly to the street address, offering

photographs of any property transmitted via wireless Internet." Ex. 1002, 4:23-26.

> With the capability to fully integrate, refine and unify existing county property
> records and GIS mapping resources, the system can enhance online
> presentations with parcel line enhanced ortho imagery, property images and
> now with video. Further, with the system, unification of property records and
> county mapping can evolve to tie in to one-click access to street level video
> segments allowing a user to virtually drive down any street, while highlighting
> any property and its surrounding neighborhood **with parcel lines drawn on
> the photograph.**

Ex. 1002, 4:29-37 (emphasis added); *see also* Ex. 1002, 8:65-9:2.

By providing a system where "a user can select a parcel" (Ex. 1002, 9:3) and then

the system can show "a video view of the property" (Ex. 1002, 9:4-5) on that parcel, the

system ties the map data directly to the imagery to provide a more realistic experience **in

relation** to the correct and accurate **street addresses** or **parcels** to the user, through the

display of the conventional street map representations and the street level video drive-by

data generated by the system. Ex. 1002, 9:3-8.

Thus, the '181 Patent repeatedly explains how "a geographical location of interest" is

tied to the exact location of a particular property that is determined by parcel and GIS

information:

> The invention is based, in part, on providing: 1) accurate differential GPS
> data; 2) post processing of geo positioning signals to smooth curves in motion
> (splines); 3) highly accurate camera position and video frame position
> analysis processing to provide a calculation of the exact position of each
> video frame; 4) parcel data processing that analyses vector line data that is
> geo-coded with latitude and longitude values; 5) digital image photos
> processed with image super imposition algorithms; and 6) a database that
> includes video image files, parcel latitude and longitude data, and positioning
> data that is indexed to the video image files. With these components, the
> invention enables the access to video images of any desired geographic
> location and its surrounding neighborhood, while relating such image data to
> other property related data such as property lines, landmarks, etc.

Ex. 1002, 2:48-62.

The present invention's use of "parcel" information to provide exact boundaries for

geographic locations of interest was a significant improvement upon the prior art, including

the prior art relied upon by Petitioner, as discussed below.

C. The '181 Patent teaches how to convey precise and accurate image of a geographic location of interest

To convey precise and accurate image portrayal of **a geographic location of**

interest, the '181 Patent teaches that the exact latitude and longitude of a centroid of the

target parcel can be calculated, for example, by using open source programming tool

GDAL. The calculated centroid generally approximates the location of the structure. Given the centroid of the parcel, the orientation and location of the camera view that is pointed toward the centroid of the parcel can also be calculated. The location of the centroid of the parcel and the distance to the parcel is then calculated for the frame. Ex. 1002, 9:28-36.

"Typically homes are located with the foundation over the centroid and thus the automatic camera orientation method provided by the present invention will enable the automatic selection of the correct camera view to present to the user when they are 'driving on-line.'" Ex. 1002, 16:49-54.

As discussed below, none of the prior art relied upon by Petitioner provides for the determination of the **exact** latitude and longitude **and orientation** and location of the camera in relation to a location of interest as it relates to **a parcel**. Instead, the prior art taught away from such "computationally intensive" and "cumbersome" methods. *See, e.g.,* Ex. 2002, 12:1-4.

D. The '181 Patent's use of "server farm" environment enables its computationally intensive solution

In recognition of the data intensive and computational intensive aspects of the disclosed and claimed invention, the '181 Patent requires "a video and data server farm" comprising "at least one video storage server," "a database server," and "an image processing server" as well as a "pre-processing network" and a "post-processing network." Ex. 1002, Claim 1.

In the "preferred embodiment" disclosed and claimed in the '181 Patent (Ex. 1002, 2:63-3:17), the heavy-duty "video and data server farm" is required--Unlike the Yoichi and Di Bernardo prior art which sought to avoid "computationally intensive" and "cumbersome" post processing methods (*see, e.g.,* Ex. 1004, Yoichi, Abstract ("Images may be permanently stored in the vehicles and indexed in a directory at a service center, so that the images may selectively sent to the service center or another vehicle **without consuming storage space at the service center**." (emphasis added)); Ex. 1005, Di Bernardo, para. [0008]; Ex. 2002, Grindon Decl., para. 39), the '181 "invention" is "based" on such complexity in order to obtain the most precise and accurate result. *Cf.* Ex. 1002, 2:48-62.

3.   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

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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 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)).

Given that claims are construed in the context of the description of the invention, it is

erroneous to construe claims, as Petitioner urges, in a way that conflicts with the

description. *See, e.g.*, *In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010)

(vacating Board decision based on erroneous claim construction and stating: "[t]he

broadest-construction rubric coupled with the term 'comprising' does not give the PTO an

unfettered license to interpret claims to embrace anything remotely related to the claimed

invention. Rather, claims should always be read in light of the specification and teachings in

the underlying patent."); *see also In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed. Cir. 2011)

(vacating Board decision based on erroneous claim construction and stating: "[w]hile the

Board must give the terms their broadest reasonable construction, the construction cannot

be divorced from the specification and the record evidence."); *In re Abbott Diabetes Care,*

Inc., 696 F.3d 1142, 1149 (Fed. Cir. 2012) (vacating Board decision based on erroneous

claim construction and stating: "[a]lthough the PTO emphasizes that it was required to give

all claims their broadest reasonable construction, . . . this court has instructed that any such

construction be consistent with the specification and that claim language should be read in

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light of the specification as it would be interpreted by one of ordinary skill in the art." (quoting

In re Suitco Surface, Inc., 603 F.3d at 1260) (ellipses in original)).

Interpretation that ignores or reads out words in the claim language is by default

improper. *Ex Parte Smith*, Appeal No. 2010-004216, 2012 Pat. App. LEXIS 1253, at *3

(B.P.A.I. Mar. 16, 2012) ("All words in a claim must be considered in judging the

obviousness of the claimed subject matter."); *see also Apple Computer, Inc. v. Articulate*

Sys., Inc., 234 F.3d 14, 25 (Fed. Cir. 2000) (holding that the claim interpretation cannot read

out the qualifier "help" out of the claim term "help access window" and ignore the limitation

imposed by the word "help").

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 disputes Petitioner's proposed

constructions (to the extent one is provided) for at least the following claim terms: (1) "video

drive-by data," (2) "geographic location of interest," (3) "image processing server," and (4)

the means-for limitations complying with the requirements of §112 ¶ 6. Patent Owner

respectfully submits that the remaining claim constructions presented in the Petition should

not be material to resolution of this proceeding, but should this Board institute a trial based

on such a construction, Patent Owner reserves the right to further challenge other

constructions proposed by the Petition.

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Taking into account the teachings of the '181 Patent and the *entire disclosure*, Patent Owner herein sets forth the following preliminary term construction proposals for the notable exceptions outlined above.

A. "Video drive-by data" (Claim 1)

Petitioner offers an incomplete construction of the term "video drive-by data" to mean "street-level video." (Pet. 9). However, this construction ignores the fact that Claim 1 provides "at least one video storage server that stores video image files containing video drive-by data that corresponds to a geographic location." (Ex. 1002, 18:4-7). Without "positional information" in addition to "street level video," the "video drive-by data" lacks sufficient information to "correspond to a geographic location." Thus, by the terms of Claim 1 Petitioner's proposed construction is on its face incomplete.

Further, the detailed description of the claimed invention also makes clear that the "video drive-by data" means "street level video corresponding to a geographic location including the video image data and positioning data."

In describing a summary of the invention that carries out the system and method for capturing "video drive-by data," the video capture system includes not only a "camera array that generates video image data" but also "a positioning unit that produces positioning data corresponding to the location of the camera array." Ex. 1002, 3:19-25. Indeed, the "video drive-by data" is "produce[ed]" by "a processing unit that processes the video image data and positioning data." *Id.*, 3:24-25. It is the combination of the street level video and

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positioning data that "permits synchronization of video images to precise locations of individual frames." *Id.*, 3:29-32. Similarly, the detailed description of "video drive-by data" explains that it includes both video data and positional data (such as GPS data). *See id.*, 6:26-28, 6:35-37.

Thus, the Patent Owner respectfully submits that "video drive-by data" should be construed to mean "street level video corresponding to a geographic location including the video image data and positioning data," to be consistent with Claim 1 and the specification of the '181 Patent.

B. "Geographic location of interest" (Claim 1)

Petitioner does not include a proposed claim construction for the term "geographic location of interest." The first two clauses of independent Claim 1, from which all of the remaining challenged claims depend, include "a geographic location" and "a geographic location of interest." The Patent Owner points out that "the geographic location of interest," is a separate element of Claim 1 and a limitation that is taught repeatedly throughout the disclosure of the '181 Patent as a limitation corresponding to a **subject property at a street address** as it relates to its boundaries or parcel lines. The Petitioner fails to address this material limitation.

The specification provides that "[f]or **a given parcel or street address**, a video program 0610 determines available video segments that contain images where **the property is in view.**" (Emphasis added.) Ex. 1002, 9:12-14. "Fig. 13 illustrates two ortho

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views 1400 and 1450 of a Video Capture System as it drives in a direction of travel 1410 along a path 1415 past a **selected parcel** where one of six possible cameras may be viewing **a subject property**." Ex. 1002, 12:53-56 (emphasis added).

Further, it provides that prior to the '181 Patent, "[c]ompanies and individuals looking for real estate to rent, buy, insure or finance . . . had to physically travel to the property in order to visually verify the condition of the property." Ex. 1002, 1:24-27. Specifically, because "land owners, prospective land owners, insurance, mortgage, county appraisers [all] need to accurately determine where property lines are located in relation to a property." Ex. 1002, 15:17-19. Because of this common need, regardless of what each of these types of individuals calls the referred to **geographic location of interest**, a POSITA would understand when interpreting the specification that a subject property, street address, parcel, and parcel boundaries, are all terms in the description that can be associated with a transaction defined by a real estate property defined by metes and bounds.

Because the location of interest in the '181 Patent is a subject property in relation to **parcel boundaries or a subject property at a specific street address**, Patent Owner submits that a "geographic location of interest" means "a geographic location that relates to a subject on a parcel or at an address."

C. "Image processing server" (Claim 1)

Petitioner asserts that "image processing server" means "a computer system configured to process video image data." Pet. 9-10. However, this construction is incomplete in view of the claim language recited in Claim 1.

Specifically, Claim 1 requires that the "video image files" be "transfer[ed]" from "the video storage server" previously "store[d]" on the "at least one video storage server" "over a pre-processing network to the image processing server." (Ex. 1002. 18:4-7, 10-15). Thereafter, Claim 1 further requires "the image processing server converts the video drive-by data to post-processed video data corresponding to a desired image format." (*Id.*, 18:16-20).

In this regard, the '181 Patent explains, "[t]he image processing server converts the video drive-by data to post processed video data corresponding to a desired image format, and transfers the post processed video data via post-processing network to the Internet response to the query." Ex. 1002, 3:7-12.

Thus, Patent Owner respectfully submits that as properly construed, the "image processing server" means "a computer system configured to process the previously stored video drive-by data and **convert it to a desired image format** for transfer to a post-processing network" as described by the '181 Patent, and required by Claim 1.

Petitioner contends that this limitation is disclosed in Yoichi's teaching of "each image frame [being] *watermarked to secure* the image and *provide legal proof* that

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image was not tampered with after capture." (Pet. 20 and 36 (citing Ex. 1004, par. [0085])).

However, Yoichi's watermarking simply is not converting the image data into a "desired image format" since the image output with watermark still remains in the same "image format."

D. "Means for" claim elements

Petitioner argues that the "means for" claim elements in claims 7-10 are invalid for lack of written description under 35 U.S.C. § 112, ¶ 6[3]. (Pet.11-15). However, Petitioner's argument is not only improper for raising a ground that is not permitted in an *inter partes* review proceeding under 35 U.S.C. § 311 (b), but is also factually and legally incorrect.

In fact, the specification does include corresponding structures for all of the means-plus-function limitations and this is evidenced at least partially by the face of the Petition, which includes claim charts pointing to an allegedly corresponding structure for each step. The Federal Circuit has prescribed that "[i]n a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general-purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm." *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999).

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[3] Because the '181 Patent has a filing date prior to March 16, 2013, this Response refers to the <u>pre-AIA</u> version of 35 U.S.C. §§ 102, 103, and 112.

Accordingly, Petitioner completely failed to account for at least the inventive aspects included in Patent Owner's term constructions proposed below and improperly relied on supplemental evidence.   Patent Owner respectfully submits that corresponding structure for each of the challenged means-plus-function clause are as follows:

(i) **"Means for providing a variety of geo-coded data layers in conjunction with the video drive-by data" (Claim 7)**

Software (for example, based on an open source[4]) programming tool MENCODER operable with a processor to extract video drive-by data and convert, to a desired format, each image frame file encoded for camera orientation and interpolated location. Ex. 1002, 9:23-27.

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[4] A POSITA appreciates an open source reference to be a guide to specific source code standards (underlying programming code) made available for use, reading the code, collaborative study, and continuous development. World Intellectual Property Organization, Open Source (last visited November 24, 2014), http://www.wipo.int/patent-law/en/developments/open_source.html (Ex. 2003). Principally, references to open source standards are technical specifications that are incorporated by reference and provide distinct limitations, as defined in 100s of lines of code, to one skilled in the art. Moreover "flow charts or source code listings are not a requirement for adequately disclosing the functions of software." *Fonar Corp. v. GE,* 107 F.3d 1543, 1549 (Fed. Cir. 1997).

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(ii) "Means for creating geo-coded text, image and vector data which is superimposed onto the post processed video data that is transferred to the communications network" (Claim 8)

A render program (for example, open source programming tool suite OpenGL and GraphicsMagick) operable with a processor to calculate a location within the image file in which text or an icon can be placed based on the centroid of a parcel. Ex. 1002, 9:36-50.

(iii) "Means for linking latitude and longitude data with video drive-by data"

Software operable with a processor to perform a range calculation from the latitude and longitude positions of the subject property from video segments that contain images where the property is in view. Determining where the property is in view, for example, may be accomplished by using an open source programming tool GDAL which completes a range calculation from the latitude and longitude positions of the subject property. The determination is based on a variable distance from the camera position to the nearest line segment of a parcel. An extractor program (which may be based on an open source programming tool MENCODER) can convert compressed MPEG2 data into lossless TIFF image files[5] with each image frame file encoded for camera orientation and interpolated location. *See* Ex. 1002, 9:9-27.

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[5] Both MPEG and TIFF are computer file formats that are widely recognized in the computer programming and image processing fields. One skilled in the art would have been able to recognize, at the time of the invention, the file formats and that several alternative equivalent formats can be suitable to implement the inventions taught by Patent Owner.

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(iv) "Means for calculating a camera position of designated individual frames of video by using position data points captured before and after a designated frame position"

Software operable with a processor to calculate a set of relative positions by combining the positions of the landmarks with the GPS data using interpolation techniques. *See e.g.*, Ex. 1002, 11:4-17.

4. ARGUMENT

A. Summary of Petitioned grounds

Petitioner asserts in the present Petition that independent Claim 1 and dependent Claims 3-11 of the '181 Patent are unpatentable on four grounds. Grounds 1 and 2 challenge Claims 1, 3-5, 7, and 9, as allegedly being anticipated or obvious in view of Yoichi.[6] Ground 3 challenges dependent claims 6, 10, and 11 as allegedly being obvious over Yoichi in view of Di Bernardo. Ground 4 challenges dependent claim 8 as allegedly being obvious over Yoichi in view of Lachinski. However, the Petition has failed to meet the burden to show reasonable likelihood of success under the statute.

All of Petitioner's arguments turn on whether Yoichi discloses (and/or renders obvious) all the limitations of Claim 1, the only independent claim raised in the Petition.

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[6] Petitioner alleges that Yoichi is prior art to the '181 Patent under 35 U.S.C. §§ 102(a) and 102(e). Without agreeing to Petitioner's allegation, Patent Owner addresses this alleged prior art herein <u>solely</u> for purposes of this Preliminary Response. In doing so, Patent Owner does not waive its right to seek to antedate this reference in this and any other proceedings.

However, Yoichi only describes a simple system that seeks to provide visual representations of requested information relating to weather and traffic conditions. Ex. 1004, ¶¶ 26-28. Clearly, this is entirely different from the claimed system of the '181 Patent, which is directed to providing precise and accurate street level images corresponding to a specific geographic location of interest in a desired image format.

In particular, Yoichi does not teach or even suggest the claimed "image processing server" that "converts the video drive-by data to post-processed video data corresponding to a **desired image format**" as recited in independent Claim 1. Petitioner's reliance on Yoichi's teaching of watermarking is of no avail since the watermarking feature has nothing to do with converting an image into a "**desired image format**." (Pet. 20 and 36 (citing Ex. 1004, par. [0085])). Nowhere in Yoichi is there any teaching or suggestion of an "image processing server" converting the video drive-by data to the claimed "desired image format."

Moreover, unlike the "geographic location of interest" claimed in the '181 Patent, Yoichi indicates that the visual representations are, for example, for an "area maybe along a specific highway, a quadrant of a city, a town, a county of a state or even a state" depending on the type of data requested. *Id.* ¶112.

Contrary to Petitioner's assertion, Yoichi does not enable its system to process a specific address data query received from a user over the Internet to provide a precise street level image of **a selected geographic location of interest** in a **desired image format** generated in a **post processing** step using video drive-by data stored in at least

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one video storage server for the specific address query. *See, e.g.,* Ex. 2001, Claim 1.

Particularly, Yoichi provides no meaningful disclosure that would enable, either alone or in combination with Di Bernardo and/or Lachinski, a system which could capture and precisely and accurately provide views of a subject property, as it relates to its parcel or property lines, so that users, such as real estate agents, appraisers, potential home purchasers etc., could precisely and accurately identify and evaluate a particular location of interest. Ex. 1002, 1: 24-2:39.

Yoichi indicates that a precise and accurate location can be determined using GPS coordinates or other information on location of the vehicle from the navigational system, or through object recognition, such as a sign or building that is **related to the destination or purpose of the drive**. Ex. 1004, ¶72-73. However, the precision and accuracy of Yoichi's system merely requires being close to a driving route and does not require the level of precision and accuracy for a geographic location of interest relating to a parcel as required in the claims of the '181 Patent.

Moreover, both Di Bernardo and Lachinski unequivocally acknowledge that their described systems which use GPS data with "street segments" were suitable only for a "range of addresses," not precise and accurate "geographic location of interest" as required in the claims of the '181 Patent. *See, e.g.,* Ex. 1005, Di Bernardo, paras. 48, 76 (acknowledging the use of segments does not provide for accurate computations of specific addresses); Ex. 1006, Lachinski at 12:8-14 and 16:50-60 (acknowledging street segment

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approximation lacks accuracy and thus limiting the imagery correlation only as to a range of addresses within the street segment).

For the reasons set forth herein, the Petition fails to demonstrate that there is a reasonable likelihood that at least one of the challenged claims of the '181 Patent is unpatentable based on any of the Grounds.

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 parroting 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, ¶47. Petitioner cannot convert its attorney arguments into "evidence" by having its expert parrot the language. *See, e.g., Corning Inc. v. DSM IP Assets B.V.,* IPR2013-00050, Paper 77, p. 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 declaration of Petitioner's other expert, Dr. Grindon, that was submitted in district court litigation over patents with the same specification as Di

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Bernardo (Ex. 2002). To the extent Dr. Fuchs' declaration is inconsistent with the prior testimony of Petitioner's other expert, it should be given no weight and disregarded.

C. [RE: GROUND 1] Claims 1, 3-5, 7, and 9 are not anticipated by Yoichi

(i) Analysis of Yoichi

Yoichi describes a simple system that purports to enable **visual representations** of requested information relating to **weather and traffic conditions for a driving route**. Ex. 1004, ¶¶ 26-28. In providing route information, Yoichi describes "[a] plurality of vehicles with cameras and other sensors [used to] collect images and other data as a normal event, or upon demand, or when requested to do so by another vehicle, an occupant or a service center." Ex. 1004, abstract. Yoichi's system is very different than those of the '181 Patent. Unlike the '181 Patent, in Yoichi, occurrence of certain **events triggers** the recording of images. Those trigger events include:

> [w]hen the sensor system detects danger to the vehicle or occupants through behavior of the vehicle, for example acute extreme braking, acceleration, deceleration, quick steering change, or abnormal shock to the vehicle body, such as upon a collision or due to vandalism (step 250);
> [w]hen certain dangerous situations are detected externally of the vehicle, such as a relatively slow object straight ahead on the road or a fast object coming up in the path of the vehicle from any angle (step 250); and
> [w]hen unknown or undesirable access or attempted access to the vehicle is detected, for example, an attempt to open locked doors without using the key, an attempt to start the vehicle without using the key, or intrusion of an area around the ve[]hicle (step 250).

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Id., ¶73.

In contrast to Yoichi's recording of images triggered by events, the '181 Patent teaches surveying all of the streets in an area for the recording of video drive-by data. Ex. 1002, '181 Patent, Figs. 3-4. Specifically, the '181 Patent teaches a viewer application for the surveyor driver that includes a map indicating streets that have been surveyed in one color and streets that need to be surveyed in a different color in order to capture the video drive-by data in a complete and organized manner. Ex. 1002, Col. 7, ll. 38-41. Thus, the system of the '181 Patent is clearly different from Yoichi's system which captures images based on occurrence of certain trigger events, such as sensed emergencies, in order to provide traffic and weather updates for driving routes.

Further, Yoichi does **not** disclose an "image processing server" that "**converts** the video drive-by data to post-processed video data corresponding to a **desired image format**" as claimed in the '181 Patent. At best, Yoichi teaches "each image frame [being] **watermarked to secure** the image and **provide legal proof** that the image was not tampered with after capture." Ex. 1004, par. [0085] (emphasis added). However, Yoichi's watermarking is not "image processing" because the format of the image does not change. Yoichi's system captures "image" data and applies watermark to each image frame as a security feature. The image output with watermark still remains in the same "image format." Simply put, Yoichi's watermarking simply is not converting the image data into a "desired image format," as required by all of the challenged claims of the '181 Patent.

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Moreover, Yoichi indicates that "[i]mages may be permanently stored in the vehicles and indexed in a directory at a service center, so that the images may [be] selectively sent to the service center or another vehicle **without consuming storage space at the service center**." *Id.*, abstract (emphasis added). This is also contrary to the teachings of the '181 Patent which discloses a "Video & Data Server Farm 0100 [that] utilizes a set of servers to provide digital storage of video drive-by data, and processes the video drive-by data for deliver[y] to an end user." Ex. 1002, Col. 6, ll. 23-25. Further, contrary to the claimed invention of the '181 Patent, a POSITA would have understood that upon storing of the image data in the vehicles, no significant processing takes place in Yoichi to determine a precise location and/or perspective in relation to a subject property and its boundaries.

Finally, Yoichi indicates that the visual representations are, for example, for an "area maybe along a specific highway, a quadrant of a city, a town, a county of a state or even a state" depending on the type of data requested. *Id.* ¶112. The '181 Patent teaches computationally intensive systems and methods to determine particular "geographic locations of interest" including the cumbersome, costly and burdensome process of linking the images to parcel information from local county GIP maps or other database sources. In contrast, Yoichi is simply seeking to provide **images that are close to the location** using a system that is not geared towards a subject property and its boundaries (geographic location of interest) but instead to the conditions of a driving route.

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Based on at least the foregoing reasons, Yoichi does not anticipate or render obvious the '181 Patent claims, including Independent Claim 1 and any of its dependent claims.

(ii)   Independent Claim 1

[1.P]   1. A system including a video and data server farm comprising:

[1.1]   at least one video storage server that stores video image files containing video drive-by data that corresponds to a geographic location;

[1.2]   a database server that processes a data query received from a user over a communications network that corresponds to a geographic location of interest; and

[1.3]   an image processing server;

[1.4a]   wherein the database server identifies video image files stored in the video storage server that correspond to the geographic location of interest contained in the data query, and transfers the video image files over a

[1.4b]   pre-processing network to the image processing server; and

[1.5a]   wherein the image processing server converts the video drive-by data to post processed video data corresponding to a desired image format, and

[1.5b]   transfers the post processed video data via post-processing network to the communications network in response to the query.

> a. **Yoichi does not teach,** *inter alia*, **[1.5a] "wherein the image processing server converts the video drive-by-data to post processed video data corresponding to a desired image format"** (Claim 1, element 1.5a)

To anticipate a claim, a reference must disclose each and every element of the claim as arranged therein. *See NetMoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369-70 (Fed. Cir. 2008); *see also* MPEP § 2131.

All of the challenged claims of the '181 Patent require an "image processing server" that "*converts* the video drive-by data to post-processed video data corresponding to a *desired image format*" as recited in independent Claim 1 (emphasis added). As discussed above, the "image processing server" means "a computer system configured to process the previously stored video drive-by data and convert it to a desired image format for transfer to a post-processing network." In the context of the present Petition, Patent Owner respectfully submits that the "image processing server" "**converts**" the format of the image into a "desired **image format**."

Petitioner contends that this limitation is disclosed in Yoichi's teaching of "each image frame [being] *watermarked to secure* the image and *provide legal proof* that image was not tampered with after capture." (Pet. 20 and 36 (citing Ex. 1004, par. [0085])). By definition, the watermarking discussed in Yoichi is not "image processing" because the format of the image does not change, i.e., it is not "converted" into another image format, as required by the challenged claims. Yoichi's system captures "image" data and applies watermark to each image frame as a security feature. However, image output with watermark still remains in the same "image format." Yoichi's watermarking simply is not **converting** the image data into a "desired image format." Thus, Yoichi does not anticipate this claim element.

Petitioner's assertion improperly ignores and reads out "image" from "image processing server" and "desired image format" recited in the claim language. *Ex Parte*

Smith, Appeal No. 2010-004216, 2012 Pat. App. LEXIS 1253, at *3 (B.P.A.I. Mar. 16, 2012) ("All words in a claim must be considered in judging the obviousness of the claimed subject matter."); *see also Articulate Sys.*, 234 F.3d at 25 (holding that the claim interpretation cannot read out the qualifier "help" out of the claim term "help access window" and ignore the limitation imposed by the word "help").

In sum, Petitioner fails to establish that Yoichi teaches or even suggests the claimed "image processing server" that "converts the video drive-by data to post-processed video data corresponding to a desired image format" that is required in all of the challenged claims. Nor does it offer any basis for rendering this claim limitation obvious. (*Cf.* Pet. 36).

Significantly, the Petition does not contend that this missing limitation of Claim 1, which is present in all of the challenged claims, is disclosed or suggested by any of the other cited references (Pet. 23-32). For this reason alone, the Board should deny the Petition in its entirety. *See Iron Dome LLC v. Chinook Licensing DE LLC*, IPR2014-00674, Paper No. 10, pp. 9-10 (PTAB Oct. 10, 2014) (denying a petition for inter partes review where the petition did "not rely on [other cited art] to teach" limitation missing in primary reference).

In view of the foregoing, it is respectfully submitted that Petitioner did not establish a reasonable likelihood that independent Claim 1 and its dependent claims are unpatentable as being anticipated by or rendered obvious over Yoichi under Petitioner's Grounds 1-2.

b.   Yoichi does not teach, *inter alia*, [1.P] a video and data server farm (Claim 1, preamble)

In recognition of the data processing and computation intensive aspects of the disclosed and claimed invention, the '181 Patent requires "a video and data server farm" comprising "at least one video storage server," "a database server," and "an image processing server" as well as a "pre-processing network" and a "post-processing network." Ex. 1002, Claim 1.   As defined by Claim 1 and further illustrated in annotated Fig. 1 of the '181 Patent presented below, the functionality of the Video & Data server farm taught in the '181 Patent include:

(i) "The database server 0120 identifies the appropriate video image files corresponding to the location of interest from the video storage servers 0145 for transfer over a pre-processing network 0140 to image processing servers 0115." Ex. 1002, 6:49-52.

(ii) "The image processing servers 0115 convert the original video drive-by data to one of many potential new image formats (depending on the particular application) which constitute Post Processed Video Data (PPVD)." *Id.*, 6:52-56.

(iii) "The PPVD is then transferred to a video server 0110 over a post-processing network 0141, which then forwards the PPVD data to the Internet 0150 in response to the query." *Id.*, 6:56-59.

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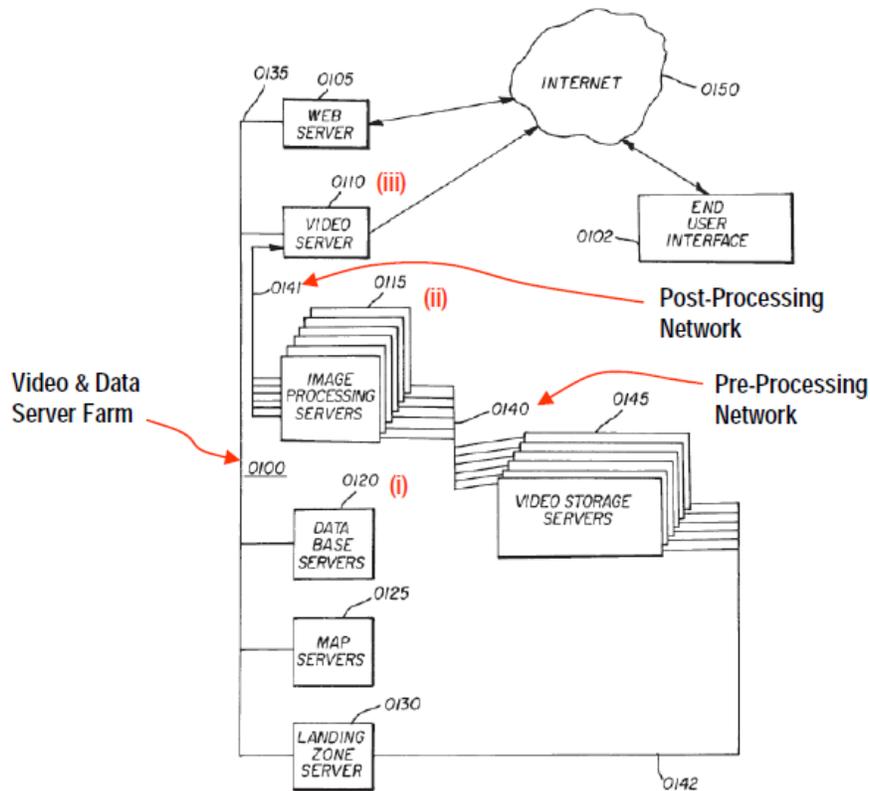
'181 Patent Annotated Fig. 1

Contrary to the teachings of the '181 Patent, Yoichi describes a system that stores

images and uses key data to identify indexed images in a directory that correspond to a

route. Ex. 1004, ¶¶[0101], [0102]. Yoichi presents that "the data, including image and

associated information" is used "to know the current traffic and road situation before the

requesting vehicle approaches a location, so that the requestor can evaluate the condition

of the route around and to the location." *Id.* ¶ [0034]. Yoichi's system results in a very

different output of visual data than to that of the claimed system of the '181 Patent, *inter*

alia, because:

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(1) the key data is processed to generate requests and/or statistical data but there is **no image post-processing** to provide a view of a geographic location of interest after the images are stored;

(2) the system lacks a pre-processing network and a post processing network used to enable the two step processing system of the '181 Patent to perform image processing according to a geographic location of interest; and

(3) Yoichi further lacks the video server that is used, for example, to process queries by users (by street address or clicking on a parcel on a map) forming part of the claimed system and used to obtain images or video feeds of the geographic location of interest. *See, e.g.,* Ex. 1002, 13:17-20.

In comparing Yoichi's system to the system taught by the '181 Patent, Petitioner's analysis relies only on conclusory statements by Dr. Fuchs in his Expert Declaration. Dr. Fuchs testimony does nothing more than referring to Yoichi's teaching of watermarking of images. Ex. 1004, ¶¶ [0085]-[0086]. However, Yoichi's watermarking "processing" is actually a very different kind of processing that has nothing to do with the claimed "identifying," "transferring," and "formatting" of image data with respect to a geographic location of interest.

For example, in identifying the geographic location of interest, the '181 Patent teaches the use of parcel data processing that analyzes parcel data, such as vector line data that is geo-coded with latitude and longitude values to enable image perspective

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according to the subject property of interest. Ex. 1002, 2:48-62. This is very different from

Yoichi's watermarking processing and is not taught or suggested anywhere in Yoichi.

For at least this fundamental difference, Petitioner's analysis is deficient as Yoichi

cannot anticipate nor render obvious, *inter alia*, the pre-processing network and post-

processing network requirements of independent Claim 1. In addition, all of the remaining

challenged claims depend on Claim 1. As such, Grounds 1 and 2 fail.

c.   **Yoichi does not teach, *inter alia*, [1.4a] "wherein the database server identifies video image files stored in the video storage sever that correspond to the *geographic location of interest* contained in the data query" (Claim 1, element 1.4a)**

As discussed above, "geographic location of interest" means "a geographic location

that relates to a subject on a parcel or at an address." As taught in the '181 Patent, the

"geographic location of interest" is identified using parcel information coming from third party

sources. (Ex. 1002, 3:5, 2:46-47, 1:23, 4:20-27, 3:58-64, 2:17). This was a significant

technological improvement over the prior art Yoichi's system, which retrieved indexed

images based only on GPS coordinates and did not seek to identify the actual subject

property that would match a user's query for "a geographic location of interest." Tellingly,

Petitioner fails to propose any construction for "geographic location of interest." Only by

willfully ignoring the meaning of "geographic location of interest" required by the challenged

claims of the '181 Patent does Petitioner attempt to assert that Yoichi anticipates or renders

obvious the challenged claims.

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Yoichi does not disclose or suggest processing image data according to a geographic location of interest as required by Claim 1. For example, **nowhere** in Yoichi is there any disclosure or suggestion of **parcel data** or a **calculation of a centroid of a parcel** to identify images that correspond to **the geographic location of interest**. In fact, Dr. Fuchs materially misconstrued an address query for the ability of the system to "identify," "transfer," and "format" images of the specific geographic location of interest, i.e., the imaging of the subject property of interest and in relation to its property boundaries.

For at least this reason, it is respectfully submitted that the Petition **fails to demonstrate** a reasonable likelihood that independent Claim 1 and its dependent claims are unpatentable as anticipated by or obvious over Yoichi under Petitioner's Grounds 1-2.

    d. **Yoichi does not teach,** *inter alia*, **[1.4b] "wherein the database server transfers the video image files over a pre-processing network to the image processing server" (Claim 1, element 1.4b)**

Petitioner contends that the database server taught by the '181 Patent corresponds to the service center described in Yoichi. (Pet., 35). Similarly, Petitioner purports that the image processing server of the '181 Patent is as basic as Yoichi's vehicle computer, as shown below in Petitioner's annotated FIG. 1 of Yoichi (see also Pet. 20). Petitioner is wrong.

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SERVICE CENTER

CLUB MEMBERS

Database Server

FIG. 1

INTERNET

CELL PHONE COMPANY

OTHER VEHICLES

WIRELESS LAN PROVIDER

Video Storage Server

VEHICLE

CELL PHONE MODEM

STORAGE

WIRELESS LAN

COMPUTER

Image Processing Server

VELOCITY SENSOR

SECURITY BUTTON

SHOCK SENSOR

GPS

TEMPERATURE SENSOR

CAMERAS
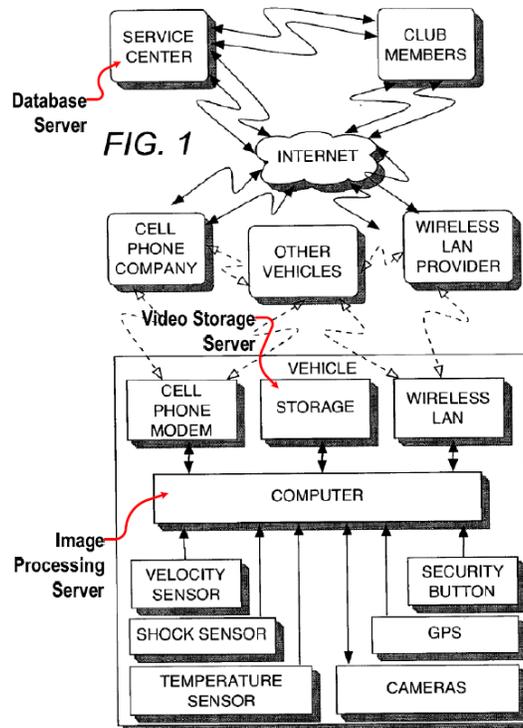
Petitioner's Annotated Fig. 1 of Yoichi

Moreover, even if Petitioner's assertions are true, which they are not, then the service center in Petitioner's annotated Fig. 1 of Yoichi would be transferring the video image files using a cell phone modem back to the vehicle's computer for post processing and then back to the club members. Such operation of Yoichi's system is clearly contradicted by Yoichi's same disclosure on at least the following two aspects. First, this is contrary to Yoichi's teaching to provide efficient and up-to-date visual representations of requested information relating to weather and traffic conditions. Ex. 1004, ¶ [0026]. And second, this would hinder the peer-to-peer exchange of images taught by Yoichi and actually increase the processing load of the service center. *See, e.g., Id.*, ¶ [0039].

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Further, Yoichi describes the vehicle's computer to be a general purpose computer thus limiting the image capturing and processing of video data. *Id.* ¶ [0064]. Simply put, the vehicle's computer does not anticipate nor renders obvious the pre-processing network of the '181 Patent or the image processing server. For at least this additional reason, it is respectfully submitted that the Petition **fails to demonstrate** a reasonable likelihood that independent Claim 1 and its dependent claims are unpatentable as anticipated by or obvious over Yoichi under Petitioner's Grounds 1 and 2.

(i) **Dependent Claim 3**

[3.P] 3. A system as claimed in claim 1, further comprising a map server that

[3.1] presents a static image of an overhead view of the geographic location of interest.

    a. **Yoichi does not disclose** *a map server that presents a static image of an overhead view of the geographic location of interest*

In addition, Yoichi further fails to anticipate Claim 3 under 35 U.S.C. § 102 because it fails to disclose claim element [3.1], i.e., a map server *presenting a static image of an overhead view of the geographic location of interest*. With respect to Claim 3, in paras. 36-37 of the Expert Declaration (Ex. 1001), Dr. Fuchs asserts that Yoichi "discloses a map server that presents a static image of an overhead view of the geographic location of interest" as shown in Fig. 6. This is incorrect.

For example, the following simple comparison between Fig.6 of Yoichi and Fig. 10 of the '181 Patent demonstrates fundamental differences between the overhead view of the

geographic location of interest of the '181 Patent and the map showing "vectors, i.e. arrows along a route in a map figures" used to indicate where the key data was captured by Yoichi. Additionally, Fig. 7 of Yoichi depicts an image frame of a route (i.e. a more general area) which is very different from the precise video frame of a designated parcel 1042 (i.e. a geographic location of interest) in the '181 Patent.

Annotated Fig. 10 of the '181 Patent

Annotated Figs. 6 & 7 of Yoichi
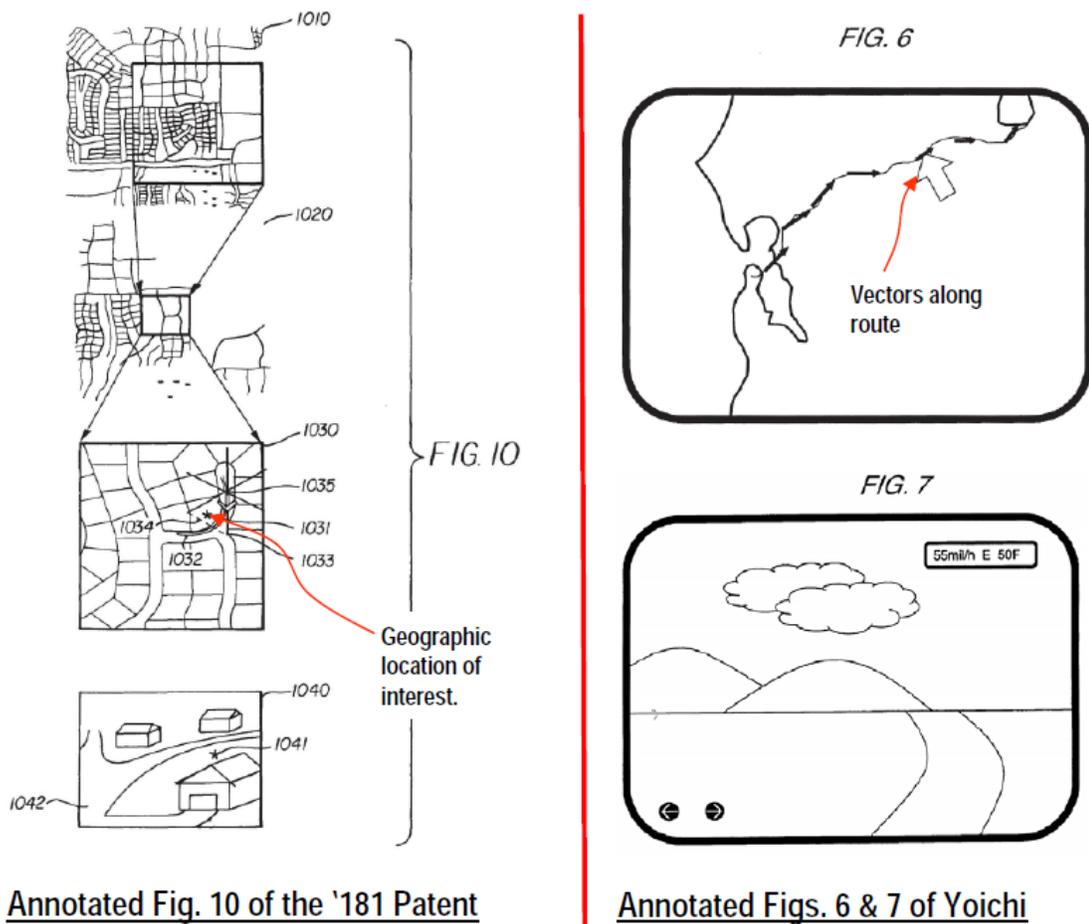
As taught by the '181 Patent and shown in at least Fig. 10, street-level or overhead views of the geographic location of interest can be created using "an open source GIS Mapping program, such as University of Minnesota Map Server, to show parcel line boundaries." Ex. 1002, 11:59-62. In contrast, in Yoichi, "the service center sends the key

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data or an image icon representing the key data to the vehicles and updates the map shown in FIGS. 6, 10 and 12, which map includes image icons (vectors, i.e. arrows along the route in the map figures, indicating the location where the key data was captured." Ex. 1004, ¶ [0069]. In other words, in Yoichi the image icons are displayed on the maps "to show position, speed, direction of capture and other data such as temperature" and not a "geographic location of interest" as defined by the '181 Patent. *See Id.* ¶[0070]. With respect to Claim 3, Yoichi fails to disclose the map server that presents a static image of an overhead view of the geographic location of interest.

This is another reason why Petitioner did not establish a reasonable likelihood that Claim 3 is unpatentable as being anticipated by or rendered obvious over Yoichi under Petitioner's Grounds 1-2.

(ii)   Dependent Claim 4

[4.1]   4. A system as claimed in claim 1, further comprising a video capture system including:

[4.2]   a camera array that generates video image data of a neighborhood corresponding to a geographic location;

[4.3]   a positioning unit that produces positioning data corresponding to the location of the camera array; and

[4.4]   a processing unit that processes the video image data and positioning data to produce the video drive-by data;

[4.5]   wherein the processing unit stores the video drive-by data on the portable memory device.

As presented above, "video drive-by data" means "street level video corresponding to a geographic location including the video image data and positioning data." In the claim chart for Claim 4 (Pet. 38-40), Petitioner argues that Yoichi's cameras are described to generate video image data of a "neighborhood" corresponding to a geographic location. However, Yoichi teaches that the recording occurs "preferably periodically" and that "[o]ther data are keyed with each image or with a group of images with respect to **a particular itinerary, or the other data is stored independent of any image**." Ex. 1004, ¶ [0071] (emphasis added). Accordingly, a POSITA would understand that Yoichi attempted to both regularly update images and eliminate large amounts of images being stored and thus fails to describe a processing unit that can process the video image data and positioning data to produce the video drive-by data as taught by the '181 Patent.

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For example, the '181 Patent indicates that a landing zone is preferably provided to receive the video drive-by data from the portable memory device to permit the viewing and analysis of the video drive-by data prior to storage in the video storage server. Ex. 1002, 3:12-18. Petitioner takes the position that Yoichi's vehicle computer corresponds to "a processing unit that processes the video image data and positioning data to produce the video drive-by data" [4.4] recited in Claim 4. (Pet. 39-40). In other words, Petitioner contends that the vehicle computer described in Yoichi is capable of both producing the video drive-by data for the various cameras and storing it, as well as performing the pre-processing and post-processing steps of independent Claim 1. This attempt to conflate separate components and functionality by Petitioner's arguments with respect to Claims 1 and 4 as discussed above provides all the more reason why Petitioner's (and likewise Dr. Fuchs') analyses of Yoichi set forth in the petition are flawed and should be rejected.

(iii)   Dependent Claim 5

[5]

5. A system as claimed in claim 4, wherein the camera array includes a plurality of camera units arranged to provide a 360 degree view of the neighborhood.

In addition, Yoichi further fails to invalidate Claim 5 because it fails to disclose [5] *a plurality of camera units arranged to provide a 360-degree view of the neighborhood.* With respect to Claim 5, Dr. Fuchs asserts that Yoichi discloses this limitation, citing para. 65 of Yoichi. Ex. 1001, para. 43. However, Dr. Fuchs is wrong for the following reasons.

First, the limited description of Yoichi with respect to the cameras provides that "[t]he cameras are generally aimed in different directions, respectively, for example, forward, backward, to the right and to the left" and that "through a joystick or the like (not shown), the CAMERAS are adjusted as to horizontal and vertical angles." Ex. 1004, para. 65. This is contrary to the teachings of the '181 Patent regarding video drive-by data added to the video & data server farm from "six possible cameras" and how to determine when one of the possible six cameras may be viewing a subject property, as described in at least Figs. 2 and 13 of the '181 Patent. Yoichi's system simply does not describe this.

Nor does Yoichi disclose how the images from the front, rear and side cameras can be used to provide a 360 view of a neighborhood as required by the claim. Here again, what was described by Dr. Fuchs' Expert Declaration and relied in the Petition is very different from the claimed invention of the '181 Patent. These are yet another reasons why the Petitioner **fails to demonstrate** a reasonable likelihood that dependent Claim 5 is unpatentable over Yoichi.

(iv) Dependent Claim 7

[7] 7.   A system as claimed in claim 1, further comprising means for providing a variety of geo-coded data layers in conjunction with the video drive-by data.

Petitioner argues that the claim is indefinite under 35 U.S.C. § 112, sixth paragraph. However, for the anticipation analysis, para. 44 of Dr. Fuchs' Expert Declaration provides that this means-for limitation includes, *inter alia*, the functions of superimposing text data

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over video, and displaying parcel data or property lines associated with the geographic location. This analysis contradicts Petitioner's argument that the claim is indefinite under 35 U.S.C. § 112, sixth paragraph, and supports Patent Owner's proposed construction for geographic location of interest by the way "parcel data or property lines" are associated with a "property on the geographic location." In any event, under 35 U.S.C. § 311(b), Petitioner cannot raise a ground of indefiniteness under 35 U.S.C. § 112 to challenge a patent claim in the petition for *inter partes* review.

Further, Dr. Fuchs' analysis only cites portions of Yoichi that cite to superimposing icons with information but nothing that teaches or suggests using **geo-coded layers with parcels or property lines** associated with the **subject property of the particular location**. Accordingly, with respect to Grounds 1 and 2, the Petitioner **fails to demonstrate** a reasonable likelihood that dependent Claim 7 is unpatentable over Yoichi.

(v)   Dependent Claim 9

[9]

> 9.   A system as claimed in claim 1, further comprising means for linking latitude and longitude data with video drive-by data.

Petitioner argues that the claim is indefinite under §112, sixth paragraph. However, for the anticipation analysis, para. 46 of Dr. Fuchs' Expert Declaration provides that this means-for limitation includes, *inter alia*, generating a data package of the images and relevant other data which can include GPS coordinates being logically or physically attached to the image to perform the function of linking latitude and longitude data to video

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drive-by data. This analysis contradicts Petitioner's argument that the claim is indefinite under § 112, sixth paragraph, and supports Patent Owner's proposed construction for geographic location of interest by the way latitude and longitude coordinates of "parcel data or property lines" are associated with "video drive-by data." In any event, under 35 U.S.C. § 311(b), Petitioner cannot raise a ground of indefiniteness under 35 U.S.C. § 112 to challenge a patent claim in the petition for *inter partes* review.

Further, Dr. Fuchs' analysis only cites portions of Yoichi that cite to generating a data package including various information according to the occurrence of an event. Ex. 1004, para. 73. To the contrary, the '181 Patent teaches, for example, an open source programming tool GDAL operable with a processor to perform a range calculation from the latitude and longitude positions of the subject property from video segments that contain images where the property is in view. The determination is based on a variable distance from the camera position to the nearest line segment of a parcel. Further, that an extractor program (which may be based on an open source programming tool MENCODER) can convert compressed MPEG2 data into lossless TIFF image files with each image frame file encoded for camera orientation and interpolated location. *See* Ex. 1002, 9:9-27.

Yoichi does not disclose the use of parcel data nor precise linking of latitude and longitude data to video drive-by data. Accordingly, with respect to Grounds 1 and 2 of the Petition, the Petitioner **fails to demonstrate** a reasonable likelihood that dependent Claim 7 is likely to be unpatentable over Yoichi.

D. [RE: GROUND 2] Claims 1, 3-5, 7, and 9 are not obvious over Yoichi

(i) The Petition fails to provide any meaningful obviousness analysis

Recognizing that Yoichi does not disclose each and every element of Claims 1, 3-5, 7 and 9 of the '181 Patent, Petitioner also requests *inter partes* review of the exact same claims as being obvious over Yoichi (Ground 2), as an alternative to Ground 1. In doing so, however, Petitioner provided nothing more than a broad conclusory assertion that "to the extent that . . . any limitations are considered not to be anticipated by Yoichi alone, such limitations are also rendered obvious by Yoichi, as a POSITA would have found such limitations obvious in Yoichi's disclosure in light of the ordinary knowledge of the POSITA and the state of the art known before August 2004." Pet. 23.

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). In particular, as the Board has held, "[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." *AOL Inc. v. Coho Licensing LLC*, IPR2014-00966, Paper 6, p. 13 (PTAB Nov. 20, 2014) (citing *Liberty Mutual Ins. Co. v. Progressive Casualty Ins. Co.*, CBM2012-00003, 2012 WL

9494791, at *2 (PTAB 2012)).

Indeed, neither the Petition (Pet. 23-24) nor Petitioner's expert declaration (Ex. 1001, ¶47) 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 Yoichi discussed above in connection with the anticipation ground could be cured under the obviousness ground. For example, as discussed above, Yoichi does not disclose the "image processing server" that "converts the video drive-by data to post processed video data corresponding to a desired image format." The Petition does not explain how this deficiency of Yoichi could be cured in connection with this and other obviousness grounds.

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 No. 16, pp. 16 and 18 (PTAB Feb. 22, 2013). Petitioner's Ground 2 should likewise be dismissed.

(ii) **The problem solved and realized by the invention enabled the use of video-drive-by data for professional use**

According to Petitioner's own prior testimony regarding Di Bernardo (Ex. 2002), and Petitioner's prior art, including Yoichi which relates to driving routes, and Di Bernardo and Lachinski which use "street segments" and acknowledge this is not sufficiently accurate for an exact address since route approximations and street segments only describe a solution

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suitable for a "range of addresses." Real estate agents, appraisers, investors, and home buyers know that it can be very confusing to tell which is a subject property of interest, especially as subject properties do not always display a street number in front of the property. Therefore providing imagery of a route or a street segment on which a subject property is located is insufficient.

The failures of the prior art indicate that the solution taught by the '181 Patent was not obvious. In fact, both Di Bernardo and Lachinski unequivocally explain the use of "street segments" being suitable only for a "range of addresses." *See, e.g.*, Ex. 1005, paras. 48, 76 (acknowledging the use of segments does not provide for accurate computations of specific addresses); Ex. 1006, 12:8-14, 16:50-0 (acknowledging street segment approximation lacks accuracy and thus limiting the imagery correlation only as to a range of addresses within the street segment). Yoichi's description likewise explains that the images for the driving routes only need to be **images that are close to the location.** Ex. 1004, ¶ 37.

E. **[RE: GROUNDS 3-4] Because Claims 6, 8, 10 and 11 are dependent on Claim 1, these claims suffer at least the same defects as Claim 1**

Petitioner requests *inter partes* review of Claims 6, 10 and 11 of the '181 Patent as being obvious over Yoichi in view of U.S. Patent Application Pub. No. 2002/0047895 to Di Bernardo ("Di Bernardo," Ex. 1005) (Ground 3). Petitioner also requests *inter partes* review of Claim 8 as being obvious over Yoichi in view of U.S. Patent No. 5,633,946 to Lachinski et al. ("Lachinski, Ex. 1006) (Ground 4). These claims are all directly or indirectly dependent on Claim 1. As shown below, the facts set forth in the Petition fail to create a *prima facie*

case of obviousness for any of these claims.

In support of the obviousness challenge as to Claims 6, 8, 10 and 11, Petitioner relies on the disclosures of Yoichi discussed above with regard to independent Claim 1. As discussed above, Yoichi fails to teach or suggest all of the claim elements of independent Claim 1, including, for example, the "image processing server" that "converts the video drive-by data to post processed video data corresponding to a desired image format." Furthermore, the Petition does not rely on either Di Bernardo or Lachinski to cure these deficiencies of Yoichi with respect to the limitations of Claim 1. When combining two or more references to establish a *prima facie* case of obviousness, the references together must teach or suggest all of the claim elements. *In re Royka*, 490 F.2d 981, 985 (C.C.P.A. 1974). Accordingly, the Petition failed to establish a *prima facie* case of obviousness for any of the challenged claims.

As discussed above, Petitioner fails to demonstrate a reasonable likelihood that independent Claim 1 is obvious over Yoichi. Dependent claims are nonobvious if the independent claim from which they depend are nonobvious. *In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988); *see also* MPEP § 2143.03. Since Claim 1 is nonobvious, Claims 6, 8, 10 and 11, which are dependent thereon, are likewise nonobvious. For at least this reason, the Board should dismiss Petitioner's Grounds 3 and 4 with respect to Claims 6, 8, 10 and 11. *See, e.g., CallCopy, Inc. v. Verint Americas, Inc.,* IPR2013-00492, Paper 14, p. 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 . . . .").

F. [RE: GROUND 3] Di Bernardo does not cure the deficiencies of Yoichi

(i) Analysis of Di Bernardo

Di Bernardo discloses a "system and method synthesizing images of a locale to generate a composite image that provides a panoramic view of the locale." (Ex. 1005, Abstract). Di Bernardo teaches simple and basic data capture of a general locale such as a street segment or block, instead of detailed data capture of a subject property as it relates to a parcel or a specific street address as taught by the '181 Patent. In other words, Di Bernardo teaches against identifying with precision a geographic location of interest. This lack of precision in identifying a specific address or parcel is significant since the most common online search query by a user is a specific address. Indeed, Di Bernardo captures and retrieves images relying on "street segments" to form and store composite images of those "street segments," which includes ranges of addresses, and are not calculated with any precision as to any particular street address. (*See, e.g.*, Ex. 1005, Figs. 13-15, Step 64 in Fig. 3, Step 244 in Fig. 17; *see also* para. 76; *Cf.* Ex. 1001, para. 48. ("Di Bernardo describes a similar system for using vehicles equipped with camera arrays for capturing street-level video data, generating **composite images from the collected video data**, and **providing the composite images in response** to user queries indicating locations of interest. (*See, e.g.*, Di Bernardo at ¶¶ 32-34, 79.)" (emphasis added)).

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More importantly, Di Bernardo teaches against using any "computationally intensive," "cumbersome," or "inefficient" processes (para. 7) and offers its simplified system to "alleviate[]" problems with such techniques (para. 9). This point was made by Dr. Grindon, when he explained to the California Court, "[t]he patents-in-suit [Di Bernardo], in seeking to improve upon the so-called 'computationally intensive' and 'cumbersome' methods of forming composite images . . . seek[] to minimize this computational burden." Ex. 2002, para. 39.

Thus, unlike the '181 Patent which teaches a computationally intensive systems and methods to determine particular "geographic locations of interest" including the cumbersome, costly and burdensome process of linking the images to parcel information from local county GIS maps or other database sources, Di Bernardo is simply seeking a system that is *not focused* on a subject property and its boundaries (geographic location of interest) but can simply approximate a desired location within a street block.

Di Bernardo describes a one-step process embodiment for capturing the image and converting each image frame into a single composite image of the relevant neighborhood block. In the process, position and frame number data are captured by computer 34 (*see* para. 36), while "post-processing system 38" is used to convert the image sequences captured and saved to video player 39 which plays videotapes 12, into the "one or more composite images" stored in an image database 32 (*see* Ex. 1005, para. 37). This simplified process, in the words of Dr. Grindon, "sacrifices image quality in order to reduce

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computational complexity." Ex 2002, para. 28 (citing as support "Indeed the provisional

patent application states that '[t]he present method is a compromise between the quality of

the synthetic image and algorithmic complexity.'" And [b]ut for *Vederi*'s proposed

application, the quality of the panoramic images is sufficient even in presence of some

distortion."). In other words, Di Bernardo teaches a single way to use simple, fast, albeit

inferior image processing techniques to get a good enough composite image of the street

without precision, which is in turn returned to the user in response to a query. *See, e.g.,* Ex.

2002, para. 41.

The so-called "post processing system 38," while called by a similar name as the

claimed "post-processing network" and "post processed video data" in Claim 1 of the '181

Patent, is really a different kind of "post processing." In the context of Di Bernardo, the "post

processing" is post image capture. In other words, either at the time the image is captured

(with a direct feed to a computer system, para. 38, cited in Ex. 1001, para. 69), or after the

image is captured on a video tape (with an indirect feed using the video tape player feed to

the computer, para. 37, cited in Ex. 1001, para. 70), the captured image is processed by the

"post processing system 38" to form the "composite images." As Petitioner's other expert,

Dr. Grindon explained, these are alternative embodiments, (Ex. 2002, paras. 38, 66-67), not

complementary embodiments as Petitioner's latest expert asserts in support of the Petition

(*see* Ex. 1001, paras. 69-70). The "composite images" are then saved to image database

32 (Ex. 2002, para. 32; Ex. 1001, para. 71), which is "access[ed]" "in response to a user

request" by the host computer to "retrieve composite images about the particular location." (para. 79, cited in Ex. 1001, para. 71). Significantly, there is never any "post processing" of video data, after it is stored in the image database 32. Contrary to the invention of the '181 Patent, no further processing of the image is done to create a "desired image format," and the previously processed "composite image" is simply retrieved by the host computer. *See* Ex. 2002, para. 97, Step. 250.

Like Yoichi, nowhere in Di Bernardo is there any teaching or suggestion of identifying street view images for "a geographic location of interest." As such, combination of Yoichi with Di Bernardo does not cure the deficiencies of Yoichi to render the claims obvious. For at least the foregoing reasons, it is respectfully submitted that the Petition **fails to demonstrate** a reasonable likelihood that dependent claims 6, 10 and 11 are unpatentable as obvious over Yoichi in view of Di Bernardo under Petitioner's Ground 3.

(ii) Dependent Claim 6

6.   A system as claimed in claim 4, wherein the processing until further

[6]   provides time stamp data and file pointer data that permits synchronization of video images to precise locations of individual frames.

Yoichi in combination with Di Bernardo further fails to render obvious Claim 6 because it fails to disclose [6] *time stamp data that permits synchronization of video images to precise location of individual frames.* With respect to the analysis of Claim 6, the Petition relies on inadequate analysis of Di Bernardo by Dr. Fuchs. However, Dr. Fuchs' analysis is

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improper because it is supported only by comparing the descriptions of two different, mutually exclusive embodiments described in the cited paras. 46, 69-70 of Di Bernardo. Not only do the cited portions fail to disclose, *inter alia*, the **file pointer data** for the synchronization of video images to **precise** *locations* as disclosed in the '181 Patent in the description of Figs. 8-9, but Dr. Fuchs' comparison also improperly conflates two alternative, mutually-exclusive embodiments (paras. 69-70 of Di Bernardo being the description of an **alternative embodiment** for identifying and retrieving a column of RGB pixel values for a particular video time). Moreover, it fails to provide any support as to why or how a POSITA would be able to combine these mutually exclusive embodiments to achieve the claimed limitation. Therefore, the Petitioner **fails to demonstrate** a reasonable likelihood that dependent Claim 6 is unpatentable over Yoichi in view of Di Bernardo.

(vi)   Dependent Claim 10

[10]

10. A system as claimed in claim 9, further comprising means for calculating a camera position of designated individual frames of video by using position data points captured before and after a designated frame position.

Petitioner argues that the claim is indefinite under § 112, sixth paragraph. As noted above, under 35 U.S.C. § 311(b), Petitioner cannot raise a ground of indefiniteness under 35 U.S.C. § 112 to challenge a patent claim in the petition for *inter partes* review.

For the anticipation analysis, paras. 54-56 of Dr. Fuchs' Expert Declaration picks and chooses different portions of the mutually exclusive embodiments described in Di Bernardo

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to argue that **calculating a camera position of designated individual frames of video by using portions of data captured before and after a designated frame position** is obvious. In particular, Dr. Fuchs begins citing paras. 42-43 of Di Bernardo relating to systems to gather camera position during image capture with paras. 67-70 describing the identification and retrieval columns of RGB pixel values for a particular video time. Dr. Fuchs acknowledges that the GPS position information is not adequate in terms of precision and acceleration information needs to be taken into account to determine camera position. Nevertheless, without any reasoning or explanation other than directing the Board to para. 43 of Di Bernardo, Dr. Fuchs concludes that the computer 34 anticipates the claimed limitation. This conclusion is clearly deficient to demonstrate a reasonable likelihood that the claim is unpatentable.

As previously explained, Petitioner's own expert in litigation admitted that the computer 34's post-processing is eliminated in an alternative embodiment and that method of calculating camera position assumes that the camera is traveling in a straight path. Ex. 2002, para. 38. Thus, without further steps, that include post-processing as taught by the '181 Patent, it is inadequate to conclude that claim 10 can be obvious over Yoichi in view of Di Bernardo. Accordingly, the Petitioner **fails to demonstrate** a reasonable likelihood that dependent Claim 10 is unpatentable over Yoichi in view of Di Bernardo.

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(vii) Dependent Claim 11

[11]

> 11. A system as claimed in claim 10, wherein the position data points are used to create the parameters of a polynomial function which represents the spline path of movement by a vehicle in which the camera array is mounted, wherein this polynomial function can be used to calculate the position and camera orientation based on a smooth curve versus a straight point to point straight line segment for each frame captured between the position data transmission intervals.

The '181 Patent teaches that it is important to calculate both accurate camera orientation and position to achieve the perspective views--toward a geographic location of interest. Dr. Fuchs cites paras. 56-59 of Di Bernardo to argue that the limitation is anticipated. However, the cited paragraphs describe a way to identify the ends of straight image segments with intersections. Even if argued that the respective paragraphs, with additional teachings, can be used to calculate a camera position, neither Dr. Fuchs nor the cited paragraphs mention **camera orientation**, which is clearly illustrated in, e.g., FIGS. 8, 11, and 13 of the '181 Patent, and thus the conclusions by Dr. Fuchs are both unsupported and incorrect. Accordingly, the Petitioner **fails to demonstrate** a reasonable likelihood that dependent Claim 11 is unpatentable over Yoichi in view of Di Bernardo.

G. [RE: GROUND 4] Claim 8 is patentable over Yoichi in view of Lachinski

(i) Overview of Lachinski

Lachinski describes a method for collecting and processing and spatial position information for the formation of a geographic information database. Ex. 1006, 2:10-13.

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More particularly, the cited portions describe method steps that can be used to determine centerline of a street using a computer-aided design display system.

(ii) Claim 8

8. A system as claimed in claim 1, further comprising means for creating geo-coded text, image and vector data which is superimposed onto the post processed video data that is transferred to the communications network.

The combination of Yoichi and Lachinski to argue obviousness fails at least because of the different problems Yoichi and Lachinski are meant to solve. In other words, there would have been no reason why a POSITA would have combined Yoichi and Lachinski.

More importantly, as discussed above, the required structures and elements (e.g., *inter alia*, MENCODER, GDAL, OpenGL, GraphicsMagick, FFMPEG) described by the claimed systems are neither included in the portions of the descriptions cited in Lachinski nor do the embodiments of the references operate in the same manner. The proposed limitations included in the proposed construction by the Patent Owner for the means for system in this claim are also not found in the sections cited by Petitioner.

Petitioner's reliance on the combination of Yoichi with Lachinski to argue obviousness also fails because Yoichi, which is designed to selectively send to the service center or another vehicle images **without consuming storage space at the service center** (Ex. 1004, Yoichi, abstract), does not just fail to teach or mention the use of parcel data required to superimpose vector data, but rather also teaches away from the processing stored images as it is taught by the claimed invention of the '181 Patent.

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Accordingly, with respect to Ground 4 of the Petition, the Petitioner **fails to demonstrate** a reasonable likelihood that dependent Claim 8 is unpatentable over Yoichi in view of Lachinski under 35 U.S.C. § 103.

H. The present Petition and the petition filed in IPR2014-01339 are cumulative and should thus be considered and denied together

Petitioner asserts multiple redundant grounds challenging the same set of claims of the '181 Patent across two different petitions--the present Petition and the petition filed in IPR2014-01339. Further, Petitioner relies on the same Fuchs declaration (Ex. 1001) in support of both of the petitions. The Fuchs declaration is generic and is not specific to any one of the proceedings. As such, Petitioner's analysis does not distinguish among these two cumulative petitions. Further, Petitioner does not address the cumulative nature of its arguments across these two petitions. Accordingly, the Board should consider and deny the present Petition and the petition filed in IPR2014-01339 together.

Moreover, should the Board decide to institute *inter partes* review based on one of these petitions, Patent Owner respectfully submits that the Board should exercise its discretion in declining to institute *inter partes* review based on the redundant grounds set forth in the other, cumulative petition. "Exercise of [such] discretion . . . is consistent with the authority granted under 35 U.S.C. § 315(d) to manage *inter partes* proceedings and with the objective of 'secur[ing] the just, speedy, and inexpensive resolution of every proceeding.'" *Canon Inc. v. Intellectual Ventures I LLC*, IPR2014-00535, Paper 9, p. 20 (PTAB Sept. 24, 2014) (quoting 37 C.F.R. § 42.1(b)).

5. CONCLUSION

For at least the foregoing reasons, Petitioner has failed to demonstrate a reasonable likelihood that it would prevail in showing that any claim of the '181 Patent is unpatentable based upon any of the asserted grounds. Accordingly, the Board should deny the Petition and grant any and all other relief to Patent Owner that the Board deems just.

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 25th

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

RESPONSE TO PETITION was served via EXPRESS MAIL® on counsel for Petitioner at

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