

2016-1062
(Serial No. 10/536,692)

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

IN RE MARIO VILLENA, JOSE VILLENA

Appeal from the United States Patent and Trademark Office,
Patent Trial and Appeal Board.

**BRIEF FOR APPELLEE — DIRECTOR OF THE
UNITED STATES PATENT AND TRADEMARK OFFICE**

THOMAS W. KRAUSE
Acting Solicitor

ROBERT J. MCMANUS
BENJAMIN HICKMAN
Associate Solicitors

U.S. Patent and Trademark Office
Mail Stop 8, P.O. Box 1450
Alexandria, Virginia 22313
(571) 272-9035

February 26, 2016

*Attorneys for the Director of the
United States Patent and Trademark Office*

Representative Claim

133. A system for distributing real-estate related information, comprising:

one or more tangible computer-readable mediums that includes one or more computer-searchable databases with entries for a plurality of residential properties with each entry including at least: a first field containing an address of a residential property, and a second field containing an automatic valuation method (AVM) value reflecting a computer-generated value of the residential property identified by the address of the first field; and

one or more computers configured to:

repeatedly update each of the AVM values using residential property information so as to enable the one or more databases so as to repeatedly reflect market changes in the AVM values of the residential properties; and

distribute the AVM values to any one of a plurality of users over a publically-accessible network.

A201.

TABLE OF CONTENTS

I. STATEMENT OF THE ISSUE.....	1
II. STATEMENT OF THE CASE.....	1
A. The '692 Application	2
B. Prior Art	3
1. Sklarz	3
2. Florance.....	5
C. Examiner's Rejections	6
1. 35 U.S.C. § 101.....	6
2. 35 U.S.C. §§ 102 and/or 103	7
a) §§ 102 and/or 103 based on Sklarz: independent claims 133 and 145, and claim 142.....	7
b) § 103 Sklarz and Florance: claims 134, 137, 139, 140, 143, 144, 146, 149, and 150.....	12
c) § 103 Sklarz and Florance: claims 135, 136, 147, and 148.....	14
d) § 103 Sklarz and Florance: claims 138, 141, and 151.....	15
e) § 103 Sklarz and Florance: claim 155	16
D. Board Decision.....	18
E. Board Rehearing Decision	24
III. SUMMARY OF THE ARGUMENT	25
IV. ARGUMENT	27
A. Standard of Review	27

B. The Examiner and Board correctly concluded that Villena’s claims are directed to a patent-ineligible abstract idea	28
1. The claims are directed to the abstract idea of providing AVMs.....	29
2. The claims do not recite “significantly more” than the abstract idea of providing AVMs.....	33
C. Claims 133, 142, and 145 are unpatentable under either § 102 or § 103 based on Sklarz	38
1. “AVMs” were well known in the art, as evidenced by Sklarz	38
2. Reciting the ability to update an AVM does not impart patentability....	43
3. The record demonstrates that Sklarz stores AVM values	47
4. Substantial evidence supports the finding that Sklarz’s “cache” teaches the recited “database”	50
D. The combination of Sklarz and Florance renders obvious Villena’s claims to displaying results on a map	53
E. Simply reciting storing an amount of property entries fails to impart patentability	55
F. Sending data to mobile phones does not make claims 138, 141, and 151 patentable	56
G. Villena fails to address the articulated obviousness rejection for claim 155.....	58
H. The Board did not enter evidence during oral hearing or rely on extra-record evidence.....	60
V. CONCLUSION	61

TABLE OF AUTHORITIES

Cases

<i>Alice Corp. Pty. Ltd. v. CLS Bank Int’l</i> , 134 S. Ct. 2347 (2014).....	<i>passim</i>
<i>Am. Acad. of Sci. Tech Center, In re</i> , 367 F.3d 1359 (Fed. Cir. 2004).....	42
<i>BuySAFE, Inc. v. Google, Inc.</i> , 765 F.3d 1350 (Fed. Cir. 2014).....	29, 34
<i>Consol. Edison Co. v. NLRB</i> , 305 U.S. 197 (1938).....	28
<i>Cuozzo Speed Techs, LLC, In re</i> , 793 F.3d 1268 (Fed. Cir. 2015).....	28
<i>Diamond v. Diehr</i> , 450 U.S. 175 (1981).....	35, 36
<i>Digitech Image Techs., LLC v. Electronics for Imaging, Inc.</i> , 758 F.3d 1344 (Fed. Cir. 2014).....	51
<i>Dystar Textilfarben GmbH & Co. v. C.H. Patrick Co.</i> , 464 F.3d 1356 (Fed. Cir. 2006).....	44, 45
<i>Gartside, In re</i> , 203 F.3d 1305 (Fed. Cir. 2000).....	27, 28
<i>Intellectual Ventures I LLC v. Capital One Bank</i> , 792 F.3d 1363 (Fed. Cir. 2015).....	31, 37
<i>Jolley, In re</i> , 308 F.3d 1317 (Fed. Cir. 2002).....	28, 40, 49
<i>Jung, In re</i> , 637 F.3d 1356 (Fed. Cir. 2011).....	46
<i>K/S HIMPP v. Hear-Wear Techs., LLC</i> , 751 F.3d 1362 (Fed. Cir. 2014).....	31

<i>KSR Int’l Co. v. Teleflex Inc.</i> , 127 S. Ct. 1727 (2007).....	45, 56
<i>Lovin, In re</i> , 652 F.3d 1349 (Fed. Cir. 2011).....	50
<i>Mayo Collaborative Servs. v. Prometheus Labs.</i> , 132 S. Ct. 1289 (2012).....	29, 33, 35, 37
<i>Mortgage Grader, Inc. v. First Choice Loan Servs. Inc.</i> , No. 2015-1415, 2016 WL 362415 (Fed. Cir. Jan. 20, 2016).....	31
<i>OIP Techs., Inc. v. Amazon.com, Inc.</i> , 788 F.3d 1359 (Fed. Cir. 2015).....	27, 31, 35
<i>Para-Ordnance Mfg., Inc. v. SGS Importers Int’l, Inc.</i> , 73 F.3d 1085 (Fed. Cir. 1995).....	27
<i>Parker v. Flook</i> , 437 U.S. 584 (1978).....	37
<i>Perfect Web Techs., Inc. v. InfoUSA, Inc.</i> , 587 F.3d 1324 (Fed. Cir. 2009).....	45
<i>Ratti, In re</i> , 270 F.2d 810 (C.C.P.A. 1959).....	46
<i>Watts, In re</i> , 354 F.3d 1362 (Fed. Cir. 2004).....	27, 50
<u>Statutes</u>	
5 U.S.C. § 706(2)(E).....	28
<u>Regulations</u>	
37 C.F.R. § 1.2.....	25
37 C.F.R. § 41.52.....	49, 52

Other Authorities

MPEP § 2107.0137

USPTO Update on Subject Matter Eligibility, July 2015.....30

STATEMENT OF RELATED CASES

The Director is not aware of any other appeal directly connected with the Patent Trial and Appeal Board (Board) proceeding below before this or any other court. The Director is not aware of any other case pending in this or any other court that will directly affect, or be directly affected by, the Court's decision in this appeal.

I. STATEMENT OF THE ISSUE

Villena seeks to patent a computer-implemented system for storing and distributing real estate values estimated using algorithms known as Automated Valuation Models (“AVMs”). The Board affirmed the rejection of those claims under § 101 per *Alice Corp.* because they recite the abstract idea of providing AVMs for real property, a fundamental concept in real estate, implemented on a generic computer. The Board also affirmed the rejection of Villena’s claims under § 102 and/or § 103, primarily in view of *Sklarz*, who confirms that using AVMs for real estate was known. The issue on appeal, then, is whether Villena has demonstrated reversible legal error in the § 101 rejection and, if so, whether the prior-art rejections are legally correct and supported by substantial evidence.

II. STATEMENT OF THE CASE

On May 27, 2005, Mario and Jose Villena (“Villena”) filed Application Serial No. 10/536,692 (“the ’692 application”). After a series of rejections, and amendments/requests for continued examination, the Examiner issued a non-final office action on June 12, 2014, rejecting claims 133, 141, 142, and 145 under § 102(b) as anticipated by, or, in the alternative, under § 103(a) as obvious over, *Sklarz*; and claims 134-140, 143, 144, 146-151, and 155 as obvious over *Sklarz* and *Florance*. *See* A504-38. Villena appealed to the Board. In his Answer, the Examiner maintained those rejections and added a new ground of rejection of all

claims based on 35 U.S.C. § 101, in view of the recent decision in *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014). *See* A135-87. Villena elected to continue with the appeal. The Board affirmed all rejections.

A. The '692 Application

The '692 application describes “a computer-based system for creating and maintaining massive databases containing computationally complex and novel property information” for real estate, which can include an AVM value. A1981-82. The '692 application states that “Automated Valuation Methodology (AVM) is a computer-based technology that has been used to determine the market value of real estate for nearly a decade.” A1983 (¶ 15); *see* A1989 (¶ 36) (AVM uses “a combination of heuristic and statistical technologies”). While stating that Villena has “invested greatly in their own AVM technology” (A1984 (¶ 17)), the '692 application does not describe a particular AVM algorithm. Rather, the '692 application simply states “the particular form and functionality of the AVM device 230 can vary from embodiment to embodiment as the technology evolves or as otherwise can be found advantages [sic] in various circumstances.” A1989 (¶ 36). Villena touts things like providing property distances in feet/meters, rather than miles, for the “advantages” of his system. *See* A1989-90 (¶ 38).

In operation, the '692 application states AMV device 230 “perform[s] an AVM valuation on each property in the property database 240.” A1989 (¶ 36).

Users can then access the information using the Internet to perform various services, including “queries [that] identify properties based on AVM valuation.”

A1986 (¶ 26); *see* A1985 (¶¶ 21-22); A2011-12 (Figs. 1 and 2). Claim 133 is representative:

133. A system for distributing real-estate related information, comprising:

one or more tangible computer-readable mediums that includes one or more computer-searchable databases with entries for a plurality of residential properties with each entry including at least: a first field containing an address of a residential property, and a second field containing an automatic valuation method (AVM) value reflecting a computer-generated value of the residential property identified by the address of the first field; and

one or more computers configured to:

repeatedly update each of the AVM values using residential property information so as to enable the one or more databases so as to repeatedly reflect market changes in the AVM values of the residential properties; and

distribute the AVM values to any one of a plurality of users over a publically-accessible network.

A201.

B. Prior Art

1. Sklarz

U.S. Patent Application Serial Number 09/942,415, filed by Michael Sklarz, et al., and titled “Value Your Home” (“Sklarz”), describes a system for “the delivery of real estate sales price information, identification and comparisons

of comparable real properties, and sales price predictions.” A2049 (¶ 3); *see* A2012-64. Sklarz’s “Web-based services” for real estate sales include “individually tailored appraisals.” A2049 (¶ 3). Sklarz states that the “term ‘appraisal’ means herein an estimated appraisal (predicted sales price), as opposed to a formal appraisal prepared by a certified or licensed appraiser.” A2049 (¶ 3); A2050 (¶ 15) (“The Appraisal information output includes a sales price prediction, also known as a valuation, for a subject property.”); A2050 (¶ 14) (system provides “individually tailored appraisals (sales price predictions), using methods that significantly improve the accuracy, speed, affordability, and delivery of such information”). Sklarz explains that his “VYH appraisal engine” uses property information “in a sales price prediction algorithm to calculate an appraisal tailored to the subject property.” A2050 (¶ 18); *see* A2061 (¶ 248); A2045 (Fig. 24). Sklarz specifically teaches using AVM algorithms to “predict[] sales prices:”

There are a number of techniques used in computerized valuation, also known as automatic valuation models (AVMs), for estimating property values, which is the same as predicting sales prices when done prospectively. Most AVM techniques use some form of multiple regression analysis, which [is] a statistical method to quantify the value of a home by determining quantitative factors for its attributes.

A2062 (¶ 250). Sklarz thus teaches that AVM is not one particular valuation technique; it is a generic term for a variety of techniques. *See id.* Sklarz further

teaches that his “appraisal engine” can be used by “prospective buyers, with the objective of identifying acceptable properties with lower predicted sales prices.” A2062 (¶ 256); A2062 (¶ 253) (touting his results as “significantly more accurate than comparable market analysis, and with existing AVMs, when predicted and closed sales prices are compared”).

In operation, Sklarz’s system generates estimates in response to user queries. A2061 (¶ 248); A2062 (¶ 253). Sklarz states that the system “software caches queries, and the response generated by a query, for a period of time (‘cache period’) selected by the operator of a VYH service,” which “accelerates the provision of responses.” A2058 (¶ 213).

2. Florance

U.S. Patent Application Publication No. 2004/0030616, filed by Andrew Florance, et al. (“Florance”), describes a “system and method for collection, distribution, and use of information in connection with commercial real estate.” A2065 (Title); *see* A2065-186. Florance presents property information to users using maps with icons. *See* A2168 (¶ 347); A2123 (Fig. 58). Florance teaches that “maps give the user the ability to view the overall region in which the property is located, as well as the ability to zoom in and out on the map of the property.” A2168 (¶ 347). Florance discloses that the system displays a “pop-up window

providing information on the associated property” when the user mouses over the property icon, with a link to more information. A2168 (¶ 348).

C. Examiner’s Rejections

1. 35 U.S.C. § 101

The Examiner rejected claims 133-151 and 155 in his Answer under 35 U.S.C. § 101, based on *Alice Corp.* The Examiner concluded that the claims failed under § 101 “because the claim(s) as a whole, considering all claim elements both individually and in combination, do not amount to significantly more than an abstract idea.” A138. The claims recite the abstract idea of “providing updated AVM values to customers, something that ... [is a] fundamental economic practice” that “has long been prevalent in our system of commerce such as in the real estate industry.” *Id.*

Turning to the second step in the § 101 inquiry, the Examiner concluded that the “claimed steps/functions individually ... are all routine and conventional.” A138-39. Steps such as generating or updating the AVM value are “simply the executing of a mathematical algorithm,” which are “routine and conventional in the computing arts” and can “be performed by any generic computing device.” A139 (“This is nothing but a mathematical calculation.”). So, too, the steps of distributing the values over a network. *See* A139-40. The Examiner concluded that the “claims do not result in any improvement to the

functioning of the computer itself, and do not effect an improvement in another technology or technical field.” A140. This included the dependent claims, reciting functions “that are routine and conventional in the computing arts.” A140-41.

2. 35 U.S.C. §§ 102 and/or 103

a) §§ 102 and/or 103 based on Sklarz: independent claims 133 and 145, and claim 142

AVM: The Examiner found that Sklarz “is directed at providing real estate information to users,” including “an AVM value for a specific property.” A146; *see* A143. The Examiner found that “Sklarz discloses the use of AVM in multiple areas,” including how a user requests AVM generation, how Sklarz generates his AVMs, and how those AVMs are used. A143; *see* A143-46 (citing A2049 (¶¶ 3, 7); A2050-51 (¶¶ 14, 15, 18); A2059-60 (¶ 223); A2061 (¶ 248); A2062 (¶ 250)); *see also* A507-11.

The Examiner found that these disclosures met the definition used by Villena for “AVM” from the Internal Association of Assessing Officers Standards Manual (“IAAO”):

Automated Valuation Model—An automated valuation model (AVM) is a mathematically based computer software program that produces an estimate of market value based on market analysis of location, market conditions, and real estate characteristics from information that was previously and separately collected. The distinguishing feature of an AVM is that it is a market appraisal produced through mathematical modeling. Credibility of an AVM is dependent on the data used and the skills of the modeler producing the AVM.

A142 (citing previous arguments by Villena); A148; A315. The Examiner found that Sklarz generate his values “in an automated manner using mathematically based computer software which produces an estimate of market value based on market analysis of previously collected information,” the “distinguishing feature of an AVM” per Villena’s definition. A147. The Examiner cited multiple teachings in Sklarz to support this finding. *See, e.g.*, A143-44 (quoting A2049 (¶ 7)); A144-45 (quoting A2050-51 (¶ 18)); A146 (quoting A2062 (¶ 250)). The Examiner observed that neither Villena’s claims nor his specification recites a specific AVM methodology. *See* A147-48 (citing A1989 (¶ 36)).

The Examiner rejected Villena’s argument that Sklarz’s “appraisal” was not an AVM because Sklarz used the term to mean an estimate generated by a human instead of a computer. The Examiner explained that Sklarz differentiates his “‘appraisal (predicted sales price)’ from a human appraisal when it is disclosed that the term ‘appraisal’ is not meant to be a formal appraisal prepared by a certified or licensed appraiser.” A143 (quoting A2049 (¶ 3)). The Examiner found that Sklarz repeatedly uses the term “appraisal” interchangeably with “valuation” and “predicted sales price,” all to mean a computed property value. A146; *See, e.g.*, A143-46 (citing A2049 (¶ 7); A2050 (¶¶ 14, 15); A2061-62 (¶¶ 248, 250)); A510-11.

The Examiner rejected Villena's related contention that any human involvement in value generation takes it outside the scope of an AVM. *See* A147-48. Noting that neither the claim language nor specification defined the recited AVM, the Examiner reiterated that Sklarz's valuation and the AVM definition urged by Villena carried the same characteristics. *See* A148 (mapping Sklarz to Villena definition). The Examiner also observed that it was difficult to see how human judgment could be completely removed from AVM generation as apparently urged by Villena. *See id.* (human judgment must be exercised in writing the code "defining and executing the AVM algorithm," such as what "comparables are selected.").

The Examiner rejected the Hixson Declaration opinion that Sklarz does not teach an AVM, reiterating the same findings and conclusions made in response to Villena's brief arguments. *See generally* A154-59.

Lastly, the Examiner rejected Villena's various arguments that Sklarz does not teach updating the AVM. *See* A162-66. The Examiner noted that the claims did not actually require the AVM to be updated. Rather, claim 133 "recites the mere ability to update AVM values." A162. The Examiner found that Sklarz anticipates the limitation, reasoning that Sklarz "ha[s] the ability" to update the stored AVM by running the algorithm a second time. A163. Similarly, Sklarz ¶¶

51 and 93 teach periodically updating the data stored in the VYH databases. *See* A512.

Alternatively, the Examiner found that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to store AVM values and periodically update the stored AVM values so that they would reflect current market conditions.” A513. The Examiner found that an artisan “would understand that as time goes on AVM values will become less accurate and are not reflective of current market conditions.” *Id.* The Examiner reasoned that Sklarz stores AVM values to provide users with the value; updating the value to assure accuracy would have been obvious. *See* A514.

The Examiner found unpersuasive Villena’s argument, and related Hixson Declaration opinion, that a person of ordinary skill would not update the AVM value without evidence that it would be profitable. *See* A165 (“[T]he examiner is not required to conduct market studies or prove the profitability of proposed modifications” under § 103); A164-67.

The Examiner found unpersuasive Villena’s argument that no data can be updated in Sklarz because long-term storage “is not possible.” A163. The Examiner explained that the claims do not temporally limit the AVM storage. A163. And the Examiner found that Sklarz “expressly disclose[s] that the choice of how long to keep the data is left to” the operator. A164 (quoting Sklarz ¶ 213).

The Examiner rejected the Hixson Declaration offering arguments of the same nature for the same reasons. *See* A163.

Database vs. cache storage: The Examiner found that Sklarz’s cache for storing AVM values teaches the claimed “database” limitation for the same purpose. *See* A149-52; *see also* A511. The Examiner explained that Sklarz’s cache stores data, just like Villena’s database. *See* A152. The Examiner found that “Sklarz discloses that queries can be made based on physical characteristics of the property.” A514 (discussing claim 142) (citing A2033 (Fig. 12)); *see* A175. The Examiner found that Sklarz’s cache stores both the user query and query results, which include an AVM, for future access. *See* A161-62 (citing A2058 (¶ 213)).

The Examiner found that Sklarz’s cache fell comfortably within Villena’s proffered definition of “database” as “a set of data” organized such that a computer “can easily find [it].” A151. The Examiner found that Sklarz’s cache meets that definition because it contains a collection of data that can be found by the computer. *Id.*

The Examiner disagreed with Villena’s position that Sklarz’s cache could not be the recited “database” because the cache cannot be searched or queried. *See* A150-52. The Examiner found that “the cache memory in Sklarz is being used to store data for future use, so that it can be retrieved by a computer”

A150. Thus, the Examiner found that “the ability to search for data in cache memory is necessarily present in Sklarz” if the data is to be retrieved at a later time. *Id.*

Lastly, the Examiner explained on multiple occasions that he had considered, but found unpersuasive, the various opinions offered in the Hixson Declaration regarding why Sklarz’s cache could not be the recited database. *See, e.g.,* A152-54; A160-61.¹

b) § 103 Sklarz and Florance: claims 134, 137, 139, 140, 143, 144, 146, 149, and 150

The Examiner rejected claims 134, 137, 139, 140, 144, 146, 149, and 150—all reciting limitations directed at using a map-like display of property information—based on the combination of Sklarz and Florance. *See* A515-17 (claims 134, 137, 139, 143, 144, 146, and 149); A519 (claims 140 and 150, which refers to rejection for claims 134 et al.). The Examiner found that Sklarz discloses storing geographic data for the relevant properties, and that these values are provided to the user in response to queries. *See* A515-16 (citing A2052-54 (¶¶ 48,

¹ The Examiner also considered and rejected Villena’s evidence of objective indicia of non-obviousness; the Board affirmed. *See* A175-83; A531-37; A48. Because Villena does not argue error in that consideration, or otherwise discuss the evidence, the Director does not discuss it here.

56, 69-60); A2033 (Fig. 12)). And while Sklarz “disclose[s] in a general sense” displaying results in a map, he does not expressly teach using icons. *See* A516-17.

The Examiner found that Florance discloses displaying real estate information in response to user queries using a map with icons and a pop-up window containing “information on the associated property.” A516 (citing A2168 (¶¶ 347, 348); A2123 (Fig. 58)). The Examiner found that “Florance teaches a very desirable manner” for displaying information using maps with icons, which includes “desirable feature[s]” like permitting a view of the overall property region and ability to zoom in and out on that region. *See* A516-17. The Examiner concluded that one of ordinary skill in the art would incorporate Florance’s user-friendly map display with icons into Sklarz’s real estate valuation system to realize those features. A517.

On appeal, the Examiner explained that Villena’s argument failed to address the rejection of record. *See* A167-69 (claims 134 and 143); A170 (claim 137); A174-75 (claims 139, 140, 144, 146, 149, and 150). The § 103 rejection stated that “[t]he maps and icons in Florance are being used in Sklarz to provide the results to the user.” A168. Villena’s argument was premised on modifying the color-coded maps in Sklarz with the icons from Florance, which was not the rejection. *Id.*

For claim 139, the Examiner rejected Villena's argument that there was no disclosure of a pop-up window with an AVM value. *See* A174. The Examiner reiterated that Florance teaches using pop-up windows with property information in its map display. *See id.* (citing A2168 (¶ 348)). Because Sklarz's AVM value is related to the property, that value would logically be "displayed in the pop-up window" of Florance in the rejection combination. A174. Equally unpersuasive was Villena's argument that the modification "does not make the invention user friendly" for the reasons already discussed. A174; *see, e.g.*, A516-17.

c) § 103 Sklarz and Florance: claims 135, 136, 147, and 148

The Examiner rejected claims 135, 136, 147, and 148 based on Sklarz and Florance. The Examiner explained that claim language requiring storage of "substantially" or a "majority" of all of the residential properties for a region or market did not patentably distinguish the invention. *See* A517. The Examiner explained that Sklarz stores data relating to real estate in a given area; quantifying the amount of properties and related data being stored does not avoid that teaching. *Id.*; A170. Alternatively, the Examiner found that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substantially all, or all properties in a given area (including those offered for sale) be stored in the database, so that Sklarz can offer the most complete and up

to date data on properties in a given area.” A518 (finding that artisan would “want a complete listing of as many properties as possible” to provide most data possible); A169-70; *see also* A175; A378.

d) § 103 Sklarz and Florance: claims 138, 141, and 151

The Examiner rejected claims 138, 141, and 151 under § 103 based on Sklarz and Florance. *See* A518-19 (claims 138 and 151); A514-15 (claim 141).

The Examiner observed that the feature added by these claims—sending data to a mobile phone—would have been obvious in light of Sklarz, who sent his data to a PC. *See* A514-15; A518-19. The Examiner found that “[t]he use of cell phones to receive data via a network is very old and well known in the art and simply replacing the PC of Sklarz with a mobile phone would have been obvious to one of ordinary skill in the art” because it just changes the type of device receiving the data. A518; *see* A515.

In his Answer, the Examiner rejected Villena’s position that technological limitations of cell phones in 2003 rendered the invention non-obvious. A170-74. The Examiner observed that Sklarz “can send the information to a computer”; it was not clear why the ordinarily-skilled artisan would not have considered displaying the information on a phone instead. A171. The Examiner reiterated that Villena’s specification is silent about cell phone structure or technology, but simply references using a generic cell phone. *Id.* at 171-72 (quoting A1985

(¶ 20)). Because Villena was simply claiming the “use of a well-known communication device that one could use to receive data,” recitation of using cell phones did not render the claims patentable. A173; *see* A174.²

e) § 103 Sklarz and Florance: claim 155

The Examiner rejected claim 155—which recites that the one or more computers are further configured to perform a differential value search (DVS) query—based on Sklarz and Florance. *See* A519-23; A206 (claim 155). The Examiner explained that the difference between the sale price and AVM value—the claimed “DVS”—is used by real estate investors to indicate a “good buy.” A519. The Examiner found that Sklarz teaches the same concept, “allow[ing] buy/sell signals to be generated, that indicate when properties might be a good buy.” *Id.*; *see* A522 (“Sklarz is trying to give buyers a signal to indicate when properties have lower predicted sales prices, which is what applicant is doing by taking the difference between the sale price and the AVM price (subtracting one number from another number).”). The Examiner cited various portions in Sklarz about “buy/sell signals” cumulatively teaching that “Sklarz is using buy sell

² While the Examiner did not identify claim 151 in his Answer discussion of the “cell phone” claims, a practical reading indicates that the same analysis applies to claim 151 since all three recite mobile phone limitations. *See also* A518 (non-final office action on appeal rejecting together claims 138 and 151).

signals to indicate to buyers that a given property might be a good buy due to a low predicted sales price.” A521; *see* A519-21 (quoting A2049 (¶ 8); A2061 (¶¶ 246, 247); A2062 (¶ 256)). The Examiner observed that “[w]hile this is not the exact same as taking a difference between the AVM and the offer for sale, it is recognition of the idea of having buy/sell signals for the buyer based on AVM values, which can be used to indicate a good buy to a buyer.” A521; *see* A522 (finding that “people use AVMs in the first place” to indicate property value, which can be used to figure out whether a sale price is too high or too low). Accordingly, the Examiner concluded that “[o]ne of ordinary skill in the art would have found it obvious to provide Sklarz with the ability to determine the difference between an AVM value and an offer for sale in an effort to be able to provide a prospective buyer with an indication of how the AVM value and offer price compare to each other.” A522 (providing examples); *see id.* (“The use of a mathematical difference to compare the AVM value and offer for sale is just using a well-known mathematical technique to compare two values.”).

In his Answer, the Examiner rejected Villena’s arguments that Sklarz ¶ 256 does not support the rejection, finding that it reflects the claim because it “specifically refers to the system being able to assist buyers in identifying ‘acceptable properties with lower predicted sales prices’”. A184. Further, the Examiner concluded that Villena had failed to address the “rejection of record

and the totality of the reasoning from the examiner,” which included “numerous teachings of Sklarz, as well as referring to the well-known concept of calculating a loan to value ratio.” *Id.*

D. Board Decision

The Board affirmed all rejections. *See* A35-53. The Board found that claim 133 was representative of the claimed system. A37; *see* A40.

The Board sustained the § 101 rejection, concluding that Villena’s claims do not recite patent-eligible subject matter “for the reasons set forth in the Answer,” adding additional points for emphasis. A40. At the first *Alice* step, the Board “agree[d] with the Examiner that the claims are directed to the abstract idea of providing AVMs, a fundamental real estate practice, which was known in the real estate practice at the time of the invention.” *Id.* Regarding the second *Alice* step, the Board agreed that the claims failed to recite “additional elements that transform the nature of the claims into a patent eligible application.” *Id.* The Board “also agree[d] with the Examiner” that the additionally-recited computer and network “are merely generic computing elements that perform generic known functions as claimed.” *Id.* (citing *Alice*, 134 S. Ct. at 2358). The Board rejected Villena’s position that the claims were patent eligible because of “decreased latency times, benefits for larger areas, and identification of prices below market value as compared to other real estate AVM systems,” concluding that the record

evidence did not demonstrate such advantages owed to “inventive concepts that are significantly more than what is achieved by implementing an abstract concept to operate faster and more efficiently on a computer and network.” A40.

On the prior-art rejections, the Board first addressed the rejection of claims 133 et al. over Sklarz under § 102(b) and/or § 103(a). The Board stated

Upon consideration of the evidence on this record in light of the arguments advanced by the Examiner and Appellants, we determine that Appellants have not identified reversible error in the Examiner’s determination that the disclosures of Sklarz serve to anticipate and render obvious representative claim 133 pursuant to 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a). We add the following for emphasis.

A45; *see* A48 (rejecting Declarations and secondary consideration evidence as unpersuasive of non-obviousness in light of prima facie showing).

The Board rejected Villena’s primary contention that Sklarz does not teach an “AVM.” *See* A40-43 (recounting Villena’s various challenges), A45-47.

Addressing the meaning of “AVM,” the Board viewed Villena’s attempt to narrow the IAAO definition to exclude any human involvement as “inaccurate” because it did not contain a “strict prohibition on any human interaction for AVM determination.” A46 (finding that definition contemplates human interaction in models); *see* A317 (§ 2.3.7); A41-42. Similarly, the Board found that the NMPM excerpt cited by Villena was “more limited and distinguishable in context than the Appellants suggest.” A46; *see* A41-42.

“Accepting” the IAAO definition advanced by Villena, the Board “agree[d] with the Examiner’s determination that Sklarz’s disclosures teach AVMs.” A46; *see* A43-44 (recounting Examiner’s position at A143-49 and citations therein).

The Board rejected Villena’s recasting of Sklarz’s valuations as traditional appraisals relying on human judgment. The Board “acknowledge[d] that Sklarz uses varying nomenclature, but a fair reading of the reference is that it promotes the use of its improved trending techniques to generate more accurate AVMs.”

A47. The Board found that “Sklarz clearly differentiates a formal appraisal prepared by a certified or licensed appraiser from the automated appraisal or valuation it teaches.” A46-47 (finding “‘engines’ only are used in the generation of the predicted sales price value”) (quoting A2050 (¶ 18)); *see id.* (finding Sklarz uses “mathematical modeling” to “produce [] an estimate of market value,” citing, *e.g.*, A2050 (¶¶ 14, 15, 18); A2061 (¶ 248)).

Regarding the recited “database” for storing the AVM, the Board found that “as it is disclosed in Sklarz, the cache can be queried and searched, and under a broadest reasonable interpretation as ‘a memory,’ we agree with the Examiner that the cache is the equivalent of a database as claimed.” A47. The Board also concurred with the Examiner that the “storage time for the cache can be set by the user for any time period” in Sklarz. A44 (citing A511-12, A152, and A164 for Examiner’s position).

The Board similarly “concur[red] with the Examiner’s finding that Sklarz discloses the use of a computer configured to allow the repeated updating of AVM values using residential property information that enable databases to reflect market changes of the AVMs,” affirming the § 102 rejection. A47-48 (citing A2052 (¶ 51); A2055 (¶ 93)); *see* A44 (citing, with approval, A512-13 containing § 102 explanation). Alternatively, the Board agreed with the Examiner’s position that it would have been obvious to modify Sklarz to provide for updating its AVM values. *See* A47-48 (citing with approval A513-14 containing § 103 rationale). In doing so, the Board rejected Villena’s argument that there would be no motivation to update Sklarz’s AVM absent some profitability evidence, agreeing with the Examiner that there was no legal requirement for such financial evidence. A44; *see* A48.

Next, the Board addressed the § 103 rejection based on Sklarz and Florance of claims each reciting (with varying language) a “map with icons/popup and AVM information.” A48; *see* A48-49. The Board specifically referred to claims 134, 137, and 139, but claims 140, 143, 144, 146, 149, and 150 were all rejected on the same rationale by the Examiner. *See* A515-17; A519; A167-69; A174-75. The Board agreed with the Examiner that Sklarz’s AVM value would have been combined with Florance’s real-estate map icons and information pop-up windows “so that the results of the query [in Sklarz] can be presented in a more user

friendly format to the user” for the reasons articulated by the Examiner. A49 (quoting A168).

Addressing claims 135, 136, 140, and 150,³ the Board rejected Villena’s contention that there was no support for the Examiner’s conclusion that it would have been obvious to include multiple properties in the database and map-like display resulting from the combination of Sklarz and Florance. *See* A49-50. The Board noted that Villena’s contention that Sklarz did not produce an AVM stored in a database had already been rejected. *See* A50. The Board agreed with the Examiner that the ordinarily-skilled artisan would have included those values for “substantially all, or all properties in a given area (including those offered for sale) be stored in the database.” A50 (quoting A518); *see* A518 (artisan would include multiple property AVMs in database because she would “want a complete listing of as many properties as possible in a given area”). Because the Board found Villena’s contentions unpersuasive, it “sustain[ed] the rejections.” A50.

The Board also affirmed that those claims distributing data to a mobile phone instead of a computer were not patentable. *See* A50-52. The Board cited the Examiner’s finding that “[t]he use of cell phones to receive data via a

³ While the Board did not expressly list claim 150, that claim was rejected on the same obviousness basis and Villena relied on his arguments for claim 140 in support of claim 150. *See* A379; A519; A174-75.

network is very old and well known in the art and simply replacing the PC of Sklarz with a mobile phone would have been obvious to one of ordinary skill in the art.” A50 (quoting A518). The Board rejected Villena’s counterargument, focusing on technological and logistical issues supposedly existing at the time of invention. *See* A50-51. The Board explained that Villena simply used already-available technology “in the form a generic cell phone.” A51 (quoting A173). And neither Villena’s specification nor his claims contained any structure or discussion of mobile phone technology. A51 (quoting A171-73). The Board concluded that “the issues that Appellants raise are beyond the scope of the claim,” and sustained the rejections. A51; *see* A51-52; A376; A379.

Lastly, the Board affirmed the rejection of claim 155, which recites performing a “differential value search (DVS)” —the difference between the AVM and sale price—for properties. *See* A52. Villena argued that Sklarz’s “buy/sell” signals were not the claimed DVS because they “are not directed to identifying individual homes, but to generally determining good times to enter or leave particular real estate markets.” A52 (quoting A207). The Board agreed with the Examiner’s response that ““one of ordinary skill in the art would have found it obvious to provide Sklarz with the ability to determine the difference between an AVM value and an offer for sale in an effort to be able to provide a prospective buyer with an indication of how the AVM value and offer price compare to each

other.’” *Id.* (quoting A522).⁴ The Board found that “Sklarz’s disclosure of an embodiment where ‘the appraisal engine also can be used for the benefit of identifying acceptable properties with lower predicted sales prices’” confirmed the Examiner’s findings. A52 (quoting A2062 (¶ 256)).

E. Board Rehearing Decision

The Board entertained Villena’s Request for Rehearing, but did not alter its Initial Decision. *See* A1-9. Villena raised eight separate issues; those relevant to this appeal are discussed.

The Board rejected Villena’s first and third issues, explaining that the Board had not imported the term “customer” into claim 133, which recites a “user,” or otherwise construed either term. A4-6. The Board explained that while the Examiner had used the terms “interchangeably in a few instances,” the Board had “considered the claims as written, with the term ‘users,’ ascribing no material difference” if the Examiner used the term “customer” instead. A5-6.

The Board did not reach Villena’s fourth issue—arguing that a “cache” cannot be a “database” because the Answer stated that a database is a “collection

⁴ The Board quoted text is on page 18, not page 49, of the Non-Final Office Action.

of related data,” which is abstract and unpatentable, but a cache is a physical thing—because it was not timely raised during initial briefing. A6.

The Board explained that it had already addressed Villena’s fifth issue. A6-7 (citing A44 and A47-48). The Board reiterated its initial findings, explaining that “[r]esponses to queries, including the estimated appraised value or predicted sales price (AVM), are stored in the cache by Sklarz’s disclosed system.” A6-7.

The Board did not reach Villena’s sixth issue regarding the § 102 rejection because those “specific arguments are raised here for the first time,” including that there was no evidence Sklarz’s cache contained “an AVM value for a ‘plurality of properties’” as recited in claim 133. A7.

In response to Villena’s eighth issue—alleging that the Board had improperly produced and relied on evidence at the hearing—the Board explained that its decision was based exclusively on the written record and “no other references were relied upon in rendering the panel’s decision.” A8 (citing 37 C.F.R. § 1.2).

III. SUMMARY OF THE ARGUMENT

Villena’s broad claims directed to a computer-implemented system for storing and displaying algorithmically-generated AVM values for real estate are not patentable. The Board correctly concluded that Villena’s claims fail § 101 under *Alice*. Claim 133 reflects the abstract idea of using AVM algorithms for

real estate, a fundamental practice. Contrary to Villena's argument, the law does not require evidence to support the "abstract idea" and the record demonstrates that AVMs were widely used in the industry in any event. The Board also correctly determined that the remaining limitations recite generic computer and network elements to simply implement the abstract idea. The Board correctly concluded that the record did not demonstrate that Villena's purported benefits were due to inventive concepts rather than generic computer implementation of an AVM algorithm.

Because all claims were rejected under § 101, Villena's challenges to the prior-art rejections need not be reached if the patent-eligibility rejection is affirmed. If the Court reaches the prior-art rejections, they should be affirmed because Villena fails to demonstrate error. Villena's primary contention on appeal—that Sklarz teaches human-generated, rather than computer-generated, estimates—was correctly rejected as inconsistent with Sklarz. Sklarz uses algorithms for estimating real estate values, meeting the definition of "AVM" argued by Villena. Villena's additional challenge that Sklarz's cache for storing AVMs does not meet the "database" recited in claim 133 for the same purpose should be rejected, first, because it has been waived and, second, because his challenge does not address the fundamental point of the rejection: Sklarz's cache stores AVM values just like the recited database.

Villena’s challenges to the dependent claims similarly fail. His position that basic limitations—such as providing data to mobile phones instead of computers, storing data for “substantially all” properties in a given area, and displaying property information on a map—are somehow beyond the ordinary skill in the art does not bear out. The record reflects that those limitations would have been obvious in light of Sklarz, Florance, and the Examiner’s common-sense articulation of modifications well within the ordinarily-skilled artisan’s grasp at the time of the invention.

IV. ARGUMENT

A. Standard of Review

Villena has the burden to show that the Board committed reversible error. *In re Watts*, 354 F.3d 1362, 1369 (Fed. Cir. 2004). Whether an invention recites patent-eligible subject matter under § 101 is a pure question of law reviewed *de novo*. *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362 (Fed. Cir. 2015). Whether an invention would have been obvious is a legal question based on underlying findings of fact. *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). What a reference teaches is a question of fact. *Para-Ordnance Mfg., Inc. v. SGS Importers Int’l, Inc.*, 73 F.3d 1085, 1088 (Fed. Cir. 1995). Regarding claim construction, this Court “review[s] underlying factual determinations concerning extrinsic evidence for substantial evidence and the ultimate

conclusion of the claim de novo.” *In re Cuozzo Speed Techs, LLC*, 793 F.3d 1268, 1279-80 (Fed. Cir. 2015), *cert. granted*, 84 U.S.L.W. 3218 (U.S. Jan. 15, 2016) (No. 15-446) (citations omitted).

The Court upholds fact findings made by the Board that are supported by substantial evidence, 5 U.S.C. § 706(2)(E), and reviews the Board’s legal conclusions *de novo*. *Gartside*, 203 F.3d at 1315-16. Substantial evidence is “such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.” *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938). Where “two different, inconsistent conclusions may reasonably be drawn from the evidence in record, an agency’s decision to favor one conclusion over the other is the epitome of a decision that must be sustained upon review for substantial evidence.” *In re Jolley*, 308 F.3d 1317, 1329 (Fed. Cir. 2002). Thus, this Court has said that it “will not find the Board’s decision unsupported by substantial evidence simply because the Board chose one conclusion over another plausible alternative.” *Id.* at 1320.

B. The Examiner and Board correctly concluded that Villena’s claims are directed to a patent-ineligible abstract idea

The first step in the two-step *Alice* framework asks whether the claims at issue are directed towards one of the three patent-ineligible concepts under § 101: laws of nature, natural phenomena, and abstract ideas. *See Alice Corp. Pty. Ltd. v.*

CLS Bank Int'l, 134 S. Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs.*, 132 S. Ct. 1289, 1296-97 (2012)); *BuySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1353 (Fed. Cir. 2014). If they are, the second step considers “the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (citation omitted). The Board here correctly agreed with the Examiner that Villena’s claims do not survive the § 101 inquiry.

1. The claims are directed to the abstract idea of providing AVMs

The Board correctly articulated the abstract idea reflected by Villena’s claims as “providing AVMs, a fundamental real estate practice, which was known in the real estate practice at the time of the invention.” A40; *see* A138-39.

Villena’s claims to using an AVM method to estimate real estate value does not meaningfully differ from the method and system claims to exchanging financial obligations using a third-party intermediary in *Alice Corp.*, or the method of hedging against financial risk in *Bilski v. Kappos*, both found to be abstract ideas directed towards “fundamental economic practice[s].” *Alice*, 134 S. Ct. at 2356-57.

Villena argues that the “Board cited no evidence to support” the conclusion that using AVM algorithms for real estate valuation reflects an abstract idea fundamental in the real estate industry. Br. at 23. No such evidence is needed; the § 101 rejection here is consistent with USPTO guidance and § 101 jurisprudence. In its July 2015 Update on Subject Matter Eligibility (“July 2015 Updated Guidelines”), the USPTO explained that “[f]or subject matter eligibility, the examiner’s burden is met by clearly articulating the reason(s) why the claimed invention is not eligible, for example by providing a reasoned rationale that identifies the judicial exception recited in the claim and why it is considered an exception” July 2015 Updated Guidelines at 6. The July 2015 Updated Guidelines explain that “[t]he courts consider the determination of whether a claim is eligible ... to be question of law.” *Id.* Accordingly, “courts do not rely on evidence that a claimed concept is a judicial exception, and in most cases resolve the ultimate legal conclusion on eligibility without making any factual findings.” *Id.* (footnotes citing cases omitted).

A long line of cases from the Supreme Court and this Court supports the USPTO’s examination practice that a § 101 inquiry can be undertaken without underlying factual findings. *See id.* at 6-7 (discussing cases). This Court recently confirmed that, while a § 101 inquiry might involve underlying factual issues, “it is also possible, as numerous cases have recognized, that a § 101 analysis may

sometimes be undertaken without resolving fact issues.” *Mortgage Grader, Inc. v. First Choice Loan Servs. Inc.*, No. 2015-1415, 2016 WL 362415, at *8 (Fed. Cir. Jan. 20, 2016).

Here, likewise, the Examiner and the Board were not required to proffer extrinsic evidence to support an otherwise sound *Alice* analysis based on the intrinsic record just because Villena demands it. Villena fails to identify § 101 precedent to the contrary. The Court in *Alice* did not “provide[] [evidence] to support the notion that [intermediate settlements were] both long-known and sufficiently fundamental.” Br. at 24. The Court is an appellate body whose review is limited to the record below, and the Federal Circuit’s *en banc* judgment affirmed by the Court did not cite to evidence for the conclusion that the claims were directed to an abstract idea. *See Alice*, 134 S. Ct. at 2356. The two textbooks and one scholarly article (only one of which was prior art) were offered by the Court only as examples of the conclusion (*i.e.*, “[t]he use of a third-party intermediary (or ‘clearing house’) is also a building block of the modern economy”). *Id.* This Court has affirmed lower tribunal holdings on the first *Alice* step without citing documentary “evidence.” *See, e.g., Intellectual Ventures I LLC v. Capital One Bank*, 792 F.3d 1363, 1369-70 (Fed. Cir. 2015); *OIP Techs.*, 788 F.3d at 1359. The only other case discussed by Villena—*K/S HIMPP v. Hear-Wear Techs., LLC*, 751 F.3d 1362 (Fed. Cir. 2014)—involved a § 103 rejection,

making it inapposite here. *See* Br. at 24. Unlike obviousness, the § 101 inquiry has not been held to be a question of law based on underlying factual questions.

And accepting Villena's invitation to import § 103 requirements into the purely legal § 101 question would not fare well for Villena. Both the Examiner and Board found that AVMs were well-known for real estate purposes in the context of the prior art rejections (discussed, *infra*). Villena's specification admits that AVMs have "been used to determine the market value of real estate for nearly a decade." A1983 (¶ 15). Not surprisingly, then, Villena's specification and claims lack any details about AVMs, other than to indicate the artisan can employ known technology. *See* A1989 (¶ 36); A147. Other portions of the record confirm the fundamental nature of AVMs to the real estate industry. *See, e.g.*, A320 (stating that "[a]mong the smorgasbord of evaluation techniques available," AVMs are one of the three arguably most widely discussed and used). In short, there is ample "evidence" that AVMs are a "fundamental real estate practice."

Villena makes an additional argument, although it is unclear whether he actually argues error. *See* Br. at 19-20. Villena asserts that the Board and Examiner read the term "customer" into the claims, making the additional leap that "imputing the word 'customer' falsely implies there is some form of financial transaction required by the claims," which he argues impacted the § 101 analysis.

Br. at 20. But Villena states that he accepts such a construction “for the purpose” of his remaining arguments. *Id.*

At bottom, Villena’s premise is incorrect. The USPTO did not read “customer” into Villena’s claims, nor misread “user”—which is recited in the claims—to reflect a financial element. The abstract idea articulated by the Board does not turn on whether Villena’s claims involve “users” or “customers”; neither term is mentioned. *See* A40. Nor did the Examiner read “customer,” and any associated “financial” element, into the claim, as the Board explained. *See* A5-6. Villena’s refusal to accept the Board’s explanation does not alter the decision or demonstrate error.

2. The claims do not recite “significantly more” than the abstract idea of providing AVMS

The Board explained that Villena’s claims failed the second *Alice* step, considering whether the additional claim elements, “both individually and ‘as an ordered combination’,” transformed the abstract idea “into a ‘patent-eligible application’.” *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 132 S. Ct. at 1298, 1297); *see id.* (the inquiry seeks “‘to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself’”) (quoting *Mayo*, 132 S. Ct. at 1294). The Board agreed with the Examiner that the additional claim elements “requir[ing] a computer and network” are “merely

generic computing elements that perform generic known functions as claimed,” insufficient to render the abstract idea patent-eligible. A40 (citing *Alice*, 134 S. Ct. at 2358); *see* A139-40.

Villena argues that the “PTO uses an erroneous legal standard in their *Alice/Mayo* § 101 rejections.” Br. at 22. The Board and Examiner faithfully executed *Alice*’s instruction to determine whether the additional claim elements result in claiming “something ‘significantly more than’ the ineligible matter itself.” *BuySAFE*, 765 F.3d at 1353 (quoting *Alice*, 134 S. Ct. at 2355, 2357). The other limitations in claim 133 are a generic computer, database, and network to store and distribute the executed AVM algorithm value. *See* A201 (claim 133). The USPTO’s conclusion that reciting these generic computer elements to implement the abstract idea fails to render Villena’s claims patent-eligible fully comports with precedent. *See Alice*, 134 S. Ct. at 2358 (“These cases demonstrate that the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.”) (citations omitted); *BuySAFE*, 765 F.3d at 1355 (“The claims’ invocation of computers adds no inventive concept. The computer functionality is generic That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive.”).

Villena reads too much into the Examiner’s findings here. Br. at 21-22 (quoting A139). Far from “miss[ing] the point” (Br. at 21), the Examiner’s observation that the additional claim elements—using computers to “perform[] math operations and provid[e] data”—are a “routine and conventional” use of computers that “do not provide meaningful limitation(s) to transform the abstract idea into a patent eligible application of the abstract idea such that the claim(s) amounts to significantly more than the abstract idea itself” is accurate and wholly consistent with § 101 precedent. A139; *see, e.g., OIP Techs.*, 788 F.3d at 1363 (“Beyond the abstract idea of offer-based price optimization, the claims merely recite ‘well-understood, routine conventional activit[ies],’ either by requiring conventional computer activities or routine data-gathering steps.”) (quoting *Alice*, 134 S. Ct. at 2359, which quotes *Mayo*, 132 S. Ct. at 1294)). The Examiner did not say that any computer-implemented abstract idea will always fail to elevate the abstract idea into patent-eligible subject matter, as Villena suggests. Br. at 22.

Villena’s argument that the § 101 rejection should be reversed because there is no evidence his claims monopolize the abstract idea of providing AVM values is irrelevant. *See* Br. at 25-28. This Court has made clear that the fact “that the claims do not preempt all” uses of the abstract idea “do not make them any less abstract.” *OIP Techs.*, 788 F.3d at 1362-63. Villena’s attempt to analogize claim 133 to the patent-eligible claims in *Diamond v. Diehr*, 450 U.S. 175 (1981)

because it requires updating the AVM value is unavailing. *See* Br. at 27-28. As the Court explained in *Alice*, the claim in *Diehr* inventively applied the “well-known” mathematical equation through other recited steps to a process for curing rubber, including constantly measuring the temperature inside the rubber mold and feeding those values into the computer, which then used the equation to “repeatedly recalculate[] the remaining cure time.” *Alice*, 134 S. Ct. at 2358; *see Diehr*, 450 U.S. at 178 and n.3. As the Court in *Alice* put it, “the claims in *Diehr* were patent eligible because they improved an existing technological process, not because they were implemented on a computer.” *Alice*, 134 S. Ct. at 2358.

By contrast, claim 133 does not “improve[] an existing technological process.” *Id.* It simply uses generic computer elements to perform the abstract idea, which does not result in patent-eligible subject matter. *See id.* at 2359-60. Contrary to Villena’s arguments (Br. at 28-31), the Board correctly rejected Villena’s assertion that certain “benefits” are due to inventive concepts that make his claims patent eligible. A39; *see* A39-40; A139-40. The Board concluded that the “record does not demonstrate” that Villena’s alleged “improvements” are “due to inventive concepts that are significantly more than what is achieved by implementing an abstract concept to operate faster and more efficiently on a

computer and network.” A40.⁵ In other words, the additional limitations in Villena’s claims do not “purport to improve the functioning of the computer itself” or “effect an improvement in any other technology or technical field” (as in *Diehr*, for example). *Alice*, 134 S. Ct. at 2359-60; *see also Parker v. Flook*, 437 U.S. 584, 590 (1978) (holding that “post solution activity” did not render claim directed to mathematical formula for updating alarm limits patent eligible). Rather, benefits such as decreasing the time to present AVMs, or subtracting the AVM from the offer price (the “DVS” recited in claim 155), result from implementing algorithms on a generic computer, which is “not ‘enough’ to transform an abstract idea into a patent-eligible invention.” *Alice* 134 S. Ct. at 2360 (quoting *Mayo*, 132 S. Ct. at 1297); *id.* (noting that claims merely recite known computer hardware capable of “performing the basic calculation, storage, and transmission functions” claimed); *Intellectual Ventures*, 792 F.3d at 1370 (“[M]erely adding computer functionality to increase the speed or efficiency of the process does not confer patent eligibility on an otherwise abstract idea”).

⁵ Villena’s reliance on MPEP § 2107(II) is misplaced. *See* Br. at 30-31. The Board did not reject Villena’s asserted “benefits” because they were unproven; the Board concluded that the record failed to demonstrate that those improvements were the result of anything other than using a generic computer to implement the algorithm. *See* A40. And MPEP § 2107(II) covers utility rejections. *See* MPEP § 2107.01. There is no such rejection here; the issue here under § 101 is subject-matter eligibility.

Lastly, Villena complains that the Board should have given more analysis (Br. at 29), but the explanation here is wholly sufficient to understand and review the § 101 rejection. In sum, the claimed computer-implemented system for estimating real estate values is not eligible for patent protection.

C. Claims 133, 142, and 145 are unpatentable under either § 102 or § 103 based on Sklarz

The Court need not reach Villena’s challenges to the prior-art rejections under §§ 102 and/or 103 if it affirms the § 101 rejection covering all claims. If reached, Villena fails to demonstrate error in the prior-art rejections.

1. “AVMs” were well known in the art, as evidenced by Sklarz

Substantial evidence supports the finding that Sklarz teaches the “AVM” recited in Villena’s claims. Both the Board and Examiner cited multiple disclosures to support the finding that Sklarz’s “predicted sales price” teaches the claimed “AVM,” even under Villena’s proffered definition. *See, e.g.*, A47 (citing A2050 (¶¶ 14, 15, 18); A2061 (¶ 248)); A143-46 (citing A2049 (¶¶ 3, 7); A2050 (¶¶ 14, 15, 18); A2059-62 (¶¶ 223, 248, 250)); A43-44 (Board recounting Examiner’s findings). Similarly, the record contains findings and supporting citations that Sklarz’s “predicted sales price” is the product of computer algorithms, not human calculation. *See, e.g.*, A46-47 (“Sklarz clearly differentiates a formal appraisal prepared by a certified or licensed appraiser from

the automated appraisal or valuation it teaches,” citing A2050 (¶ 18)); A47 (citing A2050 (¶¶ 14, 15, 18); A2061 (¶ 248)); A143 (citing A2049 (¶ 3)); A144-45 (citing A2050 (¶ 18) and A2059-62 (¶¶ 223, 248, 250) for the proposition that Sklarz generates his values using computer algorithm).

Against this backdrop, Villena’s continued insistence that Sklarz does not teach an AVM fails. Sklarz is arguably not even needed. Villena’s specification expressly states that “Automated Valuation Methodology (AVM) is a computer-based technology that has been used to determine the market value of real estate for nearly a decade.” A1983 (¶ 15)) (emphasis added); *see* Br. at 3.

In any event, Villena’s argument cannot be squared with Sklarz, a fact that Villena seemingly recognized at the outset of this examination. *See* A1877 (arguing in his May 3, 2006 “Petition to Make Special Under 37 C.F.R. § 1.102(d)” that Sklarz “use[s] AVM-related tools to produce a single AVM value” and attempting to distinguish on other grounds) (emphasis added); A1874-79. Villena asserts that “the Board failed to consider the Sklarz reference as a whole in their interpretation of paragraph [0253].” Br. at 42; *see id.* at 42-44. The opposite is true, as the Board made clear. Referencing ¶ 253, the Board “acknowledge[d] that Sklarz uses varying nomenclature, but a fair reading of the reference is that it promotes the use of its improved trending techniques to generate more accurate AVMs,” citing other portions of Sklarz in finding that

“Sklarz’s predicted sales price value as disclosed is an AVM.” A47 (emphasis added) (citing A2050 (¶¶ 14, 15, 18); A2061 (¶ 248)). Villena asserts that “[Sklarz] paragraphs [00250] et seq. discuss AVMs as a distinctly different approach to estimating properties [compared to] Sklarz’s trend engine,” (Br. at 43; *see* Br. at 41), but does not explain how those paragraphs supports his reading. Villena’s assertion runs contrary to the reading of the same material by the Examiner, who cited ¶ 250 (among other disclosures) to support his finding that Sklarz taught an “AVM.”⁶ *See* A146 (quoting A2062 (¶ 250)); A44 (citing Examiner findings); A48. Villena’s disagreement with the reasonable reading that the Examiner and Board gave Sklarz is insufficient to demonstrate error under the substantial evidence standard. *See Jolley*, 308 F.3d at 1329.

Villena’s contention that the Board improperly construed “AVM” in making this finding is puzzling. Villena’s argument presumes that the USPTO interpreted AVM in a way different from Villena’s proffered definition. *See, e.g.*, Br. at 52. But the Board “[a]ccepted the [IAAO] definition” relied upon by Villena to define “AVM,” finding it met fully by Sklarz. A46. So it is difficult to see how there is even a construction issue here.

⁶ It also runs contrary to Villena’s own Petition to Make Special, which cited ¶¶ 250-253 to support his statement that Sklarz “use[s] AVM-related tools to produce a single AVM value.” A1877.

Villena's inference that the Board "assume[d] that a human could possibly be incorporated into a machine as a replacement for an algorithm" (Br. at 52) does not bear out. The Board found that "Sklarz clearly differentiates" a formal human appraisal from the "automated appraisal or valuation" generated by his "engines." A46-47; A2050 (¶ 18) ("'Engine' means a software or firmware module ... responsible for a given type of data processing."). Nothing about that finding contemplates human computation.

Most puzzling here is that Villena abandons the IAAO definition he urged below; it is not discussed in his claim construction argument. Instead, Villena now maintains that the proper construction of "AVM" derives solely from his specification, which he argues categorically excludes "direct human judgment." *See* Br. at 51-52. Perhaps Villena walks away now from his IAAO definition because the Board rejected Villena's attempt to limit the definition of "AVM" in the manner Villena seeks. The Board found that narrowing the definition was "inaccurate" because it lacked a "strict prohibition on any human interaction for AVM." A46 (noting that the IAAO definition contemplates "human interaction" for certain activity). Similarly, the Board rejected Villena's reliance on the

NMPM article as strictly prohibiting human judgment. *See* A8; A46.⁷ Villena does not challenge these findings.

Nothing about Villena's specification⁸ requires toppling, as a matter of law, the Board's reasonable reading of the extrinsic definition provided by Villena and used by the Board to define "AVM." *See* Br. at 51-52. As Villena acknowledges, "the term 'AVM' is not expressly defined in the present specification" (Br. at 51), which is similarly silent regarding what "AVM" technique to use. *See* A46; A147. Villena attempts to infer his limitation from his embodiments (Br. at 51-52), but it is improper to limit the scope of claims to described embodiments absent "clear disclaimer" not found here. *See, e.g., In re Am. Acad. of Sci. Tech Center*, 367 F.3d 1359, 1369 (Fed. Cir. 2004) (cautioning "against reading limitations into a claim from the preferred embodiment described in the specification, even if it is the only embodiment described, absent clear disclaimer in the specification"). Ultimately, there is nothing in the specification that is not captured by Villena's extrinsic definition: both reflect that the value should be

⁷ Thus, the record does not reflect Villena's contention (Br. at 41) that the NMPM article was not considered below. *See also* A41; A142.

⁸ Villena did not rely on his specification before the Board regarding the meaning of "AVM." *See* A353-55.

computed using algorithms, not humans. Sklarz does that. Claim 133 is not patentable.

2. Reciting the ability to update an AVM does not impart patentability

In rejecting claim 133, the Examiner explained that Sklarz anticipates because he possesses the claimed ability to update the stored AVM values. *See* A512-A513. The Board affirmed that particular finding (*see* A44, A47-48) and the § 102 rejection. *See* A45 (no reversible error identified in § 102 rejections); A48 (“Based on the Examiner’s findings, we sustain the anticipation rejection of representative claim 133.”). Alternatively, the Examiner found that if Sklarz does not teach this limitation, “it would have been obvious to one of ordinary skill in the art at the time the invention was made to store AVM values and periodically update the stored AVM values so that they would reflect current market conditions.” A513; *see* A513-14; A164-65. The Board affirmed the Examiner on this score. *See* A44; A48.

On appeal, Villena does not contest that Sklarz discloses this limitation, as reflected in the § 102 rejection affirmed by the Board. Thus, there is no need to reach Villena’s challenges to the motivational findings relevant only to the alternative § 103 rejection. But, if reached, Villena fails to demonstrate error.

Villena contends that the Examiner's motivation rationale fails absent a "plausible business reason to justify the time and expense" of doing so. Br. at 45. The Board and Examiner both rejected Villena's position, and related Hixson Declaration, as legally unsupported. *See* A44; A48; A165.⁹ Villena's Blue Brief does not cite to any precedent supporting such a requirement, and no reason exists to impose one. The reason-to-combine inquiry asks only if the skilled artisan would have a reason to make the contemplated modification, not if an artisan would actually make the modification in a real-world application. *See, e.g., Dystar Textilfarben GmbH & Co. v. C.H. Patrick Co.*, 464 F.3d 1356, 1368 (Fed. Cir. 2006) (motivation inquiry asks "whether the ordinary artisan possesses knowledge and skills rendering him capable of combining the prior art references"). *KSR* and other precedent make clear that articulated rationale "can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741

⁹ Villena's contention, then, that the Examiner and Board ignored the Hixson Declaration (*see, e.g.*, Br. at 41) is not consistent with the record. *See* A44 (Board citing "Hixson Decl. 6-8" after articulating Villena's position on motivation); A165 (Examiner rejecting Hixson Decl. opinion on motivation issue); *see also* A42 (Board summarizing Hixson Decl. position on Sklarz and AVMS); A152-54, A161-64 & A166-67 (Answer addressing Hixson Decl. on various other issues, which includes quotations from where the Examiner addressed that evidence in his June 12, 2014 Non-Final Office Action during examination).

(2007); *id.* at 1742 (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”); *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329-30 (Fed. Cir. 2009) (“*KSR* expanded the sources of information for a properly flexible obviousness inquiry to include market forces; design incentives; ... and the background knowledge, creativity, and common sense of the person of ordinary skill.”); *Dystar*, 464 F.3d at 1368 (implicit motivation exists when combination results in “product or process that is more desirable, for example because it is ... more efficient”).

Far from “some unknown ‘just because’ rationale” (Br. at 45), the Examiner articulated the common-sense proposition that as market conditions change, the already-stored AVM values based upon them become less accurate; updating the AVM would make sense to the artisan to ensure that the user receives the most accurate information. Neither Villena nor his expert challenges the basic premise that accurate AVM values would be desirable, as the Examiner found in rejecting Hixson’s Declaration on the motivation issue. *See* A165 (“No evidence is of record that indicates doing so would not be obvious, or would not be possible or something like that.”); *see* A233-35 (Hixson Decl.).

Equally unavailing is Villena’s suggestion that making the modification “would completely change Sklarz’ business model.” Br. at 45. Sklarz teaches generating and storing AVM values; the modification would update those values

for the reasons identified by the Examiner. That is hardly “a change in the basic principles” under which Sklarz operates. *See* Br. at 46 (quoting *In re Ratti*, 270 F.2d 810, 813 (C.C.P.A. 1959)).¹⁰

Lastly, as the preceding discussion makes apparent, the Board did not ignore Villena’s motivation challenge. *See* Br. at 46-48. On appeal, the Board reviews the rejection in light of the arguments advanced by the Appellant. *See In re Jung*, 637 F.3d 1356, 1365-66 (Fed. Cir. 2011). Here, the Board summarized the relative positions of the parties. *See* A44 (citing Appeal Br. and A233-35 (Hixson Decl.) for Villena’s contentions). It is difficult to see how the Board’s articulation of Villena’s position ignores the arguments Villena says went unaddressed. *See* Br. at 47. While Villena faults the Board for “repeatedly refer[ing] to the Examiner’s conclusions, rather than to actual evidence,” (Br. at 46), the Examiner’s findings and conclusions drawn therefrom are what is reviewed on appeal to the Board. Ultimately, the Board considered the Examiner’s position more compelling than Villena’s, and stated as much. A44;

¹⁰ *Ratti* involved complex apparatus claims to oil seals for “sealing the space between a bore in a housing and a relatively movable shaft centrally located in the bore,” used in machinery such as aircraft engines, and related technical prior art. *See* 270 F.3d at 810-12. Suffice it to say, the technical complexity and intricacy in *Ratti* cannot be found here in Villena’s broad, generic computer-implemented system claims, making it inapposite.

see A45; 48. There is no requirement that the Board articulate every nuance or variation on Villena's appeal arguments, and then robotically state that it rejects them, to demonstrate that it gave full consideration to Villena's arguments.

3. The record demonstrates that Sklarz stores AVM values

Villena argues that “[t]he Examiner falsely asserted that Sklarz’ cache at some point contains an AVM value,” requiring reversal of the §§ 102 and 103 rejections. *See* Br. at 55-58. Villena is incorrect. The Board affirmed the Examiner’s finding that “the cache disclosed in Sklarz can be queried and searched, noting that not only are the queries themselves stored, but also the responses (AVMs and associated property addresses) are stored, where the storage time for the cache can be set by the user for any time period.” A44; *see* A47-48. The Board reiterated on rehearing that “[r]esponses to queries, including the estimated appraised value or predicted sales price (AVM), are stored in the cache by Sklarz’s disclosed system.” *See* A6-7 (citing A2058 (¶ 213)).¹¹

Substantial evidence supports this finding. The Examiner cited Sklarz ¶ 213, and Figs. 12 and 16. *See* A511-12; *see also* A164. Those portions of Sklarz confirm that the cache stores queries and responses thereto for as long as the

¹¹ While the Rehearing Decision cited “¶ 214,” it seems clear from the quoted language in the parenthetical that the Board intended to cite ¶ 213.

operator of the AVM system desires. *See* A2058 (¶ 213). They also confirm that the results of the query includes the “estimated price” for the property. *See* A2037 (Fig. 16). Additional portions of Sklarz confirm the finding. For example, Sklarz expressly states that the purpose of his system is to generate various pieces of information (“information outputs”) about real estate properties, including AVMs (“sales price prediction, also known as a valuation, for subject property”). A2050 (¶¶ 14-15). Sklarz goes on to teach that “[t]he output information is generated by the invention in response to queries formulated by users.” A2050 (¶16) (emphasis added). When Sklarz teaches that he stores queries and responses thereto, there is little doubt that it includes AVMs.

By contrast, the reading that Villena gives Sklarz on appeal is strained. Villena asserts that, per Sklarz ¶ 223, “[lists of] [c]omparable properties are the resultant outputs to queries, not end valuations”—intimating that the cache stores a list of comparable properties along with the related query. Br. at 57. But that does not square with ¶ 223 itself, which makes clear that the purpose of the multi-step query is to generate a “comparable market analysis,” which includes properties and their “estimated price.” *See* A2037 (Fig. 16); A2033-35 (Figs. 12-14). Indeed, Fig. 16—which illustrates the information stored about a property selected for a “comparable market analysis” (A2060 (¶ 228))—contains an AVM value, meaning that Sklarz seemingly meets the claim limitation under even

Villena’s reading. And the reading that Villena gives Sklarz cannot be squared with Sklarz’s purpose of algorithmically generating various “decisional tools”—including an “estimated sales price”—to assist users in valuing real estate properties. *See* A2021 (Abstract). Given that Sklarz teaches that the purpose of his cache is to quickly respond to repetitive user queries (A2058 (¶ 213)), it makes little sense that Sklarz would store another user’s list of comparable properties—which are then used to generate results—rather than the results themselves. The more logical reading is that of the Examiner and Board—that Sklarz’s cache stores the end results of a user’s query for real estate value information, including an AVM. *See Jolley*, 308 F.3d at 1329.

Villena also appears to challenge whether the USPTO demonstrated that Sklarz stores a “plurality” of AVMs per claim 133. *See* Br. at 33-34. This argument has been waived. The Board explained in its Rehearing Decision that the “specific argument[] [was] raised here for the first time” and, thus, waived. A7. Villena asserts here that he raised this argument about claim 133 in his initial brief, citing A372. *See* Br. at 34. But A372 argues error in the rejection of claim 135, not claim 133, even if it references claim 133. And Villena did not cite to this, or any other page, in his Request for Rehearing to demonstrate that the issue had been raised but missed. *See* 37 C.F.R. § 41.52(a)(1) (“The request for rehearing must state with particularity the points believed to have been

misapprehended or overlooked by the Board”; new arguments are generally “not permitted”); A12. The Board does not hunt through briefing to determine whether an issue raised on rehearing previously had been raised. If the Board did, it seems unlikely that it would have reviewed arguments about claim 135 for arguments about claim 133. The Board’s reasonable application of its own regulation here should be respected on appeal by declining to reach Villena’s argument. *See In re Lovin*, 652 F.3d 1349, 1356-57 (Fed. Cir. 2011); *Watts*, 354 F.3d at 1367-68.

And there is nothing to the argument if reached. The Examiner repeatedly discusses Sklarz’s storage of AVMs in the plural. *See, e.g.*, A513 (“In the alternative, if one were to assume that Sklarz did not disclose the updating of the AVM values and this was not anticipatory, it would have been obvious to one of ordinary skill in the art at the time the invention was made to store AVM values and periodically update the stored AVM values so that they would reflect current market conditions.”) (emphasis added); A514. Indeed, it seems unlikely that Sklarz’s cache would store only one query and related AVM, the unavoidable result of Villena’s argument.

4. Substantial evidence supports the finding that Sklarz’s “cache” teaches the recited “database”

The Board agreed with the Examiner that Sklarz’s cache for storing query results that include AVMs satisfies the claimed “database” for storing AVMs in

claim 133. *See* A44; A47; A149-54; A160-61. The Examiner found that Sklarz teaches storing information in his cache for later use, making the ability to search the cache to locate that data “necessarily present.” *See* A150. The Board concurred, finding that “as it is disclosed in Sklarz, the cache can be queried and searched, and under a broadest reasonable interpretation as ‘a memory,’ we agree with the Examiner that the cache is the equivalent of a database as claimed.” A47.

Villena argues on appeal that the Examiner said a “database” is “a collection of data” (citing A151), and “[a] mere collection of data is an abstract that is per se unpatentable.” Br. at 54 (citing *Digitech Image Techs., LLC v. Electronics for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014)). By contrast, argues Villena, a “cache” is a form of memory. Br. at 54-55. Villena asserts that “the PTO has concluded a database (an abstract construct per se ineligible under § 101) is a type of memory/apparatus, which is subject matter eligible under § 101,” an “absurd” conclusion. Br. at 55.

Villena has waived this argument. When Villena raised it on rehearing, the Board explained that it had not been raised previously and, thus, the panel was “not placed in a position to consider this in the Decision.” A6. Villena suggests that he raised this argument when he argued that a database exists at code level and a cache exists at the machine level. *See* Br. at 31-32 (citing A357); *see* A358. Villena once again failed to direct the Board to this argument to demonstrate that

he had previously raised it. *See* A30-31; 37 C.F.R. § 41.52(a)(1). And it is not clear what the cited argument has to do with the rehearing argument about *Digitech* and patent-eligible constructions.¹² It should not be reached for the first time on appeal.

If the Court entertains the issue, it should be rejected. The “device profile” claims in *Digitech* did not recite a database or cache. And *Digitech* did not categorically pronounce that anything described as a “collection of data” was “an abstract construct *per se* ineligible under § 101.” Br. at 54. The “device profile” claims in *Digitech* failed § 101 because they recited only the data characteristics of those profiles and thus did not claim a “process, machine, manufacture, or composition of matter,” *i.e.*, the statutory categories of eligible subject matter. 758 F.3d at 1348-49. That is different than the § 101/abstract idea problem that Villena’s claims suffer from. Turning to Villena’s facts, Villena never challenged the definition used for “database” below, instead arguing it was “consistent with Applicants’ proffered definition.” A358 n.5; *see* A150-51. And Villena’s construction argument here fails to grapple with the point of the Examiner’s passing observation that, consistent with Villena’s definition, the recited

¹² The Examiner explained that the relevance of the code/machine level argument is not clear. *See* A150.

“database, in a broad sense, is nothing more than a collection of data” (A151): Sklarz’s cache fills the same role in his system. *See, e.g.*, A152; A47. Villena attempts to avoid that fact based on his specification and potato/bear analogies (Br. at 53-54), but claim 133 simply recites a computer-searchable database storing property addresses and AVMs. Substantial evidence supports the finding that Sklarz teaches that limitation, as discussed above, and it should be affirmed.

D. The combination of Sklarz and Florance renders obvious Villena’s claims to displaying results on a map

The distinguishing feature of dependent claims 134, 143, and 146¹³ is that each recites displaying property information to a user in a “map-like display” or the like using “icons.” *See* A201-02 (claim 134); A203 (claim 143); A205 (claim 146). The Examiner found that while Sklarz teaches presenting property information to users, he does not expressly teach displaying them on a map with icons. *See* A516; A517. The Examiner found that Florance teaches “desirable features” obtained with his map display, such as the ability to view the overall property region, which would have motivated the ordinarily-skilled artisan to use

¹³ Claims 137, 139, 140, 144, 149, and 150 also recite similar limitations, but Villena does not argue about them in his Blue Brief. They presumably stand or fall with claims 134, 143, and 146.

them with Sklarz's system for generating and displaying AVMs. A167-69; A516-17. The Board affirmed these findings. *See* A48-49.

Villena argues that the Examiner "provides no valid reason to incorporate icons into Sklarz's color-coded maps." Br. at 59. That is not the § 103 rejection: "The maps of Sklarz are not being modified by adding just the icons from Florance, which appears to be what appellant is arguing. The maps and icons in Florance are being used in Sklarz to provide the results to the user." A168.

Villena's quibble with the Examiner's reasoning that Florance's map-like display with icons is "more user friendly" proves unpersuasive. *See* Br. at 59-60. The benefits touted by the Examiner in presenting results in a map with icons come directly from Florance. *See* A2168 (¶ 347); *see* A167-68 and A516-17 (citing A2168 (¶ 347)); A49. And they are eminently based in common sense.

Villena argues that the Board "could not be bothered to address" Hixson's opinion that the motivation rationale fails absent a financial incentive. *See* Br. at 60-61 (citing A234-35). But the Board had already rejected Hixson's position; it did not need to repeat itself. *See* A44 (citing A233-35); A45; A48. The Board correctly rejected that position, for all the reasons discussed above. *See, supra*, Section IV.C.2.

E. Simply reciting storing an amount of property entries fails to impart patentability

The Examiner rejected claims 135, 136, 147, and 148 under § 103, finding the added language—requiring storage of entries for “substantially all of the residential properties,” or a “majority of all” properties for a region or market—would have been obvious based on Sklarz and Florance.¹⁴ *See* A517-18; A169-70. Villena’s argument that “the Examiner never asserted that the limitations were taught or suggested by any reference” (Br. at 62) ignores the rejection. The Examiner found that Sklarz already teaches storing data for properties in a given area. *See* A170; A517. The Examiner reasoned that it would have been obvious to modify Sklarz to store entries for “substantially all” or the “majority of” properties in a region based on the common-sense proposition that providing “the most complete and up to date data on properties in a given area” and having “as much data as possible” would be desirable. *See, e.g.*, A518. The Examiner also found that simply claiming storage of a particular amount of properties could not avoid Sklarz given he already discloses storing property data for a given area. *See* A517; *see also* A169-70. The Board affirmed, explaining that it did not find

¹⁴ Villena’s brief heading here (Br. at 61) lists claims 135, 136, 147, 148, and 155, but claim 155 does not recite the same limitations as the other claims and his argument does not discuss claim 155. *See* A206 (claim 155).

“persuasive” Villena’s arguments against the Examiner’s stated rationale and obviousness conclusion. A49-50.

Villena protests that the Examiner’s reasoning is “conclusory,” but there is nothing conclusory about articulating discrete reasons why an artisan would consider making the proposed modification, as the Examiner has done. And Villena’s argument that the Examiner’s motivation findings lack “evidentiary support” fails under *KSR*, held that the reason to combine or modify need not “seek out precise teachings directed to the specific subject matter of the challenged claims.” *KSR*, 127 S. Ct. at 1741 (explaining that the obviousness inquiry “can take account of the inferences and creative steps that a person of ordinary skill in the art would employ”).

F. Sending data to mobile phones does not make claims 138, 141, and 151 patentable

Claim 138, 141, and 151 add that the computers are “configured to provide the display information to a plurality of mobile phones” or similar language. A202 (claim 138); *see* A203 (claim 141); A206 (claim 151). The Examiner rejected these claims under § 103, finding that sending the AVM values to a mobile phone would have been obvious to one of ordinary skill in the art.¹⁵ The

¹⁵ While claim 141 was listed as part of the alternative rejection of claim 133 based on § 102 or § 103, there is no § 102 rejection articulated for claim 141 in

Examiner found that “[t]he use of cell phones to receive data via a network is very old and well known in the art,” and simply replacing the computer in Sklarz with a mobile phone was a simple substitution within the artisan’s capabilities. A515; A518; A170-74. The Examiner rejected Villena’s contention that “technical limitations” in cell phones and mobile technology would have prevented the substitution. The Examiner found that Villena’s specification says the artisan can use any known technology to replace the receiving computer, including “cell-phones;” “there is no discussion of any special structure that the phone has that allows it to receive and display map data.” A172-73 (citing A1985 (¶ 20)); A171. The Board agreed with the Examiner. *See* A50-52.

Villena asserts that the Examiner erroneously pointed to his specification “for the idea that the limitations of claims 138, 141, and 151 technically could have been met.” Br. at 63. To the contrary: the Examiner pointed to Villena’s specification and claims to demonstrate that Villena had not described or claimed any solution to alleged “technical” hurdles for cell phone use, and, thus, Villena simply claimed use of already-available technology. *See* A171-73; A51. That finding was correct; Villena does not point to where his specification solves any

the office action appealed to the Board; the patentability of claim 141, like claims 138 and 151, turns on § 103 only. *See* Br. at 64.

technical limitations incident to using cell phones, let alone that his claims reflect such solutions. *See* Br. at 63-64.

G. Villena fails to address the articulated obviousness rejection for claim 155

Claim 155 recites a system where the host computers are “configured to perform a differential value search (DVS),” defined as “a difference between a residential property’s AVM value and its offer for sale price.” A206 (claim 155). The Examiner recognized that Sklarz did not expressly disclose the recited DVS. *See* A519. The Examiner explained, however, that Sklarz describes a real-estate-valuation system aimed at indicating “when properties might be a good buy” using things like “buy/sell” signals—the same purpose as a DVS. *Id.*; *see* A520-21 (quoting A2049 (¶ 8); A2061 (¶¶ 246, 247); A2062 (¶ 256)). In particular, Sklarz discloses using his “appraisal engine”—which generates his AVMs—“for the benefit of prospective buyers, with the objective of identifying acceptable properties with lower predicted sales prices.” A521 (quoting A2062 (¶ 256)); A522 (“Sklarz is trying to give buyers a signal to indicate when properties have lower predicted sales prices,” as Villena is doing in claim 155). The Examiner found “[w]hile this is not the exact same as taking a difference between the AVM and the offer for sale, it is recognition of the idea of having buy/sell signals for the buyer based on AVM values, which can be used to indicate a good

buy to a buyer.” A521 (finding that Sklarz uses differences between two data points to determine a buy/sell signal); *see* A521-22 (referring to Sklarz’s discussion of loan-to-value ratios as information of interest to real estate purchasers). Thus, the Examiner found that “[o]ne of ordinary skill in the art would have found it obvious to provide Sklarz with the ability to determine the difference between an AVM value and an offer for sale in an effort to be able to provide a prospective buyer with an indication of how the AVM value and offer price compare to each other.” A522 (finding that AVMs are generally used to try to provide consumers with an indicator of good value). The Board affirmed the Examiner, explaining that “we find no error with the Examiner’s findings and sustain the rejection,” particularly in view of “Sklarz’s disclosure of an embodiment where ‘the appraisal engine also can be used for the benefit of identifying acceptable properties with lower predicted sales prices.’” A52 (quoting A2062 (¶ 256)).

Thus, Villena’s appeal argument that the rejection should be reversed because there is no “mention of an offer for sale price” in Sklarz ¶ 256 ignores the rejection. Br. at 64. Neither the Examiner nor the Board found that ¶ 256 discloses a DVS or an offer for sale price; the rejection is based on § 103, not § 102. What the Examiner found, and the Board affirmed, was that ¶ 256 describes the concept of using an AVM to identify properties with good value;

other cited disclosures reflect various computational tools directed at fulfilling this goal. Thus, the ordinarily-skilled artisan would have found it obvious to include yet another such tool as reflected by the AVM-to-offer price comparison recited in claim 155. Because Villena does not address this rationale, or citations offered to support it, it should be affirmed.

H. The Board did not enter evidence during oral hearing or rely on extra-record evidence

During oral hearing below, the Board briefly discussed the definition of “AVM” from a website called “Investopedia.” *See* A64. The “Investopedia” material was not cited in the Board Decision; only the IAAO definition for “AVM” provided by Villena was relied upon. *See* A46. The Board explained to Villena on rehearing that it had not relied upon the Investopedia material in reaching its decision, which was “based exclusively on the written record in the Office.” A8 (citations omitted). Villena nonetheless argues that the prior-art rejections should be reversed because of the Board’s improper entry, and erroneous reading, of the “Investopedia ‘reference.’” *See* Br. at 34-40. There simply is no issue here. This Court reviews the Board’s decision, not the oral hearing transcript. And the Rehearing Decision makes clear that the decision was not based on anything outside the record such as the Investopedia material. *See*

A8. Villena's alleged procedural error and related substantive arguments about the Investopedia material (Br. at 36-38) are irrelevant.

V. CONCLUSION

For the foregoing reasons, the § 101 and prior-art rejections of claims 133-151 and 155 should be affirmed.

Respectfully submitted,

February 26, 2016

/s/ Robert J. McManus

THOMAS W. KRAUSE
Acting Solicitor

ROBERT J. MCMANUS
BENJAMIN HICKMAN
Associate Solicitors

U.S. Patent and Trademark Office
Mail Stop 8
P.O. Box 1450
Alexandria, Virginia 22313

*Attorneys for the Director of the
United States Patent and Trademark Office*

RULE 32(a)(7)(C) CERTIFICATE OF COMPLIANCE

I certify pursuant to Fed. R. App. P. 32(a)(7) that the foregoing BRIEF FOR APPELLEE — DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE complies with the type-volume limitation required by the Court's rule. The total number of words in the foregoing brief, excluding the material identified in Fed. R. App. P. 32(a)(7)(B)(iii) and Fed. Cir. R. 32(b), is 13,861 words as calculated using the Word® software program.

/s/ Robert J. McManus

Robert J. McManus
Associate Solicitor

CERTIFICATE OF SERVICE

I hereby certify that on February 26, 2016, I electronically filed the foregoing BRIEF FOR APPELLEE – DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE using the Court’s CM/ECF filing system. Counsel for appellant was electronically served by and through the Court’s CM/ECF filing system per Fed. R. App. P. 25, and Fed. Cir. R. 25(a) and 25(b).

/s/ Robert J. McManus

Robert J. McManus
Associate Solicitor