UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

CORUS REALTY HOLDINGS, INC., Plaintiff, v. ZILLOW GROUP, INC., et al., Defendants.	CASE NO. C18-0847JLR CLAIM CONSTRUCTION ORDER

I. INTRODUCTION

This is an order on claim construction in a patent infringement action involving U.S. Patent No. 6,636,803 ("the Patent"), entitled "Real-Estate Information Search and Retrieval System." (*See* Compl. (Dkt. # 1) ¶ 1; *see also id.* ¶ 16, Ex. A ("'803 Patent").) Plaintiff Corus Realty Holdings, Inc. ("Corus") asserts that Defendants Zillow Group, Inc. ("Zillow Group"), Zillow, Inc. ("Zillow"), and Trulia, LLC ("Trulia") (collectively, "Defendants") directly infringe upon and induce and contribute to the infringement of the

Patent. (Compl. ¶¶ 42-44.) The parties dispute the construction of six claim terms. (*See* Jt. Cl. Chart (Dkt. # 35-1).) The court has reviewed the parties' claim construction briefs (Pl. Br. (Dkt. # 36); Defs. Br. (Dkt. # 37); Pl. Resp. (Dkt. # 41); Defs. Resp. (Dkt. # 44); Pl. Supp. Br. (Dkt. # 48); Defs. Supp. Br. (Dkt. # 49)), all materials filed in support of and in opposition to the claim construction briefs, the relevant portions of the record, and the applicable law. The court also heard from counsel at a *Markman* hearing[1] on June 14, 2019. (*See* Min. Entry (Dkt. # 46).) Being fully advised, the court construes the disputed terms as set forth below.

II. BACKGROUND

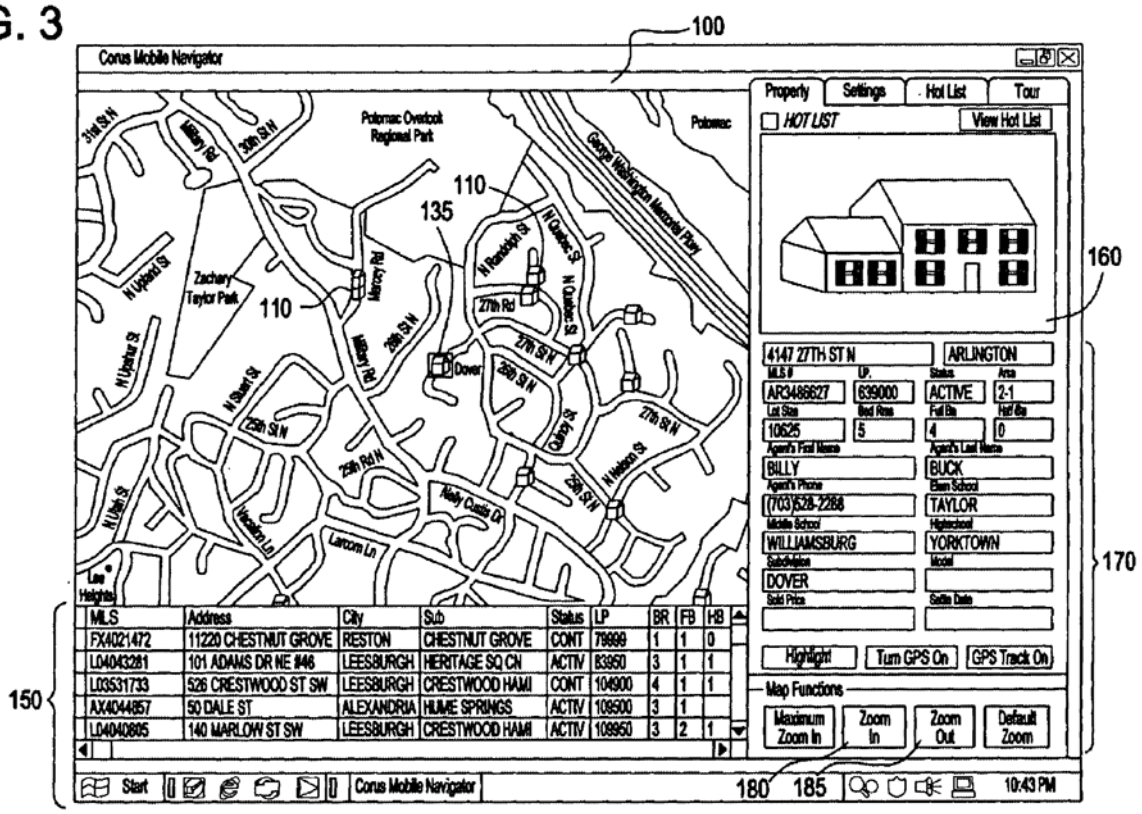
The Patent covers systems and methods that use digital technology to locate property and provide information in connection with a real-estate transaction ("the Invention"). (*See, e.g.*,'803 Patent at B1[2] 4:4-6.) The Invention operates on a digital device—such as a web-enabled cell phone, laptop, tablet, or desktop computer—and is displayed on that device's screen. As shown in Figure 3, the Invention displays information about residential property in a particular area that is offered for sale, lease, or rent, which can help real-estate agents and property buyers in the home buying process. (*Id.* at B1 4:7-12.) The Invention is also a "mobile data terminal"—such as a

[1] *See Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

[2] Some of the Patent's claims were amended in reexamination on January 21, 2015. (*See* '803 Patent at 15.) Due to the amendments, the Patent is divided into two sections, referred to as B1 and C1. (*See generally id.*) Section C1 contains the amended claims that are at issue in this litigation. (*See id.*) Sections B1 and C1, however, both have columns 1-6. (*See id.*) Thus, to avoid confusion, the court will specify to which section it cites.

web-enabled cell phone, laptop, or tablet—which may be used as a tool by real-estate agents and buyers for displaying the system and method. (*Id.* at B1 4:12-15.)

FIG. 3



The Invention has two embodiments. In the first embodiment, the Invention is a "stand-alone data terminal" equipped with a map generation unit, a storage unit, a processor, and a display. (*Id.* at B1 4:16-30.) The map generation unit generates a map of an area of interest, the storage unit stores property information, and the processor integrates the data from these two units for presentation on the terminal's display. (*See id.* at B1 4:31-5:43.) The Invention also produces selectable property icons on the digital map, which, upon selection by the user, provide real estate information about that property from sources such as a multiple listing service ("MLS"). (*Id.* at B1 4:16-5:18; Pl. Br. at 6.) The first embodiment is depicted in Figures 1 and 2.

FIG. 1

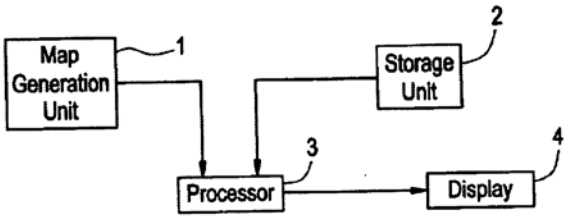
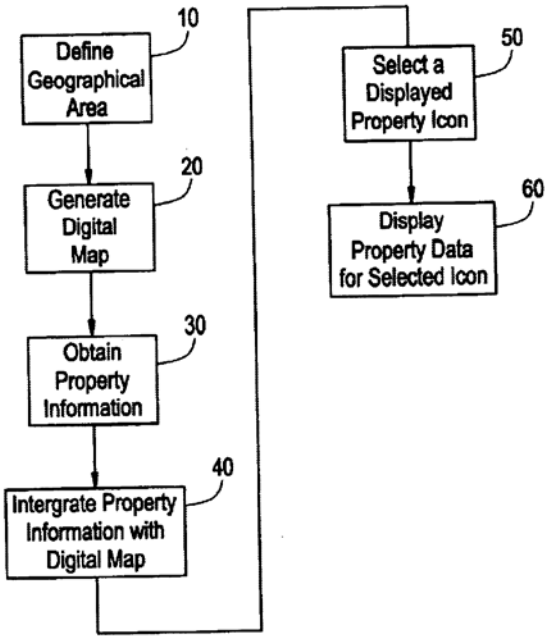


FIG. 2



The second embodiment of the Invention is "not a stand-alone data terminal, but rather is a mobile terminal connected to a location-positioning system via a communications link." ('803 Patent at B1 6:45-59.) In addition to the map generation unit, storage unit, processor, and display of the first embodiment, the second embodiment also has a location data receiver that can specify the current position of the terminal in the digital map. (*Id.*) In some variations of the second embodiment, the mobile terminal (i.e., the web-enabled cell phone) connects to "a remote storage device" such as "a

remote server connected to a network such as the Internet or a database." (*Id.* at B1 10:1-6.) This feature allows the Invention to provide updated property information from resources such as MLS. (*Id.* at B1 10:1-16.) The second embodiment is depicted in Figures 4 and 5.

FIG. 4

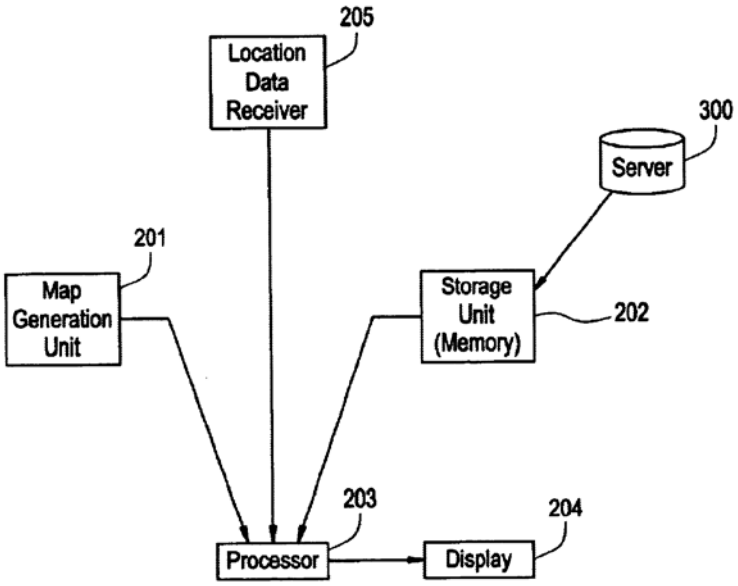


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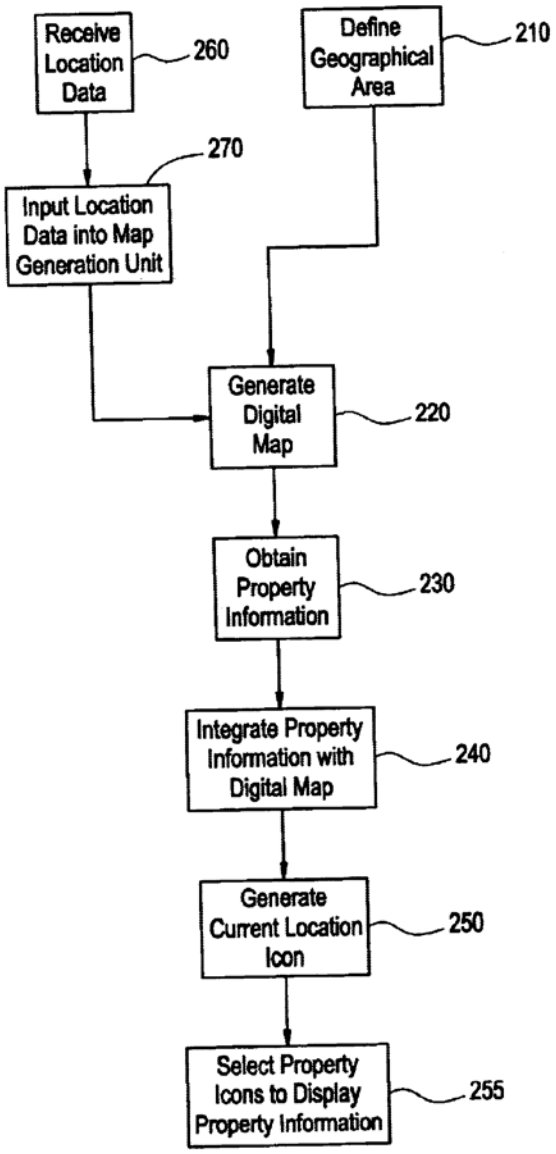
FIG. 5



The parties dispute the meaning of six claim terms:

1. "cellular-based location data";

2. "a map generation unit for generating a digital map covering an area of interest, wherein said area of interest is obtained from the cellular-based location data";

3. "a storage unit for storing property information which includes multiple listing service (MLS) data comprising a location, a market price and a market status of an item of property in said area of interest";

4. "a processor for determining information needed to display a property icon for the item of property at the location of the item of property on said digital map, and for determining information needed to display property information about the item of property of the property icon upon selection of the property icon";

5. "wherein said property information is obtained from a remote data source and a database stored on said data-enabled mobile phone"; and

6. "wherein said property information is obtained from a remote data source and stored in a database on the mobile computing device."

(*See* Jt. Cl. Chart at 2-34.)

The court now construes these claims as described below.

III. ANALYSIS

A. Law on Claim Construction

The court is solely responsible for construing patent claims. *Markman*, 517 U.S. at 372. The court construes claims as a matter of law, although the court may make subsidiary factual findings regarding extrinsic evidence. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, --- U.S. ---, 135 S. Ct. 831, 836-38, 840-42 (2015). In practice, executing the *Markman* mandate means following rules that rank various sources of evidence of the "true" meaning of claim terms. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc).

Intrinsic evidence, which includes the patent and its prosecution history, is the primary source from which to derive a claim's meaning.[3] *Id.* at 1314. The court's task is

[3] A patent includes three parts: (1) a "written description," which consists of an often lengthy exposition of the background of the invention, at least one embodiment of the invention, and other written material that assists in understanding how to practice the invention; (2) in most cases, a set of drawings that illustrates portions of the written description; and (3) the claims, which delimit the scope of the invention. *Gen. Foods Corp. v. Studiengesellschaft Kohle mbH*, 972 F.2d 1272, 1274 (Fed. Cir. 1992). Together, these three components make up the patent's

to determine the "ordinary and customary meaning" of the terms of a claim in the eyes of a person of ordinary skill in the art on the filing date of the patent. *Id.* at 1313 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). In its review of intrinsic evidence, the court should begin with the language of both the asserted claim and other claims in the patent. *Id.* at 1314; *see also Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004) ("[C]laim construction analysis must begin and remain centered on the claim language itself.").

The court must read claim language in light of the remainder of the patent's specification. *Phillips*, 415 F.3d at 1316 (explaining that "the specification necessarily informs the proper construction of the claims"). The specification acts as a "concordance" for claim terms and is thus the best source beyond the claim language for understanding those terms. *Id.* at 1315. The inventor is free to use the specification to define claim terms as he or she wishes, and the court must defer to the inventor's definitions. *Id.* at 1316 ("[T]he inventor's lexicography governs."). The court should "rely heavily" on the specification in interpreting claim terms. *Id.* at 1317. The court should not, however, commit the "cardinal sin" of claim construction—impermissibly reading limitations from the specification into the claims. *Id.* at 1320 (citing *SciMed Life Sys. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1340 (Fed. Cir. 2001)). Additionally, although the patent's prosecution history is also intrinsic evidence, it is

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"specification." *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1384 (Fed. Cir. 1999); 35 U.S.C. § 112. Although 35 U.S.C. § 112 refers to the claims as part of the specification, many courts and practitioners use the term "specification" to refer to all portions of a patent except the claims. *See* 35 U.S.C. § 112(b).

generally "less useful for claim construction purposes" than the specification.[4] *Phillips*, 415 F.3d at 1317. Because the prosecution history documents an invention's evolution from application to the issuance of the patent, it usually "lacks the clarity of the specification." *Id.*

Finally, the court can consider extrinsic evidence, "including expert and inventor testimony, dictionaries, and learned treatises." *Id.* (citing *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996)). For a variety of reasons, extrinsic evidence is usually "less reliable than the patent and its prosecution history" as a source for claim interpretation. *Id.* at 1318. The court thus need not admit extrinsic evidence, but may do so at its discretion. *Id.* at 1319.

B. Means-Plus-Function Claim Limitations

Means-plus-function claiming occurs when a claim term is drafted in a manner that invokes 35 U.S.C. § 112(f) (formerly 35 U.S.C. § 112, ¶ 6), which states:

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112(f); *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347 (Fed. Cir. 2015). In other words, "[a] means-plus-function limitation recites a function to be performed rather than definite structure or materials for performing that function. Such a

[4] The prosecution history exists independently of the patent. It consists of the inventor's application to the United States Patent and Trademark Office ("PTO") and all correspondence between the PTO and the inventor documenting the invention's progress from patent application to issued patent. *Vitronics*, 90 F.3d at 1582.

limitation must be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." *Lockheed Martin Corp. v. Space Sys./Loral, Inc.*, 324 F.3d 1308, 1318 (Fed. Cir. 2003) (internal citations omitted). "Whether certain claim language invokes § 112, ¶ 6 is an exercise in claim construction and is therefore a question of law." *See Inventio AG v. ThyssenKrupp Elevator Ams. Corp.*, 649 F.3d 1350, 1356 (Fed. Cir. 2011), *overruled on other grounds by Williamson*, 792 F.3d 1339.

The Federal Circuit explains the means-plus-function analysis as follows:

> The overall means-plus-function analysis is a two-step process. Naturally, there is some analytical overlap between these two steps. In the first step, we must determine if the claim limitation is drafted in means-plus-function format. As part of this step, we must construe the claim limitation to decide if it connotes "sufficiently definite structure" to a person of ordinary skill in the art, which requires us to consider the specification (among other evidence). In the second step, if the limitation is in means-plus-function format, we must specifically review the specification for "corresponding structure." Thus, while these two "structure" inquiries are inherently related, they are distinct.

Apple Inc. v. Motorola, Inc., 757 F.3d 1286, 1296 (Fed. Cir. 2014), *overruled on other grounds by Williamson*, 792 F.3d 1339.

At step one, in determining if § 112(f) applies, the "essential inquiry" is "whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure." *Williamson*, 792 F.3d at 1348 (citing *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996)). If a disputed claim term does not recite the word "means," a rebuttable presumption arises that the term is not a means-plus-function term. *Id.* at 1348-49. The challenger

can overcome this presumption by demonstrating, by a preponderance of the evidence, that the claim term fails to "'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'" *See id.* (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)); *Advanced Ground Info. Sys., Inc. v. Life360, Inc.*, 830 F.3d 1341, 1347 (Fed. Cir. 2016). In determining whether a term recites sufficient structure, the court examines whether the term has "an understood meaning in the art." *Apex Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1372 (Fed. Cir. 2003). "In the absence of sufficient evidence, the presumption stands." *Id.* at 1373. The court conducts this analysis "under the traditional claim construction principles, on an element-by-element basis, and in light of evidence intrinsic and extrinsic to the asserted patents." *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003, 1007 (Fed. Cir. 2018).

The court notes the tension in this analysis. At step one, the court must "look to the specification, prosecution history, and relevant external evidence" to determine if a claim term connotes sufficiently definite structure to a person of ordinary skill in the art such that § 112(f) does not apply. *See Apple*, 757 F.3d at 1296. The court only gets to step two if a claim term, in light of the intrinsic and extrinsic evidence, does not connote sufficiently definite structure. Then, at step two, the court goes back to the specification to look for "corresponding structure"—the same specification that the court found lacked sufficiently definite structure at step one. *See id.* The dissent in *Apple Inc. v. Motorola, Inc.* explains this analytical muddle:

> In effect, what the majority has done is imported the second step of the analysis (where you define the scope of a means-plus-function claim term based on the corresponding structure in the specification) into the first step

> (where you identify whether the term is drafted in means-plus-function format). The majority's analysis implies that so long as a claim term has corresponding structure in the specification, it is not a means-plus-function limitation. But such a rule would render *every* means-plus-function claim term indefinite. Under the majority's approach, a term would only be deemed a means-plus-function limitation if it has *no* corresponding structure—an absurd result that would eviscerate means-plus-function claiming.

Apple, 757 F.3d at 1335 (Prost, J., dissenting). Defendants have highlighted this aspect of *Apple*'s dissent throughout these proceedings, asserting that the court should only consult the "claim language" at step one. (*See, e.g.*, Defs. Supp. Br. at 4-8.) Indeed, Defendants argue that this is the analysis the Federal Circuit has employed all along, even though the Federal Circuit expressly says otherwise. (*See id.*)

The court appreciates Defendants' concern, as well as the difficulty in separating steps one and two in a meaningful way. However, the Federal Circuit has squarely addressed this issue, even if it has not clarified the analysis. For example, the majority in *Apple* responded to the dissent's argument and acknowledged that, although the structure inquiries at steps one and two are "inherently related, they are distinct." 757 F.3d at 1296. Thus, the majority explained, while looking at the intrinsic and extrinsic evidence at step one "may be similar to looking for corresponding structure in the specification [at step two], our precedent requires it when deciding whether a claim limitation lacking means connotes sufficiently definite structure to a person of ordinary skill in the art." *Id.* at 1296-97. Further, courts have been following this framework despite Defendants' argument to the contrary. *See, e.g.*, *Williamson*, 792 F.3d at 1350-51 (consulting the specification and prosecution history in finding that "distributed learning control module"

did not connote sufficient structure to avoid § 112(f) application); *Inventio*, 649 F.3d at 1358-59 (relying on both the claim language and the written descriptions to determine that "modernizing device" is not a purely functional limitation); *Avocent Huntsville, LLC v. ZPE Sys., Inc.*, No. 17-CV-04319-WHO, 2018 WL 4677437, at *9 (N.D. Cal. Aug. 23, 2018) (examining "the claim language, [and] the specification" to determine that "management module" and "management application" are drafted in means-plus-function format).

As members of the Supreme Court have had occasion to recently rearticulate, "[a]dherence to precedent 'is a foundation stone of the rule of law.'" *Knick v. Twp. of Scott, Pa.*, No. 17-647, 2019 WL 2552486, at *20 (June 21, 2019) (Kagan, J., dissenting) (quoting *Michigan v. Bay Mills Indian Cmty.*, 572 U.S. 782, 798 (2014)); *see also Franchise Tax Bd. of Cal. v. Hyatt*, 587 U.S. ---, ---, 139 S. Ct. 1485, 1504-06 (2019) (Breyer, J., dissenting). Further, ignoring precedent demands a "special justification—over and above the belief that the precedent was wrongly decided." *Kimble v. Marvel Entm't, LLC*, 576 U.S. ---, ---, 135 S. Ct. 2401, 2409 (2015) (internal quotation marks omitted). Defendants have not offered a "special justification" for altering the means-plus-function test, but rather state—incorrectly—that the cases already apply their preferred analysis. Defendants are mistaken and, although the court appreciates their intellectual venture, the court declines their invitation to ignore the law.

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C. Disputed Terms

1. cellular-based location data

The claim term "cellular-based location data" appears in Claims 1, 14, and 30 of the Patent. ('803 Patent at C1 1:26-33, 2:47-53; 4:34-37, 4:57-59.) Claim 1 is representative of how the Patent uses the term: "A method of generating and displaying a digital map of current market information to prospective buyers about residential real-estate property in a geographical area of interest on a data-enabled mobile phone configured to obtain cellular-based location data, comprising: obtaining said area of interest from the cellular-based location data . . . ." (*Id.* at C1 1:26-33; *see also id.* at C1 2:47-53, 4:34-37, 4:57-59.)

The parties propose the following constructions of the claim term "cellular-based location data":

Corus's Proposed Construction: "location data based on a cellular positioning system capable of tracking the position of a device in an area of interest." (Pl. Br. at 12.)

Defendants' Proposed Construction: "data relating to a cellular-based positioning system used to determine the location of a device." (Defs. Br. at 16.)

The court construes this claim term as "location data from a cellular-based positioning system capable of tracking the position of a device in an area of interest." *See Bancorp Servs., LLC, v. Sun Life Assurance Co. of Canada (U.S.)*, 687 F.3d 1266, 1274 (Fed. Cir. 2012) (holding that "a district court may construe the claims in a way that neither party advocates" (citing *Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1555 (Fed. Cir. 1995))). This construction reflects the parties' agreement that the

term refers to location data from a cellular (or cellular-based) positioning system. (*See* Pl. Br. at 12; Defs. Br. at 16.) This construction also reflects the definition of location data that is provided in the Patent's specification, which explains that cellular-based location data must be "capable of tracking the position of an object in an area of interest." ('803 Patent at B1 3:8-18.)

First, the language of the asserted claims supports construing the term to mean "tracking" as opposed to Defendants' proposed construction of "determining." *See Phillips*, 415 F.3d at 1313 (explaining that the court should begin with the language of both the asserted claim and other claims in the patent). Claim 30 describes a "code section for receiving cellular-based location data of a *current location* of the mobile computing device in said area of interest." ('803 Patent at C1 4:34-37, 4:57-59 (emphasis added).) The "current location" language implies that the Invention updates the location of the device—i.e., tracking—as the device moves through the area of interest.

Second, the specification supports this construction. In one embodiment of the Invention:

> [T]he terminal is equipped with a receiver for acquiring location data from an external positioning system, which may be satellite-based, cellular-based, or any other type capable of tracking the position of an object in an area of interest. Preferably, the receiver is a GPS [Global Positioning System] receiver linked to the data terminal processor.

('803 Patent at B1 3:8-18.) The structure of this sentence implies that location data that is "cellular-based" must be "capable of tracking the position of an object in an area of interest."

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Defendants refute this reading and argue that the catch-all reference to "any other type capable of tracking the position of an object in an area of interest" does not apply to "cellular-based." (Defs. Resp. at 7.) Defendants cite *Helsinn Healthcare S.A. v. Teva Pharm. USA, Inc.*, --- U.S. ---, 139 S. Ct. 628 (2019), in which the Supreme Court construed part of the America Invents Act ("AIA"), 35 U.S.C. § 102, which precludes a person from obtaining a patent if the claimed invention was ". . . in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention." *Helsinn*, 139 S. Ct. at 633-34; 35 U.S.C. § 102(a)(1); (Defs. Resp. at 7-8.) In *Helsinn*, the court determined that the "or otherwise available to the public" phrase did not modify "on sale." *Helsinn*, 139 S. Ct. at 633-34. The Court cited many factors in reaching its conclusion.

The Court noted that the statute in effect prior to passage of the AIA included the same "public use or on sale" language but did not include the "or otherwise available to the public" phrase. *Id.* at 632. Further, the Court referenced the "substantial body of law interpreting § 102's on-sale bar" that focused on whether an invention had been sold, not whether that sale was public. *Id.* at 633. The Court further presumed that when Congress passed this section of the AIA that only added the "or otherwise" phrase, "it adopted the earlier judicial construction" of "on sale." *Id.* at 633-34. Considering all of this, the Court concluded that the addition of "or otherwise available to the public" phrase "is simply not enough of a change for us to conclude that Congress intended to alter the meaning of the reenacted term 'on sale.'" *Id.* at 634 (citation omitted).

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As evidenced by the Supreme Court's extensive discussion in *Helsinn*, the most natural reading of a sentence that includes a catch-all phrase at the end is that the phrase modifies what comes before it. Otherwise, it would have been unnecessary for the Court to so thoroughly justify a different reading. Here, in contrast, the court is not constrained by a "substantial body of law" interpreting "cellular-based location data" or previous enactments of the term that did not include the catch-all phrase "or any other type capable of tracking the position of an object in an area of interest." The court therefore adopts the natural reading of this specification: "location data" can be "cellular-based" so long as it is "capable of tracking the position of an object in an area of interest." ('803 Patent at B1 3:8-18.)

Other parts of the specification support that the cellular-based location data must be capable of "tracking." For example, "the location data receiver inputs position information into the processor, which then generates an icon *corresponding* to the position of the data terminal on the digital map. Advantageously, the processor *updates* the position of this icon as the terminal moves through the mapped region." (*Id.* at B1 3:19-24 (emphasis added).) In other words, the processor uses location data, which can be cellular-based, to "update[]" the position of the icon on the digital map so that the icon "correspond[s]" to the data terminal. Thus, the cellular-based location data must be capable of tracking the terminal such that the processor can update the icon.

At the *Markman* hearing, Defendants clarified that one of their chief concerns is that cellular-based location data is not capable of "accurately" detecting the location of a device. As both parties agreed at the hearing, cellular-based location data uses cell

towers to triangulate the position of a device. According to Defendants, this technology is not accurate today, let alone in 2001 at the time of the Patent application. Thus, Defendants argue, construing the term to mean "tracking" improperly suggests a degree of accuracy that cellular-based location data cannot achieve.[5] Thus, Defendants argue that the court should construe the term to mean a system used to "determine" a device's location. (Defs. Br. at 16.)

The court appreciates Defendants' concern but finds it unavailing. A person of ordinary skill in the art will understand the tracking accuracy capabilities of cellular-based location data. Moreover, "tracking" is expressly used in the specification to describe location data. ('803 Patent at B1 3:8-18.) Defendants do not point to the Patent's use of "determine" in relation to location data. Further, "determine" implies that the device's location will be determined once, whereas "tracking" implies that the device's location will be repeatedly updated. This distinction further supports construing "cellular-based location data" to include tracking. (*Id.* at B1 3:19-24.)

The foregoing analysis leads the court to conclude that "cellular-based location device" is "location data from a cellular-based positioning system capable of tracking the position of a device in an area of interest." This construction reflects that the location data must come from a cellular-based positioning system and includes the definition of

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[5] Defendants' ultimate worry—expressed at the *Markman* hearing—is that using "tracking" will allow Corus to assert that this term does not rely on prior art. Corus's hypothetical infringement arguments are not a proper topic for claim construction.

location data that is provided in the Patent's specification. The accuracy of the cellular-based location device will be known by a person of ordinary skill in the art.

2. map generation unit . . . .

The claim term "map generation unit" appears in Claim 14 of the Patent as follows: "A residential real-estate market information mobile device, comprising: . . . a map generation unit for generating a digital map covering an area of interest, wherein said area of interest is obtained from the cellular-based location data." ('803 Patent at C1 2:47-53.) The parties dispute whether "map generation unit" is a means-plus-function limitation.

The parties propose the following constructions of the claim term "map generation unit":

Corus's Proposed Construction: Not a means-plus-function limitation. The court should construe this term according to its plain and ordinary meaning. (Pl. Br. at 13-14.)

Defendants' Proposed Construction: Means-plus-function limitation. Function: generating a digital map covering an area of interest, wherein said area of interest is obtained from the cellular-based location data. Structure: the algorithms disclosed in U.S. Pat. Nos. 5,844,570 and 5,884,216. (Defs. Br. at 18; Defs. Supp. Br. at 8 n.2)

The court determines that "map generation unit" is not a means-plus-function limitation. The claim does not recite the term "means" and Defendants have failed to rebut the presumption in light of the intrinsic evidence and the fact that the term, or

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closely related terms, were used by skilled artisans in the field at the time of the Patent application.

Looking solely at the language of Claim 14, a person of ordinary skill in the art could find that "map generation unit" lacks sufficiently definite structure. Claim 14 describes "map generation unit" only in relation to its function: "generating a digital map covering an area of interest." ('803 Patent at C1 2:47-53); *see Diebold Nixdorf, Inc. v. Int'l Trade Comm'n*, 899 F.3d 1291, 1298 (Fed. Cir. 2018). However, analyzing the words of the claim does not end the court's analysis. Rather, as stated above, the court makes the § 112(f) determination "under the traditional claim construction principles . . . in light of evidence intrinsic and extrinsic to the asserted patents." *See Zeroclick*, 891 F.3d at 1007.

Descriptions of the inputs and outputs of a term support a finding that the term recites sufficient structure. *See Inventio*, 649 F.3d at 1358-59. Here, according to the Patent's specification, one embodiment of the Invention is a stand-alone data terminal that "is equipped with a map generation unit, a storage unit, a processor, and a display." ('803 Patent at B1 4:15-20.) "The map generation unit generates a digital map for presentation on the display of the terminal," with the digital map covering an area "designated by a user using a keyboard or other input device." (*Id.* at B1 4:31-35.) A user "enter[s] property information into the terminal," such as "a city, town, county or even a specific address," and this information "is used as a basis for generating a digital map by the map generation unit." (*Id.* at B1 6:8-32.) The type of map generated by this unit depends on the property information that the user inputs. (*Id.*) Thus, the Patent

describes the inputs into the map generation unit (e.g., property information), and the output of the map generation unit (e.g., a digital map covering the area of interest). Figure 5 also shows the map generation unit's inputs and outputs in the second embodiment of the Invention where, again, "the property information is used as a basis for generating a digital may by the map generation unit." (*Id.* at Fig. 5, B1 9:4-6.)

The Patent also describes how the "map generation unit" interacts with other components of the invention. *See Inventio*, 649 F.3d at 1359 (explaining that the claim and written descriptions convey structure because they describe how the term "interacts" with other components of the invention); *cf. Williamson*, 792 F.3d at 1351 (finding that the claim did not convey structure because "the claim does not describe how the 'distributed learning control module' interacts with other components" in the invention). Here, "the processor inputs this [property] information directly into the map generation unit, which outputs an appropriate map in response." ('803 Patent at B1 6:18-32.) Further, the processor "associates" and "integrates" property information onto the digital map generated by the map generation unit. (*Id.* at B1 6:42-67; *see also id.* at B1 8:23-26 ("[t]he processor may control the map generation unit to display a map covering a predetermined area").) This "integration includes the overlaying of icons on the map, where each icon represents the location of a property available in the region covered." (*Id.*)

Further, as an alternative second embodiment, the terminal's GPS receiver may gather "GPS data indicative of a current location of the terminal." (*Id.* at B1 9:52-62.) This GPS data "is then forwarded to the processor, which then automatically activates the

map generation unit to generate a map of an area surrounding the current location of the terminal." (*Id.*) Alternatively, "the GPS receiver may be directly connected to the map generation unit," which allows the unit to "automatically respond by generating a map of a surrounding area on a display." (*Id.* at B1 9:63-67.) In other words, in this embodiment, the "map generation unit" is connected to either the processor or the GPS receiver, receives GPS data as its input, and creates a digital map of the area on the display as its output. (*See also id.* at B1 5:67-6:2 ("The graphical user interface also organizes the presentation of information output from the map generation and storage units.").)

In addition, providing "examples of what structures or class of structures fall within the definition of" the disputed term supports a finding that the term describes sufficient structure. *See Diebold*, 899 F.3d at 1298. In *Inventio*, for example, the Federal Circuit found that the written descriptions of the patents "indicate[d] that the 'computing unit' connotes structure to skilled artisans" by expressly referring to the computing unit as "a commercially available personal computer or workstation" and by noting that the term includes "at least one processor and at least one data memory." *See Diebold*, 899 F.3d at 1301 (discussing *Inventio*, 649 F.3d at 1359-60). In other words, by describing "an exemplary" structure or "a class of structures to which the [term] belongs," the specification provides sufficient structure to skilled artisans. *Id.*

The Patent lists four examples of classes of structures to which "map generation unit" belongs:

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> Map generation units of this type are known by those skilled in the art and may include, for example, MapPoint offered by Microsoft or those disclosed in U.S. Pat. Nos. 5,844,570 and 5,884,216. A web-accessible map generation program which also may be used in accordance with the present invention goes under the name of MapQuest.®

('803 Patent at B1 4:50-56.) Corus's expert, Mark Sturza, confirmed that such map generation programs were commercially available at the time of the Patent and would have provided sufficiently definite meaning as the name for structure to a person of ordinary skill in the art. (Sturza Decl. (Dkt. # 35-3) ¶¶ 36-38.) Defendants' expert, Dr. Benjamin Bederson, agreed that the Patent described such programs as types of map generation units and that these programs were available when the patent application was filed in 2001, although he disagreed that a skilled artisan would see the term and know what type of structure it was referring to. (Bederson Tr. (Dkt. # 36-1) at 42:2-7, 53:18-23, 102:21-103:24.) That said, Dr. Bederson's analysis of whether "map generation unit" connotes sufficient structure did not include any discussion of the Patent's specification or prosecution history. (*See id.* at 37:22-39:6.) In fact, Dr. Bederson misapplies the § 112(f) analysis, adopting Defendants' preferred test that relies entirely on the claim's language to determine what a skilled artisan would understand, rather than utilizing all relevant intrinsic and extrinsic evidence. *Cf. Zeroclick*, 891 F.3d at 1007 (explaining that a determination of whether a claim limitation invokes § 112(f) "must be made under the traditional claim construction principles, on an element-by-element basis, and in light of evidence intrinsic and extrinsic to the asserted patents"); *Personalized Media Commc'ns, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 702-04 (Fed. Cir. 1998) (stating that "[w]hether certain claim language invokes 35 U.S.C.

§ 112, ¶ 6 is an exercise in claim construction" and that the presumption that § 112(f) does not apply "can be rebutted if the evidence intrinsic to the patent and any relevant extrinsic evidence so warrant"); *Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 531 (Fed. Cir. 1996) (noting that whether § 112(f) is invoked involves an analysis of the "patent and its prosecution history," and consulting a dictionary definition of "perforation" to understand if one of skill in the art would understand the term to connote structure).

The parties dispute whether, at step one of the means-plus-function analysis, the structure for map generation unit must be provided in an algorithm because it recites a computer-implemented program. (*See, e.g.*, Defs. Supp. Br. at 8-9; Pl. Supp. Br. at 9.) Here, even if the Patent needed to disclose an algorithm for map generation unit, it has sufficiently done so by explaining the inputs, outputs, and "details about the means to accomplish" the map generation unit's functions. *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1340-41 (Fed. Cir. 2008); *Williamson*, 792 F.3d at 1352 ("The algorithm may be expressed as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure.").

Defendants are correct that some courts have found that terms that incorporate "unit" fail to describe sufficient structure and are therefore means-plus-function limitations. *See, e.g.*, *Diebold*, 899 F.3d at 1302 (concluding that "cheque standby unit" did not describe sufficient structure); *Saint Lawrence Commc'ns LLC v. ZTE Corp.*, No. 2:15-CV-349, 2016 WL 6275390, at *18-19 (E.D. Tex. Oct. 25, 2016) (concluding that "spectral shaping unit for shaping the spectrum . . ." did not impart sufficient structure). But those cases were lacking in ways that the '803 Patent is not.

In *Diebold*, no documentary evidence was provided that the term "cheque standby unit" was used "either in 'common parlance' or by skilled artisans in the pertinent field to designate structure." 899 F.3d at 1302 (citation omitted). Further, the term "cheque standby unit" appeared to be "coined by the applicant himself for purposes of claiming his invention." *Id.* Here, in contrast, "map generation unit," or closely related terms, were used in patents at the time of the '803 Patent application. (*See* App. (Dkt. ## 35-2, 35-3) at A0194[6] (U.S. Pat. No. 5,844,570, application date December 16, 1996, describing "[a] computer-implemented method and associated apparatus for generating digital map images of a uniform format"); *id.* at A0279 (U.S. Pat. No. 6,594,581, application date February 27, 2002, reciting a "simplified map generation unit can be realized as software processing by a computer such as a route guidance apparatus terminal or a portable communication terminal").) Accordingly, Corus did not coin "map generation unit" for use in the Patent.

Further, Mr. Sturza testified that the term is understood by skilled artisans to refer to a structure or class of structures. *Cf. Diebold*, 899 F.3d at 1302 ("[T]here is no evidence—in the form of dictionary definitions or otherwise—that 'cheque standby unit' was reasonably well understood by persons of ordinary skill in the art to refer to a structure or class of structures."); *see also Mass. Inst. of Tech. & Elecs. For Imaging, Inc.*

[6] The parties provided an appendix to their joint claim chart, which includes the patent in dispute, the relevant prosecution history, and copies of the extrinsic evidence cited in the joint claim chart. (*See* Jt. Claim Constr. Stmt. at 6.) The parties filed the appendix in two parts: Dkt. # 35-2 (intrinsic evidence, pages A0001-193) and Dkt. # 35-3 (extrinsic evidence, pages A0194-423). The court cites to these documents using the parties' page designations: "AXXXX."

v. Abacus Software, 462 F.3d 1344, 1356 (Fed. Cir. 2006) (explaining that, even when the claim term itself fails to denote specific structure, courts have "held that it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function"). In addition, in *Saint Lawrence*, the claim did not describe how the "spectral shaping unit" interacted with other components or otherwise impart a structural character of the term. 2016 WL 6275390, at *19. Here, as explained, the Patent details how the map generation unit interacts with other components of the Invention.

Moreover, many courts have found that terms incorporating "unit" successfully describe sufficient function such that § 112(f) does not apply. *See Inventio*, 649 F.3d at 1360 (finding that "computing unit" connoted sufficiently definite structure); *Huawei Techs. Co. v. T-Mobile US, Inc.*, No. 2:16-CV-00056-JRG-RSP, 2017 WL 2267304, at *17 (E.D. Tex. May 24, 2017) (holding that "obtaining unit" and "processing unit" provided sufficient structure, but "identifying unit" was a means-plus-function limitation because this term "d[id] not have an understood meaning in the art or belong to a class of structures"); *Securus Techs., Inc. v. Glob. TelLink Corp.*, No. 3:13-CV-03009-K, 2015 WL 356872, at *10 (N.D. Tex. Jan. 27, 2015) (holding that "multi-function unit for receiving . . ." provided sufficient structure).

The foregoing analysis leads the court to conclude that "map generation unit" is not a means-plus-function claim limitation. In sum, Defendants bear the burden to rebut the presumption against applying § 112(f). *See Williamson*, 792 F.3d at 1349.

Defendants have failed to carry their burden because sufficiently definite structure is recited in the specification and "map generation unit" was a term used by skilled artisans in the field at the time of the Patent application. The court therefore declines to construe this term.

3. storage unit . . . .

The claim term "storage unit" appears in Claim 14 of the Patent as follows: "A residential real-estate market information mobile device, comprising: . . . a storage unit for storing property information which includes multiple listing service (MLS) data comprising a location, a market price and a market status of an item of property in said area of interest." ('803 Patent at C1 2:47-57.) The parties dispute whether "storage unit" is a means-plus-function limitation.

The parties propose the following constructions of the claim term "map generation unit":

Corus's Proposed Construction: Not a means-plus-function limitation. The court should construe this term as "device capable of information storage functions in a computer system, including memory." (Pl. Br. at 17.)

Defendants' Proposed Construction: Means-plus-function limitation. Function: storing property information which includes multiple listing service (MLS) data comprising a location, a market price and a market status of an item of property in said area of interest in a database on a mobile computing device, and obtaining the property information from said database. Structure: hard drive, non-volatile memory, floppy disk, CD-ROM, flash memory, or a combination thereof, or equivalent non-volatile storage.

Alternatively, if not a means-plus-function limitation, the court should construe "storage unit" to include "storing property information in a database on the mobile computing device, and obtaining the property information from that database." (Defs. Br. at 20; Jt. Cl. Chart at 13.)

The court concludes that "storage unit" is not a means-plus-function limitation. The claim does not recite the term "means" and Defendants have failed to rebut the presumption. The court construes this claim term as "device capable of storing property information in a database on the mobile computing device." This construction reflects the storage unit's capabilities as described in the Patent's specification, discards useless verbiage, and takes into account Corus's clear and unambiguous statements in prosecution.

The intrinsic evidence recites structure for "storage unit." The Patent explains:

> In terms of hardware, the storage unit of the present invention may be any type found in a data terminal or computing device. For example, . . . the storage unit may be a hard-drive, non-volatile memory, or even a removable storage medium such as a floppy disk or CD-ROM. . . . [T]he storage unit may [also] take the form of a flash memory. . . . Those skilled in the art can appreciate that the aforementioned types of devices are mentioned merely by way of example, and that if desired other conventional types of storage devices may be used.

('803 Patent at B1 5:19-31.) Thus, the '803 Patent recites structure by providing "examples of what structures or class of structures fall within the definition of" the storage unit. *See Diebold*, 899 F.3d at 1298.

Dictionaries also support a finding that "storage unit" describes sufficient structure. For example, the American Heritage College Dictionary (4th ed. 2004) defines

"storage" in relevant part as: "*Computer Science* The part of a computer that stores information for subsequent use or retrieval." (App. at A0294.) Similarly, the Microsoft Computer Dictionary (4th ed. 1999) defines "storage device" as "[a]n apparatus for recording computer data in permanent or semipermanent form." (*Id.* at A0301.) The Patent uses "storage unit" in precisely these terms—an apparatus or part of the terminal that stores property information.

For example, the Patent explains that the terminal includes a storage unit, which "stores property information derived from an MLS database, media information, and/or other customized information." ('803 Patent at B1 2:40-52.) This property information "includes specific data on the properties available in a given market, including location . . . data, price, amenities . . . , numbers and types of bathrooms, bedrooms, lot size, model type, [and] status data such as whether the property is available . . . ." (*Id.* at 4:57-5:4.) The storage unit can also contain digital images and movie clips of the properties. (*Id.* at 5:5-9.) When a user chooses a selectable property icon, "property information obtained from the storage unit is displayed in association with the map." (*Id.* at 2:53-57.)

The Patent also describes how the storage unit interacts with other components of the Invention. For instance, "[i]n a third step, the processor searches the storage unit based on the property information entered by the user." (*Id.* at B1 6:33-34.) And Figure 4 depicts the "Storage Unit (Memory)" as receiving information from a "Server," which is then obtained by the "Processor." (*Id.* at Fig. 4.)

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Defendants' expert argues that "storage unit" is a means-plus-function limitation because "storage unit" would not be recognized by a skilled artisan as having a sufficiently definition structure. (Bederson Decl. (Dkt. # 35-3) ¶ 60.) Dr. Bederson asserts that "'unit' is a generic description of software or hardware . . . and the prefix 'storage' simply repeats the functional description . . . ." (*Id.*) However, as with "map generation unit," Dr. Bederson made this determination only considering the language in the claim, inappropriately disregarding other relevant intrinsic and extrinsic evidence. (*See id.*; *id* ¶ 61 (Dr. Bederson explaining that he only considered the intrinsic and extrinsic evidence after concluding that "storage unit" was a means-plus-function limitation).)

In contrast to Dr. Bederson, Corus's expert argues that storage unit is understood by persons of ordinary skill in the art to have sufficiently definite meaning as the name for structure. (Sturza Decl. ¶ 46.) Mr. Sturza relies on the specification language cited above to reach his conclusion. (*Id.* ¶¶ 47-49.)

Moreover, other courts have found that "storage unit" and "storage device" connote sufficient structure for a skilled artisan such that the term avoids § 112(f) application. *See, e.g.*, *Huawei Techs. Co. v. T-Mobile US, Inc.*, No. 2:16-CV-00052-JRG-RSP, 2017 WL 1376436, at *17 (E.D. Tex. Apr. 15, 2017); *Intellectual Ventures II LLC v. BITCO Gen. Ins. Corp.*, No. 6:15-CV-59, 2016 WL 125594, at *19-20 (E.D. Tex. Jan. 11, 2016) (finding that "storage device" was not subject to § 112(f)); *VPS, LLC v. SmugMug, Inc.*, No. 10 CV 2142, 2012 WL 5471012, at

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*13 (N.D. Ill. Nov. 9, 2012) (determining that a claim using "storage device" was "not so purely functional that it overcomes the presumption that it is not a § 112, ¶ 6 term.").

Defendants cite to *Via Vadis, LLC v. Buffalo Ams., Inc.*, No. A-14-CV-808-LY, 2016 WL 5239626, at *5 (W.D. Tex. Sept. 20, 2016), which is a case that found "data storage [unit/device]" was a means-plus-function term. (*See* Defs. Br. at 20.) However, the court's analysis in *Via Vadis* was cursory, at best: one sentence that did not cite any intrinsic or extrinsic evidence. *See* 2016 WL 5239626, at *5. *Via Vadis*, therefore, is not persuasive.

In sum, the intrinsic and extrinsic evidence, as well as case law, support that "storage unit" is understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure. Defendants have failed to carry their burden to rebut the presumption against applying § 112(f). The court therefore determines that "storage unit" is not a means-plus-function limitation.

Moving to construction of the term, the parties have two disputes regarding the construction of "storage unit": (1) whether the term includes both non-volatile and volatile storage; and (2) whether the term is limited to a database stored on the mobile device. (*See* Pl. Br. at 18; Pl. Resp. at 18-20; Defs. Br. at 21-22; Defs. Resp. at 17-18; Pl. Supp. Br. at 8.)

Regarding the first issue, Defendants argue that storage unit, as used in the Patent, only includes non-volatile storage because all of the Patent's storage unit examples are

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non-volatile.[7] (Defs. Br. at 21; Defs. Resp. at 18; Bederson Decl. ¶ 61.) As stated above, the specification states that a storage unit "may be any type found in a data terminal or computing device," such as a "hard-drive, non-volatile memory, or even a removable storage medium such as a floppy disk or CD-ROM . . . [or] a flash memory." ('803 Patent at 5:19-31.) The Patent further states that "[t]hose skilled in the art can appreciate that the aforementioned types of devices are mentioned merely by way of example, and that if desired other conventional types of storage devices may be used." (*Id.*)

Corus argues that the specification phrase "other conventional types of storage devices may be used" necessarily includes volatile storage, such as RAM and read-only memory ("ROM"), because those were conventional types of storage units at the time of the '803 Patent application. (*See* Sturza Decl. ¶ 53.) In addition, the Microsoft Computer Dictionary (4th ed. 1999) defines "storage device" as: "An apparatus for recording computer data in permanent or semipermanent form. When a distinction is made between primary (main) storage devices and secondary (auxiliary) storage devices, the former refers to random access memory (RAM) and the latter refers to disk drives and other external devices." (*See* App. at A0301; Sturza Decl. ¶ 52.) But the Patent does not

[7] According to Defendants' expert, non-volatile storage "is storage that retains its contents after the power is cut off," such as a hard drive, and "is often used for storing applications and data for months or years." (Bederson Decl. ¶ 62.) "This contrasts with volatile storage, which does not retain its contents after it is powered off." (*Id.*) Volatile storage, which "includ[es] volatile memory" such as random-access memory ("RAM"), "is typically used to temporarily store information for fast access by the processor" and "is often used by computers to actually run the programs and use the persistently stored data that are loaded from non-volatile storage." (*Id.*) Thus, according to Dr. Bederson, "volatile storage serves an entirely different purpose than non-volatile storage." (*Id.*) Corus's expert does not dispute Dr. Bederson's characterization of these forms of storage. (*See* Sturza Decl. ¶¶ 45-57.)

distinguish between primary and secondary storage devices. (*See generally* '803 Patent.) Therefore, "storage unit" includes both types of storage. Similarly, Corus points out that the Patent equates "storage unit" with "memory." (*See* '803 Patent at Fig. 4 ("Storage Unit (Memory)"), B1 4:16-30 ("Preferably, the terminal is mobile in nature . . . having at the very least a processor and memory.").) "[M]emory," according to Mr. Sturza, "is necessarily broader than just 'non-volatile memory.'" (Sturza Decl. ¶ 56.)

The court concludes that "storage unit" includes both volatile and non-volatile storage. Words of a claim "are generally given their ordinary and customary meaning," which is the "meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Phillips*, 415 F.3d at 1313 (citations omitted). The parties do not dispute that the ordinary and customary meaning of "storage unit" includes both volatile and non-volatile storage. (*See generally* Pl. Br.; Defs. Br.) Rather, the parties dispute whether the Patent limited the claim scope by excluding volatile storage. (*See id.*) "To disavow claim scope, the specification must contain expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope." *Cont'l Circuits LLC v. Intel Corp.*, 915 F.3d 788, 797 (Fed. Cir. 2019) (internal quotation marks and citations omitted).

Here, the Patent does not clearly disavow volatile storage from storage unit. Even though the Patent's examples of storage units are all non-volatile, those examples are qualified by the surrounding statements that expressly include "any type" and "other conventional types" of storage devices. ('803 Patent at B1 5:19-31.) Defendants do not

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dispute that volatile storage was a conventional type of storage at the time of the Invention. (*See generally* Def. Br.; Bederson Decl.)

Further, the storage unit's described functions can be performed by volatile storage. For example, the specification says, "[i]n a third step, the processor searches the storage unit based on the property information entered by the user . . . ." ('803 Patent at B1 6:33-34.) As Dr. Bederson explains, volatile storage "is typically used to temporarily store information for fast access by the processor." (Bederson Decl. ¶ 62.) Further, during the *Markman* hearing, Defendants explained that both non-volatile and volatile storage can include a database. Thus, volatile storage fits within the Patent's specification. The court therefore construes "storage unit" to include both volatile and non-volatile storage.

Regarding the second issue, Defendants argue that the court should limit "storage unit" to a "database." (*See* Defs. Resp. at 17-18.) For this argument, Defendants rely on Corus's representations in the prosecution history. Those representations include:

> Property information for an item of property in the area of interest is obtained from a database stored on the mobile computing device. . . .
>
> DeLorme does not in any way disclose accessing a real-estate database. . . .
>
> Wiese teaches accessing a remote system to gather the sales information needed to display symbols at the property locations on the map. . . . As shown in Fig. 1, a remote user using CPU 72 would have to go through ISP 44, Internet 32 and Server 30 to access value database 54. In the present invention, the property information is obtained from a data base stored on the mobile computing device.

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(App. at A0082-83.) Defendants argue that, through these representations, Corus expressly limited storage unit to "memory on the mobile phone that includes a database containing the recited property information." (Defs. Resp. at 18.)

Corus attempts to minimize these representations by saying that they "merely provided a high-level summary of *43 different* claims for the purposes of efficiently distinguishing the claims, collectively, from the prior art." (Pl. Resp. at 19 (citing App. at A0070-83).) The remarks were not meant to be a "clear and unambiguous" disclaimer. (*Id.* at 20.)

The Federal Circuit has cautioned that "because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Cont'l Circuits*, 915 F.3d at 796 (quoting *Phillips*, 415 F.3d at 1317). But a statement in the prosecution history may still "operate as a disclaimer," if the statement is "clear and unambiguous, and constitute[s] a clear disavowal of scope." *Id.* (quoting *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1306 (Fed. Cir. 2007)).

Corus's attempt to discount its prosecution statements is unavailing. These statements were not just a "high-level summary" of the claims. (Pl. Resp. at 19.) Rather, these statements were aimed at distinguishing the claims in the Patent from prior art. (*See* App. at A0082-83.) These comments were made in response to the PTO rejecting the Patent's claims "as being unpatentable over DeLorme et al. in view of Wiese." (*Id.* at

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A0065.) Moreover, these were the last representations Corus made to the PTO before the Patent was allowed. (*Id.* at A0086.)

This case is similar to *Verizon*, in which the court limited a term based on representations during prosecution. *See* 503 F.3d at 1307. In *Verizon*, the patent claims were originally rejected based on prior art. *Id.* The applicants gained allowance, however, after stating that the prior art "all appear to be directed to non-localized systems," while the "present invention," by contrast, was "restricted to operate within a few feet from a base station (i.e. wireless handsets)." *Id.* In overturning the district court's construction, the Federal Circuit held that the applicants' statements "clearly disclaimed coverage of systems operating with a range greater than a 'few feet.'" *Id.*

The same is true here. In distinguishing the Patent from the DeLorme et al. and Wiese patents, Corus explained that, "in the present invention, the property information is obtained from a data base stored on the mobile computing device." (App. at A0083.) After this clear and unambiguous disclaimer, the PTO allowed issuance of the '803 Patent. (*See id.* at A0086.)

Accordingly, the court construes the term "storage unit" as "device capable of storing property information in a database on the mobile computing device." This construction reflects the storage unit's capabilities as described in the Patent's specification, discards useless verbiage, and takes into account Corus's clear and unambiguous statements in prosecution.

4. <u>processor . . . .</u>

The claim term "processor" appears in Claim 14 of the Patent as follows:

> "A residential real-estate market information mobile device, comprising: . . . a processor for determining information needed to display a property icon for the item of property at the location of the item of property on said digital map, and for determining information needed to display property information about the item of property of the property icon upon selection of the property icon."

('803 Patent at C1 2:47-64.) The parties dispute whether "processor" is a means-plus-function limitation.

The parties propose the following constructions of the claim term "processor":

Corus's Proposed Construction: Not a means-plus-function limitation. The court should construe this term according to its plain and ordinary meaning. (Pl. Br. at 20-22.)

Defendants' Proposed Construction: Means-plus-function limitation. Function: (1) determining information needed to display a property icon for the item of property at the location of the item of property on said digital map, and (2) determining information needed to display property information about the item of property of the property icon upon selection of the property icon. Structure: none disclosed so the claim term is indefinite. (Defs. Br. at 22.)

The court determines that "processor" is not a means-plus-function limitation. The claim does not recite the term "means" and Defendants have failed to rebut the presumption. A person of ordinary skill in the art would understand that "processor" has a sufficiently definite meaning as the name for structure.

Numerous courts have found that "processor" recites sufficient structure. *See, e.g.*, *Odyssey Wireless, Inc. v. Apple Inc.*, No. 15-CV-1735-H (RBB), 2016 WL 3055900,

at *12 (S.D. Cal. Mar. 30, 2016) ("Indeed, several district courts post-Williamson have concluded that the term 'processor' sufficiently connotes a definite structure to a person of ordinary skill in the art, and, therefore, found that § 112, para 6 did not apply to a claim or claims that used the term 'processor.'"). For example, in *Quanergy Sys., Inc. v. Velodyne Lidar, Inc.*, No. 15-cv-05251-EJD, 2017 WL 4410174, at *16-19 (N.D. Cal. Oct. 4, 2017), the court concluded that claims including the phrase "processor being configured to" were not means-plus-function limitations. The *Quanergy* court explained that the plain language of the claims "describes how the processor interacts with other components" and the specification provided structural information regarding the processor. *Id.* at *19. Likewise, in *Techno View IP, Inc. v. Facebook Techs., LLC*, No. CV 17-386-CFC-CJB, 2018 WL 6427874 (D. Del. Dec. 7, 2018), the court concluded that "with a processor" was not a means-plus-function limitation because "[t]he claims provide an input-output structure for the processor" and "the specification provided additional detail regarding the structure of the claimed processor." *Id.* at *7-8. The court also noted that "[t]he specification appears to indicate that any general purpose processor can be used to performed the calculations" specified in the patent. *Id.* at *8.

Further, the *Techno View* court surveyed cases that analyzed whether "processor" invoked § 112(f) application and found that, "for the most part, courts have ultimately concluded that 'processor' terms failed to invoke Section 112, paragraph 6." *Id.* at *4-6. According to *Techno View*, in cases where "processor" terms were found to invoke § 112(f), it was because "'processor' failed to convey to the person of skill in the art

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'anything about the internal components, structure, or specific operation of the processor.'" *Id.* at *6 (citing cases).

Here, the Patent explains how the processor interacts with other components, as well as the inputs and outputs of the processor. For example, "[i]n a third step, the processor searches the storage unit based on the property information entered by the user, and more specifically to generate a list of properties in the specified area and/or their accompanying attributes." ('803 Patent at B1 6:31-36.) "In a fourth step, the processor associates the property information obtained from the third step with the digital map generated in the second step [by the map generation unit] to form an integrated output on the display of the user's terminal." (*Id.* at B1 6:42-45.) In other words, the processor "generate[s]" a computer screen on the terminal's display that "integrates the property information and digital map" from the storage unit and the map generation unit. (*Id.* at B1 6:49-51.) Moreover, in one embodiment of the Invention, the processor receives location data directly from a GPS receiver in the terminal, allowing the processor to generate an icon on the digital map indicating the current position of the terminal. (*Id.* at B1 9:26-41.) And in one variation, the processor connects to a remote server that provides updated property information for integration into the digital map. (*Id.* at B1 10:1-13.)

The Patent also provides examples of the processor's structure:

> The processor may be any type capable of running a program or script for performing the information search, retrieval, and data integration functions of the invention. If the mobile terminal is a notebook computer, the processor may be a microprocessor running an application program which performs various management functions necessary for implementing the method of the

> present invention. These management functions include retrieving information from the map generation and storage units based on various data inputs and commands, as well as integrating this information for presentation on the display of the terminal.

(*Id.* at B1 5:32-42.) Thus, the processor is hardware—such as a microprocessor—that is capable of running a program or script for searching, retrieving, and integrating data from the storage unit, map generation unit, and—in some embodiments—the GPS receiver and/or remote server.

Similar to with "map generation unit," the parties dispute whether, at step one of the means-plus-function analysis, the structure for processor must be provided in an algorithm because it recites a computer-implemented program. (*See, e.g.*, Defs. Supp. Br. at 8-9; Pl. Supp. Br. at 9.) Also similar to "map generation unit," even if the Patent needed to disclose an algorithm, it has sufficiently done so by explaining the inputs, outputs, and "details about the means to accomplish" the processor's functions. *Finisar*, 523 F.3d at 1340-41; *Williamson*, 792 F.3d at 1352.

Plaintiffs have also provided dictionary definitions that show that "processor" has a known structure to skilled artisans. The American Heritage College Dictionary (4th ed. 2004) defines "processor" as "*Computer Science.* a. A computer. b. A central processing unit. c. A program that translates another program into a form acceptable by the computer being used." (App. at A0293.) The Microsoft Computer Dictionary (4th ed. 1999) defines "processor" as "[*s*]*ee* central processing unit, microprocessor," and, in turn defines "microprocessor" as "[a] central processing unit (CPU) on a single chip. A modern microprocessor can have several million transistors in an integrated-circuit

package that can easily fit into the palm of one's hand. Microprocessors are at the heart of all personal computers. . . ." (*Id.* at A0299-300.) These definitions connote structure.

The foregoing analysis leads the court to conclude that "processor" is not a means-plus-function claim limitation. In light of the intrinsic and extrinsic evidence, as well as the case law, Defendants have failed to carry their burden to demonstrate that § 112(f) applies. The court therefore declines to construe this term.

5. wherein said property information is obtained from a remote data source and a database stored on said data-enabled mobile phone

The claim term "wherein said property information is obtained from a remote data source and a database stored on said data-enabled mobile phone" appears in Claim 1 as follows:

> A method of generating and displaying a digital map of current market information to prospective buyers about residential real-estate property in a geographical area of interest on a data-enabled mobile phone configured to obtain cellular-based location data, comprising: . . . . generating and displaying the digital map for viewing by said prospective buyer on said data-enabled mobile phone for said area of interest; obtaining current status property information for an item of property in the residential real-estate market for the area of interest, wherein said property information is obtained from a remote data source and a database stored on said data-enabled mobile phone, wherein the current status property information includes multiple listing service (MLS) data comprising a location, a market price and a market status of the item of property.

('803 Patent at C1 1:26-46.) The parties dispute whether the disputed claim phrase is indefinite and, consequently, invalidates Claim 1. (*See* Pl. Br. at 23-26; Defs. Br. at 24-25; Defs. Resp. at 21.) Specifically, the parties dispute whether property information can be obtained from a remote data source in light of Corus's purported disclaimer during prosecution. (*Id.*)

Corus's Proposed Construction: The court should construe this term according to its plain and ordinary meaning. (Pl. Br. at 23-26.)

Defendants' Proposed Construction: Indefinite.

The court concludes that the claim term is not indefinite. The Patent provides significant support for the Invention accessing property information from a remote data source, so long as that information is stored on a local database before it is ultimately integrated on the digital map. Further, the prosecution history can be reasonably interpreted to not clearly disavow access to a remote data source. However, in light of the statements made in prosecution, the court construes the claim as "wherein said property information is ultimately obtained from a database stored on said data-enabled mobile phone."

"[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). Under this standard, a patent must be "precise enough to afford clear notice of what is claimed," *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015), while recognizing "that absolute precision is unattainable," *Nautilus*, 572 U.S. at 910. Further, "[a] patent is presumed valid under 35 U.S.C. § 282 and, 'consistent with that principal, a [fact finder is] instructed to evaluate . . . whether an invalidity defense has been proved by clear and convincing evidence.'" *Biosig*, 783 at 1377 (citation omitted).

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In reading the disputed claim phrase in light of the specification and the prosecution history, the court is presented with a similar problem to the one previewed with "storage unit." *See supra* § III.C.3. On the one hand, the plain language of the claim phrase and the specification support that property information can be obtained from a remote data source *and* a database stored on a data-enabled mobile phone. (*See* '803 Patent C1 at 1:26-46.) Further, the claim describes a method of "obtaining *current* status property information," implying that the property information is being updated, perhaps from a data source outside of the mobile device. (*See id.* (emphasis added).)

Moreover, numerous parts of the intrinsic record support that property information data can be obtained from a remote data source. For example:

> [T]he processor may be connected to a remote data source through a communications link. . . . The remote data source may be a remote server connected to a website which contains MLS and/or other information. The server may also be a database in the real-estate agent's office which has been filled with MLS and non-MLS information customized to meet the agent's perceived needs of his buyers.

(*Id.* at B1 3:32-45.) Further, in the 2013 *ex parte* reexamination, the PTO stated that the amendment adding "remote data source" "is supported at col.3:32-45 because the processor may be connected to a remote data source which may be connected to a website that contains MLS and/or other information." (App. at A0159.)

The specification likewise states:

> In another variation of the second embodiment, the terminal of the present invention is connected to a remote storage device . . . [which] may be a remote server connected to a network such as the Internet, or a database located, for example, in a real-estate agent's office. In the former case, the remote server may be connected to an MLS website. In operation, when property information is input into the mobile terminal by a user the processor

> will automatically connect to the remote server. A search will then be performed of the MLS data at this website to obtain the information corresponding to a selected property icon. This data is then returned to the terminal for display.

('803 Patent at B1 10:1-13.) In this variation, "[w]hen a search is initiated on the terminal, the processor may then acquire [property] information from the [remote] database for display on the terminal." (*Id.* at B1 10:14-20.) Figure 4 also supports that the Invention can retrieve property information from a remote server and put that information on the storage unit—i.e., a database on the mobile device—for the processor to later utilize. (*Id.* at Fig. 4.)

In analyzing the intrinsic evidence, Mr. Sturza explains that a person of ordinary skill in the art would understand that "property information is first obtained from a remote data source, such as a 'server,' and then stored in a 'storage unit' or 'memory' on the data-enabled mobile phone." (Sturza Decl. ¶¶ 71, 73 ("the terminal may connect to a 'remote storage device' to obtain property information, which is delivered to the terminal—and, in particular, the 'storage unit.'").)

On the other hand, the original version of Claim 1 stated: "wherein said property information is obtained from a database stored on said mobile computing device." ('803 Patent at 10:42-45.) The "remote data source" language was added after Corus sought *ex parte* reexamination. And, in originally seeking allowance of the claims, Corus expressly told the examiner that "property information is obtained from a database stored on said mobile computing device." (App. at A0082-83.) Corus stated that this limitation is what distinguished its claimed invention from prior art that "teaches accessing a remote system

to gather the sales information needed to display symbols at the property locations on the map." (*Id.*) In other words, Corus said its invention was distinct because it avoids having to access a remote data source over the internet; instead, the property information is stored on the mobile device. (Defs. Resp. at 21.)

Corus argues that the remarks in prosecution did not limit the Invention's ability to retrieve property information from outside the local database. Rather, as Corus explained at the *Markman* hearing, the remarks distinguished the Wiese patent because Wiese teaches that all the property information, map information, and images are combined at the remote server and then sent back to the terminal; there is no local database on the terminal in Wiese. (App. at 0082-83, 0091.) In contrast, according to Corus, the Invention can access property information from a remote data source and then return that data to a local database, which is then accessed by the processor for integration. In short, the Invention utilizes a local database, whereas Wiese does not.

Moreover, according to Mr. Sturza, the applicant's representations in the initial prosecution did not disclaim acquiring property information from a remote data source. (Sturza Decl. ¶¶ 75-77.) Mr. Sturza asserts that the remarks should be understood to mean that the property information must be obtained from a local database at some point. (*See id.*) However, these statements do not exclude from the Invention "embodiments wherein property information is obtained from a remote data source." (*Id.*) In fact, according to Mr. Sturza, Claim 1 "*requires* that property information be 'obtained from a remote data source,' as well" as a local database. (*Id.* ¶ 76.)

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Considering these arguments, the court concludes that the claim term is not indefinite. Again, Defendants bear the burden to prove by "clear and convincing" evidence that the claim is indefinite. *Biosig*, 783 at 1377. Defendants fail to carry this burden.

First, the specification supports that, in one embodiment of the Invention, the terminal "is connected to a remote storage device." ('803 Patent at B1 10:1-13.) In that embodiment, "the processor will automatically connect to the remote server" to retrieve property information data "corresponding to a selected property icon," whereby "[t]his data is then *returned* to the terminal for display." (*Id.* (emphasis added).) In other words, the processor obtains property information from a remote data source and then "return[s]" this information to the mobile device for display. Figure 4 illustrates this process whereby the property information from the remote data source is returned to the storage device before it is displayed. (*Id.* at Fig. 4.) Further, in allowing Corus to amend Claim 1 to add "remote data source," the PTO stated that the amendment "is supported" by the specification. (App. at A0159.)

Second, as discussed, an applicant disavows the scope of the patent's claims if the applicant makes a "clear and unmistakable" disclaimer. *SanDisk Corp. v. Memorex Prod., Inc.*, 415 F.3d 1278, 1286 (Fed. Cir. 2005). But "[t]here is no 'clear and unmistakable' disclaimer if a prosecution argument is subject to more than one reasonable interpretation, one of which is consistent with a proffered meaning of the disputed term." *Id.* (citations omitted). Courts interpreting purported disclaimers must

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therefore ask whether the "prosecution arguments to the examiner have no reasonable interpretation other than to disavow" the scope of the disputed term. *Id.*

Here, a reasonable interpretation of the prosecution history is that the applicant was distinguishing that the Invention utilizes a local database whereas the prior art does not. Moreover, reading the claim phrase to mean that property information can be first obtained from a remote data source and then stored on a local database for later retrieval by the processor does not contradict the representations made in prosecution. So long as the remote data is placed on the local database, then the representations in the prosecution are not a "clear and unmistakable" disclaimer of the myriad parts in the specification that describe access to a remote data base.

Further, as Defendants clarified in the *Markman* hearing, Defendants' preferred reading excludes the entire embodiment of the Invention that utilizes the remote data source. But a construction of a patent claim in which a preferred embodiment is outside of the proposed construction "is rarely, if ever correct." *Vitronics*, 90 F.3d at 1583.

Accordingly, the court concludes that this claim term is not indefinite.[8] However, in light of the clear and unambiguous statements made in prosecution, the court construes the term as "wherein said property information is ultimately obtained from a database stored on said data-enabled mobile phone."

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[8] In their briefing and at the *Markman* hearing, Defendants raised a number of invalidity arguments pursuant to 35 U.S.C. § 305. (*See, e.g.*, Defs. Br. at 22.) In light of the court's conclusion that this claim is not indefinite, the court finds that Defendants' remaining invalidity arguments are not appropriate for the claim construction stage.

6. wherein said property information is obtained from a remote data source and stored in a database on the mobile computing device

The claim term "wherein said property information is obtained from a remote data source and stored in a database on the mobile computing device" appears in Claim 30 as follows:

> A non-transitory computer-readable medium storing a program to be implemented in a processing unit of a mobile computing device, said computer-readable medium including: . . . a second code section for obtaining residential property information which includes multiple listing service (MLS) data comprising a location, a market price and a market status of an item of property in said area of interest, wherein said property information is obtained from a remote data source and stored in a database on the mobile computing device; . . .

('803 Patent at C1 4:34-47.) The parties' dispute here is similar to the one with the preceding term: whether this claim is indefinite in light of Corus's purported disclaimer during prosecution. (*See* Pl. Br. at 26-27; Pl. Resp. at 28; Defs. Br. at 26; Defs. Resp. at 20-21); *supra* § III.C.5.

For the reasons discussed above, the court concludes that this claim term is not indefinite. Here, however, the court does not need to construe this claim because the claim language itself specifies that the property information obtained from a remote data source must be stored in a database on the mobile computing device.

IV. CONCLUSION

For the foregoing reasons, the court rules as follows:

(1) The court CONSTRUES "cellular-based location data" to mean "location data from a cellular-based positioning system capable of tracking the position of a device in an area of interest";

(2) The court DETERMINES that "a map generation unit for generating a digital map covering an area of interest, wherein said area of interest is obtained from the cellular-based location data" is not a means-plus-function limitation and DECLINES TO CONSTRUE the term;

(3) The court DETERMINES that "a storage unit for storing property information which includes multiple listing service (MLS) data comprising a location, a market price and a market status of an item of property in said area of interest" is not a means-plus-function limitation and CONSTRUES the term to mean "device capable of storing property information in a database on the mobile computing device";

(4) The court DETERMINES that "a processor for determining information needed to display a property icon for the item of property at the location of the item of property on said digital map, and for determining information needed to display property information about the item of property of the property icon upon selection of the property icon" is not a means-plus-function limitation and DECLINES TO CONSTRUE the term.

(5) The court CONSTRUES "wherein said property information is obtained from a remote data source and a database stored on said data-enabled mobile phone" to mean "wherein said property information is ultimately obtained from a database stored on said data-enabled mobile phone"; and

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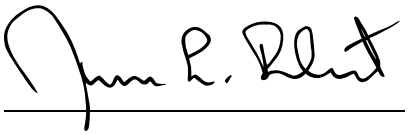
(6) The court DECLINES TO CONSTRUE "wherein said property information is obtained from a remote data source and stored in a database on the mobile computing device."

Dated this 2nd day of July, 2019.



JAMES L. ROBART
United States District Judge