THE HONORABLE JAMES L. ROBART

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

CORUS REALTY HOLDINGS, INC.,

Plaintiff,

v.

ZILLOW GROUP, INC., ZILLOW, INC., and TRULIA, LLC,

Defendants.

No. 2:18-cv-00847-JLR

DEFENDANTS' MOTION FOR SUMMARY JUDGMENT

NOTE ON MOTION CALENDAR:

December 13, 2019

ORAL ARGUMENT REQUESTED

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I. INTRODUCTION

Defendants Zillow Group, Inc., Zillow, Inc., and Trulia, LLC (collectively, "Zillow") seek summary judgment that the asserted patent, U.S. Pat. No. 6,636,803 ("the '803 patent") (Dkt. 1-1), is not infringed and/or is invalid. Corus cannot prove infringement, for two independently sufficient reasons. First, the patent claims require the use of "cellular-based location data" to determine the location of the mobile device. There is no dispute that Zillow's accused apps cannot independently determine the location of the device. Rather, any information about the device's location is determined by and obtained from frameworks in the iOS (Apple) or Android (Google) operating systems. Apple and Google, however, keep their location determination algorithms confidential, and Corus never took any discovery to learn when or how they use cellular data. The only evidence that such frameworks even use cellular hardware is based on vague, hearsay statements on websites. Even if those statements were admissible, they simply say that the frameworks use cellular signals in some unidentified way. Yet, during claim construction and since, Corus has taken the position that the mere use of cellular hardware for positioning is insufficient to satisfy this claim requirement. There is nothing that establishes Apple and Google receive location data from a cellular positioning system, as the claims require. Indeed, Corus's expert, Mr. Sturza, admitted that Apple and Google likely use standard cellular signals (*e.g.*, the observed signal strengths of cell towers in range) along with internally stored information about cell tower locations (precomputed from "crowd sourced" GPS measurements), which he concedes is similar to techniques (in the prior art Koorapaty patent) that he argues are *not* covered by the claims.

Second, the claims require that property information is obtained from a database stored on the local device, and the '803 patent was only issued after Corus distinguished prior art that required accessing a remote property database over the Internet. But this is exactly how the accused apps work — the only database of property information is on remote servers. Faced with this fact, Corus's infringement expert (David Martin) tries to stretch the meaning of

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"database" and the parties' agreed construction to cover transient data structures in working memory used merely to display the search results from the remote database. He admits that his analysis is not based on what a person of skill in art (a "POSITA") would consider a "database." Moreover, Corus's infringement theory is again directly contradicted by its invalidity position — in an attempt to distinguish the prior art, Corus and Mr. Sturza expressly argue that such a data structure would *not* be a "database" under the claims.

In addition, the claims are invalid. Corus obtained the patent by representing to the examiner that (1) the prior art Florance patent was limited to the use of GPS, and (2) the '803 inventors had discovered the importance of cellular positioning for real estate applications. Both representations were false. Florance is not limited to GPS. Further, the '803 patent makes only one passing reference to the use of cellular positioning as a potential *disfavored* alternative to GPS, and the '803 inventors never built a device that used cellular data. Because cellular positioning was a well-known alternative to GPS, the '803 patent claims are invalid as obvious. In addition, Corus's repeated attempts to contort the meaning "cellular-based location data" (narrowed to try to exclude various prior art cellular-based positioning systems, yet stretched to try to cover "crowd sourced" positioning unlike anything disclosed in the '803 patent) render the patent invalid under 35 U.S.C. § 112 for lack of written description (the patent does not reflect possession of the invention now claimed), lack of enablement (it does not enable what is now alleged to infringe), and indefiniteness (a person skilled in the art could not identify whether any given device is, or is not, covered by the claims). Finally, the claims of the '803 patent are invalid because they were amended in reexamination for purposes other than distinguishing the prior art, in violation of 28 U.S.C. § 305.

II. RELEVANT FACTS

A. The Patent and Prosecution History

The '803 patent describes and claims a mobile device that can display a map of the surrounding area with icons that represent properties available for sale. These icons can be

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selected by the user to display additional information about the selected property. *See, e.g.*, '803 patent at 2:55–57, 6:15–28.

The patent describes obtaining "property information from a database which is either resident in the terminal or linked to the terminal through a communications network." '803 patent at 2:12–14. The device can optionally be "equipped with a receiver for acquiring location data from an external positioning system," which can be used to generate an icon corresponding to the "current position of the terminal" on the map and/or specify the geographical region for the database search. *Id.* at 3:12–18, 9:13–42, 9:52–62.

Over the course of the prosecution history, the '803 patent claims were narrowed in three significant ways. In the original prosecution, the examiner rejected Corus's claims based, in part, on the "Wiese" prior art patent. Ex. 1.[1] In response, Corus narrowed the claims to require that the property information be "obtained from a database stored on the mobile computing device," and argued that this distinguished the Weise patent:

> . . . ***Wiese teaches accessing a remote system*** to gather the sales information needed to display symbols at the property locations on the map. (Col. 2, lines 62-67). 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***.

Ex. 2 at 13–14 (emphasis added). The Court has held that Corus's statement was a "clear and unambiguous disclaimer" of claim scope. Dkt. No. 51 at 36.

After the '803 patent issued, Corus approached Zillow and accused it of infringement. In response, Zillow explained that it did not infringe because, among other things, its mobile applications (like the Wiese patent) required accessing a remote database to search for properties. Dkt. 38, ¶ 4. Zillow also explained that the '803 patent claims were invalid in light of the Florance patent ("Florance"). *Id.* Corus then sought reexamination of the '803 patent in view of

[1] Exhibits are attached to the declaration of Ramsey M. Al-Salam filed herewith.

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Florance. Ex. 3. In the reexamination, Corus, in an attempt to distinguish Florance, narrowed the claims to require that the mobile device receive "cellular based location data" to determine the area of interest for the search. *See, e.g.* Exs. 4, 6, 8, 10. Corus then represented to the examiner that Florance "discloses exclusively GPS" for positioning and "specifically *excludes* using cellular based location data." Ex. 6 at 11, 15. Corus also represented that even though "cellular based location was a known technology," "its benefits had not been recognized for residential real estate" and the '803 inventors had "recognized the importance of these capabilities." Ex. 4 at 14. Both representations were false. Florance expressly discloses using positioning systems *other than GPS*. *See, e.g.*, Florance at 32:24–28 ("[T]he information can be used in conjunction with a GPS *or other position determining system* . . . .") (emphasis added). In addition, the '803 patent states that GPS is *preferred* over cellular positioning, '803 patent at 3:12–18, and the only device the '803 patent inventors created had no cellular connectivity at all. *See* Ex. 27 (Gorman Dep.) at 25:6–10.

The examiner initially rejected the amended claims but eventually allowed them because the "claimed data is *cellular* based." Ex. 11 at 2 (emphasis in original); *see also* Ex. 9 at 2 (noting that "the reasons for allowance in this case depends upon the issue of the mobile computing device obtaining **cellular-based location data**") (emphasis in original).

Corus also amended independent claims 1 and 30 to require that the property information be obtained from "a remote data source." *See, e.g.*, Ex. 4 at 2, 12; Ex. 8 at 2, 8, 11. The "remote source" amendments were never discussed in the reexamination — the amendment to claim 1 was only noted with a citation to the allegedly supporting passage in the '803 patent, *see, e.g.*, Ex. 4 at 12, whereas the amendment to claim 30 was never even disclosed to the examiner, *see, e.g.*, Ex. 10 at 11 (describing the amendment as being limited to "Claim 1"). Corus never alleged that the "remote data source" language was added to distinguish the amended claims from Florance — nor, could it, since Florance expressly discloses that the property information can retrieved from a remote database. *See, e.g.* Ex. 12 (Florance) at 39:46–48 ("The information to

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be retrieved and displayed to the user based on the user's location can be stored locally with the user or transmitted to the user from a remote database.").

B. The Relevant Claim Terms

1. The Meaning of "Cellular-Based Location Data"

The '803 patent recommends the use of GPS (as in the embodiment the named inventors created) and mentions cellular positioning in only a single sentence: "[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." '803 patent at 3:12–18 ("Preferably, the receiver is a GPS receiver . . . ."). In claim construction, the parties agreed that "cellular-based location data" came from a cellular-based positioning system, but Corus argued that it further had to be "capable of tracking the position of a device in an area of interest." Zillow argued that this would render the term ambiguous because it was unclear what "tracking" required (*e.g.*, what level of accuracy would be needed). Because the phrase was used in the only sentence referring to cellular data, the Court accepted Corus's argument that the "accuracy of the cellular-based location device will be known by a person of ordinary skill in the art" and construed the term to mean "location data from a cellular positioning system capable of tracking the position of a device in an area of interest." (Dkt. No. 51 at 18–19).

To avoid prior art, Corus and its expert, Mr. Sturza, have taken the position that the term does not encompass all uses of cellular hardware to determine location. For example, Mr. Sturza testified that the "Cell ID" positioning technique (where location data about a single cell tower is used as an estimate of the device's location) would "certainly" be considered a "cellular-based positioning system" by a POSITA, but that devices receiving Cell ID information from the cell network still *might not* receive "cellular based location data" under the Court's construction because the accuracy of that information is limited by the spacing of cell towers. *See, e.g.*, Ex. 17 (Sturza Dep.) at 63:12–65:10. Mr. Sturza also expressly relied on the "capable of tracking"

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phrase to argue that cellular-based positioning of the prior art Palm VII device (expressly referred to in Florance) does not meet the "cellular-based location data" requirement in the claims. The Palm VII device did not have GPS but could request cellular information about the device's location, at least on a zip code level. *See, e.g.*, Ex. 24 (Bederson Invalidity Rep.) ¶ 267. Mr. Sturza does not contest that the Palm VII receives location data from the cellular network, but argues the data was not precise enough to satisfy the Court's "capable of tracking" construction. *See, e.g.*, Ex. 16 (Sturza Rebuttal Rep.) ¶¶ 212–13.

Similarly, the prior art Koorapaty patent discloses using information from the cellular network to estimate the device's position (referred to as a "reference location"), which can be used instead of GPS positioning or to improve GPS functionality. For example, the reference location can itself be used if the GPS hardware is unavailable or if the reference location is sufficiently accurate for the intended purpose. *See, e.g.*, Ex. 13 (Koorapaty) at 1:51–55, 2:28–32; *see generally id.* at 5:1–21 ("Use of Cell Size to Decide if Use of GPS Receiver is Required for a Particular Application."). Koorapaty also describes providing the reference location as an input to the GPS receiver "[t]o improve certain characteristics of its performance." *Id.* at 1:38–50, 2:59–63. This "reference location" can be obtained directly from the cellular network. *Id.* at 3:17–20. Alternatively, Koorapaty teaches that the reference location can be computed using standard cellular signals and locally stored information about cell tower locations saved from previous uses of the GPS receiver. *See id.* at 2:1–9, 2:38–39 ("The GPS receiver is used to obtain location information for a cell during a prior learning phase."), 3:53–57 ("When no reference location is available for a particular cell, [the phone] determines a suitable reference location using multiple positions previously recorded for a particular cell using the GPS receiver . . . ."); *see generally* 3:47–4:13 ("Computing Reference Locations for Cells with No Available Reference Locations"), 4:14–67 ("Refining Reference Locations Using Received Powers from Neighboring Cells"). The device records and saves GPS measurements associated with specific "cells" in the cellular network based on prior use and then can later use the currently observed

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cellular signals (*e.g.*, current cell, neighboring cells, signal strength) along with the saved location information to compute an estimate of its location without requesting location data from the cellular network. *Id.* at 3:53–57; *id.* at 4:17–20; *see also id.* at 2:9–12; 4:43–47.

Mr. Sturza has conceded that a POSITA would have found it obvious to combine Florance with Koorapaty's teachings. Ex. 17 (Sturza Dep.) at 231:5–14. In an attempt to distinguish this combination, however, Corus and Mr. Sturza have taken the position that nothing in Koorapaty teaches "cellular-based" positioning and instead merely discloses "assisted GPS." *See, e.g.*, *id.* at 249:8–250:3; Ex. 16 (Sturza Rebuttal Rep.) ¶ 121 ("I conclude that Koorapaty is directed to assisted-GPS, which . . . is not a use of 'cellular-based location data' . . . ."); ¶ 188 ("Although Koorapaty discloses leveraging a cellular network to assist in the provision of calculation of a reference location of a GPS-equipped cell phone, Koorapaty makes clear 'all the position estimates . . . are obtained using the GPS receiver in [a] GPS-equipped cell phone.'").

2. The Meaning of "Database"

The parties agreed that a "database" is "a collection of data arranged for search and retrieval." Dkt. No. 35 at 5. Mr. Sturza stated that this construction was consistent with how a POSITA would have understood the term at the time. Ex. 14 (Sturza Rebuttal Declaration Regarding Claim Construction) ¶ 79. Mr. Sturza has also confirmed that, under this definition, simply storing data in working memory, such that a user can click on an icon to display corresponding information, would not constitute storing data in a "database." Ex. 17 (Sturza Dep.) at 273:4–276:20. In particular, to distinguish the Florance patent from the '803 patent claims, he opined that placing search results in working memory on the local device and allowing a user to click on an icon to access data from memory for a specific property, is a "retrieval," not a "search" within the agreed-meaning of "database":

> A. What Florance doesn't talk about is the database on the remote device. It talks about a database on a central server. . . .

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> Q. So that data in the cache, for example, has to be organized in some way where it can be accessed where the specific data for each icon can be accessed. Is that right?
>
> A. Well, you know, as one skilled in the art at the time, what I would have done and imagining anybody skilled in the art would do, is you extract some data from the database. You pull it in. You put it in a table. You display some of the data associated with the icons. Somebody clicks on an icon. You go to that row of the table and provide some additional data. But you're not searching. It's not a search. It's just a retrieval. . . .
>
> Q. So the fact that, just clicking on an icon to display the associated information for that icon, you're understanding that's not a search. . . .
>
> A. What I'm saying is that, you know, what Florance is not teaching us is a search. That is, as one skilled in the art, you know at the time, one would not create a database for some information that's been extracted from the database. One would put that information in a readily accessible form, and associate icons which are, for example, rows of a table. That would be the standard way of doing it at the time. So there would be no search involved when you click on the icon.

Id. at 273:4–275:2. Mr. Sturza's testimony is further supported by Zillow's expert, Dr. Bederson, who has pointed out that POSITAs would not consider the temporary storage of search results in working memory on a mobile device as storage of the property information "database" of the claims. *See* Ex. 25 (Bederson Rebuttal Rep.) ¶¶ 134-147.

As discussed below, Corus's allegations of infringement cannot be squared with these constructions of "cellular-based location data" and "database."

C. Corus's Evidence of Infringement

1. Corus's "Proof" on Cellular-Based Location Data

There is no dispute that Defendants' apps cannot independently determine the location of a mobile device. When location information is necessary, they merely make a "call" to the operating system, which is either iOS (by Apple) or Android (by Google). There is also no dispute that Apple and Google maintain their location determination algorithms as confidential.

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There is also no dispute that Corus failed to take any discovery from Apple or Google, or to otherwise learn when or how those operating systems use cellular signals to determine location. In lieu of taking such discovery, Corus relies on vague, hearsay statements, on public websites that indicate that various sources of information are used to determine location, including GPS, WiFi, "cellular" and Bluetooth signals.[2] As discussed below, given that not all uses of cellular signals for positioning are covered by the claims, Corus cannot prove infringement.

2. Corus's "Proof" of a Local "Database"

Defendants' accused applications rely upon access to Zillow's remote property database for searches. They do not maintain any local database of property information for search on the phone. *See, e.g.*, Bettin Decl. ¶¶ 2–3. When a user triggers a search, the application sends a request to the server and receives the search results in response. The search results are stored locally in temporary, transient data structures to support the display operations of the user interface (*e.g.*, to display icons on a map corresponding to the properties matching the search criteria, to display additional information about the property if the icon is selected, etc.). Whenever a search parameter is changed, the applications make a new search request for the online information. *Id.*

To assert the local "database" requirement is met, Corus (and its infringement expert Dr. Martin) rely on the results obtained from a search of the remote database that are stored temporarily in working memory for display. The specific theories, which were first disclosed in Dr. Martin's expert report on infringement, are discussed in Zillow's pending Motion to Exclude. Dkt. No. 58. In general, however, Corus relies on "property information obtained from the Zillow servers [that] is physically stored in the RAM of the mobile device using the Zillow app" and argues the apps are "required" to have a database based on their "behavior" of displaying

[2] Corus's experts also cite to Zillow witness testimony that these frameworks somehow use "cellular" data. Those witnesses were simply stating that they had seen the same vague, hearsay statements. There is no evidence that any witnesses in this case has personal knowledge regarding how Apple and Google's frameworks determine location. *See, e.g.*, Bettin Decl. ¶ 5.

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information about a property when the user selects its icon. *See* Dkt. No. 58 at 5-6; *see also, e.g.*, Dkt. 59-6, ¶ 53. Corus then raises several additional arguments regarding how the accused products purportedly meet the claims, all of which rely on the data structures used by the apps to temporarily store the search results as being the accused "database." *See id*. at 6-7 (describing additional theories.) Importantly, Dr. Martin does not even pretend that his construction of "database" is consistent with the ordinary meaning of the term. In fact, for all but one of the "databases" he has identified, he is unaware of whether any other person or entity has ever referred to it as a "database." *See, e.g.*, Ex. 18 (Martin Dep.) at 134:16–135:14.

Further, as described below, Mr. Martin's conclusions about a database are squarely inconsistent with those of Mr. Sturza, who testified that data structures for implementing the same "behavior" in the Florance prior art would *not* be a "database." Ex. 17 at 269:15–276:20.

III. LEGAL STANDARD

Where a defendant seeks summary judgment of non-infringement, "nothing more is required than the filing of a … motion stating that the patentee had no evidence of infringement and pointing to the specific ways in which accused [products] did not meet the claim limitations." *Exigent Tech. Inc. v. Atrana Sols., Inc.*, 442 F.3d 1301, 1309 (Fed. Cir. 2006). The burden of production then shifts to the patentee to "identify genuine issues that preclude summary judgment." *Optivus Tech., Inc. v. Ion Beam Applications S.A.*, 469 F.3d 978, 990 (Fed. Cir. 2006). If the parties do not dispute any relevant facts regarding the accused product, "but disagree over possible claim interpretations, the question of literal infringement collapses into claim construction and is amenable to summary judgment." *Gen. Mills, Inc. v. Hunt-Wesson, Inc.*, 103 F.3d 978, 983 (Fed. Cir. 1997).

A patent is invalid if the claimed invention would have been obvious to one of ordinary skill in the art. *See* 35 U.S.C. § 103(a). Obviousness is a question of law, with underlying factual considerations. *See Ball Aerosol & Specialty Container, Inc. v. Ltd. Brands, Inc.*, 555 F.3d 984, 991 (Fed. Cir. 2009). "Where . . . the content of the prior art, the scope of the patent

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claim, and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 427 (2007).

IV. DEFENDANTS SHOULD BE GRANTED SUMMARY JUDGMENT OF NONINFRINGEMENT

A. Corus Cannot Prove Defendants' Applications Use "Cellular-Based Location Data"

Corus admits that the functionality that determines the accused device's location is provided by frameworks in the Apple and Android operating systems. Although Apple and Google provide this critical functionality for "cellular-based location data," Corus took no discovery of Apple or Google. Moreover, Corus's experts admit that the relevant Apple and Google algorithms are proprietary and that they do not know how these frameworks actually work. Ex. 18 (Martin Dep.) at 28:14–29:18, Ex. 17 (Sturza Dep.) at 82:24–84:13, 139:25–140:25, 162:23–163:8. Instead, Corus's allegations are based on a handful of vague statements from public web sites, which only state that the frameworks can use "cellular" signals as one of various sources in identifying the device's location, without explaining what that means.

Corus's experts both opine that Zillow's Android apps meet the "cellular based location data" requirements by using Google's Fused Location Provider. *See, e.g.*, Dkt. 59-7 (Martin Zillow Android App'x) ¶¶ 6, 83–91, 123, 127, 193; Ex. 15 (Sturza Opening Rep.) ¶¶ 75–79. In support of their opinions, the experts both rely on statements from an "Android Developers" web page entitled "Optimize Location for Battery," which states, generally, that the Fused Location Provider "combines signals from GPS, Wi-Fi, and cell networks, as well as accelerometer, gyroscope, magnetometer and other sensors." *See, e.g.*, Dkt. 59-7 (Martin Zillow Android App'x) ¶ 83; Ex. 15 (Sturza Opening Rep.) ¶¶ 63, 64; Ex. 23 at 1–2.[3] Aside from vague, passing

[3] Dr. Martin also refers to a help page for Google Maps (not accused in this case) that says the "blue dot" used to indicate the user's location "might not be accurate" if "there's something between you and cell towers, like a parking garage or tall building." *See* Dkt. 59-7 (Martin Zillow Android App'x) ¶ 85.

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references to "cell" networks, Corus has not identified any evidence demonstrating how Google's Fused Location Provider is implemented or when or how it uses "cell" signals.

Similarly, for iOS, Corus's experts rely on a single statement on Apple's website that "Core Location provides services for determining a device's geographic location, altitude, orientation, or position relative to a nearby iBeacon. The framework uses all available onboard hardware, including Wi-Fi, GPS, Bluetooth, magnetometer, barometer, and cellular hardware to gather data." Ex. 21 at 1; *see, e.g.*, Ex. 15 (Sturza Opening Rep.) ¶ 39; Dkt. 59-6 (Martin Zillow iOS App'x) ¶ 84 ("Therefore, Core Location delivers locations to running apps through the use of cellular hardware."). Mr. Sturza also cites to an Apple web page that purportedly previously (but no longer, *see* Ex. 29) stated that "Core Location manages power aggressively by turning off hardware when it is not needed. For example, setting the desired accuracy for location events to one kilometer gives the location manager flexibility to turn off GPS hardware and rely solely on the WiFi or cell radios . . . ."). Ex. 19 at 2; Ex. 15 (Sturza Opening Rep.) ¶¶ 47, 58.

As an initial matter, these webpages are unauthenticated hearsay and cannot be used to defeat summary judgment of non-infringement. Fed. R. Civ. P. 56(c)(2). They are out-of-court statements being offered to prove the truth of the matter asserted regarding aspects of the accused apps. Fed. R. Evid. 801, 802. Corus has no evidence that these webpages are attributable to Defendants (because they are not) and no evidence to authenticate or support their veracity. *See Microsoft Corp. v. Phoenix Solutions, Inc.*, 2011 WL 13176095, *11 (N.D. Cal July 14, 2011) (sustaining a hearsay objection and finding "documents lack authentication because Phoenix fails to show from whom the documents originate or how they are reliable enough to relate to the issues in this motion. Phoenix cannot expect to print any document from the internet and submit it on the record without a showing that it is attributable to Microsoft or actually describes the accused products."); *Rotec Industries, Inc. v. Mitsubishi Corp.*, 215 F.3d 1246, 1256 (Fed. Cir. 2000) (inadmissible evidence is to be disregarded at summary judgment).

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Even if they were admissible, however, they would fail to prove Corus's case. Corus's experts admit that they do not know how these frameworks work, or even what "cellular" information is allegedly used. For example, Mr. Sturza admitted that he was speculating in suggesting that the devices request location data from the cellular network. Ex. 17 (Sturza Dep.) at 139:25–140:25 (admitting that he speculated that they requested "location data from the cellular providers" and "[a]ll I know is that they use cellular hardware"); Ex. 18 (Martin Dep.) at 25:3–6 ("Q. Do you know how iOS or the core location function uses these different sources other than what you see from the documentation. A. Not in detail, no."). Corus's experts establish, *at best*, that Apple and Google use "cellular" signals in an unspecified manner. Yet, as described above, Corus concedes that the mere use of cellular signals or hardware for positioning is insufficient to satisfy the claims (and repeatedly uses that to try to distinguish its claims from the prior art).

If anything, the evidence of record *undermines* Corus's position. For example, David Williams, a location services expert, has testified to his understanding that the Apple and Google operating systems do *not* request location data from the cellular networks and instead use internal databases of crowd-sourced information to identify the location of cell towers. *See, e.g.*, Ex. 26 (Williams Rebuttal Rep.) ¶ 46 *see also id.* ¶¶ 63, 66–70. In his deposition, Mr. Sturza admitted that iOS and Android might use such a "crowd-sourced" database of cell tower positions instead of requesting location data from the cellular network (as he had originally speculated in his report). *See, e.g.*, Ex. 17 (Sturza Dep.) at 83:18–84:3 ("A. I would be speculating on that. It could be limited to, for example, crowdsourcing of cell towers. Or it could be limited to requesting it — location — from networks. . . ."); *id.* at 161:1–62:2. In fact, there is *affirmative* evidence that this is precisely what they do. For example, Apple's "Location Services and Privacy" page, which Corus produced but is not discussed in Corus's expert reports, states:

> Location Services uses GPS and Bluetooth (where those are available) along with ***crowd-sourced*** Wi-Fi hotspot and ***cell tower locations*** to determine your device's approximate location. …

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> If Location Services is on, your iPhone will periodically send the geo-tagged locations of nearby Wi-Fi hotspots and cell towers in an anonymous and encrypted form to Apple, to be used in augmenting ***this crowd-sourced database*** of Wi-Fi hotspot and ***cell tower locations***.

Ex. 22 at 1 (emphasis added). Neither of Corus's experts discussed or analyzed in their reports the possibility that Apple and Google use a "crowd sourced" database of cell tower locations. *See, e.g.*, Ex. 17 (Sturza Dep.) at 162:3–7 ("Q. And your discussion [of crowd-sourcing], is that based on anything cited in your report? A. No, it's not . . . ."); *id*. at 162:8–21; *id*. at 163:6–8.

Moreover, Mr. Sturza conceded that his speculation about how Apple and Google might use "crowd-sourced" cell tower locations was in fact similar to the teachings of the prior art system in Koorapaty, which he explicitly argues would *not* be covered by the claims. *See, e.g.*, Ex. 17 (Sturza Dep.) at 240:22–241:2 ("[W]hat's disclosed [in Koorapaty] is similar to what we talked about with the crowdsourcing . . . ."). Mr. Sturza argued that Koorapaty was not "cellular-based positioning" because it relied on a database of cell tower locations that had been *generated from GPS locations*, but he speculated that Apple and Google's crowdsourced databases *also would be generated from GPS locations*. *See, e.g., id*. at 161:4–62:2 ("Q. So what's your understanding of what it would mean to use crowd sourced data? A. . . . [W]hen the devices have GPS location, . . . they record. . . . They record parameters of the cellular towers, so they can see the cellular signals. They use that to create a signature. They then send that signature with *the GPS location* back to Apple or Google, who then create these crowd source databases. . . .") (emphasis added); *id*. at 249:8–13 ("Q. I want to be clear that your opinion is that nothing in Koorapaty discloses cellular-based positioning, because Koorapaty makes clear that all the position estimates referred to in Koorapaty are obtained using the GPS receiver of a GPS-equipped cell phone. A. Yes, I think that's accurate."); 251:7–20.

Finally, if Corus could show that the accused devices receive location data from a "cellular based positioning system" (which, as described above, they cannot), that would still be insufficient to find infringement. In claim construction, Corus argued that "cellular-based

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location data" had to come from an external cellular-based positioning system "capable of tracking the position of a device in an area of interest." Dkt. 36 at 8. Mr. Sturza testified that the Court's construction would require the cellular-based positioning to be accurate enough to track a user's positions moving within a "residential neighborhood." Ex. 17 (Sturza Dep.) at 110:18–22. He could not provide a specific accuracy threshold but conceded, for example, that accuracy at the scale of a neighborhood or "city level" accuracy would *not* satisfy the Court's construction. *Id.* at 111:14–18; *id.* at 138:16. There is no evidence that the "cellular" source of information referred to on the Apple / Google web pages would be accurate enough to track a user within a residential neighborhood. To the contrary, the minimal evidence that Corus relies upon explicitly suggests that any cellular positioning used by these frameworks *would fail* to meet the tracking requirement. For example, a Google web page produced by Corus states that relying solely on cell tower information provides only "*coarse (city-level) accuracy.*" *See, e.g.*, Ex. 23 at 2 ("PRIORITY_LOW_POWER largely relies on cell towers and avoids GPS and Wi-Fi inputs, providing coarse (city-level) accuracy with minimal battery drain.").

In sum, Corus cannot establish that either the Apple or Google frameworks receive "cellular-location data" in a manner within the claims. As Mr. Sturza admitted, and as Mr. Williams has opined, they might simply be receiving standard cellular signals and using internally stored information about cell tower locations derived from GPS measurements, similar to the prior art that Corus contends is *not* covered by the claims. Further, there is no evidence that any "cellular" positioning in the frameworks from Apple or Google would be accurate enough to satisfy the "tracking" requirement in this Court's construction of "cellular-based location data." Accordingly, Zillow should be granted summary judgment of noninfringement.

B. <u>The Accused Applications Rely on Remote Online Databases and Do Not Obtain Property Information from a Database Stored on the Local Device</u>

Alternatively and independently, the Court should grant summary judgment of noninfringement because the accused apps do not have the claimed local "database" of property

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information. There is no material factual dispute as to the functionality of Zillow's apps with regards to this issue for summary judgment. Zillow's property database is maintained on remote servers, and the apps require an Internet connection for a user to search for properties in a given location. Bettin Decl. ¶ 2–3. The user cannot perform searches of property information stored on the device — instead, all searches in the apps rely on remote databases on the Internet. *Id.* When a search of the remote database is performed, the results are returned to the mobile device for display. *Id.* ¶ 3. The mobile device can display a map with icons showing the locations of the properties returned by the remote database search. *Id.* The search results include additional information about the properties, such that, if a user clicks on an icon, information for the corresponding property can be displayed. *Id.* A user cannot conduct another search (e.g., applying new filters or change the search region) without connecting back through the Internet to the remote database. *Id.* ¶ 2–3. All searches are conducted on the remote database. *Id.*

Corus seems to argue that the search results returned to the mobile device constitute a "database" of property information, because they are "arranged for search and retrieval" on the mobile device. *See supra* § II.B.2. The parties do not dispute that search results returned from the Internet-based database are placed in memory on the mobile device. When a user clicks on the property icon, the relevant photos and information are simply retrieved from memory and displayed to the user. Corus's infringement theory appears to be that this retrieval of results stored in working memory necessary requires a database arranged for "search" and retrieval. Corus's infringement theory is directly contrary, however, to the testimony of its expert, Mr. Sturza, that data structures for implementing the same functionality in the prior art would ***not*** be a database within the meaning of the claims. *See* Ex. 17 at 269:15–276:20.

At most, Corus can argue that its *other* expert, Dr. Martin, has reached a different conclusion. Dr. Martin's opinion is not only inconsistent with Mr. Sturza's opinion, but it is also clearly different from how a POSITA would construe the term. Indeed, he has admitted that he has not considered whether a POSITA would consider search results in working memory to be a

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database under its ordinary meaning. Ex. 18 (Martin Dep.) at 67:16–69:3. Instead, he tries to stretch the agreed-upon language (i.e., construe the construction) such that "arranged for search" is meaningless—all that is required is that data be stored in memory and can be retrieved.

Dr. Martin readily agrees that to display information on a mobile device, you "have to store it in some type of memory." *Id.* at 84:21–25. That said, he also could think of no way in which, under his stretched definition of database, maps and property information could be sent to a mobile device *without* being stored in a database. *Id.* at 85:2–12; 104:17–105:19. He also did not consider the ordinary meaning of the term "database" and whether a POSITA would consider search results temporarily stored in working memory as the claimed database of property information. Under Dr. Martin's analysis, data structures that are commonly thought not to be databases, such as arrays, linked lists and file directories, are all potentially a "database." *Id.* at 65:23–66:4; 68:9–69:13; 70:19–72:5. Perhaps most importantly, Dr. Martin offered no evidence that anyone else, besides himself, had ever referred to these types of memory structures as databases. *See, e.g., id.* at 129:5–13 (referencing MapCardPagerAdapter); 134:7–135:3 (Google Maps Marker memory); 136:20–137:3; 163:6-9 (MapKit annotation).

Indeed, Dr. Martin struggled to find examples under his broad construction of how data could be stored for *retrieval* without falling into his contrived definition of a database. There are only two examples he could think of where data could be stored for retrieval and not also be "arranged for search." One is the random selection of lotto balls from a database. *Id.* at 66:23–67:14. Dr. Martin apparently believes any other type of systematic retrieval could be considered a "search." *See, e.g., id.* at 68:17–69:30; 75:10–14 (asserting that even data that was just serially laid out could be considered "arranged for search.") The only example he could think of where data would *not be* "arranged" for search was an encrypted data structure. *Id.* at 79:14–80:23. This, of course, renders "search" as superfluous.

Dr. Martin's opinion is contradicted by Corus's other expert, Mr. Sturza, *see supra* § II.B.2, and is inconsistent with the ordinary meaning of database and the '803 patent

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specification and prosecution history. The patent and prosecution history, including the disclaimer with respect to the Wiese prior art, confirms that the "database" of property information on the mobile device must be sufficient to allow a user to search for properties in an area of interest. There is no dispute that the accused apps do not allow that functionality — the database of property information that is searched is located on a remote server over the Internet. Therefore, summary judgment of non-infringement is warranted.

C. There is No Evidence of Indirect Infringement

Corus contends that Defendants indirectly infringe claims by inducement or contributory infringement. Both theories require knowledge of patent infringement. *See Commil USA, LLC v. Cisco Systems, Inc.*, 135 S. Ct. 1920, 1926 (2015). The asserted claims of the '803 patent require the device to receive and use cellular-based location data. Defendants could not have known that the accused products infringed because they did not, and still do not, know how the accused location services frameworks from Google and Apple work or when, if ever, they would receive and use cellular-based location data. At most, Corus contends that Defendants knew that the frameworks would possibly use cellular hardware to determine location, but as Corus admits, the mere use of cellular hardware for positioning is insufficient to satisfy the claim limitations. *See supra* § IV.A. As such, Defendants could not have had the requisite knowledge for indirect infringement. *See Ferguson Beauregard/Logic Controls, Div. of Dover Res., Inc. v. Mega Sys., LLC*, 350 F.3d 1327, 1342 (Fed. Cir. 2003) (no inducement where evidence did not show defendant knew or should have known that his actions were encouraging infringement). Thus, the Court should grant summary judgment of no indirect infringement.

V. THE PATENT CLAIMS ARE INVALID AS A MATTER OF LAW

A. The Asserted Claims Are Obvious in View of Prior Art

There is no novel, non-obvious invention in the '803 patent. Everything in the asserted claims was known in the prior art, and Corus's attempts to retroactively fashion an "invention"

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strain credibility. As described below, no reasonable jury could find the asserted claims to be novel and non-obvious in view of Florance and/or the combination of Florance and Koorapaty.

1. The Florance Patent

There is no dispute that Florance is prior art. Florance describes a similar map-based interface for searching and displaying real-estate information as the '803 patent. For example:

> The system of the present invention also provides a unique method for searching for property within a geographical area using a map linked to a database that stores geographically pertinent information. As an example, the map includes icons showing the locations of properties for which the database has information. As a user drags a mouse pointer over an icon, a window pops-up displaying the geographically pertinent information from the database. For example, the information in the window could include a photograph of the property along with its sales price.

Ex. 12 (Florance) at 11:30–42; *see also id.* at 31:44–47 (noting that the user could select the property icons by "clicking" on it or "using a touch screen").

Like the '803 patent, Florance describes that the information to be searched and displayed to the user is stored in a "database," *id.* at 11:30–42, and that this information can be stored locally on the user's device or on a remote device, *see, e.g.*, *id.* at 39:60–65 ("Using the system of the present invention, information could be retrieved from the database of the present invention and displayed on the user's PDA or laptop computer based on the user's location. The information can be stored locally with the user or transmitted to the user from a remote database."). Florance further describes that, when the database is stored remotely, a subset of data from the database can be retrieved and "stored locally for quick retrieval, such as in a cache." *Id.* at 32:31–41. For example, this local cache of additional information retrieved from the database can be used to look up and display additional information about a property (*e.g.*, address, price, or a digital image) if the user selects the icon on the map. *Id.* at 32:42–58.

Like the '803 patent, Florance describes that the property information to be displayed can be searched and retrieved based on a determination of the user's location. Florance at 39:60–63

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("Using the system of the present invention, information could be retrieved from the database of the present invention and displayed on the user's PDA or laptop computer based on the user's location."). Like the '803 patent, Florance also describes that GPS could be used — however, contrary to Corus's repeated misrepresentations to the Patent Office, Florance does not limit its teachings to GPS and expressly contemplates the use of "other position determining system[s]." *See, e.g.*, *id.* at 32:24–28 ("[T]he information can be used in conjunction with a GPS *or other position determining system* to automatically display geographically relevant information based on a user's position . . . .") (emphasis added). Indeed, Florance describes an embodiment using a "Palm VII," as discussed above, which was an existing handheld device that did *not* have GPS but did have cellular-based positioning.

Florance's relevant teachings regarding location-based searching of a database of property information and displaying property information on a map are described as applicable to a variety of devices. *See, e.g.*, *id.* at 32:24–28 (describing the use of "a GPS or other position determining system" for location-based database searching "whether in a vehicle or using a handheld system."); 39:55–40:2 (describing the retrieving property information from a database for display "on the user's PDA or laptop computer based on the user's location."). However, as described below, Mr. Sturza's rebuttal report as to invalidity ignores these broad teachings (which render obvious all of the '803 patent claims) and instead narrowly focuses on two specific embodiments — namely, the Palm VII and the "mobile information-collecting device." The Palm VII device is merely one example of Florance's teachings that the invention can be used on a "PDA or laptop computer." *Id.* at 39:65–40:2. Florance describes the "mobile information-collecting device" as a specific embodiment used to *gather* data to be *added* to the database. *See, e.g.*, Florance at 10:10–34, 11:55–65, 13:11–31, Fig. 2. Florance teaches that these "mobile information-collecting devices" *can* also retrieve and display property information, but nothing in Florance suggests that a device that searches for and displays property information based on the user's location must *also* be capable of "collecting" real estate

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data to *add* to the database. To contrary, as described above, Florance explicitly teaches that such functionality could be widely used on various devices. *See, e.g.*, *id.* at 21:32–39.

Corus itself sought reexamination of the '803 patent based on the Florance prior art reference, including a claim chart mapping the teachings of Florance to the limitations of the originally issued '803 patent claims. Ex. 3 at 3–12.

2. The Koorapaty Patent

There is no dispute that U.S. Pat. No. 6,801,778 ("Koorapaty") is prior art. Koorapaty describes various ways of using GPS and/or cellular functionality for positioning. At that time, it was "known to combine a cellular phone with a GPS receiver in a single unit to provide the current position of the unit to [a mobile application], either periodically or upon request of the application." Ex. 13 (Koorapaty) at 1:33–37. As described above, Koorapaty teaches that a "reference location" can be either (1) directly requested from the cellular network or (2) computed internally on the device using standard cellular signals and a stored database of cell tower locations derived from prior GPS measurements. *Id.* at 1:61–2:32, 3:17–24, 3:47–4:59. Koorapaty teaches that this reference location can either be provided as an *input* to the GPS receiver to improve performance or used *instead* of acquiring a new GPS fix (*e.g.*, when GPS in unavailable or where the reference location is sufficiently accurate for the application). *Id.* at 1:38–50, 2:28–43, 2:52–64, 3:7–17, 5:1–41. Corus's invalidity expert, Mark Sturza, characterizes all of Koorapaty's teachings as a form of "Assisted GPS," Ex. 17 (Sturza Dep.) at 230:17–21, 249:8–13, and concedes that a POSITA would have found it obvious to combine Florance with Koorapaty's teachings:

> Q. . . . . I'm trying to understand if you have any reason to think that a person of ordinary skill in the art wouldn't be motivated to apply the improvements in Koorapaty to the straight-up GPS teachings in Florance.
>
> A. Well, as you know, I understand Koorapaty as I mentioned. It's basically teaching Assisted GPS. And Florance is teaching

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> GPS positioning. So I think it's reasonable that someone might apply assisted GPS to Florance based on Koorapaty.

Id. at 231:5–14.

3. Mr. Sturza's Rebuttal Arguments are Non-Responsive to the Dr. Bederson's Unrebutted Invalidity Analysis and Fail as a Matter of Law

Dr. Bederson's report describes how Florance renders each limitation of the asserted claims obvious, both alone and in combination with the secondary prior art reference Koorapaty. Ex 24 (Bederson Invalidity Rep.) ¶¶ 148–595. In response, Corus's expert provides only three rebuttal arguments, each directed to the independent claims. First, Mr. Sturza opines, as Corus did in reexamination, that Florance fails to disclose or render obvious the use of "cellular-based location data" (arguing that its teachings were explicitly limited to GPS). *See, e.g.*, Ex. 16 (Sturza Rebuttal Rep.) § VIII.b.i.1.a, VIII.b.i.2–4. Mr. Sturza also tries to raise two new grounds for distinguishing Florance — namely, that it does not disclose *creating* maps on a local device, (*see, e.g.*, *id.* § VIII.b.i.1.b) or obtaining property information from a locally stored database (*see, e.g.*, *id.* § VIII.b.i.1.c). Each of these arguments fails as a matter of law, is unsupported by the evidence, and is directly contradicted by Corus's own infringement analysis.

a. Cellular Based Location Data

As described above, Corus amended the claims in reexamination to require the use of "cellular-based location data," even though the '803 patent only mentions cellular positioning in passing as a *disfavored* alternative to GPS. '803 patent at 3:11–17 ("Preferably, the receiver is a GPS receiver . . . ."). Even after Corus's amendments, the claims were repeatedly rejected for obviousness in view of Florance. *See, e.g.*, Exs. 5, 7. The amended claims were ultimately allowed, specifically based on the "cellular-based location data" requirements (*see, e.g.*, Exs. 9, 11), but only after Corus repeatedly and materially misrepresented the prior art to the examiner. For example, Corus falsely represented to the examiner that Florance "discloses *exclusively* GPS" for positioning and "specifically *excludes* using cellular based location data" (Ex. 6 at 11,

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15 (emphasis added)), when Florance expressly describes the use of "a GPS *or other position determining system*." Ex. 12 (Florance) at 32:25 (emphasis added).[4]

As Dr. Bederson also explained in his report, Florance did not limit its invention to the use of GPS, instead referring broadly to a "location determining device" and describing the use of "GPS *or other position determining system*." Ex. 24 (Bederson Invalidity Rep.) ¶ 266 (citing Florance at 17:30–31, 32:25–28 (emphasis added)). As an initial matter, he opined that a POSITA would have understood Florance to *explicitly* contemplate the use of cellular based positioning (*e.g.*, by describing the Palm VII device, which had cellular positioning and lacked GPS). *Id.* More fundamentally, Dr. Bederson explained that "[t]he importance of location data in Florance is not *the manner* that the location data was obtained but rather in *what* is done with that information — namely, that it is used to retrieve and display information about nearby properties." *Id.* ¶ 266. Accordingly, a POSITA would have found it obvious to use Florance's teachings with known cellular-based positioning techniques, instead of or in combination with GPS. *Id.* ¶ 270. For example, Dr. Bederson explained that the benefits and drawbacks of the various positioning technologies were well known, and it was further understood that multiple positioning techniques could be combined to achieve an improved overall solution. *Id.*

Mr. Sturza's rebuttal opinions are directed primarily to Dr. Bederson's opinion that Florance would have been understood to *explicitly* contemplate the use of "cellular based location data." Ex. 16 (Sturza Rebuttal Rep.) ¶ 206–19. As to Dr. Bederson's broader obviousness analysis, Mr. Sturza's rebuttal report is limited to a single embodiment in Florance

[4] Corus also argued to the examiner that it would not have been obvious to use Florance on a "device capable of obtaining cellular based location data," stating that "Florance provides a device useful for only commercial real estate and for the purposes of Florance's invention there was no need to bring information from the real estate agent to the masses. . . . Accordingly, one would not have modified the disclosure of Florance to include a web-enabled mobile phone or other cellular device using cellular based location in a real-estate application." Ex. 6 at 14–15 (emphasis added). This was another false statement to the examiner, as Florance explicitly and repeatedly states that its invention is *not* limited to commercial real estate. *See, e.g.*, Ex. 12 (Florance) at 17:15–22 ("[T]he system within which the method operates is used to facilitate exchange of information pertaining to *residential real estate available for sale*. . . . [T]he information customers are *potential buyers* . . . .") (emphasis added); *see also id.* at 17:52–57, 18:21–30, 19:13–25, 28:55–64, 32:2–4, 35:12–15, 39:7–9, 56:44–55.

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(specifically, the "mobile information-collecting device"). *Id.* ¶ 221–23; Ex. 17 (Sturza Dep.) at 202:13–19. For example, Mr. Sturza argues that the "mobile information-collecting device" requires "extremely accurate and precise information regarding a device's location based on a GPS system" in order to perform its data-collection functions and that "the accuracy and precision of known cellular-based positioning systems at the time could not meet this high standard." Ex. 16 (Sturza Rebuttal Rep.) ¶ 222. In his deposition, however, Mr. Sturza conceded that Florance's description of a "GPS or other positioning system" for retrieving and displaying real estate information on a handheld device was *not* describing the "mobile information-collecting device." Ex. 17 (Sturza Dep.) at 200:13–19 ("Q. In [the description at col. 17, line. 30], it's not specifically typed GPS; correct? A. Correct. It doesn't say GPS here. Q. And this is not in the context of the mobile collection vehicles? A. Correct. It does not appear to be in the collection platform."), 201:12–24 ("Q. So [Florance at col. 32, line 25] explicitly contemplates the use of a positioning determining system other than GPS? A. Yes. GPS or other position determining system. Q. Ok. So Florance is not explicitly limiting its teachings to the use of GPS. A. Correct. It clearly talks about GPS or other positioning determining system.").

As Dr. Bederson explained:

> In short, neither the '803 patent nor the Florance disclosure are dependent upon any particular method of determining location data. A POSITA reading their specifications would understand that what matters for both patents is that the device can obtain data about the user's location so that it can be used to used decide what property information to retrieve for display to the user. The specific mechanism for obtaining that location data is an implementation detail that had nothing to do with the substantive content of either disclosure. *Compare* Florance at 32:24–25 ("[T]he information can be used in conjunction with a GPS or other position determining system . . . ."), *with* '803 patent at 8:51–54 ("The positioning system may be the Global Positioning System (GPS) or any of a variety of other positioning systems which use, for example, satellite data to determine location on a digital map.").

Ex. 24 (Bederson Invalidity Rep.) ¶ 274.

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Nothing in Dr. Bederson's invalidity analysis is limited to Florance's "mobile information-collecting device." *See, e.g.*, Ex. 24 (Bederson Invalidity Rep.) ¶¶ 265–66, 270–74; Ex. 16 (Sturza Rebuttal Rep.) ¶¶ 220–25. Therefore, Dr. Bederson's broader opinion that using "cellular based location data" with Florance's teaching would have been obvious to a person skilled in the art is entirely unrebutted.[5]

(i) Florance + Koorapaty

Alternatively, the asserted claims are invalid in view of the combination of Florance and Koorapaty. As described above, Florance teaches retrieving property information from a database based on the user's location determined by a "GPS or other position determining system." Ex. 12 (Florance) at 32:25 (emphasis added). Koorapaty teaches ways of using both GPS and cellular hardware in a single device to remedy some of the known issues when using GPS alone — namely, the unavailability of GPS when satellites cannot be detected (*e.g.*, indoors) and the long times that GPS sometimes needs to acquire a location fix. *See, e.g.*, Ex. 13 (Koorapaty) at 1:38–58. Mr. Sturza conceded at his deposition that a POSITA would have been motivated to combine Florance and Koorapaty, but he argues that this combination would be insufficient to satisfy the limitations because, in his view, "Koorapaty doesn't teach cellular-based positioning" and instead discloses only "Assisted GPS." Ex. 17 (Sturza Dep.) at 231:2–14.

As described above, Mr. Sturza's characterization of Koorapaty entirely undermines Corus's already flawed infringement case. It confirms that the mere use of "cellular" information for positioning (the sole evidence Corus has put forth in its infringement case) is insufficient to satisfy the claim limitation. Further, as described above, Mr. Sturza himself speculates that Apple and Google's location services function in a manner similar to an

[5] Mr. Sturza also took issue with an aspect of Dr. Bederson's opinion relating to the use of "Assisted GPS" with Florance. Ex. 16 (Sturza Rebuttal Rep.) ¶ 224. Mr. Sturza argues that "Assisted GPS" would not be considered "cellular-based positioning" even though it uses the device's cellular hardware, so he argues that it would not be covered by the claim. *Id.* However, again, Dr. Bederson's opinions regarding the invalidity of Florance are in no way limited to the use of Assisted GPS, so Mr. Sturza's argument on that point is non-responsive to Dr. Bederson's overall invalidity analysis.

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embodiment in Koorapaty (using information about the observed cellular network to look up cell towers positions generated based on prior GPS location fixes).

For his validity analysis, Mr. Sturza's argument depends on his position that "nothing disclosed in Koorapaty actually teaches cellular-based positioning." Ex. 17 (Sturza Dep.) at 233:14–18. However, that position is untenable in light of Koorapaty's actual disclosure, as Mr. Sturza admitted in his deposition. For example, one possibility explicitly contemplated in Koorpaty is simply requesting a position estimate from the cellular network itself and using that *instead* of GPS (*e.g.*, indoors, where GPS might be unavailable). Ex. 13 (Koorapaty) at 1:52–55; Ex. 17 (Sturza Dep.) at 236:20–237:2; 241:23–242:17. Mr. Sturza fails to articulate how that scenario (which would not use the GPS receiver at all) could be considered anything other than "cellular-based" positioning. In his report, Mr. Sturza argues that Koorpaty only teaches "Assisted GPS" based on a quote from Koorapaty that "all the position estimates referred to are obtained using the GPS receiver in GPS-equipped cell phone." Ex. 13 (Koorapaty at 3:51–53), Ex. 16 (Sturza Rebuttal Rep.) ¶¶ 188, 257, 337. However, he admitted in his deposition that this quote was pulled from a section explaining how to *compute* a reference location when one could *not* be requested from the cellular network. Ex. 13 (Koorapaty) at 3:47–4:14 ("Computing Reference Locations for Cells With No Availability of Reference Locations"); Ex. 17 (Sturza Dep.) at 235:18–236:13. In light of Mr. Sturza's concessions in his deposition that (1) a POSITA would have been motivated to combine Florance and Koorapaty, and (2) Koorpaty teaches retrieving location data from the cell network and directly using it *instead* of GPS, no reasonable jury could find that the combination of Florance and Koorpaty fails to disclose the use of "cellular based location data."

b. Generating a Map on the Mobile Device

For the first time in his rebuttal report, Mr. Sturza raises a new argument in support of his validity opinion — namely, he suggests that the claims require that the map image be "created" entirely on the local device. He admits Florance teaches map-based user interfaces, but he

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argues that Fig. 2 in Florance depicts a "mapping system" that is "separate and remote from the mobile information gathering device" and argues that "a person of skill in the art would thus understand that the maps and icons disclosed in Florance are created in complete form remote from the mobile information gathering device." Ex. 16 (Sturza Rebuttal Rep.) ¶ 229.

First, this argument was never raised in the reexamination and is inconsistent with the examiner's repeated rejections of the asserted claims. Indeed, it is inconsistent with Corus's entire reexamination strategy. The claim language relating to map-generation was in the *original* claims of the '803 patent, so if Florance failed to satisfy this claim requirement, there would have been no need seek reexamination at all, much less to seek all of Corus's narrowing amendments.

Second, Corus has repeatedly taken the position that online map generation *is* covered by the claims. The '803 patent identifies various "map generation units" and explicitly names "MapQuest," which it describes as a "[a] *web-accessible* map generation program which also may be used in accordance with the present invention." '803 patent at 4:53–56. In the claim construction, Corus repeatedly cited the online MapQuest system as an example of a "map generation unit" that would be covered by the claims. *See, e.g.*, Dkt. No. 36 at 10:13–28. Mr. Sturza's newly disclosed argument that the claims require the map image to be created entirely on the local device is inconsistent with Corus's interpretation of the patent throughout both examinations and this litigation and should be rejected as a matter of law.

Mr. Sturza's invalidity argument also directly contradicts Corus's infringement theory. Dr. Martin admits Zillow's mobile applications do not implement their own mapping functionality — rather, the applications rely on mapping functionality provided by the operating system providers Apple ("MapKit") and Google ("Maps API"). *See, e.g.*, Dkt. 59-6 (Martin Zillow iOS App'x) ¶ 5; Ex. Dkt. 59-7 (Martin Zillow Android App'x) ¶ 5. Again, Corus has taken no discovery from Apple or Google and there is no discussion or analysis in Dr. Martin's regarding how those frameworks generate map images, much less that the map images are generated locally on the device. Indeed, the online documentation for Google Maps API (linked

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to in webpages produced by Corus but not included in their production) specifically mentions that the "API automatically handles access to Google Maps servers, data downloading, map display, and response to map gestures." Ex 28 (Google Maps SDK for Android — Overview). As with the alleged use of "cellular based location data," Corus improperly relies on contradictory readings of the claim language for invalidity and non-infringement

Finally, even if Mr. Sturza's new, strained interpretation of the claims is plausible (which it is not), his analysis would still fail as a matter of law. The discussion in his report is directed exclusively to specific embodiments — namely, the "mobile information collecting device" (Ex. 16 (Sturza Rebuttal Rep.) ¶¶ 228–31), and the "Palm VII" (*id.* ¶ 232–40), but, as described above, the relevant disclosures in Florance are not limited to those specific embodiments.

c. Database Stored on the Device

Mr. Sturza raises another previously undisclosed argument regarding the Florance prior art — that it fails to disclose obtaining property information from a "database stored" on the mobile device. *E.g.*, Ex. 16 (Sturza Rebuttal Rep.) ¶¶ 243–54. As with the "mapping" argument described above, this argument was not previously raised, is inconsistent with the examiner's repeated rejections, and makes no sense in light of Corus's narrowing amendment in the reexaminations (because this requirement was in the original '803 patent claims).

As described above, Florance expressly describes retrieving property information from a "database" based on a determination of the user's location and displaying that property information on a map. *E.g.*, Ex. 12 (Florance) at 32:9–10 (describing "a database containing data concerning real estate"), *id.* at 32:24–30 (describing the use of "GPS or other position determining system" to retrieve data based on the user's position for display in a user-friendly graphical user interface for accessing information stored in the database," "whether in a vehicle or using a handheld system."), *id.* at 32:40–41 ("[T]he data may be displayed in a map format"), *id.* at 31:36–32:6 (describing the map-based interface with selectable icons). Florance states:

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> Using the system of the present invention, information could be retrieved from the database of the present invention and displayed on the user's PDA or laptop computer based on the user's location. ***The information can be stored locally with the user or transmitted to the user from a remote database***.

Id. at 39:60–65 (emphasis added). As Dr. Bederson explained, "Florance states that the information to be retrieved is stored in a database model and that this information can be stored locally on the mobile device, so a POSITA would understand Florance to expressly disclose that the property information is ultimately obtained from a database stored on the local device." Ex. 24 (Bederson Invalidity Rep.) ¶ 303.

Again, Mr. Sturza's response is directed solely to Florance's "mobile information-collecting device." *E.g.*, Ex. 16 (Sturza Rebuttal Rep.) ¶ 245 ("Florance makes clear that this unified database is separate and remote from the *mobile information-collecting device 100*."); ¶ 246 ("I thus disagree with Professor Bederson's opinion and conclusion that the unified database of Florance "can be stored either remotely or locally on the *[mobile information-collecting] device*."), ¶ 247 ("In my opinion, Florance does not disclosure [sic], teach, or otherwise suggest that the unified database of Florance can be stored locally on a *mobile information-collecting device 100*."). Nothing in Dr. Bederson's analysis regarding Florance's disclosure of a local database is limited to the "mobile information-collecting device," so Mr. Sturza's analysis is his report is non-responsive. *See* Ex. 24 (Bederson Report) ¶¶ 302–307; *e.g.*, ¶ 303 ("Florance describes that the database can be stored remotely or locally on a mobile device (such as a PDA or laptop)"). In light of Dr. Bederson's unrebutted analysis and Florance's clear disclosure that "information could be retrieved from the database of the present invention" and this information "can be stored locally with the user or transmitted to the user from a remote database," no reasonable juror could conclude that obtaining property information from a database stored on the device was somehow a novel and non-obvious distinction over the Florance prior art.

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Further, Mr. Sturza concedes that Florance teaches the use of remote database, where a subset of the real estate data in that remote database is retrieved and stored on the local device for quick retrieval, such as in a "cache."

> Specifically, when data is retrieved from the database (either as a result of a user query or a predetermined query), only a portion of the data retrieved is displayed. The remaining data is stored locally for quick retrieval, such as in a cache. The portion of the data that is displayed may be displayed in . . . a map format.

Ex. 12 (Florance) at 32:34–41; Ex. 16 (Sturza Rebuttal Rep.) ¶¶ 248–54; Ex. 24 (Bederson Report) ¶ 305. This additional property information is stored locally and can be retrieved and displayed — *e.g.*, upon selection of an icon. Florance at 32:42–50. Dr. Bederson explained that this "cache" would necessarily constitute a "database" "under Corus's overly broad apparent interpretation" of the parties' agreed construction. Ex. 24 (Bederson Invalidity Rep.) ¶ 306. As described above, Dr. Martin has expressly opined that any data structure on the local device that can be used to implement such behavior would be a "database" under the claims. *See supra* § IV.B. Contradicting Corus's infringement theory, Mr. Sturza argues that the local "cache" used in Florance for this same behavior *need not* be a "database" and that it would not even have been *obvious* to use a database for that purpose. Ex. 17 (Sturza Dep.) at 273:14–275:2.

In sum, the Court should grant summary judgment that the asserted claims of the '803 patent are obvious based on prior art. Dr. Bederson has provided a complete analysis demonstrating how the asserted claims are rendered obvious by Florance alone and, alternatively, by Florance + Koorapaty, and, as described above, the only arguments Mr. Sturza raises in response each fail as a matter of law and directly contradict Corus's own infringement theory.

B. Corus's Reading of "Cellular-Based Location Data" Renders the Claims Indefinite

As described above, the amended claims require obtaining "cellular-based location data." At claim construction, Corus argued that it was not enough for this location data to come from a

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"cellular-based positioning system," it further has to be capable of "tracking" the device in some unspecified "area of interest." Corus argued that:

> [T]he specification of the '803 patent makes clear that the 'location data' of the invention is received from an external positioning system that "may be satellite-based, *cellular-based*, or any other type" so long as those systems are "*capable of tracking the position of an object in an area of interest.*"

Dkt. 36 at 12. Zillow argued that Corus's proposed construction created "unnecessary ambiguity as to the meaning of 'tracking'" as it suggested a degree of accuracy but failed to specify what the claims required. Dkt. 37 at 2, 16. Corus argued the term would provide sufficient clarity to a POSITA (without specifying what that would be). Dkt. 41 at 3–4. The Court accepted Corus's argument and construed the term as "location data from a cellular-based positioning system capable of tracking the position of a device in an area of interest." Dkt. 51 at 14.

Mr. Sturza confirmed in his rebuttal report and deposition that Corus's proposed construction does *not*, in fact, provide sufficient clarity — to the contrary, it renders the claims indefinite. Mr. Sturza opined in his deposition that the relevant "area of interest" for the '803 patent was a "residential neighborhood." Ex. 17 (Sturza Dep.) at 88:7, 111:18–22. However, he could not say whether specific prior art devices or techniques would satisfy the Court's construction or not because their accuracy depended on the density of cell tower placement in any given area. For example, he explained that "Cell ID" was a well-known technique for cellular networks to identify a device's location based on the location of the cell tower to which it is connected. *See, e.g.*, *Id.* at 63:1–3, 74:5–11. Mr. Sturza testified that a person skilled in the art would "certainly" have understood Cell ID to be "cellular-based positioning," but that there were "a lot of variables that come in to whether, you know, Cell ID would provide sufficient accuracy to track the position of a device in an area of interest." *Id.* at 63:19–65:10; *id.* at 86:25–87:6 (". . . I said that Cell ID is cellular-based positioning. There was no qualification on that. [T]he qualification comes with regard to the court's construction of tracking the area of interest.

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And that would depend on the size of the area of interest and the size of the cells."). Mr. Sturza repeatedly testified that the ability to "track" using various "cellular based" positioning systems would depend on the cell tower density in any particular region, ***such that a given device might satisfy the claim limitation in one region but not in another***. *E.g.*, *id.* at 98:20–99:2 ("If you're asking me does it meet the court's claim construction of being capable of tracking position of the device in an area of interest, where the area of interest is a residential neighborhood? Then, you know, my answer is that in areas with large cells – which at the time was most areas – it would not. If there were areas at the time with small cells, then it might be able to."); *see also id.* at 86:25–87:6, 88:11–89:9, 93:20–94:5, 96:21–97:3, 98:1–8, 92:20–99:2, 100:9–101:24, 105:21–107:6, 118:1–119:5. Mr. Sturza could not explain whether a person of skill would have understood the claims to cover devices receiving location data that could track at the required accuracy in some neighborhoods but not others. *Id.* at 105:21–106:12.

Mr. Sturza's testimony makes clear that the "tracking" requirement proposed by Corus fails to "inform those skill in the art about the scope of the invention with reasonable certainty." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). The requirement not only creates ambiguity about the level of accuracy required, it introduces ambiguity as to whether a given device would infringe depending on the vagaries of the surrounding cellular environment. For example, according to Mr. Sturza, the same device might "infringe" the claims in one geographical region (with dense cell towers) but not in another. Ex. 17 (Sturza Dep.) at 98:20–99:2. Mr. Sturza similarly suggests that a device that was understood *not* to infringe might somehow *later* become infringing as cell towers become more densely spaced. *Id.* at 118:1–119:5. Such ambiguity leaves a POSITA with no way to discern the scope of the invention with reasonable certainty, rendering the claims indefinite.

C. Corus's Reading of "Cellular-Based Location Data" Renders the Claims Invalid for Lack of Written Description and Enablement

35 U.S.C. § 112 requires that the specification contain a "written description" of the

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claimed invention. "[T]he test for sufficiency is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date. *Ariad Pharma., Inc. v. Eli Lily & Co.,* 598 F.3d 1336, 1351 (Fed. Cir. 2010). The evidence of whether the inventors "possessed" the invention is limited to the four corners of the specification. *Id.* Similarly, the enablement requirement of 35 U.S.C. § 112, ¶ 1, requires the specification to describe the invention "in such full, clear, concise, and exact terms" such that "one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371, 1378 (Fed. Cir. 2007) (internal quotation omitted). The full scope of the claims must be enabled. *Id.* Enablement is a question of law. *Id.* at 1377.

The '803 patent only refers to "cellular-based" positioning once, without explanation, and identifies it as a disfavored alternative to GPS. '803 patent at 3:12–18. Nowhere does the '803 patent suggest any particular invention relating to the use of "cellular-based location data," and never does it suggest that the inventors possessed any specific technique for using a cellular positioning system, and it certainly does not enable a person of skill in the art to use such a system. Ex. 24. (Bederson Invalidity Rep.) ¶¶ 189–95. Yet Corus now tries to read the claims to cover positioning techniques that are nowhere described in the '803 patent and were not available at the time. As described above, Corus alleges that Zillow's mobile applications infringe this limitation based on their use of functionality provided by Apple and Google. In his deposition, Mr. Sturza speculated that Apple and Google use "crowdsourced" databases of cell tower locations to achieve this functionality. Ex. 17 (Sturza Dep.) at 83:18–84:3, 160:3–169:10. He acknowledges that such approaches are similar to a prior art technique described in Koorapaty, which he argues does *not* teach "cellular-based positioning." *Id.* at 240:10–24.

No reasonable jury could conclude that the '803 patent disclosure indicates that the inventors possessed any specific technique for using a cellular positioning system, or that the disclosure enables the full scope of the claims under Corus's reading of "cellular based location

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data." Indeed, Mr. Sturza conceded that such approaches were not well-understood at the time and that a POSITA could not have implemented such a system without undue experimentation. *Id.* at 187:19–188:7 ("Q. Okay. At the time, is it your understanding that a person of ordinary skill in the art . . . would have been able to implement a positioning system using crowd source database without undue experimentation? . . . A. So we're talking 2001. And I'm not even sure 'crowd source' was a term back then. . . . Certainly 2001, you know, the concept of crowd sourced positioning, you know, would not have been well understood."). Accordingly, the claims are also invalid for lack of written description and enablement under 35 U.S.C. § 112.

D. Claims 1 and 30 (and Their Dependents) are Invalid Under 28 U.S.C. § 305

Corus improperly amended claims 1 and 30 in reexamination. Knowing that the original claims, which made no reference to a remote database, could not be read on Zillow's apps, Corus amended the claims to refer to obtaining property data from "a remote source." *See supra* § II.A. This was improper. Amendments in reexamination must be directed to distinguishing the prior art. *See* 35 U.S.C. § 305; *Quantum Corp. v. Rodime, PLC*, 65 F.3d 1577, 1584 (Fed. Cir. 1995) ("[A] violation of 35 U.S.C. § 305 is an invalidity defense in a patent infringement action"); *Sw. Bell Tel. Co. v. Arthur A. Collins, Inc.*, 279 F. App'x 989, 992 (Fed.Cir. 2008) (affirming summary judgment of invalidity based on an improper purpose for reexamination). The relevant prior art, during the reexam was the Florance patent. *See supra* § II.A. Corus never made any argument during the reexamination that this portion of the amendment distinguished Florance in any manner. *Id.* Nor could it have, because, as Corus's expert now admits, Florance clearly discloses obtaining property information from a remote database. *See supra* § V.A.3.c. Because the amendments were not directed to distinguishing prior art, they are improper, and summary judgment of invalidity should be granted as to claims 1 and 30 and their dependent claims.

VI. CONCLUSION

For the reasons discussed above, Zillow respectfully requests that the Court grant summary judgment of non-infringement and invalidity as to the asserted '803 patent claims.

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CERTIFICATE OF SERVICE

I hereby certify that on November 12, 2019, I caused copies of the foregoing document to be served via CM/ECF to the counsel of record in this matter.

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