

United States District Court
Northern District of California

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

RIDEAPP, INC.,
Plaintiff,
v.
LYFT, INC.,
Defendant.

Case No. 18-cv-07152-JST

CLAIM CONSTRUCTION ORDER

Re: ECF Nos. 101, 115-1

The parties propose competing constructions of several terms of U.S. Patent No. 6,697,630 (“the ’730 patent”) and dispute whether four terms are indefinite. ECF Nos. 101, 115-1. As discussed below, the Court concludes that **at least one element of each asserted claim is indefinite, thereby rendering all asserted claims invalid.** It does not construe the remaining terms.

I. BACKGROUND

In the operative second amended complaint, Plaintiff RideApp, Inc. alleges that Defendant Lyft, Inc. infringes claims 2, 3, and 6 of the ’730 patent. ECF No. 88 ¶¶ 72-120. The ’730 patent “relates to **an automated transit system**, and more particularly to an urban transit system that minimizes the social costs of urban transportation, the transit system being **based on digital cellular communication, GPS locating technology and digital computers to provide real-time command and control of passengers and vehicles.**” ECF No. 88-1 at 12. The patent issued on February 24, 2004, but claims priority to applications filed on March 1, 2001, and April 4, 2000. *Id.* at 1, 12.

Claim 2 recites:

An automated system for providing unified billing for passenger transport comprising:

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(a) a central data system for tracking passenger transportation vehicle usage and distributing periodic invoices for the usage; and

(b) a plurality of communication devices for providing wireless communication between passengers, vehicles, and the central data system in connection with the passenger transportation vehicle usage; and

(c) a wireless means of on-demand allocation of a passenger to a specific vehicle through the central data system.

Id. at 23. Claim 3 recites “[a]n automated system for providing unified billing for passenger transport comprising” all three elements of claim 2 plus “(d) a wireless means of informing the passenger of the assignment and updated expected arrival time.” *Id.* Claim 6 recites “[a]n automated system for providing unified billing for passenger transport comprising” the first two elements of claim 2 plus “(c) a wireless means of detecting the proximity of the passenger and alerting the passenger of the proximity of the vehicle.” *Id.*

II. JURISDICTION

This Court has jurisdiction pursuant to 28 U.S.C. § 1331.

III. LEGAL STANDARD

A. Claim Construction

The construction of terms found in patent claims is a question of law to be determined by the court. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). “[T]he interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc) (quoting *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)). The “correct construction,” therefore, is one that “stays true to the claim language and most naturally aligns with the patent’s description of the invention.” *Id.* (quoting *Renishaw PLC*, 158 F.3d at 1250). While not every claim term must be construed, “[w]hen the parties present a fundamental dispute regarding the scope of a claim term, it is the court’s duty to resolve it.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008).

“Claim construction seeks to ascribe the ‘ordinary and customary meaning’ to claim terms

1 as a person of ordinary skill in the art would have understood them at the time of invention. “The
2 claims themselves provide substantial guidance as to the meaning of particular claim terms.” *SRI*
3 *Int’l v. Cisco Sys., Inc.*, 930 F.3d 1295, 1304 (Fed. Cir. 2019) (alteration omitted) (quoting
4 *Phillips*, 415 F.3d at 1312, 1314). In some cases, the ordinary meaning of claim language is
5 “readily apparent,” and “claim construction . . . involves little more than the application of the
6 widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314. In other
7 cases, “determining the ordinary and customary meaning of the claim requires examination of
8 terms that have a particular meaning in a field of art.” *Id.* Claim construction may deviate from
9 the ordinary and customary meaning of a disputed term only if “a patentee sets out a definition and
10 acts as his own lexicographer” or if “the patentee disavows the full scope of a claim term either in
11 the specification or during prosecution.” *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d
12 1362, 1365 (Fed. Cir. 2012).

13 The “context in which a term is used in the asserted claim,” “[o]ther claims of the patent in
14 question, both asserted and unasserted,” and “[d]ifferences among claims” are all instructive.
15 *Phillips*, 415 F.3d at 1314. “The claims, of course, do not stand alone” and, instead, “must be read
16 in view of the specification,” which is “[u]sually . . . dispositive” and “the single best guide to the
17 meaning of a disputed term.” *Id.* at 1315 (internal quotation marks and citations omitted). Courts
18 “normally do not interpret claim terms in a way that excludes disclosed examples in the
19 specification.” *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1305 (Fed. Cir.
20 2007). Additionally, the Federal Circuit has cautioned that “limitations from the specification are
21 not to be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186
22 (Fed. Cir. 1998). Even “if a patent describes only a single embodiment,” the Federal Circuit has
23 “expressly rejected the contention that . . . the claims must be construed as being limited to that
24 embodiment.” *Phillips*, 415 F.3d at 1323. However, “[w]hen the specification makes clear that
25 the invention does not include a particular feature, that feature is deemed to be outside the reach of
26 the claims of the patent, even though the language of the claims, read without reference to the
27 specification, might be considered broad enough to encompass the feature in question.” *E.I. du*
28 *Pont De Nemours & Co. v. Unifrax I LLC*, 921 F.3d 1060, 1068 (Fed. Cir. 2019) (internal

1 quotation marks and citation omitted).

2 “While courts may also consider extrinsic evidence in claim construction, such evidence is
3 generally of less significance than the intrinsic record” – i.e., the claims, specification, and
4 prosecution history. *Allergan Sales, LLC v. Sandoz, Inc.*, 935 F.3d 1370, 1373 (Fed. Cir. 2019)
5 (internal quotation marks and citation omitted). “[D]ictionaries, and especially technical
6 dictionaries, . . . can assist the court in determining the meaning of particular terminology to those
7 of skill in the art” because they “endeavor to collect the accepted meanings of terms used in
8 various fields of science and technology.” *Phillips*, 415 F.3d at 1318. Courts may also consider
9 treatises and expert and inventor testimony. *Id.* at 1317-18. “However, conclusory, unsupported
10 assertions by experts as to the definition of a claim term are not useful to a court. Similarly, a
11 court should discount any expert testimony that is clearly at odds with the claim construction
12 mandated by the claims themselves, the written description, and the prosecution history, in other
13 words, with the written record of the patent.” *Id.* at 1318 (internal quotation marks and citation
14 omitted).

15 **B. Means-Plus-Function Claiming and Indefiniteness**

16 The Patent Act authorizes functional claiming: “An element in a claim for a combination
17 may be expressed as a means or step for performing a specified function without the recital of
18 structure, material, or acts in support thereof, and such claim shall be construed to cover the
19 corresponding structure, material, or acts described in the specification and equivalents thereof.”
20 35 U.S.C. § 112, ¶ 6.¹ “In enacting this provision, Congress struck a balance in allowing patentees
21 to express a claim limitation by reciting a function to be performed rather than by reciting
22 structure for performing that function, while placing specific constraints on how such a limitation
23 is to be construed” – i.e., “by restricting the scope of coverage to only the structure, materials, or
24 acts described in the specification as corresponding to the claimed function and equivalents
25 thereof.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347 (Fed. Cir. 2015) (en banc). A

26 _____
27 ¹ Section 112, ¶ 6 “was replaced with newly designated § 112(f)” when the America Invents Act
28 “took effect on September 16, 2012. Because the applications resulting in the patent[] at issue in
this case [was] filed before that date,” the Court refers to the pre-AIA version of § 112. *EON
Corp. IP Holdings LLC v. AT & T Mobility LLC*, 785 F.3d 616, 620 n.1. (Fed. Cir. 2015).

1 patent specification must “conclude with one or more claims particularly pointing out and
2 distinctly claiming the subject matter which the applicant regards as his invention.” 35 U.S.C.
3 § 112, ¶ 2. “[I]f one employs means-plus-function language in a claim, one must set forth in the
4 specification an adequate disclosure showing what is meant by that language.” *Blackboard, Inc. v.*
5 *Desire2Learn, Inc.*, 574 F.3d 1371, 1382 (Fed. Cir. 2009) (internal quotation marks and citation
6 omitted). “[A] patent is invalid for indefiniteness if its claims, read in light of the specification
7 delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those
8 skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572
9 U.S. 898, 901 (2014).

10 To determine whether a purportedly means-plus-function term is indefinite, courts employ
11 a two-step process. First, courts determine whether the term in question actually is a means-plus-
12 function term. “[T]he use of the word ‘means’ in a claim element creates a rebuttable presumption
13 that § 112, para. 6 applies.” *Williamson*, 792 F.3d at 1348. Conversely, “the failure to use the
14 word ‘means’ . . . creates a rebuttable presumption . . . that § 112, para. 6 does not apply,” but this
15 presumption is not a “strong” one. *Id.* at 1348-49. “In determining whether this presumption has
16 been rebutted, the challenger must establish by a preponderance of the evidence that the claims are
17 to be governed by § 112, ¶ 6.” *Advanced Ground Info. Sys., Inc. v. Life360, Inc.*, 830 F.3d 1341,
18 1347 (Fed. Cir. 2016). “The standard is whether the words of the claim are understood by persons
19 of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.”
20 *Williamson*, 792 F.3d at 1349. Section 112, ¶ 6 “will apply if the challenger demonstrates that the
21 claim term fails to recite sufficiently definite structure or else recites function without reciting
22 sufficient structure for performing that function.” *Id.* (internal quotation marks, alteration, and
23 citation omitted).

24 Once a court determines that a claim term is a means-plus-function term, the court “next
25 determine[s] whether the specification discloses sufficient structure that corresponds to the
26 claimed function.” *Id.* at 1351. This, in turn, is a two-step process. “The first step in construing a
27 means-plus-function claim limitation is to determine the function of the limitation.” *Sony Corp. v.*
28 *Iancu*, 924 F.3d 1235, 1239 (Fed. Cir. 2019). If the court determines that the function itself is

1 indefinite – for example, because it contains a “term of degree” – there is “no need to evaluate
2 structure.” *Intellectual Ventures I LLC v. T-Mobile USA, Inc.*, 902 F.3d 1372, 1381 (Fed. Cir.
3 2018). Assuming the function is not indefinite, “the next step is to determine the corresponding
4 structure disclosed in the specification.” *Id.* “Where there are multiple claimed functions, . . . the
5 patentee must disclose adequate corresponding structure to perform all of the claimed functions.”
6 *Williamson*, 792 F.3d at 1351-52.

7 For a court to hold that a claim containing a means-plus-function
8 limitation lacks a disclosure of structure in the patent specification
9 that performs the claimed function, necessarily means that the court
10 finds the claim in question indefinite, and thus invalid. Because the
11 claims of a patent are afforded a statutory presumption of validity,
12 overcoming the presumption of validity requires that any facts
13 supporting a holding of invalidity must be proved by clear and
14 convincing evidence. Thus, a challenge to a claim containing a
15 means-plus-function limitation as lacking structural support requires
16 a finding, by clear and convincing evidence, that the specification
17 lacks disclosure of structure sufficient to be understood by one
18 skilled in the art as being adequate to perform the recited function.

19 *Budde v. Harley-Davidson, Inc.*, 250 F.3d 1369, 1376-77 (Fed. Cir. 2001) (citations omitted).

20 “In cases involving a computer-implemented invention in which the inventor has invoked
21 means-plus-function claiming, . . . the structure disclosed in the specification [must] be more than
22 simply a general purpose computer or microprocessor.” *Aristocrat Techs. Australia Pty Ltd. v.*
23 *Int’l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008). “For means-plus-function claims ‘in
24 which the disclosed structure is a computer, or microprocessor, programmed to carry out an
25 algorithm,’ . . . ‘the disclosed structure is not the general purpose computer, but rather the special
26 purpose computer programmed to perform the disclosed algorithm.’” *Sony Corp.*, 924 F.3d at
27 1239 (quoting *WMS Gaming, Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999)).
28 “Computer-implemented means-plus-function claims are indefinite unless the specification
discloses an algorithm to perform the function associated with the limitation. When the
specification discloses an algorithm that only accomplishes one of multiple identifiable functions
performed by a means-plus-function limitation, the specification is treated as if it disclosed no
algorithm.” *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1319 (Fed. Cir. 2012). “Simply
disclosing a black box that performs the recited function is not a sufficient explanation of the

1 algorithm required to render the means-plus-function term definite.” *Augme Techs., Inc. v. Yahoo!*
 2 *Inc.*, 755 F.3d 1326, 1338 (Fed. Cir. 2014). “An algorithm may be expressed in any
 3 understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any
 4 other manner that provides sufficient structure. Even described in prose, an algorithm is still a
 5 step-by-step procedure for accomplishing a given result.” *Ergo Licensing, LLC v. CareFusion*
 6 *303, Inc.*, 673 F.3d 1361, 1365 (Fed. Cir. 2012) (internal quotation marks and citations omitted).

7 **IV. DISCUSSION**

8 **A. Testimony of RideApp’s Expert, David Yen**

9 The Court first considers Lyft’s argument that the Court should strike all opinions by
 10 RideApp’s expert, David Yen, “because RideApp did not identify them as required in its Patent
 11 L.R. 4-2 or 4-3 disclosures.” ECF No. 115-1 at 10 n.3. Lyft first made this argument only in a
 12 footnote, which is improper. *See, e.g., Westley v. Oclaro, Inc.*, No. C-11-2448 EMC, 2012 WL
 13 1038647, at *6 (N.D. Cal. Mar. 27, 2012) (declining to consider argument that “was made in
 14 passing and only in a footnote”); *First Advantage Background Servs. Corp. v. Private Eyes, Inc.*,
 15 569 F. Supp. 2d 929, 935 n.1 (N.D. Cal. 2008) (“A footnote is the wrong place for substantive
 16 arguments on the merits of a motion, particularly where such arguments provide independent
 17 bases for dismissing a claim not otherwise addressed in the motion.”).

18 Lyft subsequently filed a notice of objection to Yen’s testimony “pursuant to the Court’s
 19 Scheduling Order.” ECF No. 111 at 2.² The Court’s scheduling order provides that:

20 The parties shall meet and confer regarding the format, scope, and
 21 content of both the tutorial and the claim construction hearing,
 22 including but not limited to the permissible subjects of discussion at
 23 each, whether experts will testify, and what audio-visual equipment,
 24 if any, will be needed by the parties. They also shall exchange
 25 copies of any *audio-visual material* at least ten court days before
 they intend to use it in court, and shall bring any disputes regarding
 the format, scope, or content of any tutorial or hearing to the Court’s
 attention at least five court days before the tutorial or hearing. The
 Court will deem as waived any objection raised less than five court
 days before the tutorial or hearing. The parties shall lodge hard

26
 27 ² In this document, Lyft also objects to RideApp’s proposed construction of “on-demand
 28 allocation” and RideApp’s submission of evidence with its reply brief. ECF No. 111 at 3-5. The
 Court addresses the “on-demand allocation” construction question below. It does not decide the
 propriety of RideApp’s reply evidence because it does not rely on any of the disputed evidence.

1 copies of their presentation materials with the Court on the day of
2 the tutorial or claim construction hearing.

3 ECF No. 74 at 2 (emphasis added). The intent of the above language is to ensure that a party is
4 not unfairly surprised by audio-visual material used by the opposing party at a tutorial or claim
5 construction hearing. The paragraph is not addressed to the evidence parties submit with their
6 claim construction briefs, and is not intended to allow a party to wait until five court days before a
7 hearing to object to evidence submitted with the opposing party's opening brief. Lyft's objection
8 to Yen's testimony is untimely.

9 Nonetheless, the Court considers the objection on its merits and finds it unconvincing.

10 RideApp does not dispute that it failed to disclose Yen in either its disclosures to Lyft under Patent
11 Local Rule 4-2 or the joint claim construction and prehearing statement submitted to the Court
12 under Patent Local Rule 4-3. In its Rule 4-2 disclosures, dated June 24, 2019, RideApp disclosed
13 only Roger J.B. Jellicoe as an expert, and not Yen. ECF No. 105-12 at 3. In the parties' Rule 4-3
14 statement, filed on July 19, 2019, RideApp similarly indicated only an intent to rely on two
15 declarations previously prepared by Jellicoe in proceedings on the '730 patent before the Patent
16 Trial Appeal Board ("PTAB"). ECF No. 93 at 6-15. In addition, on August 29, 2019, the parties
17 stipulated to an extension of the deadline for RideApp to file its opening brief because "RideApp's
18 expert, Roger J.B. Jellicoe, is currently out of the country with very limited communications
19 access and will not return until after the current deadline for RideApp's claim construction
20 opening brief." ECF No. 100 at 2 (emphasis added). RideApp did not disclose Yen as an expert
21 of any kind until August 20, 2019, ECF No. 111-2 at 2, and Lyft did not learn of RideApp's intent
22 to rely on Yen's testimony for claim construction until September 4, 2019, ECF No. 111-3 at 2.
23 RideApp argues that disclosing Yen as an expert with its opening brief was timely because the
24 parties stipulated, and the Court ordered, that "RideApp may disclose a declaration from its expert
25 with its Opening Claim Construction Brief." ECF No. 91 at 2-3. Disclosing a declaration,
26 however, is distinct from disclosing the identity of an expert. Notwithstanding RideApp's late
27 disclosure, Lyft took Yen's deposition on September 18, 2019. ECF No. 105-11.

28 Because RideApp did not properly disclose Yen's testimony, the testimony "must be
stricken or excluded unless [RideApp's] failure was 'substantially justified or harmless.'" *Asia*

1 *Vital Components Co. v. Asetek Danmark A/S*, No. 16-cv-07160-JST, 2018 WL 452109, at *2
 2 (N.D. Cal. Jan. 17, 2018) (quoting Fed. R. Civ. P. 37(c)(1)). **Ride App offers no justification for**
 3 **its failure to properly disclose Yen’s testimony.** As to whether the failure was harmless, the Court
 4 has previously stricken expert testimony where the opposing party had no opportunity to take the
 5 expert’s deposition. *Id.*; *GoPro, Inc. v. C&A Mktg., Inc.*, No. 16-cv-03590-JST, 2017 WL
 6 2335377, at *4 (N.D. Cal. May 30, 2017). However, the Court has declined to exclude late-
 7 disclosed expert testimony where the opposing party took the expert’s deposition, “waited to
 8 object until its claim construction opposition brief,” and “identifie[d] no harm it suffered as a
 9 result” of the late disclosure. *Symantec Corp. v. Zscaler, Inc.*, No. 17-cv-04426-JST, 2018 WL
 10 6270954, at *1 (N.D. Cal. Nov. 30, 2018). Because the circumstances here mirror those in
 11 *Symantec*, **the Court finds that RideApp’s failure to properly disclose Yen was harmless.** The
 12 Court will consider Yen’s testimony in resolving this motion.

13 **B. “a central data system for tracking passenger transportation vehicle usage and**
 14 **distributing periodic invoices for that usage” (Claims 2(a), 3(a), and 6(a))**

15 The Court next turns to the claim terms that Lyft argues are indefinite. The first limitation
 16 is present in all three asserted claims: “a central data system for tracking passenger transportation
 17 vehicle usage and distributing periodic invoices for the usage.” ECF No. 88-1 at 23. **The parties**
 18 **agree that this is a means-plus-function term with two functions: “tracking passenger**
 19 **transportation vehicle usage” and “distributing periodic invoices for that usage.”** ECF No. 101 at
 20 8-9; ECF No. 115-1 at 10; ECF No. 107 at 6-7. At the claim construction hearing, **the parties**
 21 **stipulated that “tracking passenger transportation vehicle usage” should be construed as “tracking**
 22 **both the passenger and vehicle from the initial request until arrival at the final destination to**
 23 **monitor vehicle usage.”** The Court adopts this construction.

24 **The Court finds that the limitation in question is indefinite because it fails to disclose an**
 25 **algorithm for either claimed function.** RideApp argues that **the required algorithms are disclosed**
 26 **by reading Figure 9 and Table 1 of the patent together.** Its expert describes the “tracking”
 27 algorithm as follows: “The central data system is programmed to receive a communication
 28 indicating Updated Actual loading to track passenger transportation vehicle usage. (*See* ’730

1 Patent, FIG. 9 & Table 1 (modules Monitor Status for Vehicle Assignment, Updated [sic] Actual
2 Loading & Transit Loading and Configuration).” ECF No. 101-6 ¶ 63.³ He characterizes the
3 algorithm as a three-step process: “[T]here is information coming into the system, and that system
4 reading that information, . . . deciding what that information is and where to store it . . . from a
5 tracking perspective, and then writing to some database in order to . . . store it.” ECF No. 105-11
6 at 9. But although he agrees that the second step is fairly characterized as “actually analyz[ing]
7 the data that was input into the system in the first step,” *id.*, nowhere does he explain how the
8 system goes about analyzing data. This is insufficient, as the purported algorithm “is essentially a
9 black box that performs a recited function” – i.e., tracking – and “how it does so is left
10 undisclosed.” *Blackboard*, 574 F.3d at 1383.

11 RideApp also asserts that the patent “describes inputs and outputs, but then provides step-
12 by-step algorithms that turn inputs *into* outputs.” ECF No. 107 at 7-8. However, the descriptions
13 on which it relies do no such thing. An algorithm is “a step-by-step procedure for accomplishing a
14 given result,” *Ergo Licensing*, 673 F.3d at 1365 (internal quotation marks and citation omitted),
15 and it is insufficient to “merely restate the function recited in the claim,” *Augme Techs.*, 755 F.3d
16 at 1337. RideApp’s purported algorithm falls short of these standards. In Table 1, “Monitor
17 Status for Vehicle Assignment” is described as follows:

18 All vehicles are monitored for location, projected future location,
19 in-service status, assigned passengers, driver information, and actual
20 loading by pick-up location. As trips are assigned this software
21 causes notification of drivers both individually and in-route as to
22 their schedule and passenger loading. If people fail to show up, the
23 loading is changed dynamically.

24 ECF No. 88-1 at 22. “Update Actual Loading” is described as: “People who board the vehicle are
25 reported to central assignments so that up to date loading and billing information is available.” *Id.*
26 And “Transit Loading and Configuration” is described as: “Data about shared ride vehicles
27 including rail, bus, van and car pools. The data includes current location, status (on or off line),
28

³ In his deposition, Yen clarified that the last sentence of this paragraph – “This central data system then writes this information to Update Billing Files, which ultimately is used in the system’s Billing and Payment. (See ’730 Patent, FIG. 9 & Table 1 (modules Update Billing Files & Billing Payment).),” ECF No. 101-6 ¶ 63 – refers to billing and is not part of the algorithm for tracking. ECF No. 105-11 at 8.

1 current passenger assignments, passengers on board and locations to pick up.” *Id.* at 21. Absent
 2 from all of these descriptions is any indication of how the claimed invention performs “tracking of
 3 passenger and vehicle for the passenger transportation vehicle usage from the initial request until
 4 arrival at the final destination.” Instead, the descriptions include inputs and outputs, without any
 5 in-between steps, or even any “details of, for example, how the information is transmitted to the
 6 central assigning system or how often the transmission occurs.” ECF No. 115-3 ¶ 115. The Court
 7 agrees with Lyft’s expert, David H. Williams, who concludes that a person of ordinary skill in the
 8 art (“POSITA”) would recognize that the functional descriptions relied on by RideApp “fail[] to
 9 disclose an algorithm for performing the claimed ‘tracking’ functions.” *Id.*; *see also id.* ¶¶ 114,
 10 116-19; *Augme Techs.*, 755 F.3d at 1338 (finding insufficient a specification that “discloses inputs
 11 to and outputs from the code assembler instructions, but does not include any algorithm for how
 12 the second code module is actually assembled”).

13 This case is distinguishable from *Personal Audio, LLC v. Google LLC*, on which RideApp
 14 relies, because the ’730 patent does not disclose any “how.” No. 7-1751-CFC-CJB, 2019 WL
 15 2403086 (D. Del. June 7, 2019). The court in *Personal Audio* found that the patent adequately
 16 articulated “‘how’ to do the modifying at issue” by explaining that the invention could be used “to
 17 manually alter the sequence of program segments to be played by adding a program segment
 18 identifier to the selections file, deleting a program segment identifier from the selections file, or
 19 reordering the program segment identifiers.” *Id.* at *8. The court explained that “a complex
 20 algorithm or specific code that would be utilized . . . is not required under the law.” *Id.* But, in
 21 this case, the ’730 patent contains no algorithm whatsoever – simple or otherwise – describing
 22 how the invention performs the tracking function.

23 The patent also fails to disclose a definite structure for “distributing periodic invoices” for
 24 vehicle usage. RideApp relies on the “Update Billing Files” and “Billing and Payment” modules
 25 as the purported algorithm for this function. ECF No. 101-6 ¶ 64; ECF No. 105-11 at 9-10. It
 26 further argues that “[t]he written description sets forth numerous methods by which the actual
 27 billing can occur” – for example, “charged through cellular phone bill,” “automatic billing ‘like a
 28 utility,’” “paid automatically by credit card or bank debit,” “payment handled through the World

1 Wide Web,” or “as the event occurs.” ECF No. 101 at 11 (citations omitted). Table 1 describes
 2 “Update Billing Files” as: “Causes the individual status files to be updated for monthly billing
 3 purposes and in the case of dynamically changing drivers, causes any update of compensation due
 4 drivers.” ECF No. 88-1 at 22. And it describes “Billing and Payment” as:

5 Using stored data, the system would periodically, e.g., monthly bill
 6 all passengers and pay all drivers. The preferred mode would be
 7 billing to utility bill, e.g., the cell phone or pager bill. Payment to
 8 drivers would be by normal means for employed drivers and by
 9 direct credit to checking accounts for others. All of this is done
 10 without manual intervention.

11 *Id.* at 23. As with the modules discussed above with respect to tracking, these descriptions fail to
 12 provide any algorithm as to how the function is actually performed. For example, RideApp points
 13 to nothing in the patent that describes how the system “causes individual status files to update” or
 14 “causes any update of compensation due drivers,” or how the system periodically bills customers
 15 “without manual intervention.” Similarly, as Lyft’s expert correctly observes, the listed examples
 16 of how a passenger might be billed “do not actually inform *how* to perform any of the envisioned
 17 processes,” and some of the examples relate to means of paying, rather than distributing, an
 18 invoice. ECF No. 115-3 ¶ 126 (emphasis in original).

19 In light of all of the above, claims 2, 3, and 6 are invalid because their first limitation – “a
 20 central data system for tracking passenger transportation vehicle usage and distributing periodic
 21 invoices for that usage” – is indefinite. Although this conclusion is dispositive of all asserted
 22 claims, the Court will evaluate the remaining terms that Lyft contends are indefinite.

23 **C. “a wireless means of on-demand allocation of a passenger to a specific vehicle
 24 through the central data system” (Claims 2(c) and 3(c))**

25 The parties agree that the third limitation of claims 2 and 3 is a means-plus-function term
 26 that performs the function of “on-demand allocation of a passenger to a specific vehicle through
 27 the central data system.” ECF No. 101 at 11. However, although the parties do not ask the Court
 28 to construe “on-demand allocation,” their briefing makes clear that they disagree over the meaning
 of the term and, in particular, whether it includes or is something distinct from “assignment.”

RideApp now argues that “‘allocation’ means ‘communication of a passenger assignment
 to a specific vehicle.’” ECF No. 107 at 10. Lyft objects to the Court’s consideration of this

1 proposed construction because RideApp took a contrary position during *inter partes* review
2 proceedings before the PTAB and because RideApp did not propose this construction until its
3 opening claim construction brief. ECF No. 111 at 3-4; ECF No. 115-1 at 14. The Court will not
4 reject RideApp's proposed construction as untimely or barred by RideApp's prior positions, but it
5 notes that RideApp's "conduct is not conducive to the orderly progress of this case, and the
6 [Court] disapproves of it." *Rambus Inc. v. Hynix Semiconductor Inc.*, 569 F. Supp. 2d 946, 981
7 (N.D. Cal. 2008).

8 RideApp previously, and repeatedly, described "allocation" as including assignment, and
9 that it was not until the eleventh hour that RideApp sought to divorce the two terms. In its Patent
10 Local Rule 4-2 disclosure, RideApp proposed construing "on-demand allocation" as including
11 assignment: "the processing, integration and transmission of data *to assign* a passenger to a
12 specific vehicle and vice-versa based on current passenger transportation vehicle usage
13 information (including passenger parameters) and current vehicle data." ECF No. 105-12 at 4
14 (emphasis added). It took a similar position before the PTAB, specifically stating, "*On-demand*
15 *allocation* includes 'assignment'" ECF No. 105-7 at 4 (emphasis in original); *see also id.* at
16 5 ("A POSITA would understand that 'on-demand allocation' is a function of the wireless
17 communication devices, interfaced with the central assigning system and a database, in which, at
18 least, *a passenger is assigned to a vehicle*, and vice versa, based on current passenger information
19 (including passenger parameters, whether saved on the central assigning system or dynamically
20 entered by the passenger), current transit parameters, and current vehicle data." (emphasis added));
21 ECF No. 105-2 at 7 (PTAB decision noting that "Patent Owner does not dispute that on-demand
22 allocation is a process of assigning a passenger to a vehicle, but instead argues that the process
23 must consider a range of information when performing that assignment").

24 The interpretation of "allocation" as including assignment is persuasive. The fourth
25 limitation of claim 3 recites "a wireless means of informing the passenger of the assignment and
26 updated expected arrival time." ECF No. 88-1 at 23. The Court agrees with Lyft's expert that if
27 "allocation" did not include assignment, "the assignment" in the fourth limitation would have no
28 antecedent:

1 Antecedent basis for “the assignment” can only possibly exist if
 2 “allocation” means to assign. The use of the definite article “the” in
 3 “the assignment” informs a POSITA that assignment has already
 4 occurred in the process of the claim. No other terms besides
 5 “allocation” in Claim 3 could reasonably be interpreted to
 6 encompass assignment. If “allocation” means “communication,” as
 7 RideApp argues, then a POSITA is left unable to determine to what
 8 assignment “the assignment” refers.

9 ECF No. 115-3 ¶ 154. RideApp’s response to this argument is, in full: “Lyft’s antecedent
 10 argument fails because ‘allocation’ means ‘communication of a passenger assignment to a specific
 11 vehicle’; the antecedent basis for the ‘assignment’ in Claim 3(d) is found within ‘allocation’ – the
 12 ‘communication of a passenger *assignment*’ in Claim 3(c).” ECF No. 107 at 10 (emphasis in
 13 original). But RideApp points to no other step in the process where the assignment is made, and
 14 its expert agrees that “assignment happens before allocation.” ECF No. 105-11 at 11. RideApp’s
 15 expert also states that “[a] POSITA would understand that the essential structure for [the on-
 16 demand allocation element] includes a central assigning system that . . . processes the passenger’s
 17 trip request to make an assignment.” ECF No. 101-6 ¶ 68. Although the expert continues that,
 18 “[a]fter trips are assigned, the scheduling processor at the central data system allocates the
 19 assignment to a specific driver/vehicle,” his attempt to separate allocation and assignment are not
 20 persuasive. Reading “assignment” out of “allocation” would be nonsensical. It is undisputed that
 21 an assignment must happen before it is communicated to a vehicle or passenger, and “allocation”
 22 is the only place in any of the claims where the assignment might occur.⁴

23 In addition, interpreting “allocation” to include assignment and not merely communication
 24 of an assignment is consistent with the ordinary meaning of “allocate”: “to apportion for a specific
 25 purpose or to particular persons or things : DISTRIBUTE” or “to set apart or earmark :
 26 DESIGNATE.” Merriam-Webster’s Collegiate Dictionary 33 (11th ed. 2003). Nothing supports a
 27 different interpretation of “allocation” here. RideApp does not, for example, argue that
 28 “allocation” has “a particular meaning in a field of art” covered by the patent. *Phillips*, 415 F.3d

⁴ RideApp does not argue that assignment is not part of the claimed invention, and the patent states that one of the “object[s] of the present invention [is] to provide a *more efficient and effective route assignment process* that minimizes vehicle backtracking and makes the most efficient use of the vehicles which service transit requests.” ECF No. 88-1 at 15 (emphasis added).

1 at 1314. Nor does the language of the patent require a different result. Aside from the claims, the
2 patent uses the word “allocate” in only two places:

3 The data interpreted and evaluated by the central assigning system
4 can include: (1) communications with passengers to schedule their
5 trips and give them precise information on trip times and sites;
6 (2) vehicle (and in some instances passenger) location
7 communications using GPS technology; (3) communications to
8 vehicles to *allocate* routes, schedules and passengers; and,
9 (4) communications between passengers and vehicles to monitor
10 system usage.

11 ECF No. 88-1 at 15 (emphasis added); and

12 In a preferred embodiment, the central assigning system matches a
13 passenger’s parameters with current transit parameters to provide
14 the passenger with transit alternatives. The parameters can be
15 weighted such that a particular parameter can be given more
16 significance in the processing than other parameters. The weighting
17 of parameters can be accomplished based on passenger parameters
18 or profiles. Once the routes and methods are determined, the central
19 processing system *allocates* them based on a passenger’s
20 parameters.

21 ECF No. 88-1 at 19 (emphasis added). The Court agrees with Lyft’s expert, who concludes that
22 the first excerpt “at best, . . . describes information that may be considered by a ‘central assigning
23 system’ during operations,” and that the second excerpt “informs a POSITA that the ‘allocation’
24 process requires some form of matching parameters to provide ‘transit alternatives.’” ECF No.
25 115-3 ¶ 152. Neither indicates to a person of ordinary skill in the art that “allocation” means only
26 “communication,” rather than “the widely accepted meaning of [a] commonly understood word[.],”
27 *Phillips*, 415 F.3d at 1314, and RideApp has not “act[ed] as its own lexicographer,” *Thorner*, 669
28 F.3d at 1365. It has not “clearly set forth a definition of the disputed claim term other than its
plain and ordinary meaning” or “clearly express[ed] an intent to redefine the term,” nor did it
“disavow[] the full scope of [the] term either in the specification or during prosecution.” *Id.* at
1365-66 (internal quotation marks and citations omitted). Accordingly, the Court construes
“on-demand allocation” as including assignment.

The PTAB has now twice found the “allocation” limitation to be indefinite because the
patent does not disclose an algorithm. “The Court finds the PTAB’s analysis during the IPR
proceedings – although not binding in any way – persuasive.” *Fortinet, Inc. v. Sophos, Inc.*, No.



1 13-cv-05831-EMC, 2015 WL 6513655, at *8 (N.D. Cal. Oct. 28, 2015) (footnote omitted); *see*
2 ECF No. 105-1 at 9-14; ECF No. 105-2 at 10-14. The patent discloses no algorithm for assigning
3 passengers to vehicles. For example, the “Find Best Trip” module is described as: “Solves the trip
4 assignment task based on available vehicles, their schedules, and their passenger loadings. Also
5 updates passengers as the trip origination time becomes imminent.” ECF No. 88-1 at 22. Entirely
6 absent from this description is any procedure for “[s]olv[ing] the trip assignment task.” As the
7 PTAB concluded, this “statement does not provide an adequate algorithm that a skilled artisan
8 could use to program a general-purpose computer. Rather, it amounts to a description of inputs to
9 a possible algorithm, without any information regarding the algorithm itself.” ECF No. 105-2 at
10 14. The Court also agrees with the PTAB that Figures 5 and 6, and the corresponding description
11 in the specification, are also insufficient to provide an algorithm for allocation. For example,
12 “[t]he description does not reference allocation as a specific function described in the figures. And
13 we can locate no connection between any description of an algorithm in the figures and the
14 process of allocation.” ECF No. 105-2 at 11; *see also id.* at 13 (“[T]he Specification does not
15 clearly link anything in Figures 5 or 6 to the allocation function.”). Moreover, “[t]he portion of
16 Figure 6 that could represent an allocation process . . . cannot comprise the claimed ‘on-demand’
17 allocation because the claimed function requires allocation ‘of a passenger to a specific vehicle,’”
18 and “the Specification describes a process in which a passenger is not paired with a specific
19 vehicle until selecting that vehicle as one of the alternatives presented to the passenger.” *Id.* at 12.
20 Thus, “the passenger actually performs part of the function of pairing with a specific vehicle,” and
21 “including the passenger as part of the claimed structure . . . would not be a proper means-plus-
22 function limitation.” *Id.* at 12-13 (citations omitted). As the PTAB correctly concluded, “the
23 Specification gives examples of information that the central assigning system may use to
24 determine alternatives for a requested trip. But naming possible inputs to a process is insufficient
25 to describe the algorithm that performs the process.” *Id.* at 13 (citation omitted).

26 Given the lack of an algorithm for allocation, RideApp “has in effect claimed everything
27 that [performs the task] under the sun,” and the limitation is “therefore indefinite.” *ePlus, Inc. v.*
28 *Lawson Software, Inc.*, 700 F.3d 509, 519 (Fed. Cir. 2012). This presents an independent reason

1 for invalidating claims 2 and 3.

2 **D. “a wireless means of informing the passenger of the assignment and updated**
3 **expected arrival time” (Claim 3(d))**

4 Next, the parties agree that the fourth limitation in claim 3 – “a wireless means of
5 informing the passenger of the assignment and updated expected arrival time,” ECF No. 88-1 at 23
6 – is a means-plus-function term with two functions: “informing the passenger of the assignment”
7 and “informing the passenger of the expected time at which the vehicle and passenger will meet,
8 including updates to the arrival time.”⁵

9 The Court assumes without deciding that the patent discloses an adequate structure for
10 “informing the passenger of the assignment.” As to the “arrival time” function, the Court adopts
11 RideApp’s interpretation that the structure includes “updat[ing] the passenger with revised pickup
12 times if previous pickup times have been modified based on new data,” which includes
13 “dynamic[] updates” to passenger and vehicle location information. ECF No. 101 at 15. RideApp
14 argues that “[t]he system monitors the vehicle’s current location and projected future location,
15 therefore it is able to determine velocity by storing the time stamps of the location . . . and
16 calculate the estimated time for pick up.” ECF No. 107 at 13. However, as Lyft’s expert correctly
17 observes, the patent “provides no description for how to actually make [the] calculation” of
18 estimated arrival time. ECF No. 115-3 ¶ 223. Even RideApp’s expert testified that “no specific
19 calculation is disclosed.” ECF No. 105-11 at 19. “A description of an algorithm that places no
20 limitations on how values are calculated, combined, or weighted is insufficient to make the bounds
21 of the claim understandable.” *Ibormeith IP, LLC v. Mercedes-Benz USA, LLC*, 732 F.3d 1376,
22 1382 (Fed. Cir. 2013). RideApp’s expert argues that “there should be a somewhat straightforward
23 calculation based on positions and either assumed velocity of the vehicle or . . . time stamps of the
24 reporting position messages,” but he agrees that there is more than one way to obtain a vehicle’s
25 velocity, and that the calculations could also take into account traffic information. ECF No.

26 _____
27 ⁵ Lyft originally argued that “informing the passenger of the assignment” is indefinite but stated in
28 its responsive claim construction brief that, “[s]o long as ‘on-demand allocation’ means
‘assignment,’ Lyft no longer contends that the function is indefinite.” ECF No. 115-1 at 16 n.6.
As discussed above, the Court construes “on-demand allocation” to include assignment.

1 105-11 at 19. He describes what he would do “[i]f I were programming it,” but that only
 2 underscores the structure’s indefiniteness. “The inquiry is whether one of skill in the art would
 3 understand the specification itself to disclose a structure, not simply whether that person would be
 4 capable of implementing a structure.” *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 953
 5 (Fed. Cir. 2007). As the Federal Circuit has explained:

6 A patentee cannot avoid providing specificity as to structure simply
 7 because someone of ordinary skill in the art would be able to devise
 8 a means to perform the claimed function. To allow that form of
 9 claiming under section 112, paragraph 6, would allow the patentee
 10 to claim all possible means of achieving a function. . . . That
 11 ordinarily skilled artisans could carry out the recited function in a
 12 variety of ways is precisely why claims written in ‘means-plus-
 function’ form must disclose the particular structure that is used to
 perform the recited function. By failing to describe the means by
 which the access control manager will create an access control list,
 Blackboard has attempted to capture any possible means for
 achieving that end. Section 112, paragraph 6, is intended to prevent
 such pure functional claiming.

13 *Blackboard*, 574 F.3d at 1385 (citation omitted). This means-plus-function term is indefinite, thus
 14 presenting an independent reason for rendering claim 3 invalid.

15 **E. “a wireless means of detecting the proximity of the passenger and alerting the**
 16 **passenger of the proximity of the vehicle” (Claim 6(c))**

17 Finally, the parties agree that the third limitation in claim 6 – “a wireless means of
 18 detecting the proximity of the passenger and alerting the passenger of the proximity of the
 19 vehicle,” ECF No. 88-1 at 23 – is a means-plus-function term. The parties propose competing
 20 constructions of “proximity,” with RideApp proposing “distance; geographic closeness” and Lyft
 21 proposing plain and ordinary meaning or, alternatively, “nearness in space or time.” ECF No. 101
 22 at 23. Lyft also argues that the function of this term is indefinite “because the passenger must be
 23 proximate to something not specified in the claims.” ECF No. 115-1 at 20. The Court assumes
 24 without deciding that, as RideApp proposes, “proximity” refers only to distance and not time, and
 25 “the proximity of the passenger” refers to “proximity between passenger and vehicle.” ECF No.
 26 107 at 13.

27 Even adopting RideApp’s interpretation, however, the structure of this limitation is
 28 indefinite. As with the calculation of estimated arrival time discussed above, the specification is

1 **silent on how proximity is to be calculated.** RideApp contends that the method of calculation need
 2 not be disclosed because “the calculation of proximity from two coordinates (vehicle location and
 3 passenger location) is **as simple as applying the Pythagorean theorem** (disclosed in the sixth
 4 century B.C.E.), which can be determined by any high school student, much less a POSITA.”
 5 ECF No. 107 at 14. A person of ordinary skill in the art would, RideApp continues, “easily have
 6 been able to understand that the structure disclosed that when given two geographical coordinates,
 7 the distance between them could be calculated.” *Id.* While this might be true if the specification
 8 defined how distance should be calculated, the patent here contains no such description. As Lyft’s
 9 expert observes:

10 [T]here are many methods to calculate ‘distance’ between sets of
 11 coordinates: the system could simply determine a straight-line
 12 distance (‘as the crow flies’) between two points; the system could
 13 determine an actual distance to travel based on the layout of the
 14 underlying street system (such as the so-called Manhattan distance);
 15 or the system could analyze traffic patterns and use an estimated
 16 time of travel between the points as an analogue for distance based
 17 on a least-traffic path, least stop lights path, highest speed limit path
 18 or many other similar variations. None of these options or similar
 19 alternatives are detailed in the specification. Instead, the
 20 specification states the function and provides statements that may
 21 motivate a POSITA to fill in the gaps using his or her own ingenuity
 22 and skill. The POSITA is left to design a system to actually detect
 23 the proximity of the passenger and the vehicle, possibly using one of
 24 the above described location-determination technologies [*see* ECF
 25 No. 115-3 ¶ 254]. A POSITA reviewing the specification cannot
 26 determine with reasonable certainty what algorithms for performing
 27 the ‘proximity’ functions (and their equivalents) are covered by the
 28 ’730 Patent, and which algorithms are not.

20 ECF No. 115-3 ¶ 255. **The PTAB reached a similar conclusion, and the Court again finds the**
 21 **PTAB’s analysis to be persuasive.** As the PTAB has twice concluded, to detect proximity
 22 between a passenger and vehicle, **“the system must compare the location of both the vehicle and**
 23 **the passenger. But the parties do not identify and we cannot locate where [the] Specification**
 24 **provides any information regarding such a comparison.** Accordingly, we conclude that the
 25 Specification does not disclose adequate corresponding structure clearly linked to claim 6’s
 26 function of detecting the proximity of the passenger.” ECF No. 105-1 at 15; ECF No. 105-2 at 16.
 27 The Court agrees, and the indefiniteness of this limitation is an independent basis for invalidating
 28 claim 6.

CONCLUSION

Claims 2, 3, and 6 of the '730 patent are invalid for indefiniteness.

The parties shall meet and confer regarding whether judgment should be entered at this time. If the parties agree that judgment should be entered, then, within fourteen days of the date of this order, either (1) Lyft shall file a proposed judgment approved as to form by RideApp or (2) the parties shall each file a proposed judgment with a statement, not to exceed three pages, explaining why the Court should adopt its proposed judgment over the opposing party's. If the parties do not agree that judgment should be entered, then they shall file a joint statement setting forth their respective positions by the same deadline.

IT IS SO ORDERED.

Dated: October 16, 2019



JON S. TIGAR
United States District Judge

United States District Court
Northern District of California

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