IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

VB ASSETS, LLC, Plaintiff, v. AMAZON.COM, INC., AMAZON.COM LLC, AMAZON WEB SERVICES, INC., A2Z DEVELOPMENT CENTER, INC. d/b/a LAB126, RAWLES LLC, AMZN MOBILE LLC, AMZN MOBILE 2 LLC, AMAZON.COM SERVICES, INC. f/k/a AMAZON FULFILLMENT SERVICES, INC. and AMAZON DIGITAL SERVICES LLC, Defendants.	)	C.A. No. 19-1410 (MN)

MEMORANDUM ORDER

At Wilmington this 23rd day of June 2021:

IT IS HEREBY ORDERED that the claim terms of U.S. Patent Nos. 8,073,681 ("the '681 Patent"), 9,015,049 ("the '049 Patent"), 9,626,703 ("the '703 Patent"), 7,818,176 ("the '176 Patent"), 8,886,536 ("the '536 Patent") and 9,269,097 ("the '097 Patent") with agreed-upon constructions are construed as follows (*see* D.I. 85, Ex. A-1):

1. "model" means "an approximation, representation, or idealization of selected aspects of the structure, behavior, operation, or other characteristics of a real-world process, concept, or system" ('049 Patent, claims 1, 3, 4, 5, 8, 11, 13, 14, 15 & 18; '176 Patent, claims 2-5, 18-21, 28-31 & 44-47)

2. "short-term shared knowledge" / "short-term knowledge" do not require construction ('681 Patent, claims 1-3, 10, 13-15, 22, 25-27, 34, 37, 39 & 41; '049 Patent, claims 1, 3-4, 7-8, 11, 13-14 & 17-18)

3. "domain agent" means "software with domain-specific behavior and information" ('536 Patent, claims 1, 4 & 32)

4. "acoustic grammar" means "grammar of phonotactic rules of the English language that maps phonemes to syllables" ('176 Patent, claims 1, 16, 27 & 42)

5. "speech recognition engine" / "speech recognition" means "software or hardware that recognizes the words or phrases in the natural language utterance"[1] ('681 Patent, claims 7, 10, 19, 22, 31 & 34; '703 Patent, claims 1, 9, 15, 22, 25, 29 & 30; '176 Patent, claims 1, 10, 14, 25, 27, 36, 40, 42 & 51; '536 Patent, claims 1, 10 & 32; '097 Patent, claim 7)

Further, as announced at the hearing on June 9, 2021, IT IS HEREBY ORDERED that the disputed claim terms of the '681, '049, '703, '176, '536 and '097 Patents are construed as follows:

1. "long-term shared knowledge" / "long-term knowledge" do not require construction beyond the clarification that both have the same meaning and are a type of shared knowledge ('681 Patent, claims 1, 4, 13, 16, 25, 28, 37, 39 & 41; '049 Patent, claims 4-6, 8, 14-16 & 18)

2. "context" does not require construction ('681 Patent, claims 1, 7, 13, 19, 22, 25, 31, 34, 37, 39, 41; '703 Patent, claims 1, 15, 25, 30; '176 Patent, claims 1, 14, 27 & 40)

3. "identifying . . . roles associated with the user and one or more other participants" does not require construction ('681 Patent, claims 5, 17 & 29)

4. "classifying one or more of the utterance or the current conversation into a conversation type" does not require construction ('681 Patent, claims 5, 17 & 29)

5. "identifying . . . information allocation among the user and one or more other participants" does not require construction ('681 Patent, claims 5, 17 & 29)[2]

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[1] The parties reached agreement on this construction at the hearing with the understanding that the construction does not exclude mapping a stream of phonemes contained in a natural language utterance or generating a preliminary interpretation. The parties also agreed that this construction does not require those limitations either. (*See* D.I. 89 at 62:5-14; *see also id.* at 27:10-25).

[2] The only dispute over the meaning of the two "identifying" and one "classifying" terms from the '681 Patent was whether the terms were indefinite. That is, Plaintiff proposed no construction necessary and Defendants argued the terms were indefinite. The Court found that indefiniteness had not been proven at this stage, leaving no further claim construction dispute for these terms.

The parties briefed the issues (*see* D.I. 79) and submitted an appendix containing intrinsic and extrinsic evidence, including expert declarations (*see* D.I. 80), and Plaintiff VB Assets, LLC provided a tutorial describing the relevant technology (D.I. 77).[3] The Court carefully reviewed all submissions in connection with the parties' contentions regarding the disputed claim terms, heard oral argument (*see* D.I. 89) and applied the following legal standards in reaching its decision:

I. LEGAL STANDARDS

A. Claim Construction

"[T]he ultimate question of the proper construction of the patent [is] a question of law," although subsidiary fact-finding is sometimes necessary. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837-38 (2015). "[T]he words of a claim are generally given their ordinary and customary meaning [which is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc) (internal citations and quotation marks omitted). Although "the claims themselves provide substantial guidance as to the meaning of particular claim terms," the context of the surrounding words of the claim also must be considered. *Id.* at 1314. "[T]he ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent." *Id.* at 1321 (internal quotation marks omitted).

The patent specification "is always highly relevant to the claim construction analysis . . . [as] it is the single best guide to the meaning of a disputed term." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). It is also possible that "the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would

[3] Defendants did not submit a tutorial.

otherwise possess. In such cases, the inventor's lexicography governs." *Phillips*, 415 F.3d at 1316. "Even when the specification describes only a single embodiment, [however,] the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (internal quotation marks omitted) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)).

In addition to the specification, a court "should also consider the patent's prosecution history, if it is in evidence." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). The prosecution history, which is "intrinsic evidence, . . . consists of the complete record of the proceedings before the PTO [Patent and Trademark Office] and includes the prior art cited during the examination of the patent." *Phillips*, 415 F.3d at 1317. "[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

In some cases, courts "will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period." *Teva*, 135 S. Ct. at 841. Extrinsic evidence "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Markman*, 52 F.3d at 980. Expert testimony can be useful "to ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field."

Phillips, 415 F.3d at 1318. Nonetheless, courts must not lose sight of the fact that "expert reports and testimony [are] generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence." *Id.* Overall, although extrinsic evidence "may be useful to the court," it is "less reliable" than intrinsic evidence, and its consideration "is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Id.* at 1318-19. Where the intrinsic record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999) (citing *Vitronics*, 90 F.3d at 1583).

B. Indefiniteness

"The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, *e.g.* competitors of the patent owner, can determine whether or not they infringe." *All Dental Prodx, LLC v. Advantage Dental Prods., Inc.*, 309 F.3d 774, 779-80 (Fed. Cir. 2002) (citing *Warner-Jenkinson Co. v. Hilton-Davis Chem. Co.*, 520 U.S. 17, 28-29 (1997)). Put another way, "[a] patent holder should know what he owns, and the public should know what he does not." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 535 U.S. 722, 731 (2002).

A patent claim is indefinite if, "viewed in light of the specification and prosecution history, [it fails to] inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). A claim may be indefinite if the patent does not convey with reasonable certainty how to measure a claimed feature. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1341 (Fed. Cir. 2015). But "[i]f such an understanding of how to measure the claimed [feature] was within the scope of

knowledge possessed by one of ordinary skill in the art, there is no requirement for the specification to identify a particular measurement technique." *Ethicon Endo–Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1319 (Fed. Cir. 2015).

Like claim construction, definiteness is a question of law, but the Court must sometimes render factual findings based on extrinsic evidence to resolve the ultimate issue of definiteness. *See, e.g.*, *Sonix Tech. Co. v. Publications Int'l, Ltd.*, 844 F.3d 1370, 1376 (Fed. Cir. 2017); *see also Teva*, 135 S. Ct. at 842-43. "Any fact critical to a holding on indefiniteness . . . must be proven by the challenger by clear and convincing evidence." *Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003); *see also Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1338 (Fed. Cir. 2008).

I. THE COURT'S RULING

The Court's ruling regarding the disputed claim terms of '681, '049, '703, '176, '536 and '097 Patents was announced from the bench at the conclusion of the hearing as follows:

> . . . At issue in this case we have six patents in three families and six disputed claim terms. . . . I am prepared to rule on each of the disputes. I will not be issuing a written opinion, but I will issue an order stating my rulings. I want to emphasize before I announce my decisions that although I am not issuing a written opinion, we have followed a full and thorough process before making the decisions I am about to state. I have reviewed the patents in dispute. I have also reviewed the excerpts of the '681 Patent prosecution history submitted, the dictionary definitions, the IPR papers and validity contentions included in the joint appendix as well as the expert declarations. Plaintiff submitted a tutorial on the technology. There was full briefing on each of the disputed terms. And there has been argument here today. All of that has been carefully considered.
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> As to my rulings. I am not going to read into the record my understanding of claim construction law generally. I have a legal standard section that I have included in earlier opinions. And I will

incorporate that law and adopt it into my ruling today and will also set it out in the order that I issue.[4]

Now, the disputed terms.

The first term is two similar phrases "long-term shared knowledge" and "long-term knowledge" in claims 1, 4, 13, 16, 25, 28, 37, 39, and 41 of the '681 Patent; claims 4 through 6, 8, 14 through 16, and 18 of the '049 Patent. The parties agree that these terms should be given the same meaning. Plaintiff proposes that the terms be given their plain and ordinary meaning, which Plaintiff contends is "shared knowledge built by identifying information with long-term significance that is user-centric, rather than session-based." Defendants assert that no construction is necessary but, if one is given, the proper construction is "shared knowledge from one or more prior conversations," though today Defendants agreed that "from" in that construction is no different than using the word "about," which is the word used in the claims. Both sides agree that "long-term knowledge" and "long-term shared knowledge" refer to "shared knowledge." The dispute seems to be whether "long-term knowledge" is shared knowledge that has long-term significance that is user-centric.

Here, I don't think that either side's proposed construction is entirely correct. Beginning with the claim language itself, it is noteworthy (and undisputed) that in every instance where "long-term knowledge" appears, it is followed by language indicating that the long-term knowledge includes "knowledge about one or more past [or prior] conversations with the user."[5] Thus, although the claims require that the long-term knowledge include knowledge from one or more past conversations, that that concept is specifically recited in the claims suggests that Defendants' proposal is redundant.

Plaintiff points to language in certain claims of the '681 Patent referring to "long-term shared knowledge about the user"[6] to argue that the "long-term" terms require knowledge that is user-centric. Although that language suggests the "long-term knowledge" relates to the user in those claims, that language is

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4 The parties did not raise any disputes as to the person of ordinary skill in the art ("POSA") that are relevant to the issues raised in connection with claim construction.

5 (*See* '681 Patent at Claims 1, 13, 25, 37 & 39; *see also* '049 Patent at Claims 4 & 14).

6 (*See* '681 Patent at Claims 1, 13, 25, 37 & 39).

absent from the claims of the '049 Patent. Instead, the '049 Patent claims recite "long-term knowledge about one or more prior conversations between the user and the computer system." Defendants, however, do not dispute that the long-term knowledge in both patents is shared knowledge about the user or relating to the user or its prior conversations. And thus it is unnecessary to read the "user-centric" concept into the meaning of the "long-term" terms because there is clarifying language indicating the "long-term shared knowledge" and "long-term knowledge" are about the user or its prior conversations.

Turning to the specifications, I struggle to find support for the limitations included in Plaintiff's proposal. The '681 and '049 Patents do not explicitly define "long-term shared knowledge" or "long-term knowledge." The summary of invention explains that, according to an aspect of the invention, "shared knowledge" obtained from incoming data may be used to inform a decision.[7] According to an aspect of the invention, that "shared knowledge" may include both "short-term" and "long-term" knowledge.[8] The summary of invention further explains that the shared knowledge "may be used to . . . build long-term shared knowledge by identifying information with long-term significance."[9] Additionally, "[l]ong-term shared knowledge may generally be user-centric, rather than session-based, where inputs may be accumulated over time to build user, environmental, cognitive, historical, or other long-term knowledge models." Plaintiff relies on this language to argue that the "long-term knowledge" terms require the knowledge to be user-centric with long-term significance.[10] But these passages are noteworthy in that they use "may" – *i.e.*, language that suggests user-centricity and long-term significance are optional aspects of the "long-term knowledge" terms. I do not believe these passages require the particular limitation offered by Plaintiff. In sum, I decline to read in the limitations offered by both sides because the proposals either improperly read in limitations or add redundancy. Having rejected both proposals, I will decline to construe "long-term shared knowledge" and "long-term knowledge" but add the clarification that the two terms have the same meaning – *i.e.*, "long-term shared

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7 ('681 Patent at 4:45-48).

8 (*Id.* at 4:51-53).

9 (*Id.* at 4:62-63).

10 (D.I. 79 at 4; *see also* '681 Patent at 14:9-14).

knowledge" and "long-term knowledge" are both a type of shared knowledge. And the parties agree on this aspect.

The second term is again two phrases "speech recognition engine" and "speech recognition" in various claims of the asserted patents.[11] During the argument, the parties agreed that these phrases mean software or hardware that recognizes the words or phrases in the natural language utterance with the understanding that it does not exclude mapping a stream of phonemes contained in a natural language utterance or generating a preliminary interpretation but it does not require those either. I will adopt that agreed-upon construction.

The third term is "context" in various claims of the '681 Patent, the '703 Patent and the '176 Patent.[12] Plaintiff asserts that no construction is necessary. Defendants propose that the term means "subject domain(s) that apply to a user utterance." Although the contours of the dispute are not entirely clear, the main issue seems to be whether context refers to some general subject domain relating to an utterance as Defendants propose or refers to something broader as Plaintiff proposes. Here, I agree with Plaintiff.

The claims in which the term "context" appear do not shed any light on this dispute. That is, there is nothing in the term itself or the surrounding claim language to support Defendants' proposal. Defendants rely on select disclosures from several of the patents to argue the "context" must mean "subject domain(s) that apply to a user utterance." The cited portions, however, are either embodiments that may use a subject domain or domain agent or they don't mention subject domains at all, but Defendants argue that I should nevertheless read in a subject domain. Therefore, I reject Defendants' proposal, and decline to further construe the claims other than to reiterate that the ordinary meaning of context does not require a subject domain or domain agent.

The remaining three claim terms are all from the '681 Patent and the only dispute between the parties on each of those terms is whether each term is indefinite. That is, Plaintiff argues that no construction is necessary, and Defendants argue that the terms are indefinite. A finding of indefiniteness requires clear and convincing

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11 The terms appear in: claims 7, 10, 19, 22, 31 & 34 of the '681 Patent; claims 1, 9, 15, 22, 25, 29 & 30 of the '703 Patent; claims 1, 10, 14, 25, 27, 36, 40, 42 & 51 of the '176 Patent; claims 1, 10 & 32 of the '536 Patent; and claim 7 of the '097 Patent.

12 "Context" appears in: claims 1, 7, 13, 19, 22, 25, 31, 34, 37, 39 & 41 of the '681 Patent; claims 1, 15, 25 & 30 of the '703 Patent; and claims 1, 14, 27 & 40 of the '176 Patent.

evidence. I do not believe that that evidence exists on the present record, which is largely attorney argument by Defendants. Thus, I decline to reach the merits of Defendants' indefiniteness arguments at this time, and Defendants may raise the issue again in connection with summary judgment to the extent that they wish to continue pursuing that argument.

Maryellen Noreika

The Honorable Maryellen Noreika
United States District Judge