Trials@uspto.gov
571-272-7822

Paper 11
Entered: October 11, 2024

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

DIALECT, LLC,
Patent Owner.

IPR2024-00751
Patent 8,447,607 B2

Before BRIAN J. McNAMARA, HYUN J. JUNG, and GEORGE R. HOSKINS, *Administrative Patent Judges*.

HOSKINS, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Petitioner Google LLC has filed a Petition (Paper 2, "Pet.") pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review of U.S. Patent No. 8,447,607 B2 (Ex. 1001, "the '607 patent"), claims 1–15.

Patent Owner Dialect, LLC has filed a Preliminary Response (Paper 8, "Prelim. Resp."). Patent Owner argues the Petition fails to satisfy the requisite threshold for instituting review on the merits, and also urges us to exercise our discretion under 35 U.S.C. § 325(d) to deny institution.

For reasons provided below, we determine on behalf of the Director (*see* 37 C.F.R. § 42.4(a)) that the record does not demonstrate a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, so we deny institution of the petitioned *inter partes* review on the merits. *See* 35 U.S.C. § 314(a). We do not reach the discretionary § 325(d) issues raised by Patent Owner.

II. BACKGROUND

A. Real Parties-in-Interest and Related Proceedings

Petitioner identifies itself (i.e., Google LLC) as the real party-in-interest. *See* Pet. 7 & n.1. Patent Owner identifies itself (i.e., Dialect, LLC) as the real party-in-interest. *See* Paper 5, 1.

Petitioner has filed several IPR proceedings to challenge patents owned by Patent Owner. *See* Pet. 7–8. They are: IPR2024-00746 (U.S. Patent No. 7,398,209 B2); IPR2024-00747 (U.S. Patent No. 7,502,738 B2); IPR2024-00748 (U.S. Patent No. 8,015,006 B2); IPR2024-00749 (U.S. Patent No. 7,693,720 B2); IPR2024-00750 (U.S. Patent No. 9,031,845 B2); IPR2024-00751 (U.S. Patent No. 8,447,607 B2); IPR2024-00752 (U.S.

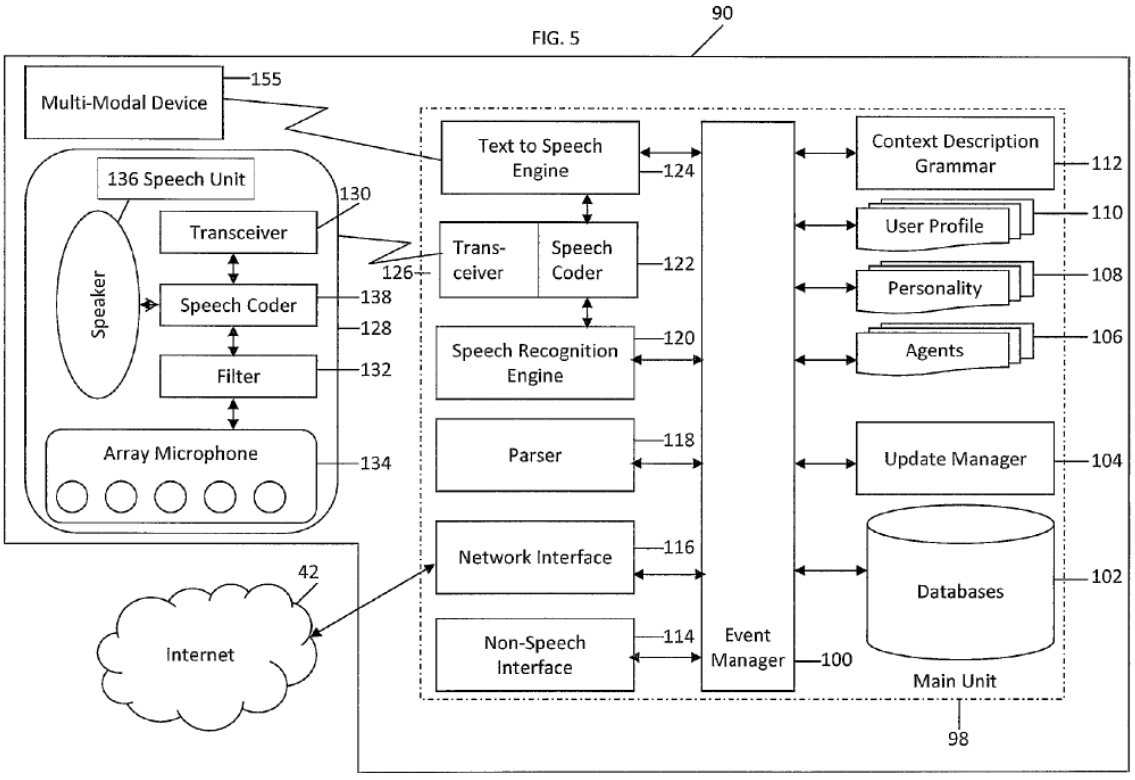
Patent No. 8,849,652 B2); and IPR2024-00753 (U.S. Patent No. 7,640,160 B2).

The parties also identify four district court litigations as related to the '607 patent. *See* Pet. 7; Paper 5, 1; Prelim. Resp. 15–16.

B. The '607 Patent Specification

The '607 patent provides a device with a speech interface that enables natural language human-machine interactions. *See* Ex. 1001, 1:18–23. The device allows "users to submit natural language speech and/or non-speech questions or commands in a wide range of domains" and then "present[s] responses in a natural manner." *Id.* at 1:23–27, 3:31–36.

Figure 5 of the '607 patent is reproduced below.



'607 Patent, Figure 5.

Figure 5 is a diagrammatic view of interactive natural language processing system 90. *See id.* at 15:38–40, 23:36–37. The system includes main unit 98, speech unit 128, and multi-modal device 155. *See id.* at 23:38–41.

Speech unit 128 includes array microphone 134 to record natural language utterances by the user. *See id.* at 25:48–52. Speech unit 128 filters, encodes, and transmits the recorded utterances to transceiver 126 of main unit 98. *See id.* at 25:52–56, 25:66–26:6, 31:33–50, 31:66–32:28.

Main unit 98 includes speech coder 122 to decode the recorded utterances received from speech unit 128. *See id.* at 26:15–18. The decoded utterances are transcribed into a text message by speech recognition engine 120 utilizing context description grammar module 112. *See id.* at 19:49–58, 23:56–61, 26:18–20, 33:7–18. This transcription also may employ a personalized cognitive model derived from a particular user's previous interactions with system 90. *See id.* at 23:51–55, 24:1–11.

Main unit 98 also includes non-speech interface 114 to receive non-speech input from the user, such as data entered in a text format via a keyboard or a touch screen at multi-modal device 155. *See id.* at 3:66–4:11, 19:1–6, 25:60–67, 26:51–27:4. "According to one embodiment of the invention, data that is entered in a text format may be merged with data that is transcribed to a textual format from the utterance." *Id.* at 23:61–64.

The merged transcription of speech and non-speech user input is sent to parser 118 for interpretation. *See id.* at 26:18–21, 33:8–11, 33:65–67. Parser 118 "transforms information into complete algorithms and questions using data supplied by knowledge agents . . . selected from the plurality of agents 106 using a grammar stack, wherein the knowledge agents provide information for generating a response to [a] question or command"

contained within the merged transcription. *Id.* at 26:20–26; *see also id.* at 27:40–47 ("Based on keywords in the questions and commands and the structures of the questions and commands, the parser may invoke selected agents."), 6:16–23 ("For each user utterance, including a question or query or set of questions or queries, the system may . . . determin[e] the domain of expertise required and the context to invoke the proper resources, including agents[.]"). "The knowledge agents [106] may then process the commands or questions" to result in actions taken by system 90 or other devices in communication with system 90. *Id.* at 26:27–35.

Agents 106 may include "domain specific agents" that provide "domain specific behavior." *Id.* at 27:13–23, Fig. 6 (illustrating domain agents 156). In particular, parser 118 examines recorded utterances to "determine a context for an utterance" based on, for example, "context stack contents." *Id.* at 33:65–34:5. "The context of a question or command may determine the domain and, thereby, the domain agent 156, if any, to be invoked." *Id.* at 34:5–15; *see also id.* at 34:34–36 ("Once the context for the question or command has been determined, the parser 118 can invoke the correct agent 156, 150."). In one embodiment, "parser 118 uses a scoring system to determine the most likely context or domain for a user's question and/or command" and "[b]ased on this scoring, the system 90 invokes the correct agent." *Id.* at 34:16–24.

C. The '607 Patent Claims

The '607 patent includes fifteen claims, all of which are challenged here. *See* Ex. 1001, 38:37–40:48; Pet. 10. Claim 1 is illustrative, and it recites, with our emphases added:

1. A device for processing natural language inputs, comprising one or more processors configured to:

receive a multi-modal natural language input from a user, the multi-modal natural language input including a natural language utterance and a non-speech input;

generate a non-speech transcription from the non-speech input;

identify the user who provided the multi-modal natural language input;

generate a speech-based transcription based on a cognitive model associated with the user, wherein the cognitive model includes information on one or more prior interactions between the user and the device;

generate a merged transcription from the speech-based transcription and the non-speech transcription;

identify, from among a plurality of entries that are in a context stack and that are each indicative of context, an entry in the context stack that matches information in the merged transcription;

identify a domain agent associated with the entry in the context stack;

determine a request based on the merged transcription; and

communicate the request to the domain agent, wherein the domain agent is configured to generate a response to the user.

Ex. 1001, 38:38–62 (emphases added).

D. Asserted Prior Art

Petitioner relies on the following four references as prior art against all claims of the '607 patent. *See* Pet. 10.

Name	Reference	Exhibit No.
Coffman	WO 00/20962	1003
Kennewick	US 2004/0044516 A1	1004
Ross	US 2002/0133354 A1	1005
Lee	US 2002/0087315 A1	1006

Patent Owner does not dispute that these references are prior art against all claims of the '607 patent. *See* Prelim. Resp. *generally*.

E. Asserted Grounds

Petitioner asserts the following two grounds of unpatentability. *See* Pet. 10.

35 U.S.C. §[1]	References	Claims Challenged
103(a)	Coffman, Kennewick, Ross	1–15
103(a)	Coffman, Kennewick, Ross, Lee	5–7, 13–15

F. Testimonial Evidence

Petitioner relies on the proffered expert witness testimony of Mr. Christopher Schmandt (Exhibit 1002). Patent Owner does not rely on opposing expert witness testimony. *See* Prelim. Resp. *generally*.

[1] Amendments to 35 U.S.C. § 103 enacted by the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) ("AIA") took effect in March 2013. The '607 patent issued from an application filed in June 2012. *See* Ex. 1001, code (22). Therefore, we apply the pre-AIA version of § 103.

III. PETITIONER'S GROUNDS OF UNPATENTABILITY

A. Legal Standards — Petitioner's Burden

"In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim")). This burden of persuasion never shifts to the patent owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

B. Legal Standards — Obviousness

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness, if made available in the record, which has not happened here. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

C. Level of Ordinary Skill in the Art

Petitioner contends a person having ordinary skill in the art pertaining to the '607 patent "would have possessed a bachelor's degree in electrical

engineering or computer science, and two years of work experience in the field of speech- and natural language-interfaces for interacting with and directing computer systems and software, including speech recognition and processing (and more experience could substitute for less formal education, and vice versa)." Pet. 12; Ex. 1002 ¶¶ 11–15.

Patent Owner does not oppose Petitioner's formulation of ordinary skill. *See* Prelim. Resp. *generally*.

For purposes of this Decision, we are satisfied that Petitioner's formulation of ordinary skill generally comports with the level of skill necessary to understand and implement the teachings of the '607 patent and the asserted prior art, so we apply that formulation here.

D. Claim Construction

We interpret the '607 patent claims "using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b)." 37 C.F.R. § 42.100(b). This "includ[es] construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." *Id.*

Petitioner argues: "Express claim construction is unnecessary because the prior art renders the challenged claims obvious under any reasonable construction." Pet. 15.

Patent Owner argues "the Board need not engage in any pre-institution claim construction" because "Petitioner's grounds include fundamental flaws" regardless of any claim construction issues. Prelim. Resp. 17. Patent Owner further notifies the Board that the United States

District Court for the Eastern District of Virginia has construed various terms found in the claims of the '607 patent, albeit in the context of other patents owned by Patent Owner. *See id.* at 15–16 (citing Exs. 2002–2007).

Based on the arguments and evidence presented, we determine no explicit construction is needed to resolve the parties' controversy. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) ("The Board is required to construe 'only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.'") (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

E. Ground One — Obviousness over Coffman, Kennewick, and Ross

In Ground One, Petitioner asserts claims 1–15 of the '607 patent are unpatentable as having been obvious over Coffman, Kennewick, and Ross. *See* Pet. 10, 15–74. Patent Owner disagrees. *See* Prelim. Resp. 4–46.

We conclude the record does not demonstrate a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, particularly in relation to Petitioner's reliance on Coffman, for the following reasons.

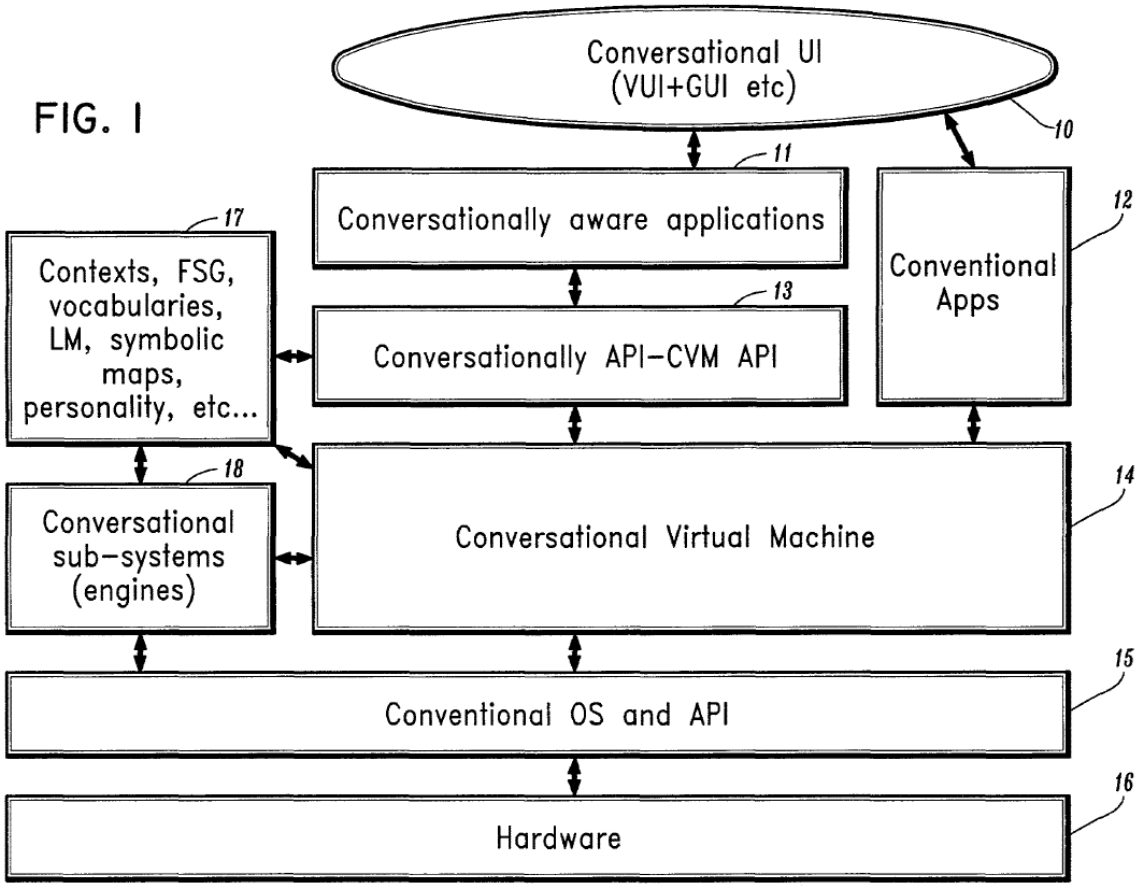
1. Coffman

Coffman discloses a "conversational virtual machine" (CVM) that "exposes conversational APIs (application program interface), conversational protocols and conversational foundation classes to application developers." Ex. 1003, 1:6–14.[2] Coffman's CVM "provides a kernel layer that is responsible for implementing conversational computing

[2] When citing to the written description of Coffman, we refer to the native pagination at the bottom center of each page.

by managing dialog and context, conversational engines and resources, and conversational protocols / communication across platforms and devices having different conversational capabilities to provide a universal CUI (conversational user interface)." *Id.* at 1:14–17.

Figure 1 of Coffman is reproduced below.



Coffman, Figure 1.

Figure 1 of Coffman is a block diagram of a conversational computing system. *See id.* at 9:27–28, 12:5–7. The system includes a multi-modal CUI 10, a plurality of conversationally aware applications 11, APIs 13 for applications 11 to operate with CVM 14, and other components. *See id.* at 12:7–10, 12:26–13:13.

Further details of Coffman's system are discussed below.

2. Claims 1–11 of the '607 Patent

Petitioner provides arguments and evidence in support of contending independent claim 1 and its dependent claims 2–11 are unpatentable as having been obvious over Coffman, Kennewick, and Ross, including supporting testimony from Mr. Schmandt. *See* Pet. 15–71; Ex. 1002 ¶¶ 40–56, 61–133.

Claim 1 requires a device for processing natural language inputs, comprising a processor configured to "identify, from among a plurality of entries that are in a context stack and that are each indicative of context, an entry in the context stack that matches information in" a merged transcription of a user's natural language utterance input and non-speech input. Ex. 1001, 38:38–56. The processor of claim 1 further is configured to "identify a domain agent associated with the entry in the context stack." *Id.* at 38:57–58. Claims 2–11 require the same processor by virtue of depending from claim 1. *See id.* at 38:63–39:34.

For the following reasons, we determine the record does not demonstrate a reasonable likelihood that Petitioner would prevail in relying on Coffman in relation to these limitations of claim 1.

(i) Petitioner's Contentions

Petitioner and its expert witness Mr. Schmandt rely on the combination of Coffman and Ross as providing a device processor that: (1) identifies an entry in a context stack that matches information in a merged transcription of user inputs; and then (2) identifies a domain agent associated with the matching entry. *See* Pet. 36–50; Ex. 1002 ¶¶ 83–102.

However, Ross is cited only "[t]o the extent there is any question whether Coffman alone discloses or renders obvious" identifying an entry in a context stack that matches information in a merged transcription of user inputs. Pet. 39; Ex. 1002 ¶ 88. In particular, Petitioner and Mr. Schmandt cite "Ross's teachings regarding matching transcribed user utterances with grammar information in context entries in a context stack," and assert that employing those teachings in Coffman "would have predictably resulted in Coffman's conversational system identifying a context stack entry that matches information in a transcribed user's utterance."[3] Pet. 45–47; Ex. 1002 ¶¶ 94–97.

In this Decision, we assume the combination of Coffman and Ross provides a processor in Coffman's CVM 14 / 202 / 401 identifying an entry in Coffman's context stack 217 / 405 that matches information in a merged transcription of user inputs, per Petitioner's contentions. *See* Pet. 36–39 (citing Ex. 1003, Fig. 4, 6:6–12, 6:32–7:3, 29:18–30:10, 30:13–16, 38:8–16,

[3] We acknowledge Petitioner and Mr. Schmandt state Ross "determin[es] a context associated with a user's spoken command or question *in order to determine an application to invoke* to process the command or question, just like Coffman [and] Kennewick." Pet. 39 (emphasis added); Ex. 1002 ¶ 89. They also refer to Ross being analogous to the '607 patent because Ross "includ[es] techniques for using a grammar to identify a context for processing a user command or question and techniques for *choosing an application to invoke* to process a user's . . . command or question in a user's transcribed utterance." Pet. 46 (emphasis added); Ex. 1002 ¶ 95. However, these characterizations of Ross are limited to pointing out alleged similarities between Ross and either Coffman or the '607 patent, without suggesting Coffman might have a deficiency in relation to identifying a domain agent that is solved by Ross. *See, e.g.*, Pet. 36–50 (Petitioner's entire argument for combining Coffman and Ross to provide the two identification steps at issue in claim 1).

38:26–29, 40:25–27, 41:2–5, 41:8–9, 42:1–5); Ex. 1002 ¶¶ 83–87; Ex. 1003, Figs. 1, 2, and 4, 12:5–30, 13:14–21, 21:23–28, 28:22–31. Therefore, we focus here on Petitioner's argument as it relates to the second identification step of claim 1, which is identifying a domain agent associated with the matching entry in the context stack.

In that regard, Petitioner and Mr. Schmandt rely on Coffman (without Kennewick or Ross) as disclosing or suggesting a processor that identifies a domain agent associated with the matching entry in the context stack. *See* Pet. 47–50; Ex. 1002 ¶¶ 98–102. Mr. Schmandt testifies that Coffman's device includes the claimed "domain agent" as "the executable software of a conversationally-aware application" such as application(s) 11 in Coffman's Figure 1, including "associated data, such as vocabulary, grammar, language models and NLU ['Natural Language Understanding'] symbolic mapping." Ex. 1002 ¶¶ 98–100 (citing Ex. 1001, 25:34–36, 28:11–12; Ex. 1003, 12:28–30, 13:8–13, 13:26–29, 16:35–17:7, 36:29–32, 37:2–4, 40:9–19, 56:11–14, 56:22–25, 57:23–27, 58:30–32); *see* Pet. 47–49. Mr. Schmandt testifies further that "[a] conversationally-aware application in Coffman is also 'associated with [an] entry in the context stack'" per claim 1 because "Coffman explains that context stack entries are created for and associated with applications." Ex. 1002 ¶ 101 (emphasis omitted) (citing Ex. 1003, 29:18–30:10); *see* Pet. 49. Mr. Schmandt concludes "Coffman therefore teaches 'identify[ing] a domain agent associated with the entry in the context stack'" per claim 1, "because, by identifying a context stack entry matching the user's input, the associated conversationally-aware application is selected to process a command / query based on the user's input." Ex. 1002

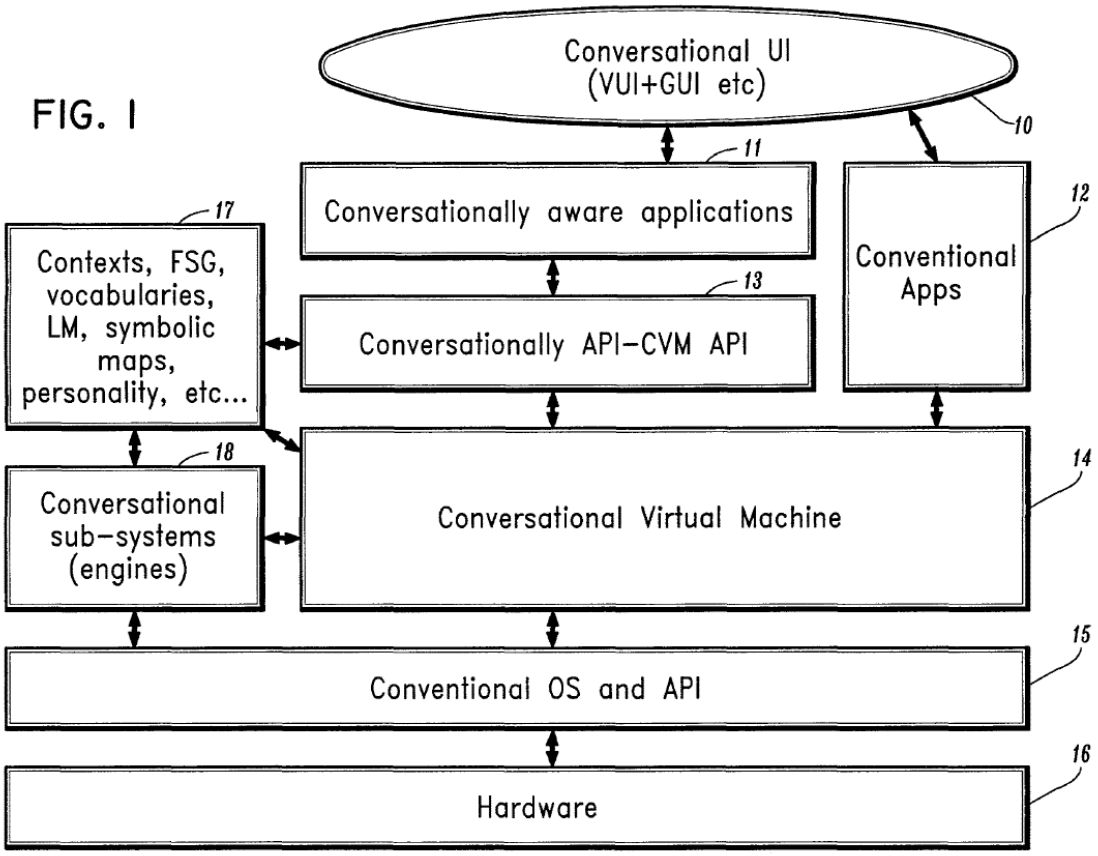
¶ 102 (emphasis omitted) (citing Ex. 1003, 37:2–4, 40:12–15, 41:2–5, 42:1–5); *see* Pet. 49–50.

(ii) Patent Owner's Opposition

Patent Owner opposes Petitioner's arguments and Mr. Schmandt's supporting testimony as to whether the combination of Coffman and Ross provides a device processor that: (1) identifies an entry in a context stack that matches information in a merged transcription of user inputs; and then (2) identifies a domain agent associated with the matching entry. *See* Prelim. Resp. 1 (line 9) – 2 (line 16) (overview); *id.* at 36–44 (addressing identification step (1)); *id.* at 18–36 (addressing identification step (2)). As discussed above in Section III.E.2(i), we assume for purposes of this Decision that the combination of Coffman and Ross provides a processor that performs the first identification step. Therefore, we focus here on Patent Owner's argument as it relates to the second identification step.

Patent Owner asserts "*Coffman's conversationally-aware applications* use an application program interface ('API') to send utterances to the backend of the system to be processed into requests and to receive responses for presentation to the user," so those applications "*cannot be the claimed 'domain agent' because they are not 'identified' as associated with an identified context stack entry*" by Coffman's CVM. Prelim. Resp. 1–2 (emphases added), 18.

Patent Owner cites Coffman's Figure 1, reproduced below, to support this argument.



Coffman, Figure 1.

Figure 1 of Coffman is a block diagram of a conversational computing system. *See* Ex. 1003, 9:27–28, 12:5–7. Patent Owner argues Figure 1 illustrates that conversationally aware applications 11 "are directly connected to" conversational user interface 10 to receive a user's utterances at the "frontend" of Coffman's system, and applications 11 interface with CVM 14 at the "backend" of Coffman's system through APIs 13. Prelim. Resp. 20–22 (citing Ex. 1003, Fig. 1, 9:27–28, 12:26–13:1).

Patent Owner asserts CVM 14 includes and utilizes a context stack to track the history of each "discourse" between CVM 14 and the user of Coffman's system. *Id.* at 22–25 (citing Ex. 1003, Figs. 2 and 4, 19:30–20:2, 21:23, 27:1–2, 29:19–20, 29:27–32, 30:4–8, 30:13–15, 30:22–25, 41:9–13); *see also* Ex. 1003, Fig. 2 (illustrating CVM kernel 202 including context

stack 217). In particular, according to Patent Owner, "each application [11] will have its 'own . . . context stack'" within CVM 14, and "[e]ach application [11] may be associated with multiple discourses." Prelim. Resp. 24, 25 (citing Ex. 1003, 27:1–2, 29:4–8); *see also id.* at 25, 28–29, 34–35 (further citing Ex. 1003, Fig. 4, 11:2–4, 21:23–32, 27:1–2, 29:4–5, 29:18–27, 30:4–5, 30:23–24). Patent Owner concludes "a search of an application's own context stack 217 may identify an active context and active process for that application, but . . . at most" this is merely "an identification of an active context for that user's current discourse with that application." *Id.* at 34–35.

Patent Owner further argues Petitioner's reliance on Coffman's CVM 14 as identifying a domain agent (i.e., a conversationally aware application 11) per claim 1 fails, because Coffman does not "disclose any 'identify[ing]' or selecting a conversationally-aware application, much less identifying such a conversationally-aware application based on an identified 'entry in the context stack.'" *Id.* at 29–30 (citing Ex. 1003, 30:22–25, 41:9–13, 42:1–5). According to Patent Owner, "Coffman's determination of an active context [in a context stack] does not lead to identifying or selecting of any conversationally-aware application as a 'domain agent,'" because "Coffman discloses that a user initiates interaction with a conversationally-aware application [11], which passes user information to the backend system [i.e., CVM 14] for identifying an entry in a context stack." *Id.* at 30–31 (citing Ex. 1003, Fig. 4, 5:5–6, 29:7–11, 37:2–4). Patent Owner asserts Mr. Schmandt's contrary testimony citing Coffman at page 37 (lines 2–4) fails to provide any explanation in support and in fact is not supported by Coffman's disclosure because "[n]o link exists between that

passage and selecting or identifying a conversationally-aware application." *Id.* at 31 (citing Pet. 49–50; Ex. 1002 ¶ 102).

Patent Owner contends Mr. Schmandt's reliance on other disclosures in Coffman fares no better. *See id.* at 31–33 (citing Pet. 50; Ex. 1002 ¶ 102; Ex. 1003, 40:12–15, 41:2–5, 42:1–5). According to Patent Owner, these disclosures "do not discuss conversationally-aware applications [11]," and instead they relate to "tasks and threads performed ***at the CVM*** [14]" becoming active. *Id.* (further citing Ex. 1003, Fig. 2, 21:1–3, 30:1–5, 30:22–25, 41:9–13, 42:16–17). Patent Owner then adds that "Coffman expressly discloses that the task dispatcher / controller 402 of the CVM 401 'dispatches and coordinates different tasks and processes that are spawned,'" yet "[n]othing in Coffman's discussion of the task dispatcher / controller 402 suggests or discloses identifying a conversationally-aware application based on a match in the context stack," and Coffman instead "selects a context stack based on the user's interaction with a conversationally-aware application." *Id.* at 33–34 (citing Ex. 1003, Fig. 4, 30:26–28).

(iii) Analysis and Conclusion

We conclude the record does not support, sufficiently to justify institution of review, Petitioner's contention that Coffman's CVM 14 / 202 / 401 includes a processor that *identifies* a domain agent (i.e., one of Coffman's conversationally aware applications 11) *associated with* an entry in a context stack (i.e., context stack 217 / 405) that matches information in a merged transcription of user inputs. Details are provided below, but in overview, we determine Coffman's disclosure is too high-level and non-specific, and Mr. Schmandt's supporting testimony is too conclusory, to

justify institution here. *See, e.g.*, *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9, at 15–17 (PTAB Aug. 24, 2022) (precedential) (holding an expert's declaration testimony is entitled to little weight when it "is conclusory and unsupported, [and] adds little to the conclusory assertion for which it is offered to support"); 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

Mr. Schmandt's declaration testimony firstly seeks to establish that Coffman's conversationally aware applications 11 are "**domain agents**" per claim 1 because they include "executable software . . . and associated data, such as vocabulary, grammar, language models and NLU symbolic mapping" and therefore they correspond to a "program that performs actions on behalf of another entity." Ex. 1002 ¶¶ 98–101. We conclude this contention, which Patent Owner does not oppose, is supported sufficiently by the '607 patent specification passages and Coffman disclosures cited by Mr. Schmandt to justify institution of review. *See id.*

Mr. Schmandt then concludes Coffman's applications 11 are "also '**associated with** [an] **entry in the context stack**'" per claim 1 because:

> As discussed for [the first identification step], *Coffman explains that context stack entries are created for and associated with applications*. (Coffman, 30:4–10 ("More specifically, each new task, process, or thread creates a new stack entry and is associated with a discourse. Each application may be associated with multiple discourses (e.g. the application management discourse and the application content navigation discourses)."); *see also id.*, 29:18–30:3.).

Ex. 1002 ¶ 101 (emphasis added). However, the quoted Coffman disclosure states "each new task, process, or thread creates *a new stack entry* and is associated with a *discourse*," as opposed to being associated with an

"application" as Mr. Schmandt testifies, and also states "*[e]ach application may be associated with multiple discourses*." Ex. 1003, 30:4–10 (emphases added); *see also id.* at 29:27–32 ("In other words, the term 'context' refers to the state of each *discourse* . . . ." (emphasis added)), 30:6–8 ("*Each context associated with a given discourse* comprises the latest requests made to the corresponding process / task / thread as well as the latest output." (emphasis added)). We cannot discern, absent persuasive explanation from Mr. Schmandt, how Coffman's disclosure of determining a matching *discourse* in a context stack can correspond to determining a matching *application* such as one of Coffman's applications 11, especially when each application can be associated with multiple discourses. Such explanation is lacking in the paragraph of Mr. Schmandt's testimony quoted above (Ex. 1002 ¶ 101).

Such explanation also is lacking in Mr. Schmandt's previous testimony comparing the first identification step of claim 1 and Coffman, which he cross-references in the testimony quoted above. *See* Ex. 1002 ¶¶ 84–87, 96, 101 (citing Ex. 1003, 6:6–12, 6:32–7:3, 29:18–30:10, 30:13–16, 38:8–16, 38:26–29, 40:25–27, 41:2–5, 41:8–9, 42:1–5). The various Coffman disclosures cited by Mr. Schmandt in that previous testimony most pertinently describe Coffman's context stack(s) as being associated with a "discourse" as discussed above, or perhaps with a non-specific "engine" or "network service" or "process" or "task" or "thread" or "subsystem." *See id.* Mr. Schmandt does not explain how such non-specific disclosures lead him to conclude that Coffman's applications 11 (specifically) are each "associated with [an] entry in the context stack" per claim 1. *See id.*

Based on the testimony discussed above, Mr. Schmandt then concludes "Coffman therefore teaches "**identify**[ing] **a domain agent associated with the entry in the context stack**" per claim 1. Ex. 1002 ¶ 102. He explains further, as follows:

> [In Coffman,] by identifying a context stack entry matching the user's input, *the associated conversationally-aware application is selected* to process a command / query based on the user's input. (Coffman, 37:2–4 ("The first task to have its dialog completed by producing a non-ambiguous query is executed and the corresponding query as interpreted by the other application is stored to activate if the recognized query is rejected by the user."); *see also id.*, 42:1–5, 41:2–5, 40:12–15 ("By way of example, the task dispatcher / controller 402 will decide on the basis of the context stack 405 the different statistical parsers that must operate on a query for the dialog controller 404 to identify the active context and complete the query.").)

Ex. 1001 ¶ 102 (emphasis added). However again, Mr. Schmandt fails to explain sufficiently his conclusion that the foregoing cited disclosures in Coffman demonstrate that CVM 14 / 202 / 401 *identifies* one of Coffman's applications 11 (specifically) *associated with* an entry in context stack 217 / 405.

Indeed, as Patent Owner points out, Figure 1 of Coffman appears to show that conversationally aware applications 11 are directly connected to conversational user interface 10 to receive a user's utterances at the "frontend" of Coffman's system. *See* Ex. 1003, Fig. 1 (showing a double-headed arrow between CUI 10 and applications 11); Prelim. Resp. 20–22, 30–31 (citing Ex. 1003, 5:5–6, 9:27–28, 12:26–13:1, 29:7–11, 37:2–4). This is at least some indication that Coffman's system does not utilize CVM 14 at the "backend" of Coffman's system to identify a

particular application 11 associated with an entry in a context stack that matches information in the user's merged natural language and non-speech input. *See id.* at Fig. 1.

There also is some support for Patent Owner's contention that "each application [11] will have its 'own . . . context stack'" within CVM 14. Prelim. Resp. 24, 25, 28–29, 34–35 (citing Ex. 1003, 11:2–4, 21:23–32, 27:1–2, 29:4–8, 29:18–27, 30:4–5, 30:23–24). For example, Coffman states: "Typically, different devices, CVMs or different applications will have their own dialog manager, context stack 217, 217a and global history 218, 218a." Ex. 1003, 27:1–2; *see also id.* at 21:23–24 ("The context stack 217 comprises all the information associated with an application."). Indeed, Petitioner appears to agree with Patent Owner on this point. *See* Pet. 36 ("To start, Coffman's conversational system includes a '**context stack**' where the state and history of each active task/process, such as an application process, is tracked in its own 'context[.]'"). Again, this is at least some indication that Coffman's system does not utilize CVM 14 to identify a particular application 11 associated with an entry in a context stack that matches information in the user's merged speech and non-speech input.

In summary, we conclude the record does not demonstrate a reasonable likelihood that Petitioner would prevail in relying on Coffman in relation to identifying a domain agent associated with an entry in a context stack that matches information in a merged transcription of user input.

3. Claims 12–15 of the '607 Patent

Independent claim 12 recites a method for processing natural language inputs, in which a processor "identif[ies] . . . an entry in a context stack, from among a plurality of entries that are in the context stack and that are each indicative of context, wherein the identified entry matches information in the merged transcription." Ex. 1001, 39:35–40:8. The processor of claim 12 further "identif[ies] . . . a domain agent associated with the entry in the context stack." *Id.* at 40:9–10. Claim 13 requires the same processor by virtue of depending from claim 12. *See id.* at 40:15–19.

Independent claim 14 recites a device for processing natural language inputs, comprising a processor configured to "identify, from among a plurality of entries that are in a context stack and that are each indicative of context, an entry that matches information in" a speech-based transcription of a natural language utterance from a user. *Id.* at 40:20–36. The processor of claim 14 further is configured to "identify a domain agent associated with the entry in the context stack." *Id.* at 40:37–38. Claim 15 requires the same processor by virtue of depending from claim 14. *See id.* at 40:44–48.

Petitioner, in addressing these limitations of claims 12–15, relies on arguments we have considered above in Section III.E.2 in relation to substantially similar limitations in claim 1. *See* Pet. 72 (arguing claim 12), 72–74 (arguing claim 14). For the reasons provided above, we conclude the record does not demonstrate a reasonable likelihood that Petitioner would prevail in relying on Coffman in relation to identifying a domain agent associated with an entry in a context stack that matches information in a merged transcription of user input.

4. Conclusion as to Ground One

We conclude the record does not demonstrate a reasonable likelihood that Petitioner would prevail with respect to challenging any of claims 1–15 in Ground One as having been obvious over Coffman, Kennewick, and Ross.

F. Ground Two — Obviousness over Coffman, Kennewick, Ross, and Lee

In Ground Two, Petitioner asserts claims 5–7 and 13–15 of the '607 patent are unpatentable as having been obvious over Coffman, Kennewick, Ross, and Lee. *See* Pet. 10, 74–77. Patent Owner disagrees. *See* Prelim. Resp. 46.

Petitioner's Ground Two relies on the combination of Coffman and Ross as providing a device processor that, as required by each independent claim 1, 12, and 14: (1) identifies an entry in a context stack that matches information in a transcription of user input(s); and then (2) identifies a domain agent associated with the matching entry. *See* Pet. 74–77 (citing Lee in Ground Two only as using *other users' profile information* to generate a speech-based transcription of *one user's* utterances). For the reasons provided above in Section III.E.2 discussing substantially similar subject matter in claim 1, we conclude the record does not demonstrate a reasonable likelihood that Petitioner would prevail in relying on Coffman in relation to identifying a domain agent associated with an entry in a context stack that matches information in a transcription of user input(s). Thus, we conclude the record does not demonstrate a reasonable likelihood that Petitioner would prevail with respect to challenging any of claims 5–7 and 13–15 in

Ground Two as having been obvious over Coffman, Kennewick, Ross, and Lee.

IV. POTENTIAL DISCRETIONARY DENIAL UNDER 35 U.S.C. § 325(d)

Patent Owner urges us to exercise our discretion under 35 U.S.C. § 325(d) to deny institution of review, on the basis that the Examiner considered and commented on Coffman and Kennewick during prosecution of the '607 patent, and Petitioner's reliance on Ross (in Ground One) and Lee (in Ground Two) does not cure a deficiency of Coffman relating to merged transcriptions that was recognized by the Examiner. *See* Prelim. Resp. 3–4, 14, 44, 47–50. Petitioner provides opposing arguments. *See* Pet. 10–12.

In light of our determination above to deny institution on the merits per 35 U.S.C. § 314(a), we do not reach the § 325(d) issues raised by Patent Owner.

V. CONCLUSION

For the above reasons, we conclude the record does not demonstrate a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, so we deny institution of the petitioned *inter partes* review per 35 U.S.C. § 314(a). We do not reach the discretionary denial issues raised by Patent Owner under 35 U.S.C. § 325(d).

VI. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), the petitioned institution of *inter partes* review of the '607 patent is *denied*.

FOR PETITIONER:

Heidi L. Keefe
Andrew C. Mace
COOLEY LLP
hkeefe@cooley.com
amace@cooley.com

FOR PATENT OWNER:

Wayne M. Helge
James T. Wilson
BUNSOW DE MORY, LLP
whelge@bdiplaw.com
jwilson@bdiplaw.com