

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

DIALECT, LLC,
Patent Owner.

IPR2024-00753
Patent 7,640,160

PETITIONER'S REPLY

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I. INTRODUCTION

Patent Owner's Response recycles many of the same failed pre-institution arguments correctly rejected by the Board in the Institution Decision. But Patent Owner abandons its arguments that (1) Kennewick fails to disclose "**grammar expression entries**" and (2) it would not have been obvious to combine Kennewick and Ross. The disputes now solely revolve around the claimed "**one or more expected contexts**" recited in claim 12. As explained below, Patent Owner's arguments should be rejected because they are based on unduly narrow interpretations of the claim and because they improperly attack the Kennewick and Ross references individually, when Petitioner's challenge is based on their combination.

II. PETITIONER'S "EXPECTED CONTEXT" MAPPINGS

Claim 12, the only claim challenged in this IPR, recites in relevant part:

[b] identifying one or more contexts that completely or partially match one or more text combinations contained in the transcription, wherein identifying the matching contexts includes comparing the text combinations

[1] against the grammar expression entries in the context description grammar and

[2] against one or more expected contexts stored in a context stack;

[c] scoring each of the identified matching contexts;

[d] selecting the matching context having a highest score to determine a most likely context for the utterance; and

('160, 31:1-8 (claim 12) (bracketed annotations added).) The Petition described two separate ways in which Kennewick alone disclosed and rendered obvious “**one or more expected contexts**” and further described in the alternative how it was obvious over Kennewick in view of Ross. (Petition, pp.38-42.)

First, the Petition explained that Kennewick, in connection with determining a most likely context, teaches that multiple “possible contexts are scored and the top one or few are used for further processing.” (Petition, p.38 (quoting Kennewick, ¶0152).) These “possible contexts” (which Patent Owner does not dispute are stored in a context stack) correspond to “**one or more expected contexts**” because they are recognized as possibly matching the user’s intent. (Petition, p.38 (citing EX1002, ¶78; Kennewick, ¶¶0144-0145).) In other words, Kennewick’s “possible contexts” are “**expected contexts**” because Kennewick’s processing reflects an anticipation, or expectation, that they may match the user’s intent. (EX1016 (Schmandt Reply Declaration), ¶4.) Notably, neither claim 12 nor the written description imposes any requirement as to the point in time when a context may be “expected,” nor is there any requirement that the system expressly flag or otherwise identify a context as “expected.” (EX1016, ¶4.) Moreover, Kennewick does not say that all contexts are scored, only “possible” contexts. (EX1016, ¶4.)

That these contexts are described as “possible”—as opposed to for example “probable” or “more likely than not”—does not make them not-expected. (EX1016, ¶5.) For example, in the ’160 patent, both claim 12 itself and the written description contemplate that multiple contexts may be “expected.” (’160, claim 12 (“one or more expected contexts”), 13:66-14:2 (“a set of expected contexts that are stored in a context stack to determine a most likely context”).) Therefore, for any given match, it simply cannot be the case that each “expected” context must be more likely than not. In other words, the probability of matching a context cannot serve as a basis for the context to be “possible” but not “expected.” (EX1016, ¶5.) Therefore, in accordance with this first mapping, all of the “possible contexts” as described by Kennewick can be the claimed “**expected contexts**,” as Petitioner’s expert stated at his deposition. (EX1016, ¶5; EX2011 (Schmandt Dep. Tr.), 69:6-11 (discussing first mapping), 70:6-15.) As explained above, in this first mapping, Kennewick’s “possible contexts” are “**expected contexts**” because Kennewick’s processing reflects an anticipation, or expectation, that they may match the user’s intent.

Second, the Petition explained that Kennewick describes storing context keywords associated with earlier questions in a context stack. (Petition, pp.38-39 (citing Kennewick, ¶¶0144-0145, 0166 (“Part of the dialog history is maintained in a context stack.”))).) The one or more contexts associated with earlier question(s) (which Patent Owner also does not dispute are stored in a context stack) is another

way that Kennewick discloses and renders obvious “**one or more expected contexts.**” (Petition, p.39 (citing EX1002, ¶78).) The contexts associated with earlier dialog are “**expected contexts**” because they are contexts anticipated to match “follow-on” dialog—as shown by Kennewick’s teaching that a “following-on question can be asked using an abbreviated grammar.” (Petition, pp.38-39 (quoting Kennewick, ¶¶0144-0145); EX1016, ¶6.) These expected contexts enable “the user [to] simply ask[] about another keyword if the criteria of the question remain constant.” (Petition, pp.38-39 (quoting Kennewick, ¶¶0144-0145); EX1016, ¶6.)

The Petition further explained that the claimed “**one or more expected contexts**” was also obvious in view of Ross. (Petition, pp.39-42.) Ross specifically describes a “context list” that includes “contexts.” (Petition, p.39 (citing Ross, Fig. 4, ¶0033).) The contexts are sorted in priority order, such that the most-recently-accessed context—such as the context associated with the most-recently accessed application—will be the first (but not necessarily only) context evaluated when processing the next user utterance. (Petition, pp.39-40 (citing Ross, ¶¶0035, 0037).) The Petition explained that the proposed combination would have predictably resulted in ““**one or more expected contexts**’—such as the contexts associated with applications that had already been invoked—‘**stored in a context stack.**’” (Petition, p.41 (citing EX1002, ¶81) (underlining added).) This result is irrespective of Ross’s methods for later selecting an application to invoke—i.e., it is reasonable to expect

that an application invoked in the past will be invoked again. (EX1016, ¶7.) And the addition of Ross's methods for selecting an application using priority ordering reflects a reasonable heightened expectation that the most-recently accessed application (and thus its context) is more likely to match the user's next utterance. (Petition, p.41 (explaining that priority ordering "enables comparing text against the expected contexts to efficiently identify a matching context"); EX1016, ¶7.) This common sense expectation is consistent with numerous well-known aphorisms, such as "history repeats itself," "past is prologue," and "the best predictor of future behavior is past behavior." (EX1016, ¶7.)

III. REPLY TO PATENT OWNER RE "PETITIONER'S INTERPRETATION OF 'EXPECTED CONTEXTS' IMPROPERLY OMITTS 'EXPECTED' FROM THE CLAIM"

Patent Owner first presents several arguments why, according to Patent Owner, "Petitioner's interpretation of 'expected contexts' improperly omits 'expected' from the claim." (Patent Owner Response ("POR") (Paper 16), pp.11-21.) As explained below, these arguments fail because they are based on unduly narrow interpretations of the claim that are not supported by the patent and are contrary to well-established law.

A. Reply to Patent Owner re "The District Court has construed terms relevant to the '160 patent, including 'context entries'"

Patent Owner begins by noting, as it did in its Preliminary Response, district court constructions for terms in patents related to the '160 patent. (POPR (Paper 9),

pp.9-11; POR, 11-12.) But Patent Owner does not argue that those constructions should apply here or that the prior art fails to disclose or render obvious the challenged claim under any of those constructions. Petitioner reserves the right to respond if Patent Owner later argues otherwise.

Patent Owner does argue, as discussed below, that the Petition “fails to apply a proper interpretation” to the term “**expected contexts**.” (POR, p.13.) But Patent Owner does not argue that “**expected contexts**” (which was not construed by the district court) should have a particular meaning; only that, according to Patent Owner, Petitioner has not given the term “expected” any meaning at all. As explained next, Patent Owner is wrong.

B. Reply to Patent Owner re “Petitioner Fails to Apply a Proper Interpretation of Claim 12’s ‘Expected Contexts’”

Patent Owner argues that “Petitioner’s interpretation of ‘expected contexts’ effectively omits ‘expected’ from this claim term.” (POR, p.13.) According to Patent Owner, this is because “[a] proper interpretation of the ’160 patent’s ‘expected contexts’ does not include every entry in a context stack, as this would improperly omit ‘expected’ from this claim term.” (POR, p.13.) Instead, according to Patent Owner, “a POSITA would understand the ‘expected contexts’ are a subset of the contexts in a context stack.” (POR, p.15.) As explained below, this interpretation is not supported by the challenged claim or written description. But even if it were, Petitioner’s mapping addresses such an interpretation because the

claimed “**expected contexts**” correspond in Kennewick to contexts associated with earlier questions; and moreover Patent Owner’s interpretation is addressed by the combination with Ross.

For starters, Patent Owner’s requirement that “**expected contexts**” can only comprise a subset of contexts in a context stack is not supported by the claim language. Claim 12 simply recites “**one or more expected contexts stored in a context stack.**” Nothing in the plain language of claim 12 requires that this claimed context stack also store other contexts—the claimed context stack could exclusively store expected contexts. (EX1016, ¶14.) Other contexts, whether expected or not, could be stored apart from these expected contexts, such as in a different context stack or not even on a context stack at all. This straightforward understanding of the claim’s language does not “improperly omit ‘expected’” from the claim. (EX1016, ¶14.)

Moreover, there is likewise no basis in the written description for this requirement. Patent Owner relies on the ’160 patent’s statement that “[t]he knowledge-enhanced speech recognition may access a set of expected contexts that are stored in a context stack to determine a most likely context.” (POR, p.25 (citing ’160, 13:64-14:2).) Putting aside that claim 12 does not even recite a “set” of expected contexts, nothing about this statement requires that the “set of expected contexts” be only a subset of contexts stored in that context stack. For example,

there is nothing about a “set” being “stored in a...stack” that requires that stack to store anything additional—the “set of expected contexts” alone, based on their ordering, could comprise a context stack. (EX1016, ¶15.) In other words, the “set” describes a logical collection, while the “context stack” describes how that set is actually stored. (EX1016, ¶15.) Patent Owner’s requirement that “the processing in the ’160 patent does not look at all entries in the context stack and, instead, filters the contexts to focus on a set of ‘expected contexts’ before identifying matching contexts” has no support in the ’160 patent. (POR, p.25 (citing ’160, 13:64-14:2); EX1016, ¶15.) Instead, the contexts in the claimed context stack could be “**expected**” by virtue of being in that context stack, while other, not-expected contexts may be stored elsewhere. (EX1016, ¶15.)

Patent Owner next argues that because the ’160 patent’s discussion of using a “set of expected contexts” is described as part of “another embodiment of the invention,” it is separate from the patent’s (and Kennewick’s) disclosures related to “possible contexts.” (POR, pp.16-17 (citing ’160, 13:60).) Patent Owner appears to be arguing that claim 12 should be limited to the embodiment mentioning the “set of expected contexts.” But “it is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.

3d 1304, 1309 (Fed. Cir. 2014) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004)). Here, not only does the '160 patent disclose multiple embodiments, the particular embodiment Patent Owner points to is described as yet “another embodiment.” The patent does not describe it as a distinct invention or otherwise clearly indicate that claims should be limited to that embodiment, through disavowal, lexicography or otherwise. (EX1016, ¶16.) For example, the passage Patent Owner points to has no discussion of scoring matching contexts, which indicates that the passage should not be read in isolation, but rather as a part of the entire written description. (EX1016, ¶16.) Moreover, the '160 patent also separately describes how “agents may update a context stack to enable follow-up requests.” ('160, 3:14-15 (“The agents may update a context stack to enable follow-up requests.”), 13:57-59 (“Agents **106** may update a context stack, that includes an ordered list of command contexts, to enable follow-up requests.”).) A person of ordinary skill in the art would have recognized that these context stack updates to enable follow-up requests would comprise “**expected contexts**” just as in Kennewick; and the patent provides no reason to exclude them. (EX1016, ¶16.) Similarly, Patent Owner relies on the '160 patent's passage describing “another embodiment” to argue that only expected contexts could use “context specific matchers” (POR, pp.8-9 (citing '160, 14:2-6))—but the cited passage simply refers

broadly to “context specific matchers that are able to identify context” and nowhere limits their use to identifying or matching only “expected contexts.” (EX1016, ¶16.)

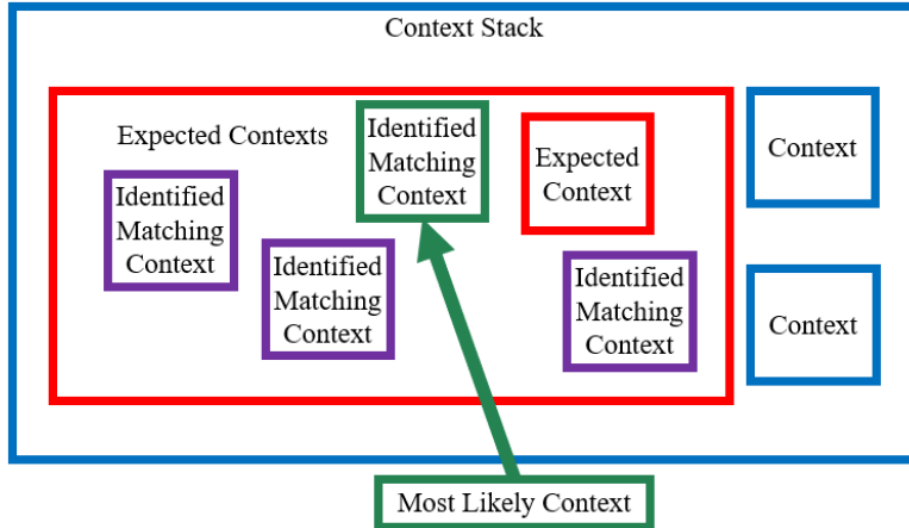
Patent Owner also argues that the '160 patent's “possible contexts” are different from “expected contexts” because, according to Patent Owner, “possible contexts” are scored, while “expected contexts” are “used to identify matching contexts by comparing text combinations against the expected contexts.” (POR, p.16.) But as discussed in the Petition, a person of ordinary skill in the art would have found it obvious that the “possible contexts” were likewise used to identify matching contexts by comparing text combinations against those contexts. (Petition, pp.24, 38, 42.) In particular, the Petition noted how identifying “possible contexts” matching an utterance involved, for example, “keyword matching” (Petition, p.42; *see also id.*, p.24)—in other words, identifying “possible contexts” involved comparing an utterance's text combinations (keywords) to the possible contexts. (EX1016, ¶17.) For example, as the Petition explained, “[a] person of ordinary skill in the art would have therefore understood that the text ‘temperature’ ‘matches’ the ‘weather’ context.” (Petition, p.24.)

C. Reply to Patent Owner re “Petitioner Also Fails to Apply a Proper Interpretation of Claim 12's Claimed Steps”

Patent Owner next argues that “Petitioner also fails to recognize the claimed order of steps imposed by the plain language of claim 12.” (POR, p.17.) The gist of Patent Owner's argument appears to be that steps 12[b] and 12[c]—i.e.,

“identifying one or more contexts” and “scoring each of the identified matching contexts”—are entirely separate steps that must occur in sequence. (POR, pp.18-20.) For example, according to Patent Owner, the claim language requires that “the step of ‘scoring’ is performed on each ‘identified matching context[]’ rather than on an entire context stack, or even on each ‘expected context[].’” (POR, p.19.)

Using the diagram below to illustrate, Patent Owner argues that “the claim requires a context stack with contexts, with some of those contexts being expected contexts, and with some of those expected contexts being identified as matching contexts, which are scored to select one of those identified matching contexts as a most likely context”:



(POR, pp.20-21.) But even if claim 12 encompassed Patent Owner’s scenario above, claim 12 is not limited to it.

Instead, put simply, claim 12 is a “comprising” claim. It is well-established that a “comprising” claim is “inclusive or open-ended and does not exclude additional, unrecited elements or method steps.” *CIAS, Inc. v. Alliance Gaming Corp.*, 504 F.3d 1356, 1360-61 (Fed. Cir. 2007). Therefore, for example, when claim 12 recites “scoring each of the identified matching contexts,” the claim does not exclude scoring other contexts. (EX1016, ¶21.) Claim 12 does not recite, for example, “scoring only the identified matching contexts.” In fact, step 12[b] broadly recites that “**identifying...includes**” a comparison against expected contexts; it does not say that identifying is limited to only the recited comparisons. (EX1016, ¶21.) Patent Owner is wrong that the claim requires that “the step of ‘scoring’ is performed on each ‘identified matching context[]’ rather than on an entire context stack, or even on each ‘expected context[].’” (POR, p.19.)

Moreover, the scoring step 12[c] could take place in parallel with, or even as part of, the identifying step 12[b] performed by Kennewick. *See, e.g., Google LLC v. Personal Audio, LLC*, 743 F. App’x 978, 985 (Fed. Cir. 2018) (“The Board’s holding is consistent with the principle that in infringement or obviousness analysis, a single element, feature, or mechanism can ordinarily satisfy multiple claim limitations, including by performing multiple claimed functions.”) (underlining added) (citing *Linear Tech. Corp. v. ITC*, 566 F.3d 1049, 1055 (Fed. Cir. 2009), *Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1305 (Fed. Cir. 1999) and other

cases). Therefore, Kennewick's disclosures of how keyword matching, for example, is used to identify matching possible contexts and how "the possible contexts are scored and the top one or few are used for further processing" is fully consistent with claim 12. (Petition, p.42; EX1016, ¶21.)

IV. REPLY TO PATENT OWNER RE "PETITIONER'S CHALLENGE FAILS ON THE MERITS"

A. Reply to Patent Owner re "Kennewick Fails to Disclose Element 12[b]"

Patent Owner's Response next largely repeats its earlier arguments as to why, according to Patent Owner, both alternative ways that Kennewick discloses 12[b] fail.

1. Reply to Patent Owner re "Petitioner's First Theory of 'expected contexts' in Kennewick Fails"

Patent Owner first argues that "Petitioner's first theory of 'expected contexts' in Kennewick fails" largely by repeating arguments already addressed above. (POR, pp.25-28.)

Patent Owner acknowledges that "Kennewick uses keyword matching on its context stack" but asserts that "Petitioner has not shown that any entries subject to keyword matching are 'expected contexts.'" (POR, p.25.) It is not clear why, other than being referred to as "possible contexts" instead of "expected contexts" that, in Patent Owner's view, Kennewick's "possible contexts" cannot be the claimed "expected contexts." As discussed above, and in the Petition, the "possible contexts"

correspond to “**one or more expected contexts**” because they are recognized as possibly matching the user’s intent. (Petition, p.38 (citing EX1002, ¶¶78; Kennewick, ¶¶0144-0145).) As discussed above, neither claim 12 nor the written description of the ’160 patent imposes any requirement as to the point in time when a context may be “expected,” nor is there any requirement that the system expressly flag or otherwise identify a context as “expected.” (EX1016, ¶¶4, 26.) And the fact that they are referred to as “possible” contexts does not make them not-expected. (EX1016, ¶¶5, 26.)

Patent Owner then repeats its unsupported argument that “the ’160 patent does not look at all entries in the context stack and, instead, filters the contexts to focus on a set of ‘expected contexts’ before identifying matching contexts.” (POR, p.25.) As discussed above, neither claim 12 nor the written description supports a requirement that the claimed context stack include non-expected contexts or that the context stack is somehow “filtered” before identifying matching contexts. (EX1016, ¶¶15, 27.) Patent Owner claims that the ’160 patent added a “new embodiment” to the earlier Kennewick application (POR, p.25), but that is irrelevant to a prior art invalidity analysis of claim 12, absent a clear disclaimer or intent to limit claim 12 to that embodiment, neither of which is present here.

Patent Owner next repeats its order-of-steps argument for claim 12. (POR, p.26 (“Additionally, Petitioner ignores the claimed order in claim 12...”).) Petitioner fully addressed this argument in Part III.C above. (EX1016, ¶¶18-21, 28.)

Patent Owner next repeats its argument that Kennewick's “possible contexts” cannot be the claimed “expected contexts.” (POR, p.26 (arguing that Petitioner “unreasonably insinuates that any context in a context stack is ‘expected’ by conflating the entire context stack with ‘one or more expected contexts.’”).) Petitioner fully addressed this argument in Parts II and III.A-B above. (EX1016, ¶¶4-7, 13-17, 29.)

2. Reply to Patent Owner re “Petitioner’s Second Theory of ‘expected contexts’ in Kennewick Also Fails”

Turning to the second way in which Petitioner explained Kennewick discloses 12[b], Patent Owner first repeats its argument that Kennewick uses “one or more contexts associated with earlier question(s)”—i.e., Petitioner's second mapping for “**expected contexts**”—in a scoring step rather than “in a pre-scoring step of identifying matching contexts using expected contexts.” (POR, p.28.) Petitioner fully addressed this argument in Part III.B-C above. (EX1016, ¶¶6, 17, 21.) As explained, Kennewick teaches using contexts associated with earlier questions(s) (“**one or more expected contexts**”) to identify matching contexts. (*See, e.g.*, Petition, pp.38-39 (citing Kennewick, ¶¶0144-0145, ¶0166).) And the plain language of claim 12 fully encompasses context scoring in Kennewick that may take

place during, or even as part of, that identification process. *See, e.g., CIAS*, 504 F.3d at 1360-61 (“comprising” claim); *Google*, 743 F. App’x at 985 (“a single element, feature, or mechanism can ordinarily satisfy multiple claim limitations”).

Patent Owner next argues that Kennewick “does not identify which entries in a context stack are considered ‘expected contexts,’ or how a search of a following-on question utterance is directed [or constrained to] to any ‘expected contexts.’” (POR, p.29.) But as explained in Part II above, neither claim 12 nor the written description imposes any requirement as to the point in time when a context may be “expected,” nor is there any requirement that the system expressly flag or otherwise identify a context as “expected.” (EX1016, ¶¶4, 26, 32.) A context associated with an earlier question is an “**expected context**” by virtue of its function in Kennewick’s system in subsequently identifying matching contexts. (EX1016, ¶32.) Just like sayings such as “the best predictor of future behavior is past behavior,” tracking and using contexts associated with earlier questions reflects an expectation that the contexts will be used again. (EX1016, ¶32.) And, as a “comprising” claim, there is nothing in claim 12 that requires the claimed identifying step to be directed only to, or to be constrained to, only “expected contexts.” *See, e.g., CIAS*, 504 F.3d at 1360-61 (“comprising” claim). In fact, as discussed, claim 12’s identifying step 12[b] broadly recites that “**identifying...includes**” a comparison against expected

contexts; it does not say that identifying is limited to only the recited comparisons. (EX1016, ¶32.)

Patent Owner next argues that “Petitioner provides no reasoning to support the asserted linkage of ‘context keyword(s) ... associated with an earlier question,’ or dialog history, to expected contexts, nor does Petitioner explain how ‘context keyword(s)’ can be an ‘example’ of expected contexts.” (POR, pp.29-30.) This argument is simply a repackaged version of Patent Owner’s argument that Kennewick does not expressly flag a context as “expected,” which was addressed above. (EX1016, ¶¶4, 26, 33.)

Patent Owner’s last argument is similarly a repackaged version of its argument that claim 12 requires that only expected contexts can be compared. (POR, p.30 (“Petitioner’s theory would require a narrower comparison to only those entries ‘associated with an earlier question,’ and Petitioner fails to show such a narrower comparison”) (underlining added).) This argument was fully addressed above. (EX1016, ¶¶21, 32, 34.)

B. Reply to Patent Owner re “Ross Also Lacks ‘Expected Contexts’ and Fails to Remedy the Deficiencies of Kennewick”

Patent Owner largely repeats its POPR arguments against Ross, which the Board correctly rejected. Patent Owner does not dispute that it would have been obvious to combine Kennewick and Ross, and instead argues that the combination fails to fully disclose every claim limitation. (POR, p.38 (“Given these differences,

Petitioner has not shown how a combination of Kennewick and Ross would include each feature of the claimed invention.”.) As explained below, Patent Owner’s arguments both mischaracterize Ross’s teachings and improperly attack Ross individually when Petitioner relied upon the combined teachings of Kennewick and Ross. *See, e.g., Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1050 (Fed. Cir. 2019) (“A finding of obviousness... cannot be overcome ‘by attacking references individually where the rejection is based upon the teachings of a combination of references.’”) (citation omitted).

1. Reply to Patent Owner re “Ross’s system uses grammar stored in a context list to determine which application can process a speech command”

Patent Owner first argues that Ross’s process of selecting a context is “not a comparison of text combinations from an utterance against one or more expected contexts (i.e., prior utterances) stored in a context stack, but rather a check of which application can process a transcribed utterance.” (POR, p.32 (citing Ross, ¶0037).) Patent Owner’s argument appears to hinge on equating “**expected contexts**” with “prior utterances.” But this ignores how Petitioner mapped Ross and the proposed combination, and improperly attacks Ross individually.

As explained in the Petition, Ross discloses “**expected contexts**” by virtue of matching and subsequently reordering contexts in a context stack. The Petition explained:

Ross's [] similar system confirms storage of “**expected contexts**” in a “**context stack**,” and that doing so enables comparing text against the expected contexts to efficiently identify a matching context. (Ross, ¶0035 (“The speech focus priority is established by maintaining an ordered list of applications (e.g., context list **62**). Whenever an application **26** gains window focus, it will move to the head of the list **62**. Likewise, whenever an application 26 which is not the top priority application **26** is chosen as the target for a speech command, the application **26** indicated by the selected context **72** will move to the head of the list **62**. In this way, the last application **26** that the user touched or talked to will get the first opportunity at interpreting the next user utterance, and the other applications **26** will be ordered in a most-recently-accessed way.”); Schmandt, ¶82.)

(Petition, pp.41-42 (emphasis in original).) Accordingly, similar to Kennewick, the ordering of a context stack reflects expectations regarding which contexts are likely to be matched in the future—and therefore, as the Petition explained, “[t]he combination would have predictably resulted in ‘**one or more expected contexts**’—such as the contexts associated with applications that had already been invoked—‘stored in a context stack.’” (Petition, p.41 (underlining added); EX1016, ¶37.) For example, in Ross, the most recently accessed context matched to process a user’s utterance, and moved as a result to the top of the context stack, is an example of an “**expected context**.” Applying Ross’s “expected context” technique to Kennewick’s own contexts—either of Kennewick’s “possible contexts” or “contexts associated

with earlier question(s)"—would have accordingly predictably resulted in Kennewick's own contexts being "**expected contexts.**" (Petition, p.41; EX1016, ¶37.)

Patent Owner next appears to repeat its already-rejected argument that Ross discloses a "first-to-match system" and therefore fails to disclose "expected contexts." (POR, pp.32-35.) For starters, Patent Owner's argument is based on a misreading of claim 12. The claim only requires comparing against one expected context: "comparing the text combinations...against one or more expected contexts stored in a context stack." ('160, 31:4-7 (claim 12); EX1016, ¶38.) Therefore, even if Patent Owner were correct that Ross only matches one expected context, Ross (and the combination with Kennewick) still satisfies the claim language.

But moreover, as the Board correctly recognized, Ross does disclose matching multiple expected contexts. (DI, pp.28-29.) For example, as noted, Ross states:

[S]ince there will always be overlap between what the different application grammars will accept, the speech center **20** does not necessarily dispatch a command back to the application **26** whose grammar recognized it. Instead, when an utterance is recognized, it will be tested against each application's grammar to see if the grammar will accept it.

(Ross, ¶0035 (underlining added).) Patent Owner attempts to dismiss this clear teaching by pointing to Ross's statement that "[t]he first application's grammar

which will accept the utterance is then used for translation, and the command dispatched to the corresponding application **26.**" (POR, p.33 n.4 (quoting Ross, ¶0035).) Even if Patent Owner were correct, as explained above, claim 12 would still be satisfied, since it only requires matching one expected context. (EX1016, ¶39.)

But moreover, Ross teaches matching multiple contexts. For example, claim 12 of the '160 patent states that matching can be both "partial" and "complete." ('160, 31:1-3 ("completely or partially match one or more text combinations contained in the transcription") (underlining added).) In Ross, the phrase "open the first message," for example, would both completely match the electronic mail application and partially match the calendar application, because the calendar application would match the "open the first" portion that corresponds to an "open the first appointment" phrase. (Ross, ¶¶0041-0042, 0047-0048; EX1016, ¶40.) Patent Owner's expert at his deposition agreed that Ross contemplates both partial and complete matching. (EX1017, 20:22-21:6 ("If the grammar will accept the phrase, whether it's a complete match or not, then that would be the grammar that Ross would select") (underlining added).) Therefore, even if Patent Owner were correct about Ross, if the context for the calendar application was tested before the context for the electronic mail application, Ross would have matched multiple

contexts—the first a “partial” (and unacceptable) match, and the second a “complete” (and acceptable) match. (EX1016, ¶40.)

Patent Owner's argument also improperly attacks Ross individually when Petitioner's mapping involved the combination of Kennewick and Ross. *See, e.g., Bradium Techs.*, 923 F.3d at 1050. As discussed in the Petition, the proposed combination would have predictably resulted in identifying one or more matching expected contexts, each of which would have been scored in order to select the matching context having a highest score, as taught by Kennewick. (Petition, pp.40-44.) Therefore, even if Ross did not disclose matching multiple expected contexts, it still would have been obvious under the proposed combination. In fact, Kennewick not only discloses matching multiple contexts, Kennewick provides express motivation for matching, identifying, and scoring multiple expected contexts. In particular, as discussed in the Petition, Kennewick expressly teaches both scoring multiple contexts and prompting a user for confirmation if a “score is not high enough to ensure a reliable response.” (Petition, e.g., pp.18 (citing Kennewick, ¶¶0031, 0153) (confidence level), 38 (citing Kennewick, ¶0152), 42 (citing Kennewick, ¶0153).) It would have been obvious to a person of ordinary skill in the art, therefore, when combining Ross with Kennewick, to adapt Ross's context matching techniques so that multiple expected contexts were matched,

identified, and scored to help ensure that the most appropriate context was selected.
(EX1016, ¶41; *see also* EX1002, ¶82.)

2. Reply to Patent Owner re “Ross’s use of grammar in the context list fails to disclose ‘expected contexts’”

Patent Owner next argues Ross “does not compare text combinations against *one or more expected contexts stored in a context stack*” because “[t]here is no concept of ‘expected contexts’ in Ross.”¹ (POR, pp.35-36 (emphasis in original).) Patent Owner’s argument appears to be, again, that Ross does not expressly flag or distinguish between “contexts” and “expected contexts.” (POR, p.37 (“To satisfy claim 12, Petitioner would have to show that some contexts in Ross’s context list were ‘expected.’”)).) But again, as discussed in Part II above, neither claim 12 nor the written description imposes any requirement as to the point in time when a

¹ Patent Owner does not argue that Ross fails to disclose “contexts” generally. Nor could it, since Ross specifically describes maintaining a “context list” comprising a queue of “context” objects that can store grammars as well as “lists of keywords or phrases, hashed lists of words, or other suitable approaches to allow identification of a phrase as acceptable to a speech-enabled application 26.” (Ross, ¶¶0038, 0060; *see also id.*, ¶0033; Petition, p.39; EX1016, ¶42 n.1; EX1017 (Occhiogrosso Dep. Tr.), 22:5-16 (discussing Ross ¶0060; “The context may include going to that second list of key words”).)

context may be “expected,” nor is there any requirement that the system expressly flag or otherwise identify a context as “expected.” (EX1016, ¶¶4, 42.)

Lastly, Patent Owner argues that “because Ross only selects a single grammar among the context list based on a first match, the claimed concepts of ‘scoring each of the identified matching contexts’ in element 12[c] and ‘selecting the matching context having a highest score to determine a most likely context for the utterance’ in element 12[d] are antithetical and unknown to Ross.” (POR, p.37.)

However, claim 12 only requires identifying one matching context: “**identifying one or more contexts.**” (’160, 31:1-7 (claim 12); EX1016, ¶44.) Although claim 12 later recites “scoring each of the identified matching contexts,” that phrase is referring back to the “one or more contexts” identified in step 12[b], as Patent Owner’s expert agreed at his deposition. (EX1017 (Occhiogrosso Dep. Tr.), 16:2-5; *see also* EX1016, ¶45.) Because “the identified matching contexts” refers back to “one or more contexts,” it does not require multiple matching contexts. *See, e.g., Mohawk Energy Ltd. v. Enventure Global Tech. Inc.*, Case IPR2016-00954, Paper 22, pp.17-19 (PTAB Oct. 26, 2017) (finding claim term “the tubular members” referred to antecedent “one or more tubular members,” such that the claims required only one or more tubular members) (Final Written Decision *aff’d* Fed. Cir. R. 36, No. 2018-1356 (Fed. Cir. Jan. 15, 2019)); *cf. Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F. 3d 1338, 1343 (Fed. Cir. 2008) (“Because the initial

indefinite article ('a') carries either a singular or plural meaning, any later reference to that same claim element merely reflects the same potential plurality....Because the initial phrase carries no definitive numerosity, the anaphoric phrases do not alter that meaning in the slightest."). Similarly, when step 12[d] recites "selecting the matching context having a highest score," it also requires just one "matching context." (EX1016, ¶44.) A single scored matching context would by definition have "a highest score." (EX1016, ¶44.) Therefore, Ross satisfies the claim language.

Moreover, as explained above, Patent Owner again improperly attacks Ross individually, when Petitioner's analysis is based on the combination of Kennewick and Ross. Even if claim 12 required identifying multiple contexts, as explained in the Petition, and above, a person of ordinary skill in the art would have found it obvious under the combination to identify multiple contexts (Petition, pp.39-42), score those multiple contexts (Petition, e.g., p.42 (citing Kennewick, ¶0152 ("the possible contexts are scored and the top one or few are used for further processing"))), and select the context with a highest score to determine a most likely context (Petition, pp.43-44).

V. CONCLUSION

For the reasons stated above and in the Petition, claim 12 of the '160 patent is unpatentable as obvious.

Petitioner's Reply
IPR2024-00753

Dated: May 16, 2025

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CERTIFICATE OF COMPLIANCE WITH WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), I certify that this reply complies with the type-volume limits of 37 C.F.R. § 42.24(c)(1) because it contains 5,585 words, according to the word-processing system used to prepare this reply, excluding the parts of this reply that are exempted by 37 C.F.R. § 42.24(c).

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CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R. Section 42.6, that a complete copy of the attached **PETITIONER'S REPLY** and related documents are being served via electronic mail on the 16th day of May 2025 upon the Patent Owner's attorneys of record in this proceeding as follows:

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