

**Preliminary Ineligibility Contentions for U.S. Patent 10,510,341**

Pursuant to Chief Judge Gilstrap's Standing Order Regarding Subject Matter Eligibility Contentions, the following charts contain Samsung's Preliminary Ineligibility Contentions demonstrating that claims 1-18 of U.S. Patent No. 10,510,341 ("341 patent") are patent-ineligible under 35 U.S.C. § 101. Because the Court has yet to issue a claim construction in this case, and to the extent Plaintiff contends that there are factual disputes that relate to eligibility of the asserted claims of the '341 patent, fact and expert discovery is ongoing, these contentions are preliminary only and Samsung reserves the right to supplement or modify these contentions in accordance with the agreed patent-disclosure procedures and the Docket Control Order in this case. Additionally, and in further consideration of the preliminary stages of the case, Samsung notes that the pinpoint citations referenced in this chart are not exhaustive, and Samsung reserves the right to rely on additional citations within the asserted patent any cited reference. Furthermore, citations to any figure, table, or chart are meant to encompass the language describing the figure, table, or chart, and vice versa. To the extent applicable, Samsung incorporates by reference its citations in its eligibility contentions for the other asserted patents, which are related to the '341 patent.

To the extent applicable, Samsung further incorporates by reference its citation in the § 102/103 contentions, which illustrate that the claimed elements were well-understood, routine, and conventional.

Further, these charts may incorporate Plaintiff's apparent interpretation of the breakdown of elements within the asserted claims, as reflected in Plaintiff's infringement contentions to date. Samsung does not concede that such interpretation is correct, and reserves its right to supplement these contentions accordingly.

Samsung reserves its right to supplement these contentions based on further discovery, including any supplemental infringement contentions or to any interrogatory response provided by Plaintiff purporting to rebut these ineligibility contentions.

***VB Assets, LLC, v. Samsung Electronics Co., LTD.***  
**No. 2:24-cv-00828-JRG (E.D. Tex.)**  
**Defendants’ Invalidity Contentions – Appendix G-2**

Pursuant to Judge Gilstrap’s Standing Order Regarding Subject Matter Eligibility Contentions, Samsung provides the following chart identifying each exception to eligibility (e.g., abstract idea, law of nature, and natural phenomenon) to which each Challenged Claim is directed and the factual and legal basis therefor, as well as identification of whether one or more of the Challenged Claims are representative of any other Challenged Claims. Samsung incorporates by reference the prior art identified in the ’341 patent, the prosecution history of the ’341 patent, any related litigations, and any related PTAB proceedings. Samsung further incorporates by reference any prior art identified or to be identified in its invalidity contentions and/or expert reports that will be provided according to the schedule provided by the Court’s Docket Control Order (Dkt. No. 42).

| Challenged Claims | Exception to Eligibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| 1-18              | <p>Like the ’681 patent, each of the independent claims of the ’341 patent are directed to the abstract idea of interpreting natural language utterances using both short-term and long-term information. These claims largely parallel the claims of the ’681 patent, though include additional claims related to “accumulating . . . short-term knowledge”, “expiring . . . one or more items of short-term knowledge,” and “accumulating . . . long-term knowledge” using in part the expired short-term knowledge. These latter claims do not add anything to the purportedly inventive aspect of the ’681 patent claims because they simply define “short-term” and “long-term” knowledge precisely as those terms are defined in the ’681 patent.</p> <p>Thus, as with the ’681 patent, this is not a technological advancement in the art, but, as the patent discloses, a basic feature of all human communication. ’341 patent, 1:58-60, 1:43-58.</p> <p>Accordingly, the patent is subject to the “abstract idea” exception to patent eligibility under the Patent Act as construed by the Supreme Court in <i>Alice</i>.</p> <p><u>Representativeness</u></p> <p>As an initial matter, for the purpose of the <i>Alice</i> inquiry, Claim 1 is representative of all asserted claims of the ’341 patent. VBA asserts independent claims 1 and 10 and dependent claims 2-9 and 11-18.</p> |

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| Challenged Claims                                                                                                                                                              | Exception to Eligibility                                                                                                                                                                                                                                                                             |                  |                   |
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|                                                                                                                                                                                | Starting with the independent claims, the claims are identical except for that claim 1 claims a computer-implemented method and claim 10 claims a system. This is displayed in the following table:                                                                                                  |                  |                   |
|                                                                                                                                                                                | Feature                                                                                                                                                                                                                                                                                              | Claim 1 (Method) | Claim 10 (System) |
|                                                                                                                                                                                | Accumulates short-term shared knowledge                                                                                                                                                                                                                                                              | ✓                | ✓                 |
|                                                                                                                                                                                | Accumulates long-term knowledge, including from expired short-term knowledge                                                                                                                                                                                                                         | ✓                | ✓                 |
|                                                                                                                                                                                | Receives an utterance at an input device                                                                                                                                                                                                                                                             | ✓                | ✓                 |
|                                                                                                                                                                                | Determines a context for the utterance                                                                                                                                                                                                                                                               | ✓                | ✓                 |
|                                                                                                                                                                                | Determines an interpretation for the utterance based on the context                                                                                                                                                                                                                                  | ✓                | ✓                 |
|                                                                                                                                                                                | Generates a response based on the interpretation                                                                                                                                                                                                                                                     | ✓                | ✓                 |
|                                                                                                                                                                                | The dependent claims do not alter the analysis as the dependent claims are substantially similar, if not substantially identical, and linked to the same abstract idea. <i>See Content Extraction &amp; Transmission LLC v. Wells Fargo Bank, Nat. Ass’n</i> , 776 F.3d 1343, 1348 (Fed. Cir. 2014). |                  |                   |
| For example, Claims 2 and 11 claim variations of Claims 1 and 10 where the received utterance(s) is related to a single conversation between the user and the computer system. |                                                                                                                                                                                                                                                                                                      |                  |                   |

| Challenged Claims | Exception to Eligibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                   | <p>Claims 3 and 12 specify that the long-term knowledge comprises “user preferences, an indication of utilized domain agents, contexts of prior natural language utterances, requests of prior natural language utterances, and tasks performed in response to prior natural language utterances.”</p> <p>Claims 4 and 13 add steps involving a second utterance: (1) receiving a second utterance in response to the generated response, (2) identifying user preferences based on the second utterance, and (3) updating the long-term knowledge with the user preferences.</p> <p>Claims 5 and 14 further narrow Claims 1 and 10 in that they provide for generating a user profile based on the long-term knowledge, which is then used to help determine the context of the utterance.</p> <p>Claims 6 and 15 provide for the additional step of generating a user profile, an environmental profile, a historical profile, and/or a cognitive profile based on the long-term knowledge, and processing subsequent utterances based on such profiles.</p> <p>Claims 7 and 16 specify that the long-term knowledge is additionally based on information received from a remote data source.</p> <p>Claims 8 and 17 require the interpretation determination step to include determining interpretations of specific words/phrases from the utterance based on the context.</p> <p>Finally, Claims 9 and 18 add the step of providing the generated response to the user.</p> <p>As detailed above, all of the asserted dependent claims merely narrow the scope of the independent claims to use specific modalities or decision processes for obtaining the same abstract idea claimed in the independent claims. Because these limitations do not provide any additional inventive concept, their eligibility under 101 rises and falls with the independent claims.</p> |

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|  | <p><u>The ’341 Patent Claims an Abstract Idea</u></p> <p>In <i>Beteiro, LLC v. DraftKings Inc.</i>, the Federal Circuit recently identified certain “well-settled indicators of abstractness.” 104 F. 4th 1350, 1355 (Fed. Cir. 2024). These are: (1) claims that broadly recite generic steps; (2) claims drafted using largely result-focused functional language, and (3) claims that can be analogized to “longstanding ‘real-world’ activities. <i>Id.</i> While each of these indicators are sufficient to demonstrate abstractness, the claims of the ’765 patent exhibit all of the features identified by that court.</p> <p><i>First</i>, the claims are broad and cite generic steps. In considering the breadth and genericness of the claims, the focus must be on the actual claims. <i>See ChargePoint, Inc. v. SemaConnect, Inc.</i>, 920 F.3d 759, 769 (Fed. Cir. 2019) (“[T]he § 101 inquiry must focus on the language of the Asserted Claims themselves ....” (quoting <i>Synopsys, Inc. v. Mentor Graphics Corp.</i>, 839 F.3d 1138, 1149 (Fed. Cir. 2016)); <i>Alice</i>, 573 U.S. at 219, 134 S.Ct. 2347 (“On their face, the claims before us are drawn to the concept of intermediated settlement ....” (emphasis added)). When evaluating the claim language, the court must evaluate “the ‘focus of the claimed advance over the prior art’ to determine if the claim’s ‘character as a whole’ is directed to excluded subject matter.” <i>Intell. Ventures I LLC v. Erie Indem. Co.</i>, 850 F.3d 1315, 1325 (Fed. Cir. 2017) (quoting <i>Affinity Labs of Tex., LLC v. DIRECTV, LLC</i>, 838 F.3d 1253, 1257 (Fed. Cir. 2016)).</p> <p>While Claim 1 of the ’341 patent includes extraneous verbiage designed to provide a perception of technological advance and complexity of the alleged invention in an attempt to remove it from the realm of ineligible subject matter, it boils down to a claim over the following four-step process that parallels the claims of the ’681 patent: (1) Receiving an utterance at an input device; (2) Determining a context for the utterance; (3) Determining an interpretation for the utterance based on the context, and (4) Generating a response based on the interpretation.</p> <p>As with the ’681 patent, these steps—accumulating information, receiving a message, detecting information, and generating and transmitting a response—are exactly the type of steps that the Federal Circuit has “frequently” held to be abstract. <i>See, e.g., AI Visualize, Inc. v. Nuance Commc’ns, Inc.</i>, 97 F.4th 1371, 1378 (Fed. Cir. 2024) (“We have explained that the steps of obtaining, manipulating, and displaying data, particularly when claimed at a high level of</p> |
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| Challenged Claims | Exception to Eligibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|                   | <p>generality, are abstract concepts.”); <i>Elec. Power Grp. LLC v. Alstom S.A.</i>, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (finding “a process of gathering and analyzing information of a specified content, then displaying the results” abstract); <i>Intell. Ventures I LLC v. Capital One Bank (USA)</i>, 792 F.3d 1363, 1369 (Fed. Cir. 2015) (finding “tailoring content based on the [user’s] location” abstract); <i>buySAFE, Inc. v. Google, Inc.</i>, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (claiming “a computer receiv[ing] and send[ing] information over a network – with no further specification – is not even arguably inventive”).</p> <p><i>Second</i>, the claims are drafted using largely result-focused functional language that “contain[s] no specificity about how the purported invention achieves those results.” <i>Beteiro, LLC v. DraftKings Inc.</i>, 104 F.4th 1350, 1356 (Fed. Cir. 2024). As the Federal Circuit has observed “Claims of this nature are almost always found to be ineligible for patenting under Section 101.” <i>Id.</i> (citing <i>Elec. Power Grp.</i>, 830 F.3d at 1356 (“[T]he essentially result-focused, functional character of claim language has been a frequent feature of claims held ineligible under § 101, especially in the area of using generic computer and network technology to carry out economic transactions.”); <i>Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC</i>, 874 F.3d 1329, 1337 (Fed. Cir. 2017) (“The claim requires the functional results of ‘converting,’ ‘routing,’ ‘controlling,’ ‘monitoring,’ and ‘accumulating records,’ but does not sufficiently describe how to achieve these results in a non-abstract way.”)).</p> <p>Namely, as illustrated with claim 1, the claims recite that knowledge is “accumulated” and “expired,” without any technical insight into how that knowledge is accumulated or expired; that utterances are “received”, without disclosing any technical insight into how they are received; that context is “determined” from the short- and long-term knowledge, without any insight into how context is determined; that an interpretation is “determined” from the context, without any insight into how the interpretation is determined; and that a response is “generated,” in a matter tailored to the interpretation and manner, without any insight into how that response is generated. At no point do the inventors disclose “how” these steps are accomplished.</p> |

| Challenged Claims | Exception to Eligibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                   | <p><i>Third</i>, the claims are directly analogous to “longstanding ‘real-world’ (‘brick-and-mortar’) activities.” <i>Beteiro, LLC v. DraftKings Inc.</i>, 104 F.4th at 1356; <i>see also PersonalWeb Techs. LLC v. Google LLC</i>, 8 F.4th 1310, 1316 (Fed. Cir. 2021) (claims that “can be performed in the human mind” or “using a pencil and paper” are “a telltale sign of abstraction”); <i>Intell. Ventures I LLC v. Symantec Corp.</i>, 838 F.3d 1307, 1314 (Fed. Cir. 2016) (a claimed method’s similarity to “fundamental ... practices long prevalent” is yet another clue that the claims may be abstract and unpatentable). For example, since the beginning of language, humans have been parsing both short-term knowledge and long-term knowledge to facilitate fluent conversations. Short-term knowledge, such as the narrow topic area being discussed at the present time, does and always has driven a conversation forward. Likewise, long-term knowledge, such as the identity of the person speaking who was first met years ago, is used to influence how we respond and communicate.</p> <p>That the patent claims performing this process using electronic devices and speech recognition software or hardware does not change the ultimate conclusion that the patent is directed to the abstract idea of improving natural language processing using conversational principles. Indeed, the Federal Circuit has repeatedly held that a patent is directed to an abstract idea when the claimed invention simply automates via computer a process that has been and can be effectuated by humans. <i>See CyberSource Corp., v. Retail Decisions, Inc.</i>, 654 F.3d 1366, 1373 (Fed. Cir. 2011). <i>See also Voter Verified, Inc. v. Election Sys. &amp; Software LLC</i>, 887 F.3d 1376, 1385 (Fed. Cir. 2018) (holding patent claims directed to auto-verification of a ballot to be abstract because “[h]umans have performed [the act of voting] . . . for hundreds of years.”); <i>Repifi Vendor Logistics, Inc. v. IntelliCentrics, Inc.</i>, 2022 WL 794981, *2-3 (Fed. Cir. 2022) (claims were “directed to the abstract idea of credentialing visitors and checking them in and out”—a “long-standing human process” (quotation marks omitted)); <i>CardioNet, LLC v. InfoBionic, Inc.</i>, 816 F. App’x 471, 476–77 (Fed. Cir. 2020) (measuring heart data claims abstract because process “could otherwise be performed by a human”); <i>Perry St. Software, Inc. v. Jedi Techs., Inc.</i>, 548 F. Supp. 3d 418, 432 (S.D.N.Y. 2021) (“Jedi seeks to apply these age-old processes to the context of internet chatrooms. But facilitating human interactions or relationships – which could occur offline and without automation – is not a patent-eligible idea. It is, as Judge</p> |

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| Challenged Claims | Exception to Eligibility                                                                                                                                                       |
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|                   | Sleet found in connection with Jedi's earlier patents, nothing more than the mechanization of traditional processes designed to satisfy humanity's desire for companionship.”) |

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Pursuant to Judge Gilstrap’s Standing Order Regarding Subject Matter Eligibility Contentions, Samsung provides the following chart identifying a description of the industry, at the relevant time, in which the Challenged Claims are alleged to be well understood, routine, and conventional, and the factual and legal basis therefor; and a description of how each element of each Challenged Claim, both individually and in combination with the other elements of that claim, was well understood, routine, and conventional, in the relevant industry at the relevant time, and the legal and factual basis therefor.<sup>1</sup>

The claims of the ’341 patent amount to nothing more than the practice of an abstract idea using conventional (even as of 2006) electronics. Such claims are not eligible for patent under current Section 101 jurisprudence. *See, e.g., Alice*, 573 U.S. at 223, 134 S.Ct. 2347 (“[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.”); *BSG Tech.*, 899 F.3d at 1290-91 (“If a claim’s only ‘inventive concept’ is the application of an abstract idea using conventional and well-understood techniques, the claim has not been transformed into a patent-eligible application of an abstract idea.”). Accordingly, the district court rightly dismissed the complaints.

| Claim Language                                                                                                                                                                                                                                                                                                 | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| [1P] A computer-implemented method of facilitating natural language system responses utilizing accumulated short-term and long-term knowledge, the method being implemented by a computer system that includes one or more physical processors executing one or more computer program instructions which, when | <p>The claimed computer-implemented method of facilitating natural language system responses utilizing accumulated short-term and long-term knowledge, implemented by a computer system with one or more physical processors executing instructions to perform the method, was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to specifically implement such a method beyond describing it at a high level. This</p> |

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<sup>1</sup> Samsung notes that under Supreme Court and Federal Circuit precedent, the Court need not, and should not, consider whether each and every element of each Challenged Claim was well understood, routine, and conventional. Rather, the only elements which should be considered under *Alice* step 2 are the elements that fall outside the scope of the abstract idea. *See Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 221-224 (2014); *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) (“It has been clear since *Alice* that a claimed invention’s use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention ‘significantly more’ than that ineligible concept.”).

| Claim Language                                              | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <p>executed, perform the method, the method comprising:</p> | <p>lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p> <p>The management of both short-term conversational context and long-term user knowledge to facilitate natural language system responses was well established before the relevant time. For example, McTear's <i>Spoken Dialogue Technology</i> (2004) describes spoken dialogue systems that maintain both dynamic short-term dialogue state and persistent long-term user models to guide response generation.</p> <p>The concept facilitating natural language system responses utilizing accumulated short-term and long-term knowledge was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>For example, the specification explains that "because cooperative conversations model human conversations, short-term session data may be expired after a psychologically appropriate amount of time, thereby humanizing system behavior, reducing a likelihood of contextual confusion based on stale data, while also adding relevant information from an expired session context to long-term knowledge models." ('341 patent at 5:30-36).</p> <p>Additionally, Freeman and Baldwin (2006) disclose how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech should ideally "follow the same model of human-to-human conversation" described in Grice's paper, <i>Logic and Conversation</i>. Freeman and Baldwin explain how "there is shared short-term (session) knowledge about what the user has said, what they have done, and where they are." Moreover, they describe how "long-term shared knowledge is user-centric rather than session-based and includes who the user is, their preferences, history of what they've done and said, and where they have been."</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                | <p>Tom Freeman and Larry Baldwin, Enhancing the VUE™ (Voice-User-Experience) Through Conversational Speech, SAE Technical Paper Series (2006).</p> <p>Further, the inventors of the '341 patent have admitted under oath that the concept of "short-term" and "long-term" shared knowledge is well understood, routine, and conventional:</p> <p>Q. And so the notion of -- the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice; right?</p> <p>A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.</p> <p>Q. I just want to be clear, this was Mr. Grice's idea, that wasn't your idea?</p> <p>A. Correct.</p> <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023))</p> <p>To the extent that the claim recites a “computer system that includes one or more physical processors executing one or more computer program instructions,” courts have consistently found that merely implementing an abstract idea on a generic computer does not make it patent-eligible. The Federal Circuit has repeatedly held that using “conventional computer components” to perform functions that humans have long performed in their minds or in prior art systems is insufficient to confer inventiveness. (<i>See, e.g., Alice Corp. v. CLS Bank Int'l</i>, 573 U.S. 208 (2014); <i>Content Extraction &amp; Transmission LLC v. Wells Fargo Bank</i>, 776 F.3d 1343, 1347 (Fed. Cir. 2014).)</p> |

| Claim Language                                                                                                                                                       | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                                                                                                                                                                      | <p>Finally, to the extent the '341 patent specification discloses the hardware used to implement the claims, what is described is generic, consisting of devices such as a microphone to receive the utterance or a speaker to deliver the generated response. '341 patent at 3:55-59, 7:43-46. Such devices were standard technology at the time of the invention, and thus, the claims of the '341 patent do not recite any improvement in computer technology.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p>[1A] accumulating, by the computer system, short-term knowledge based on one or more natural language utterances received during a predetermined time period;</p> | <p>The claimed method of accumulating, by the computer system, short-term knowledge based on one or more natural language utterances received during a predetermined time period was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to accumulate short-term knowledge from natural language utterances beyond the general concept. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p> <p>The accumulation of short-term conversational knowledge based on user utterances within a dialogue session was well established before the relevant time. For example, McTear's Spoken Dialogue Technology (2004) describes dialogue systems that dynamically track dialogue state and conversational history during interactions, maintaining short-term context based on received utterances.</p> <p>Moreover, the intrinsic record describes how “just as humans rely on knowledge shared by participants to examine how much and what kind of information was available, Intelligent Hypothesis Builder 310 may leverage the identified</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                | <p>conversation type and short-term and long-term shared knowledge to generate a degree of certainty for each hypothesis.” (‘341 patent at 16:37-42).</p> <p>The specification further explains that “because cooperative conversations model human conversations, short-term session data may be expired after a psychologically appropriate amount of time, thereby humanizing system behavior, reducing a likelihood of contextual confusion based on stale data, while also adding relevant information from an expired session context to long-term knowledge models.” (‘341 patent at 5:30-36).</p> <p>Additionally, the specification confirms that accumulating short-term knowledge is simply storing and analyzing multiple utterances over a brief period, akin to how human conversation operates. The ’341 patent states:</p> <p>“For example, humans frequently remember a number of recent utterances, especially when one or more previous utterances were misrecognized or unrecognized. Another participant in the conversation may limit correction to a part of the utterance that was misrecognized or unrecognized, or over subsequent utterances and/or other interactions, clues may be provided to indicate the initial interpretation was incorrect. Thus, by storing and analyzing multiple utterances, utterances from earlier in a conversation may be corrected as the conversation progresses.” (‘341 patent at 6:62-7:4).</p> <p>Furthermore, Freeman and Baldwin (2006) disclose how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech should ideally “follow the same model of human-to-human conversation” described in <i>Logic and Conversation</i>. Freeman and Baldwin explain how “There</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|                | <p>is shared short-term (session) knowledge about what the user has said, what they have done, and where they are.”</p> <p>Tom Freeman and Larry Baldwin, Enhancing the VUE™ (Voice-User-Experience) Through Conversational Speech, SAE Technical Paper Series (2006).</p> <p>The inventors of the '341 patent have also admitted under oath that the concept of “short-term” shared knowledge was well understood, routine, and conventional:</p> <p>Q. And so the notion of -- the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice; right?</p> <p>A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.</p> <p>Q. I just want to be clear, this was Mr. Grice's idea, that wasn't your idea?</p> <p>A. Correct.</p> <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> <p>There is no technical disclosure or explanation in the specification about how the claimed invention purportedly accumulates short-term knowledge in a way that was not well understood at the time. Instead, what is described is the idea of tracking and temporarily storing user utterances—a concept inherent to both human cognition and traditional speech recognition systems.</p> |

| Claim Language                                                                                                                                                                                     | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                                                                                                                                                                                                    | <p>Additionally, the Federal Circuit has found that merely performing a well-known cognitive function (such as short-term memory storage and recall) using conventional computer components does not confer patent eligibility. (<i>See, e.g., Content Extraction &amp; Transmission LLC v. Wells Fargo Bank</i>, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“The concept of data collection, recognition, and storage is undisputedly well-known.”); <i>Alice Corp. v. CLS Bank Int’l</i>, 573 U.S. 208 (2014)).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p>[1B] expiring, by the computer system, one or more items of short-term knowledge that are based on one or more natural language utterances received prior to the predetermined time period;</p> | <p>The claimed method of expiring, by the computer system, one or more items of short-term knowledge based on natural language utterances received prior to a predetermined time period was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to expire short-term knowledge items based on conversational recency or timing. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p> <p>The expiration or removal of short-term conversational knowledge after a certain time or interaction progression was a well-established practice. For example, Bunt’s <i>Context and Dialogue Control</i> (1970) explains that the local aspects of dialogue context—including the conversational cognitive state—are dynamic and must be updated, changed, or cleared as interaction proceeds, confirming that transient conversational information naturally expires during ongoing dialogue management.</p> <p>The intrinsic record describes how “because cooperative conversations model human conversations, short-term session data may be expired after a</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                | <p>psychologically appropriate amount of time, thereby humanizing system behavior, reducing a likelihood of contextual confusion based on stale data, while also adding relevant information from an expired session context to long-term knowledge models.” (‘341 patent at 5:30-36).</p> <p>Further, the specification explains that "just as humans rely on knowledge shared by participants to examine how much and what kind of information was available," the system may rely on short-term and long-term shared knowledge to process utterances but expire short-term knowledge when it is no longer relevant. (341 patent at 6:22-24).</p> <p>The idea of expiring short-term knowledge after a set period mimics fundamental cognitive processes in human memory. The specification confirms this, stating:</p> <p style="padding-left: 40px;">"For example, humans frequently remember a number of recent utterances, especially when one or more previous utterances were misrecognized or unrecognized. Another participant in the conversation may limit correction to a part of the utterance that was misrecognized or unrecognized, or over subsequent utterances and/or other interactions, clues may be provided to indicate the initial interpretation was incorrect. Thus, by storing and analyzing multiple utterances, utterances from earlier in a conversation may be corrected as the conversation progresses." (‘341 patent at 6:62-7:4).</p> <p>Additionally, Freeman and Baldwin (2006) discuss how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech should ideally “follow the same model of human-to-human conversation” described in Logic and Conversation. Freeman and Baldwin explain how “short-term shared knowledge” involves remembering what the user has said during a</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                | <p>conversation, but that “session knowledge is temporary and must be cleared after a psychologically appropriate amount of time.” Tom Freeman and Larry Baldwin, Enhancing the VUE™ (Voice-User-Experience) Through Conversational Speech, SAE Technical Paper Series (2006).</p> <p>Moreover, the inventors of the '341 patent have admitted under oath that the notion of “short-term” and “long-term” shared knowledge—necessarily including the expiration of short-term session data—was well understood, routine, and conventional:</p> <p style="padding-left: 40px;">Q. And so the notion of -- the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice; right?</p> <p style="padding-left: 40px;">A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.</p> <p style="padding-left: 40px;">Q. I just want to be clear, this was Mr. Grice's idea, that wasn't your idea?</p> <p style="padding-left: 40px;">A. Correct.</p> <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> <p>Further, there is no technical disclosure or explanation in the specification about how short-term knowledge is expired beyond the abstract notion that session data is discarded over time. The patent does not provide a specific algorithm, threshold, or computational method for determining when to expire short-term knowledge beyond broad references to mimicking human cognitive functions. This demonstrates that it was well understood, routine, and conventional in the relevant industry at the time.</p> |

| Claim Language                                                                                                                                                                                                                                                                          | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                                                                                                                                                                                                                                                                                         | <p>To the extent that this claim is directed toward memory management, the expiration of short-term knowledge is a fundamental data storage principle. It is a well-known practice in both human cognition and computing to discard temporary session data after a certain period to free up memory or prevent outdated context from interfering with new inputs. See Atkinson, R.C. &amp; Shiffrin, R.M. (1968). "Human Memory: A Proposed System and its Control Processes; Operating System Concepts; Silberschatz &amp; Galvin (1983); Belady, L. A. (1966). A study of replacement algorithms for a virtual-storage computer. IBM Systems journal, 5(2), 78-101. Courts have consistently found that implementing well-known cognitive processes using generic computing techniques does not amount to a patentable invention. (See, e.g., <i>Content Extraction &amp; Transmission LLC v. Wells Fargo Bank</i>, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (finding that “the concept of data collection, recognition, and storage is undisputedly well-known”); <i>Alice Corp. v. CLS Bank Int’l</i>, 573 U.S. 208 (2014)).</p> |
| <p>[1C] accumulating, by the computer system, long-term knowledge based on one or more natural language utterances received prior to the predetermined time period, wherein the long-term knowledge includes at least one of the one or more expired items of short-term knowledge;</p> | <p>The claimed method of accumulating, by the computer system, long-term knowledge based on natural language utterances received prior to a predetermined time period, wherein the long-term knowledge includes at least one of the expired items of short-term knowledge, was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to accumulate long-term knowledge from prior utterances or how to incorporate expired short-term knowledge into long-term knowledge. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p>                                                                                                                                                                                                                                                                                                                                                       |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                | <p>The specification supports that what is claimed is simply the long-standing idea that some short-term memory becomes long-term memory. For instance, the intrinsic record describes how "just as humans rely on knowledge shared by participants to examine how much and what kind of information was available, Intelligent Hypothesis Builder 310 may leverage the identified conversation type and short-term and long-term shared knowledge to generate a degree of certainty for each hypothesis." ('341 patent at 16:37-42).</p> <p>Further, the specification explicitly states that "because cooperative conversations model human conversations, short-term session data may be expired after a psychologically appropriate amount of time, thereby humanizing system behavior, reducing a likelihood of contextual confusion based on stale data, while also adding relevant information from an expired session context to long-term knowledge models." ('341 patent at 5:30-36).</p> <p>The specification also makes clear that long-term knowledge is simply an accumulation of prior utterances, including expired short-term knowledge, to refine future interactions. The '341 patent states:</p> <p>"For example, humans frequently remember a number of recent utterances, especially when one or more previous utterances were misrecognized or unrecognized. Another participant in the conversation may limit correction to a part of the utterance that was misrecognized or unrecognized, or over subsequent utterances and/or other interactions, clues may be provided to indicate the initial interpretation was incorrect. Thus, by storing and analyzing multiple utterances, utterances from earlier in a conversation may be corrected as the conversation progresses." ('341 patent at 6:62-7:4).</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                | <p>Additionally, Freeman and Baldwin (2006) disclose how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech should ideally “follow the same model of human-to-human conversation” described in Logic and Conversation. Freeman and Baldwin explain how “long-term shared knowledge is user-centric rather than session-based and includes who the user is, their preferences, history of what they’ve done and said, and where they have been.” The document further explains how “short-term shared knowledge is session-based but can be integrated into long-term memory when relevant.”</p> <p>Tom Freeman and Larry Baldwin, Enhancing the VUE™ (Voice-User-Experience) Through Conversational Speech, SAE Technical Paper Series (2006).</p> <p>Moreover, the inventors of the ’341 patent have admitted under oath that the concept of short-term and long-term shared knowledge, necessarily including the transition of short-term session data into long-term knowledge, was well understood, routine, and conventional:</p> <p>Q. And so the notion of -- the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice; right?</p> <p>A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.</p> <p>Q. I just want to be clear, this was Mr. Grice’s idea, that wasn’t your idea?</p> <p>A. Correct.</p> |

***VB Assets, LLC, v. Samsung Electronics Co., LTD.***  
**No. 2:24-cv-00828-JRG (E.D. Tex.)**  
**Defendants' Invalidity Contentions – Appendix G-2**

| Claim Language                                                                                  | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                                                                                                 | <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> <p>Further, there is no technical disclosure or explanation in the specification about how long-term knowledge is accumulated beyond the general notion that expired session data may be incorporated into long-term storage. The patent does not provide a specific algorithm, threshold, or computational method for determining when to transition short-term knowledge into long-term knowledge, nor does it explain how this differs from how humans and computers perform this transition every day. This demonstrates that it was well understood, routine, and conventional in the relevant industry at the time.</p> <p>To the extent that this claim is directed toward memory management, transitioning temporary (short-term) knowledge into long-term knowledge is a fundamental data processing principle. It is a well-known practice in both human cognition and computing to consolidate frequently used or contextually relevant short-term information into long-term storage. Courts have consistently found that implementing well-known cognitive processes using generic computing techniques does not amount to a patentable invention. (<i>See, e.g., Content Extraction &amp; Transmission LLC v. Wells Fargo Bank</i>, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (finding that “the concept of data collection, recognition, and storage is undisputedly well-known”); <i>Alice Corp. v. CLS Bank Int’l</i>, 573 U.S. 208 (2014)).</p> |
| [1D] receiving, at the computer system, a first natural language utterance via an input device; | The claimed method of receiving, at the computer system, a first natural language utterance via an input device was well understood, routine, and conventional in the relevant industry at the relevant time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                | <p>There is no technical disclosure or explanation in the specification about how to receive a natural language utterance beyond using a generic input device. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p> <p>The receipt of natural language input from users through microphones, keyboards, or other input devices was a fundamental and well-established component of dialogue systems and natural language interfaces. For example, McTear's Spoken Dialogue Technology (2004) describes at length dialogue systems that receive spoken natural language input through voice-enabled devices to initiate and manage conversational interactions.</p> <p>The intrinsic record is consistent, describing:</p> <p style="padding-left: 40px;">"The system may receive an input 105 from a user, where in one implementation, input 105 may be an utterance received by an input device ( e.g., a microphone), where the utterance may include one or more requests. Input 105 may also be a multi-modal input, where at least part of the multi-modal input is an utterance."<br/> ('341 patent at 7:43-58).</p> <p>Additionally, the specification states that "the utterance component of input 105 may be processed by a speech recognition engine 110 (which may alternatively be referred to herein as Automatic Speech Recognizer 110, or as shown in FIG. 1, ASR 110) to generate one or more preliminary interpretations of the utterance. The speech recognition engine 110 may process the utterance using any suitable technique known in the art." ('341 patent at 7:57-63).</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                | <p>The specification further confirms that speech recognition techniques for processing a received utterance were pre-existing and well-known, stating:</p> <p>"For example, in one implementation, the speech recognition engine 110 may interpret the utterance using techniques of phonetic dictation to recognize a phoneme stream, as described in U.S. patent application Ser. No. 11/513,269, entitled 'Dynamic Speech Sharpening' filed Aug. 31, 2006, which issued as U.S. Pat. No. 7,634,409 on Dec. 15, 2009, and which is hereby incorporated by reference in its entirety." (341 patent at 7:63-8:3).</p> <p>Furthermore, the '341 patent at 2:9-12 acknowledges that existing speech interfaces had long required users to simplify their requests to be understood by machines:</p> <p>"Existing speech interfaces force users to dumb down their requests to match simple sets of instructions in simple languages in order to communicate requests in ways that systems can understand. Using existing speech interfaces, there is virtually no option for dialogue between the user and the system to satisfy mutual goals."</p> <p>To the extent that this claim is directed toward generic voice input, such functionality was a well-known feature of automated speech recognition (ASR) engines, which were "commodity products" at the time of the priority date of this patent:</p> <p>Q. And that software section, let's go to the next page, 0194. And if we could on that page, if you could put just the top paragraph on the screen. And kind of put it to the side so you can see both at the same time.</p> |

***VB Assets, LLC, v. Samsung Electronics Co., LTD.***  
**No. 2:24-cv-00828-JRG (E.D. Tex.)**  
**Defendants' Invalidity Contentions – Appendix G-2**

| Claim Language                                                                                                                                                            | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|                                                                                                                                                                           | <p>During the opening by Amazon's counsel, you indicated that the original Cybermind used some software from IBM, did you hear that?</p> <p>A. Yes.</p> <p>Q. What was that, sir?</p> <p>A. That was a component called the ASR, Automated Speech Recognition engine, and that was pretty much a commodity product at the same time.</p> <p>(Trial Tr. 147:18-148:3, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p>[1E] determining, by the computer system, based on the short-term knowledge and the long-term knowledge, a first context for the first natural language utterance;</p> | <p>The claimed method of determining, by the computer system, a first context for a first natural language utterance based on short-term knowledge and long-term knowledge was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to determine context based on the accumulated short-term and long-term knowledge. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p> <p>Determining the conversational context of a user utterance based on both immediate dialogue history and longer-term user knowledge was an established approach in natural language system design. For example, McTear's <i>Spoken Dialogue Technology</i> (2004) describes the importance of context in natural language understanding.</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                | <p>Additionally, Freeman and Baldwin (2006) describe how cooperative conversation concepts were first outlined by Paul Grice in 1975 and how human-to-computer speech should ideally “follow the same model of human-to-human conversation” as described in Logic and Conversation. Freeman and Baldwin explain that determining the intended meaning of an utterance relies on multiple sources of information, including a determination of context:</p> <p>The conventional meaning of words used and their references.<br/> The conversational maxims of relevance, quantity, manner, and quality.<br/> The context, linguistic or otherwise, of the utterance.<br/> Other items of background knowledge.<br/> The fact (or assumed fact) that all relevant items from the above categories are available to both participants and both participants recognize this.</p> <p>Tom Freeman and Larry Baldwin, Enhancing the VUE™ (Voice-User-Experience) Through Conversational Speech, SAE Technical Paper Series (2006).</p> <p>Moreover, the inventors of the '341 patent admitted under oath that the idea of using short-term and long-term shared knowledge to determine a context for an utterance was well understood, routine, and conventional:</p> <p>Q. And so the notion of—the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice, right?<br/> A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.<br/> Q. I just want to be clear, this was Mr. Grice's idea, that wasn't your idea?<br/> A. Correct.</p> |

***VB Assets, LLC, v. Samsung Electronics Co., LTD.***  
**No. 2:24-cv-00828-JRG (E.D. Tex.)**  
**Defendants' Invalidity Contentions – Appendix G-2**

| Claim Language                                                                                                                              | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                                                                                                                                             | <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023).)</p> <p>To the extent that this claim relates to speech processing, determining a conversational context based on prior inputs is a fundamental principle of natural language understanding and has been a core component of automated dialogue systems for decades. Courts have consistently found that implementing well-known cognitive processes using generic computing techniques does not amount to a patentable invention. (<i>See, e.g., Content Extraction &amp; Transmission LLC v. Wells Fargo Bank</i>, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“The concept of data collection, recognition, and storage is undisputedly well-known.”); <i>Alice Corp. v. CLS Bank Int’l</i>, 573 U.S. 208 (2014)).</p> <p>Thus, the claimed method of determining a context for a natural language utterance based on short-term and long-term knowledge was well understood, routine, and conventional in the relevant industry at the time of filing.</p> |
| <p>[1F] determining, by the computer system, based on the first context, an interpretation of the first natural language utterance; and</p> | <p>The claimed method of determining, by the computer system, an interpretation of the first natural language utterance based on the first context was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to determine an interpretation of a natural language utterance from the conversational context. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|                | <p>Interpreting user utterances based on conversational context was a well-established approach in dialogue system and natural language processing design. For example, McTear's <i>Spoken Dialogue Technology</i> (2004) describes dialogue systems that interpret incoming utterances by considering the immediate dialogue context.</p> <p>Likewise, the intrinsic record supports that :</p> <p>“The utterance component of input 105 may be processed by a speech recognition engine 110 (which may alternatively be referred to herein as Automatic Speech Recognizer 110, or as shown in FIG. 1, ASR 110) to generate one or more preliminary interpretations of the utterance. The speech recognition engine 110 may process the utterance using any suitable technique known in the art.” ('341 patent at 7:57-63).</p> <p>Additionally, the '341 patent at 6:19-22 describes how "Intelligent Hypothesis Builder 310 may model human-to-human interaction by calculating a degree of certainty for each of the hypotheses," confirming that generating an interpretation of an utterance within a contextual framework was well known.</p> <p>The specification further explains that:</p> <p>"Just as humans rely on knowledge shared by participants to examine how much and what kind of information was available, Intelligent Hypothesis Builder 310 may leverage the identified conversation type and short-term and long-term shared knowledge to generate a degree of certainty for each hypothesis." ('341 patent at 16:37-42).</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                | <p>To the extent that this claim is directed toward speech recognition or natural language understanding, the process of deriving an interpretation from an utterance using contextual information has been a fundamental principle of language processing systems for decades. Courts have consistently found that implementing well-known cognitive processes using generic computing techniques does not amount to a patentable invention. (See, e.g., Content Extraction &amp; Transmission LLC v. Wells Fargo Bank, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“The concept of data collection, recognition, and storage is undisputedly well-known.”); Alice Corp. v. CLS Bank Int’l, 573 U.S. 208 (2014)).</p> <p>Furthermore, under oath, Michael Kennewick, a principal of VB Assets and a former officer of VoiceBox, admitted that automated speech processing systems—including components responsible for deriving utterance interpretations—were “commodity products” at the time of the priority date of this patent:</p> <p>Q. And that software section, let’s go to the next page, 0194. And if we could on that page, if you could put just the top paragraph on the screen. And kind of put it to the side so you can see both at the same time. During the opening by Amazon’s counsel, you indicated that the original Cybermind used some software from IBM, did you hear that?</p> <p>A. Yes.</p> <p>Q. What was that, sir?</p> <p>A. That was a component called the ASR, Automated Speech Recognition engine, and that was pretty much a commodity product at the same time.</p> <p>(Trial Tr. 147:18-148:3, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> |

| Claim Language                                                                                                                        | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <p>[1G] generating, by the computer system, a first response to the first natural language utterance based on the interpretation.</p> | <p>The claimed method of generating a response to the utterance by grammatically or syntactically adapting the response based on the intended meaning established within the identified context was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to generate a response to the utterance by grammatically or syntactically adapting the response based on the intended meaning established within the identified context. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p> <p>The generation of grammatically correct and contextually appropriate responses was a well-established technique, as detailed in <i>Speech and Language Processing</i> by Daniel Jurafsky and James H. Martin (2000), which discusses natural language generation and the adaptation of responses based on the intended meaning and context.</p> <p>Freeman and Baldwin (2006) disclose how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech should, ideally, “follow the same model of human-to-human conversation” described in Grice’s 1975 paper, <i>Logic and Conversation</i>. In <i>Logic and Conversation</i>, Grice explains how determining an intended meaning, which he referred to as “conversational implicature,” requires that “the hearer will rely on the following data: (1) the conventional meaning of the words used, together with the identity of any references that may be involved; (2) the CP and its maxims; (3) the context, linguistic or otherwise, of the utterance; (4) other items</p> |

***VB Assets, LLC, v. Samsung Electronics Co., LTD.***  
**No. 2:24-cv-00828-JRG (E.D. Tex.)**  
**Defendants' Invalidity Contentions – Appendix G-2**

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                | <p>of background knowledge; and (5) the fact (or supposed fact) that all relevant items falling under the previous headings are available to both participants and both participants know or assume this to be the case.”</p> <p>Freeman and Baldwin (2006) also disclose the step of an “adaptive response,” described as follows:</p> <p style="padding-left: 40px;">As in a human conversation, the response of the system should be based on how confident the system is that its conclusion is correct. If it is certain, it should just execute the request. If it is less than certain but the range of choices are few or none, it should execute. If it is less than certain and the choices are many, it should ask.</p> <p>Under oath, Mr. Freeman admitted that the described “adaptive response” from Freeman and Baldwin corresponds to the limitation in the claim:</p> <p style="padding-left: 40px;">Q. And this marketing paper where you describe these principles that Mr. Grice had laid out, this is essentially the '681 patent in ordinary language, right?</p> <p style="padding-left: 40px;">A. So this is '681 but '681 takes this to a machine, as opposed to human to human.</p> <p><i>(Trial Tr. 289:20-24, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023).)</i></p> <p>And Mr. Freeman further confirmed that this concept of an “adaptive response” also came from Mr. Grice:</p> |

| Claim Language                                                                                                                                                                                                    | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|                                                                                                                                                                                                                   | <p><b>Q.</b> And adaptive response, that also came from Mr. Grice's paper?<br/> <b>A.</b> Correct.</p> <p><i>(Trial Tr. 289:17-19, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023).)</i></p> <p>There is no technical disclosure or explanation in the specification about how the claimed method generates an adaptive response based on confidence levels or other parameters. This further confirms that the claimed method merely applies well-known conversational principles using conventional techniques that were well understood in the industry at the time.</p>                                                                                                                                                                                                                                                                                                                                                                                              |
| <p>[2]. The method of claim 1, wherein the one or more natural language utterances received during the predetermined time period are related to a single conversation between a user and the computer system.</p> | <p>Claim 2 is ineligible for at least the reasons set forth above. <i>See</i> claim [1].</p> <p>The claimed method of receiving one or more natural language utterances during a predetermined time period that are related to a single conversation between a user and the computer system was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to relate multiple utterances to a single conversation session beyond a high-level conceptual description. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p> <p>Tracking and associating multiple utterances as part of a single coherent conversational session was a well-established practice in dialogue system design. For example, McTear's <i>Spoken Dialogue Technology</i> (2004) describes numerous</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                | <p>dialogue managers that maintain conversational state across multiple user turns, treating temporally related utterances as part of the same dialogue interaction</p> <p>For example, the intrinsic record states:</p> <p>“Moreover, because cooperative conversations model human conversations, short-term session data may be expired after a psychologically appropriate amount of time, thereby humanizing system behavior, reducing a likelihood of contextual confusion based on stale data, while also adding relevant information from an expired session context to long-term knowledge models.” (‘341 patent at 5:30-36).</p> <p>Further, the specification confirms that context tracking across multiple utterances is fundamental to human conversation and simply applies that concept to a machine, explaining:</p> <p>“For example, humans frequently remember a number of recent utterances, especially when one or more previous utterances were misrecognized or unrecognized. Another participant in the conversation may limit correction to a part of the utterance that was misrecognized or unrecognized, or over subsequent utterances and/or other interactions, clues may be provided to indicate the initial interpretation was incorrect. Thus, by storing and analyzing multiple utterances, utterances from earlier in a conversation may be corrected as the conversation progresses.” (‘341 patent at 6:62-7:4).</p> <p>Freeman and Baldwin (2006) disclose how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                | <p>should ideally “follow the same model of human-to-human conversation” described in Logic and Conversation. Freeman and Baldwin explain:</p> <p style="padding-left: 40px;">"As in human conversation, the conversational speech system should know when a partial request is issued which is of relevance to the most recent context, (or, indeed, one of the most recent contexts under discussion) that the user’s intent is most likely to be building on recently established context."</p> <p>Moreover, the inventors of the '341 patent have admitted under oath that the concept of structuring conversations as a series of related utterances over a session was well understood, routine, and conventional:</p> <p style="padding-left: 40px;">Q. And so the notion of -- the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice; right?<br/> A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.<br/> Q. I just want to be clear, this was Mr. Grice’s idea, that wasn’t your idea?<br/> A. Correct.</p> <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> <p>Further, there is no technical disclosure or explanation in the specification about how a system determines whether multiple utterances belong to a single conversation beyond the broad assertion that conversations should be handled similarly to human interactions. The patent does not provide a specific algorithm,</p> |

***VB Assets, LLC, v. Samsung Electronics Co., LTD.***  
**No. 2:24-cv-00828-JRG (E.D. Tex.)**  
**Defendants’ Invalidity Contentions – Appendix G-2**

| Claim Language                                                                                                                                                                                                                                                                                                            | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                                                                                                                                                                                                                                                                                                                           | <p>process, or computational method for segmenting utterances into discrete conversational sessions. This demonstrates that it was well understood, routine, and conventional in the relevant industry at the time.</p> <p>To the extent that this claim is directed toward natural language processing, segmenting related utterances into a single conversational session has been a fundamental principle of automated and non-automated dialogue systems for decades. Courts have consistently found that implementing well-known cognitive processes using generic computing techniques does not amount to a patentable invention. (See, e.g., Content Extraction &amp; Transmission LLC v. Wells Fargo Bank, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“The concept of data collection, recognition, and storage is undisputedly well-known.”); Alice Corp. v. CLS Bank Int’l, 573 U.S. 208 (2014)).</p> |
| <p>[3] The method of claim 1, wherein the long-term knowledge comprises one or more of user preferences, an indication of utilized domain agents, contexts of prior natural language utterances, requests of prior natural language utterances, and tasks performed in response to prior natural language utterances.</p> | <p>Claim 3 is ineligible for at least the reasons set forth above. <i>See</i> claim [1].</p> <p>The claimed method of maintaining long-term knowledge comprising one or more of user preferences, indications of utilized domain agents, contexts of prior natural language utterances, requests of prior natural language utterances, and tasks performed in response to prior natural language utterances was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to structure or store long-term knowledge comprising these elements beyond listing examples. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p>                                        |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                | <p>Storing user preferences, tracking prior utterance contexts and requests, and maintaining task histories as part of a persistent user model or dialogue history were well-established techniques. For example, McTear's <i>Spoken Dialogue Technology</i> (2004) describes dialogue systems that incorporate preferences, previous interactions, and contextual information across sessions. Additionally, Kobsa's <i>User Modeling and User-Adapted Interaction</i> discusses systems that maintain long-term user profiles containing domain usage patterns, historical requests, and task-related behaviors to enable adaptive interaction and personalized responses.</p> <p>In addition, the intrinsic record describes how:</p> <p>"Just as humans rely on knowledge shared by participants to examine how much and what kind of information was available, Intelligent Hypothesis Builder 310 may leverage the identified conversation type and short-term and long-term shared knowledge to generate a degree of certainty for each hypothesis." ('341 patent at 16:37-42).</p> <p>Further, the specification explicitly states that:</p> <p>"Because cooperative conversations model human conversations, short-term session data may be expired after a psychologically appropriate amount of time, thereby humanizing system behavior, reducing a likelihood of contextual confusion based on stale data, while also adding relevant information from an expired session context to long-term knowledge models." ('341 patent at 5:30-36).</p> <p>Additionally, the '341 patent describes how:</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                | <p>"Just as humans rely on knowledge shared by participants to examine how much and what kind of information was available, the intelligent hypotheses may leverage the identified conversation type and shared knowledge to generate a degree of certainty for each hypothesis."</p> <p>'341 patent at 16:37-42.</p> <p>Freeman and Baldwin (2006) disclose how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech should ideally "follow the same model of human-to-human conversation" described in Logic and Conversation. Freeman and Baldwin explain that long-term knowledge consists of user-centric information such as:</p> <p>"Who the user is, their preferences, history of what they've done and said, and where they have been."</p> <p>Tom Freeman and Larry Baldwin, Enhancing the VUE™ (Voice-User-Experience) Through Conversational Speech, SAE Technical Paper Series (2006), at 5.</p> <p>Moreover, the inventors of the '341 patent have admitted under oath that the idea of storing user preferences, prior requests, and prior contexts was well understood, routine, and conventional:</p> <p>Q. And so the notion of -- the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice; right?</p> <p>A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.</p> |

***VB Assets, LLC, v. Samsung Electronics Co., LTD.***  
**No. 2:24-cv-00828-JRG (E.D. Tex.)**  
**Defendants' Invalidity Contentions – Appendix G-2**

| Claim Language                                                                                                 | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|                                                                                                                | <p>Q. I just want to be clear, this was Mr. Grice's idea, that wasn't your idea?</p> <p>A. Correct.</p> <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> <p>To the extent that this claim is directed toward memory management and personalized computing, the storage and use of user preferences, past interactions, and prior system tasks have long been a fundamental principle of computing systems. Courts have consistently found that implementing well-known cognitive processes using generic computing techniques does not amount to a patentable invention. (See, e.g., Content Extraction &amp; Transmission LLC v. Wells Fargo Bank, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“The concept of data collection, recognition, and storage is undisputedly well-known.”); Alice Corp. v. CLS Bank Int'l, 573 U.S. 208 (2014)).</p> <p>Thus, the claimed method of storing long-term knowledge consisting of user preferences, domain agents, prior contexts, prior requests, and prior tasks was well understood, routine, and conventional in the relevant industry at the time of filing.</p> |
| [4P] The method of claim 1, the method further comprising:                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [4A] receiving, by the computer system, a second natural language utterance in response to the first response; | <p>Claim 4 is ineligible for at least the reasons set forth above. <i>See</i> claim [1].</p> <p>The claimed method of receiving, by the computer system, a second natural language utterance in response to the first response was well understood, routine, and conventional in the relevant industry at the relevant time.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                | <p>There is no technical disclosure or explanation in the specification about how to specifically receive a follow-up utterance beyond generally describing the process. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p> <p>Handling follow-up user utterances as part of an ongoing conversational exchange was a fundamental practice in dialogue systems. For example, McTear's <i>Spoken Dialogue Technology</i> (2004) describes dialogue systems that are designed to handle sequences of user inputs and system outputs, with user responses naturally following system prompts or outputs.</p> <p>For example, the intrinsic record describes how:</p> <p style="padding-left: 40px;">"The system may receive an input 105 from a user, where in one implementation, input 105 may be an utterance received by an input device ( e.g., a microphone), where the utterance may include one or more requests. Input 105 may also be a multi-modal input, where at least part of the multi-modal input is an utterance."<br/> ('341 patent at 7:43-58).</p> <p>Additionally, the specification confirms that:</p> <p style="padding-left: 40px;">“The utterance component of input 105 may be processed by a speech recognition engine 110 (which may alternatively be referred to herein as Automatic Speech Recognizer 110, or as shown in FIG. 1, ASR 110) to generate one or more preliminary interpretations of the utterance. The</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                | <p>speech recognition engine 110 may process the utterance using any suitable technique known in the art.” ('341 patent at 7:57-63).</p> <p>The '341 patent at 2:9-15 further acknowledges that existing speech interfaces had long processed sequential user inputs as part of a dialogue:</p> <p>“Existing speech interfaces force users to dumb down their requests to match simple sets of instructions in simple languages in order to communicate requests in ways that systems can understand. Using existing speech interfaces, there is virtually no option for dialogue between the user and the system to satisfy mutual goals.”</p> <p>Freeman and Baldwin (2006) disclose how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech should ideally “follow the same model of human-to-human conversation” described in Logic and Conversation. Freeman and Baldwin explain:</p> <p>“As in human conversation, the response of the system should be based on how confident the system is that its conclusion is correct. If it is certain, it should just execute the request. If it is less than certain but the range of choice are few or none, it should execute, if it is less than certain and the choices are many, it should ask.”</p> <p>Moreover, the inventors of the '341 patent have admitted under oath that the concept of a system receiving and processing sequential utterances from a user was well understood, routine, and conventional:</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                | <p>Q. And so the notion of -- the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice; right?</p> <p>A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.</p> <p>Q. I just want to be clear, this was Mr. Grice's idea, that wasn't your idea?</p> <p>A. Correct.</p> <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> <p>Further, there is no technical disclosure or explanation in the specification about how a system distinguishes between a first and second utterance beyond the broad assertion that it follows human conversational behavior. The patent does not provide a specific algorithm, process, or computational method for identifying whether a subsequent utterance is a follow-up to a previous response. This demonstrates that it was well understood, routine, and conventional in the relevant industry at the time.</p> <p>To the extent that this claim is directed toward speech processing, receiving and processing sequential utterances as part of an ongoing interaction has been a fundamental principle of automated dialogue systems for decades. Courts have consistently found that implementing well-known cognitive processes using generic computing techniques does not amount to a patentable invention. (See, e.g., Content Extraction &amp; Transmission LLC v. Wells Fargo Bank, 776 F.3d 1343, 1347 (Fed. Cir. 2014) ("The concept of data collection, recognition, and storage is undisputedly well-known."); Alice Corp. v. CLS Bank Int'l, 573 U.S. 208 (2014)).</p> |

***VB Assets, LLC, v. Samsung Electronics Co., LTD.***  
**No. 2:24-cv-00828-JRG (E.D. Tex.)**  
**Defendants' Invalidity Contentions – Appendix G-2**

| Claim Language                                                                                                             | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                                                                                                                            | <p>Furthermore, under oath, Michael Kennewick, a principal of VB Assets and a former officer of VoiceBox, admitted that automated speech processing systems—including components responsible for processing sequential utterances—were “commodity products” at the time of the priority date of this patent:</p> <p>Q. And that software section, let’s go to the next page, 0194. And if we could on that page, if you could put just the top paragraph on the screen. And kind of put it to the side so you can see both at the same time. During the opening by Amazon’s counsel, you indicated that the original Cybermind used some software from IBM, did you hear that?</p> <p>A. Yes.</p> <p>Q. What was that, sir?</p> <p>A. That was a component called the ASR, Automated Speech Recognition engine, and that was pretty much a commodity product at the same time.</p> <p>(Trial Tr. 147:18-148:3, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> <p>Thus, the claimed method of receiving a second natural language utterance in response to the first response was well understood, routine, and conventional in the relevant industry at the time of filing.</p> |
| [4B] identifying, by the computer system, one or more user preferences based on the second natural language utterance; and | The claimed method of identifying, by the computer system, one or more user preferences based on the second natural language utterance was well understood, routine, and conventional in the relevant industry at the relevant time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                | <p>There is no technical disclosure or explanation in the specification about how to specifically identify user preferences from a follow-up natural language utterance beyond broadly describing the concept. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p> <p>Extracting user preferences from natural language interactions was a well-established practice in dialogue system and user modeling design. For example, McTear's Spoken Dialogue Technology (2004) discusses dialogue systems that incorporate user-centric knowledge like user preferences. Additionally, Kobsa's User Modeling and User-Adapted Interaction (1993) describes techniques for using user-centric knowledge such as user preferences or profiles in spoken dialogue systems.</p> <p>Additionally, the specification confirms that:</p> <p>“Long-term shared knowledge may come from several sources, including user preferences or a plug-in data source (e.g., a subscription interface to a remote database), expertise of a user ( e.g., based on a frequency of errors, types of tasks requested, etc., the user may be identified as a novice, intermediate, experienced, or other type of user), agent-specific information and/or language that may also apply to other agents (e.g., by decoupling information from an agent to incorporate the information into other agents), frequently used topics passed in from the Session Input Accumulator, frequently used verbs, nouns, or other parts of speech, and/or other syntax information passed in from the Session Input Accumulator, or other sources of long-term shared knowledge may be used .” ('341 patent at 17:29-43).</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                | <p>Freeman and Baldwin (2006) disclose how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech should ideally “follow the same model of human-to-human conversation” described in Logic and Conversation. Freeman and Baldwin explain that long-term knowledge consists of user-centric information such as:</p> <p style="padding-left: 40px;">"Who the user is, their preferences, history of what they’ve done and said, and where they have been."</p> <p>Tom Freeman and Larry Baldwin, Enhancing the VUE™ (Voice-User-Experience) Through Conversational Speech, SAE Technical Paper Series (2006).</p> <p>Moreover, the inventors of the '341 patent have admitted under oath that the concept of using prior utterances to infer user preferences was well understood, routine, and conventional:</p> <p style="padding-left: 40px;">Q. And so the notion of -- the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice; right?</p> <p style="padding-left: 40px;">A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.</p> <p style="padding-left: 40px;">Q. I just want to be clear, this was Mr. Grice’s idea, that wasn’t your idea?</p> <p style="padding-left: 40px;">A. Correct.</p> <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> |

| Claim Language                                                                                                  | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                                                                                                                 | <p>To the extent that this claim is directed toward natural language processing and user modeling, tracking and storing user preferences based on past interactions has been a well-known concept in user-interfaces and information processing more generally for decades. Courts have consistently found that implementing well-known cognitive processes using generic computing techniques does not amount to a patentable invention. (See, e.g., Content Extraction &amp; Transmission LLC v. Wells Fargo Bank, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“The concept of data collection, recognition, and storage is undisputedly well-known.”); Alice Corp. v. CLS Bank Int’l, 573 U.S. 208 (2014)).</p> <p>Thus, the claimed method of identifying user preferences based on a second natural language utterance was well understood, routine, and conventional in the relevant industry at the time of filing.</p>                                                                                        |
| <p>[4C] updating, by the computer system, the long-term knowledge based on the identified user preferences.</p> | <p>The claimed method of updating, by the computer system, the long-term knowledge based on the identified user preferences was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to specifically update long-term knowledge with newly identified user preferences beyond a high-level description. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p> <p>Extracting user preferences from natural language interactions was a well-established practice in dialogue system and user modeling design. For example, McTear’s Spoken Dialogue Technology (2004) discusses dialogue systems that incorporate user-centric knowledge like user preferences. Additionally, Kobsa’s User Modeling and User-Adapted Interaction (1993) describes techniques for</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                | <p>using user-centric knowledge such as user preferences or profiles in spoken dialogue systems.</p> <p>For example, the intrinsic record describes how:</p> <p>“Just as humans rely on knowledge shared by participants to examine how much and what kind of information was available, Intelligent Hypothesis Builder 310 may leverage the identified conversation type and short-term and long-term shared knowledge to generate a degree of certainty for each hypothesis.” (‘341 patent at 16:37-42).</p> <p>Additionally, the specification confirms that:</p> <p>“Long-term shared knowledge may come from several sources, including user preferences or a plug-in data source (e.g., a subscription interface to a remote database), expertise of a user ( e.g., based on a frequency of errors, types of tasks requested, etc., the user may be identified as a novice, intermediate, experienced, or other type of user), agent-specific information and/or language that may also apply to other agents (e.g., by decoupling information from an agent to incorporate the information into other agents), frequently used topics passed in from the Session Input Accumulator, frequently used verbs, nouns, or other parts of speech, and/or other syntax information passed in from the Session Input Accumulator, or other sources of long-term shared knowledge may be used .” (‘341 patent at 17:29-43).</p> <p>The ‘341 patent at 16:37-42 further explains that:</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                | <p>“Just as humans rely on knowledge shared by participants to examine how much and what kind of information was available, the intelligent hypotheses may leverage the identified conversation type and shared knowledge to generate a degree of certainty for each hypothesis.”</p> <p>Freeman and Baldwin (2006) disclose how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech should ideally “follow the same model of human-to-human conversation” described in Logic and Conversation. Freeman and Baldwin explain that long-term knowledge consists of user-centric information such as:</p> <p>"Who the user is, their preferences, history of what they've done and said, and where they have been."</p> <p>Tom Freeman and Larry Baldwin, Enhancing the VUE™ (Voice-User-Experience) Through Conversational Speech, SAE Technical Paper Series (2006).</p> <p>Moreover, the inventors of the '341 patent have admitted under oath that the concept of storing and updating long-term shared knowledge—including user preferences—was well understood, routine, and conventional:</p> <p>Q. And so the notion of -- the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice; right?</p> <p>A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.</p> <p>Q. I just want to be clear, this was Mr. Grice's idea, that wasn't your idea?</p> <p>A. Correct.</p> |

***VB Assets, LLC, v. Samsung Electronics Co., LTD.***  
**No. 2:24-cv-00828-JRG (E.D. Tex.)**  
**Defendants' Invalidity Contentions – Appendix G-2**

| Claim Language                                                                                                                                                                                                                                                    | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                                                                                                                                                                                                                                                                   | <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> <p>To the extent that this claim is directed toward memory management and user modeling, tracking and updating user preferences based on prior interactions has been a fundamental principle of computing systems for decades. Courts have consistently found that implementing well-known cognitive processes using generic computing techniques does not amount to a patentable invention. (See, e.g., Content Extraction &amp; Transmission LLC v. Wells Fargo Bank, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“The concept of data collection, recognition, and storage is undisputedly well-known.”); Alice Corp. v. CLS Bank Int’l, 573 U.S. 208 (2014)).</p> <p>Thus, the claimed method of updating long-term knowledge based on identified user preferences was well understood, routine, and conventional in the relevant industry at the time of filing.</p> |
| [5P] The method of claim 1, wherein the long-term knowledge is associated with a first user, the method further comprising:                                                                                                                                       | Claim 5 is ineligible for at least the reasons set forth above. <i>See</i> claim [1].                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| [5A] generating, by the computer system, a profile associated with the first user based on the long-term knowledge, wherein the first context for the first natural language utterance is further determined based on the profile associated with the first user. | <p>The claimed method of generating, by the computer system, a profile associated with the first user based on the long-term knowledge, wherein the first context for the first natural language utterance is further determined based on the user profile, was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to generate a user profile based on long-term knowledge or how to use the profile to</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                | <p>determine conversational context beyond a general conceptual description. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p> <p>The generation of user profiles and the use of those profiles to inform conversational context determination were well-established practices. For example, McTear’s <i>Spoken Dialogue Technology</i> (2004) describes dialogue systems that build and update user profiles, preferences, and contextual knowledge. Additionally, Kobsa’s <i>User Modeling and User-Adapted Interaction</i> (1993) discusses the generation and maintenance of structured user profiles.</p> <p>The concept of generating a user profile based on long-term knowledge and using that profile to determine the context of a natural language utterance was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>For instance, the specification confirms that:</p> <p>“Long-term shared knowledge may come from several sources, including user preferences or a plug-in data source (e.g., a subscription interface to a remote database), expertise of a user ( e.g., based on a frequency of errors, types of tasks requested, etc., the user may be identified as a novice, intermediate, experienced, or other type of user), agent-specific information and/or language that may also apply to other agents (e.g., by decoupling information from an agent to incorporate the information into other agents), frequently used topics passed in from the Session Input Accumulator, frequently used verbs, nouns, or other parts of speech, and/or other syntax information passed in from the Session Input Accumulator, or other sources of long-term shared knowledge may be used .” (’341 patent at 17:29-43).</p> <p>The ‘341 patent at 16:37-42 further explains that:</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                | <p>“Just as humans rely on knowledge shared by participants to examine how much and what kind of information was available, the intelligent hypotheses may leverage the identified conversation type and shared knowledge to generate a degree of certainty for each hypothesis.”</p> <p>Freeman and Baldwin (2006) disclose how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech should ideally “follow the same model of human-to-human conversation” described in Logic and Conversation. Freeman and Baldwin explain that long-term knowledge consists of user-centric information such as:</p> <p>"Who the user is, their preferences, history of what they've done and said, and where they have been."</p> <p>Tom Freeman and Larry Baldwin, Enhancing the VUE™ (Voice-User-Experience) Through Conversational Speech, SAE Technical Paper Series (2006).</p> <p>Moreover, the inventors have admitted under oath that the concept of generating user profiles based on long-term shared knowledge was well understood, routine, and conventional:</p> <p>Q. And so the notion of -- the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice; right?</p> <p>A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.</p> <p>Q. I just want to be clear, this was Mr. Grice's idea, that wasn't your idea?</p> <p>A. Correct.</p> |

***VB Assets, LLC, v. Samsung Electronics Co., LTD.***  
**No. 2:24-cv-00828-JRG (E.D. Tex.)**  
**Defendants’ Invalidity Contentions – Appendix G-2**

| Claim Language                                                                                                                                                                                                                                                                                                                                                                         | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                                                                                                                                                                                                                                                                                                                                                                                        | <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> <p>Courts have consistently found that implementing well-known cognitive processes using generic computing techniques does not amount to a patentable invention. (See, e.g., Content Extraction &amp; Transmission LLC v. Wells Fargo Bank, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“The concept of data collection, recognition, and storage is undisputedly well-known.”); Alice Corp. v. CLS Bank Int’l, 573 U.S. 208 (2014)).</p> <p>Thus, the claimed method of generating a profile associated with a user based on long-term knowledge and using that profile to determine context for a natural language utterance was well understood, routine, and conventional in the relevant industry at the time of filing.</p> |
| [6A] The method of claim 1, the method further comprising:                                                                                                                                                                                                                                                                                                                             | Claim 6 is ineligible for at least the reasons set forth above. <i>See</i> claim [1].                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| [6B] generating, by the computer system, one or more of a user profile, an environmental profile, a historical profile, and/or a cognitive profile based on the long-term knowledge, wherein subsequent natural language utterances are processed based at least on the one or more of the user profile, the environmental profile, the historical profile, and the cognitive profile. | <p>The concept of generating user, environmental, historical, or cognitive profiles based on long-term knowledge and using them to process subsequent natural language utterances was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>For example, the intrinsic record describes how:</p> <p>“Just as humans rely on knowledge shared by participants to examine how much and what kind of information was available, Intelligent Hypothesis Builder 310 may leverage the identified conversation type and short-term and long-term shared knowledge to generate a degree of certainty for each hypothesis.” (‘341 patent at 16:37-42).</p> <p>Additionally, the specification confirms that:</p>                                                                                                     |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                | <p>“Long-term shared knowledge may come from several sources, including user preferences or a plug-in data source (e.g., a subscription interface to a remote database), expertise of a user ( e.g., based on a frequency of errors, types of tasks requested, etc., the user may be identified as a novice, intermediate, experienced, or other type of user), agent-specific information and/or language that may also apply to other agents (e.g., by decoupling information from an agent to incorporate the information into other agents), frequently used topics passed in from the Session Input Accumulator, frequently used verbs, nouns, or other parts of speech, and/or other syntax information passed in from the Session Input Accumulator, or other sources of long-term shared knowledge may be used .” (‘341 patent at 17:29-43).</p> <p>The ‘341 patent at 16:37-42 further explains that:</p> <p>“Just as humans rely on knowledge shared by participants to examine how much and what kind of information was available, the intelligent hypotheses may leverage the identified conversation type and shared knowledge to generate a degree of certainty for each hypothesis.”</p> <p>Freeman and Baldwin (2006) disclose how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech should ideally “follow the same model of human-to-human conversation” described in Logic and Conversation. Freeman and Baldwin explain that long-term knowledge consists of various profiles, including "User-centric knowledge"</p> <p>Moreover, the inventors of the '341 patent have admitted under oath that the concept of generating and using profiles based on long-term knowledge was well understood, routine, and conventional:</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|                | <p>Q. And so the notion of -- the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice; right?</p> <p>A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.</p> <p>Q. I just want to be clear, this was Mr. Grice's idea, that wasn't your idea?</p> <p>A. Correct.</p> <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> <p>Further, there is no technical disclosure or explanation in the specification about how a system specifically structures, updates, or applies user, environmental, historical, or cognitive profiles beyond the broad assertion that they assist in processing subsequent utterances. The patent does not provide a specific algorithm, process, or computational method for integrating these profiles into natural language processing. This demonstrates that it was well understood, routine, and conventional in the relevant industry at the time.</p> <p>Courts have consistently found that implementing well-known cognitive processes using generic computing techniques does not amount to a patentable invention. (See, e.g., Content Extraction &amp; Transmission LLC v. Wells Fargo Bank, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“The concept of data collection, recognition, and storage is undisputedly well-known.”); Alice Corp. v. CLS Bank Int'l, 573 U.S. 208 (2014)).</p> <p>Thus, the claimed method of generating and using user, environmental, historical, and cognitive profiles to process subsequent utterances was well understood, routine, and conventional in the relevant industry at the time of filing.</p> |

***VB Assets, LLC, v. Samsung Electronics Co., LTD.***  
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| Claim Language                                                                                                                                                                           | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| [7P] The method of claim 1, the method further comprising:                                                                                                                               | Claim 6 is ineligible for at least the reasons set forth above. <i>See</i> claim [1].                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| [7A] receiving, by the computer system, information from a remote data source, wherein the long-term knowledge is based further on the information obtained from the remote data source. | <p>The claimed method of receiving, by the computer system, information from a remote data source, wherein the long-term knowledge is based further on the information obtained from the remote data source, was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to integrate information from remote data sources into long-term knowledge beyond broadly describing the concept. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p> <p>Integrating information from external or remote sources into a system’s knowledge base to supplement user models or long-term contextual knowledge was a well-established practice. For example, McTear’s <i>Spoken Dialogue Technology</i> (2004) describes that it was standard for dialogue systems that access remote databases or information services to enrich the knowledge available for conversational understanding and user interaction.</p> <p>The intrinsic record further supports that this was well-understood, routine, and conventional. For example, the intrinsic record describes how:</p> <p>“Long-term shared knowledge may come from several sources, including user preferences or a plug-in data source (e.g., a subscription interface to a remote database), expertise of a user ( e.g., based on a frequency of errors, types of tasks requested, etc., the user may be identified as a novice, intermediate, experienced, or other type of user),</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|                | <p>agent-specific information and/or language that may also apply to other agents (e.g., by decoupling information from an agent to incorporate the information into other agents), frequently used topics passed in from the Session Input Accumulator, frequently used verbs, nouns, or other parts of speech, and/or other syntax information passed in from the Session Input Accumulator, or other sources of long-term shared knowledge may be used.” (’341 patent at 17:29-43).</p> <p>Additionally, the ‘341 patent at 16:37-42explains:</p> <p>“Just as humans rely on knowledge shared by participants to examine how much and what kind of information was available, the intelligent hypotheses may leverage the identified conversation type and shared knowledge to generate a degree of certainty for each hypothesis.”</p> <p>Freeman and Baldwin (2006) disclose how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech should ideally “follow the same model of human-to-human conversation” described in Logic and Conversation. Freeman and Baldwin explain:</p> <p>"There is also long-term shared knowledge which is user-centric rather than session-based such as who they are, their preferences, history of what they've done and said, and where they have been."</p> <p>Moreover, the inventors of the '341 patent have admitted under oath that the concept of retrieving and incorporating information from multiple sources to update conversational knowledge was well understood, routine, and conventional:</p> <p>Q. And so the notion of -- the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice; right?</p> |

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| Claim Language                                                                                                        | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                                                                                                                       | <p>A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.<br/> Q. I just want to be clear, this was Mr. Grice's idea, that wasn't your idea?<br/> A. Correct.</p> <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> <p>To the extent that this claim is directed toward information retrieval and knowledge augmentation, using remote data sources to supplement information has been a well-known feature of information gathering and processing for decades. Courts have consistently found that implementing well-known cognitive processes using generic computing techniques does not amount to a patentable invention. (See, e.g., Content Extraction &amp; Transmission LLC v. Wells Fargo Bank, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“The concept of data collection, recognition, and storage is undisputedly well-known.”); Alice Corp. v. CLS Bank Int'l, 573 U.S. 208 (2014)).</p> <p>Thus, the claimed method of receiving and incorporating information from a remote data source into long-term knowledge was well understood, routine, and conventional in the relevant industry at the time of filing.</p> |
| [8P] The method of claim 1, wherein determining the interpretation of the first natural language utterance comprises: | Claim 8 is ineligible for at least the reasons set forth above. <i>See</i> claim [1].                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Claim Language                                                                                                                                                         | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <p>[8A] determining, by the computer system, an interpretation of one or more recognized words of the first natural language utterance based on the first context.</p> | <p>The claimed method of determining, by the computer system, an interpretation of one or more recognized words of the first natural language utterance based on the first context was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to determine the interpretation of recognized words using context beyond general conceptual descriptions. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p> <p>Interpreting user utterances based on conversational context was a well-established approach in dialogue system and natural language processing design. For example, McTear's <i>Spoken Dialogue Technology</i> (2004) describes dialogue systems that interpret incoming utterances by considering the immediate dialogue context.</p> <p>Likewise, the intrinsic record supports that :</p> <p>“The utterance component of input 105 may be processed by a speech recognition engine 110 (which may alternatively be referred to herein as Automatic Speech Recognizer 110, or as shown in FIG. 1, ASR 110) to generate one or more preliminary interpretations of the utterance. The speech recognition engine 110 may process the utterance using any suitable technique known in the art.” ('341 patent at 7:57-63).</p> <p>Additionally, the '341 patent at 6:19-22 describes how "Intelligent Hypothesis Builder 310 may model human-to-human interaction by calculating a degree of</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                | <p>certainty for each of the hypotheses," confirming that generating an interpretation of an utterance within a contextual framework was well known.</p> <p>The specification further explains that:</p> <p style="padding-left: 40px;">"Just as humans rely on knowledge shared by participants to examine how much and what kind of information was available, Intelligent Hypothesis Builder 310 may leverage the identified conversation type and short-term and long-term shared knowledge to generate a degree of certainty for each hypothesis." ('341 patent at 16:37-42).</p> <p>To the extent that this claim is directed toward speech recognition or natural language understanding, the process of deriving an interpretation from an utterance using contextual information has been a fundamental principle of language processing systems for decades. Courts have consistently found that implementing well-known cognitive processes using generic computing techniques does not amount to a patentable invention. (See, e.g., Content Extraction &amp; Transmission LLC v. Wells Fargo Bank, 776 F.3d 1343, 1347 (Fed. Cir. 2014) ("The concept of data collection, recognition, and storage is undisputedly well-known."); Alice Corp. v. CLS Bank Int'l, 573 U.S. 208 (2014)).</p> <p>Furthermore, under oath, Michael Kennewick, a principal of VB Assets and a former officer of VoiceBox, admitted that automated speech processing systems—including components responsible for deriving utterance interpretations—were "commodity products" at the time of the priority date of this patent:</p> |

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| Claim Language                                                                                                       | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                                                                                                                      | <p>Q. And that software section, let's go to the next page, 0194. And if we could on that page, if you could put just the top paragraph on the screen. And kind of put it to the side so you can see both at the same time. During the opening by Amazon's counsel, you indicated that the original Cybermind used some software from IBM, did you hear that?</p> <p>A. Yes.</p> <p>Q. What was that, sir?</p> <p>A. That was a component called the ASR, Automated Speech Recognition engine, and that was pretty much a commodity product at the same time.</p> <p>(Trial Tr. 147:18-148:3, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> |
| [9P] The method of claim 1, the method further comprising:                                                           | Claim 9 is ineligible for at least the reasons set forth above. <i>See</i> claim [1].                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| [9A] causing, by the computer system, the response to the first natural language utterance to be provided to a user. | <p>The claimed method of causing, by the computer system, the response to the first natural language utterance to be provided to a user was well understood, routine, and conventional in the relevant industry at the relevant time.</p> <p>There is no technical disclosure or explanation in the specification about how to cause the system response to be provided to the user beyond generally describing the concept. This lack of technical detail indicates that these processes were well understood, routine, and conventional in the relevant industry at the relevant time period.</p>                                                                                               |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                | <p>Providing generated system responses to users based on interpreted natural language input was a fundamental and well-established practice. For example, McTear's <i>Spoken Dialogue Technology</i> (2004) describes dialogue systems that output responses to users through modalities such as synthesized speech, graphical displays, or other user interface outputs following interpretation of user utterances</p> <p>The disclosures in the intrinsic record confirm that this limitation is generic:</p> <p>“the intelligent responses may include a verbal or audible reply played through an output device ( e.g., a speaker)” (’341 patent at 18:18-20).</p> <p>Additionally, the specification confirms that:</p> <p>“Conversational speech engine 215 may generate an adaptive conversational response to 45 one or more requests, where the requests may depend on unspoken assumptions, incomplete information, context established by previous utterances, user profiles, historical profiles, environmental profiles, or other information.” (’681 patent at 8:43-48).</p> <p>The specification further explains that:</p> <p>“Existing speech interfaces force users to dumb down their requests to match simple sets of instructions in simple languages in order to communicate requests in ways that systems can understand. Using existing speech interfaces, there is virtually no option for dialogue between the user and the system to satisfy mutual goals.” (’341 patent at 2:9-15).</p> <p>Freeman and Baldwin (2006) disclose how cooperative conversation concepts were first described by Paul Grice in 1975 and how human-to-computer speech</p> |

| Claim Language | Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                | <p>should ideally “follow the same model of human-to-human conversation” described in Logic and Conversation. Freeman and Baldwin explain:</p> <p>"As in a human conversation, the response of the system should be based on how confident the system is that its conclusion is correct. If it is certain, it should just execute the request. If it is less than certain but the range of choice is few or none, it should execute. If it is less than certain and the choices are many, it should ask."</p> <p>Moreover, the inventors of the 341 patent have admitted under oath that the concept of generating and providing a response to a user based on an interpretation of a natural language utterance was well understood, routine, and conventional:</p> <p>Q. And so the notion of -- the importance of using long-term and short-term shared knowledge to understand what is being said in a conversation is something that you got from Mr. Grice; right?</p> <p>A. This was part of the intellectual averment, and this was a very useful way of sharpening our vocabulary around this, the answer is yes, sir.</p> <p>Q. I just want to be clear, this was Mr. Grice's idea, that wasn't your idea?</p> <p>A. Correct.</p> <p>(Trial Tr. 289:4-16, VB Assets v. Amazon.com Services LLC, No. 19-cv-01410, at ECF No. 304 (D. Del. Dec. 12, 2023)).</p> <p>Thus, the claimed method of providing a response to a user based on a natural language utterance was well understood, routine, and conventional in the relevant industry at the time of filing.</p> |

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| <b>Claim Language</b>                                                                                                                                                                                                                                  | <b>Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional</b>                            |
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| [10P] A system for facilitating natural language system responses utilizing accumulated short-term and long-term knowledge, the system comprising:                                                                                                     | Claim element 10P is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [1P].           |
| [10A] one or more physical processors programmed with one or more computer program instructions which, when executed, configure the one or more physical processors to:                                                                                | The use of generic physical processors to perform otherwise ineligible subject matter has long been held to not save a claim from ineligibility. |
| [10B] accumulate short-term knowledge based on one or more natural language utterances received during a predetermined time period;                                                                                                                    | Claim element 10B is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [1A].           |
| [10C] expire one or more items of short-term knowledge that are based on one or more natural language utterances received prior to the predetermined time period;                                                                                      | Claim element 10C is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [1B].           |
| [10D] accumulate long-term knowledge based on one or more natural language utterances received prior to the predetermined time period, wherein the long-term knowledge includes at least one of the one or more expired items of short-term knowledge; | Claim element 10D is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [1C].           |

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| <b>Claim Language</b>                                                                                                                                                                                                                                                                                                | <b>Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional</b>                  |
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| [10E] receive a first natural language utterance via an input device;                                                                                                                                                                                                                                                | Claim element 10E is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [1D]. |
| [10F] determine a first context for the first natural language utterance based on the short-term knowledge and the long-term knowledge;                                                                                                                                                                              | Claim element 10F is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [1E]. |
| [10G] determine an interpretation of the first natural language utterance based on the first context; and                                                                                                                                                                                                            | Claim element 10G is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [1F]. |
| [10H] generate a first response to the first natural language utterance based on the interpretation.                                                                                                                                                                                                                 | Claim element 10H is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [1G]. |
| [11] The system of claim 10, wherein the one or more natural language utterances received during the predetermined time period are related to a single conversation between a user and the computer system.                                                                                                          | Claim element 11 is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [2].   |
| [12] The system of claim 10, wherein the long-term knowledge comprises one or more of user preferences, an indication of utilized domain agents, contexts of prior natural language utterances, requests of prior natural language utterances, and tasks performed in response to prior natural language utterances. | Claim element 12 is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [3].   |

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| <b>Claim Language</b>                                                                                                                                                                                                                   | <b>Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional</b>                  |
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| [13A] The system of claim 10, wherein the one or more physical processors are further configured to:<br><br>receive a second natural language utterance in response to the first response;                                              | Claim element 13A is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [4A]. |
| [13B] identify one or more user preferences based on the second natural language utterance; and                                                                                                                                         | Claim element 13B is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [4B]. |
| [13C] update the long-term knowledge based on the identified user preferences.                                                                                                                                                          | Claim element 13C is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [4C]. |
| [14A] The system of claim 10, wherein the long-term knowledge is associated with a first user, and wherein the one or more physical processors are further configured to:                                                               | Claim element 14A is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [5A]. |
| [14B] generate a profile associated with the first user based on the long-term knowledge, wherein the first context for the first natural language utterance is further determined based on the profile associated with the first user. | Claim element 14B is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [5B]. |
| [15] The system of claim 10, wherein the one or more physical processors are further configured to:                                                                                                                                     | Claim element 15 is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [6].   |

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| <b>Claim Language</b>                                                                                                                                                                                                                                                                                                                                  | <b>Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional</b>                |
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| generate one or more of a user profile, an environmental profile, a historical profile, and/or a cognitive profile based on the long-term knowledge, wherein subsequent natural language utterances are processed based at least on the one or more of the user profile, the environmental profile, the historical profile, and the cognitive profile. |                                                                                                                                      |
| [16] The system of claim 10, wherein the one or more physical processors are further configured to:<br><br>receive information from a remote data source, wherein the long-term knowledge is based further on the information obtained from the remote data source.                                                                                    | Claim element 16 is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [7]. |
| [17] The system of claim 10, wherein to determine the interpretation of the first natural language utterance, the one or more physical processors are configured to:<br><br>determine an interpretation of one or more recognized words of the first natural language utterance based on the first context.                                            | Claim element 17 is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [8]. |
| [18] The system of claim 10, wherein the one or more physical processors are further configured to:                                                                                                                                                                                                                                                    | Claim element 18 is well-understood, routine, and conventional for at least the reasons set for above. <i>See</i> claim element [9]. |

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| <b>Claim Language</b>                                                                | <b>Description of the Industry and Description of How Each Element Was Well-Understood, Routine, and Conventional</b> |
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| cause the response to the first natural language utterance to be provided to a user. |                                                                                                                       |

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Pursuant to Judge Gilstrap’s Standing Order Regarding Subject Matter Eligibility Contentions, Samsung provides the following chart identifying any other factual or legal basis for why the Challenged Claims are otherwise ineligible for patent protection.

| Challenged Claims | Other Bases for Why the Challenged Claims are Patent-Ineligible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| 1-18              | <p>The challenged claims reflect long-understood and well-known concepts in linguistics, computational linguistics, and natural language understanding, as reflected in the cited references, in addition to the following:</p> <p>Bub, T., Wahlster, W., &amp; Waibel, A. Verbmobil: The combination of deep and shallow processing for spontaneous speech translation. German Research Center for Artificial Intelligence; Carnegie Mellon University.</p> <p>Oh, A. H., &amp; Rudnick, A. I.. Stochastic language generation for spoken dialogue systems. Carnegie Mellon University.</p> <p>Batliner, A., Zeißler, V., Frank, C., Adelhardt, J., Shi, R. P., &amp; Nöth, E. (2003). We are not amused – But how do you know? User states in a multi-modal dialogue system. University of Erlangen-Nuremberg.</p> <p>Aust, H., Oerder, M., Seide, F., &amp; Steinbiss, V. (1995). A spoken language inquiry system for automatic train timetable information. Philips Research Laboratories.</p> <p>Jönsson, A.. A dialogue manager using initiative-response units and distributed control. Linköping University.</p> <p>Aust, H., Oerder, M., Seide, F., &amp; Steinbiss, V. (1994). Experience with the Philips automatic train timetable information system. Philips Research Laboratories.</p> <p>Juneja, A. (2004). Approaches to dialogue system design. Carnegie Mellon University.</p> |

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| Challenged Claims | Other Bases for Why the Challenged Claims are Patent-Ineligible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| Challenged Claims | Other Bases for Why the Challenged Claims are Patent-Ineligible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| Challenged Claims | Other Bases for Why the Challenged Claims are Patent-Ineligible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| Challenged Claims | Other Bases for Why the Challenged Claims are Patent-Ineligible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| Challenged Claims | Other Bases for Why the Challenged Claims are Patent-Ineligible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| Challenged Claims | Other Bases for Why the Challenged Claims are Patent-Ineligible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| Challenged Claims | Other Bases for Why the Challenged Claims are Patent-Ineligible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| Challenged Claims | Other Bases for Why the Challenged Claims are Patent-Ineligible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| Challenged Claims | Other Bases for Why the Challenged Claims are Patent-Ineligible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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***VB Assets, LLC, v. Samsung Electronics Co., LTD.***  
**No. 2:24-cv-00828-JRG (E.D. Tex.)**  
**Defendants' Invalidity Contentions – Appendix G-2**

| Challenged Claims | Other Bases for Why the Challenged Claims are Patent-Ineligible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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